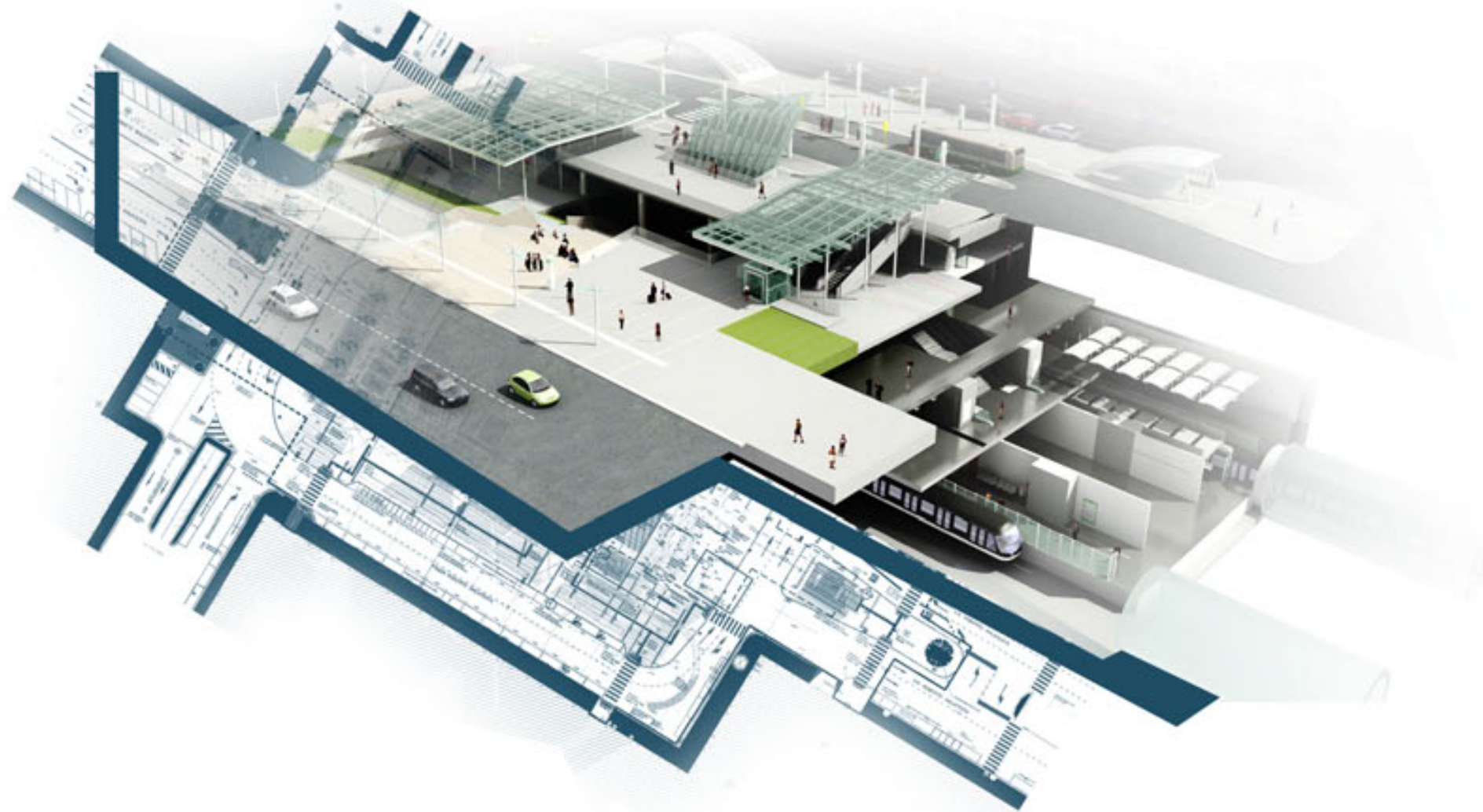


TRANSPORT INFRASTRUCTURES BROCHURE

ERREGI



2017



ROME
ITALY



ERREGI - Company Presentation



ERREGI - The Company

ERREGI was founded in 1986. The company deals with **engineering, architectural and urban planning** and is specialized in the integrated planning of road, rail, airport and metropolitan infrastructures.

Managing complex, multidisciplinary projects is a skill which ERREGI has always excelled in.

The ambition is to compete with the best in the single disciplines.

An integral part of ERREGI's mission includes **experimental research and innovation** with regard to project planning and management as a whole, as well as the specific content of each individual project.



BUSINESS





ERREGI - Presence in the world

- 1 Rome, Italy
- 2 Rome, Italy
- 3 Hangzhou, China
- 4 Guanzhi, China
- 5 Beijing, China
- 6 Riyadh, Saudi Arabia
- 7 Striano (NA), Italy
- 8 Kuwait
- 9 Qatar
- 10 Rome, Italy
- 11 Angola

- 12 Kuwait
- 13 Bulgaria
- 14 Rome, Italy
- 15 Rome, Italy
- 16 Venezuela
- 17 Rome, Italy
- 18 Rome, Italy
- 19 Olbia, Italy
- 20 Saudi Arabia

- 21 Algeria
- 22 Algeria
- 23 Torrevaldaliga (RM), Italy
- 24 Santa Marinella, Italy
- 25 Solignano (PR), Italy
- 26 Forlimpopoli (FC), Italy
- 27 Pantelleria (TR), Italy
- 28 Venezuela
- 29 Bogliasco (GE), Italy
- 30 Milano-Verona, Italy
- 31 Torrepiastra (RM), Italy
- 32 Palermo, Italy
- 33 Genova, Italy
- 34 Verona, Italy
- 35 Venice, Italy
- 36 Naples, Italy
- 37 Meolo (VE), Italy
- 38 Corinth, Greece

Architectural design of Anagnina multifunctional center
 Architectural design of Montemario multifunctional center
 International competition of urban and architectural design
 International competition of architectural interior design
 Erregi office architectural interior design
 School design and interior design
 International competition of Vesuvio est Station
 Engineering activity of "Heavy Aromatics Storage & Export"
 QAFCO 5 multidisciplinary engineering activity
 A and B Termini metro Node
 "New oil and storage facilities, booster station and jetty, pipeline facilities" multidisciplinary engineering activity
 ARO multidisciplinary Engineering activity
 Plovdiv - Svilengrad railway
 Parking under the Pincio terrace
 First phase of the Rome Tiburtina railway project
 El Palito - La Encrucijada railway and railway stations
 Malatesta, Lodi and San Giovanni Metro C stations
 "Centro Carni" tram depot
 New terminal for the General Aviation of the Olbia's airport
 Engineering activity in NGL plant and Gas Treatment and Compression project
 Engineering activity in "Boosting Hassi Rmel" project
 Engineering activity in "TFT ET EXPANSION DU GASODUCS"
 Engineering activity of the Centrale di Torrevaldaliga Nord
 Pisa - Rome railway acoustic rehabilitation
 Rome - La Spezia railway line redoubling
 Railway for the yard on the Bologna - Rimini line
 Pantelleria's airport expansion and renovation
 El Palito - La Encrucijada railway definitive project
 Genoa - Pisa definitive preliminary project street change order
 Hydraulic work design for the high speed trade line
 Study of the beltway for Rome metropolitan area
 Palermo tram system definitive design
 "Colombo e San Tommaso" tunnels definitive design
 Verona Q.E. Intermodal terminal's expansion project
 Connection railway line at Lubiana-Venice airport
 Dynamic multifunctional plant of Napoli Smistamento
 Venice - Trieste railway study of feasibility
 New treatment plant of "Mild hydrocracker and polishing unit" production.

- 39 Qatar
- 40 Bologna, Italy
- 41 Abu Dhabi, United Arab Emirates
- 42 Voltri (GE), Italy
- 43 Turin, Italy
- 44 Bologna, Italy
- 45 Messina, Italy
- 46 Qatar
- 47 San Nazzaro (BV), Italy
- 48 Venezuela
- 49 Rome, Italy
- 50 Priolo (CL), Italy
- 51 Torrevaldaliga (RM), Italy
- 52 Reggio Emilia, Italy
- 53 Reggio Emilia, Italy
- 54 Rome, Italy

- 55 Rome, Italy
- 56 Naples, Italy
- 57 Rome, Italy
- 58 Bahia Blanca, Argentina
- 59 Rome
- 60 Rome
- 61 Serbia
- 62 Sulymaniya Kurdistan
- 63 Saudi Arabia
- 64 Roma
- 65 Erbil, Kurdistan
- 66 Riyadh, Saudi Arabia
- 67 Venice, Italy
- 68 Catania, Italy
- 69 Calabria, Italy
- 70 Sardegna, Italy
- 71 Riyadh, Saudi Arabia

New plant for gas and fluid treatment
 Interventions on the Bologna-Portomaggiore railway line
 Intervention on a new plant for the oil refinery

Voltri - Brignole railway line preliminary project
 Turin-Lione railway line preliminary project
 Bologna Central Station
 Road and railway links for Messina Strait
 Civil works for the construction of Sannazzo's station
 Civil works for the construction of Sannazzo's station
 Engineering Activities
 Rome San Lorenzo station plan definitive project
 Detailed design and Revamping of "Priolo Gargallo" Station
 "Revamping" of La Casella thermoelectric station
 Reggio Emilia lot Milan-Bologna railway line
 Design of the Reggio Emilia station
 Design of the Gardenie, Miri, Alessandrino, San Giovanni, Lodi, Pigneto and Malatesta Metro C station line
 Ring Road's redoubling at Flaminia-Salaria interchange
 Project for the new Afragola station
 Project for the Tor Vergata station on the Rome - Naples line
 Ammonia system detailed design
 Executive project of the Change order of the Sorting Plan
 Extension of the metro line B Piazza Bologna - Conca d'Oro
 Road and railway project at Guastice interport
 Gilje-Cupria-Paracin Railway
 Light Rail Transit
 CTW400 Railway Project
 Roma - Viterbo doubling railway
 Light Rail Transit Line 5
 Princess Nora Bint Abdulrahman University - People Mover
 Port of Venice Multimodal terminal
 Catania-Ognina Railway upgrading
 Crosia-Longobucco Road Project - Lot 2
 Sassari-Olbia Road, Lot 3 and Lot 8
 Riyadh Metro Line 3





ERREGI - Multidisciplinary

ARCHITECTURE



INFRASTRUCTURES

INDUSTRIAL PLANTS





ERREGI - Selected projects



RAILWAY INFRASTRUCTURES MAIN PROJECTS

- The Saudi Landbridge Railway Project – Saudi Arabia
- Plovdiv-Svilengrad Railway Line – Bulgaria
- “La Encrucijada-El Palito” New railway line – Venezuela
- Roma Tiburtina Railway Station – Italy
- Rome-Viterbo doubling Railway Line – Italy
- Bologna-Milan High speed Railway Line – Italy
- Parma-La Spezia doubling Railway – Italy
- Bologna-Portomaggiore Railway Line upgrading – Italy
- Voltri-Brignole Railway Junction Arrangement – Italy
- Gilje-Cupria-Paracin Railway – Serbia
- CTW400 Railway Project – Saudi Arabia



The Saudi Landbridge Railway Project Saudi Arabia

THE SAUDI LANDBRIDGE RAILWAY PROJECT

Firm	ERREGI
Location	Saudi Arabia
Client	ITALFERR S.p.A.
Total amount of bid	15 Billion \$
Year of start	2015/2016
Current status	Project

Role and professional involvement of bidder

Preliminary and definitive infrastructural railway design, civil works, interferences study

Preliminary/Definitive Design of 320 km of Land-bridge railway, which connects Jeddah (Red sea) to Al Jubail (Persian Gulf), in Saudi Arabia, section between Riyadh and Jubail (Km 920+00-1240+00).

Plano/altimetric design of double track railway, mostly on viaducts, to avoid siltation, hydraulic study to define culverts and bridges, viaducts structures, seven rail installations, Passing Loop/Wayside maintenances areas, along the main line, with building structures, hydraulic, electrical, power supply, mechanical and fire fighting and plumbing.

The project also involved structural design of underpasses, overpasses and culverts, road diversions projects and solutions for interferences with main line for stakeholders.

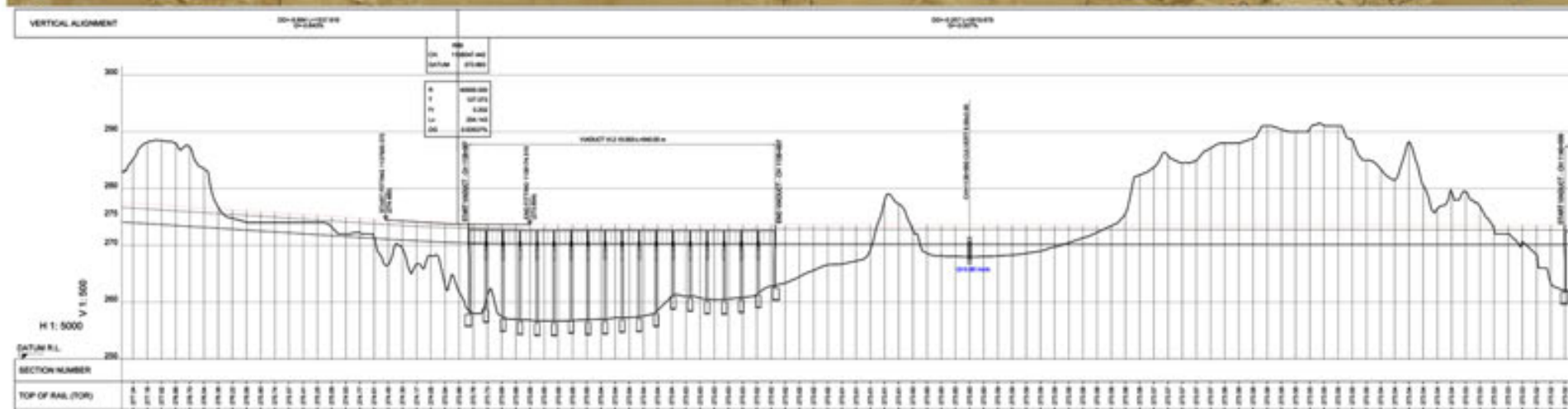
Functional, structural, architectural and facilities design of Main Depot/Marshalling yard, maintenance, storage and workshop of Riyadh with dry port design. The design also covered hydraulic study, building structures, hydraulic, electrical, power supply, mechanical and fire fighting and plumbing design for the implantation. Riyadh depot project cover an area of 11 million square meter. The project covered also the Secondary Depot/Marshalling yard and maintenance of Jubail that provides also a secondary dry port design, hydraulic study, building structures, hydraulic, electrical, power supply, mechanical and fire fighting and plumbing design.



PLAN AREA SELECTED IN DETAIL

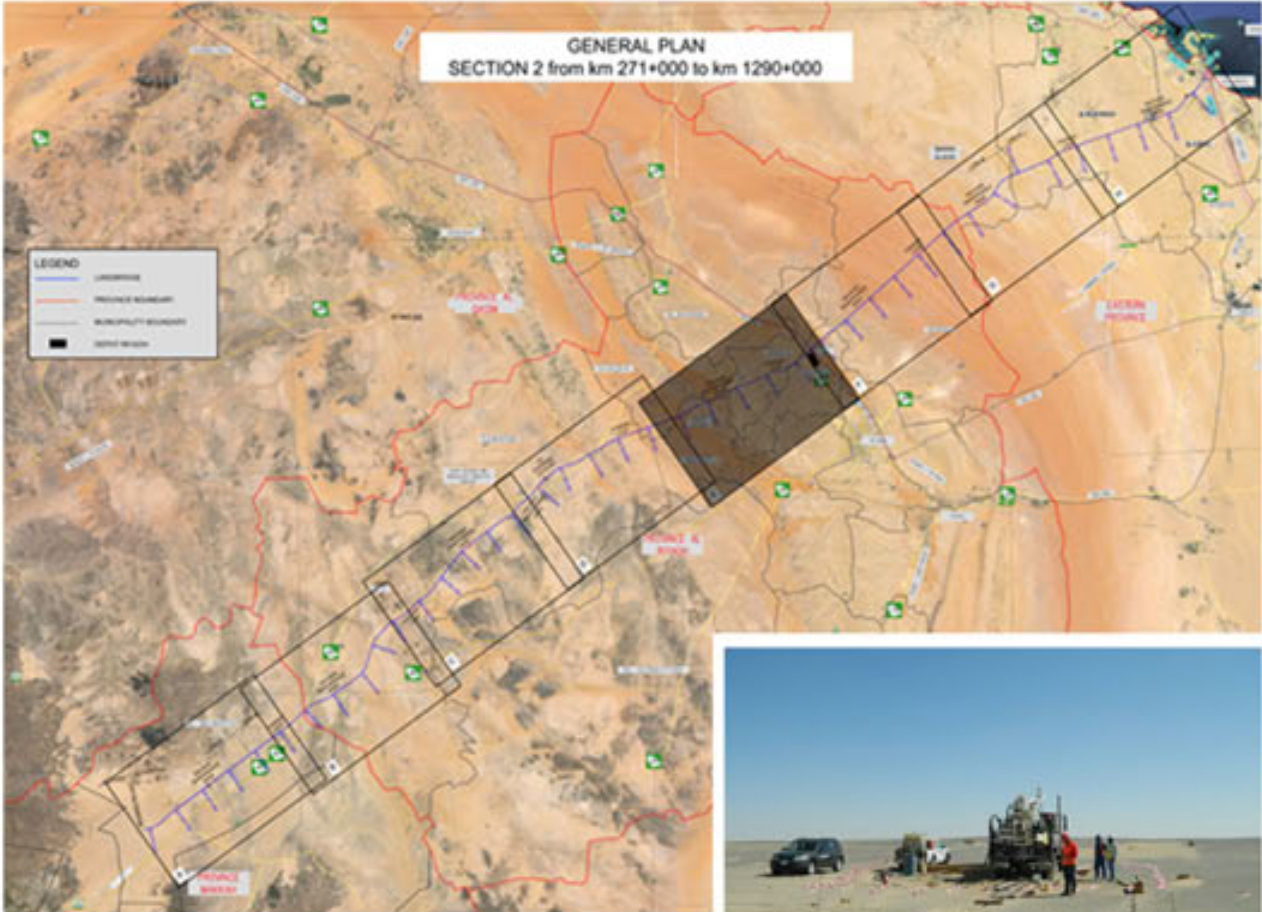


LANDBRIDGE PROJECT IS A MIXED TRAFFIC LINE WITH A PLANNED TOP SPEED OF 350 KM/H (WITH THE ELECTRIFIED LINE) FOR PASSENGER TRAINS AND 160 KM/H

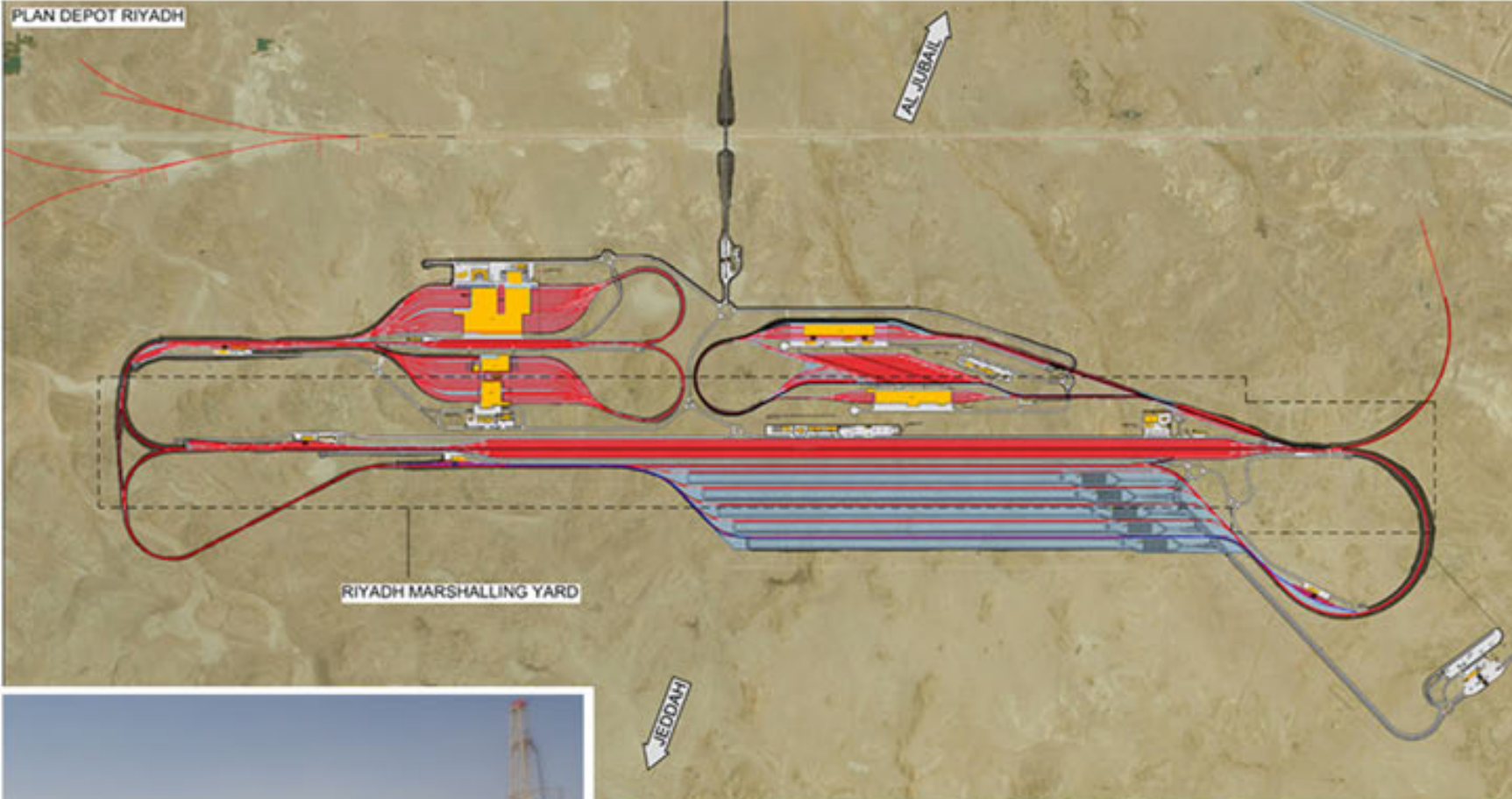


GENERAL PLAN PROFILE - EXCERPT

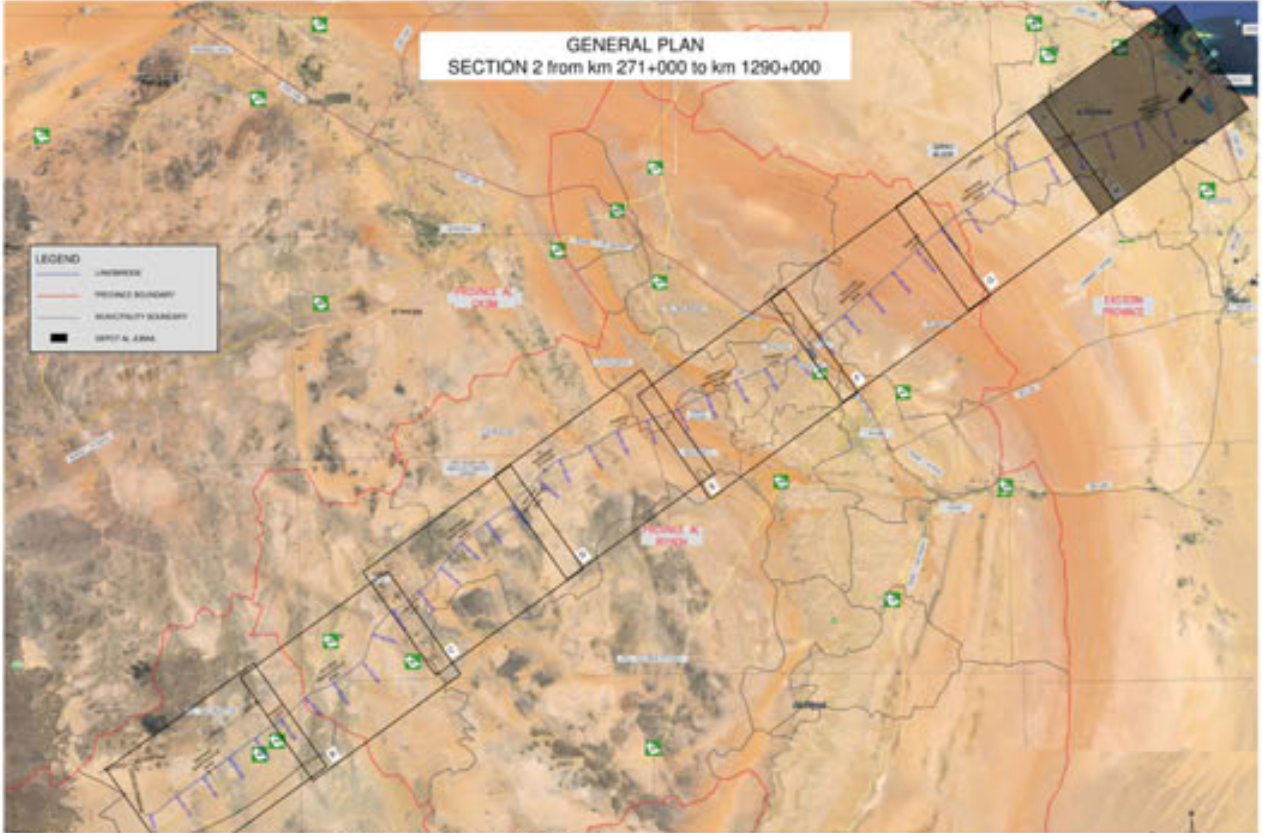




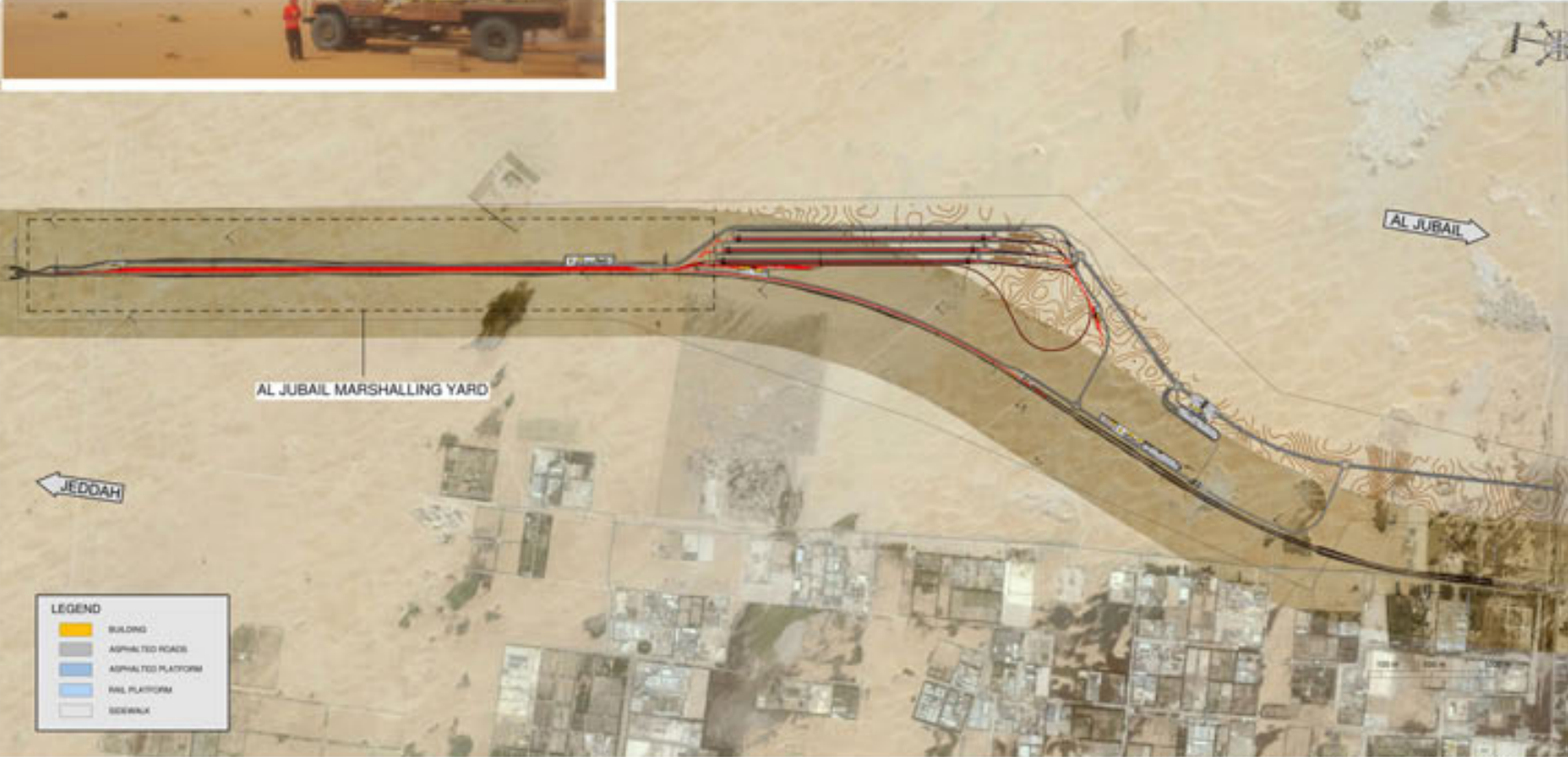
GENERAL PLAN
RIYADH MARSHALLING YARD DEPOT



PLAN RIYADH MARSHALLING YARD DEPOT



GENERAL PLAN
AL JUBAIL MARSHALLING YARD DEPOT

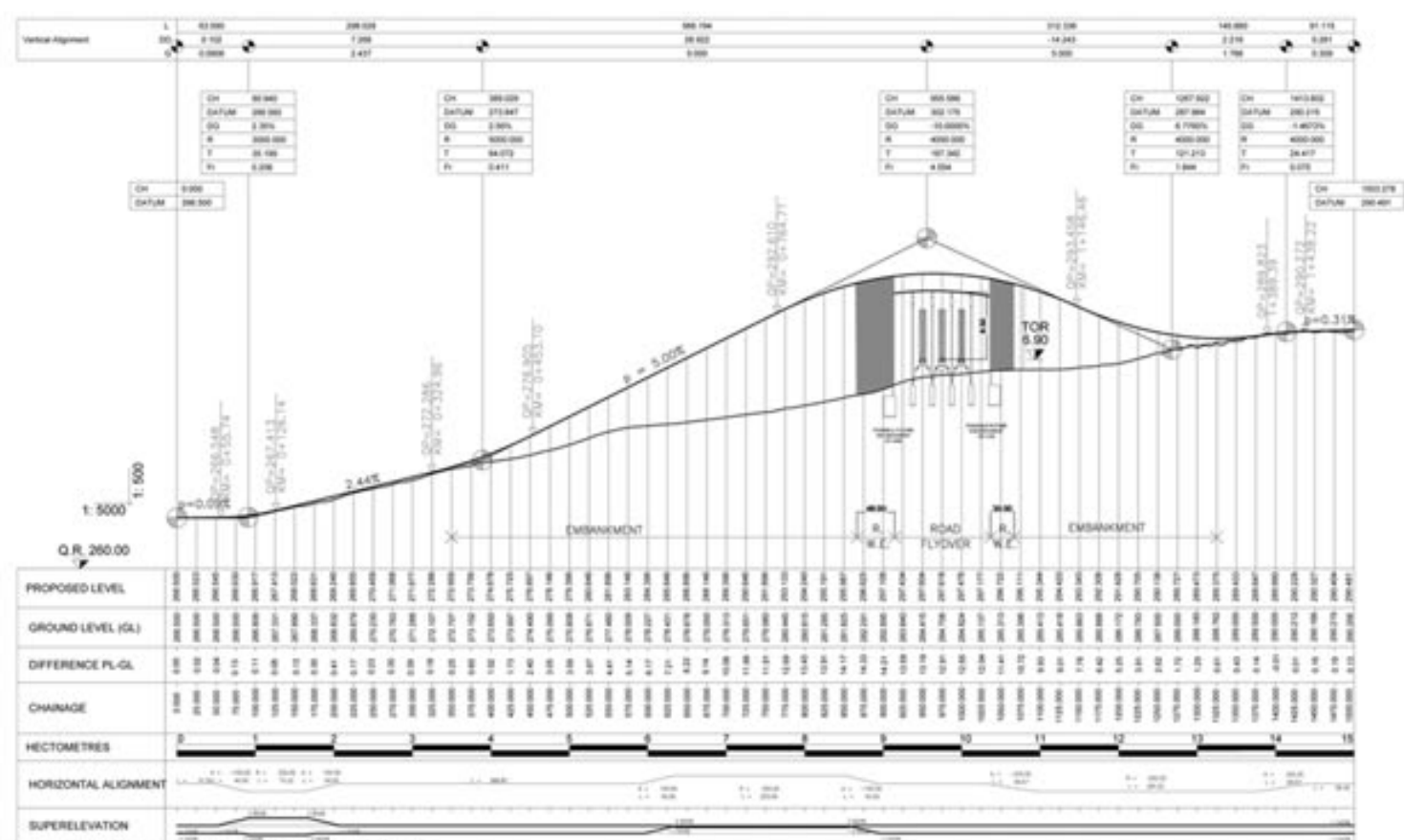


PLAN AL JUBAIL MARSHALLING YARD DEPOT

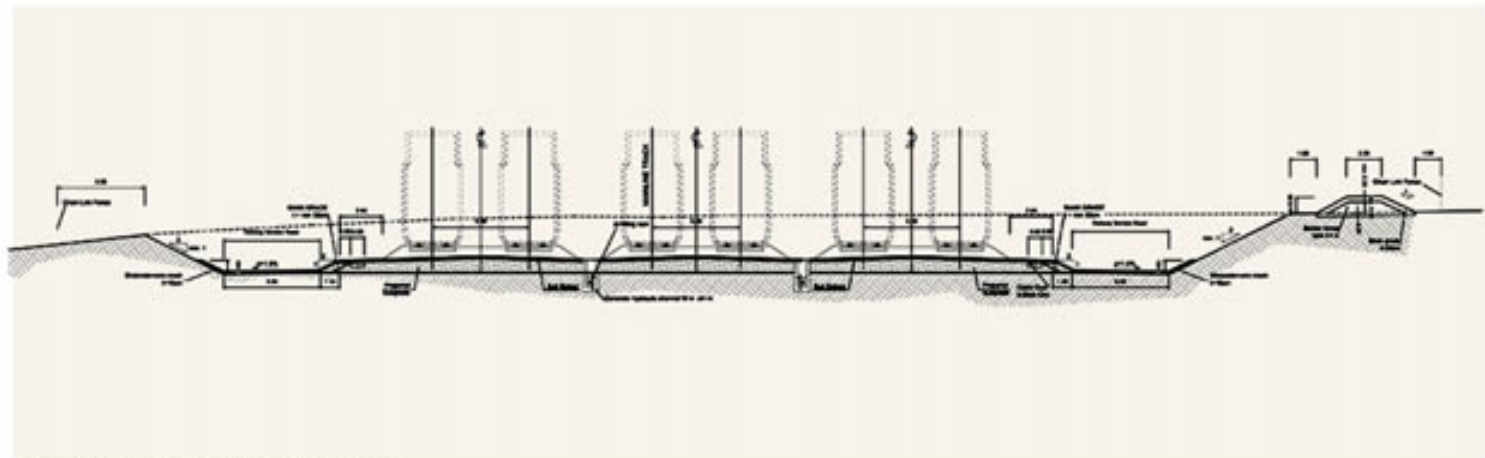
THE SAUDI LANDBRIDGE RAILWAY PROJECT



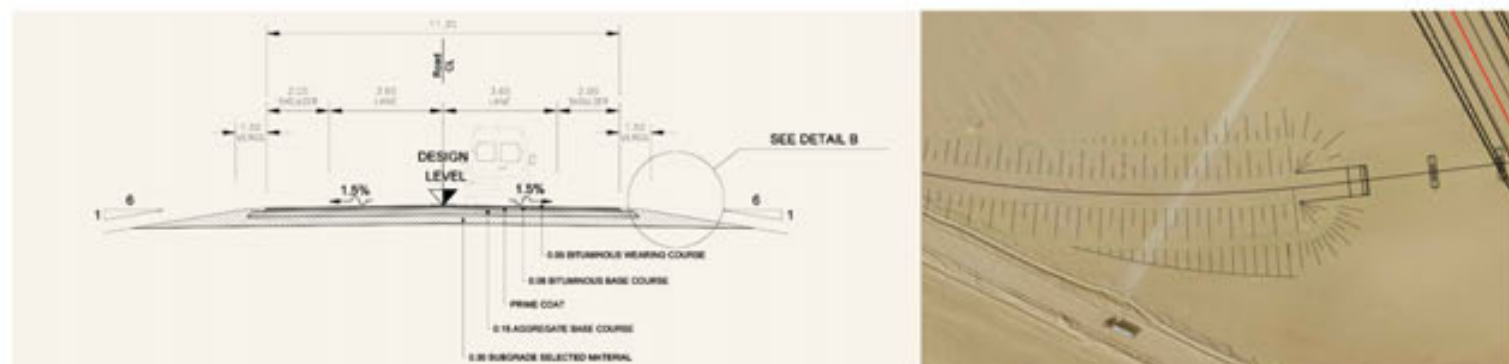
ROAD INTERFERENCE EXAMPLES - PLAN



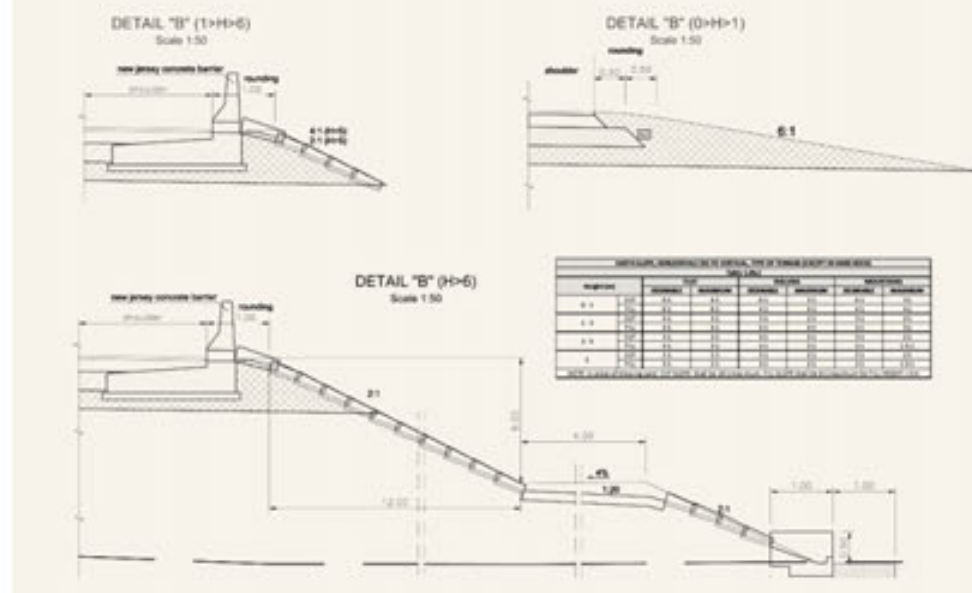
ROAD INTERFERENCE EXAMPLES - PROFILE



CUTTING TYPICAL TRACK SECTION

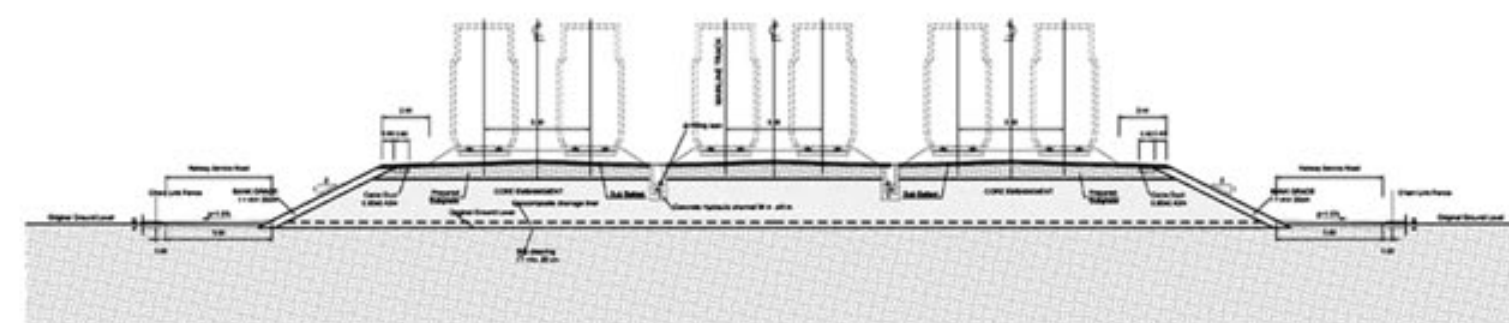


REINFORCED EARTH WALL TYPICAL CROSS SECTION (NEAR ABUTMENT) - SECTION BB - scale 1:200

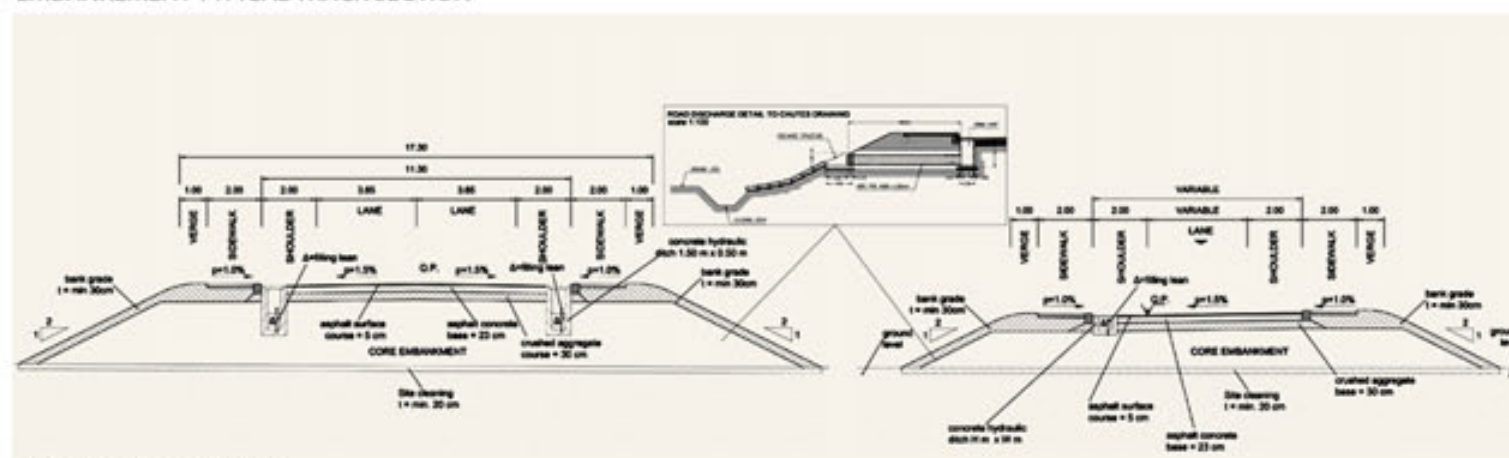


REINFORCED EARTH WALL TYPICAL CROSS SECTION (NEAR ABUTMENT) SECTION AA - scale 1:200

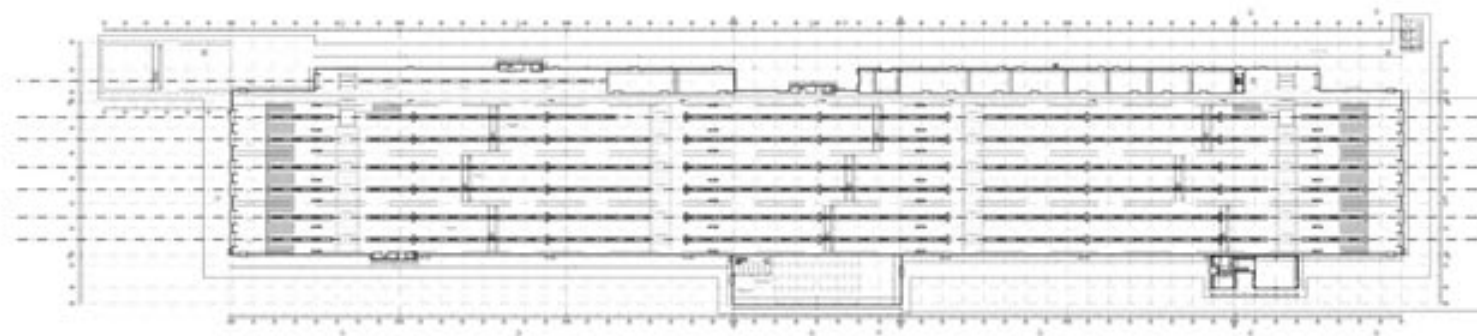
TYPICAL CROSS SECTION ROAD INTERFERENCE EXAMPLES



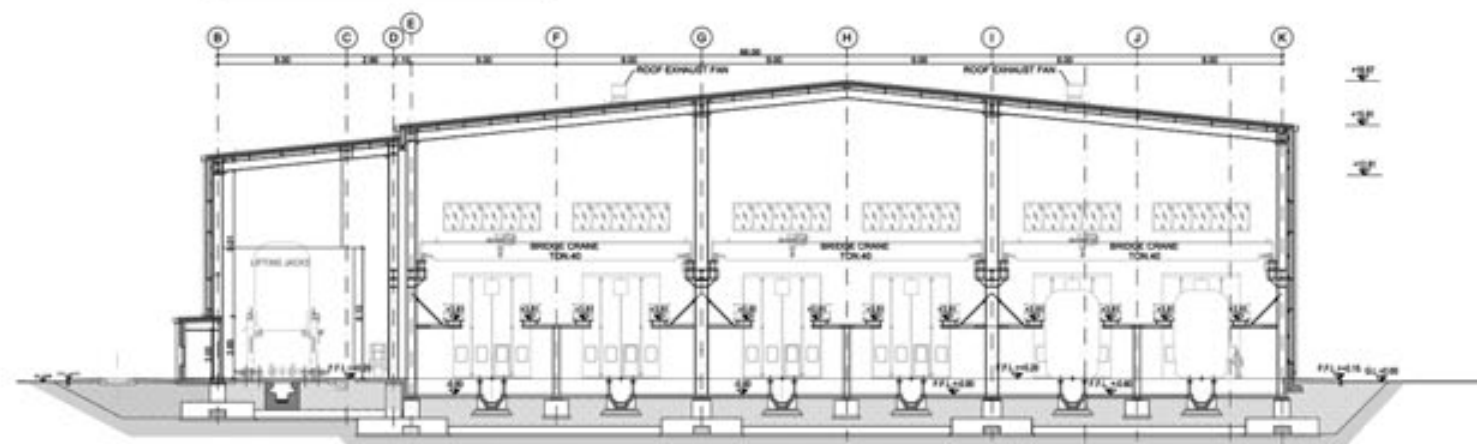
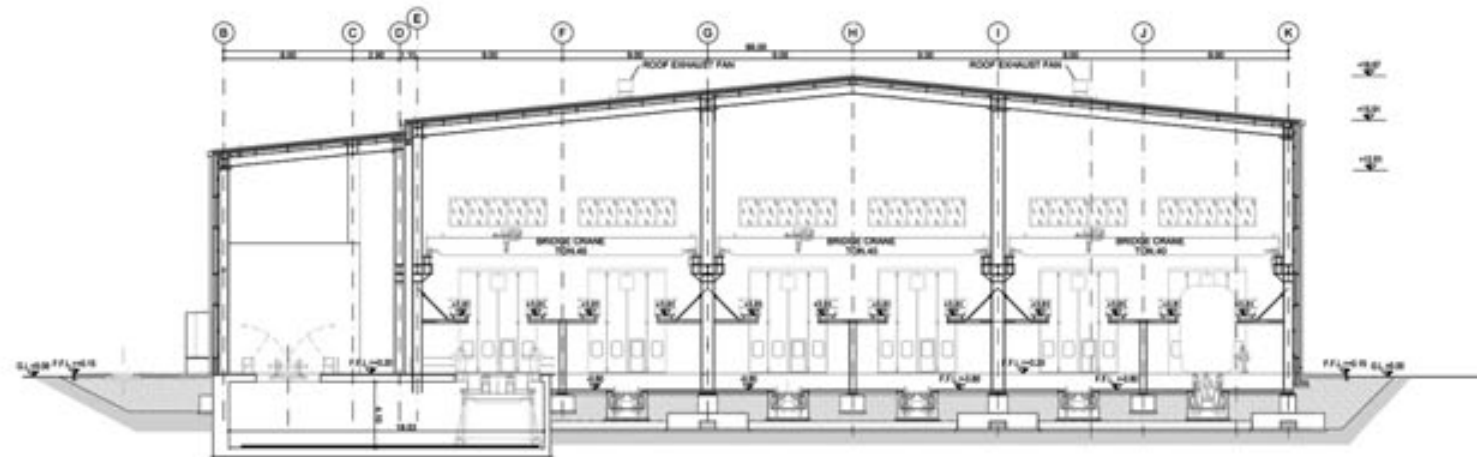
EMBANKMENT TYPICAL TRACK SECTION



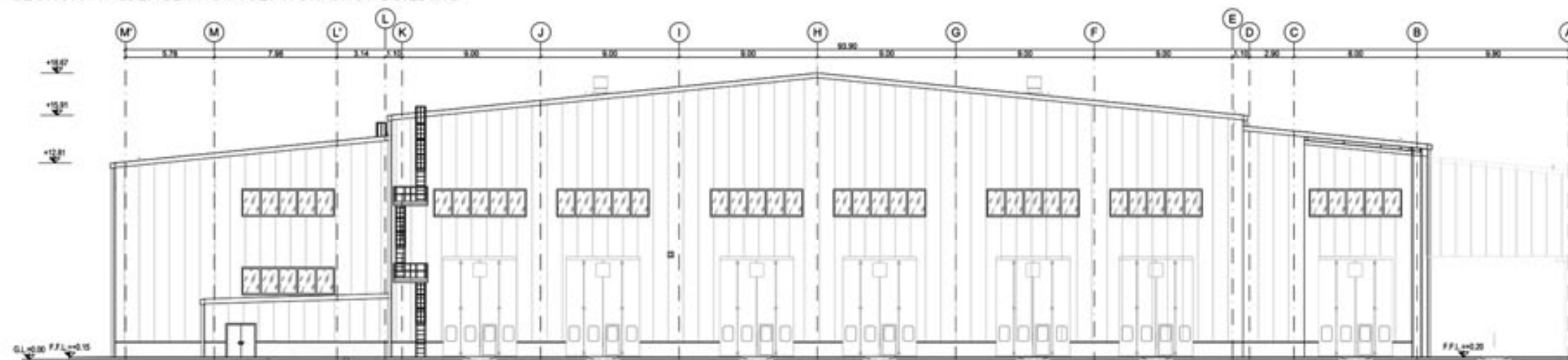
TYPICAL ROAD SECTION



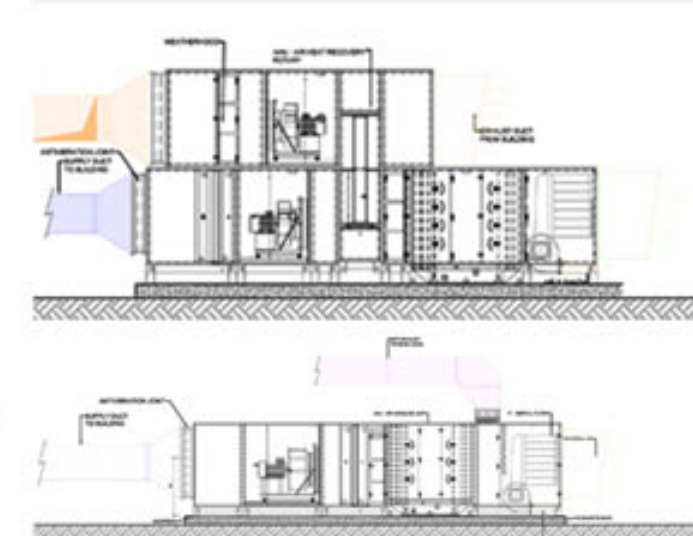
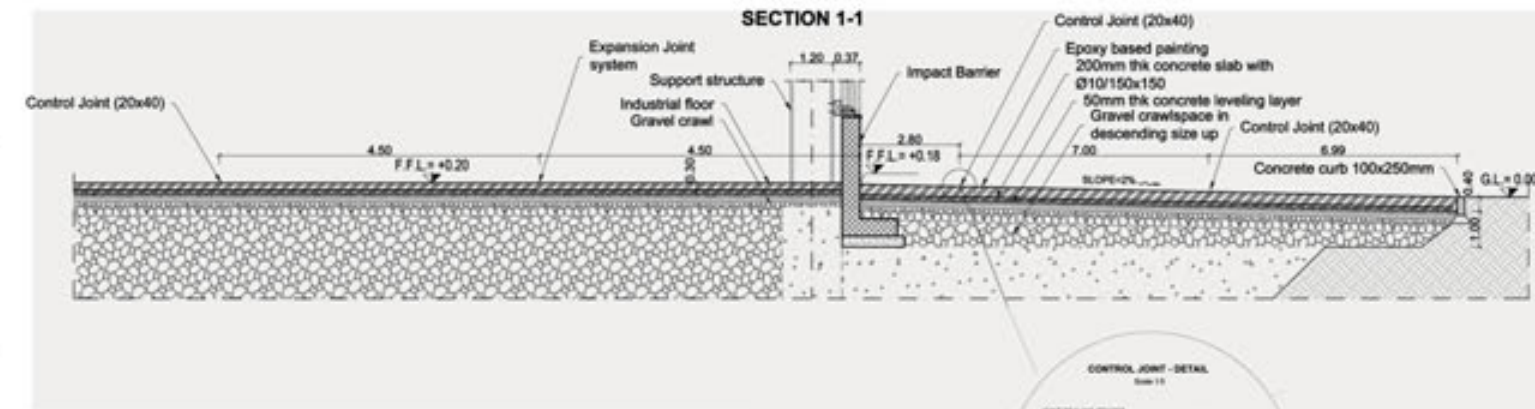
GENERAL PLAN - PASSENGER TRAIN SET WORKSHOP BUILDING



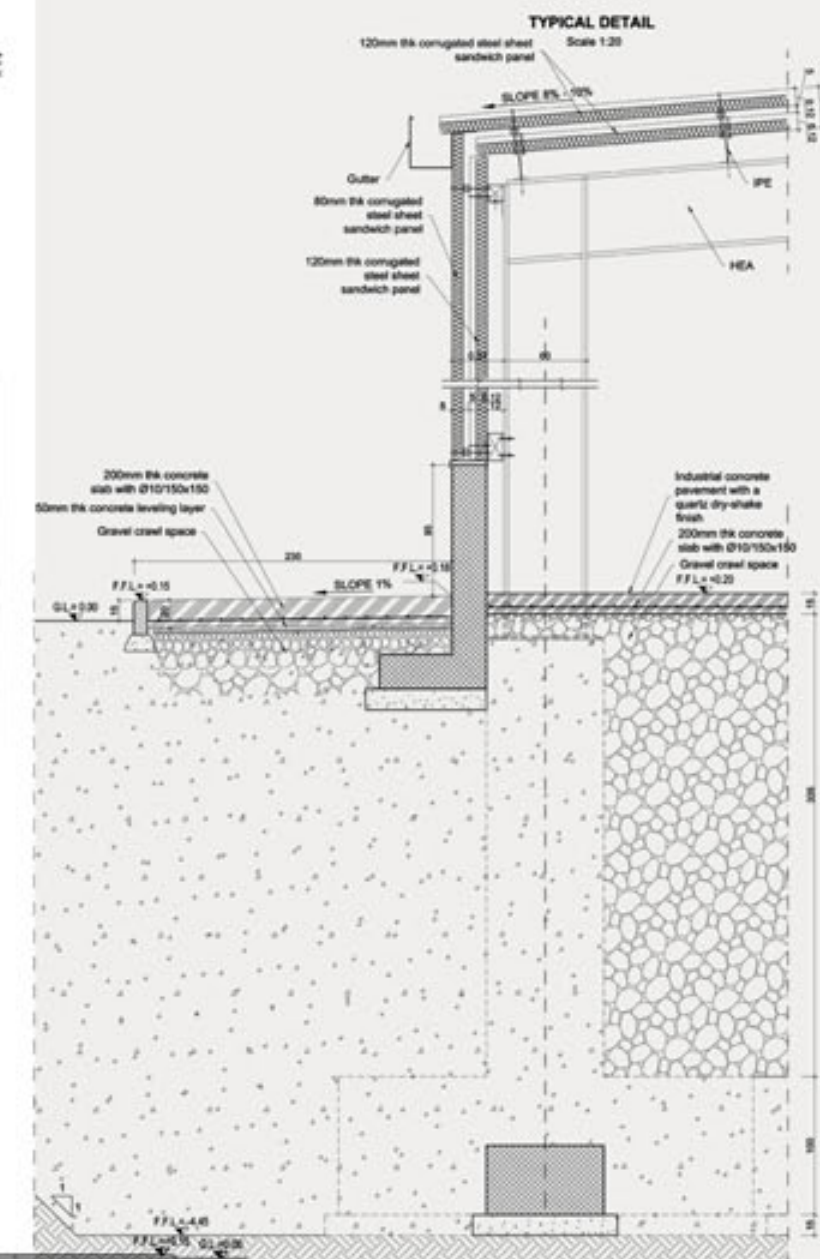
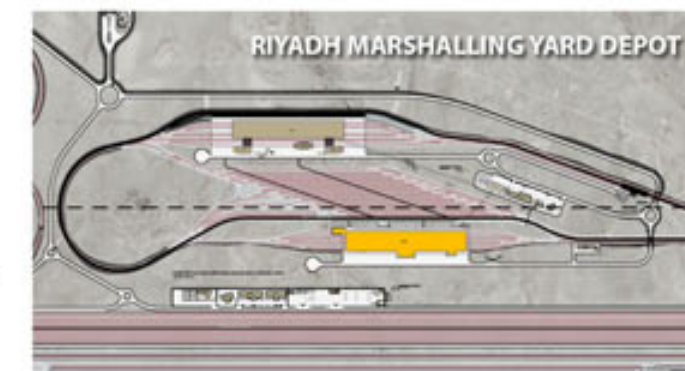
SECTION - PASSENGER TRAIN SET WORKSHOP BUILDING



ELEVATION - PASSENGER TRAIN SET WORKSHOP BUILDING



TYPICAL AIR HANDLING UNIT AND INERTIAL FILTER DETAIL



TYPICAL DETAIL - PASSENGER TRAIN SET WORKSHOP BUILDING



Plovdiv – Svilengrad (Bulgaria) railway line concept, scheme and detailed design

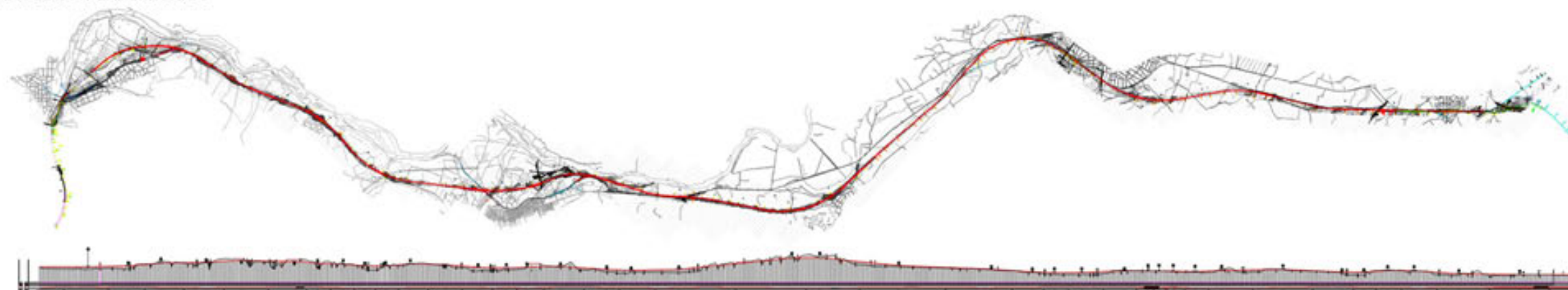
Firm	ERREGI
Location	Plovdiv, Bulgaria
Client	ASTALDI
Total amount of bid	121.000.000 \$
Year of start	2008
Current status	Project

Role and professional involvement of bidder

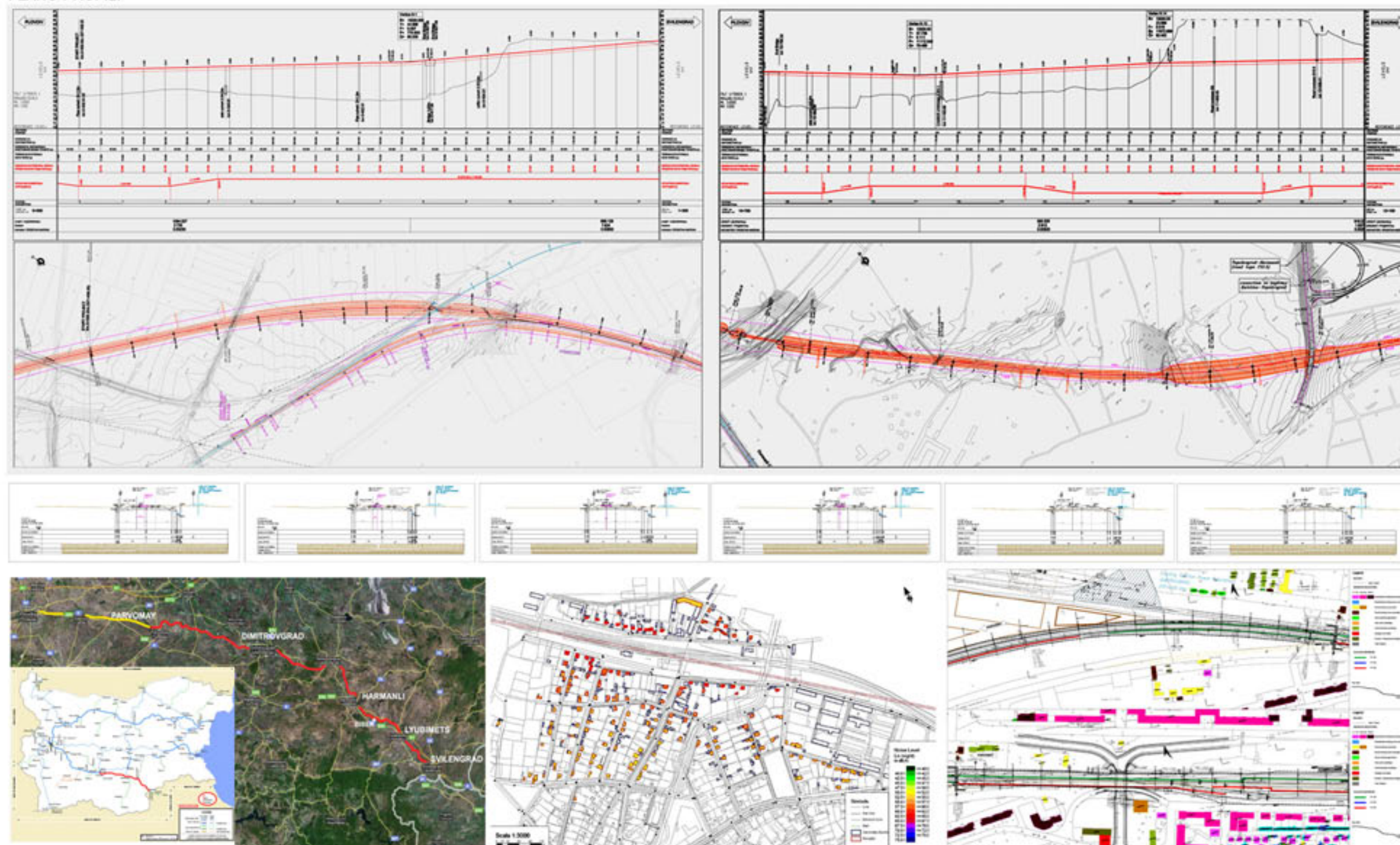
Concept and scheme design. Execution of works, viz.: the civil, track & electrification works, Stations for phase 2: Parvomai – Svilengrad and to the turkish/greek borders railway section.

The existing railway line is a single-track line, not electrified and has only some parts designed for a maximum speed of 100 km/h and follows the important European railway corridor IV and IX. Is situated between Plovdiv, a town about 200 km east of Sofia – Bulgaria and Svilengrad, a town situated about 94 km from Plovdiv, near the Greek and Turkish border. After a tender phase, The Ministry of Transport of the Republic of Bulgaria has entrusted to Italian construction Company Astaldi SpA, the preliminary, final, construction and as built design, as well as for the execution of work on doubling the Plovdiv - Svilengrad railway. The task include: civil works, armament, electrification, power supply (up to 25,000 volts including substations). In the project are included also Station buildings and other major and minor works. The two major objectives of the project was to bring the maximum speed to 160 km/h and the electrification of the line. The project has facilitated the feasibility of the work, without interruption exercise. Fundamental to the design of this railway line was the preparation of the track optimization in the presence of important constraints, and the study of macro steps, aimed to the identification of functional lots and the minimization of limitations on the exercise on the existing track. This allowed the identification of the WBS and planning of work activities, compatible with the exercise.

TRACCIATO PLANIMETRICO



PLANO-PROFILI



FASI COSTRUTTIVE 3° LOTTO PRIMO TRATTO HARMANLI-SVILENGRAD

MACROFASE "1a"
ATTIMITA'

- realizzazione nuova sede definitiva tra le PK 279+650 e 285+100
- realizzazione nuova sede provvisoria tra le PK 279+180 e 279+760
- realizzazione nuova sede provvisoria tra le PK 285+100 e 285+250

MACROFASE "1b"
ATTIMITA'

- allaccio provvisorio sulla sede realizzata nella Macrofase "1a" ed attivazione esercizio
- dismissione binario esistente
- realizzazione nuova sede definitiva sino alla PK 279+760

MACROFASE "1c"
ATTIMITA'

- allaccio definitivo sulla sede realizzata nelle Macrofasi precedenti ed attivazione esercizio
- dismissione binario provvisorio
- sistemazione sede definitiva in ambito tratto di allaccio ed al piede del rilevato per l'intero tratto

LEGENDA	
	Non interessato da modifica
	Demolizione
	Costruzione
	Realizzato
	Provvisorio in costruzione
	Provvisorio realizzato

3° LOTTO HARMANLI-SVILENGRAD
MACROFASI 1° TRATTO

MACROFASE "1a"
ATTIMITA'

- realizzazione nuova sede definitiva tra le PK 279+650 e 285+100
- realizzazione nuova sede provvisoria tra le PK 279+180 e 279+760
- realizzazione nuova sede provvisoria tra le PK 285+100 e 285+250

MACROFASE "1b"
ATTIMITA'

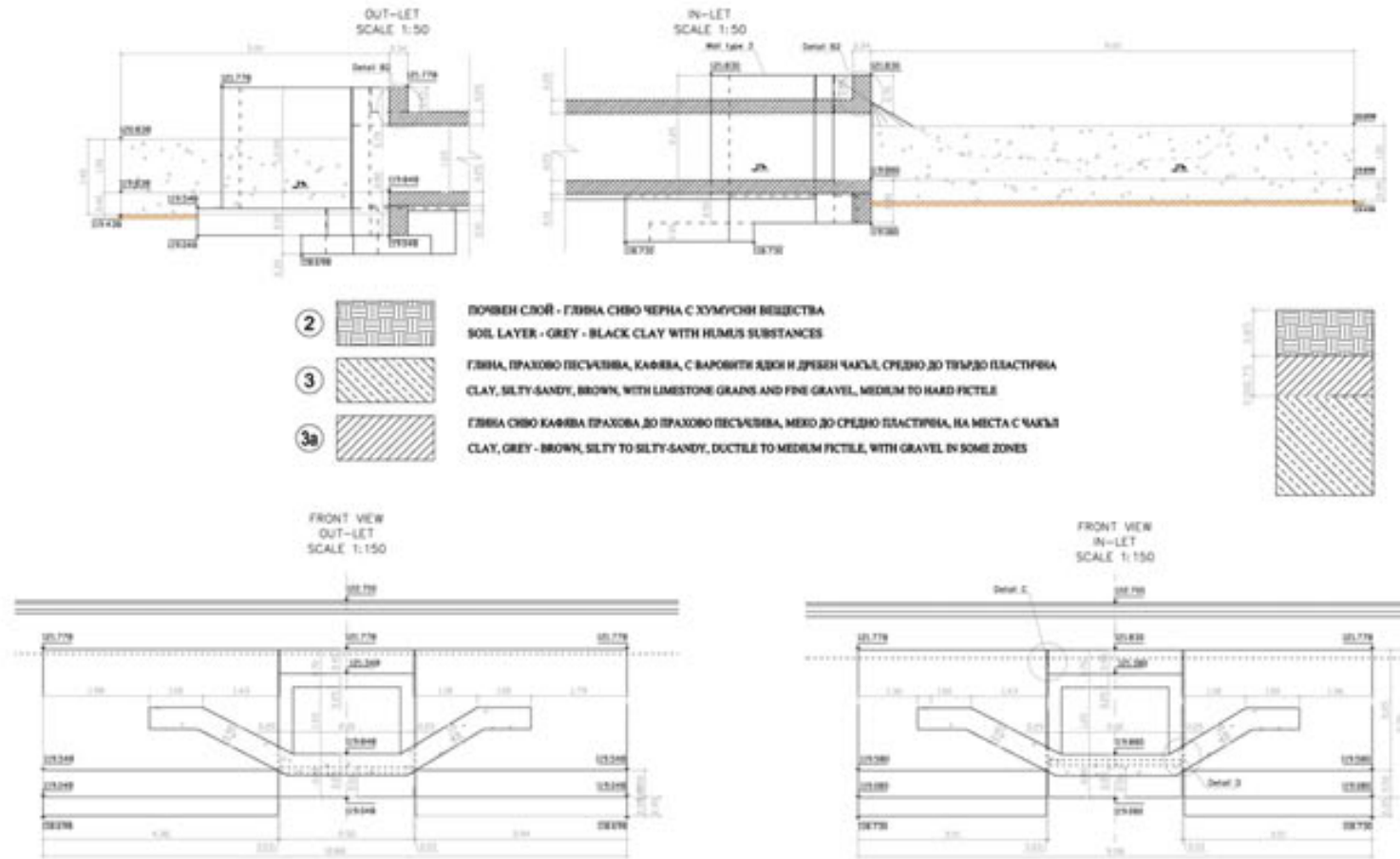
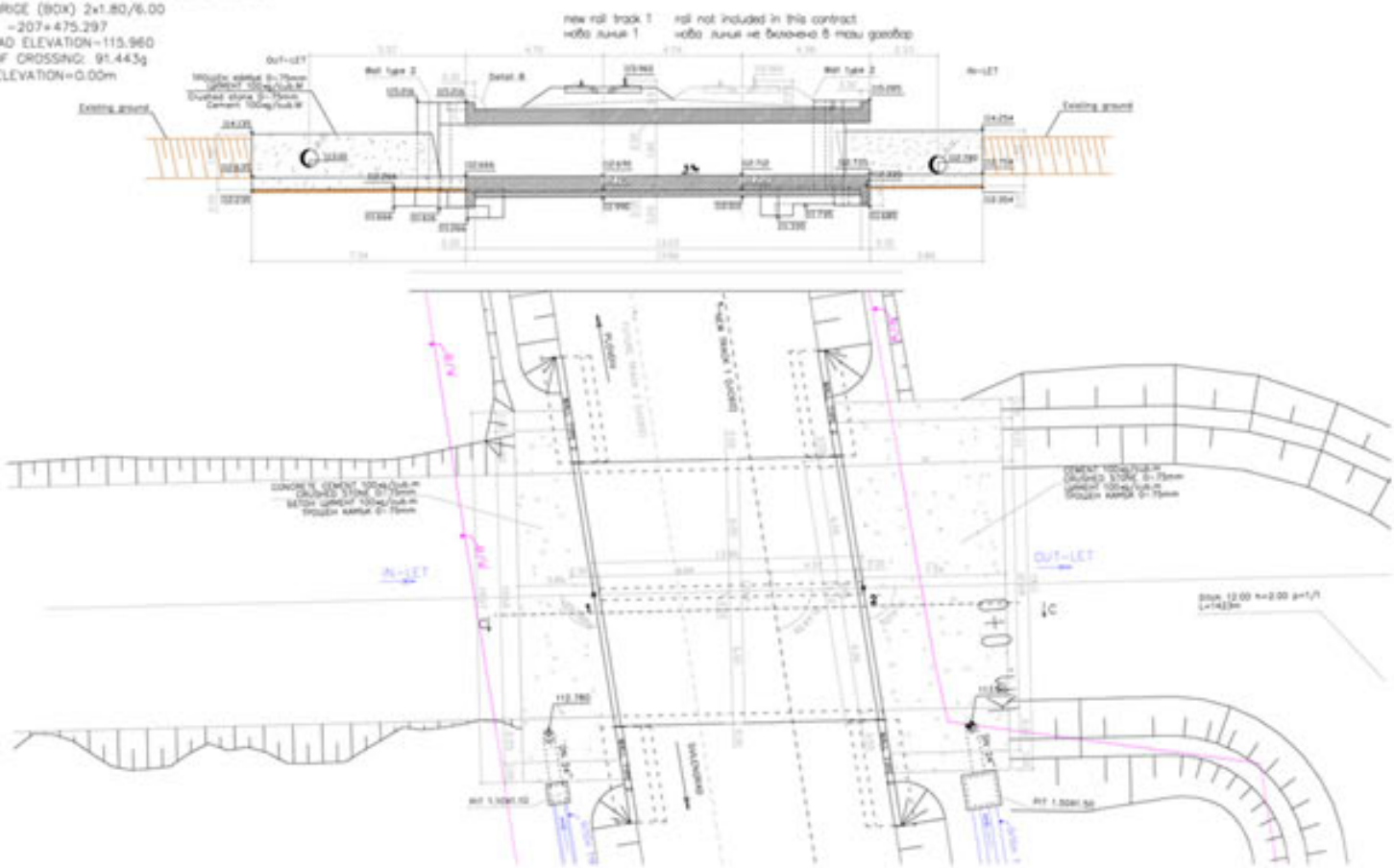
- allaccio provvisorio sulla sede realizzata nella Macrofase "1a" ed attivazione esercizio
- dismissione binario esistente
- realizzazione nuova sede definitiva sino alla PK 279+760

MACROFASE "1c"
ATTIMITA'

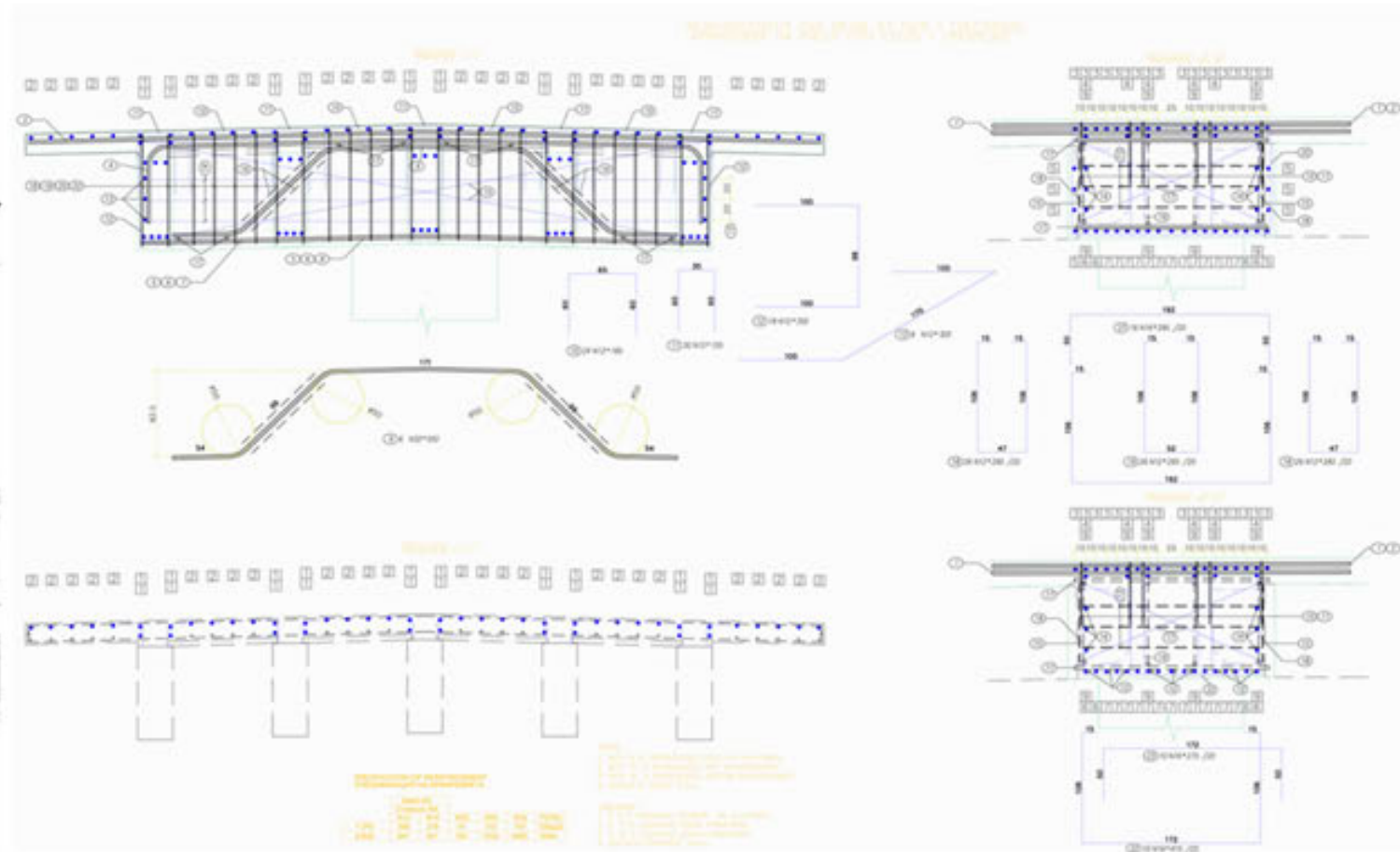
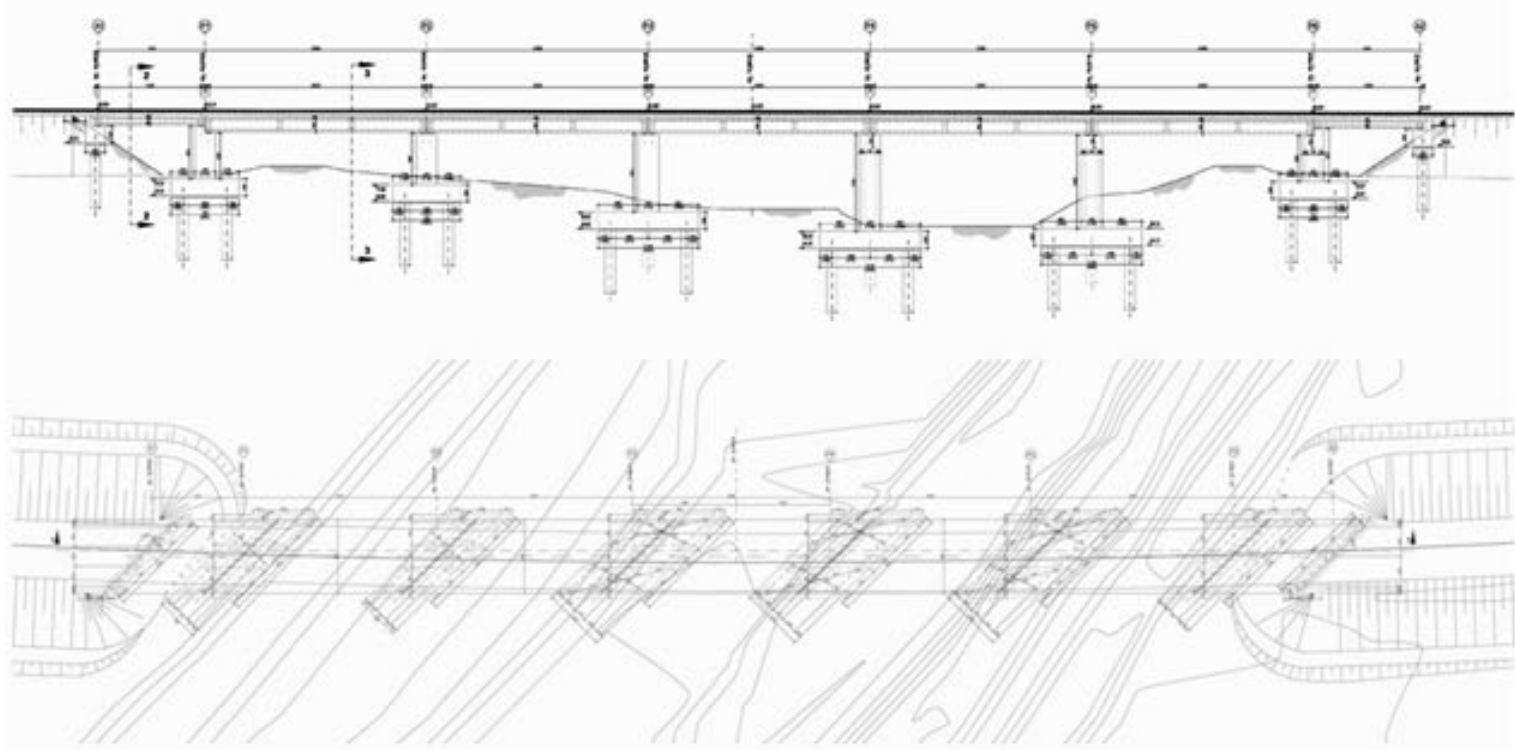
- allaccio definitivo sulla sede realizzata nelle Macrofasi precedenti ed attivazione esercizio
- dismissione binario provvisorio
- sistemazione sede definitiva in ambito tratto di allaccio ed al piede del rilevato per l'intero tratto

OPERE D'ARTE MAGGIORI

LONGITUDINAL SECTION C-C НАДЪРЖАНИ ПАСРЕЗ
SMALL BRIDGE (BOX) 2x1.80/6.00
STATION +207+475.297
RAIL HEAD ELEVATION=115.960
ANGLE OF CROSSING: 91.443g
SUPER ELEVATION=0.00m



PONTE FERROVIARIO km 10+682.95



PLOVDIV-SVILENGRAD RAILWAY ELECTRIFICATION AND UPGRADE OF CORRIDORS IV AND IX PHASE II: PARVOMAY - SVILENGRAD
DIMITROVGRAD - NOISE LEVEL (NIGHT) - NO BARRIERS



PLOVDIV-SVILENGRAD RAILWAY ELECTRIFICATION AND UPGRADE OF CORRIDORS IV AND IX PHASE II: PARVOMAY - SVILENGRAD
DIMITROVGRAD - RECEPTOR WITH OVERRUNING OF NOISE LEVEL (NIGHT) - NO BARRIERS



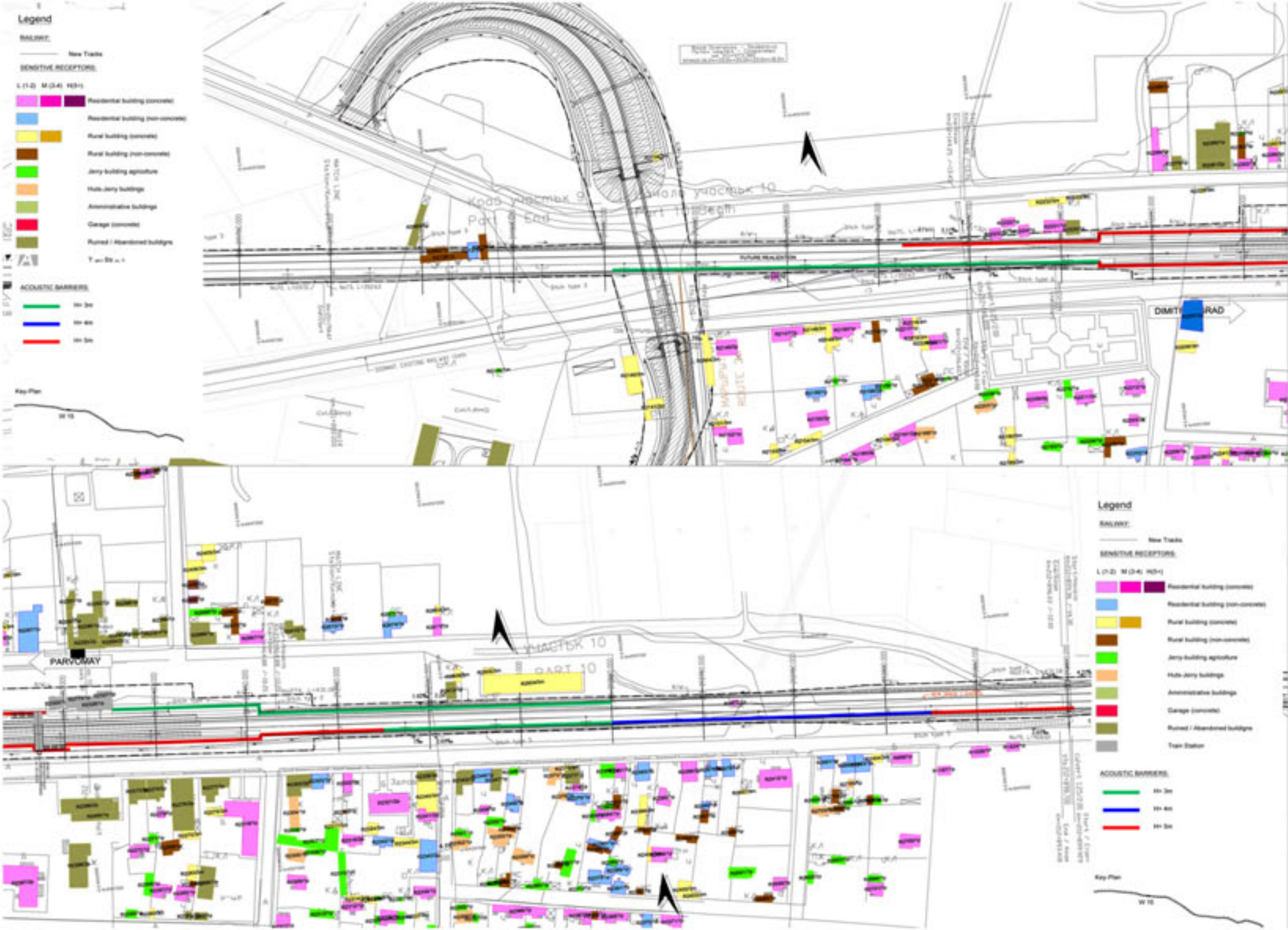
PLOVDIV-SVILENGRAD RAILWAY ELECTRIFICATION AND UPGRADE OF CORRIDORS IV AND IX PHASE II: PARVOMAY - SVILENGRAD
DIMITROVGRAD - NOISE LEVEL (NIGHT) - WITH BARRIERS



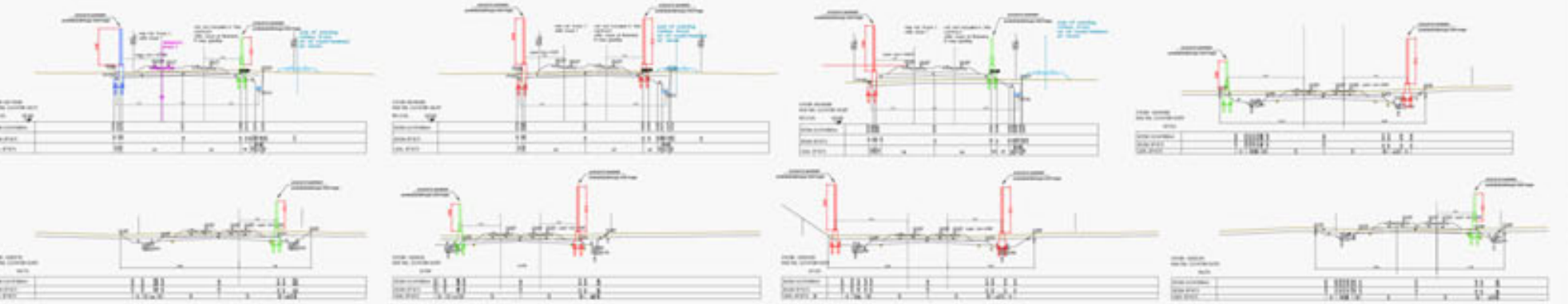
PLOVDIV-SVILENGRAD RAILWAY ELECTRIFICATION AND UPGRADE OF CORRIDORS IV AND IX PHASE II: PARVOMAY - SVILENGRAD
DIMITROVGRAD - RECEPTOR WITH OVERRUNING OF NOISE LEVEL (NIGHT) - WITH BARRIERS



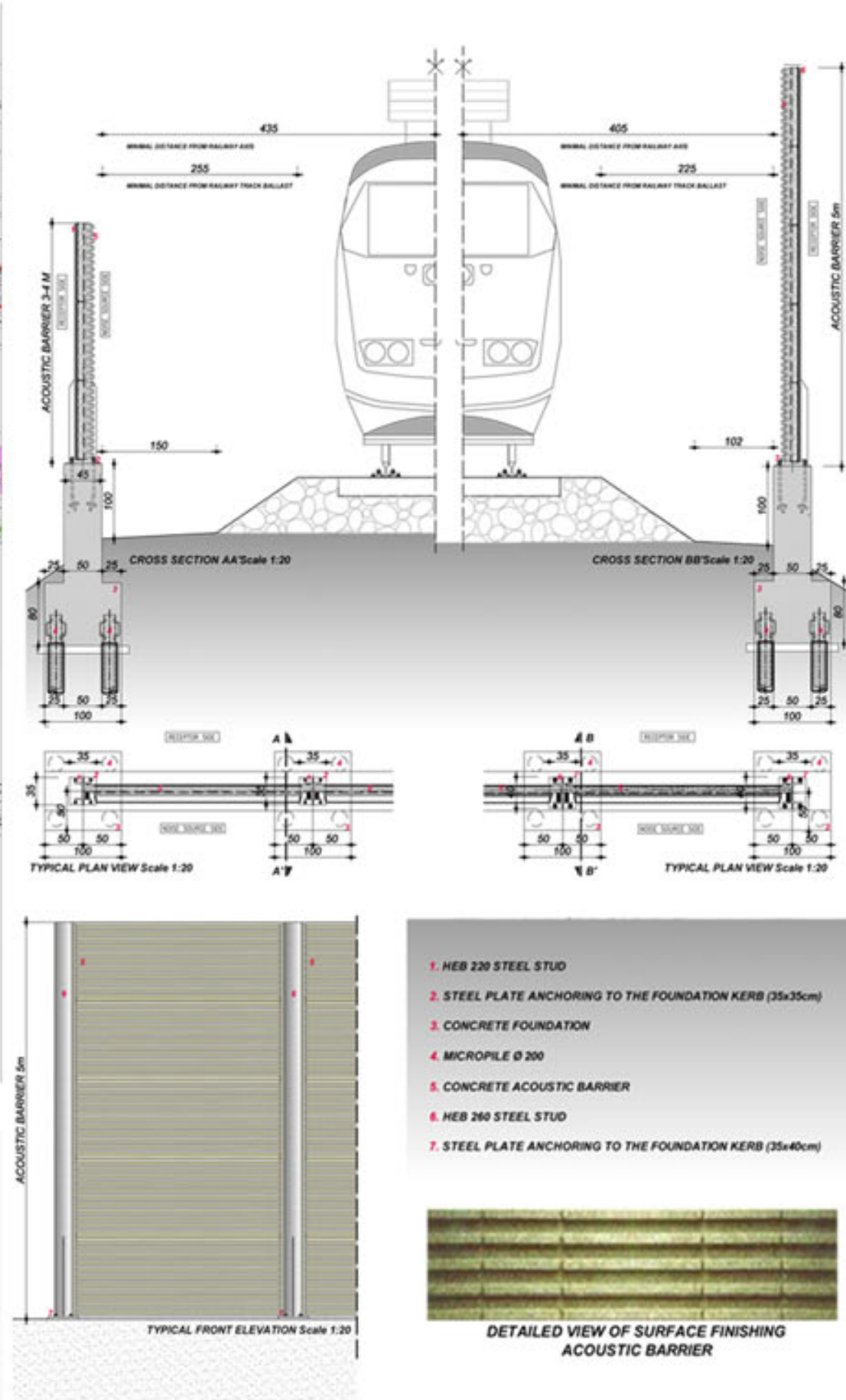
STUDIO E VALUTAZIONE DELL'IMPATTO ACUSTICO IN PROSSIMITA' DEI CENTRI ABITATI



SEZIONI TIPOLOGICHE DI DISPOSIZIONE DELLE BARRIERE



TIPOLOGIA DELLE BARRIERE ANTIRUMORE

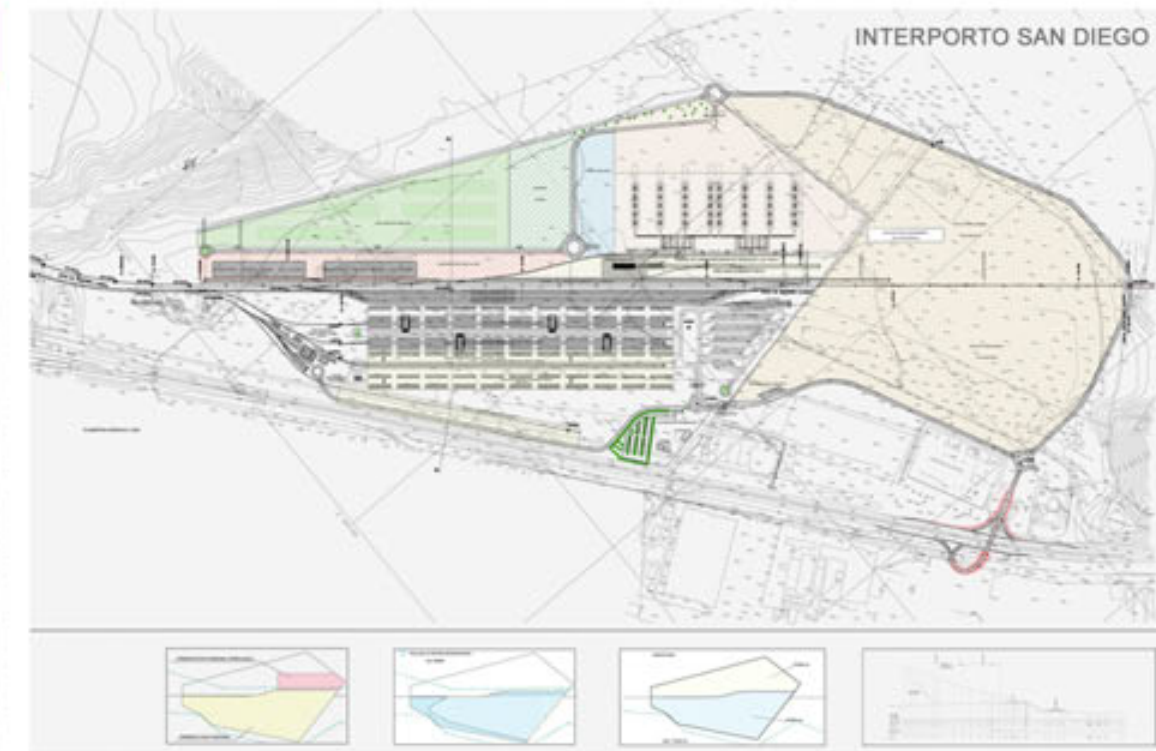




New Railway Line “La Encrucijada – Puerto Cabello” (Venezuela)
Preliminary and detailed design of 110 km railway line, Stations, Maintenance buildings, Intermodal Junctions and Depots

Firm	ERREGI
Location	Venezuela
Client	ITALFERR
Total amount of bid	59.895.000 €
Year of start	2004/2006
Current status	Project
Role and professional involvement of bidder	Detailed design of civil works and railway utilities

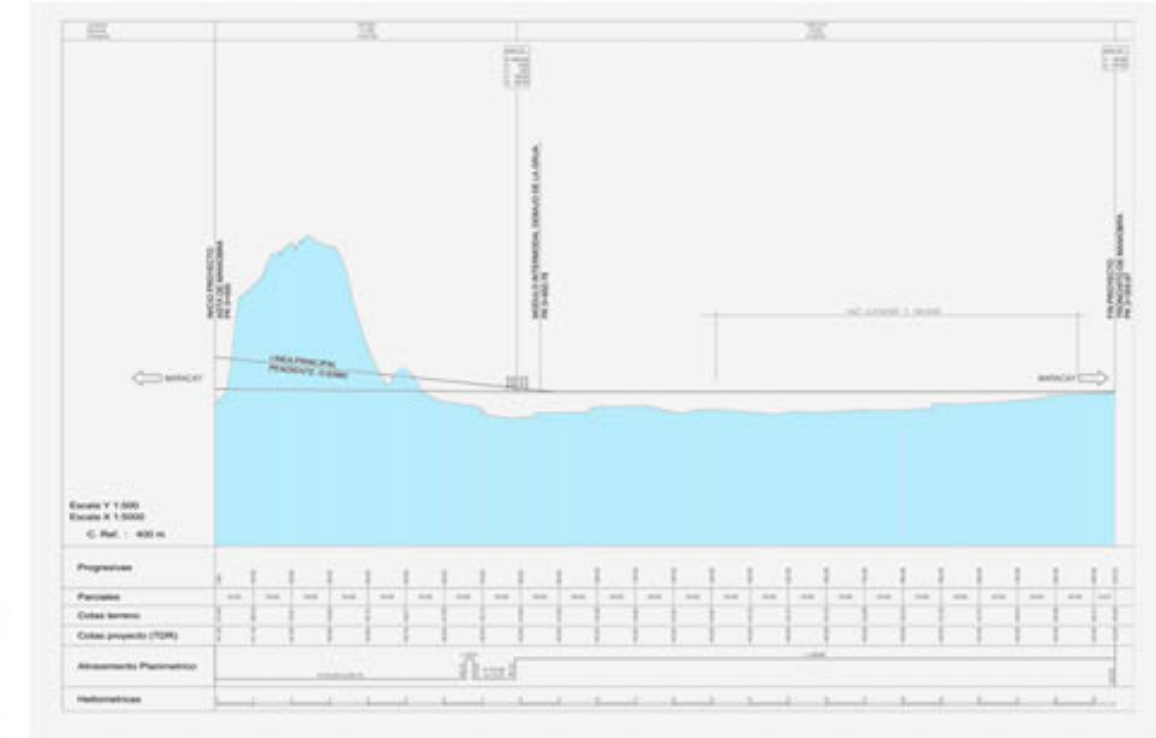
ERREGI S.r.l. has started its work in Venezuela in 2002 under assignment of design activity by Italferr S.p.A. (RFI Group Italian Railways). The task included scheme and detailed design of the Encrucijada – Puerto Cabello railway line tendered by Venezuelan Railways (IAFE) and won by the Contuy Joint Venture (Astaldi, Impregilo, Ghella). The length of the line is around 110Km, whose 33 on the mountains and 76 on flat lands. ERREGI in particular has carried out the design on site, in Valencia, with a team supporting Italferr, until mid 2003, producing the scheme design from the concept one. During the same period in Italy the Firm has given support for the concept design of rails, utilities, intermodal junctions and 10 stations. It has to be highlighted that in the same period a big part of the works for tunnels and viaducts have started. During the following phase ERREGI S.r.l., appointed by Italferr, has carried out from its Italian offices the scheme design of the two intermodal junctions, two line maintenance sites, and two maintenance sites for the rolling stocks, whose the Encrucijada one is particularly big for his importance for the future development of the line. The disciplines involved have been architecture, structural engineering, civil and rail utilities and drainage systems. During the same period in a joint venture with Technip S.p.A. the Company has produced the scheme design of Maracay and Cagua stations with related utilities. In this last design phase also the disciplines involved are: railway, structural civil and railway utilities engineering, drainage systems and architecture.

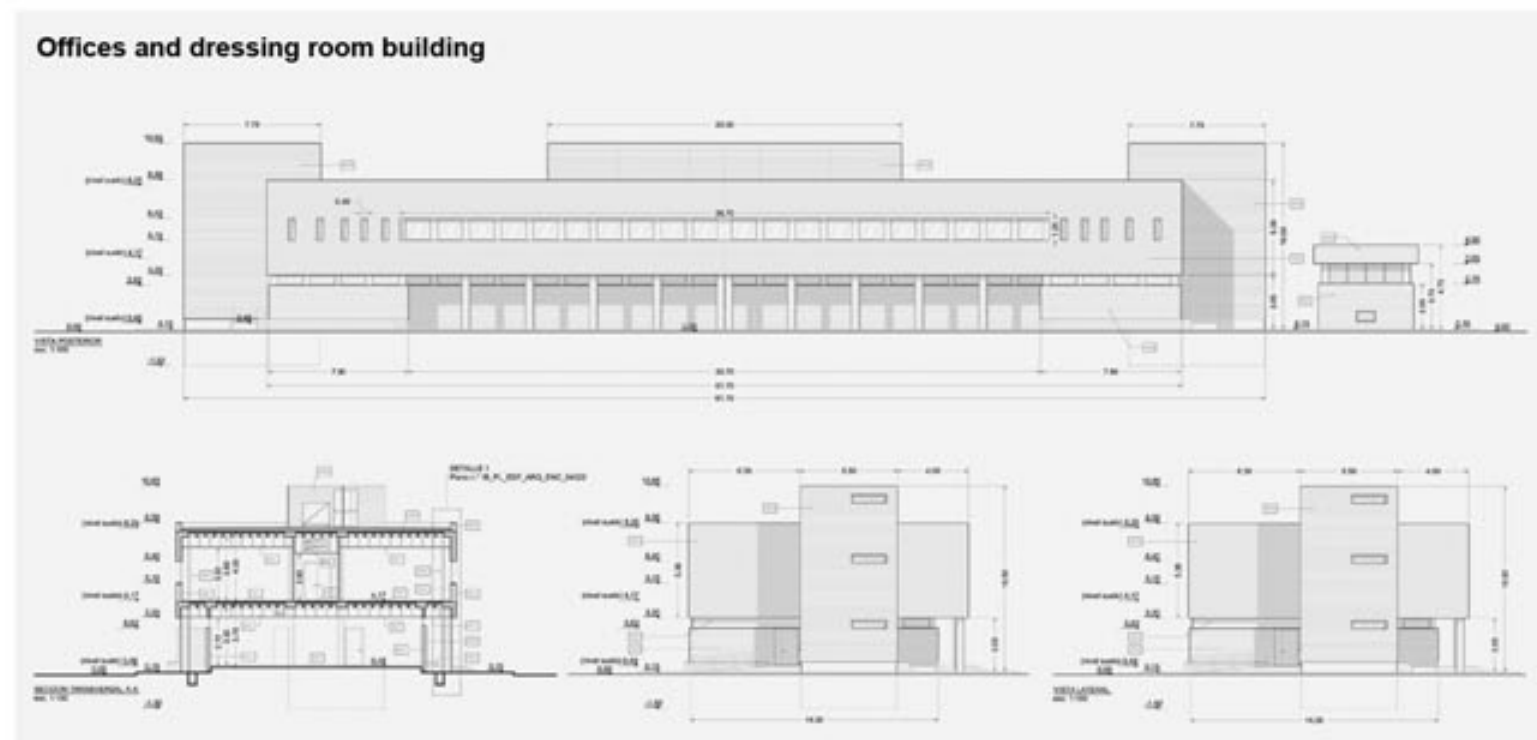
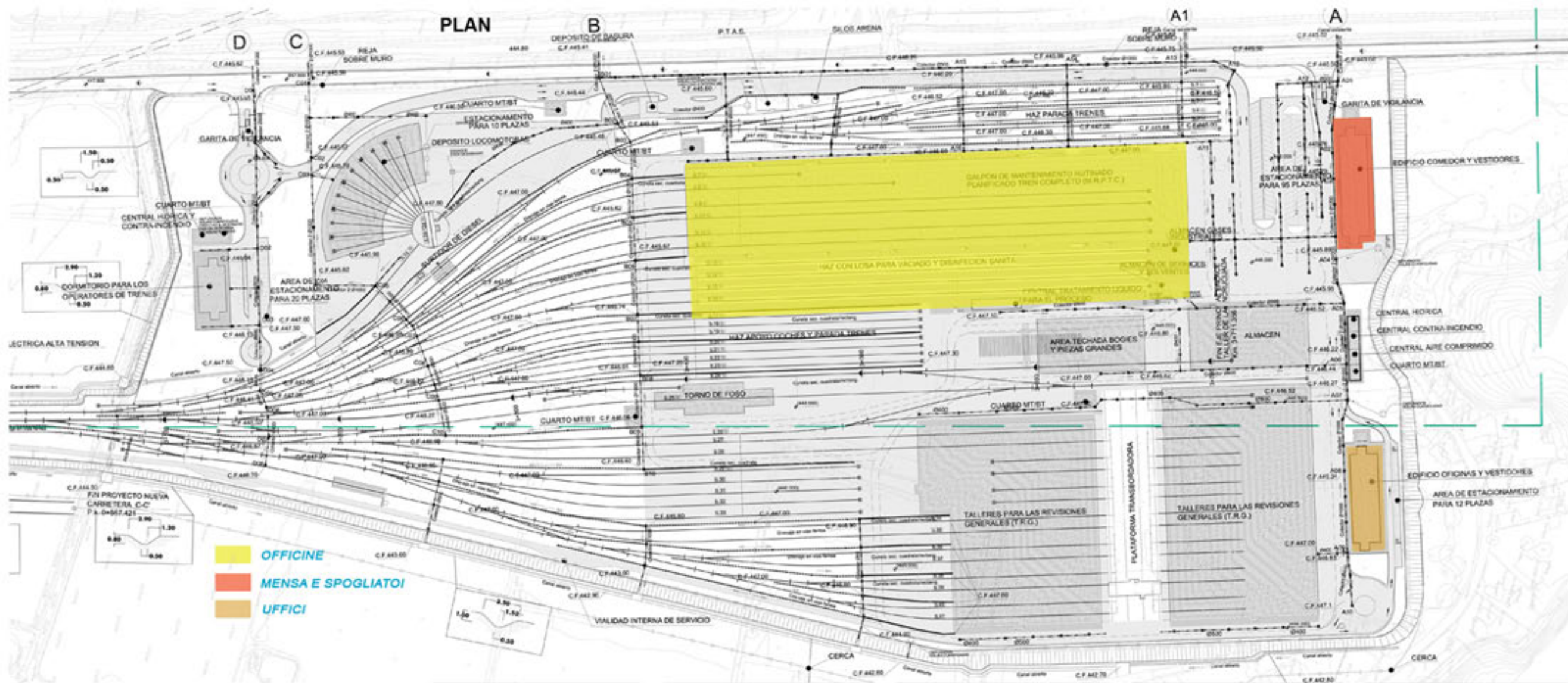


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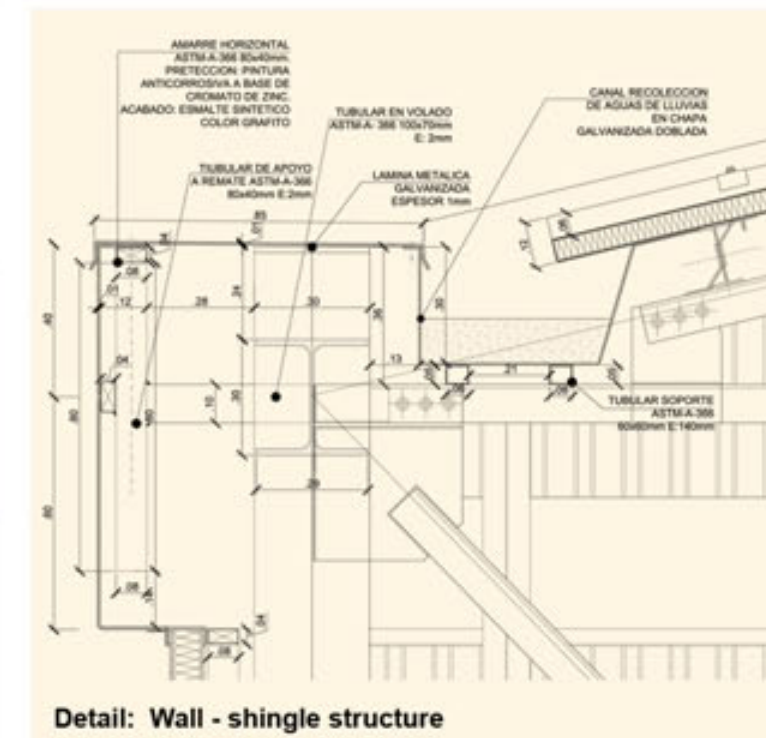
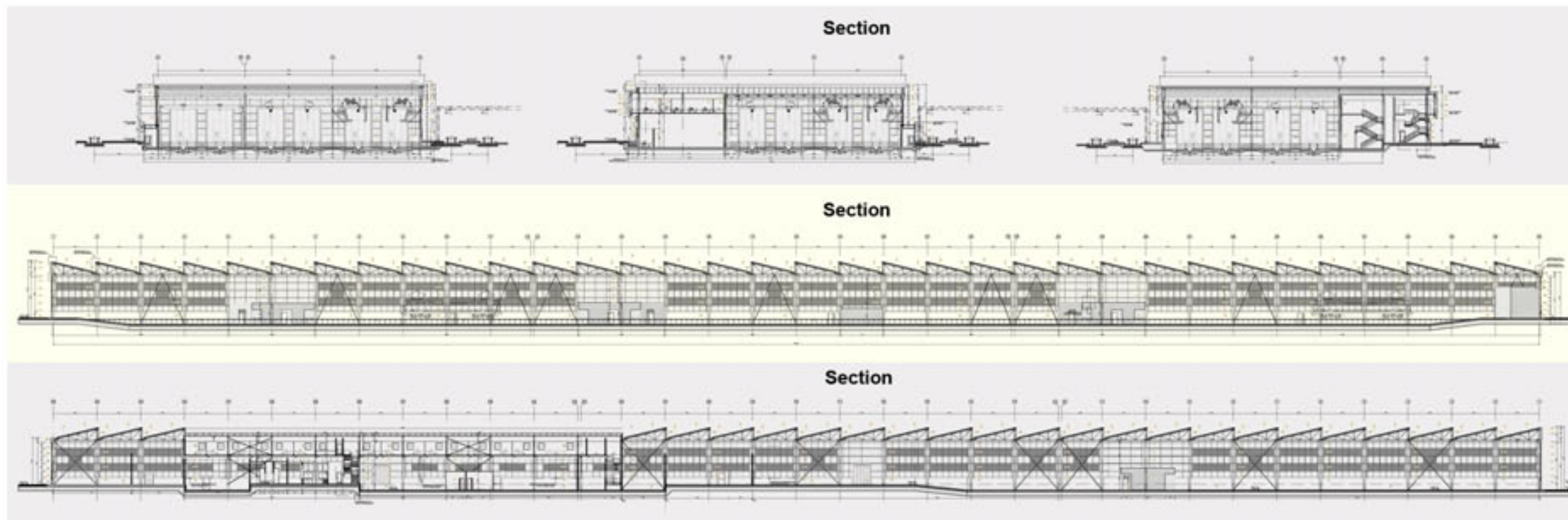
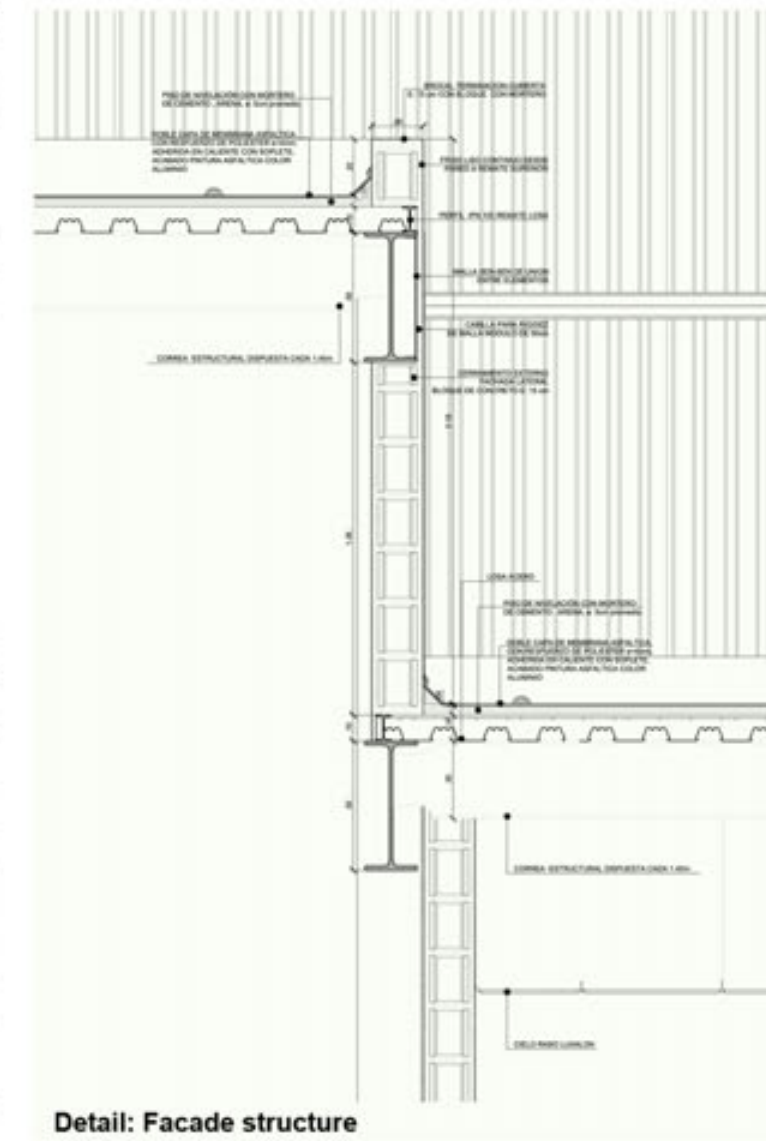
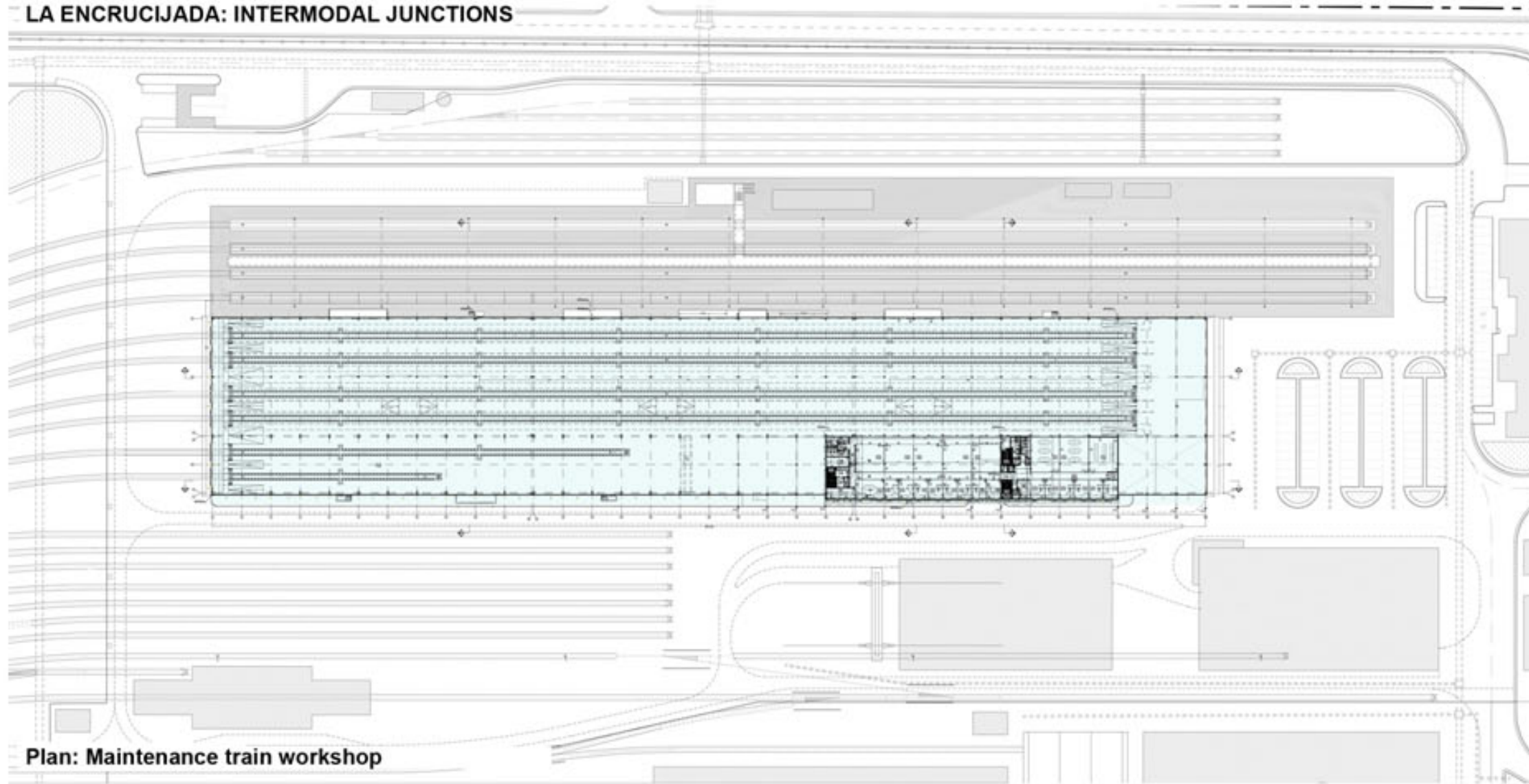


LA ENCRUCIJADA: INTERMODAL JUNCTIONS

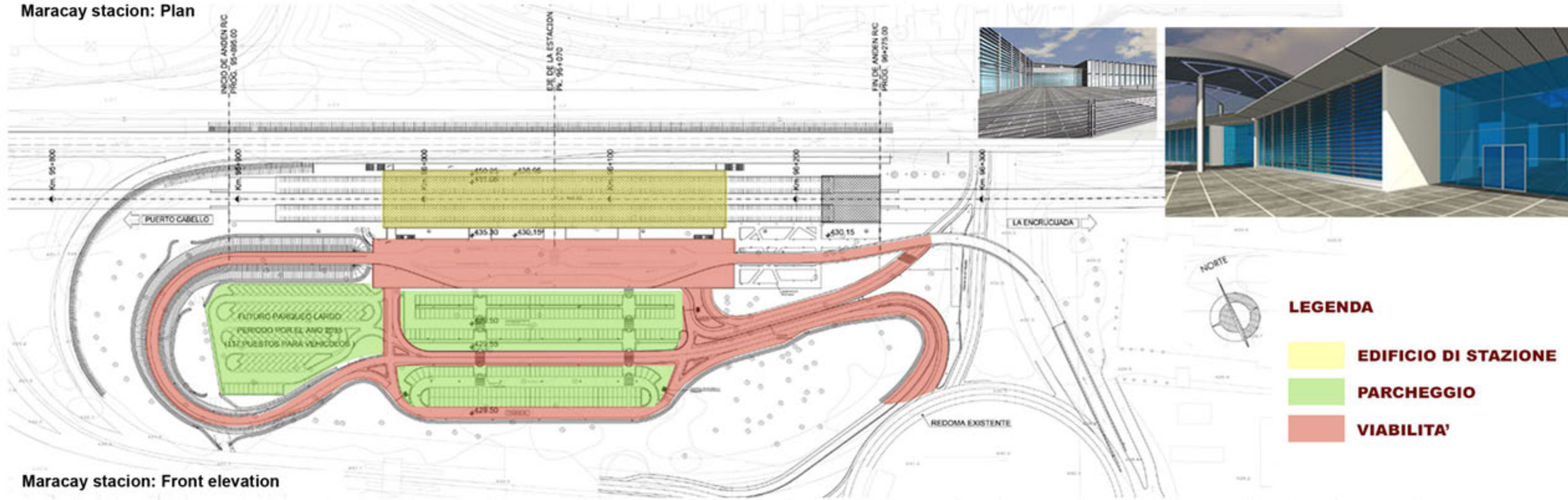




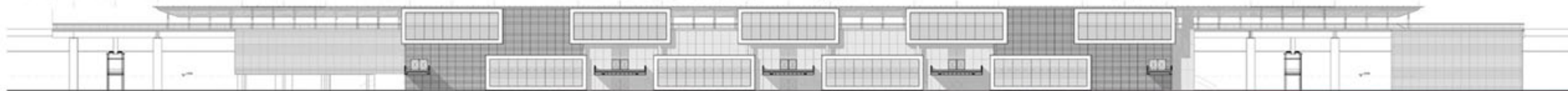
LA ENCRUCIJADA: INTERMODAL JUNCTIONS



Maracay station: Plan



Maracay station: Front elevation

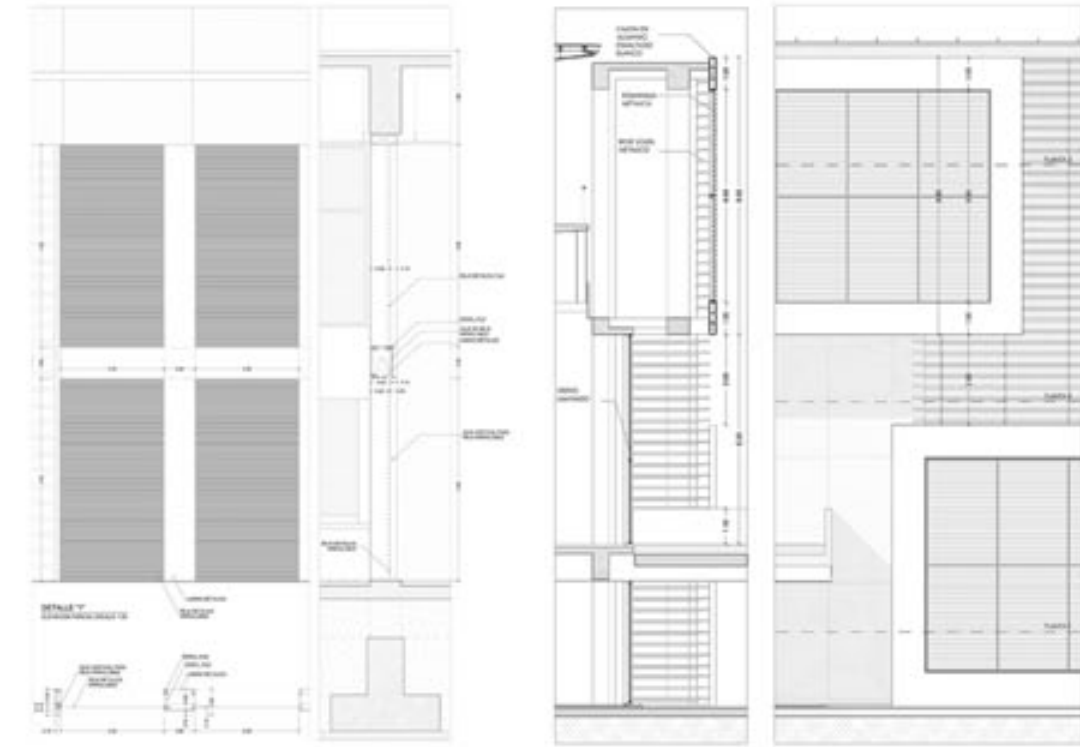
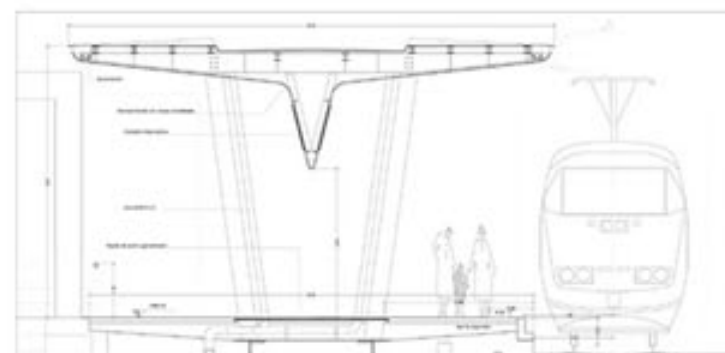


MARACAY STATION

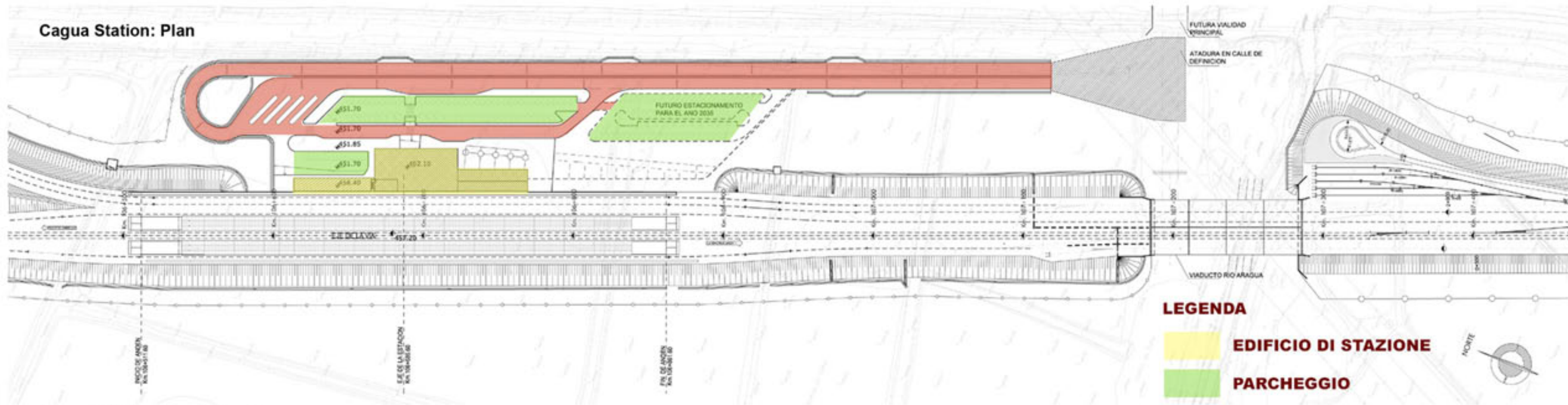
Maracay station has the peculiarity of being located in an area of the Encrucijada – Puerto Cabello line where the railway runs on viaducts next to an highway and close to the main roads of the town. The platforms are only two and they are covered with a steel and glass canopy. The station has a complicated concrete structure due to the proximity of a steel railway viaduct. The station has an atrium at ground level with parking area in front. The access to the parking is through a steel viaduct, also included in the project, passing above the four lanes road in front of the station. Access to platform level from the atrium is through stairs and escalators. At platform level are also located all service rooms.



Maracay station: Part of front elevation



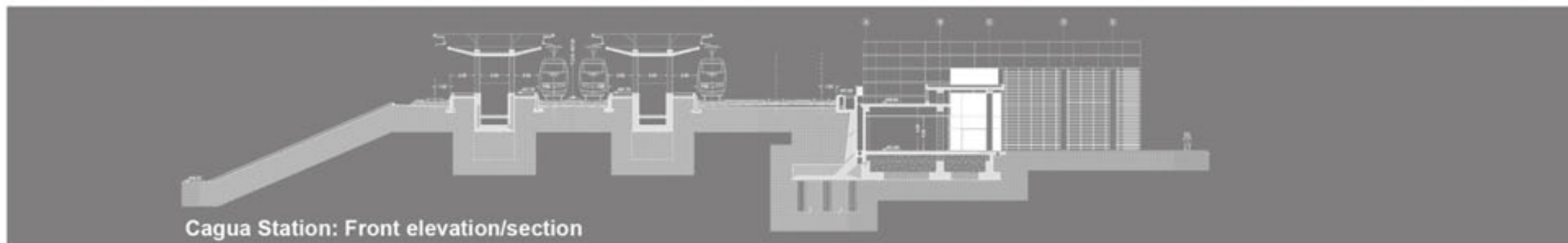
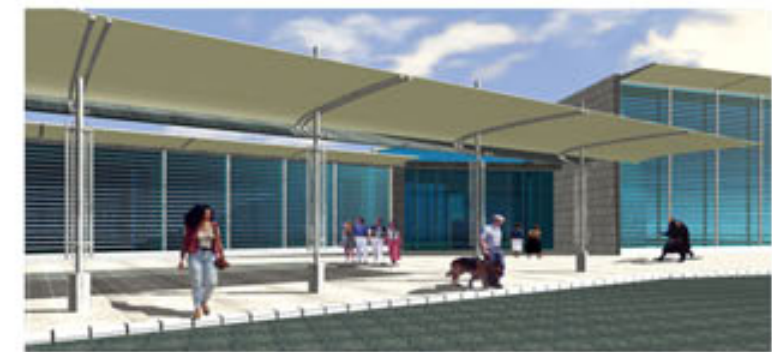
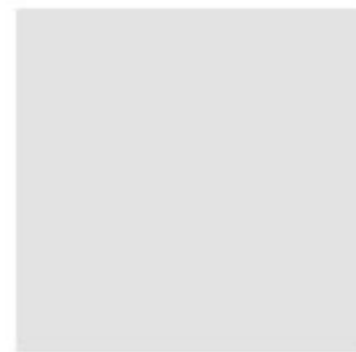
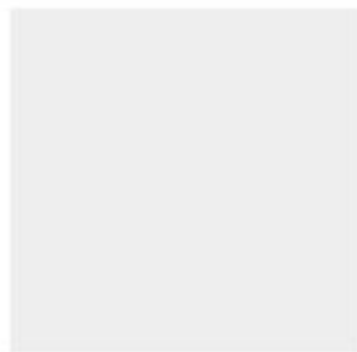
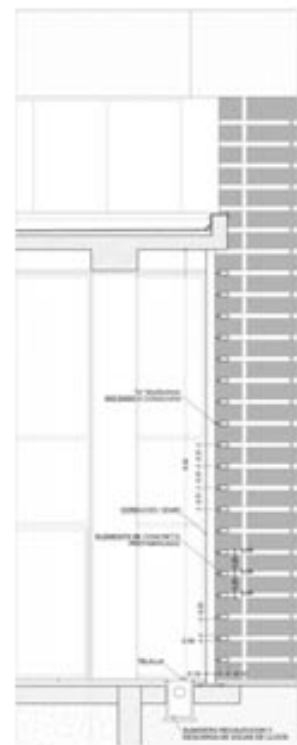
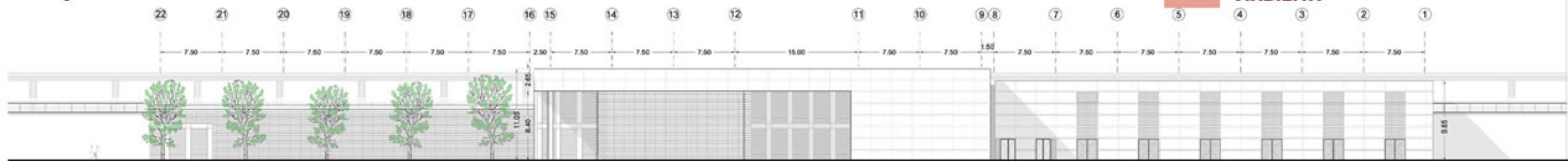
Cagua Station: Plan



LEGENDA

- EDIFICIO DI STAZIONE
- PARCHEGGIO
- VIABILITA'

Cagua Station: Front elevation



Cagua Station: Front elevation/section





Rome Tiburtina railway station,
civil works, railways utilities scheme
and detailed design

ROME TIBURTINA RAILWAY STATION, CIVIL WORKS, RAILWAYS UTILITIES SCHEME AND DETAILED DESIGN

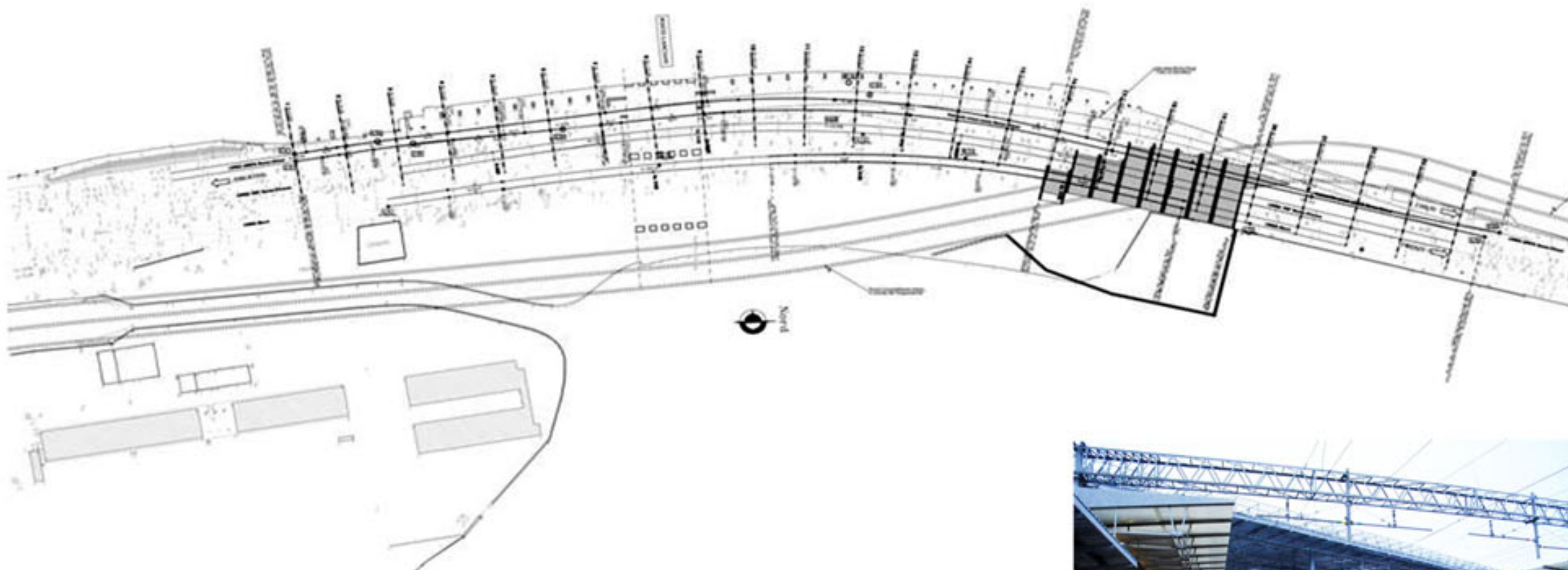
Firm	ERREGI In ATI with MB
Location	Rome, Italy
Client	RFI S.p.A.
Total amount of bid	3.000.000 \$
Year of start	2006/2007
Current status	Built
Role and professional involvement of bidder	Research, Assessment and Detailed Roma Tiburtina railway Design

Detailed topographical survey of 3 km of multi-railway tracks of the Roma Tiburtina Station and the whole area with a view to evaluating the definitive plans in order to proceed to the Executive design for the re-positioning of railway tracks necessary even for a railway overpass and a underpass to be realized at a later stage.

Celerimetric detailed survey of the Station and around the area once the final design verification and final design of track deviations, design of beams and technical areas including works of art.

Phases of construction project have been very important for the maintenance of the railway service along the existing railway line, during construction.; design railway modifications and of the marshalling yards and technical areas as well as structures.

In ATI, and in collaboration with MB, designs for installation.

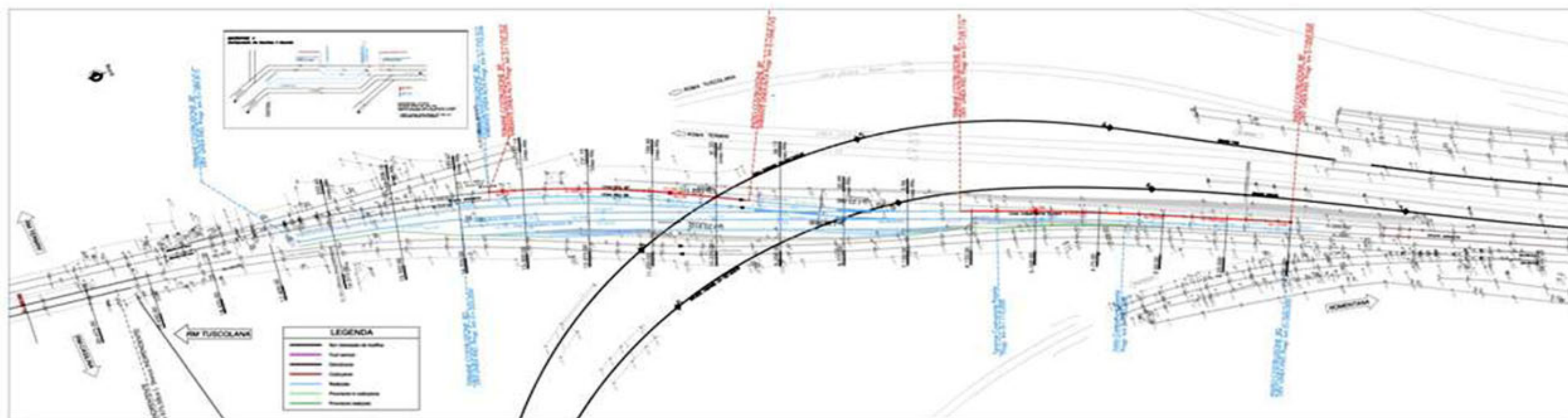
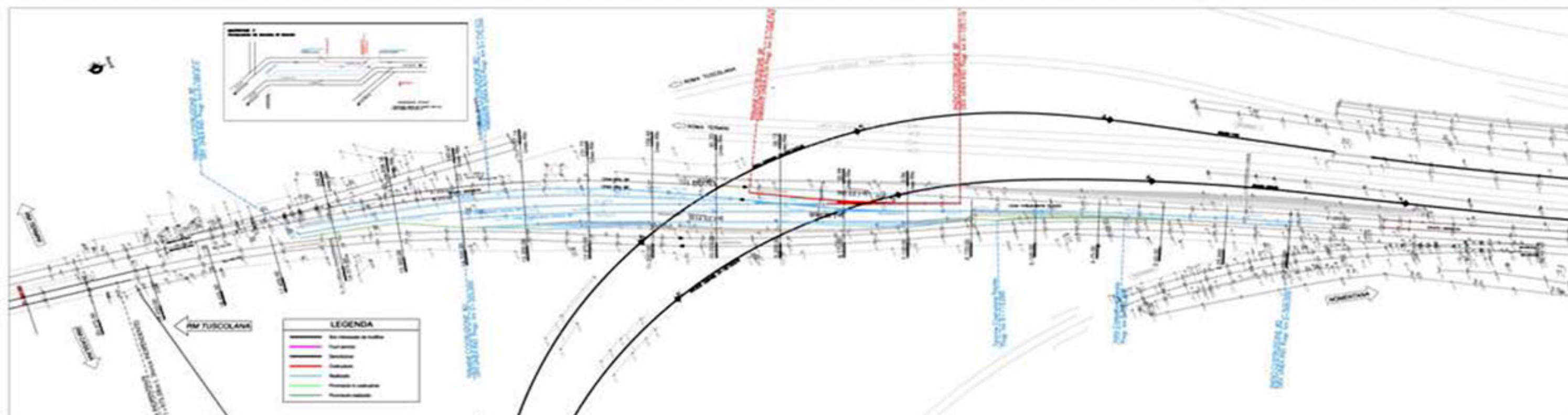


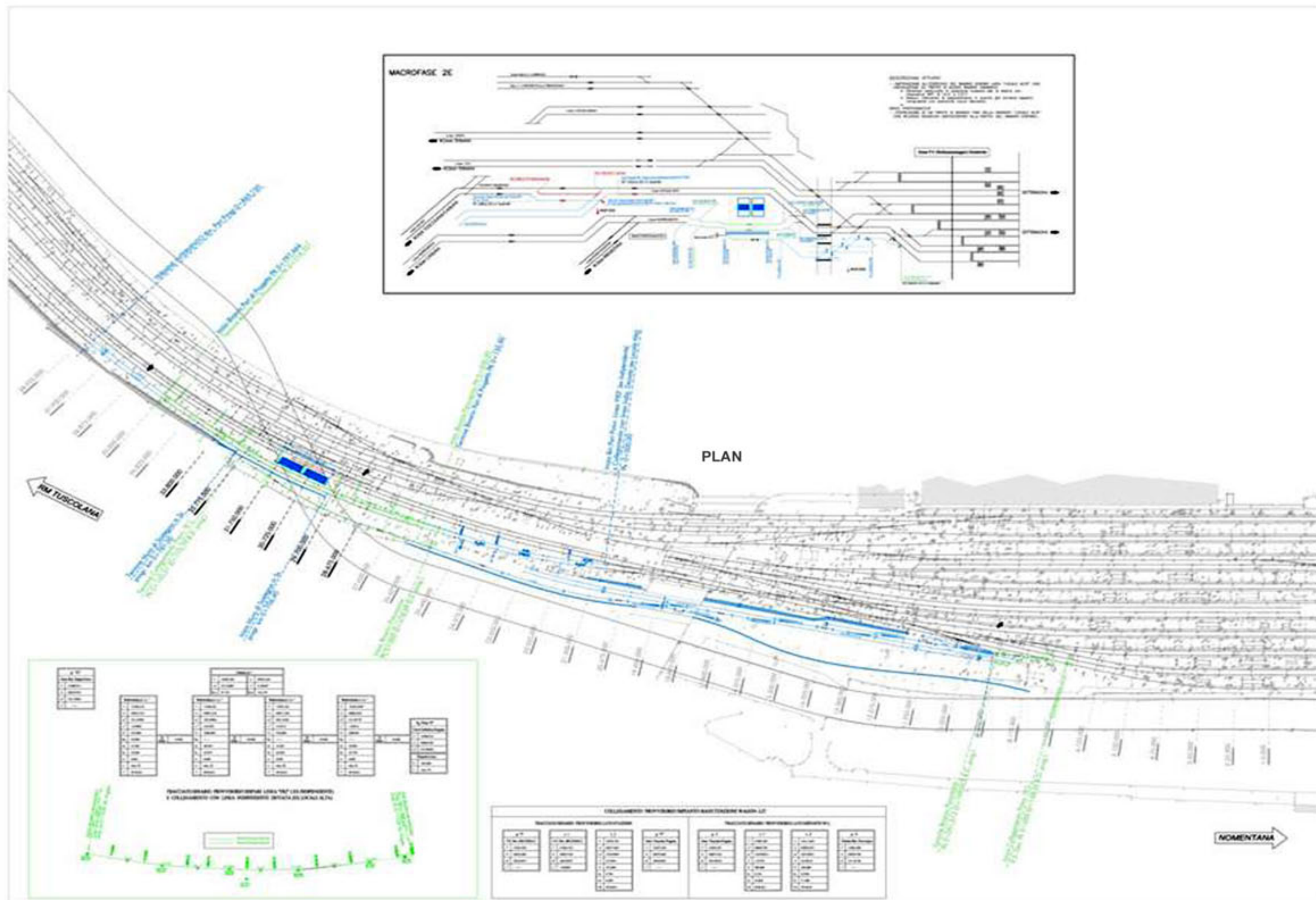
INTERSECTION PLAN



EXISTING SITUATION









Rome – Viterbo doubling Railway Line Section Riano – Pian Paradiso (21 km)

Firm	ERREGI in ATI with ITALCONSULT
Location	Rome, Italy
Client	Lazio Region - Aremol
Total amount of bid	504.000 \$
Year of start	2009/2012
Current status	Built
Role and professional involvement of bidder	Renovation of 21 km of the railway line. Structural, Architectonical, Infrastructural and Equipement design.

Definitive design for Tender design of Rome-Viterbo railway with Italconsult Spa (tunnels and road diversions).
Modernization and upgrading of the railway line Roma-Viterbo, Branch Riano-Sant'Oreste-Pian Paradiso.

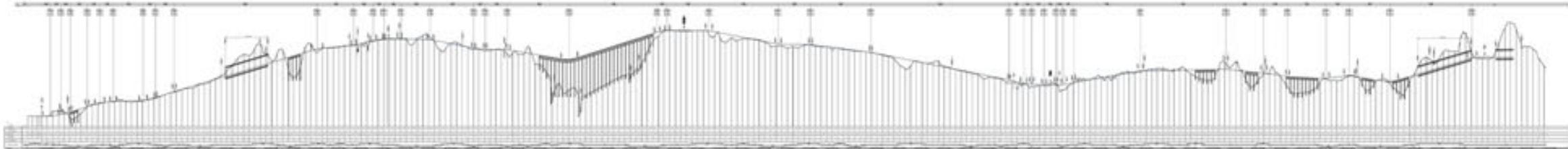
The Erregi project is in part, the doubling of an existing railway, with a single track.

The lenght of the plano-altimetric project is about 20 km and develops between existing stations of Riano and Pian Paradiso.

Along this branch viaducts and walls were designed with 5 railway stations with their facilities and hydraulic arrangement.

Some existing station buildings have been partially rehabilitated and integrated into the new structures of the new railway stations.

PROFILO LONGITUDINALE



PLANIMETRIA DI TRACCIATO



STAZIONE DI MAGLIANO MORLUPO



STAZIONE DI CASTELNUOVO DI PORTO



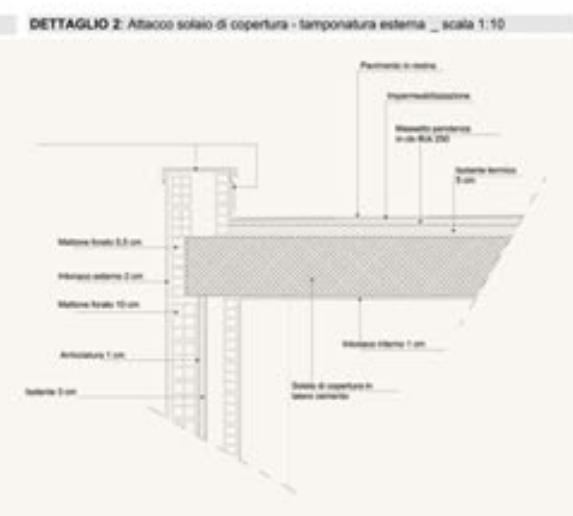
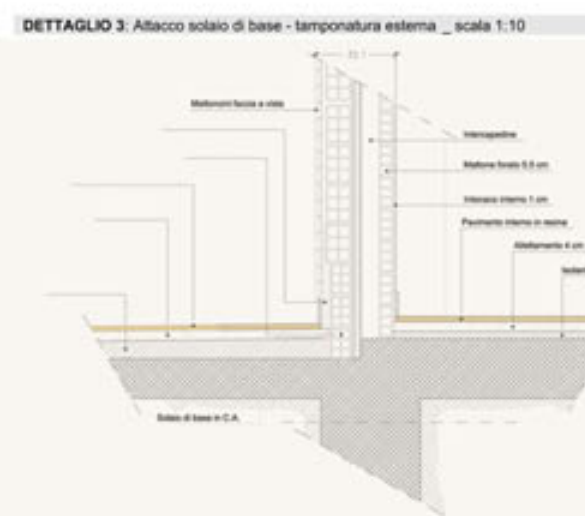
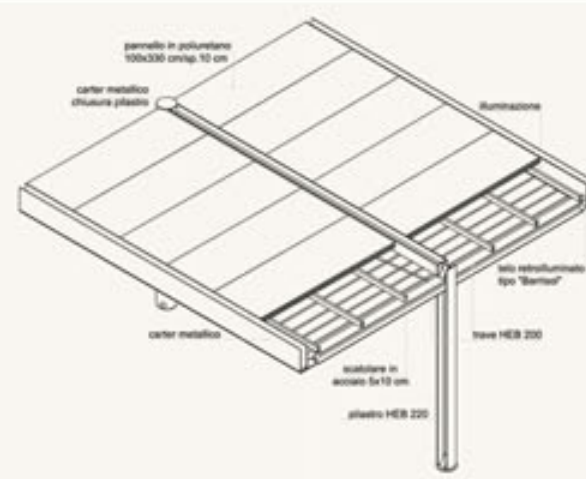
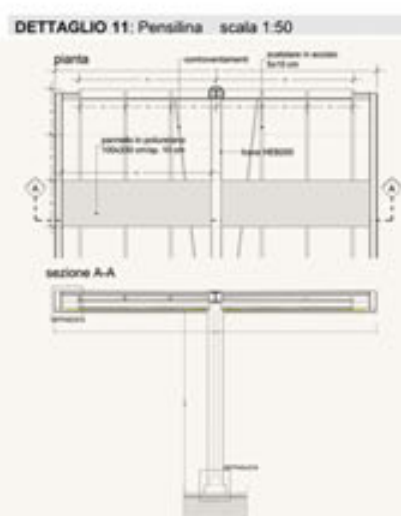
STAZIONE DI S. ORESTE

PIANTA PIANO BANCHINA

SEZIONE B - B

SEZIONE A - A

FOTOINSERIMENTO



PROSPETTO LATO INGRESSO



High speed railway section Bologna-Milan railway line, detailed design of 11 Km

Firm	ERREGI
Location	Milano, Italy
Client	Rodano Scarl
Total amount of bid	74.118.326 \$
Year of start	2001
Current status	Built
Role and professional involvement of bidder	Detailed design

The main Project features were Constructive plane-altimetric design of 11.5 km of High Capacity railway along Milano-Bologna, near Reggio Emilia, and relative earthworks, deviations and new road axes.

The project also included drainage and external hydraulic arrangement, road underpasses, culverts, bridges, viaducts and architectural operas for Reggio Emilia station's building.

The project included also road deviation projects and parking.

The project include also all civil works of the railway infrastructure, and detected hydraulic platform, roads and undertrack walls as well as works such as culverts, underpasses and pedestrian roads, streets, canals and bridges. The project has also involved civil works both architectural and structural.



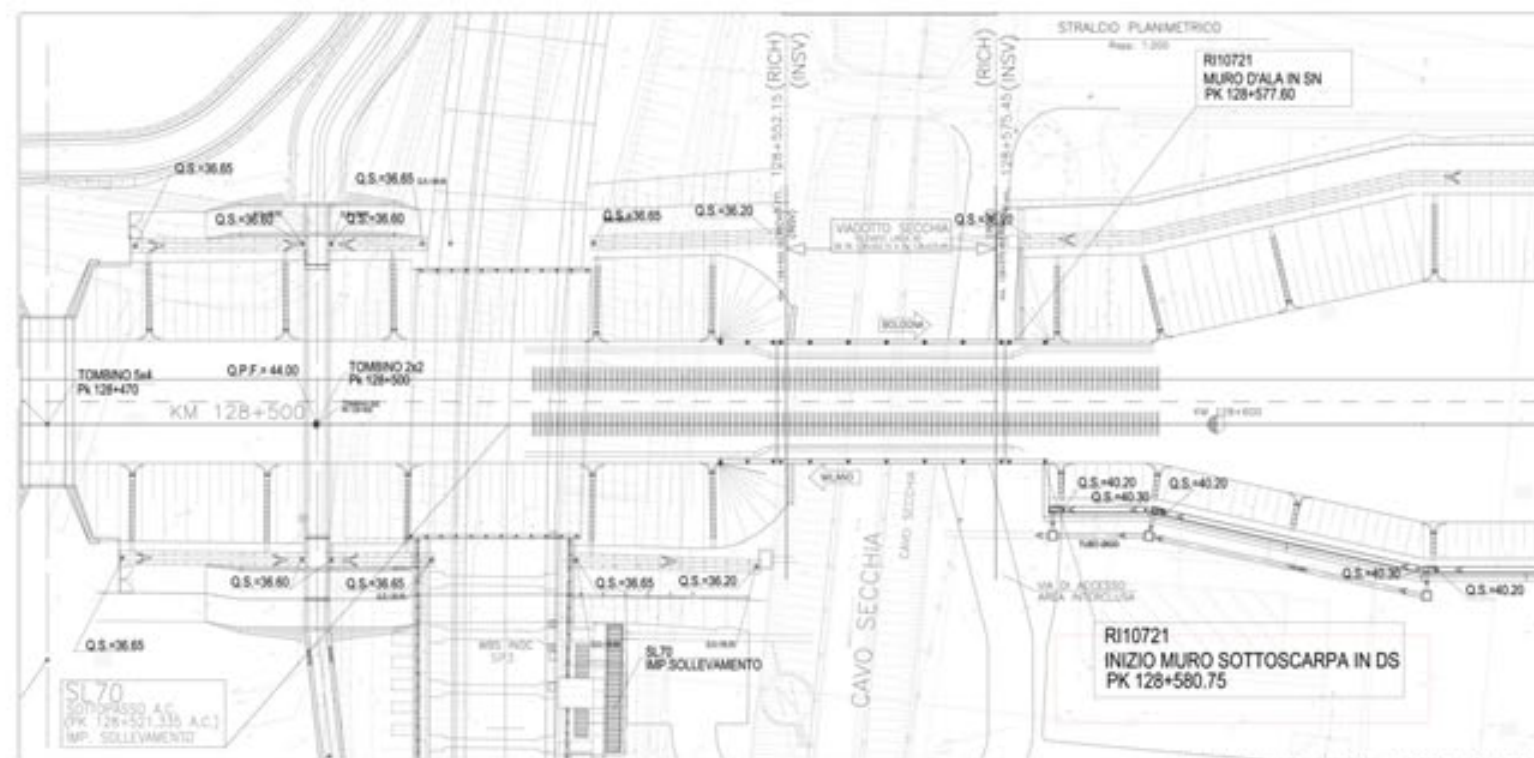
"FRECCIAROSSA" TRAIN IN EXERCISE



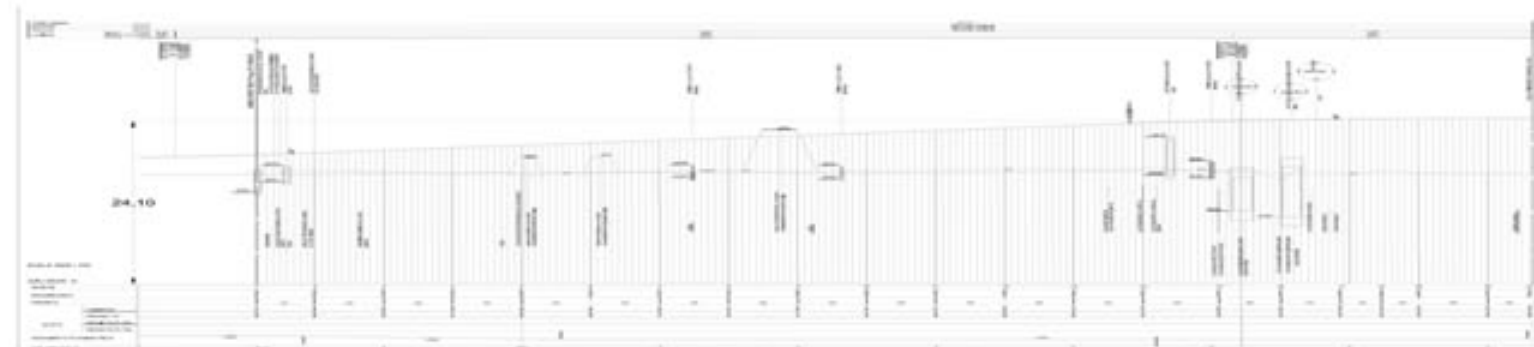
UNDERPASS VIEW



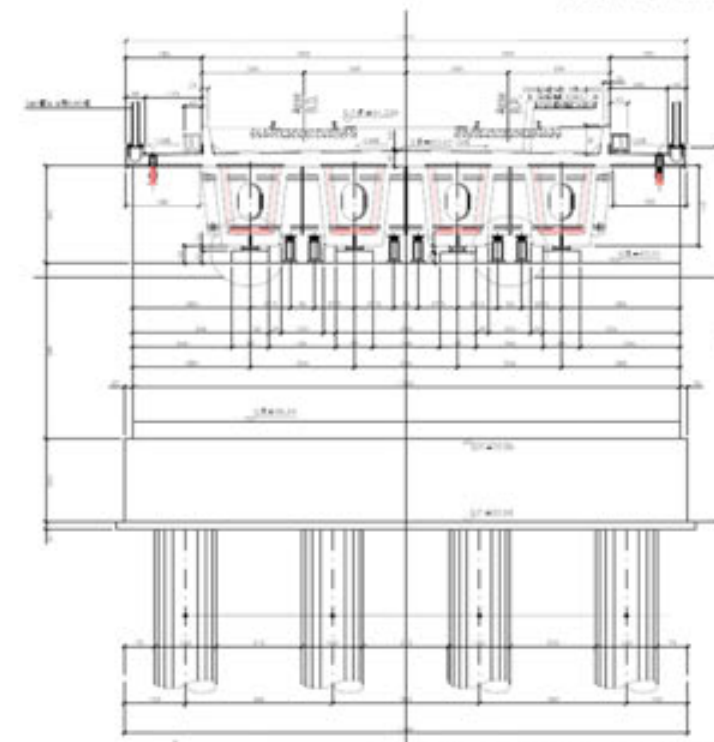
OVERPASS VIEW



DETAILED DESIGN - PLAN EXCERPT



PROFILE EXCERPT



OVERPASS TRANSVERSAL SECTION



Parma-La Spezia doubling Railway, Solignano Osteriazza section (15km). Detailed design of the railway works, including the stations

Firm	ERREGI
Location	La Spezia, Italy
Client	Astaldi S.p.a
Total amount of bid	51.957.503 \$
Year of start	2005
Current status	Built
Role and professional involvement of bidder	Detailed design

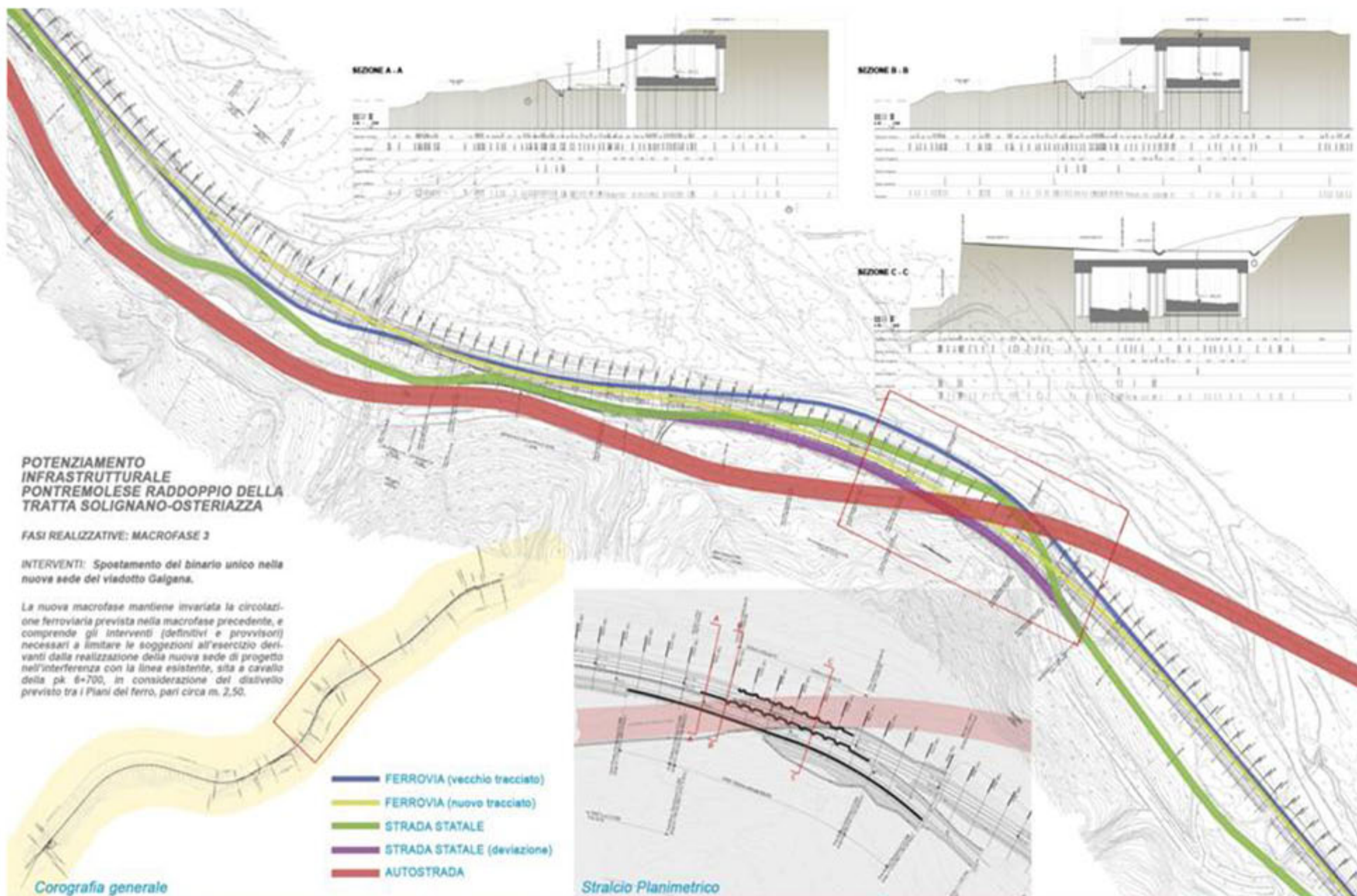
Executive and Detailed design for the planimetric and altimetric alignment of about 12 km of railway between Solignano station and Osteriazza PM, along Parma-La Spezia railway.

The project is in part, the doubling of an existing railway line in single track.

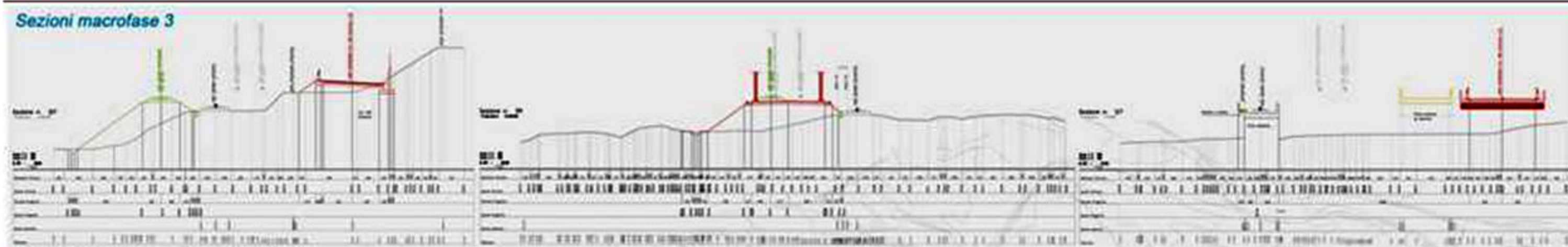
Phases of construction have been very important for the maintenance of the railway service along the existing railway line, during construction.

The new line where runs alongside the existing track and the SP308 road. Construction, platform, hydraulics and piping and minor structures for the railway, roads, walls, stations of Citeria and PM Osteriazza and the sports facilities in Solignano with appropriate modifications carried out on the existing stops.

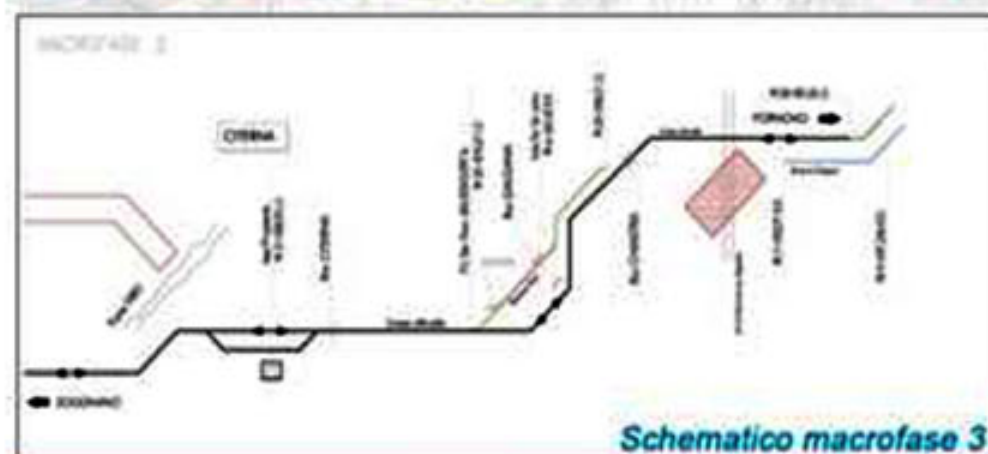
Project for three alternative variations to the SP308 road as well as their construction and appropriate/necessary local detours.



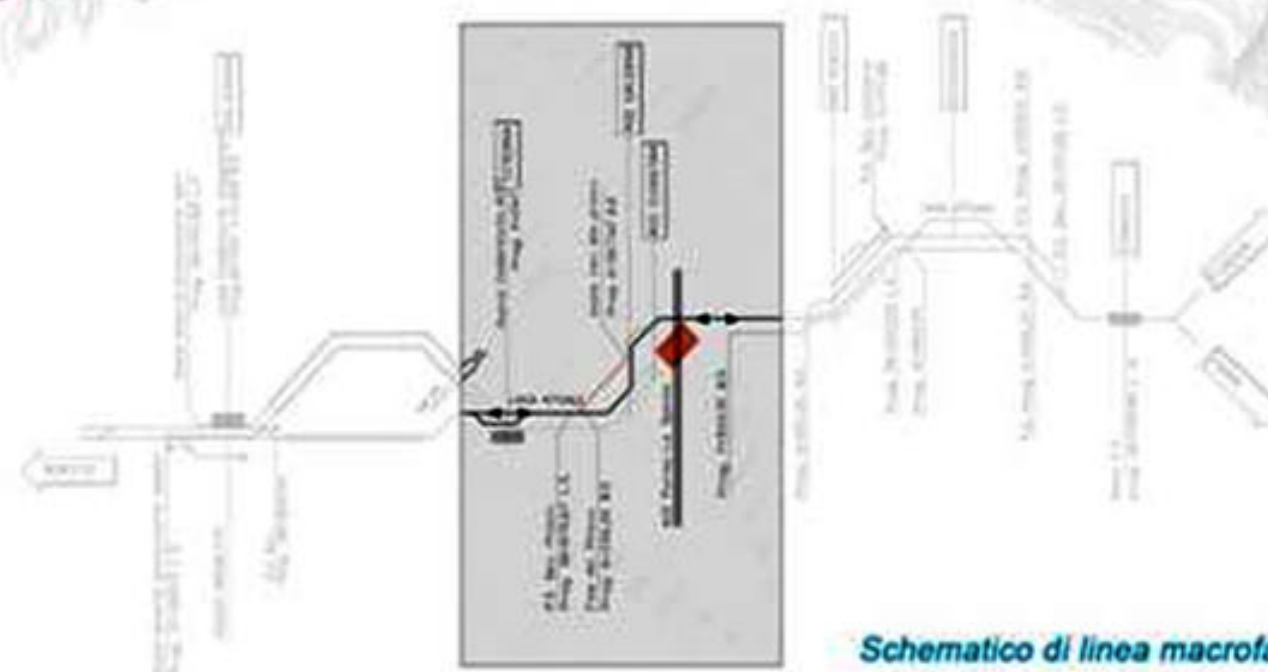
Sezioni macrofase 3



Stralcio planimetrico macrofase 3

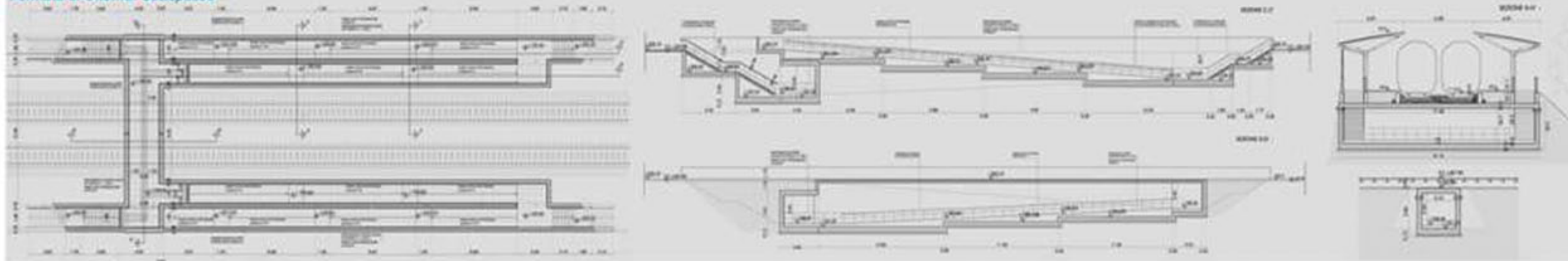


Schematico macrofase 3

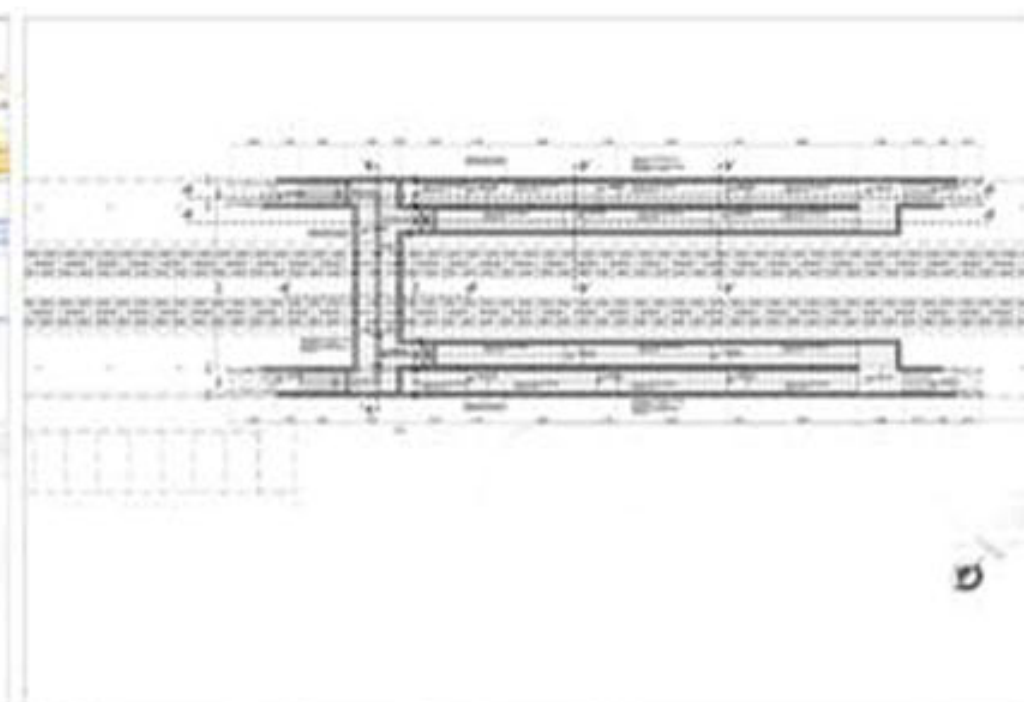
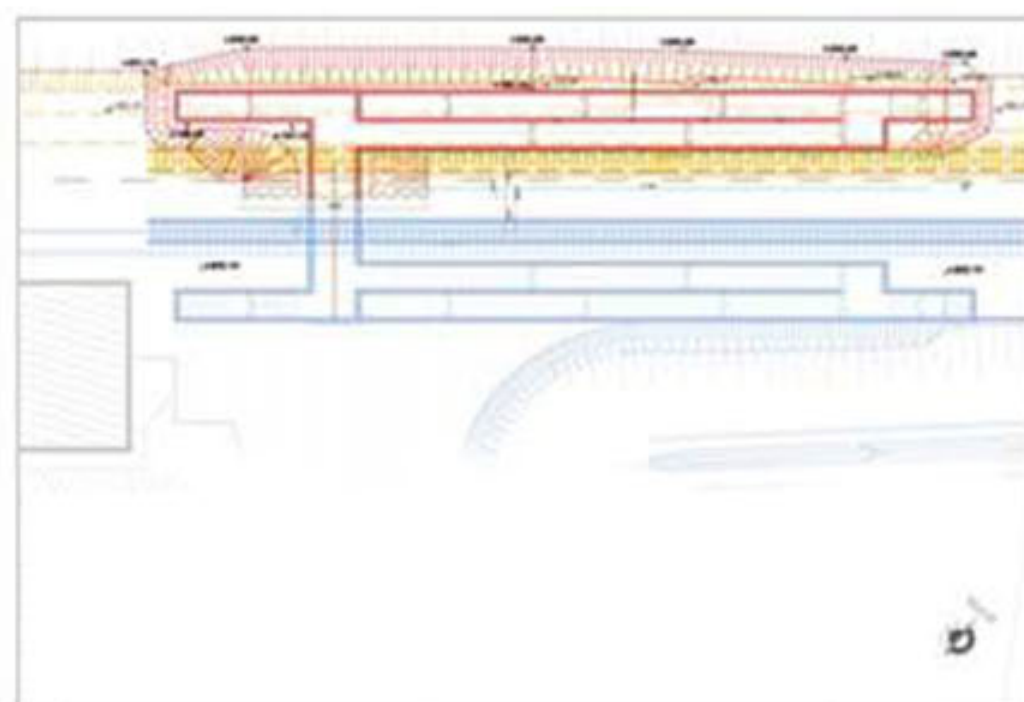


Schematico di linea macrofase 3

Fermata di Citera: Sottopasso



LEGENDA	
	Non interessato da modifiche
	Passaggio
	Demolizione
	Costruzione
	Ristrutturazione
	Provisione o costruzione
	Provisione esistente



Fermata di Citera: Prospetto Est



Fermata di Citera: Prospetto Ovest





Bologna-Portomaggiore railway line upgrading. Concept, scheme and structure detailed design

Firm
ERREGI S.r.l. in ATI with
Metropolitana Milanese, S.T.E.P.
Professor Engineer Vitaliani,
COGEO

Location
Bologna, Italy

Client
Railroads Emilia Romagna

Total amount of bid
5.874.000 \$

Year of start
2003/2008

Current status
Project

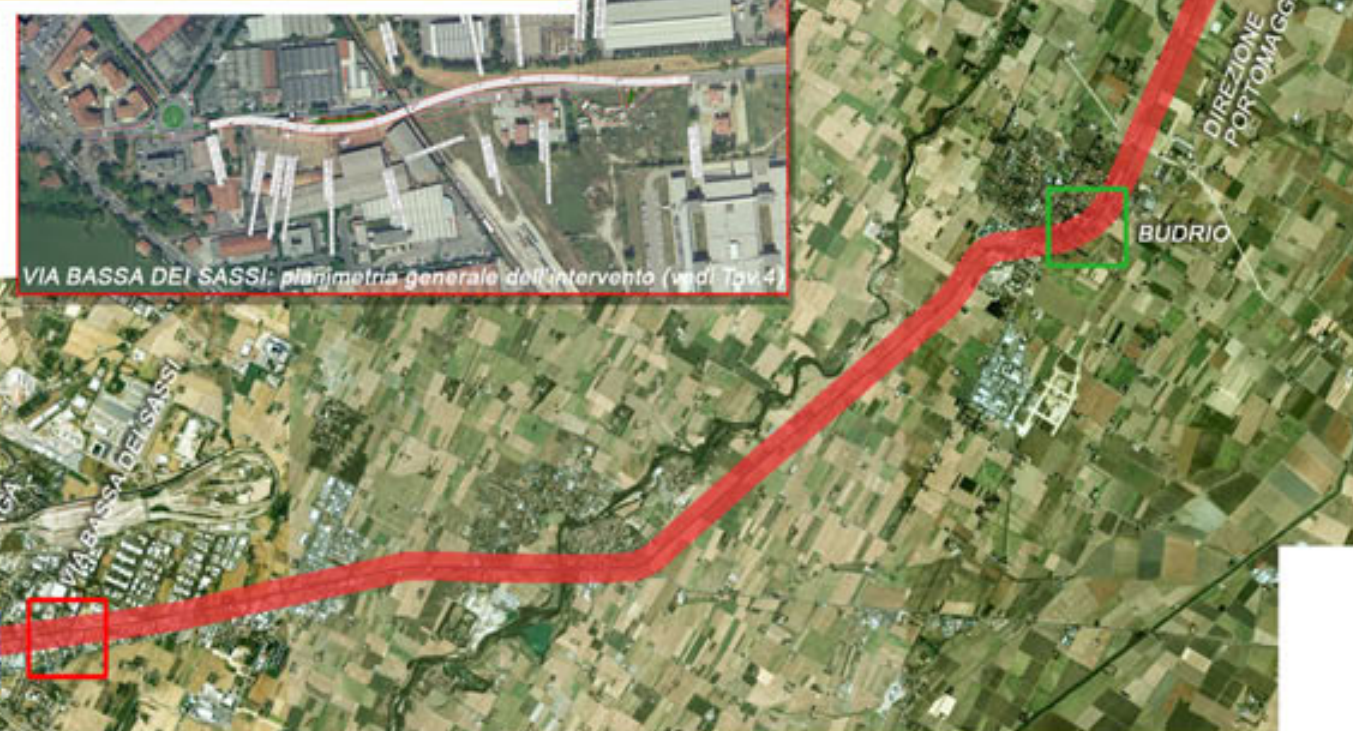
Role and professional
involvement of bidder
Concept, scheme and
detailed design of structures
on the Bologna - Portomaggiore
Railway Line. Design of waiting
areas at Via Libia and
Via delle Rimesse.
Design of waiting areas
at Via Larga, station of Budrio.

The project provides for the burial of the railway line. They have to be upgraded of crossing roads, with the elimination of level crossing on via Fabbri and the adjustment of the street Bentivoglio bridge that is passed under the new line that is planned a new stop at the Via Libia.

The urban context has crossed the urban character with medium density housing. The settlement structure and morphological features of homogeneity character, for the presence of urban blocks at court buildings and in line at the north of the railway line, and more compact and varied south building, with the presence of some residual green area. The barrier effect of the railway is mitigated only by the crossings of Via Fabbri level of Via Bentivoglio and via Libia.

The impact of the underground line is considerably less current line impact, while the impact during construction is broadly equivalent to that of normal operation, approaching the line to the front north and away from the south. The realization of road-way adjustment interventions improves the overall accessibility of the two urban sectors. The realization of a stop in via Libya can become an opportunity to redevelop the scope of belonging and the areas surrounding the green.

VIA DELLE RIMESSE: corografia generale dell'intervento (vedi Tav. 3)



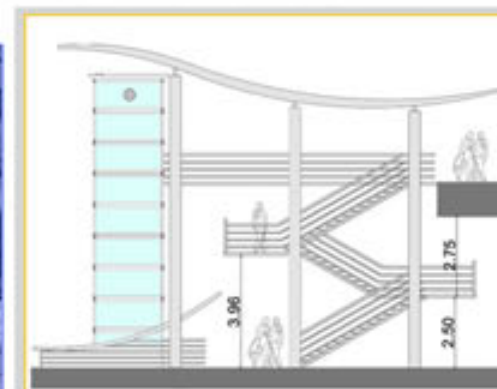
VIA BASSA DEI SASSI: planimetria generale dell'intervento (vedi Tav. 4)



KEYPLAN



VIA LARGA planimetria generale dell'intervento (vedi Tav. 6)



FERMATA VIA LIBIA: particolare accesso pedonale (vedi Tav. 3)



SOTTOPASSO STAZIONE DI BUDRIO: planimetria generale (Vedi Tav.5)

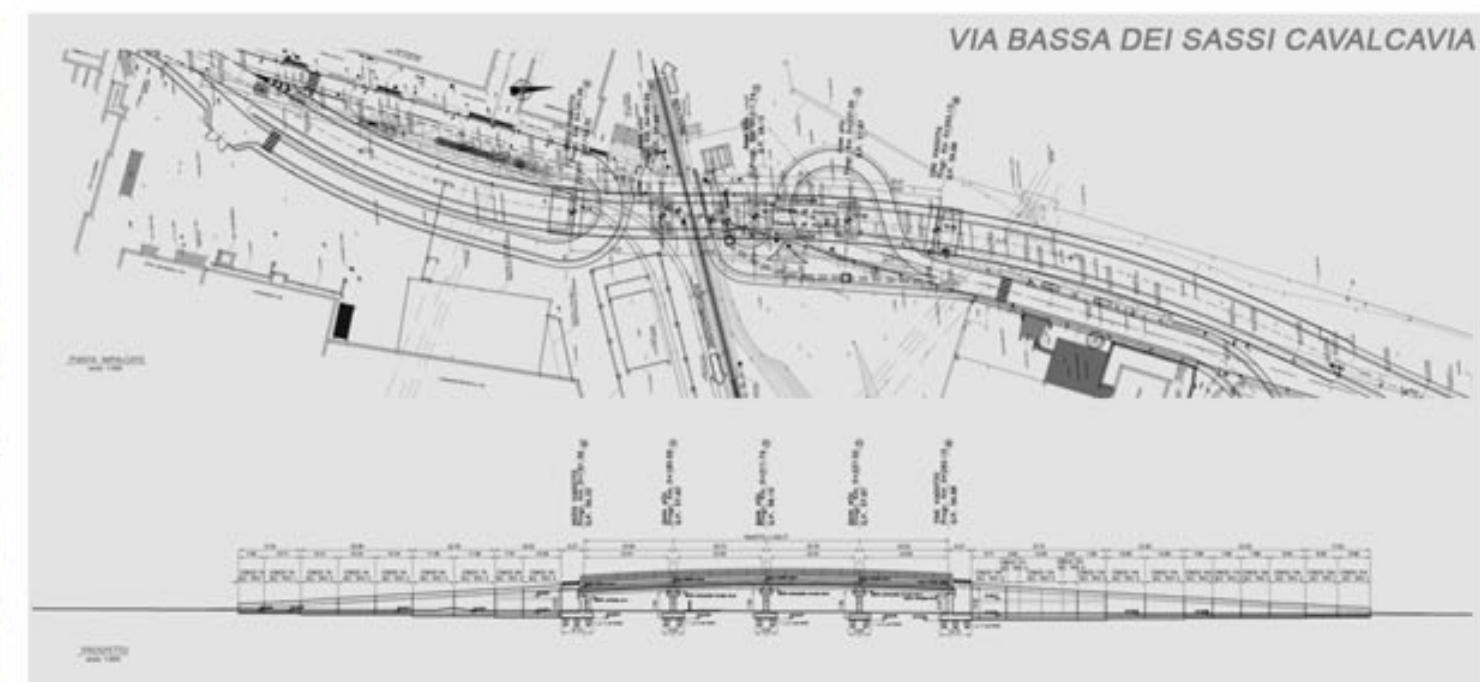
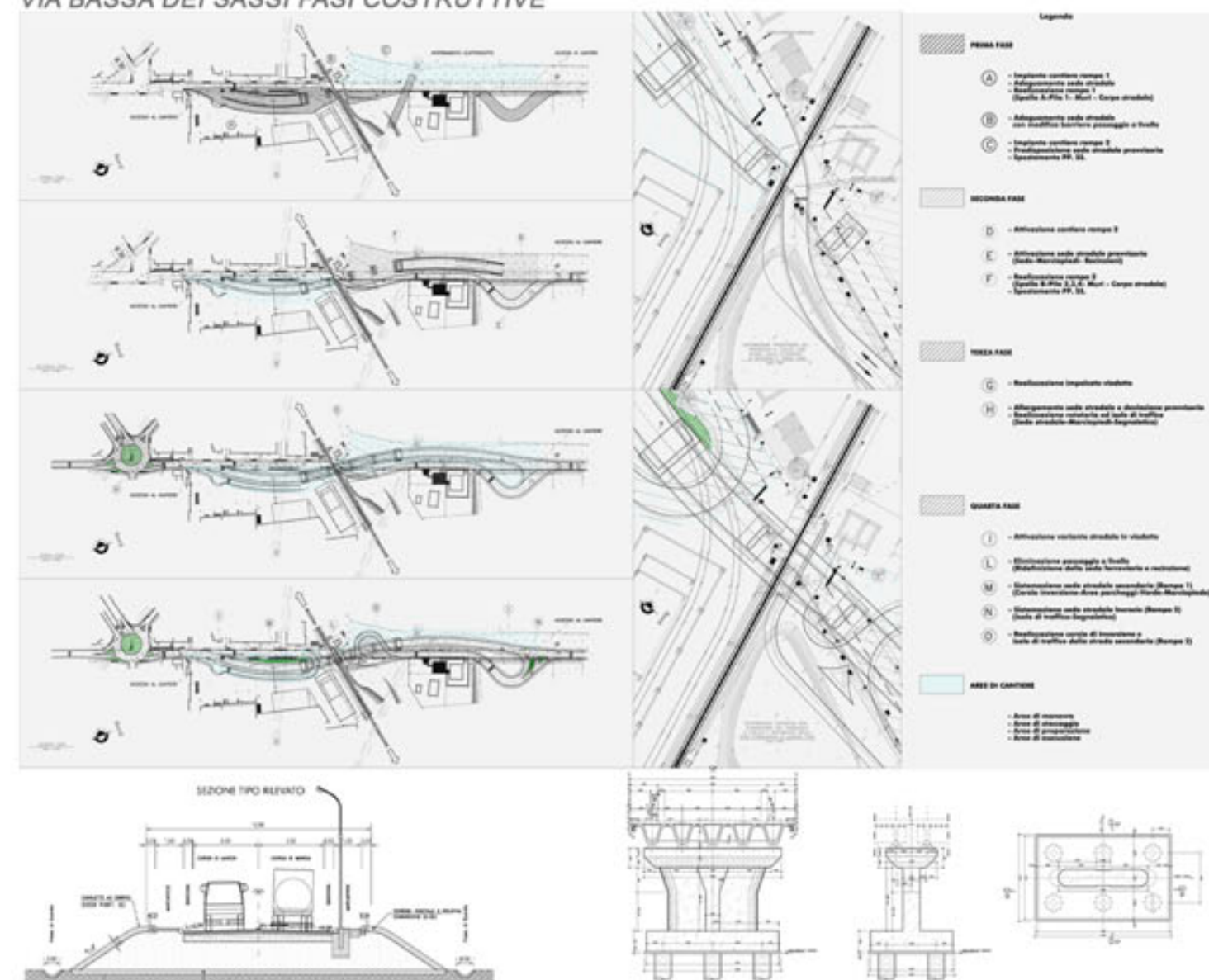
Architectural section drawing of a building, showing a cross-section with multiple levels, rooms, and structural elements. The drawing includes a scale bar at the bottom left and a north arrow pointing towards the top left. The drawing is labeled "SEZIONE S. VINC" and "SEZIONE S. VINC".



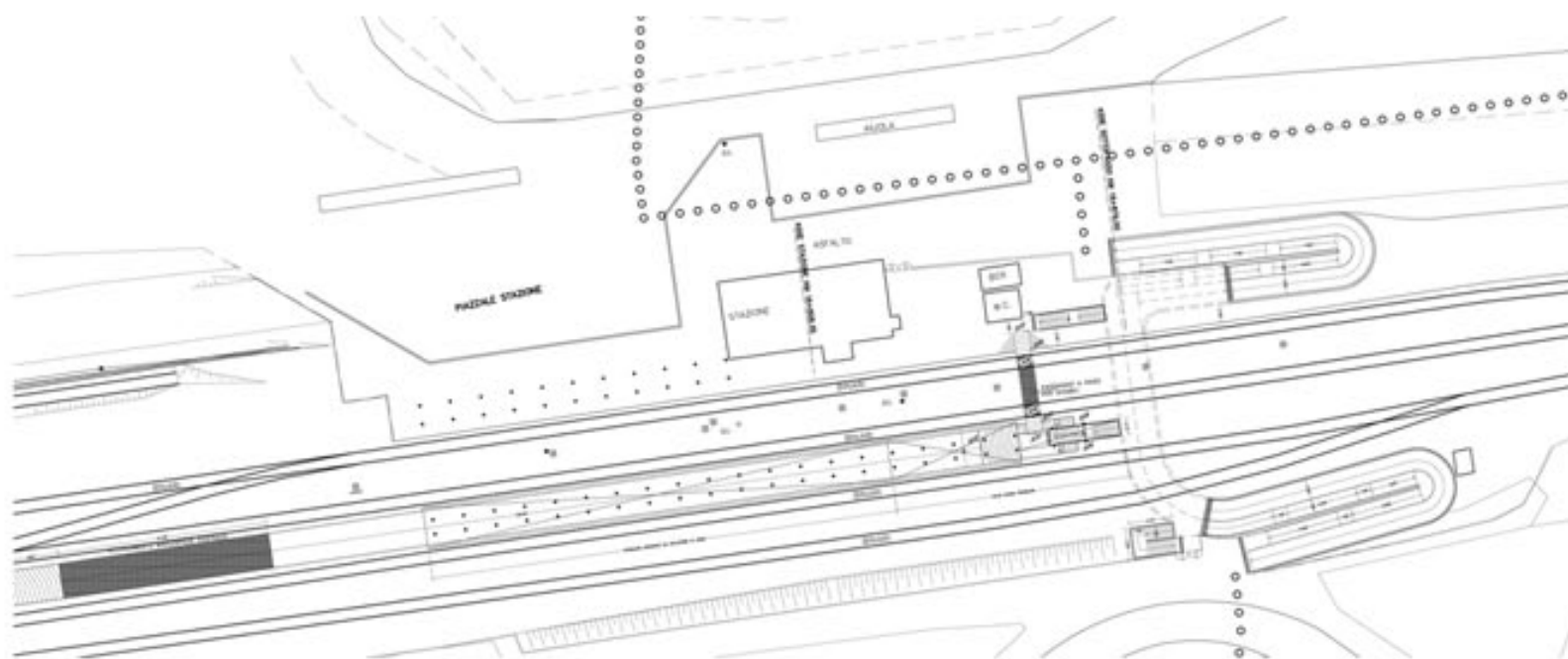
This aerial photograph shows a proposed development site. A road runs along the bottom edge of the image. To the right of the road, there is a parking lot with several vehicles. Further back, a large building footprint is visible, surrounded by a green area. The background shows a blue sky with clouds.



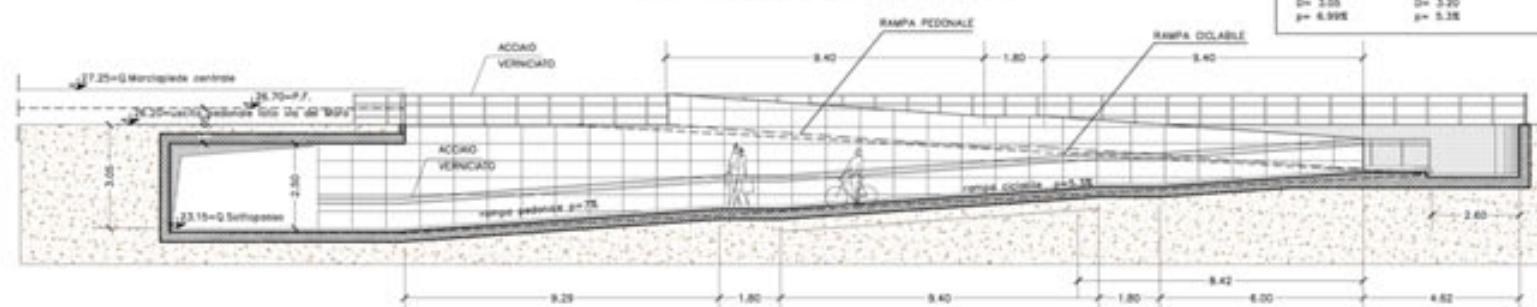
VIA BASSA DEI SASSI FASI COSTRUTTIVE



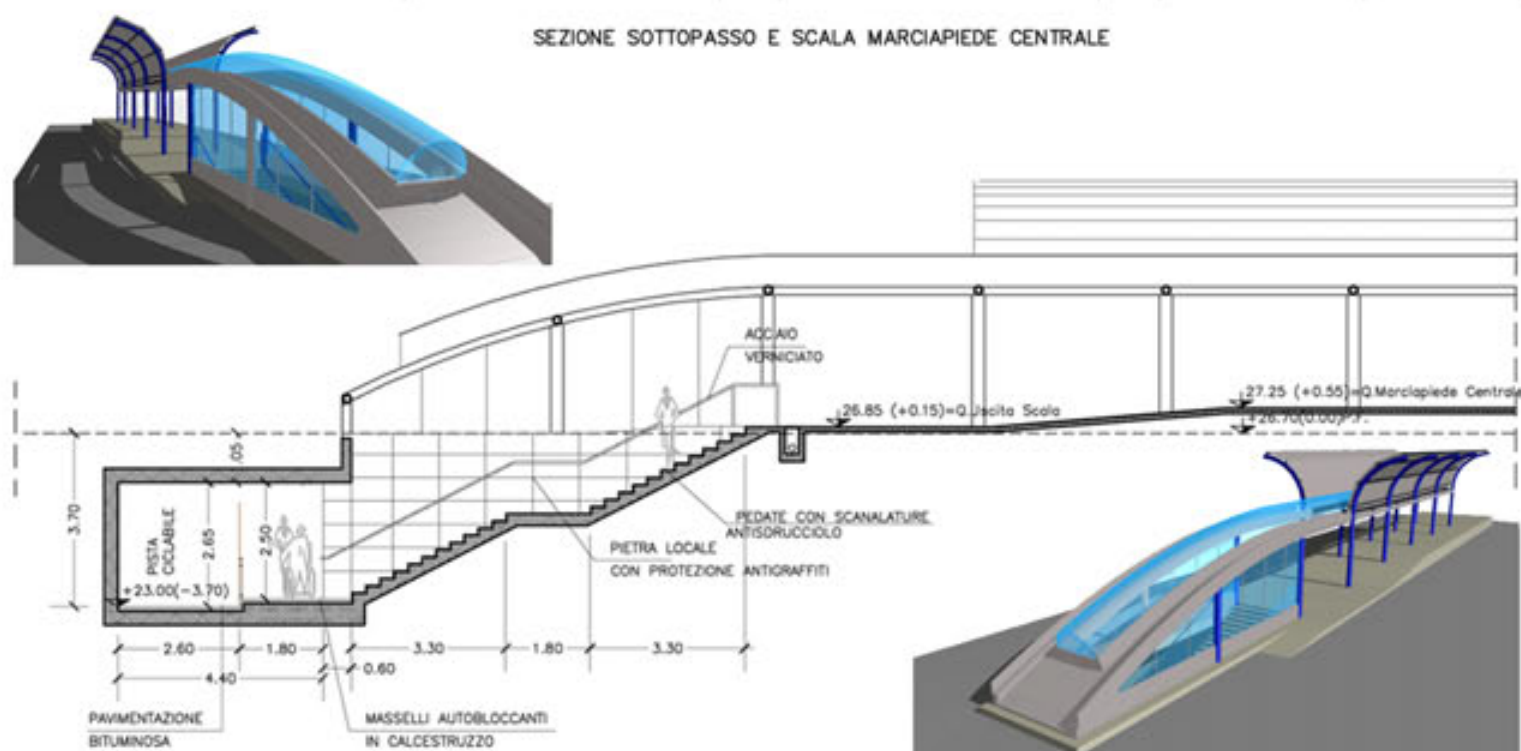
SISTEMAZIONE STAZIONE BUDRIO PLANIMETRIA GENERALE



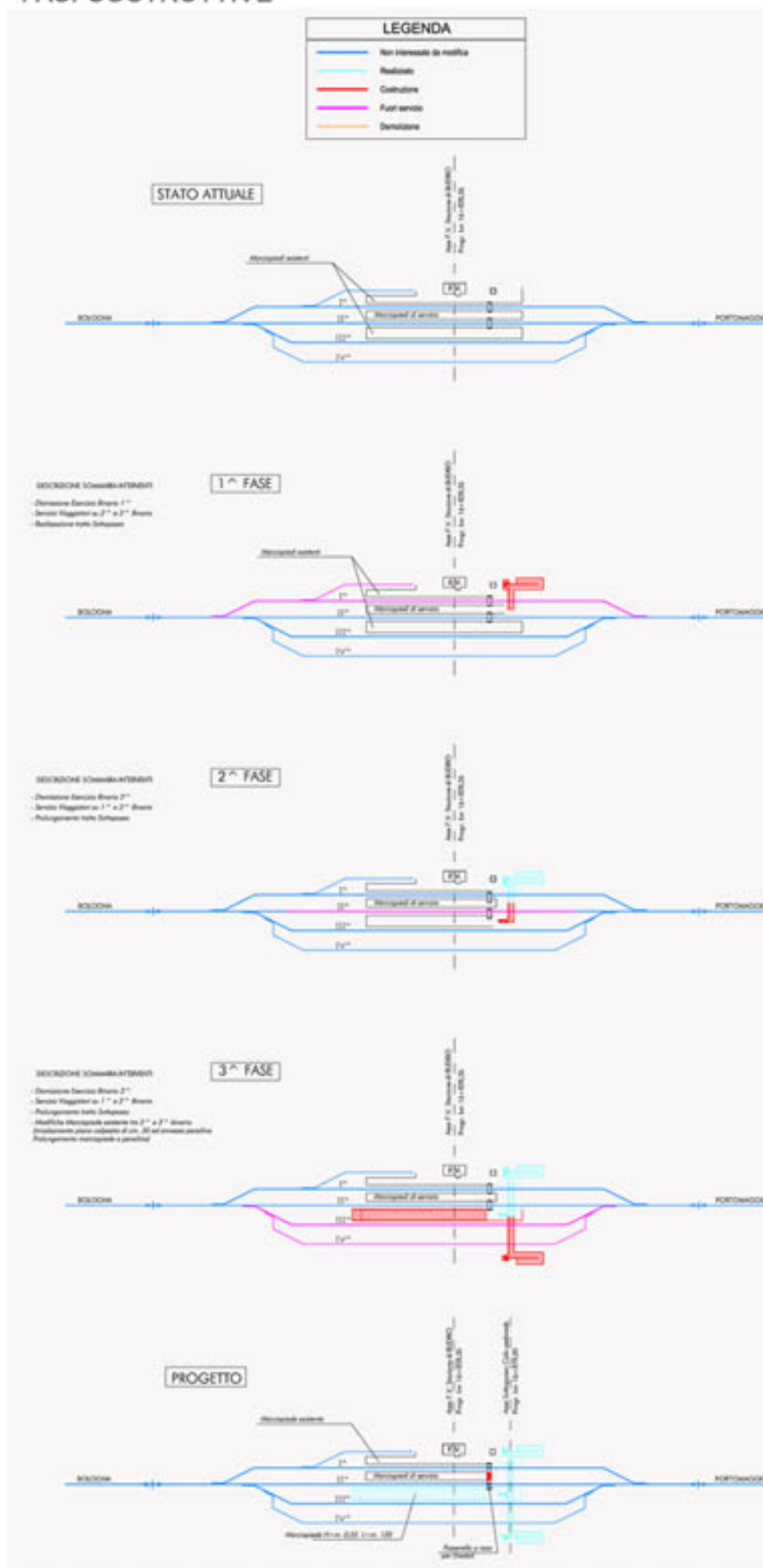
SEZIONE RAMPA LATO VIA DEL MORO



SEZIONE SOTTOPASSO E SCALA MARCIAPIEDE CENTRALE



FASI COSTRUTTIVE



FASI COSTRUTTIVE

La realizzazione del nuovo sottopasso ciclo-pedonale nella stazione di Budrio, posto alla progr. Km 16+879 della linea ferroviaria Bologna-Portomaggiore, in considerazione della richiesta della soc. F.E.R. di mantenere in esercizio per tutta la durata dei lavori n. 2 binari di stazione, è stata prevista in n. 3 fasi sequenziali di lavoro di cui si elencano in sintesi le principali attività:

Prima Fase
 Il servizio ferroviario sarà espletato sui binari n. II° e III°, il servizio viaggiatori sarà espletato sul marciapiede esistente tra il II° e III° binario; dismissione provvisoria dall'esercizio ferroviario del binario I°.

- Interventi alla sede ferroviaria sia di tipo impiantistico (spostamenti cavi segnalamento, telefonici, ecc.) sia al binario (taglio, rimozione ballast, traverse, ecc.);
- Opere di contenimento e strutturali (diaframmi);
- Scavo con eventuale aggettamento falda;
- Realizzazione soletta inferiore;
- Realizzazione soletta superiore;
- Ripristino marciapiede e sede ferroviaria (binario e impiantistica);
- Opere provvisorie di sostegno solettone per attivazione binario.

Seconda Fase
 Il servizio ferroviario sarà espletato sui binari n. I° e III°, il servizio viaggiatori sarà espletato sui due marciapiedi esistenti; dismissione provvisoria dall'esercizio ferroviario del binario II°.

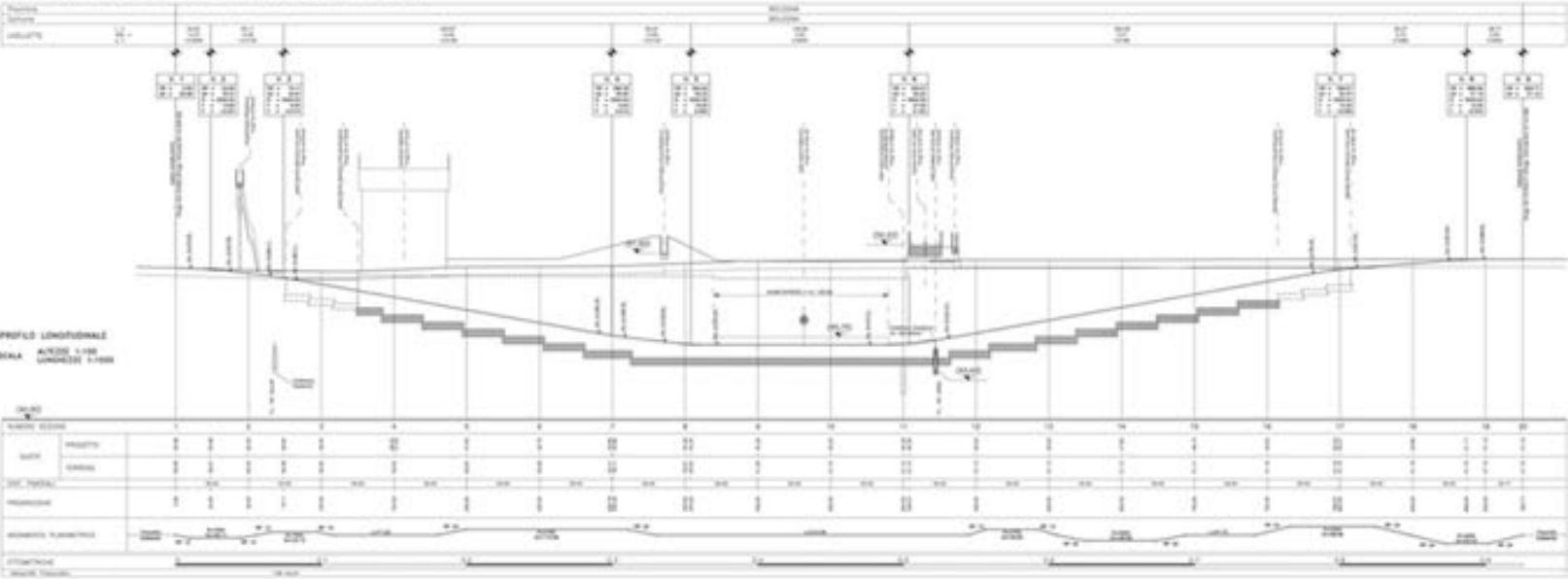
- Interventi alla sede ferroviaria sia di tipo impiantistico (spostamenti cavi segnalamento, telefonici, ecc.) sia al binario (taglio, rimozione ballast, traverse, ecc.);
- Opere di contenimento e strutturali (diaframmi);
- Scavo con eventuale aggettamento falda;
- Realizzazione soletta inferiore;
- Realizzazione soletta superiore;
- Realizzazione marciapiedi provvisorio tra il I° ed il II° binario;
- Ripristino marciapiedi e sede ferroviaria (binario e impiantistica);
- Opere provvisorie di sostegno solettone per attivazione binario.

Terza Fase
 Il servizio ferroviario sarà espletato sui binari n. I° e II°, il servizio viaggiatori sarà espletato sul marciapiede esistente I° binario e quello provvisorio tra il I° ed il II° binario; dismissione provvisoria dall'esercizio ferroviario del binario III°.

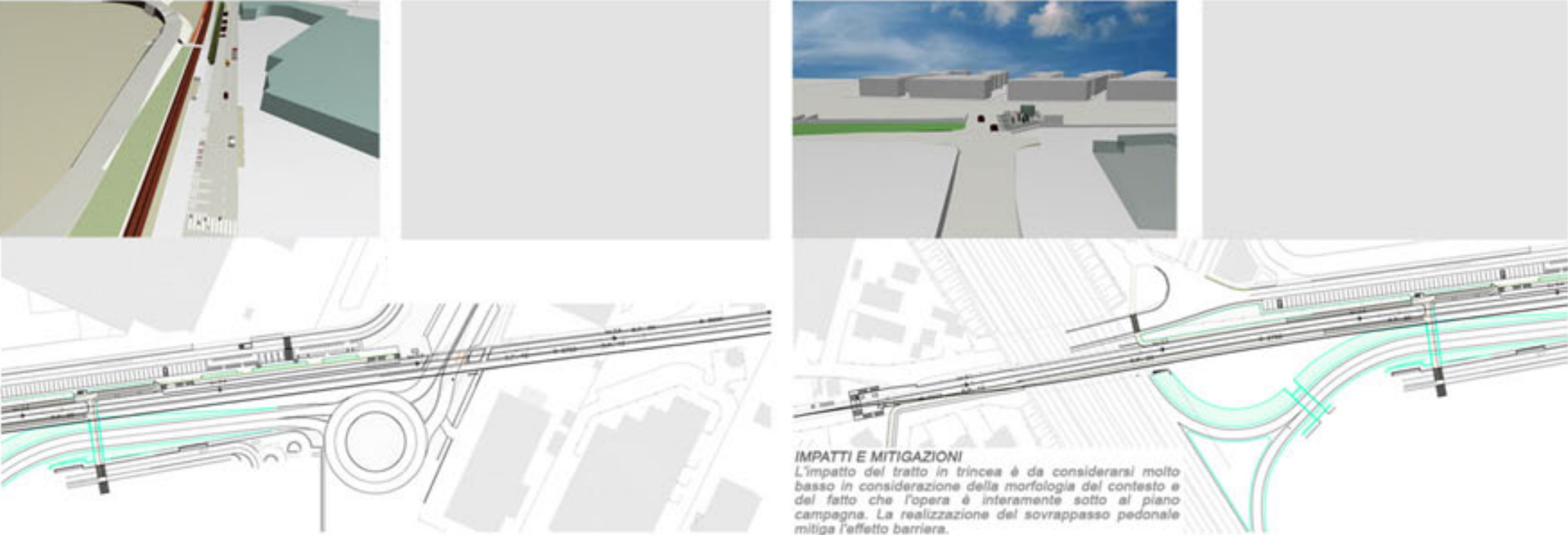
- Interventi alla sede ferroviaria sia di tipo impiantistico (spostamenti cavi segnalamento, telefonici, ecc.) sia al binario (taglio, rimozione ballast, traverse, ecc.);
- Opere di contenimento e strutturali (diaframmi);
- Scavo con eventuale aggettamento falda;
- Realizzazione soletta inferiore;
- Realizzazione soletta superiore;
- Smontaggio pensilina esistente;
- Innalzamento marciapiede di cm. 30 e prolungamento lato Bologna dello stesso (lunghezza m. 120);
- Montaggio della pensilina rimossa ed installazione di una nuova pensilina per la copertura del vano scala di accesso al marciapiede;
- Ripristino marciapiedi e sede ferroviaria (binario e impiantistica);
- Opere provvisorie di sostegno solettone per attivazione binario.

Le opere provvisorie attuate per l'attivazione dei binari saranno rimosse dopo il collaudo dei lavori.

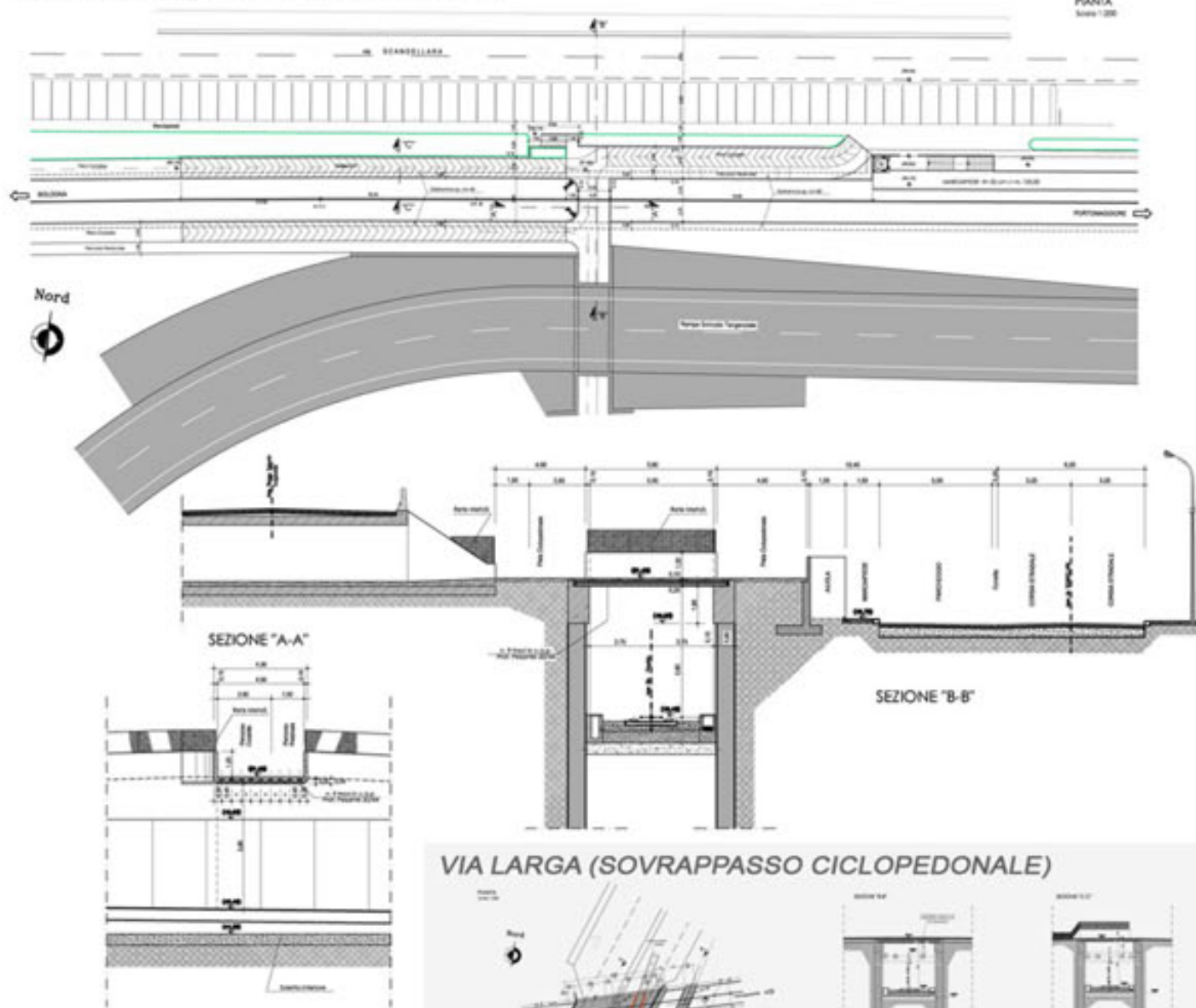
PLAN-PROFILO (VIA LARGA)



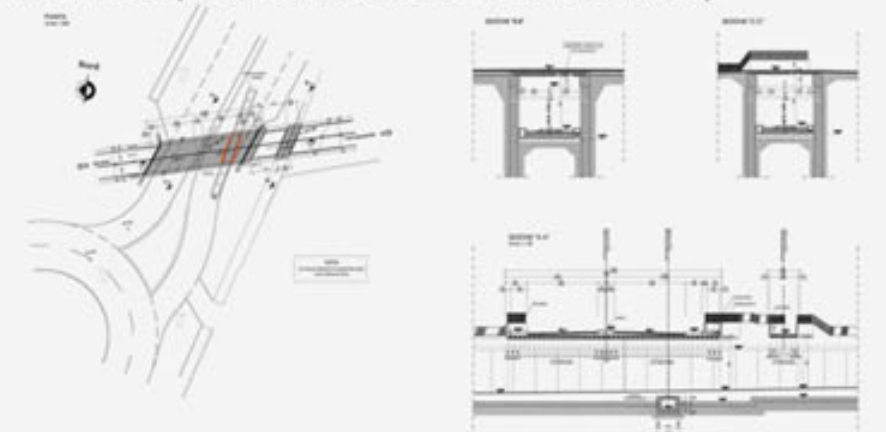
VALUTAZIONE IMPATTO AMBIENTALE



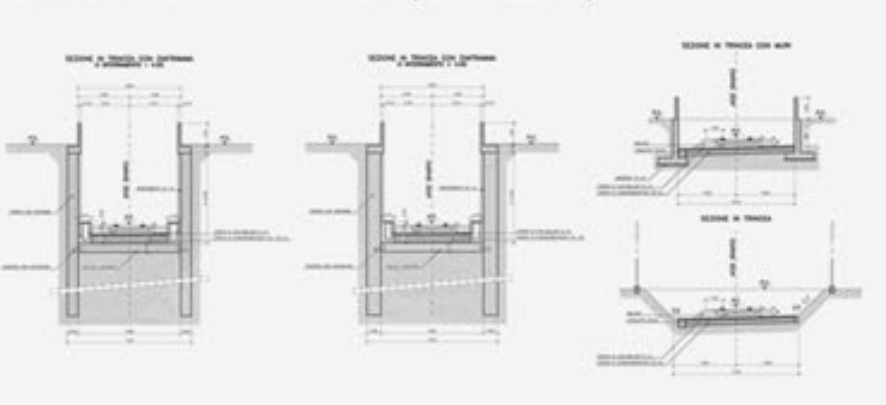
VIA LARGA SOVRAPPASSO PEDONALE



VIA LARGA (SOVRAPPASSO CICLOPEDONALE)



SEZIONI TIPO IN TRINCEA (VIA LARGA)





Arrangement of railway configuration of
Voltri-Brignole Railway Junction.
Concept design for project financing
including technological utilities.

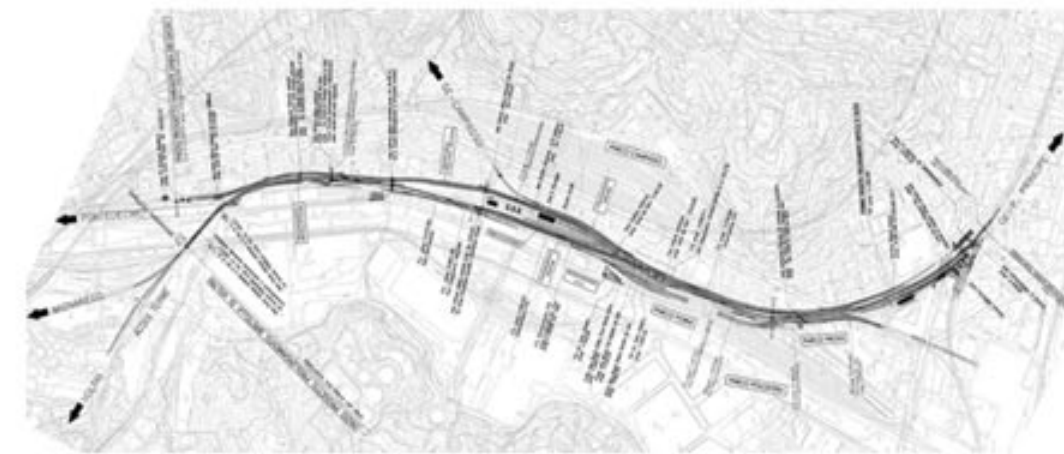
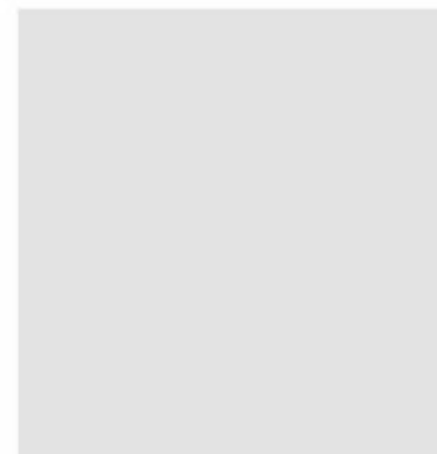
ARRANGEMENT OF RAILWAY CONFIGURATION OF VOLTRI-BRIGNOLE RAILWAY JUNCTION

Firm	ERREGI
Location	Genoa, Italy
Client	ITALFERR S.p.A.
Total amount of bid	15.000.000 \$
Year of start	2000/2001
Current status	Definitive project
Role and professional involvement of bidder	Preliminary railway design

The structure of existing transport networks make the junction of Genoa "gateway" for the sea traffic those bordering on the Mediterranean and those rail "to" and "from" France and Spain (via Ventimiglia), a transit point for trade north - south taking place along the Tyrrhenian route as well as a hinge between these reports and that of Milan - Ventimiglia. At the same time, in the field surfed and regional rail system branches of highly urbanized lines, providing a significant contribution to the current demand for mobility. The railway junction of Genoa inner wheel to the three stations of Principe, Brignole and Sampierdarena. In particular, the first is affected by all of the north-south and east-west traffic through the various lines that affect the node.

In 1999 he was signed by the Liguria Region, the Municipality of Genoa and the Italian State Railways, a Memorandum of Understanding which defines the priorities and the overall reorganization of the design addresses of the Genoa junction, comprising the following main operations:

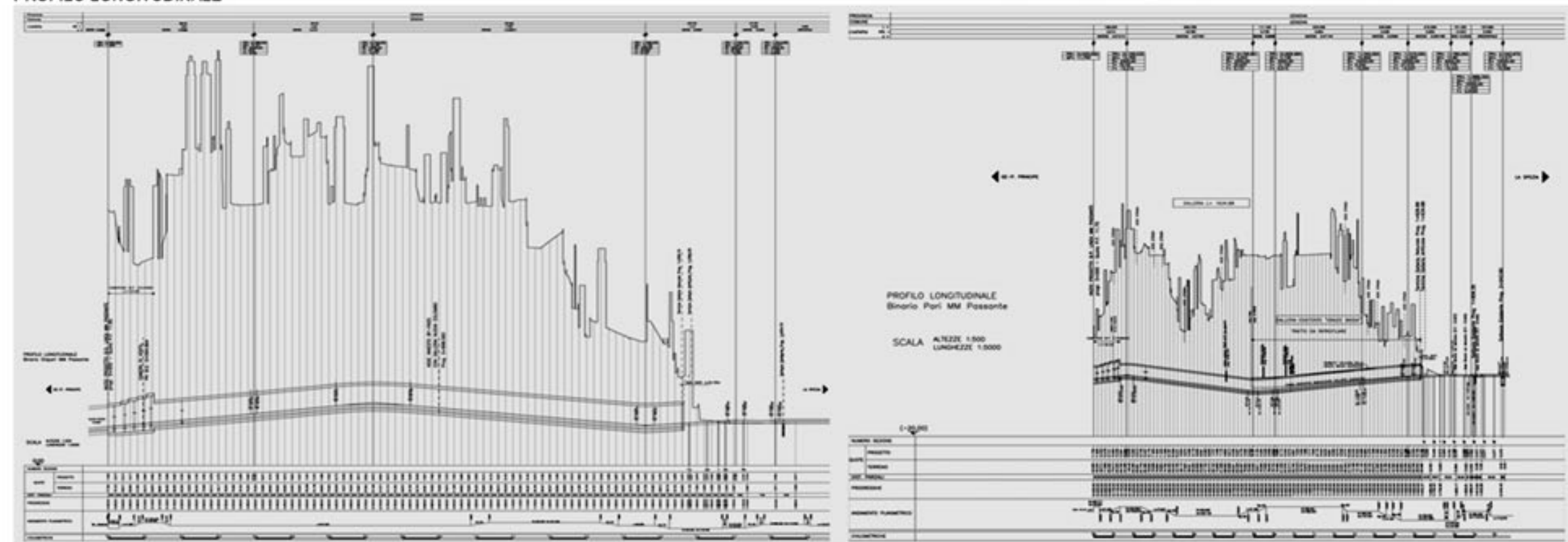
1. completion of the variant between Genoa Voltri and Genoa Pegli, with the creation of the new Voltri station including the reconfiguration of the PRG and the new central apparatus;
2. extension, the east side, the "suspender Genoa Voltri" with connection to the east to the line branch of Giovi in the vicinity of filling Polcevera cross-roads;
3. specialization of Giovi line to local traffic and elimination of interference between the lines in the area of Sampierdarena station;
4. Functional Opera 2: Sestuplicamento the Genoa Principe part - Genoa Brignole.



TRACCIATO PLANIMETRICO



PROFILO LONGITUDINALE



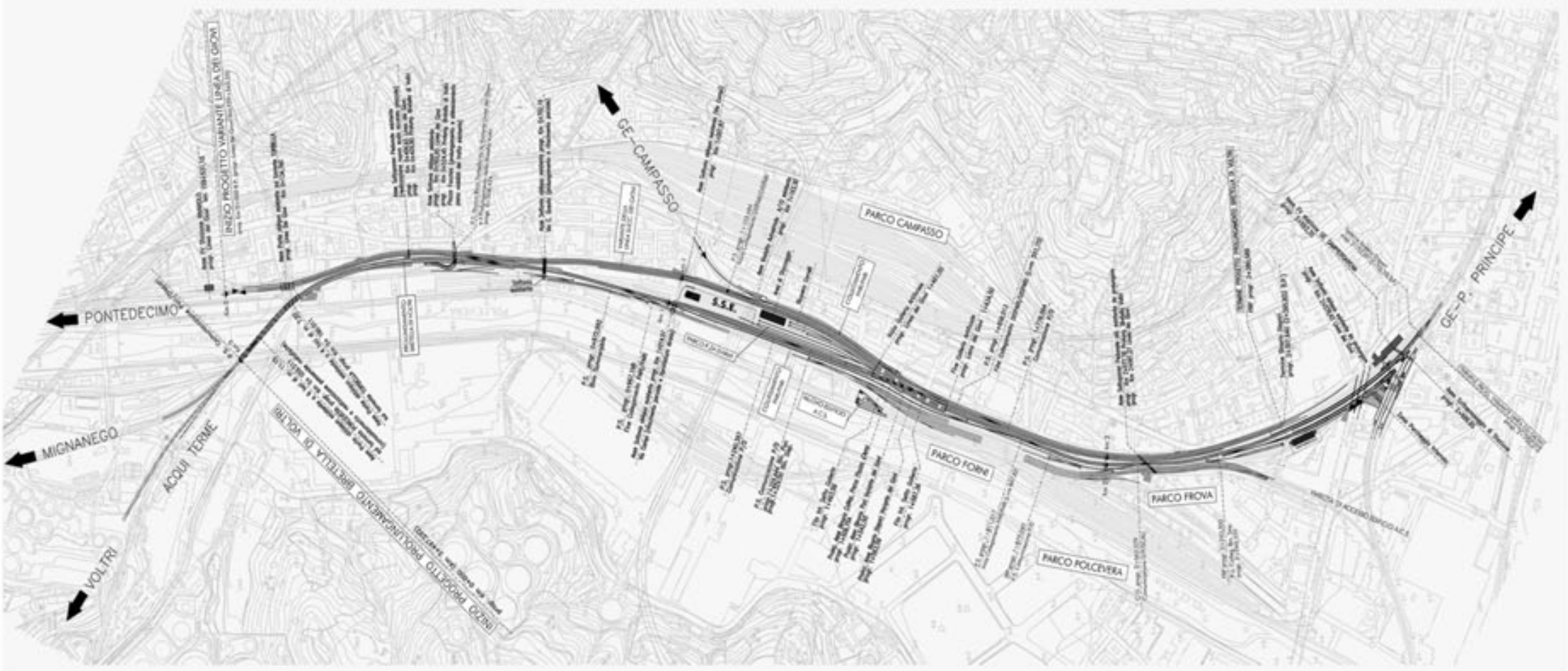
Page No. 3404/00
 00-000000-00-0000[illegible]

- Non interessato da modifica
- Fuori servizio
- Demolizione
- Costruzione
- Realizzato
- Provvisorio in costruzione
- Provvisorio realizzato

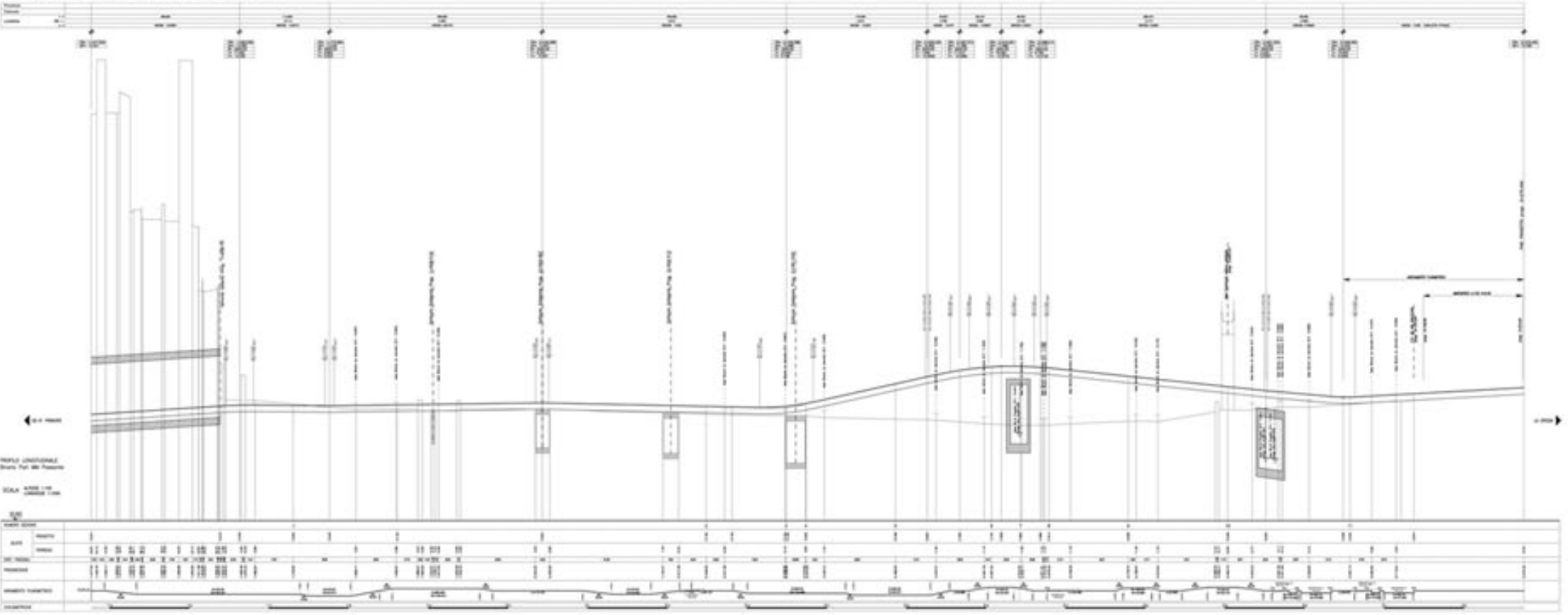
FINE PROGETTO B.P. ATTESTATO

Progr. Km. 0+546,956 Quota P.F. 17.07

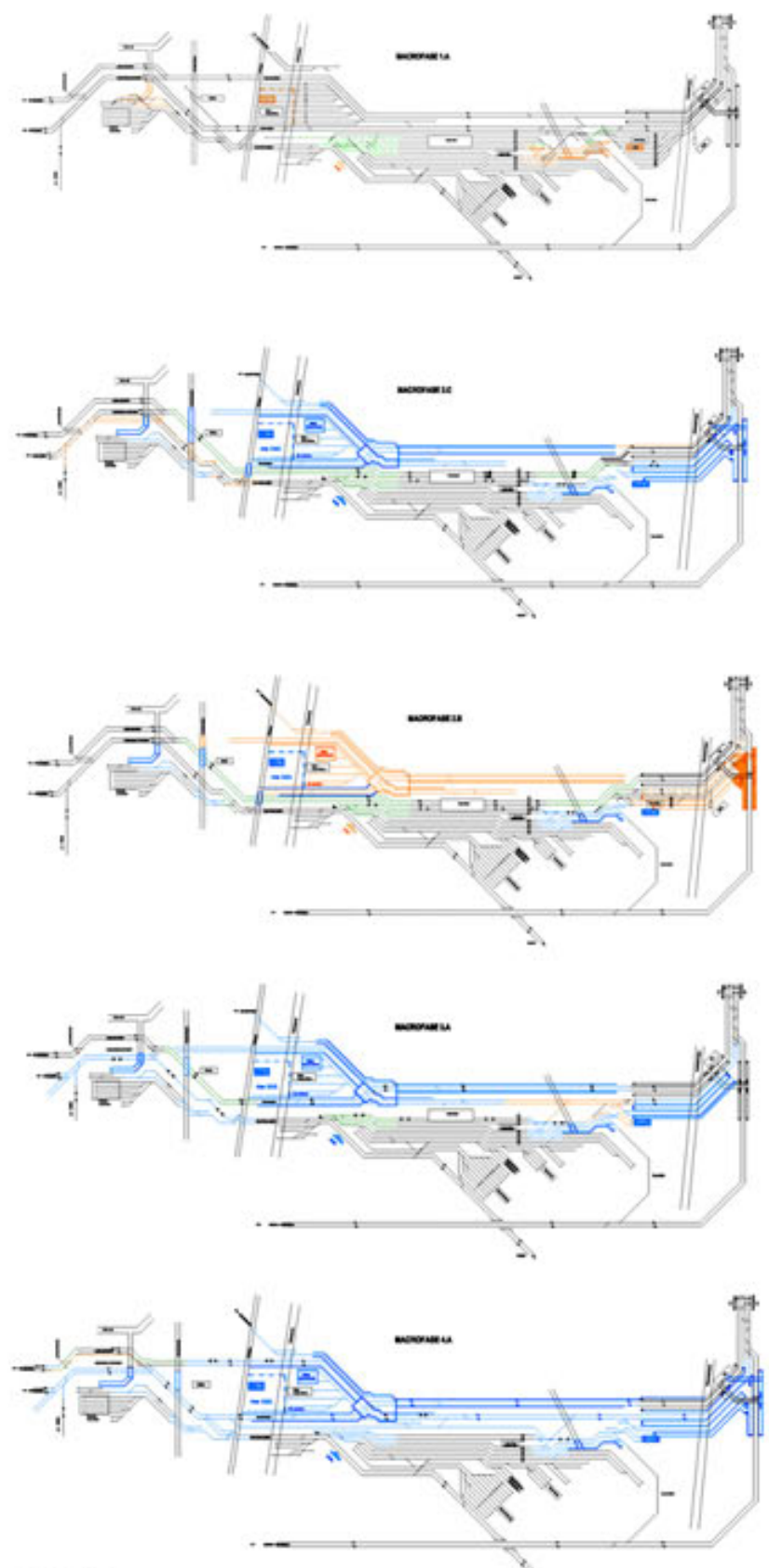
PLANIMETRIA GENERALE



PROFILO LONGITUDINALE



FASI COSTRUTTIVE

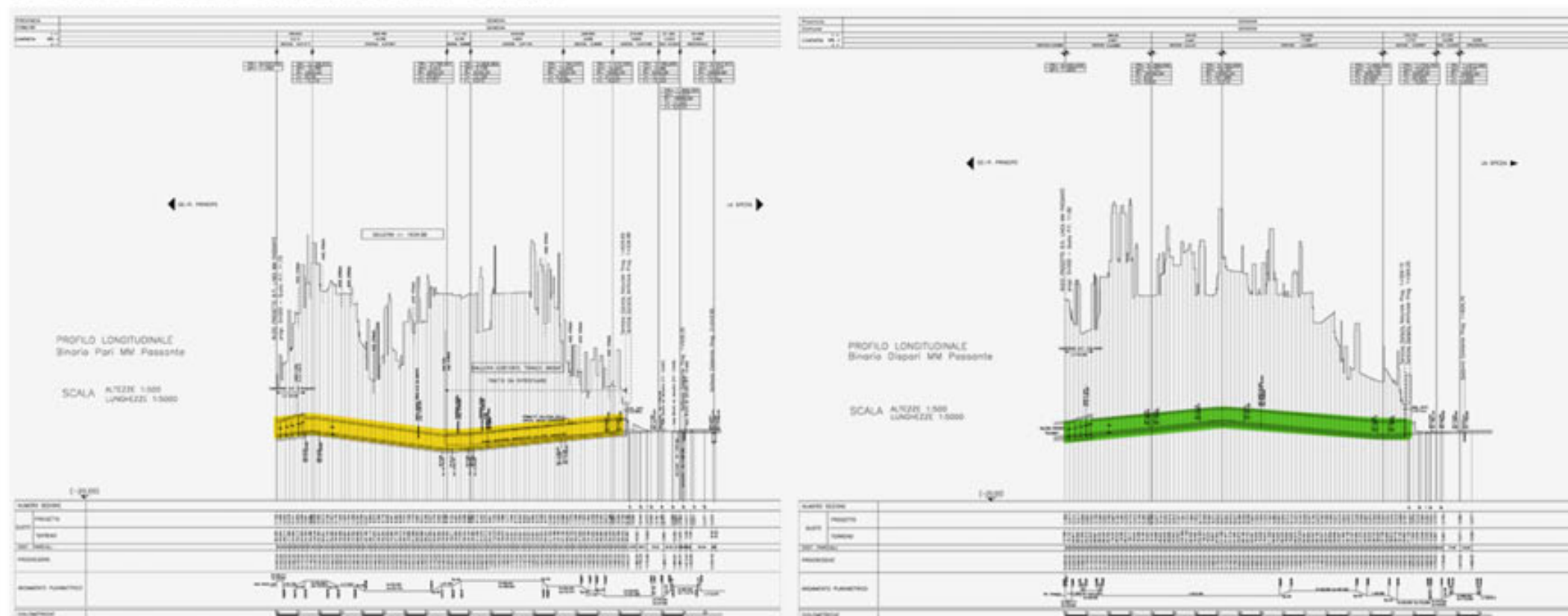


ARRANGEMENT OF RAILWAY CONFIGURATION OF VOLTRI-BRIGNOLE RAILWAY JUNCTION

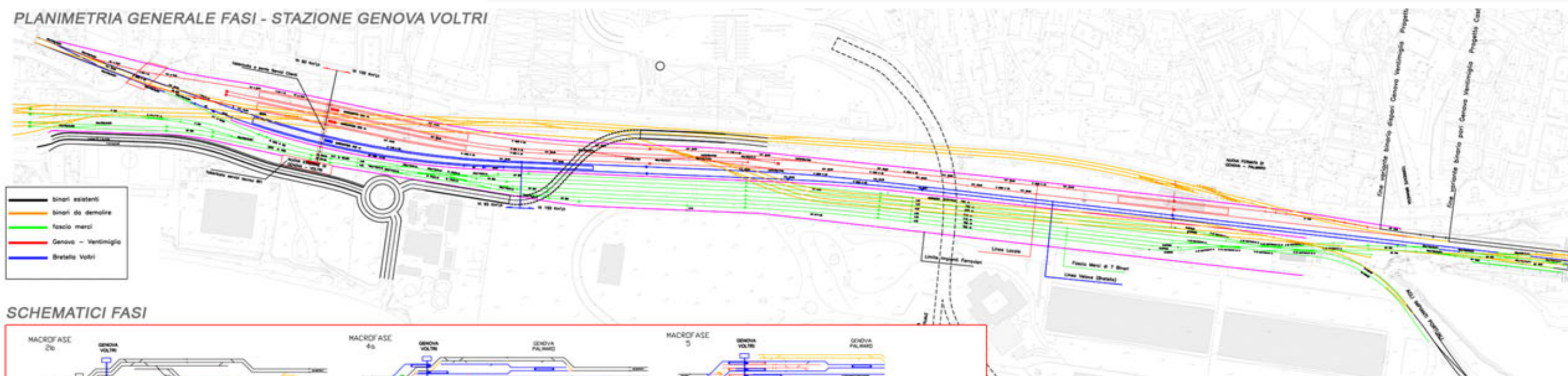
PLANIMETRIA DI PROGETTO PROLUNGAMENTO GALLERIE ESISTENTI COLOMBO E S. TOMMASO E RIUTILIZZO DELLA GALLERIA DELLE GRAZIE



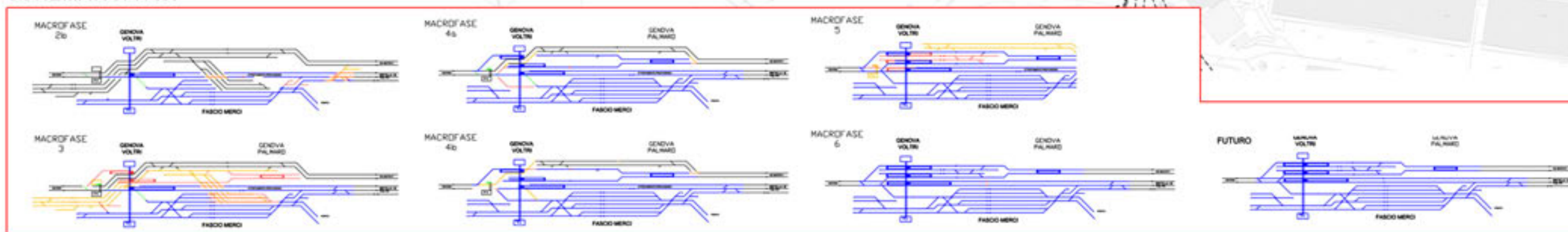
PROFILO GENERALE BINARIO PARI GALLERIE ESISTENTI COLOMBO E S. TOMMASO E RIUTILIZZO DELLA GALLERIA DELLE GRAZIE



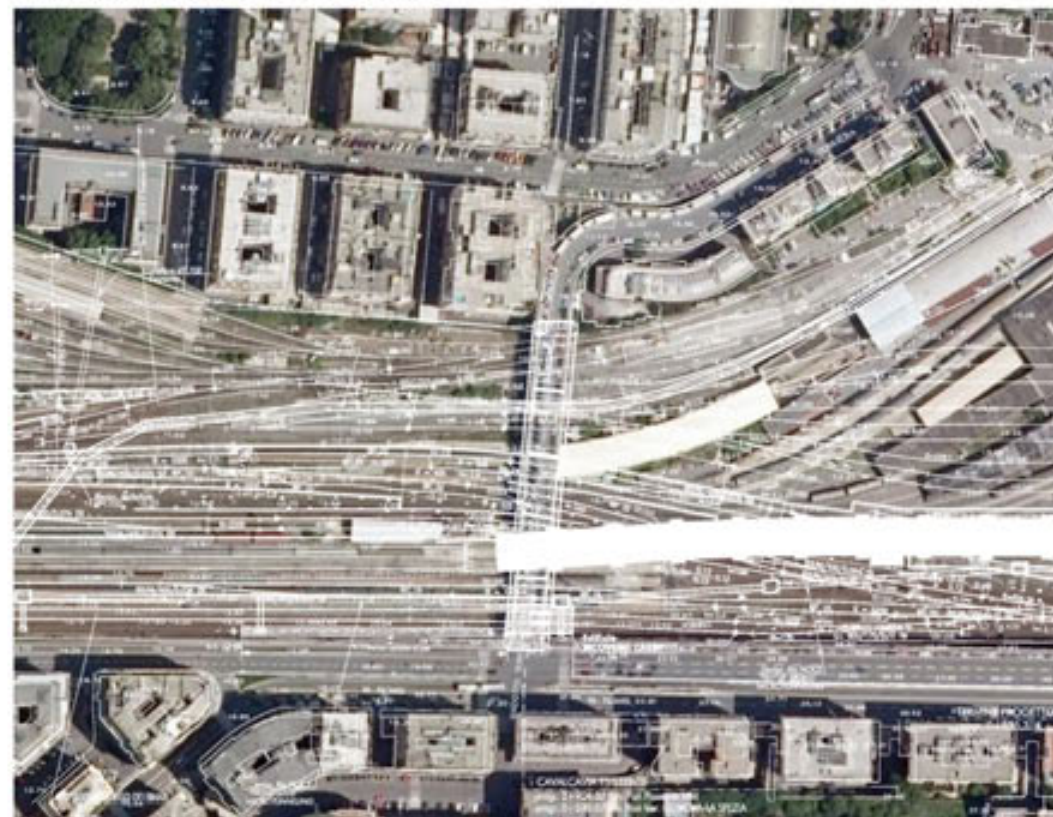
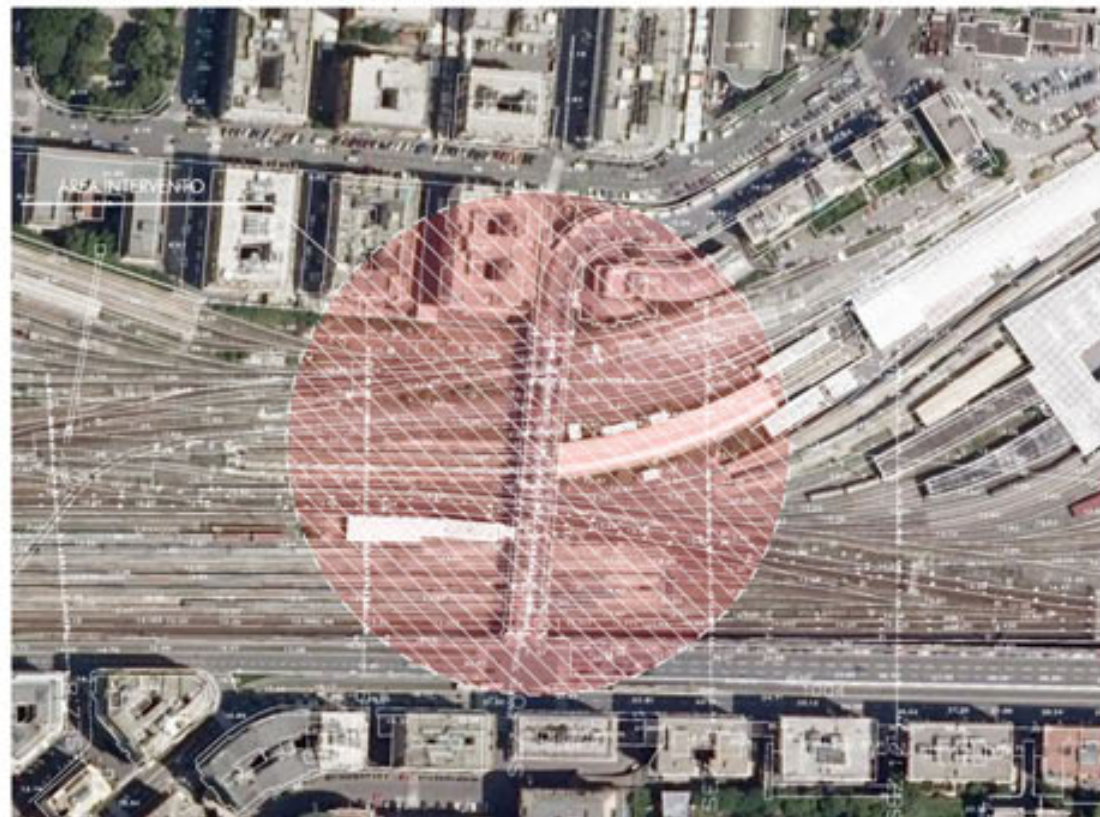
PLANIMETRIA GENERALE FASI - STAZIONE GENOVA VOLTRI



SCHEMATICI FASI



PLANIMETRIA DI PROGETTO

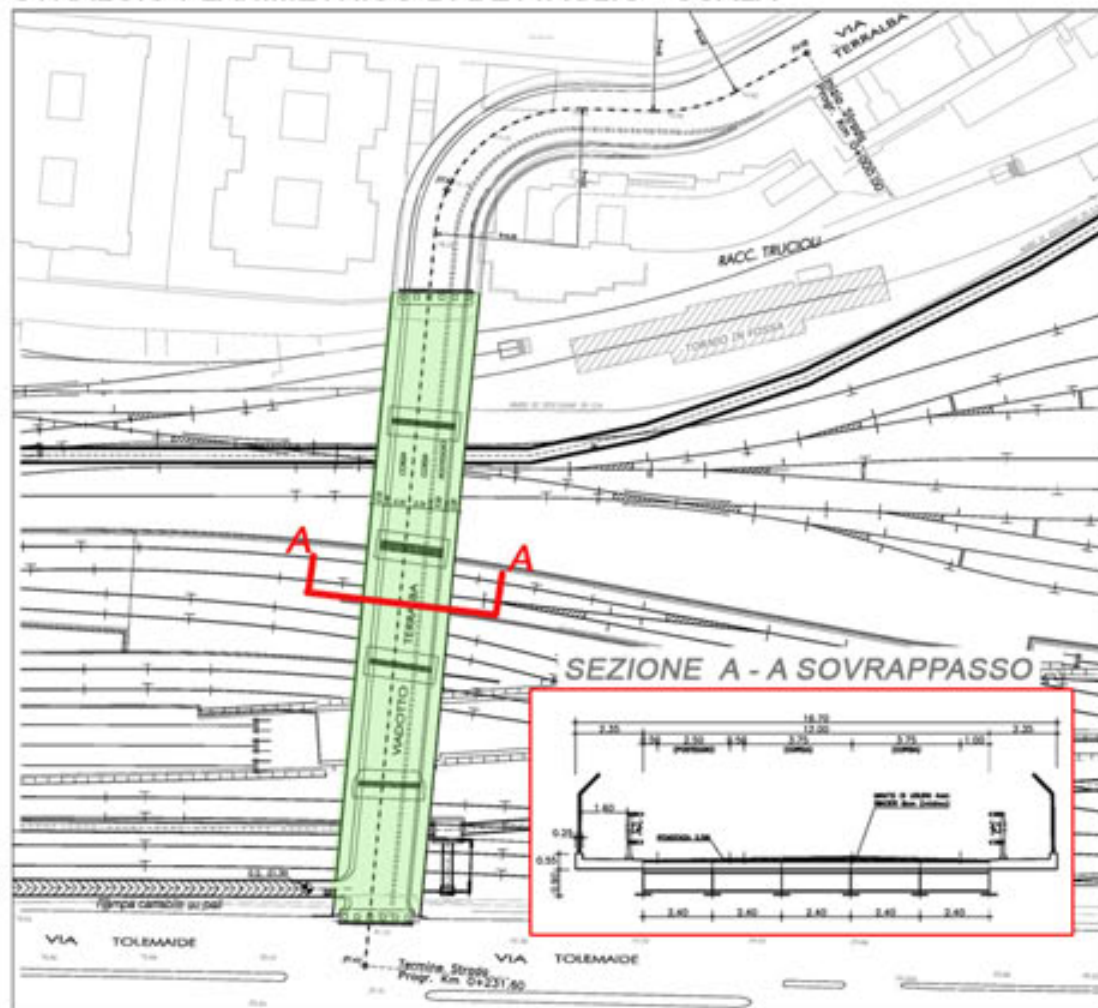


PLANIMETRIA STATO DI FATTO

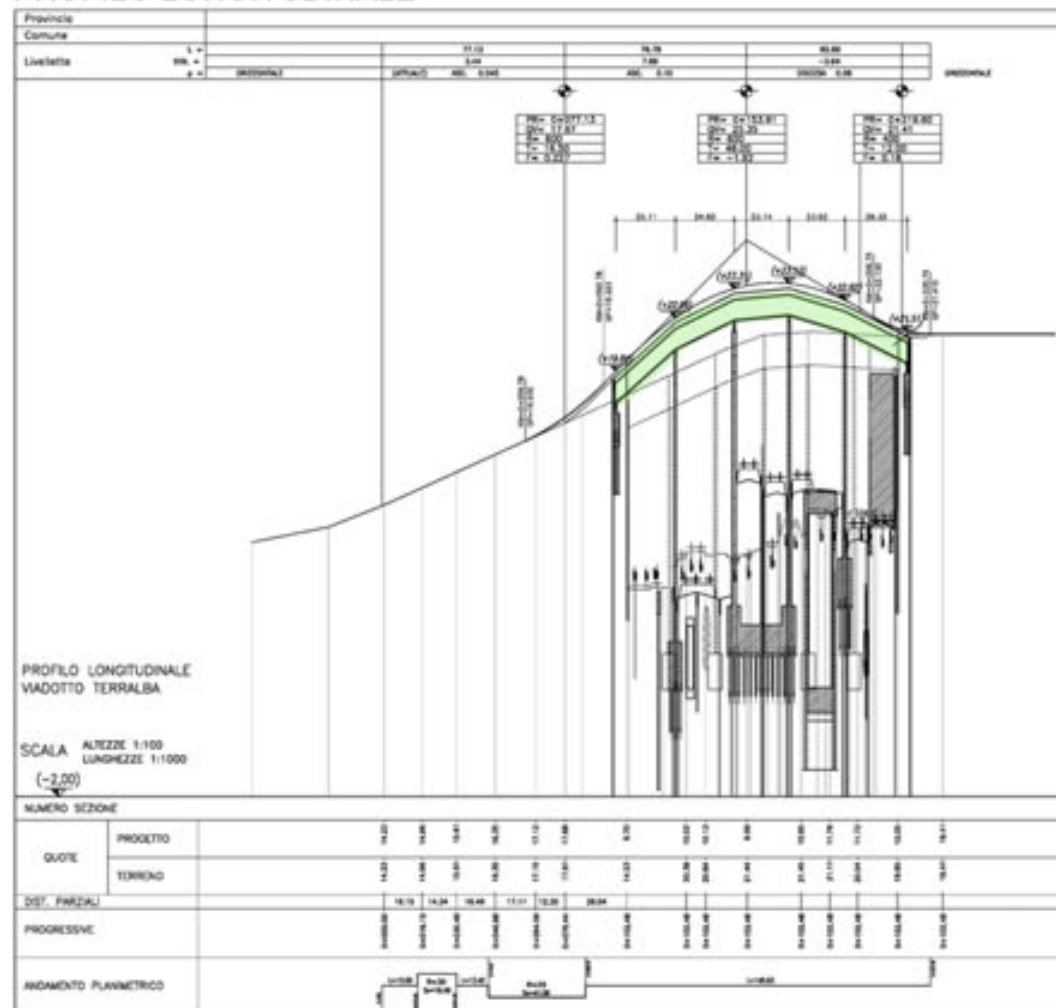


PLANIMETRIA DI PROGETTO

PROFILO LONGITUDINALE



PROFILO LONGITUDINALE





Gilje-Cupria-Paracin Railway - Serbia

GILJE - CUPRIA - PARACIN RAILWAY LINE - SERBIA

Firm	ERREGI
Location	Serbia
Client	ITALIANA COSTRUZIONI S.p.A
Total amount of design	41.268.537 \$
Year of start	2012
Current status	under construction

Role and professional involvement of bidder

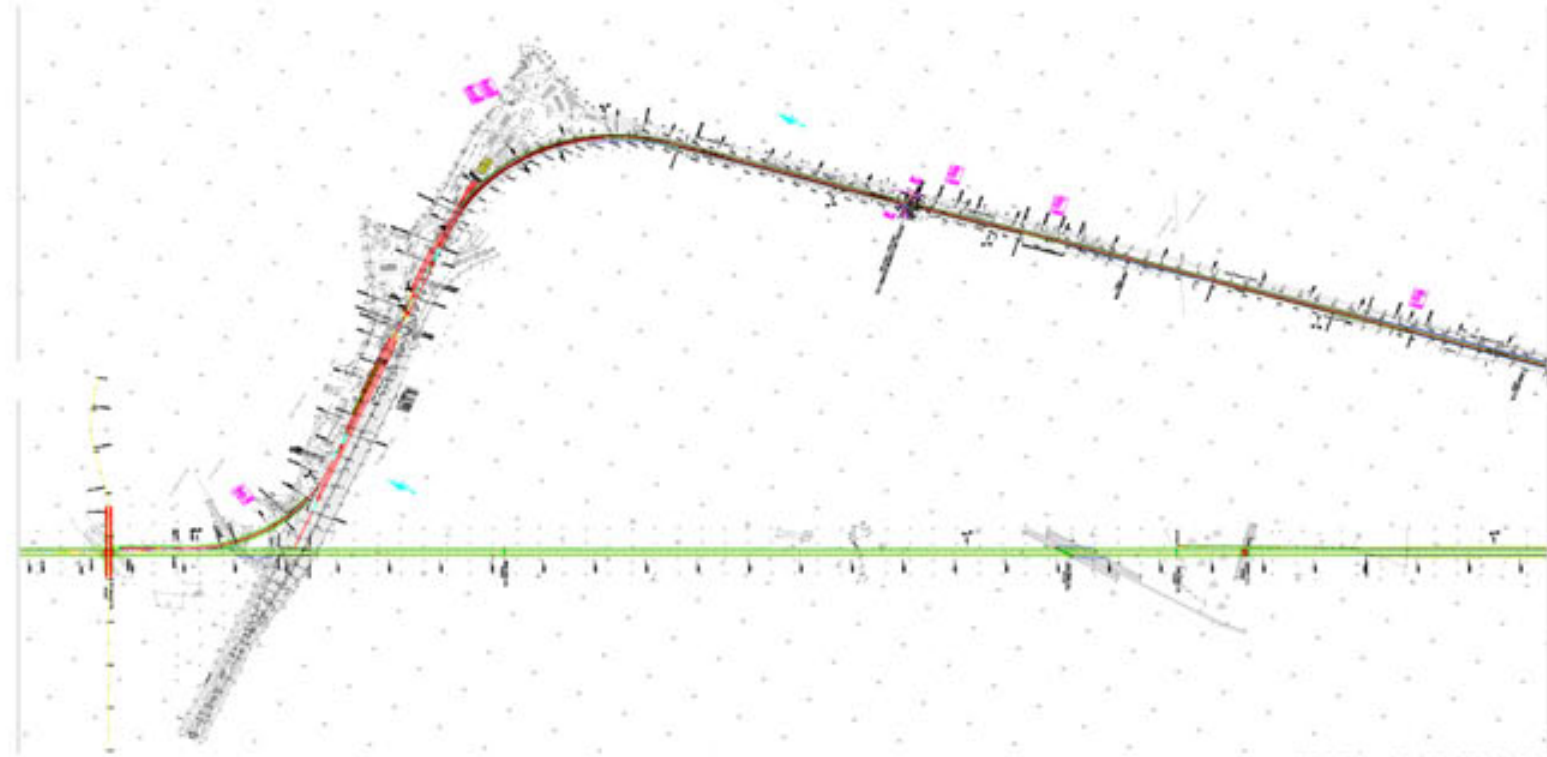
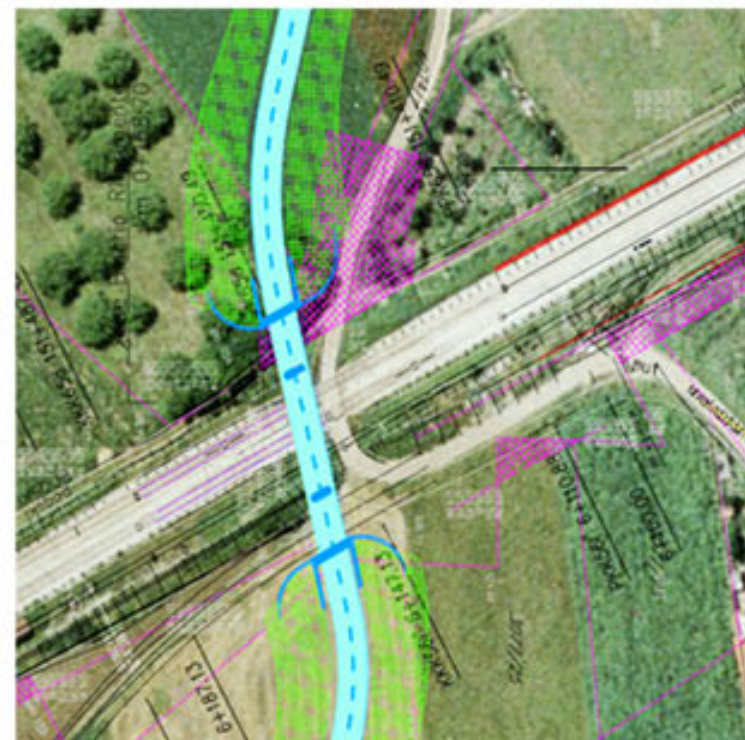
Tender design modifications, about railway alignment, cross sections, design of the most important structures, hydraulic study, construction phases and resolution of constructive interferences.

The Gilje-Cupria-Paracin railway is part of the project of modernization and development of the existing railway Serbian railway line. The section from pk 140+070.02 to pk 150+287, that has been the subject of the design, is a part of the railway that connect Belgrado to Nis. The design project regarded the changes to the Tender design, about railway alignment, cross sections, design of the most important structures and hydraulic study.

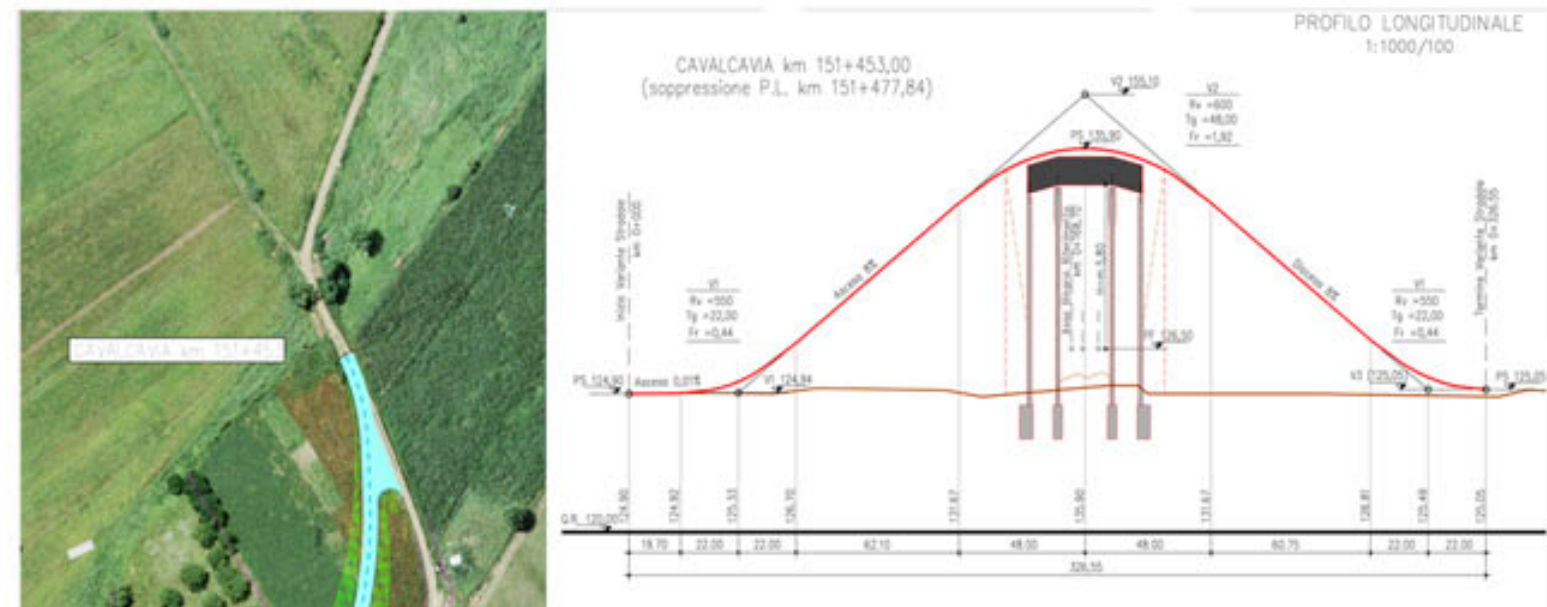
Very important was the study of the construction phases and the resolution of constructive interferences. The railway line Gilje-Cupria-Paracin is part of the modernization project and development of the existing Serbian railway line. The opportunity to meet European standards, which have proven to be often more restrictive from a design point of view, has the following key benefits:

- more safety standards;
- savings on maintenance costs;
- homogenization of the railway line with European standards already being developed, without having to readjust the same in the future, under operating conditions

In order to achieve these benefits are part of the Company's proposals, as described below. The proposals were divided into three phases, depending on the priority level that it was decided to assign.



TRACK - PLAN EXCERPT



OPERA SOSTITUTIVA CON VIABILITÀ DI APPROCCIO
PER LA SOPPRESSIONE DEL P.L. Km 151+477,84

IPOTESI "C" (Cavalcaia)

Strada Planimetria e Profilo Longitudinale

OVERPASS DETAIL

[illegible]

Приоритет III

PODZEMNI PRESEK PODVOZAKA
R=1:200

DOL

GORNJA

10.0

1.5

1.5

Figure 1 is a cross-sectional diagram of a road structure. The layers are labeled from top to bottom: DISTON DE TACOMA, EXTERIOR ROAD, FINE AGGREGATE, BASE, and SUBGRADE. A center line is indicated by a dashed vertical line. On the right side, there is a shoulder and a drainage ditch. The diagram shows the relative positions and thicknesses of these layers.

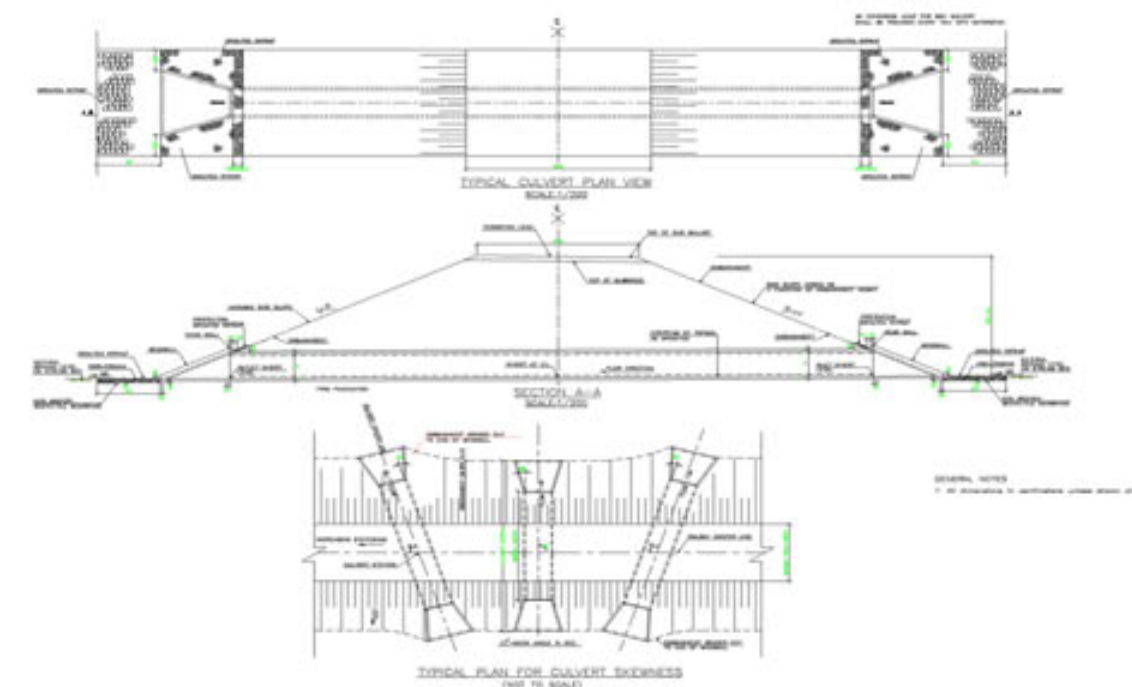
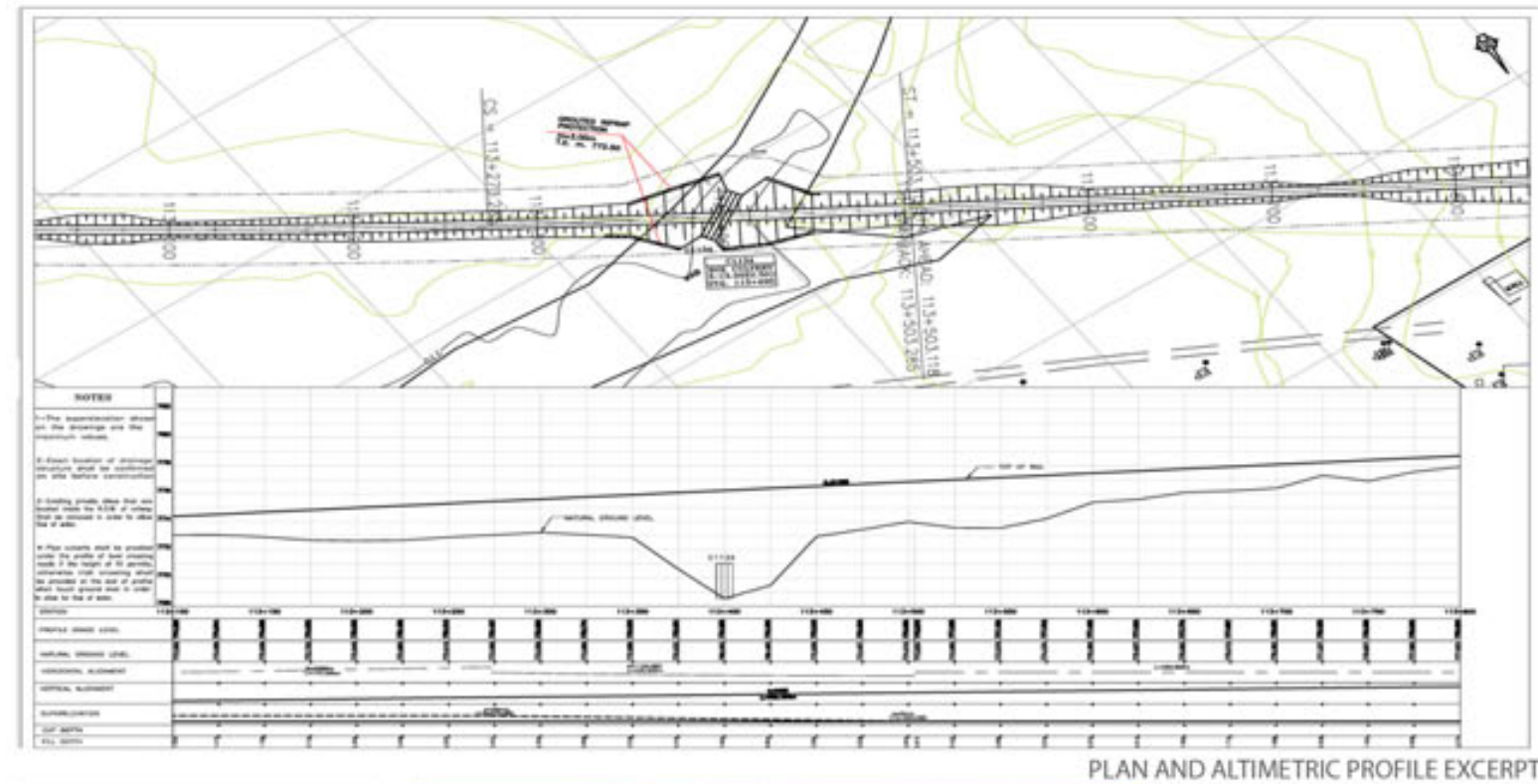


CTW400 Railway Project Saudi Arabia

Firm	ERREGI
Location	KSA - Kingdom of Saudi Arabia
Client	AL AYUNI INVESTMENT AND CONTRACTING COMPANY
Total amount of bid	38.519.050 \$
Year of start	2010
Current status	under construction
Role and professional involvement of bidder	Hydraulic study of the areas, dimensioning of all hydraulic

Hydraulic study of the areas,
dimensioning of all hydraulic
works, culverts, bridges,
gabions , defence of the
embankments.

CTW400 railway project has a length of approx. 480 K.M and is one of the major part of North - South railway project (NSR) at Saudi Arabia. CTW400 is connecting King Khalid International Airport (KKIA) at the Riyadh with Az Zabirah Junction. It starts from the east of KKIA to north-east through Sudair City for industry and business, then it passes east of Majmah city and Al Zulfi city to Athwiarat sand dunes in Qassim province east of Buriadah city, then to north parallel to Qassim \ Hail expressway up to Az Zabirah Junction. Erregi made final design of the hydraulic study of the railway. The study analyzed the areas crossed by the railway, to define the catchment areas and the dimensioning of culverts, bridges and detailed solutions for the defence of the embankments.



WORKS VIEW

TYPICAL CROSS SECTION



METRO LINE PROJECTS

- Riyadh Metro Line 3 – Saudi Arabia
- Eco- sustainable Malatesta Metro Station Rome - Italy
- Metro Line A - Line B Termini Intersection Node Adjustment – Italy
- Princess Nora Bint Abdulrahman University - people mover - Saudi Arabia
- Rome underground Line C – Italy
- Metro Line D Rome– Italy
- Rome underground Line B1 – Italy
- Automatic Metro Line 1 and Line 2 Bologna – Italy
- Metro Automatic Eur Palasport Tor Dè Cenci – Italy
- Salerno Porta Est Concept Design - Italy



Riyadh Metro Line 3 Saudi Arabia



Firm	ERREGI
Location	Riyadh, Saudi Arabia
Client	CWG
Total amount of bid	4.135.134.327 \$
Year of start	2015
Current status	Under construction
Role and professional involvement of bidder	Structural and Architectural shop drawings

The project involves the design and the construction of the new Line 3 (41.58 km) Metro Riyadh, the longest line of the gigantic project of the new network of subways of Saudi Arabia capital. The lot awarded is in fact an important part of the broader contemporary construction project of the new Riyadh metro network, consists of 6 lines with an overall length of about 180 km. The main technical data can thus be summarized:

Total line length - 41.58 km

Number of stations - 22

Line on viaducts - 25.73 km

Line Tunnel - 9.73 km (of which 3.5 km with TBM)

Surface line - 4.10 km

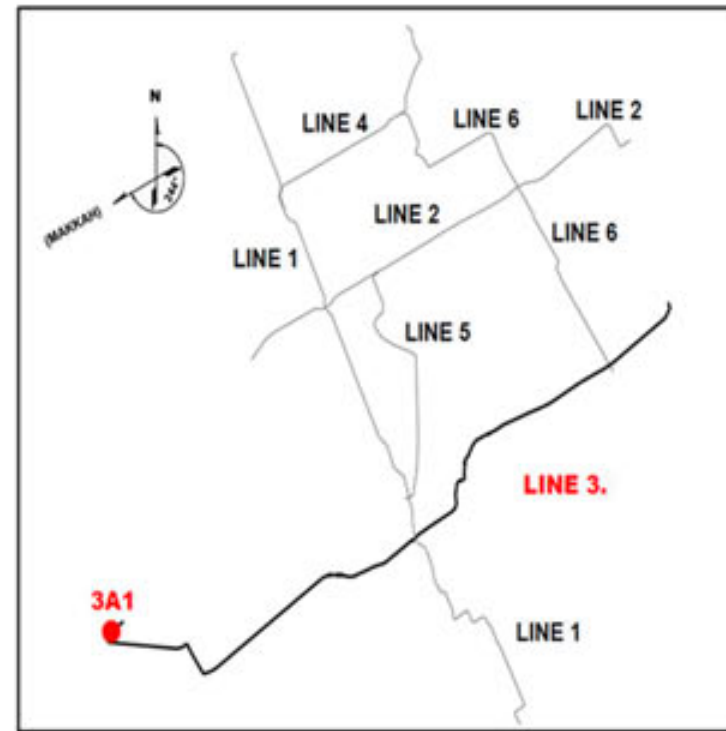
Multi-storey car parks for the user - 114.000mq

Deposits for servicing trains - 2

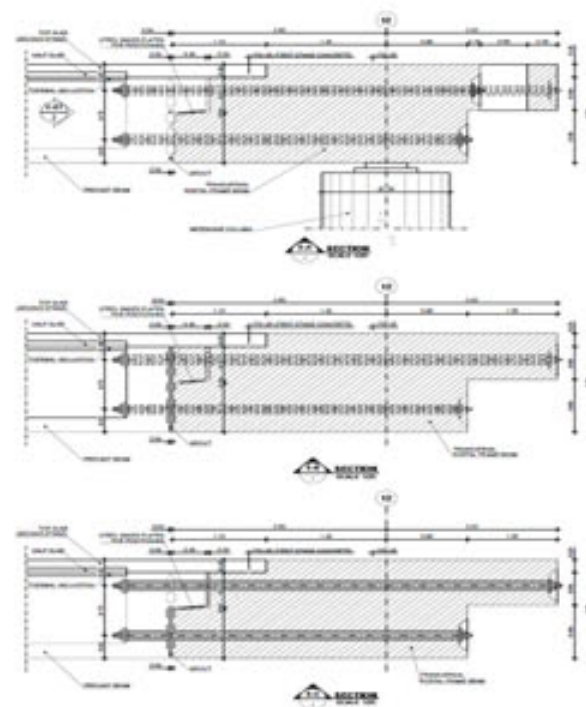
Roads and green areas - 362.000mq

The Deep Underground Station 3F1 is located within a public square near the King Abdullah bin Abdulaziz bin Turki Street, in front of the Riyadh Railway Station, near the existing parking area. The station is designed with two different volumes.

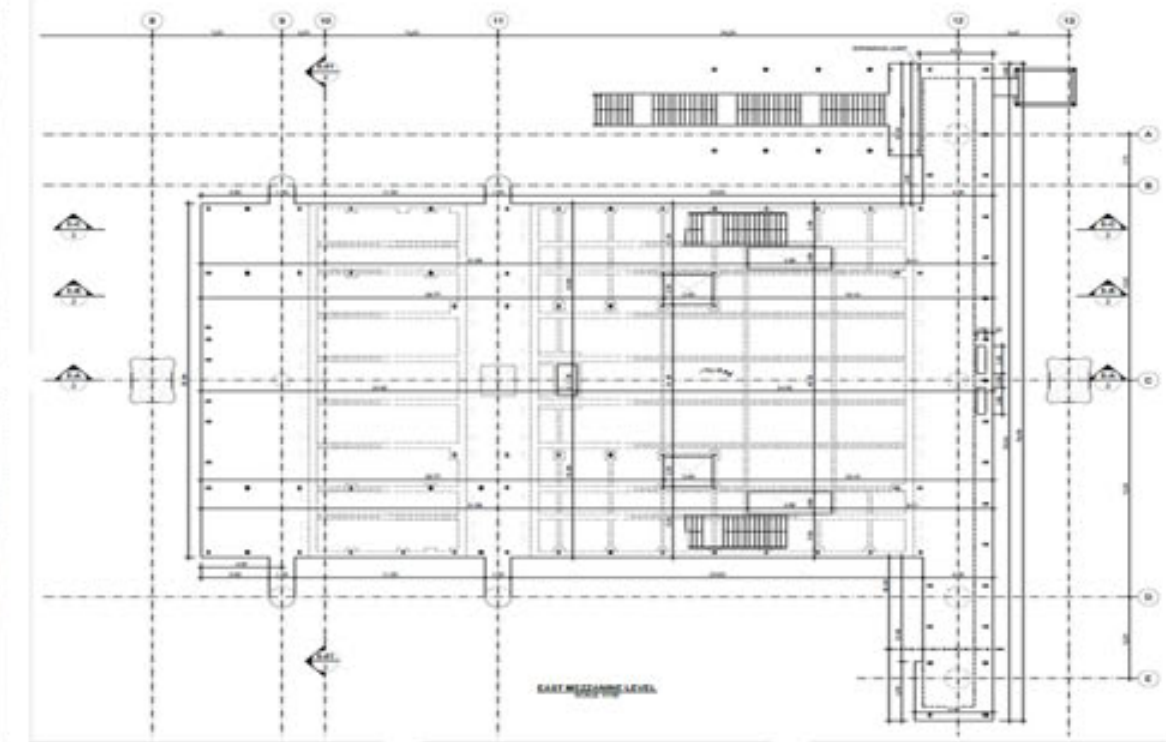
The aim of the most superficial volume (access area) is to provide convenient access for the passenger from grade level to the metro platform so as to the Riyadh railway station. The deep volume is intended to the MEP facilities and to direct the passenger flows to the metro platforms. The design of this deeper volume includes 3 different underground levels (concourse level, mezzanine level and platform level) with a central atrium at mezzanine level that configures all passenger flows.



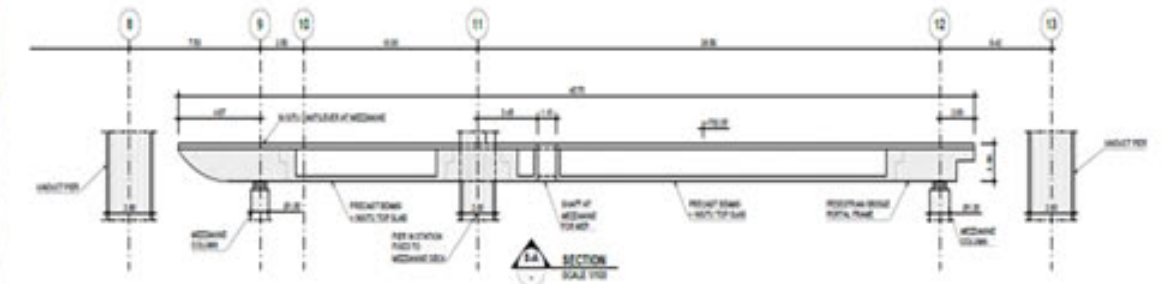
KEY PLAN - GENERAL VIEW



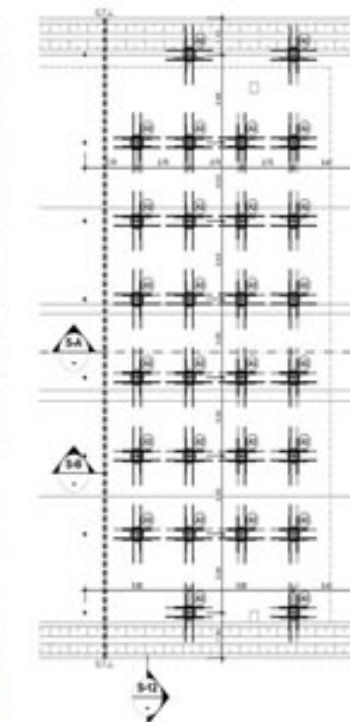
3A1 STATION - REINFORCED CONCRETE FRAME EAST SIDE



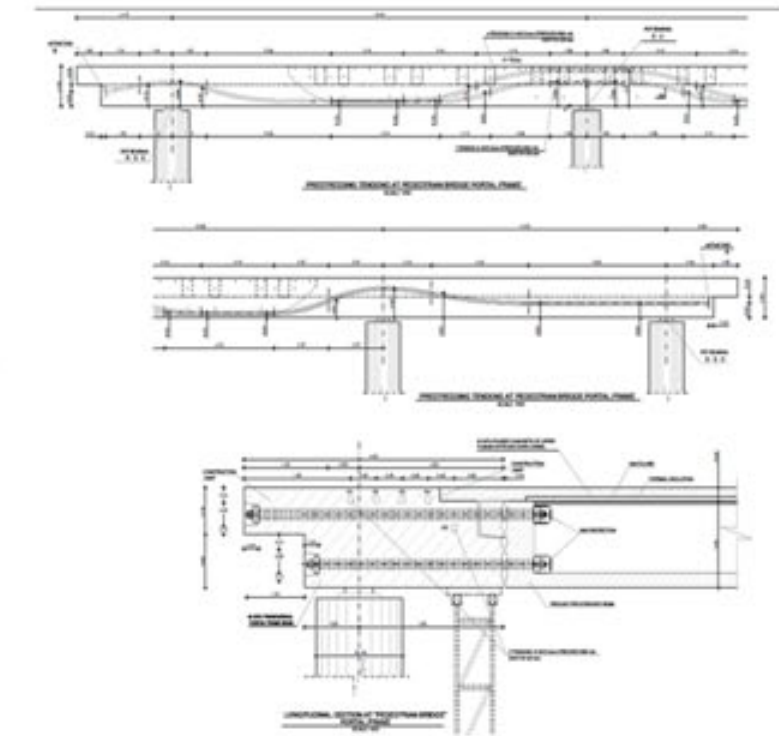
3A1 STATION - MEZZANINE STRUCTURAL PLAN



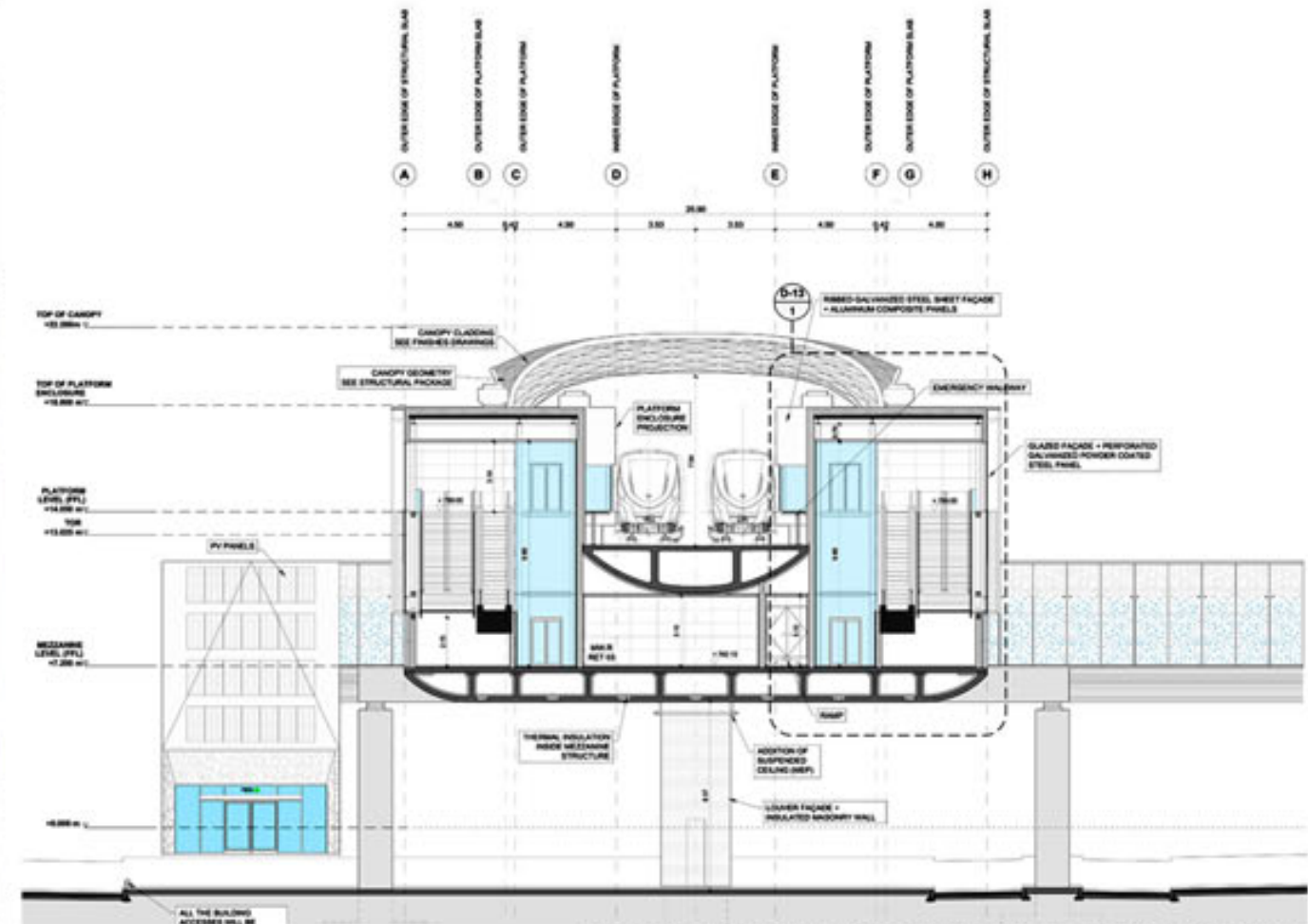
3A1 STATION SECTION



FOUNDATION FLOOR PLAN



3A1 STATION - REINFORCED CONCRETE FRAME EAST SIDE - DETAILS



DETAILED ELEVATION AND LONGITUDINAL SECTION



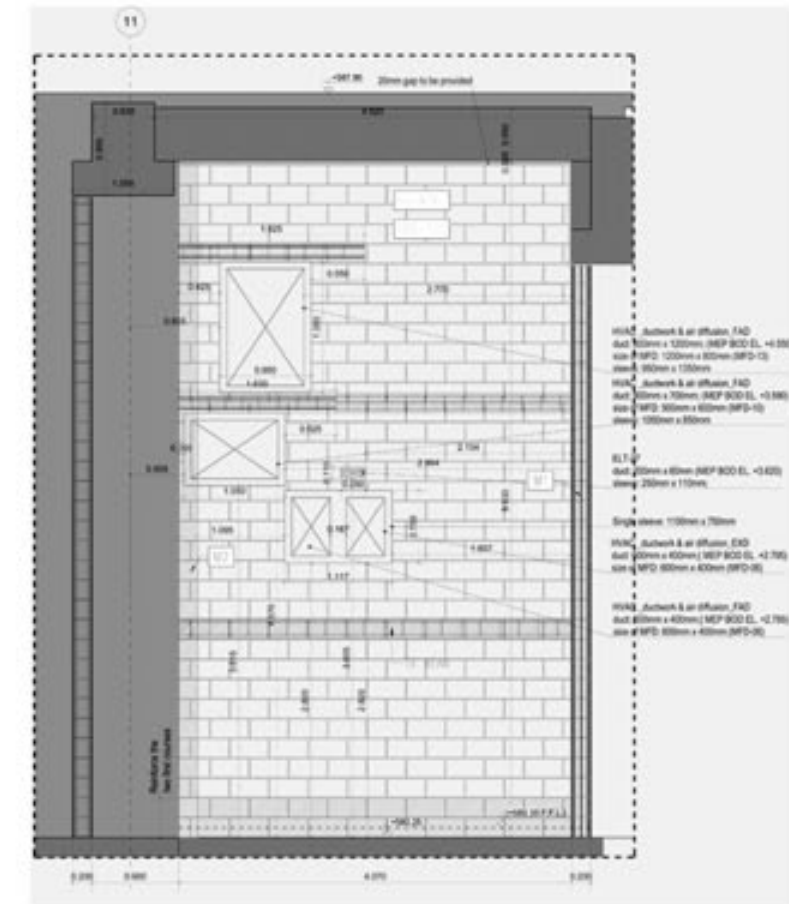
3A1 STATION - GENERAL ARRANGEMENT & LAYOUT - CROSS SECTIONS



3F1 STATION - CONCOURSE LEVEL



3F1 STATION - INTERIOR VIEW



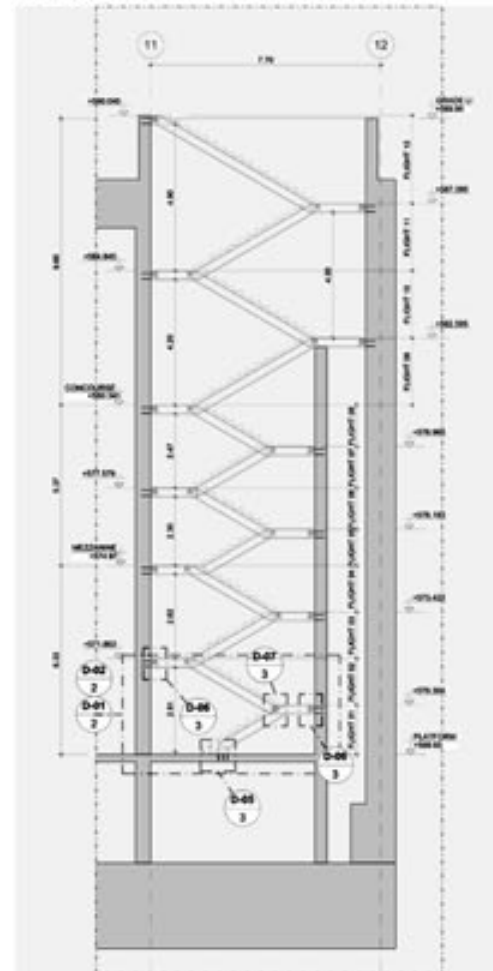
BRICKWORKS - INTERFERENCE WITH MEP



3F1 STATION - INTERIOR VIEW



3F1 STATION - INTERIOR VIEW



STRUCTURE EMERGENCY STAIRS GEOMETRY

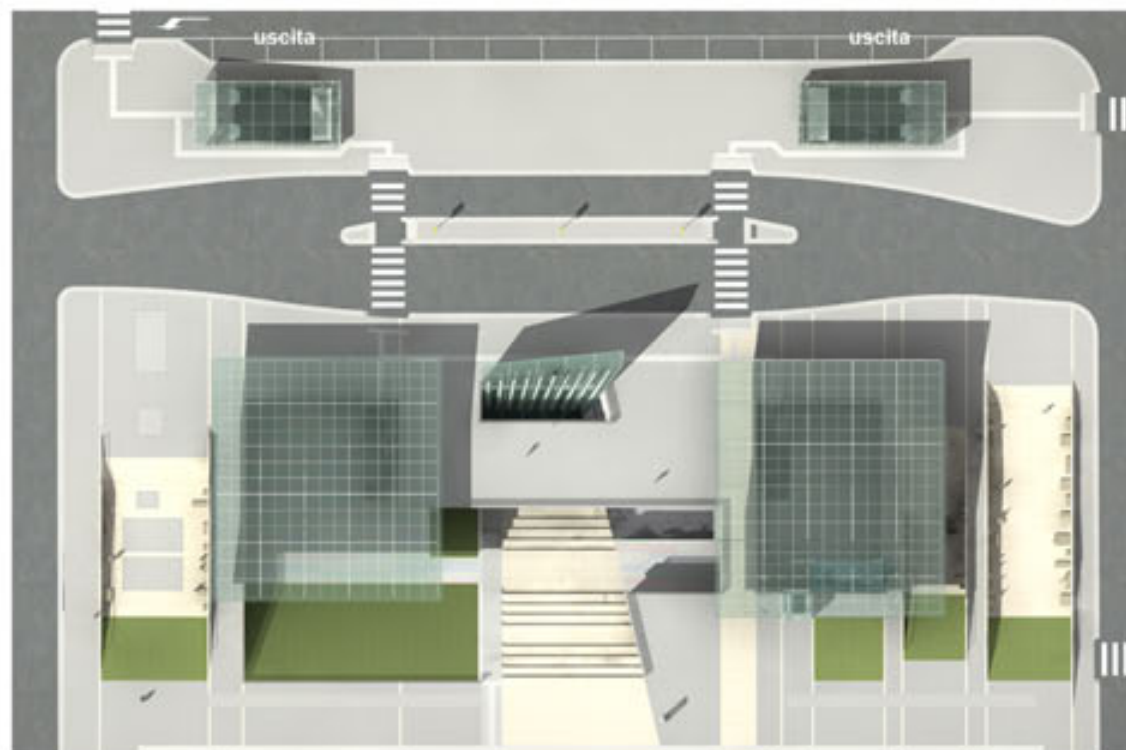


3F1 STATION CROSS SECTION



Eco-sustainable Malatesta Metro Station Rome - Italy

Firm	ERREGI
Location	Rome, Italy
Client	Metro C S.p.a
Total amount of bid	50.862.140 \$
Year of start	2005
Current status	Built
Role and professional involvement of bidder	Detailed Architectural and Structural design



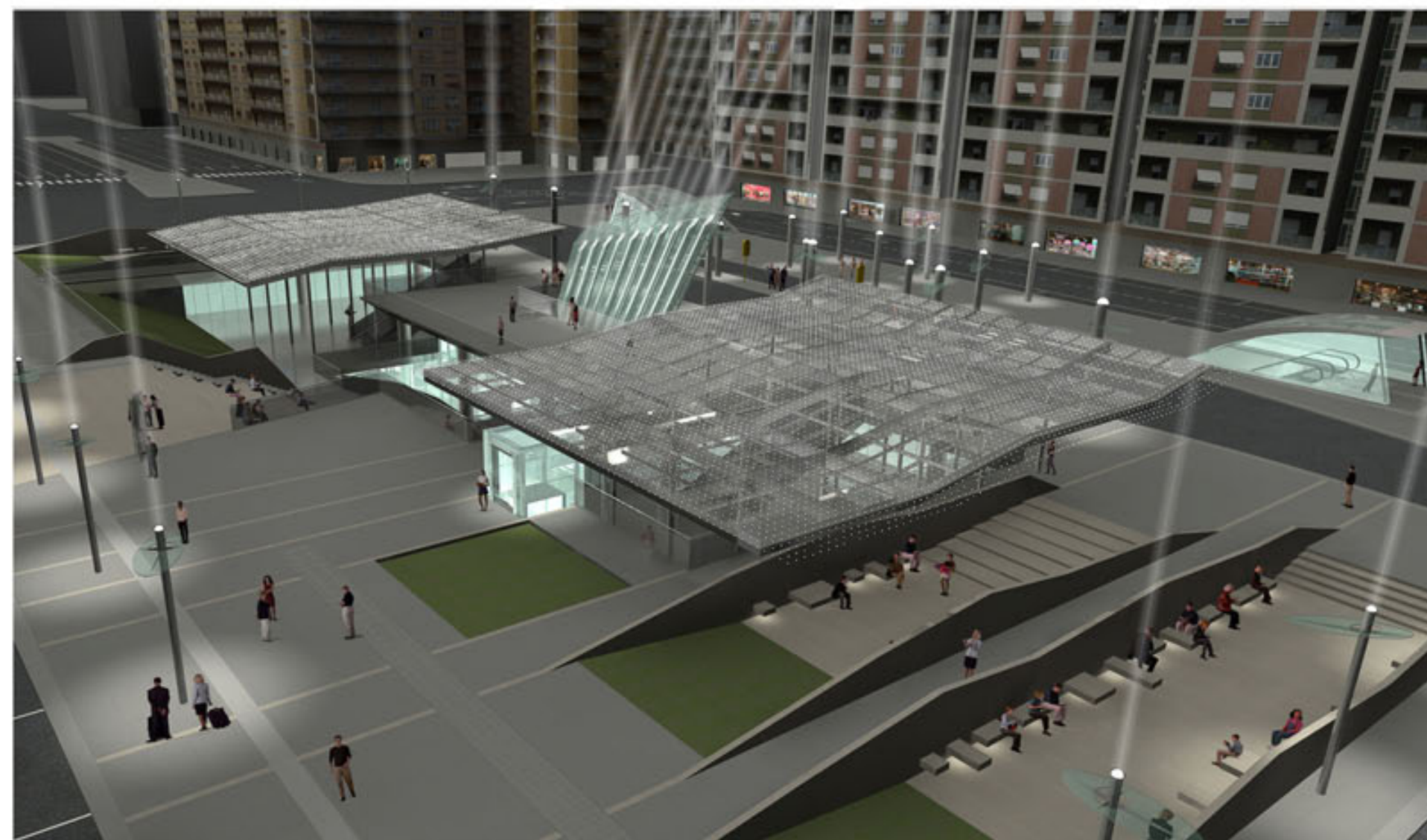
An underground station in a big town like Rome is inevitably a place where crowds gather with a significant impact on the surroundings in terms of human occupation of the area as well as energy consumption.

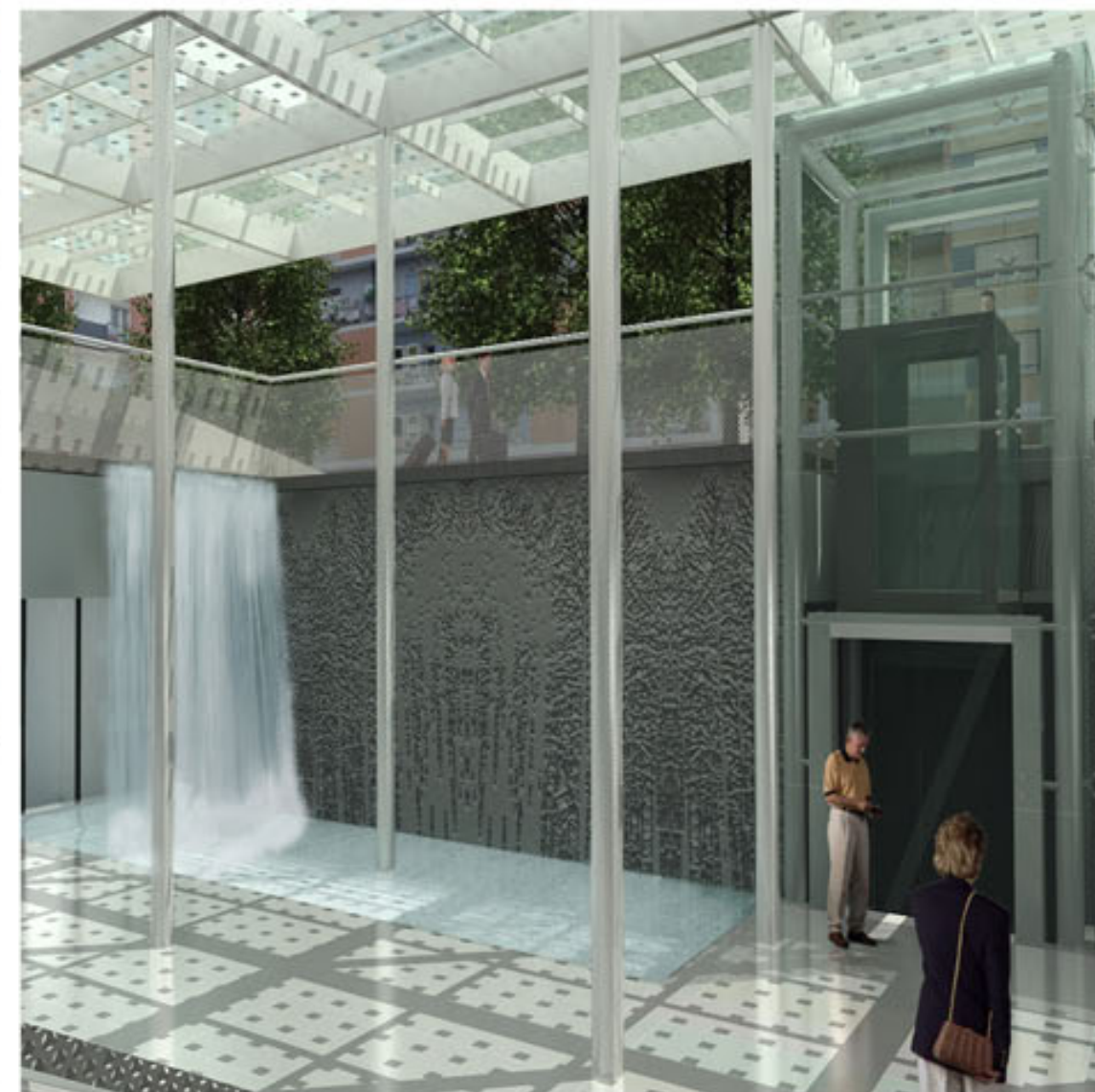
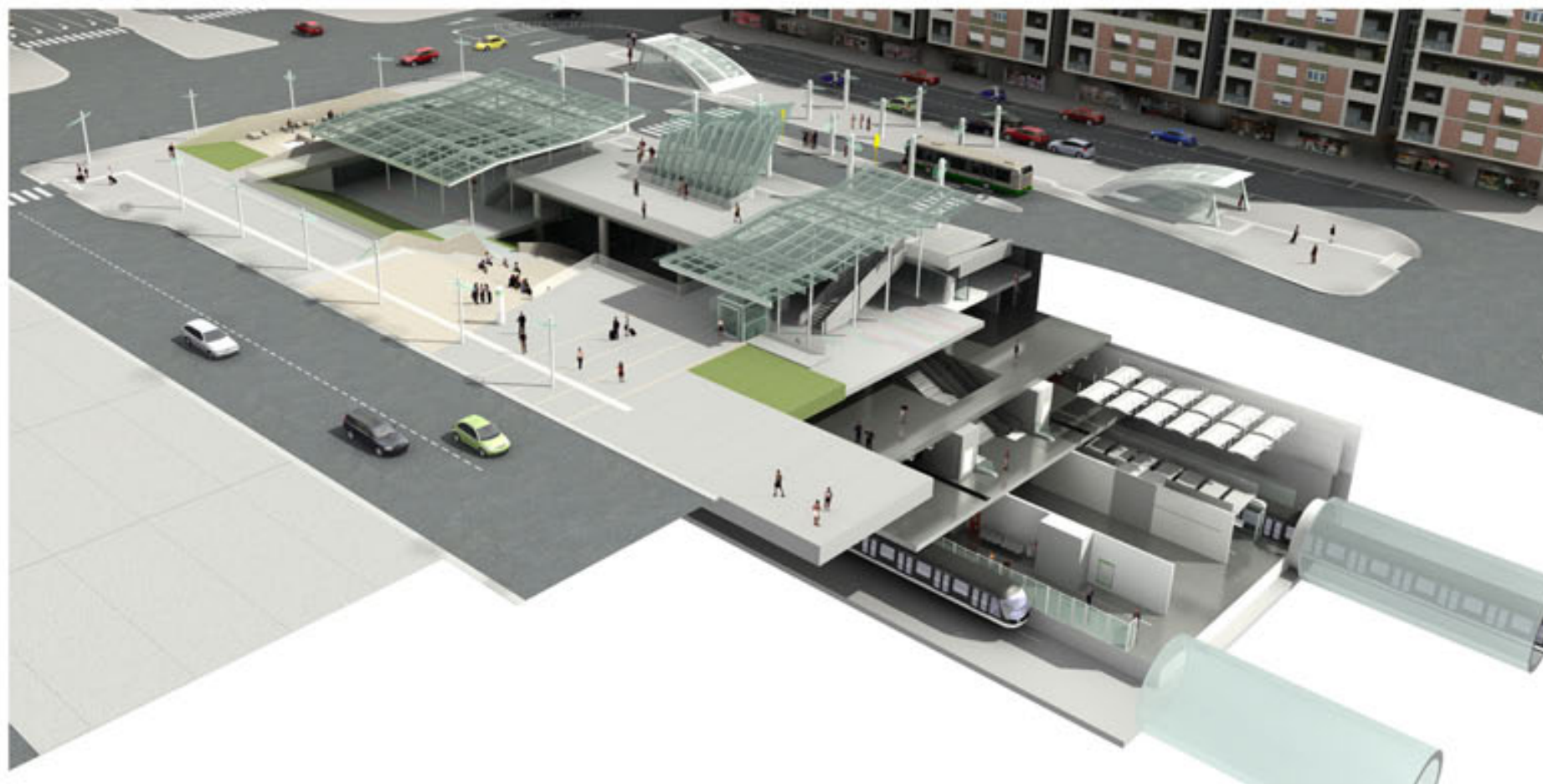
This structure is an opportunity impossible to lose in order to take decision on organisation and technologies which can contribute to the comfort and safety of citizens as well as to the creation of an environmental culture on new generations.

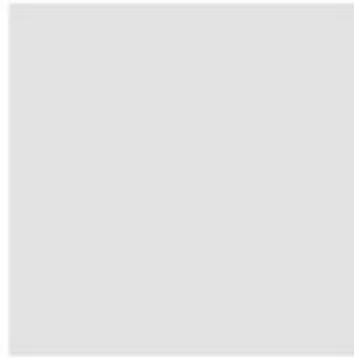
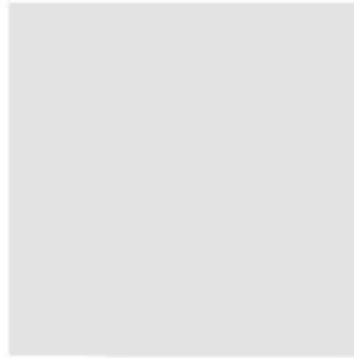
On this matter Malatesta Station becomes a symbolic project because it brings an ethic and cultural message and it is also a prototype because it shows the application of innovation principles both on theoretical concept and actual design, with particular regard to technological aspects aimed to enhance the utilization of the urban environment by its inhabitants.

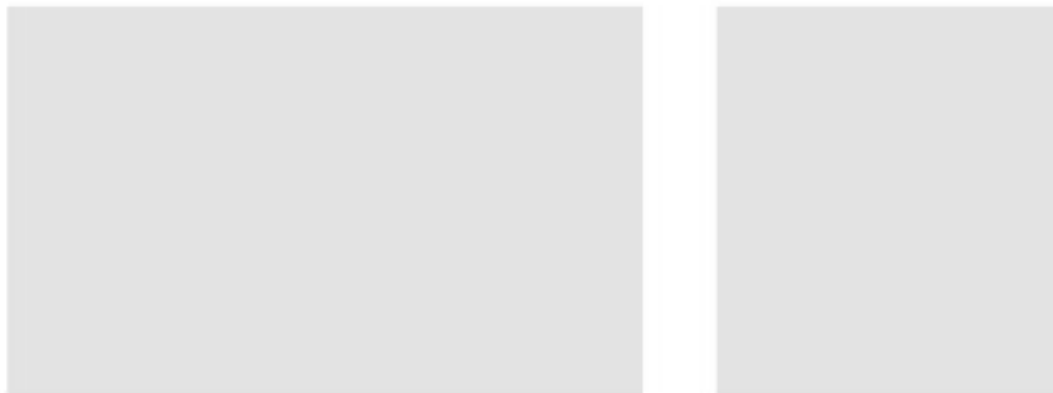
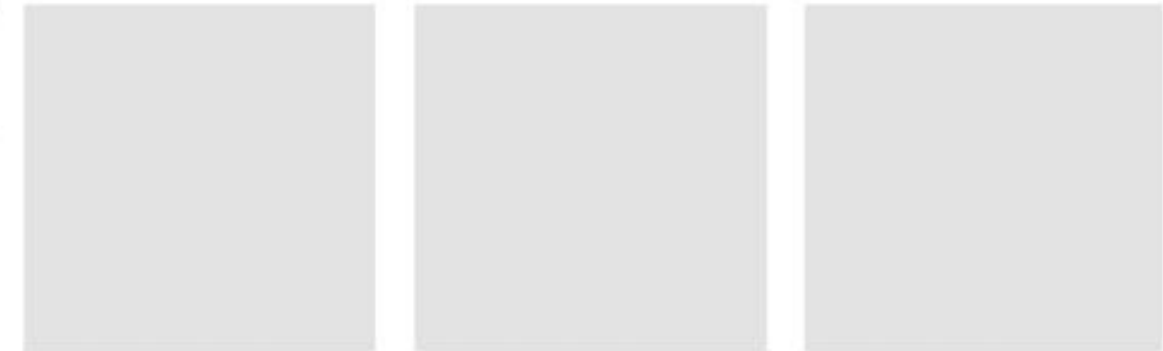
In its definition of "innovation box" the present project tries to use every tool currently provided by the research on materials, utilities and more in general management systems for the control of the station environment, in order to enhance the interaction between users and urban environment.

In this situation the Underground station, from simple structural project, turns into a laboratory for ideas and experimentation of advanced technologies on different fields.











The background is a grayscale architectural rendering of a city skyline. Overlaid on this are thick, semi-transparent blue lines that trace the paths of underground stations. These paths are shown in a 3D perspective, appearing to rise from the ground and connect various points in the city. The text is centered over this background.

Termini junction underground stations Line “A” - Line “B” adjustment works, detailed design

METRO LINE A - LINE B TERMINI INTERSECTION NODE ADJUSTMENT

Firm	ERREGI
Location	Rome, Italy
Client	Roma Metropolitane
Total amount of bid	60.160.427 \$
Year of start	2008
Current status	Built
Role and professional involvement of bidder	Detailed Architectural Structural design and Equipment

The design concerns the adaptation of the interchange between the A and B metro lines and more generally the revamping and modernization of its functional characteristics, the interior spaces and the upper square, comprehensive of the bus stop terminal.

The main objectives pursued by the project are: safety, comfort and functionality.

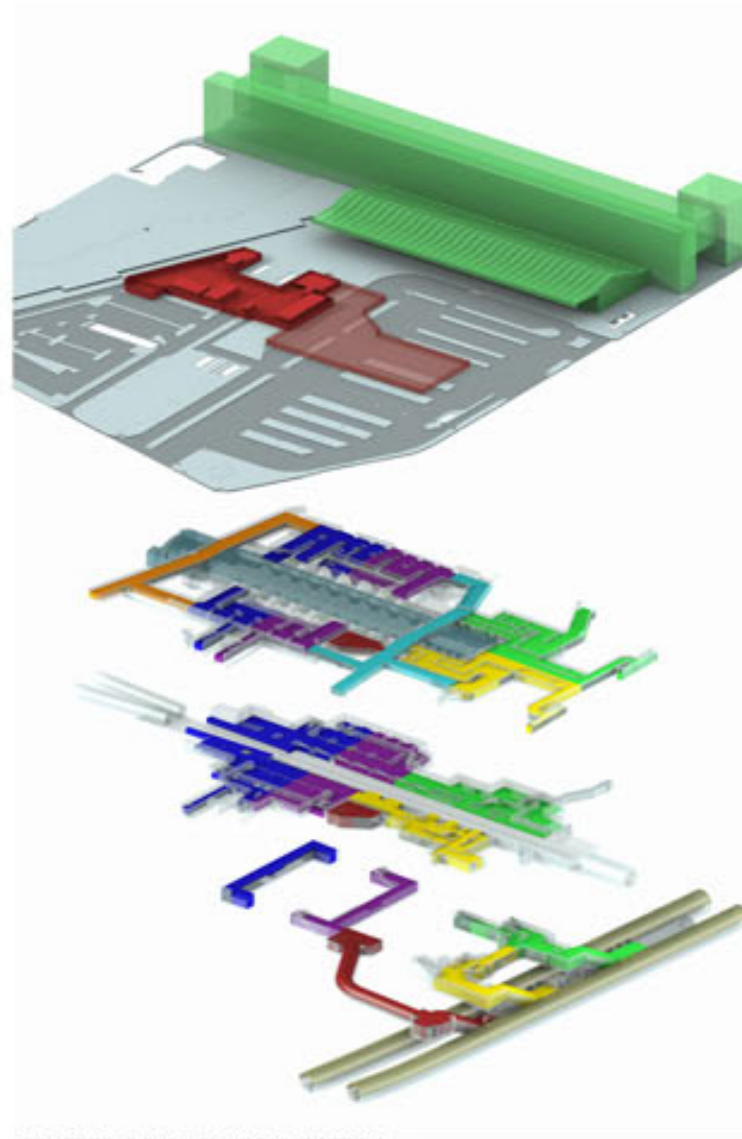
The main innovation in the project concerns the construction of a new underground pedestrian passage linking the banks of the Line A and line B metro lines, practically doubling the current power output from the line and redistributing the verses of the flows of passengers in order to make fluid circulation.

The project also includes the reorganization of internal routes by improving accessibility for all users, will therefore be all the mechanized vertical connections between floors, are envisaged new escalators, elevators and treadmills.

Fire safety will be enhanced by the following:

Air extraction systems: there are central to the No. 2 and No. 2 power line B to line A;
systems of air curtains and sprinkler systems in stand B;
air curtains in the new premises in the open arches at the quay;
new air curtains to the floor of the premises at the underpasses of shafts (both existing and new) that lead to B

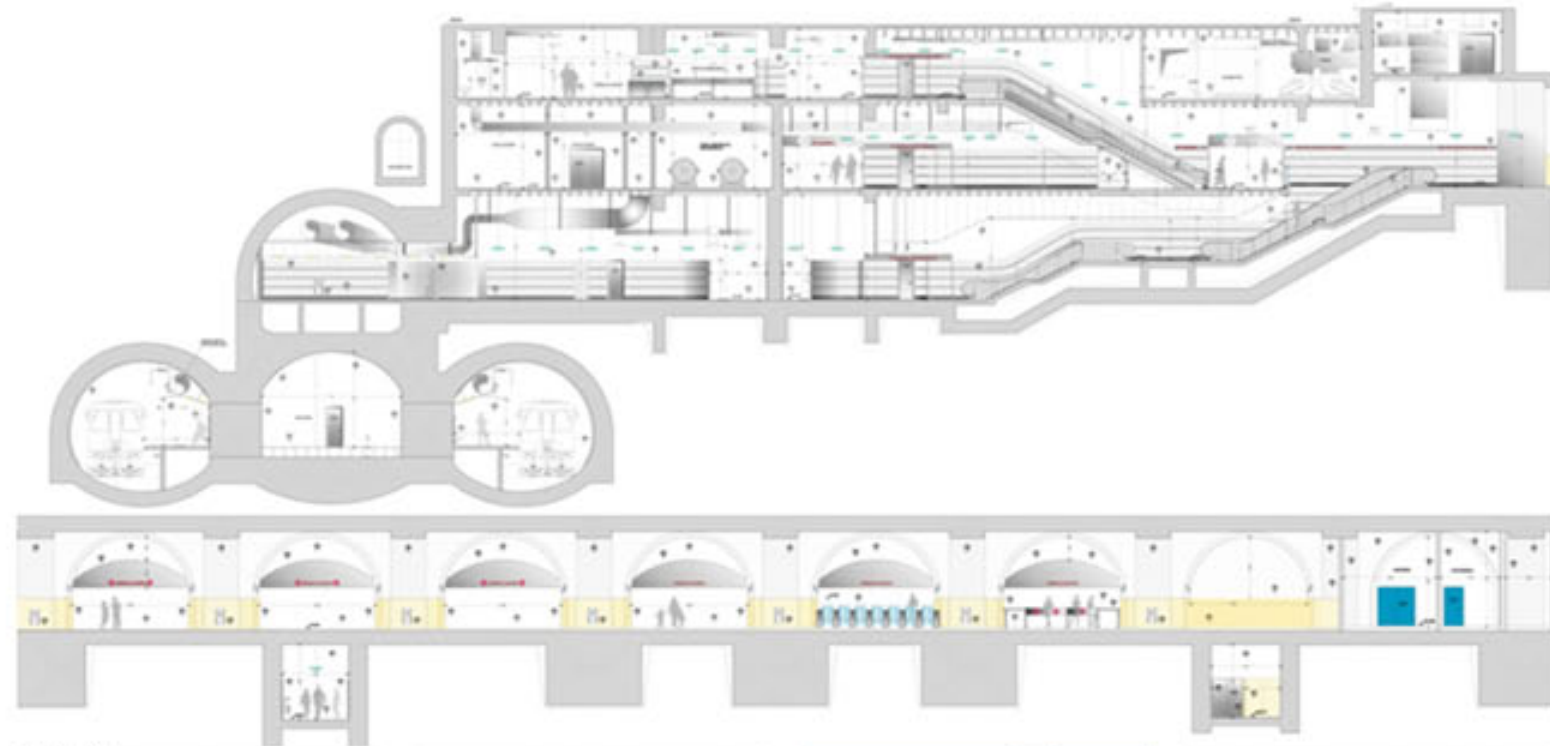
The renewal of the technological systems involve both electrical systems and the renewal of special gates.



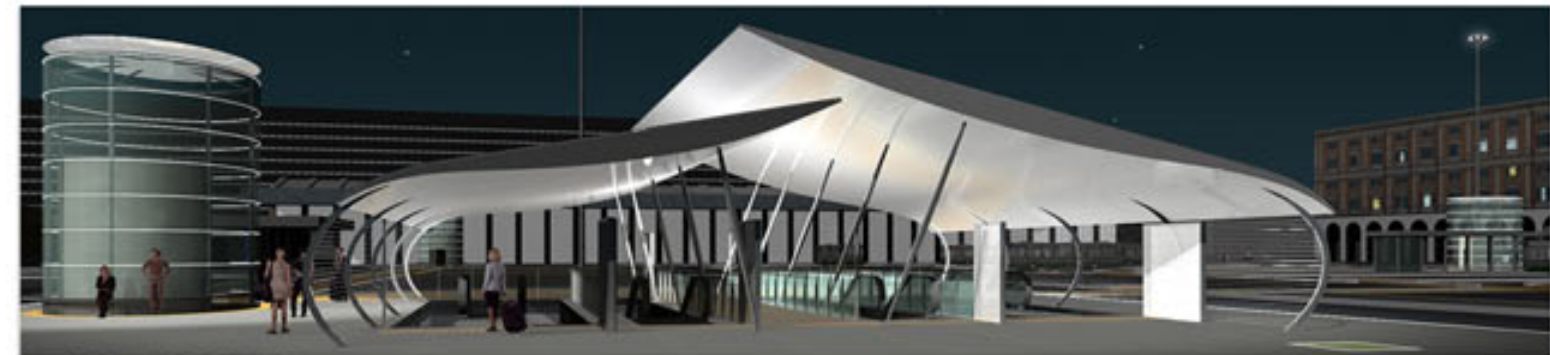
GENERAL LAYOUT AXONOMETRY



PIAZZA DEI CINQUECENTO VIEW



SECTION



METRO B LINE ENTRANCE

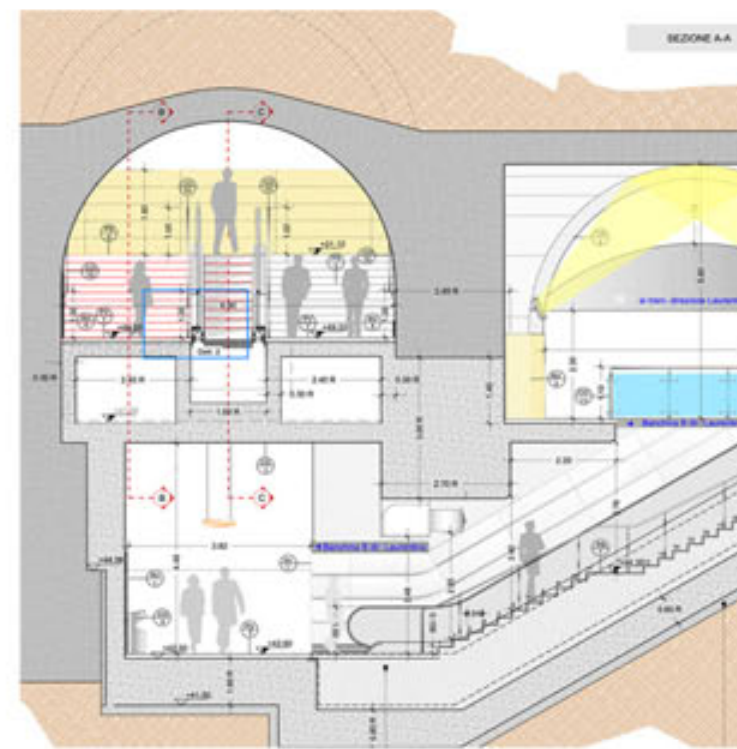


METRO A LINE ENTRANCE

METRO LINE A - LINE B INTERSECTION NODE ADJUSTMENT



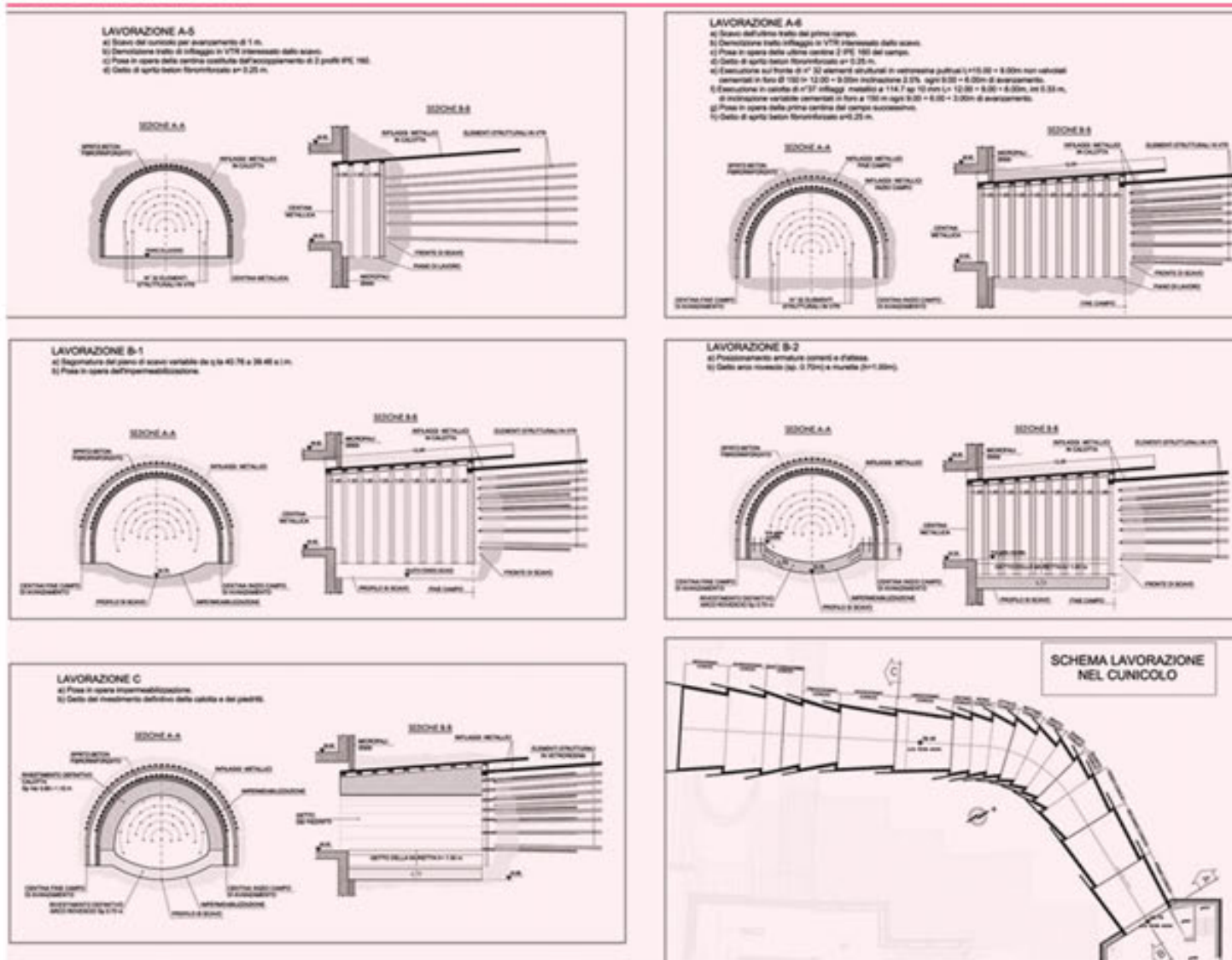
METRO LINE B PLATFORM



STAIRS SECTION



LINE A ENTRANCE



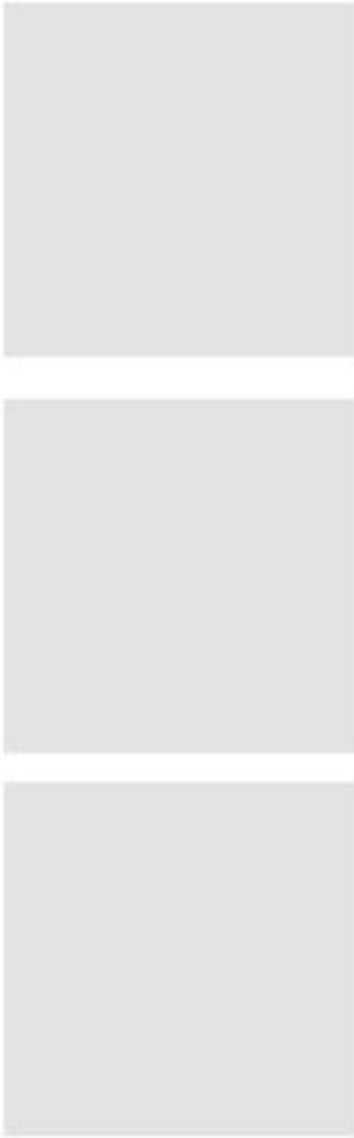
NEW PEDESTRIAN PASSAGE STRUCTURAL DESIGN



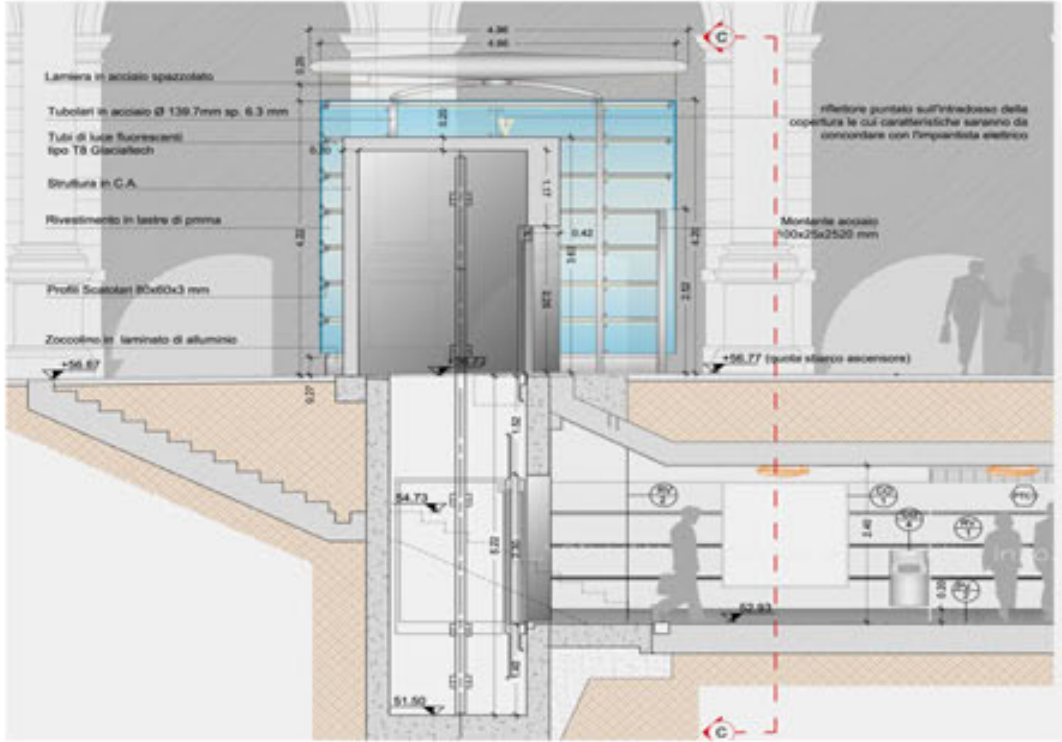
METRO LINE A PLATFORM



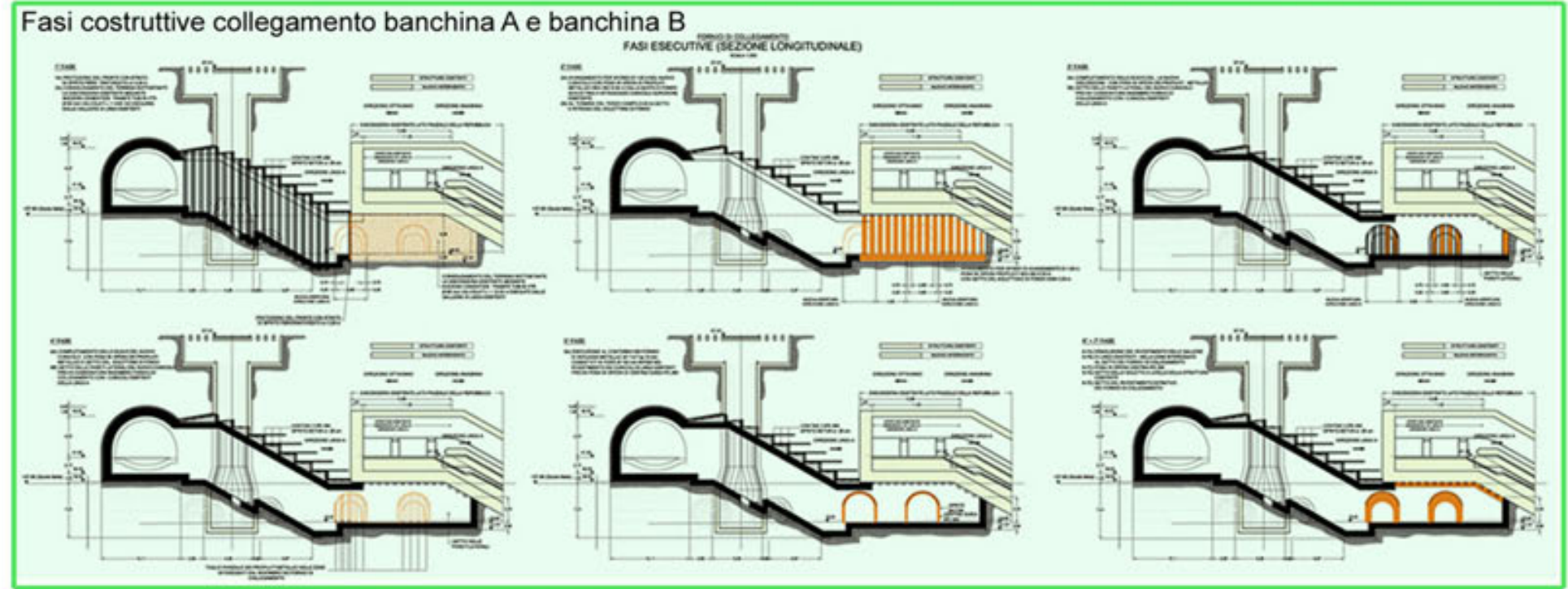
METRO LINE B ENTRANCE



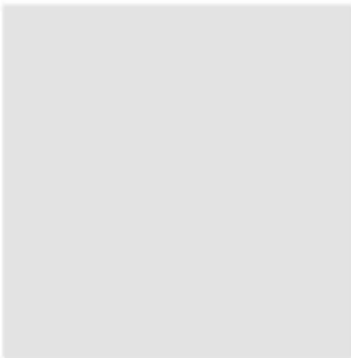
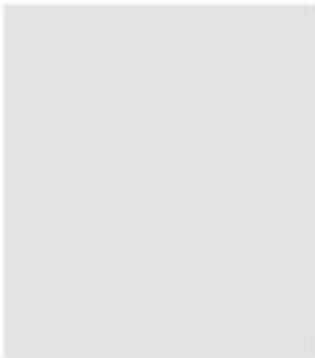
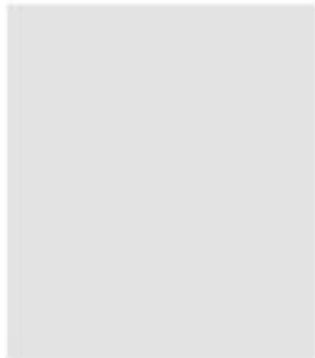
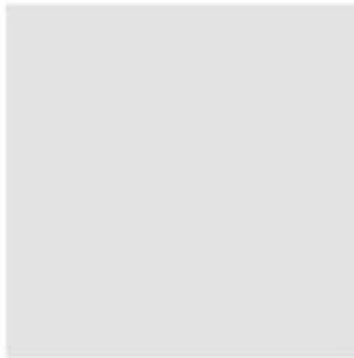
MAIN ENTRANCE



LIFT DETAIL



STRUCTURAL DETAILS







Princess Nora Bint Abdulrahman University – People Mover

PRINCESS NORA BINT ABDULRAHMAN UNIVERSITY - PEOPLE MOVER

Firm	ERREGI
Location	Riyadh, Saudi Arabia
Client	Freyssinet Saudi Arabia
Total amount of bid	213.663.101 \$
Year of start	2009/2011
Current status	Built
Role and professional involvement of bidder	Detailed design and Equipment

Erregi srl, in Rijad, Saudi Arabia, was responsible for the final design of the 11 km of tracks and track laying light rail within viaducts for the new metro service planned for women-only university. It was also designed armament design for the depot and workshop.

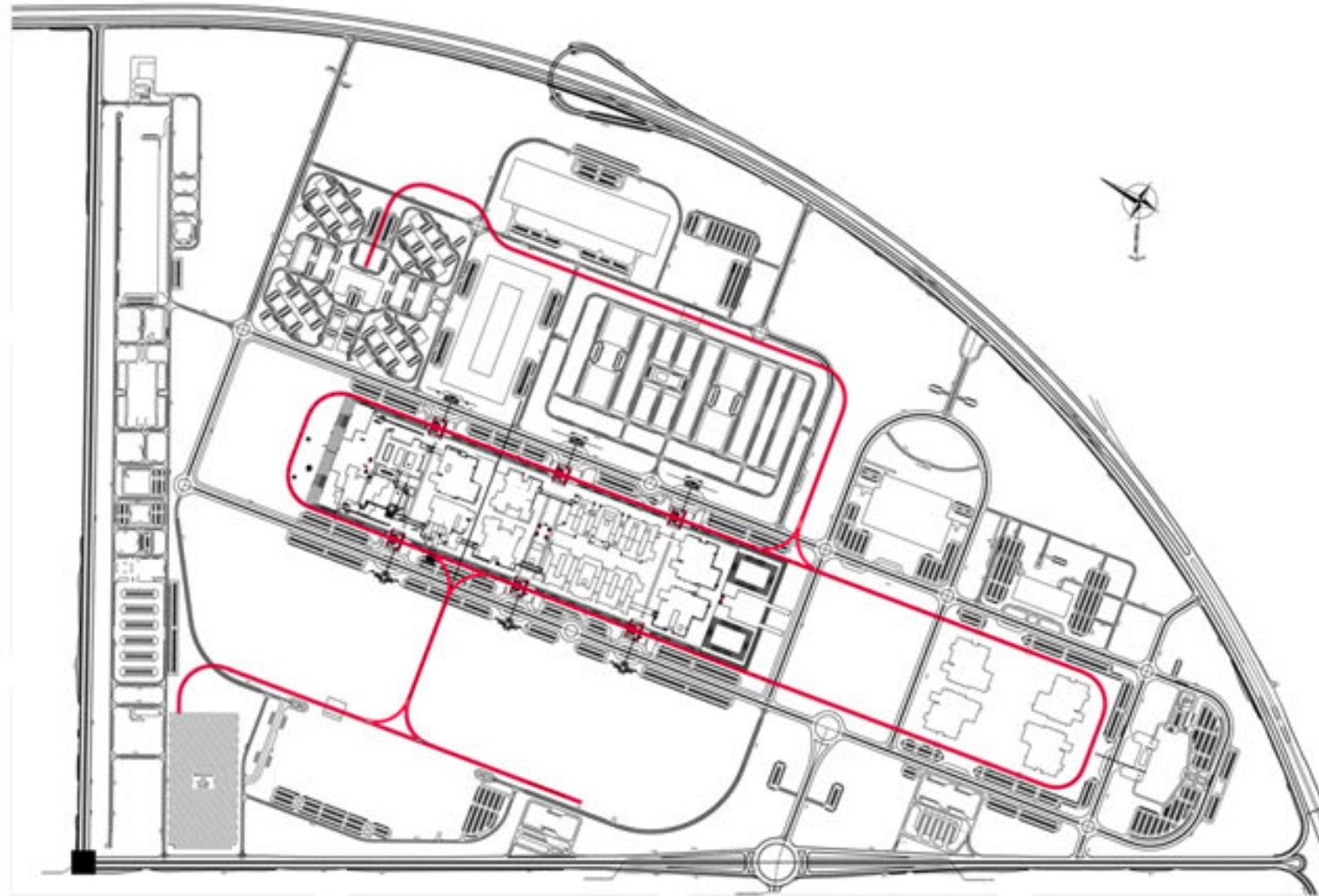
The armament is laid on the concrete blocks, dimensioned so as to allow the perfect entry of the vehicle within the structure of the viaduct already built.

It was finally designed the armament-systems interface in addition to the armament design in the presence of high temperature changes that affect the structures and especially on armaments.

The whole university area, occupying 8,000,000 square meters, with 13 university faculties and services, is served by light rail viaduct (APM) which is spread over about 11 km line that is developed within the university complex, and it provides, along the track, 14 stations on 3 levels.

The university complex in construction is an extension of about 8 million square feet and is located along the road to King Khalid International Airport north of Riyadh. The part covered by buildings occupies an area of approximately 3 million square feet. The capacity of the University is about 26,000 students.

Currently they are working to complete the complex university and tube about 30,000 people.



MASTER PLAN



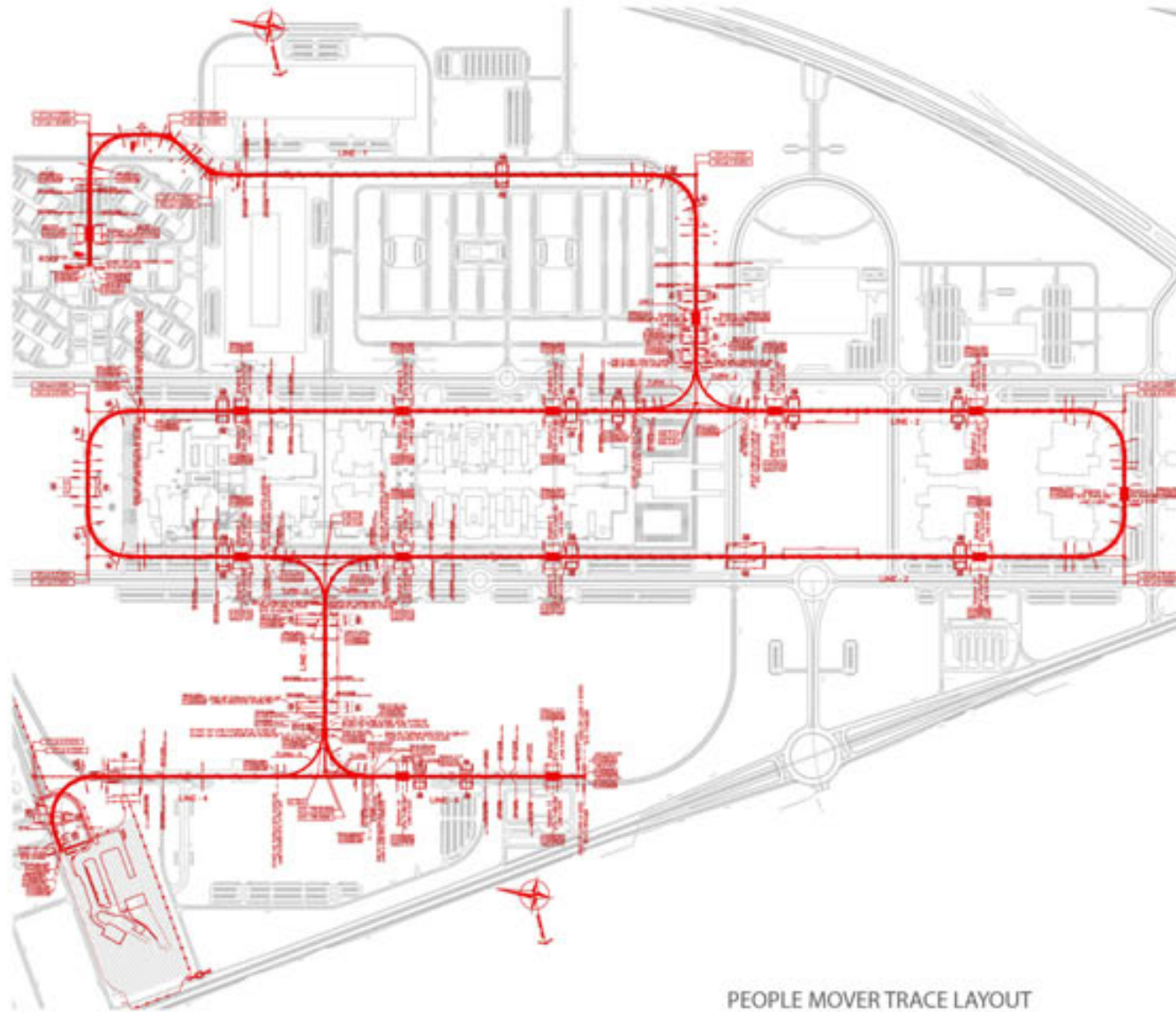
THE METRO PEOPLE MOVER LINE UNDER CONSTRUCTION



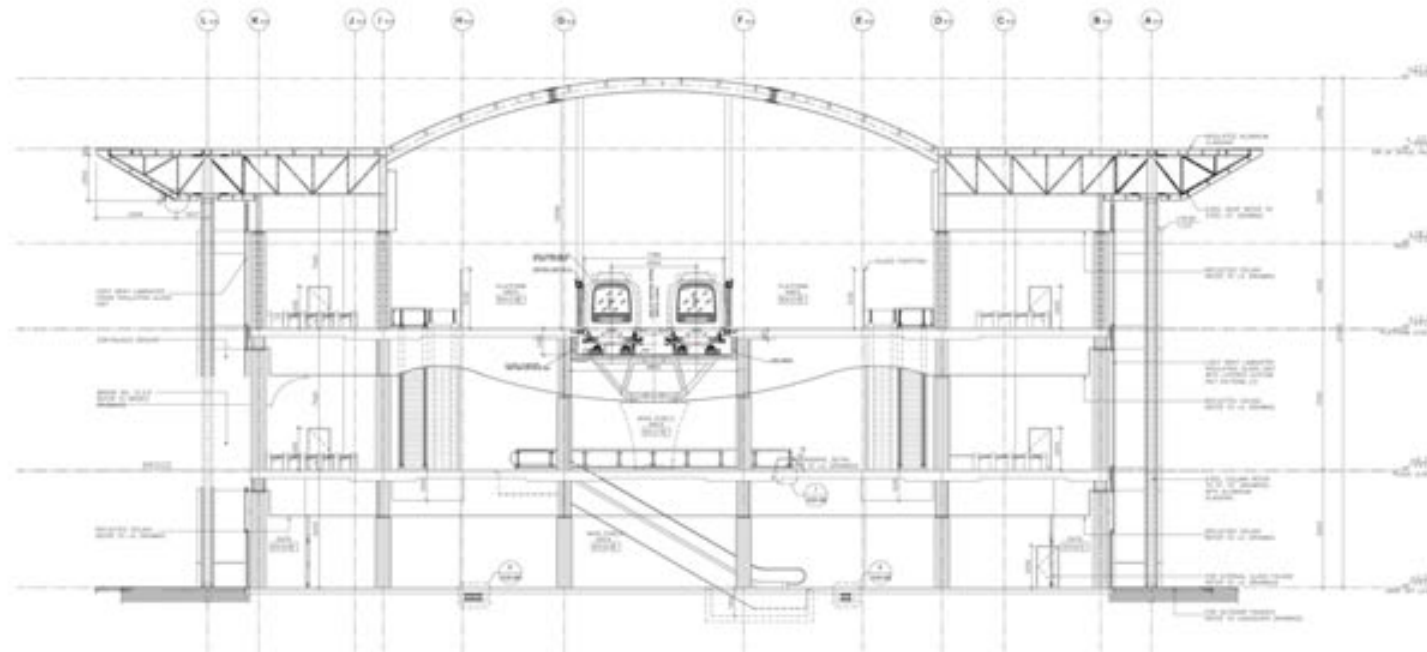
VIEW OF THE AREA UNDER CONSTRUCTION



THREEDIMENSIONAL MODEL



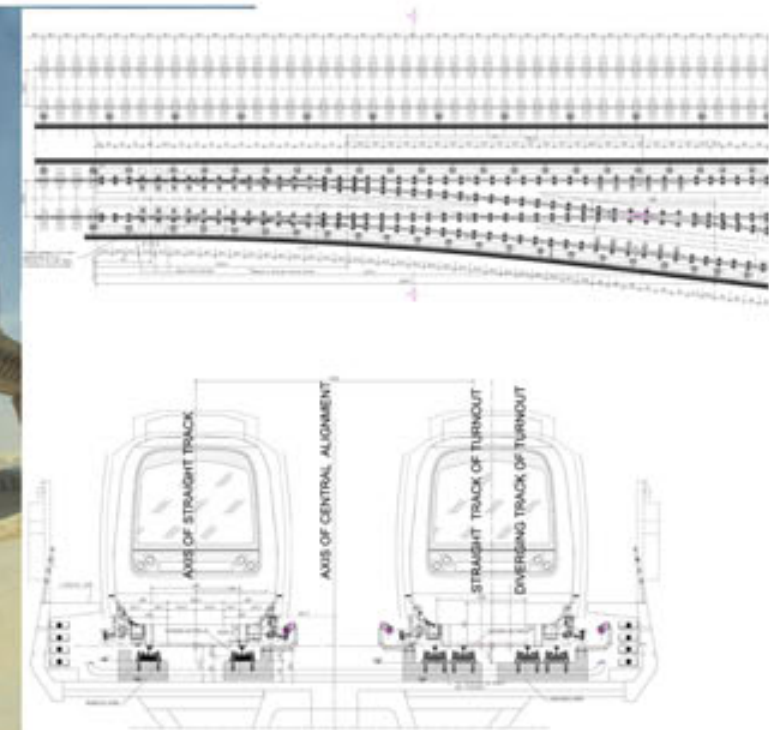
PEOPLE MOVER TRACE LAYOUT



TYPOLOGICAL STATION SECTION

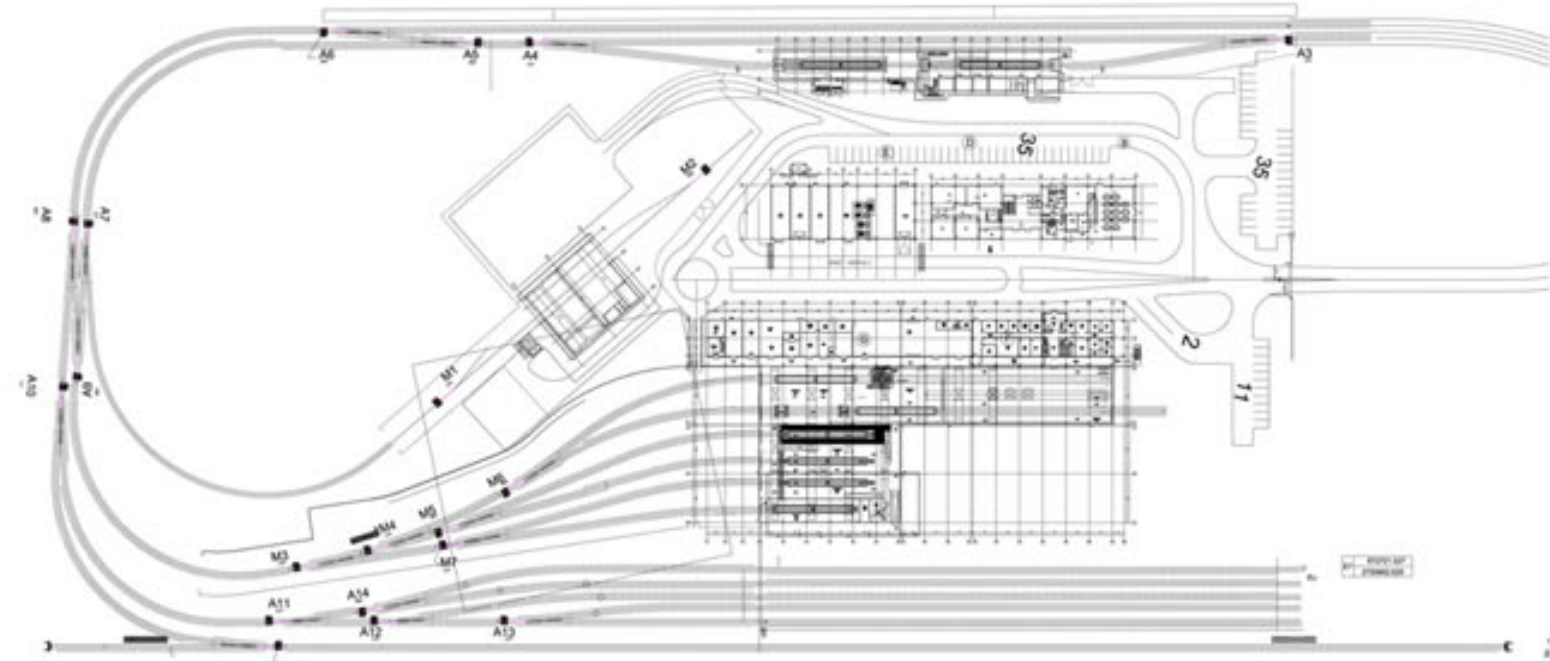


TRACE UNDER CONSTRUCTION



TURNOUT DETAIL





The schematic diagram illustrates a test rig configuration where four engines are arranged horizontally along a single shaft. The engines are labeled from left to right as 1, 2, 3, and 4. They are supported by a common base structure. Various dimensions are indicated with arrows and numbers, such as 1000, 800, 700, 600, 500, 400, 300, 200, 100, 50, 25, 12.5, 6.25, 3.125, 1.56, 0.78, 0.39, 0.19, 0.09, 0.04, 0.02, 0.01, 0.005, 0.002, 0.001, 0.0005, 0.0002, 0.0001, 0.00005, 0.00002, 0.00001, 0.000005, 0.000002, 0.000001, 0.0000005, 0.0000002, 0.0000001, 0.00000005, 0.00000002, 0.00000001, 0.000000005, 0.000000002, 0.000000001, 0.0000000005, 0.0000000002, 0.0000000001, 0.00000000005, 0.00000000002, 0.00000000001, 0.000000000005, 0.000000000002, 0.000000000001, 0.0000000000005, 0.0000000000002, 0.0000000000001, 0.00000000000005, 0.00000000000002, 0.00000000000001, 0.000000000000005, 0.000000000000002, 0.000000000000001, 0.0000000000000005, 0.0000000000000002, 0.0000000000000001, 0.00000000000000005, 0.00000000000000002, 0.00000000000000001, 0.000000000000000005, 0.000000000000000002, 0.000000000000000001, 0.0000000000000000005, 0.0000000000000000002, 0.0000000000000000001, 0.00000000000000000005, 0.00000000000000000002, 0.00000000000000000001, 0.000000000000000000005, 0.000000000000000000002, 0.000000000000000000001, 0.0000000000000000000005, 0.0000000000000000000002, 0.0000000000000000000001, 0.00000000000000000000005, 0.00000000000000000000002, 0.00000000000000000000001, 0.000000000000000000000005, 0.000000000000000000000002, 0.000000000000000000000001, 0.0000000000000000000000005, 0.0000000000000000000000002, 0.0000000000000000000000001, 0.00000000000000000000000005, 0.00000000000000000000000002, 0.00000000000000000000000001, 0.000000000000000000000000005, 0.000000000000000000000000002, 0.000000000000000000000000001, 0.0000000000000000000000000005, 0.0000000000000000000000000002, 0.0000000000000000000000000001, 0.00000000000000000000000000005, 0.00000000000000000000000000002, 0.00000000000000000000000000001, 0.000000000000000000000000000005, 0.000000000000000000000000000002, 0.000000000000000000000000000001, 0.0000000000000000000000000000005, 0.0000000000000000000000000000002, 0.0000000000000000000000000000001, 0.00000000000000000000000000000005, 0.00000000000000000000000000000002, 0.00000000000000000000000000000001, 0.000000000000000000000000000000005, 0.000000000000000000000000000000002, 0.000000000000000000000000000000001, 0.0000000000000000000000000000000005, 0.0000000000000000000000000000000002, 0.0000000000000000000000000000000001, 0.00000000000000000000000000000000005, 0.00000000000000000000000000000000002, 0.00000000000000000000000000000000001, 0.000000000000000000000000000000000005, 0.000000000000000000000000000000000002, 0.000000000000000000000000000000000001, 0.0000000000000000000000000000000000005, 0.0000000000000000000000000000000000002, 0.0000000000000000000000000000000000001, 0.00000000000000000000000000000000000005, 0.00000000000000000000000000000000000002, 0.00000000000000000000000000000000000001, 0.000000000000000000000000000000000000005, 0.000000000000000000000000000000000000002, 0.000000000000000000000000000000000000001, 0.0000000000000000000000000000000000000005, 0.0000000000000000000000000000000000000002, 0.0000000000000000000000000000000000000001, 0.005, 0.002, 0.001, 0.0005, 0.0002, 0.0001, 0.005, 0.002, 0.001, 0.0005, 0.0002, 0.0001, 0.005, 0.002, 0.001, 0.0005, 0.0002, 0.0001, 0.005, 0.002, 0.000000

This technical drawing shows a detailed cross-section of the hull of the ship 'KORVETTA'. The hull has a complex shape with multiple internal compartments and structural reinforcements. Key features include a large central compartment labeled 'MOTOR' and several smaller compartments labeled 'BATERIA' and 'EQUIPAMENTO'. The drawing includes numerous dimension lines indicating lengths and widths, as well as labels for various parts and components.



A photograph showing two high-speed trains, numbered 5033 and 5035, traveling on an elevated track in Dubai. The trains are blue and silver, with a sleek, aerodynamic design. They are moving along a concrete viaduct with metal railings. In the background, there are buildings, a red crane, and some greenery under a clear sky.

The background is a grayscale architectural rendering of a dense urban environment. Overlaid on this is a thick, blue line that traces a path through the city, representing the proposed Underground Line 'C'. The line starts in the lower left, moves right, then turns in various directions, including a large loop in the center, before heading towards the upper right. The buildings are depicted in a simplified, geometric style.

Design of civil works of the new Rome Underground Line “C”

Firm	ERREGI
Location	Rome, Italy
Client	METRO C S.p.A.
Total amount of bid	105.039.223 \$
Year of start	2005
Current status	Built
Role and professional involvement of bidder	Scheme, detailed, construction design

The new underground line has been presented with a modern and seducing look in order to be able to attract new customers with a particular attention to impaired people. This image aims to communicate that all citizens, no matter where they live in Rome, have been considered at the same level and they will be offered an efficient service and a nice environment from the San Giovanni station to the last one on the line. On this regard, with the standardization of the finishes, although giving some original characters to each station, the city centre expands following the new line up to the suburbs. When the typical characters of the town centre start fading they reappear, first in the bright shape of elevators and transparent roofs of intermediate shafts, than in the stations, whose masses, appearing either partly or totally, provide a core for the propagation of the urban environment renovation. The new stations have been thought as a safe and comfortable environment where the possibility of criminal offences and vandalising acts have been made almost non-existent by mean of a careful and strict control. Shopping premises have been located in interchange and common areas as well as corridors in order to keep the station lively at any time when opened, in order to enhance the safety conditions. The choice of technical solutions and materials have been done in accordance with the principles of the tradition of Roman architecture. The concept of "system" has been kept in mind in the development of the design, privileging the accessibility of stations and interchange with Line A and other public transport systems.



ROME TERRITORIAL LAYOUT

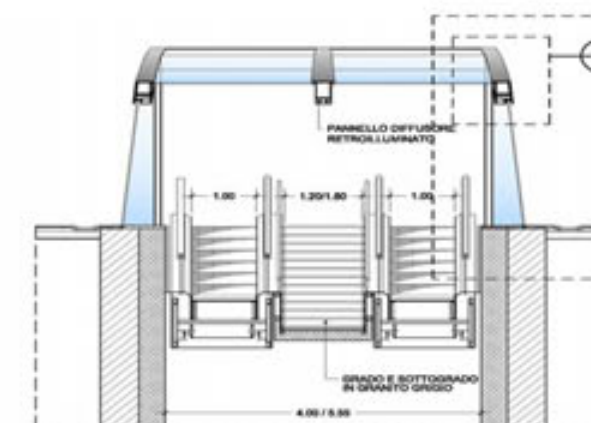
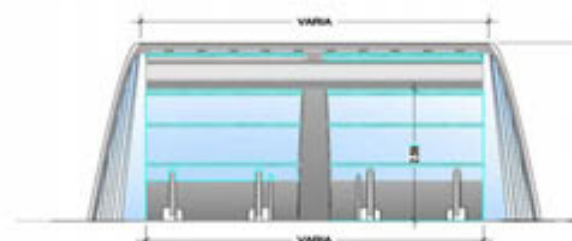


T4 TRACK WITH INTERESTED STATIONS



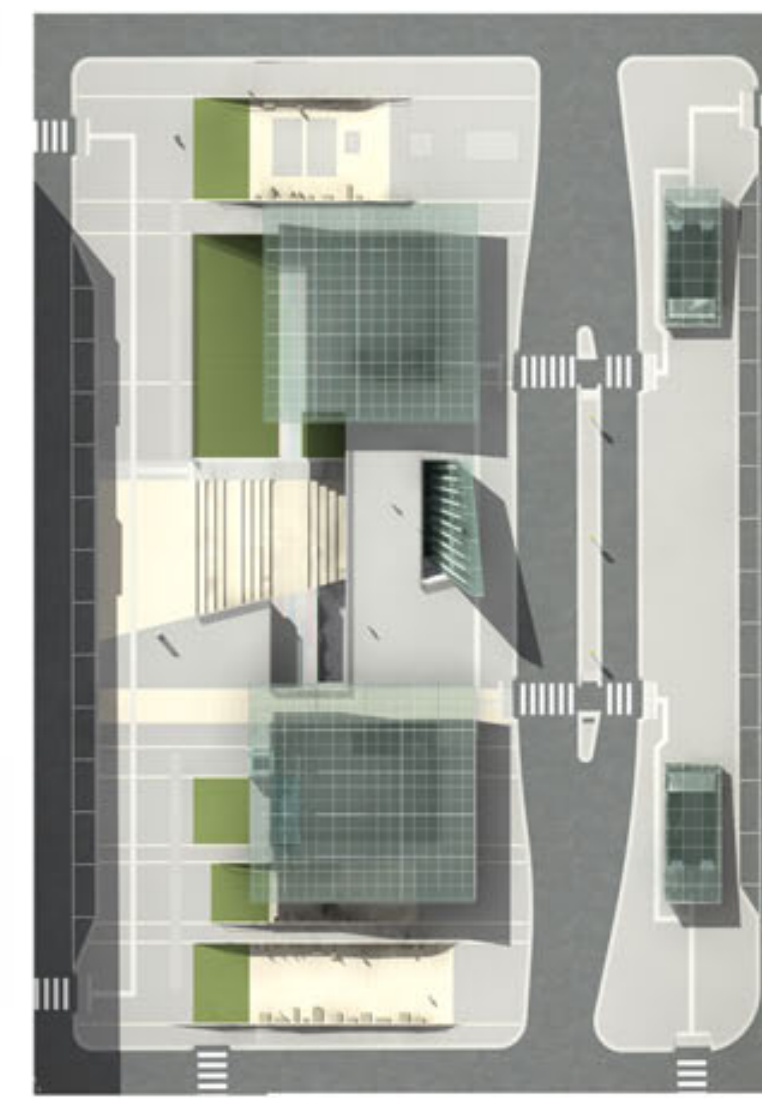
S. GIOVANNI STATION

PROSPETTO FRONTALE
SCALA 1: 50

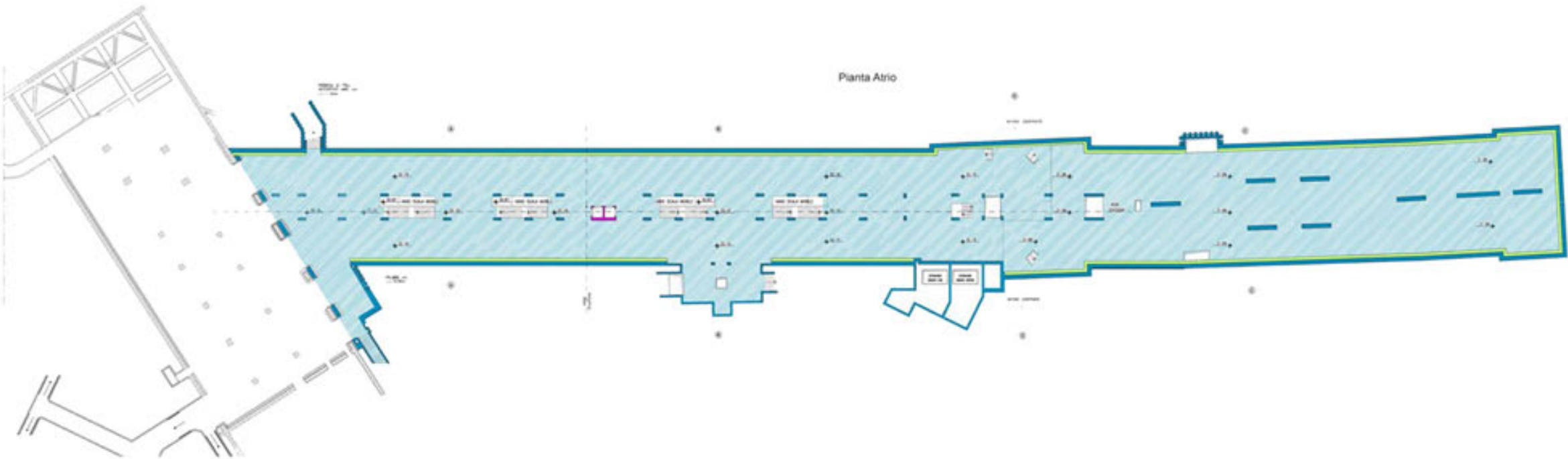


SEZIONE A - A
SCALA 1: 50

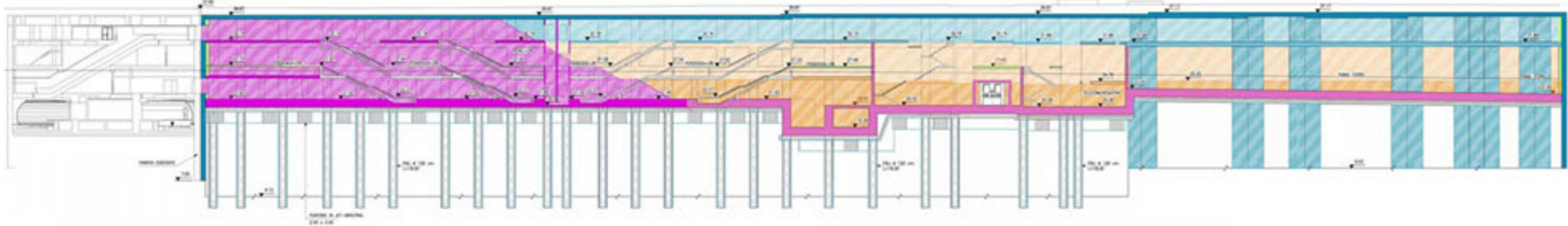
TYPOLOGICAL EXIT



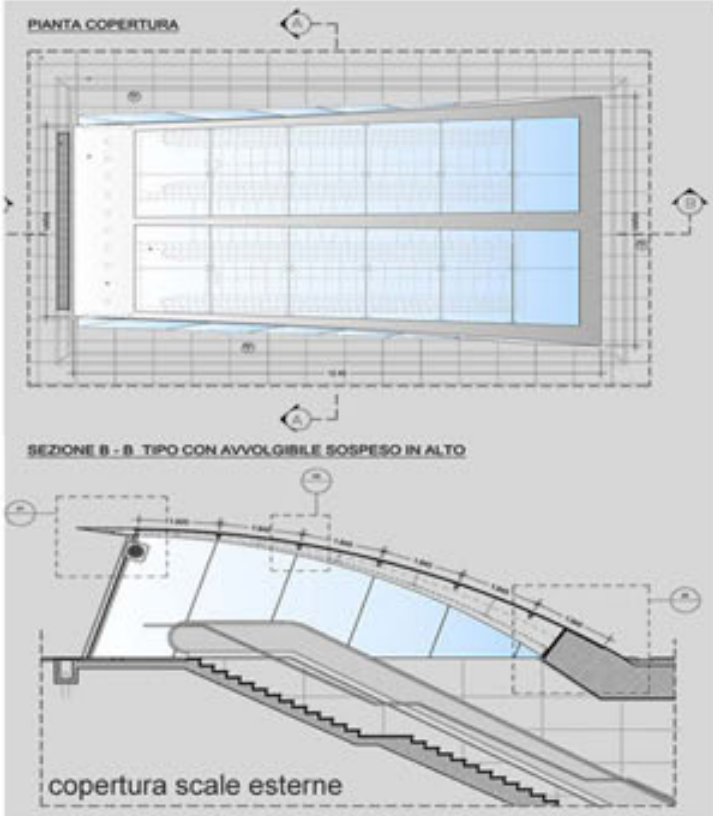
MALATESTA STATION



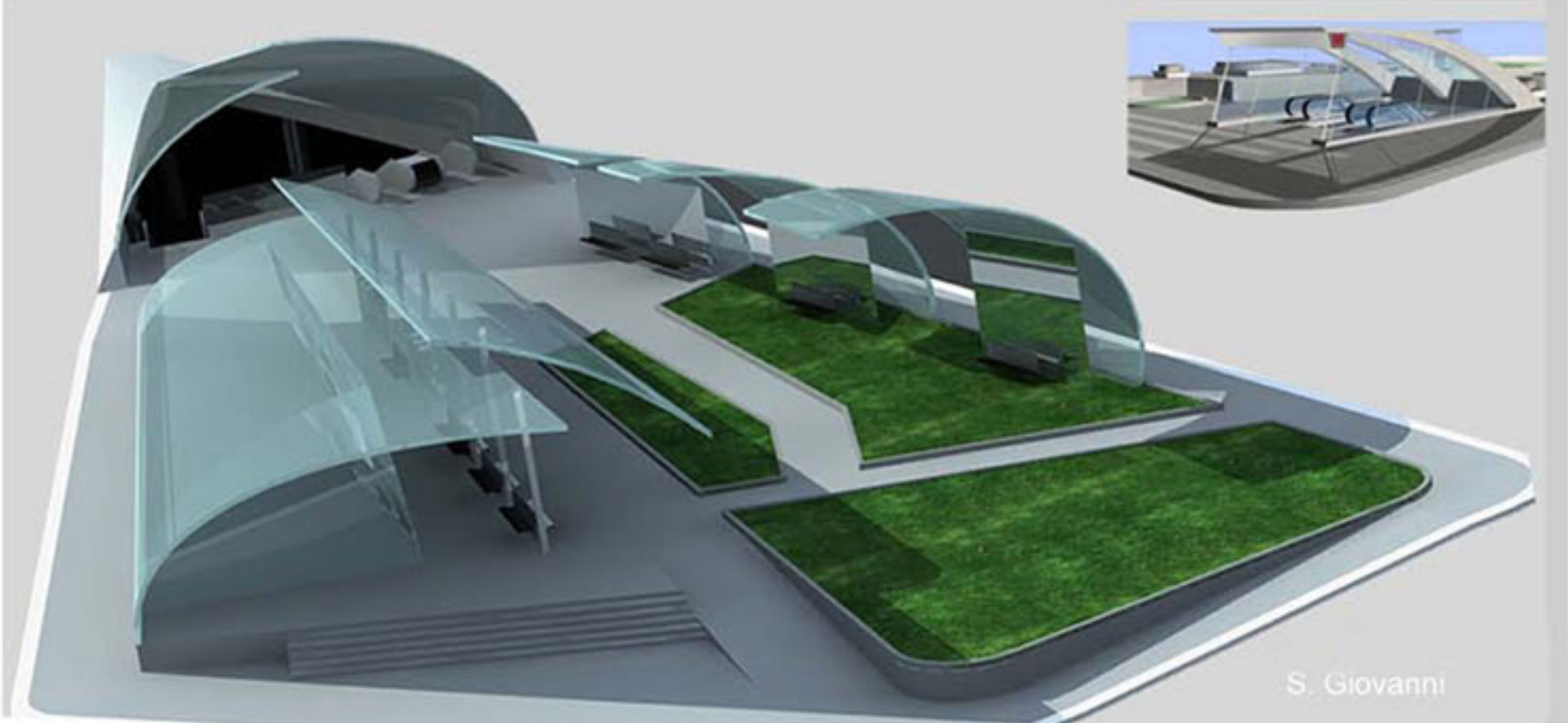
SINTESI DELLE FASI - Sezione longitudinale

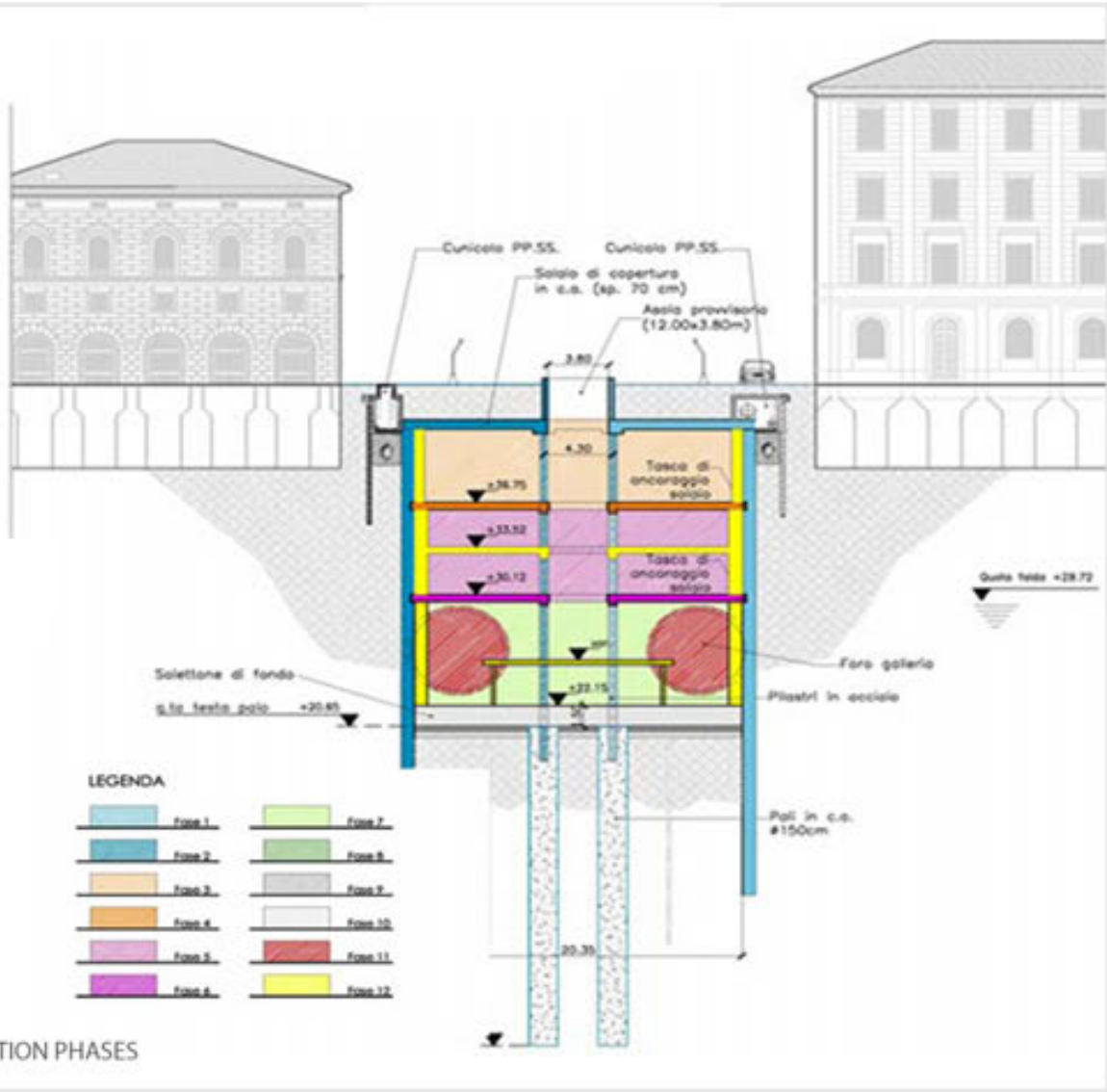
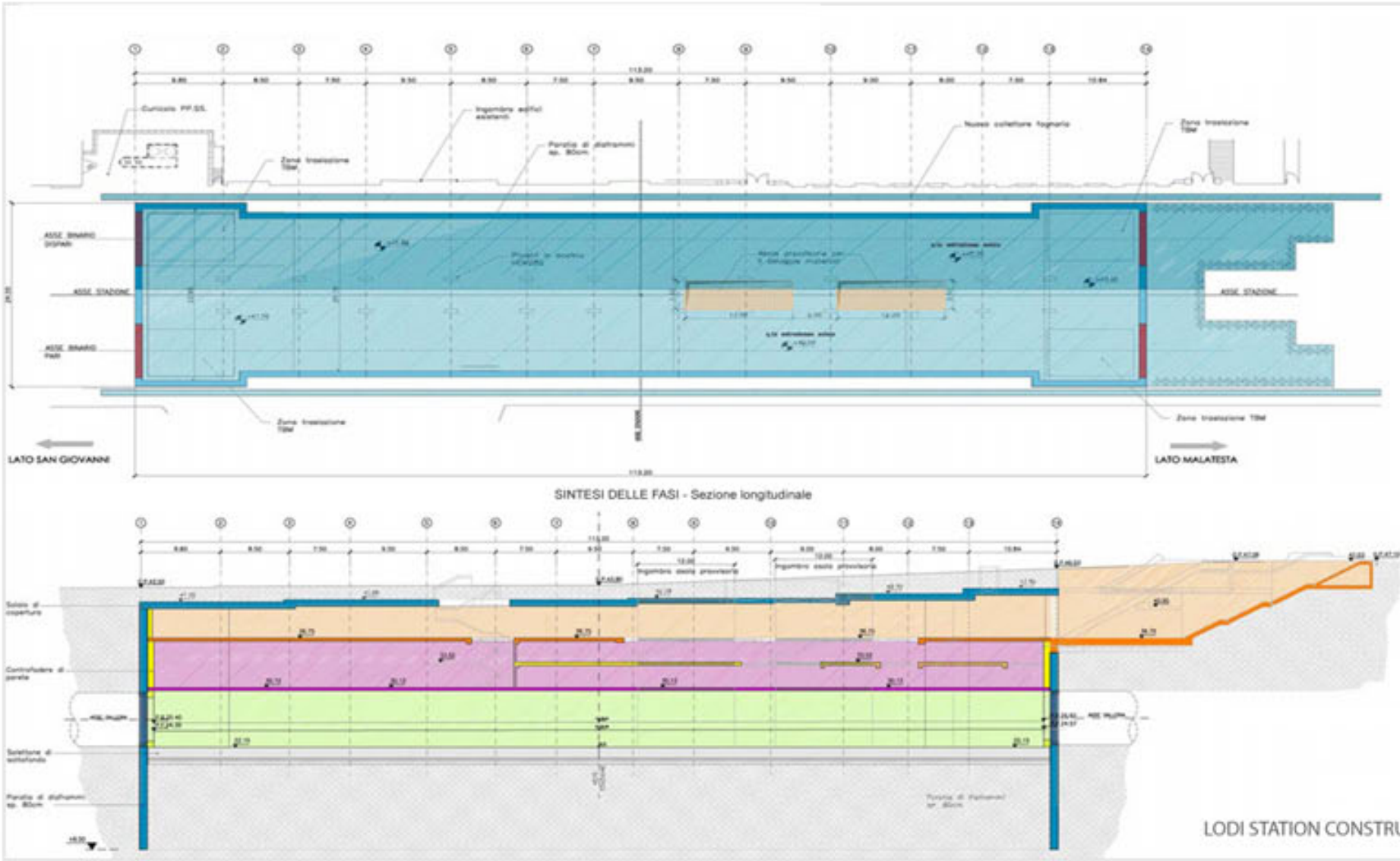


PROSPETTO FRONTALE
SCALA 1:50



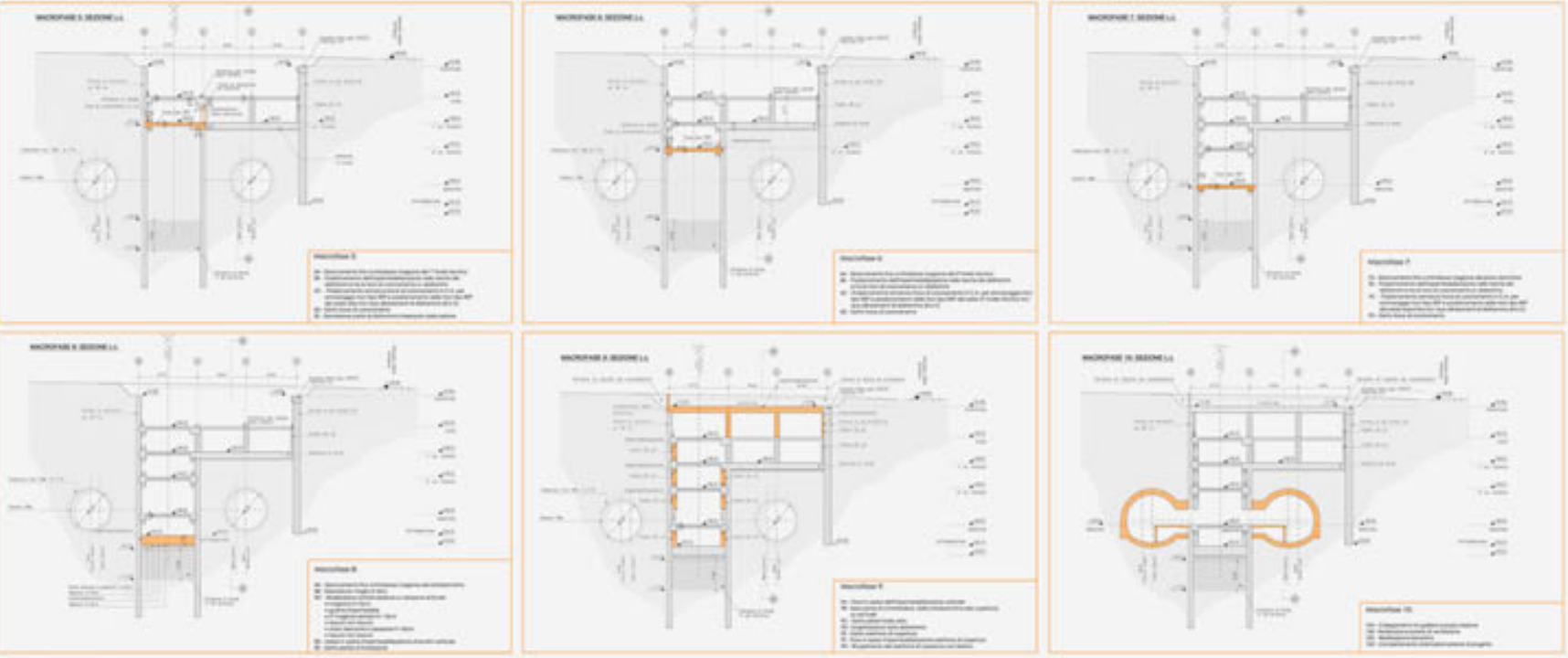
TYPOLICAL EXIT DETAIL

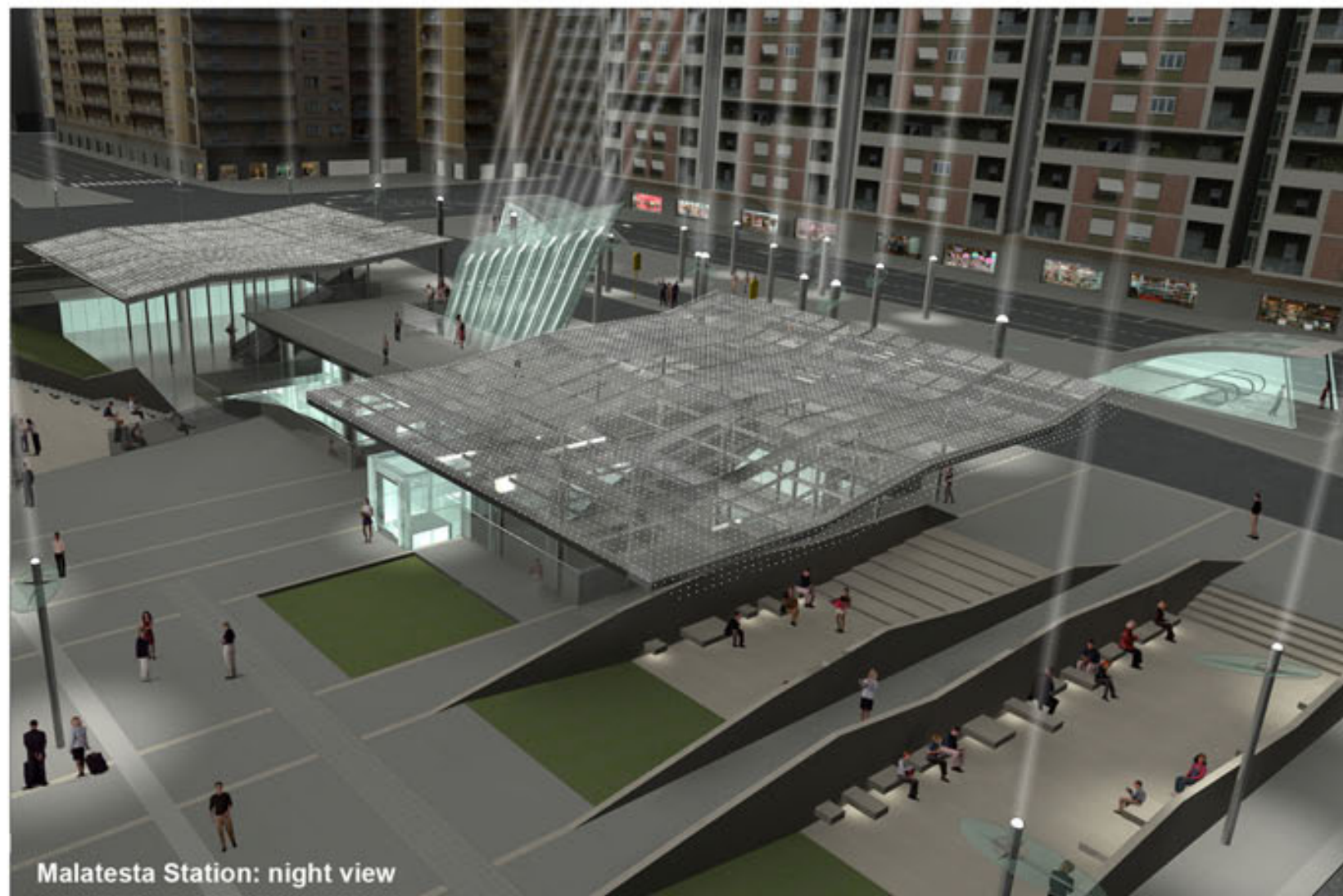




LODI STATION CONSTRUCTION PHASES

Stazione Torre Spaccata: Studio delle fasi costruttive





Malatesta Station: night view



Particolare accesso esterno



Light prism

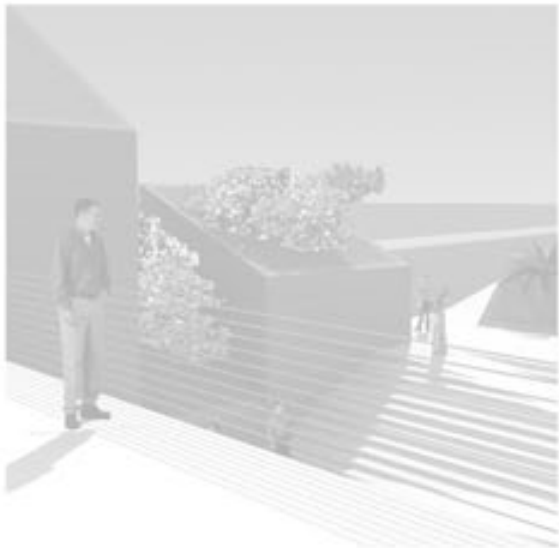


malatesta Station: platform



Piazza R. Malatesta







Metro Line D - Rome

METRO LINE D - ROME ITALY



Firm	ERREGI
Location	Rome, Italy
Client	Roma Metropolitana
Total amount of bid	3.609.625.668 \$
Year of start	2008
Current status	Definitive design
Role and professional involvement of bidder	Preliminary Architectural Structural design and Equipment

The design concerns the adaptation of the interchange between the A and B metro lines and more generally the revamping and modernization of its functional characteristics, the interior spaces and the upper square, comprehensive of the bus stop terminal.

The main objectives pursued by the project are: safety, comfort and functionality.

The main innovation in the project concerns the construction of a new underground pedestrian passage linking the banks of the Line A and line B metro lines, practically doubling the current power output from the line and redistributing the verses of the flows of passengers in order to make fluid circulation.

This project also includes the reorganization of internal routes by improving accessibility for all users, will therefore be all the mechanized vertical connections between floors, are envisaged new escalators, elevators and treadmills.

Fire safety will be enhanced by the following:

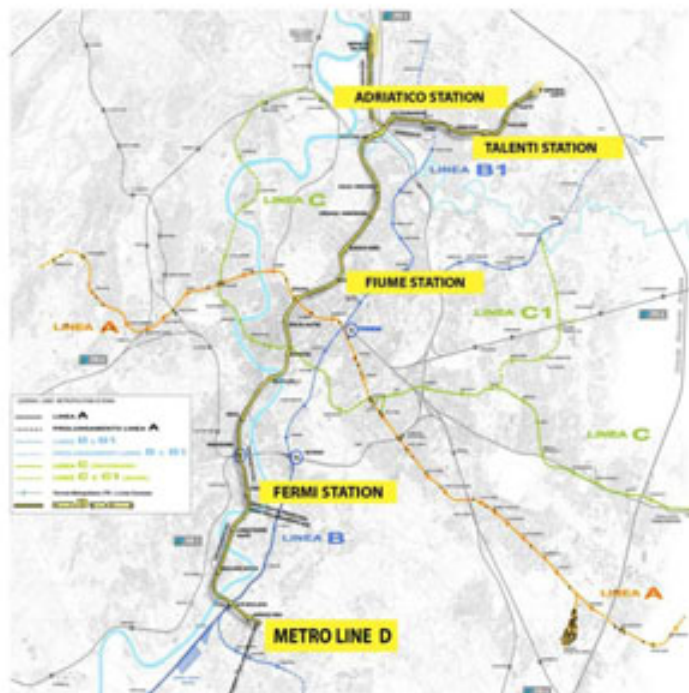
Air extraction systems: there are central to the No. 2 and No. 2 power line B to line A;

systems of air curtains and sprinkler systems in stand B;

air curtains in the new premises in the open arches at the quay;

new air curtains to the floor of the premises at the underpasses of shafts (both existing and new) that lead to B

The renewal of the technological systems involve both electrical systems and the renewal of special gates.



LINE D GENERAL LAYOUT



FIUME STATION



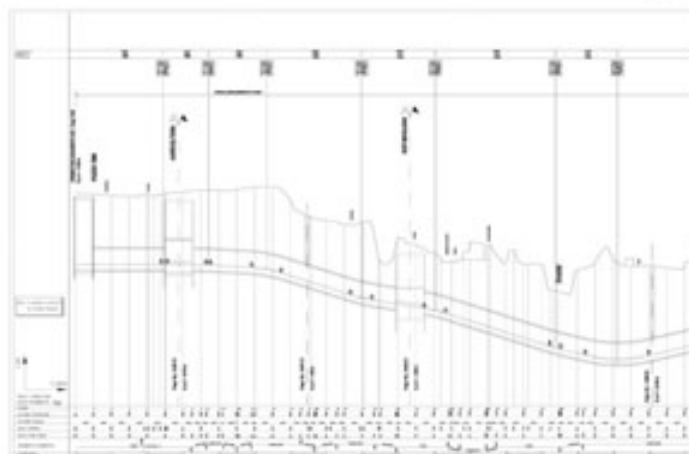
FIUME STATION



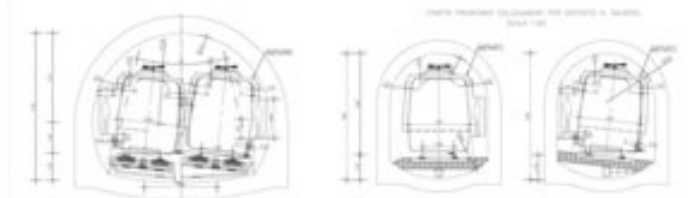
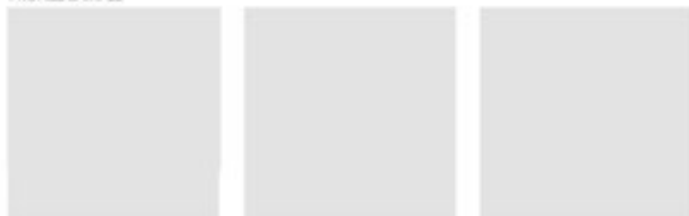
ADRIATICO STATION



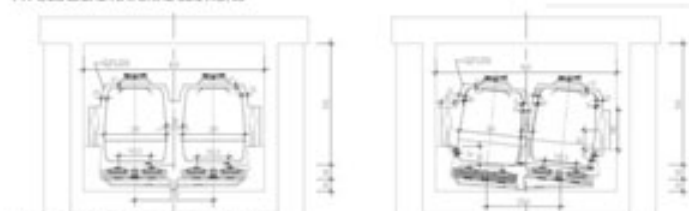
TALENTI STATION



PROFILE SAMPLE



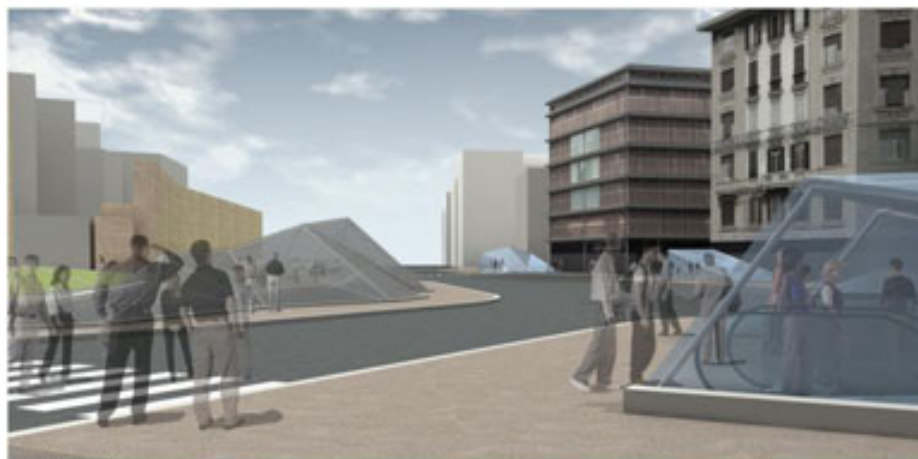
TYPOLGICAL NATURAL SECTIONS



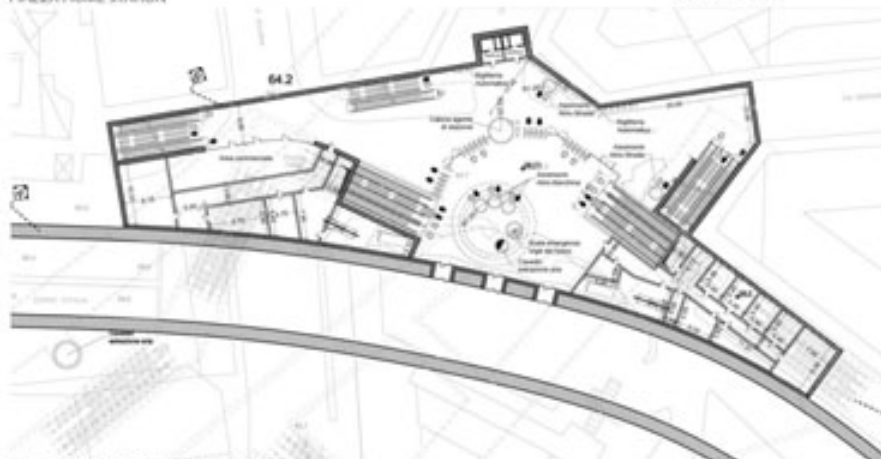
TYPOLGICAL ARTIFICIAL SECTIONS



PIAZZA FIUME STATION



EXTERNAL VIEW



FIUME STATION ATRIUM LEVEL PLAN



EXTERNAL VIEW



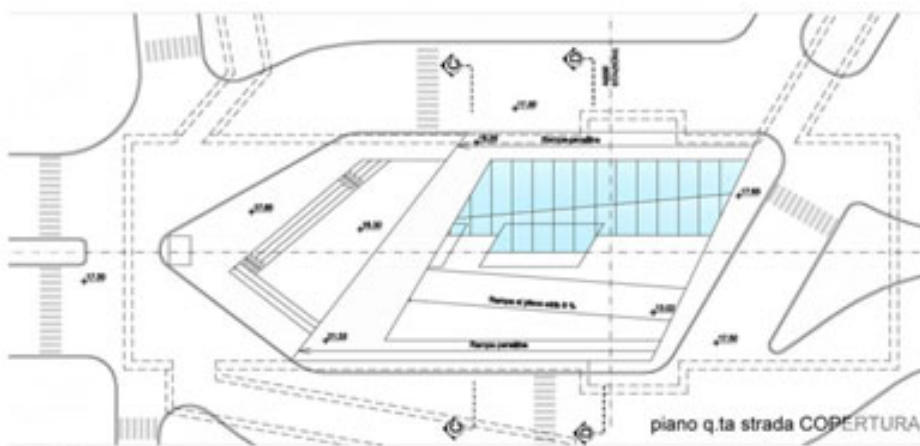
LONGITUDINAL SECTION



EXTERNAL VIEW



PIAZZA FERMI STATION



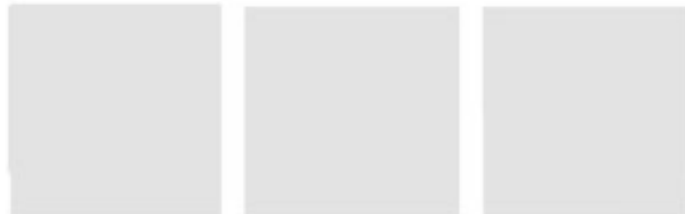
THE SQUARE LEVEL PLAN



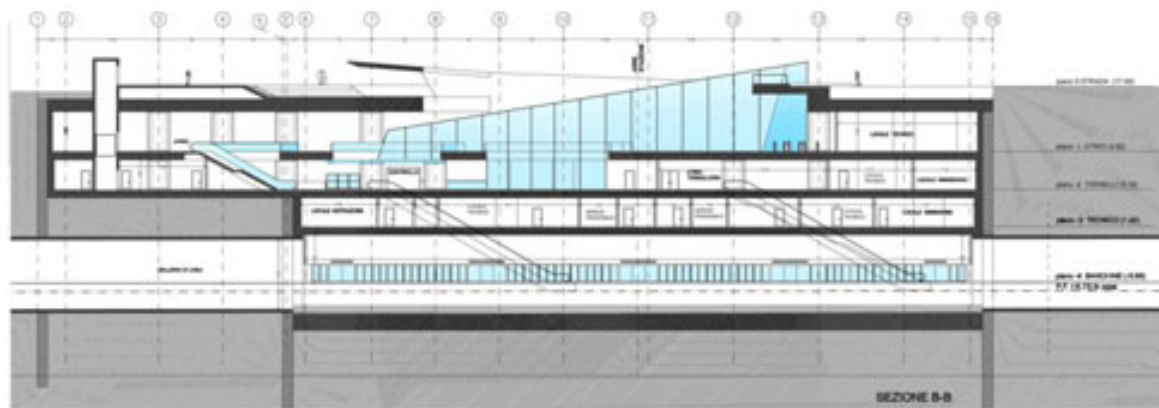
EXTERNAL VIEW



EXTERNAL VIEW



INTERNAL VIEW



LONGITUDINAL SECTION

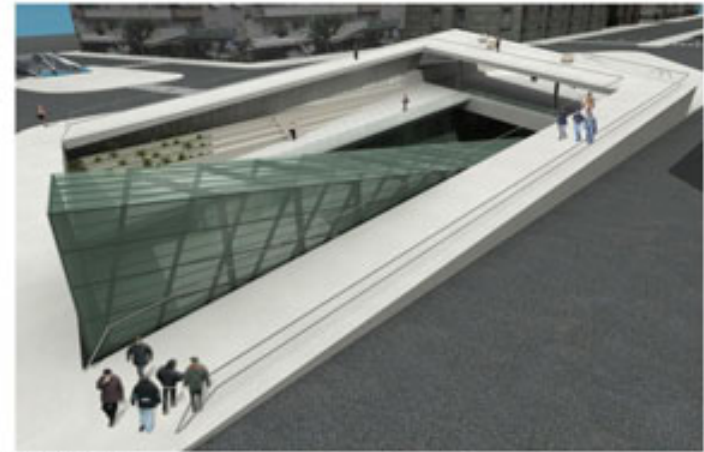
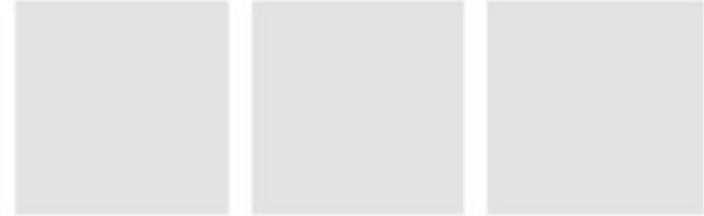
METRO LINE D - ROME ITALY



THE FERMÍ PLAZA



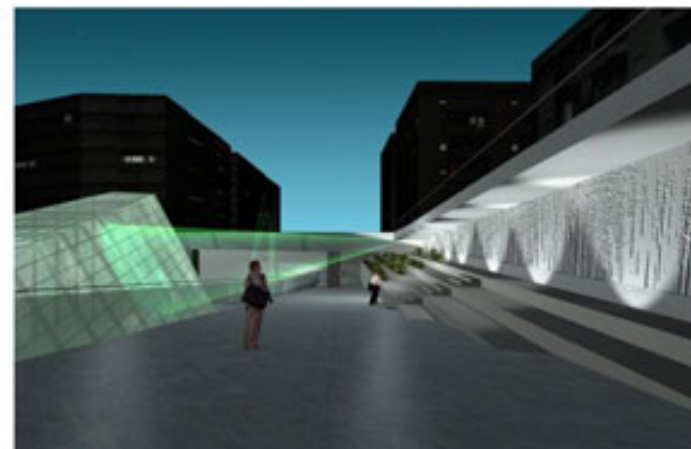
FERMÍ STATION ATRIUM LEVEL PLAN



EXTERNAL VIEW



EXTERNAL VIEW



NIGHT VIEW



TRASVERSAL SECTION

The background is a grayscale architectural rendering of a dense urban environment. Overlaid on this is a thick, blue line representing the proposed subway route. The line starts in the lower right, moves left, then turns upwards and leftwards, following a path through the city blocks. The text is centered over this blue line.

Rome Underground Line B1 Piazza Bologna – Conca D' Oro Branch.

ROME UNDERGROUND LINE B1

Firm	ERREGI
Location	Rome, Italy
Client	RockSoil
Total amount of bid	38.399.142 \$
Year of start	1998
Current status	Project

Role and professional involvement of bidder

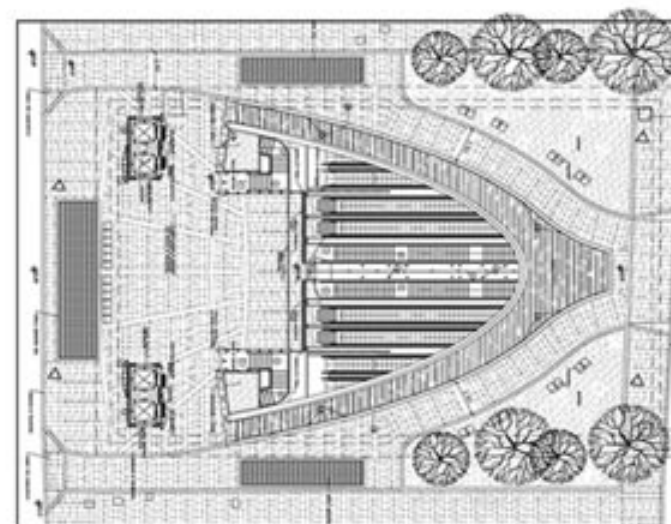
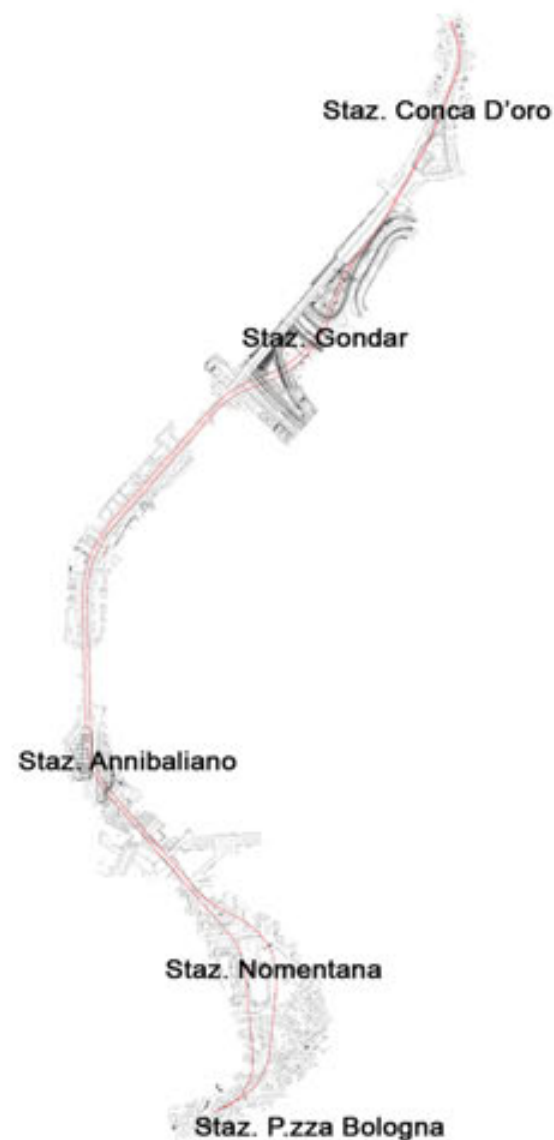
Architectural, definitive and executive project of external areas and street furniture.

Preliminary design, executive design and Tender design of Rome underground Line B1, developed by Erregi, consists in the design of a branch of Rome Underground Line B1 starting from the existing Bologna metro Station.

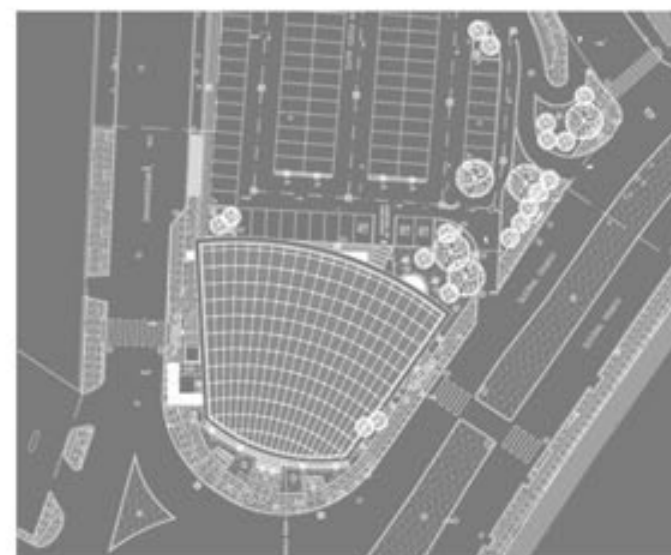
The new line runs underground for 4.5 Km along Viale Eritrea, Viale Libia, underpassing the river Aniene and ending in Piazza Conca d'Oro.

The task was to carry out the functional and architectural study of four underground stations: Nomentana, Annibaliano, Gondar and Conca d'Oro, including all related services, shafts, accesses, external arrangements using innovative solutions under both esthetical and functional point of view. In particular the appearance distinctive were the access covers and the innovative types of underground stations.

The work involved also a study to solve problems related to interference with public utilities, which were particularly complex.



Gondar



Annibaliano



Nomentana

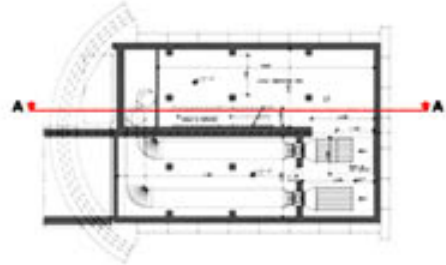




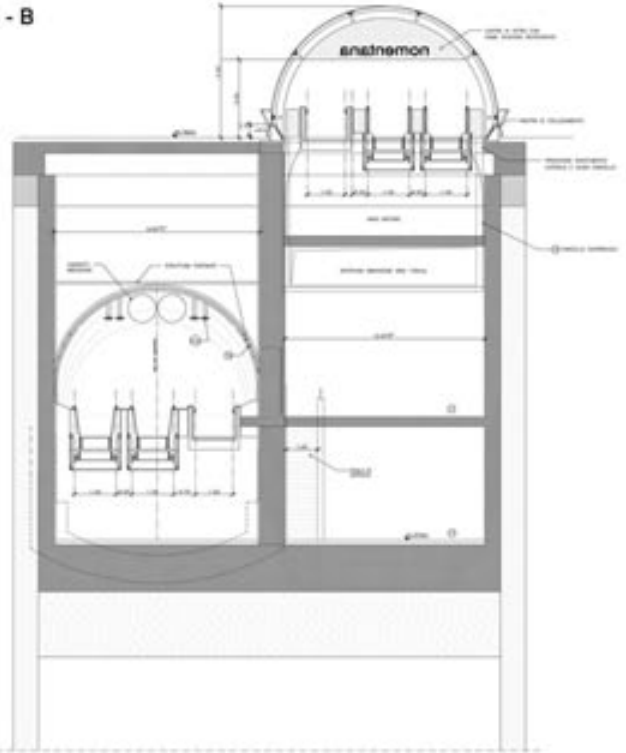
NONENTANA



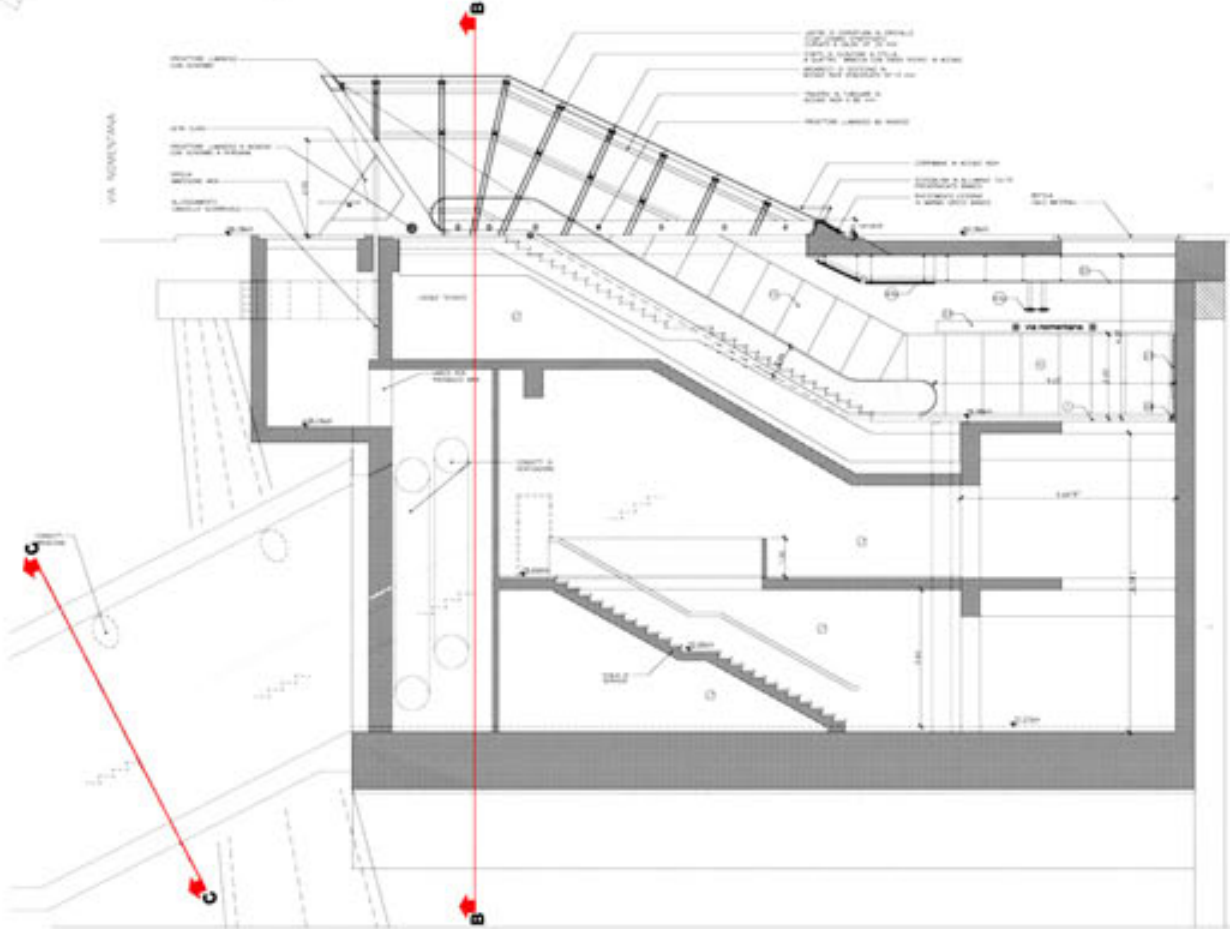
Planimetria Stazione Nomentana



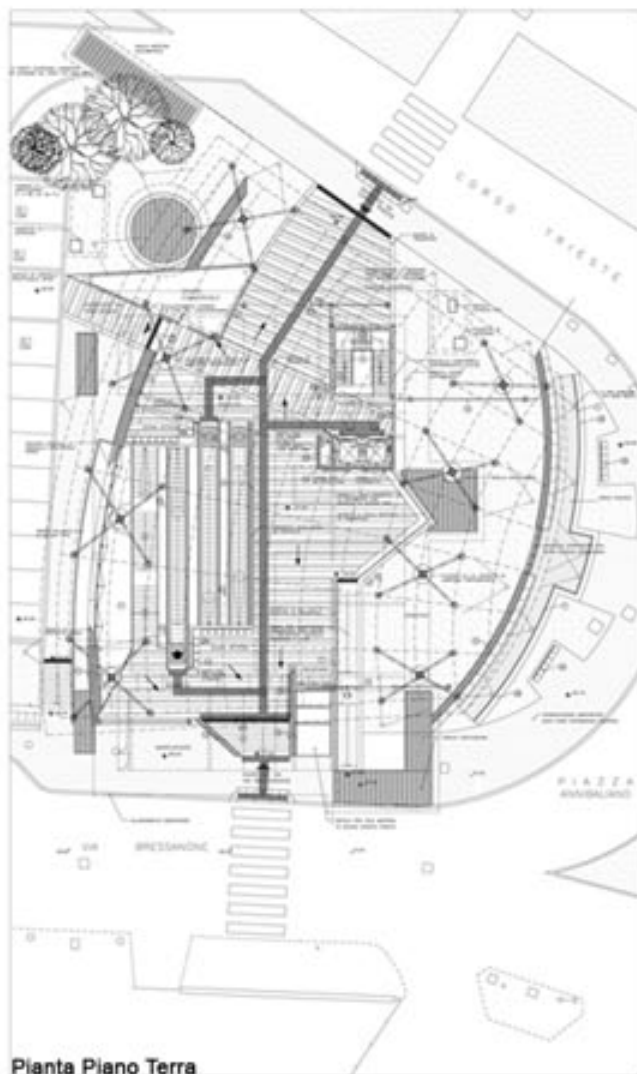
Sezione B - B



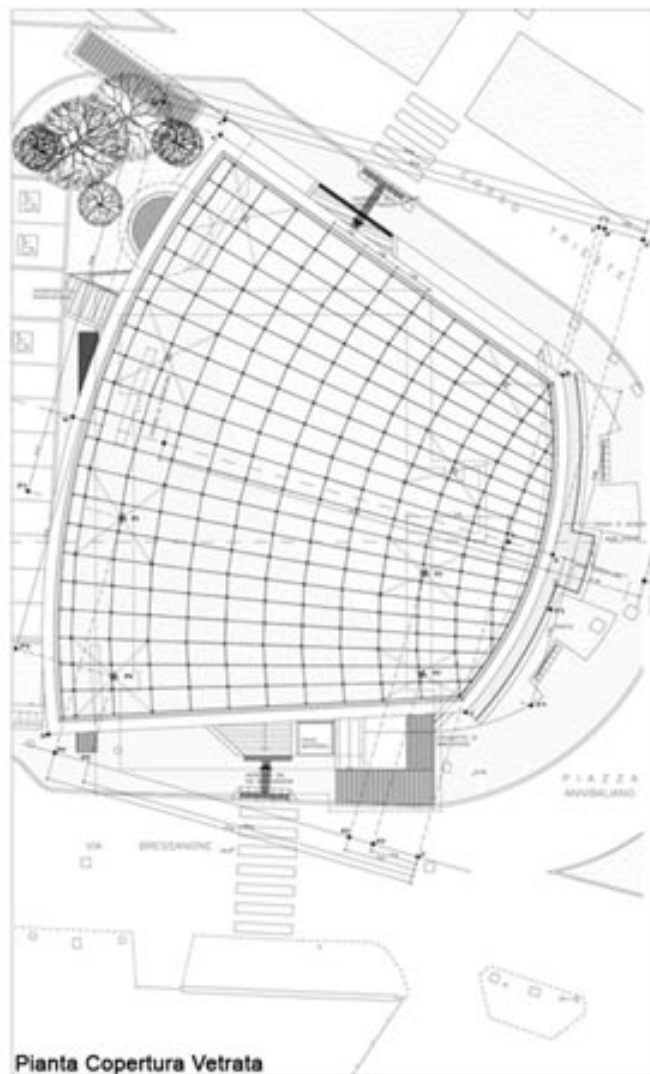
Sezione A - A



ANNIBALIANO



Pianta Piano Terra



Pianta Copertura Vetrata



Prospetto su Piazza Annibaliano



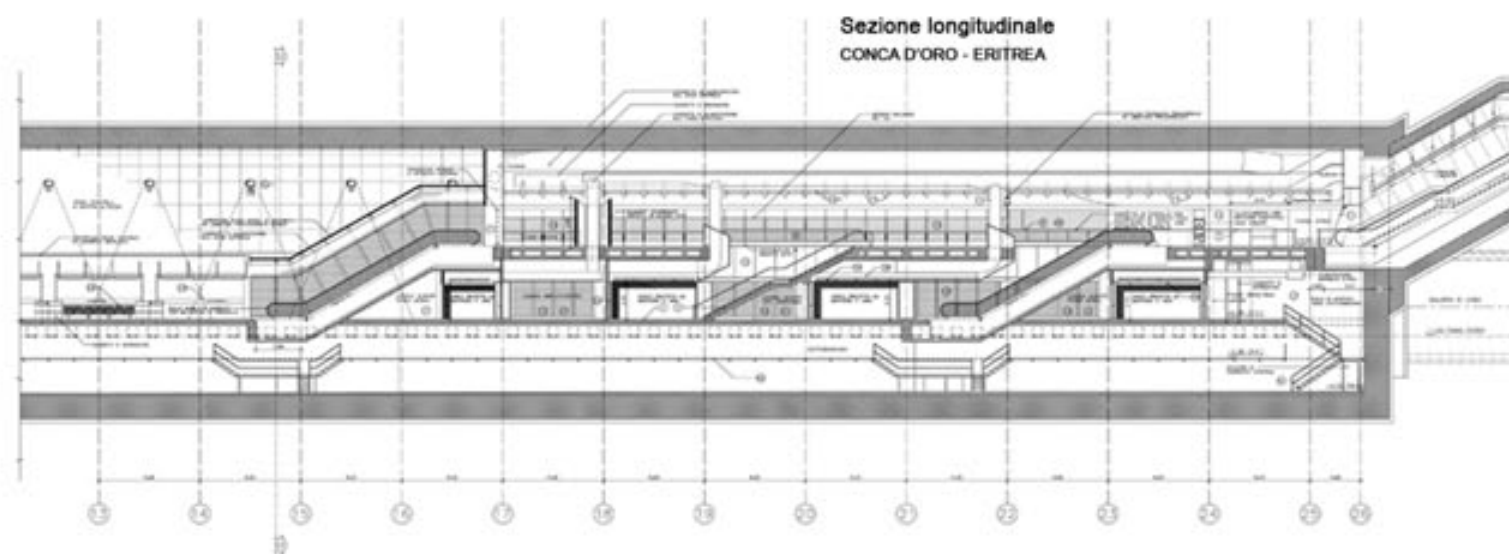
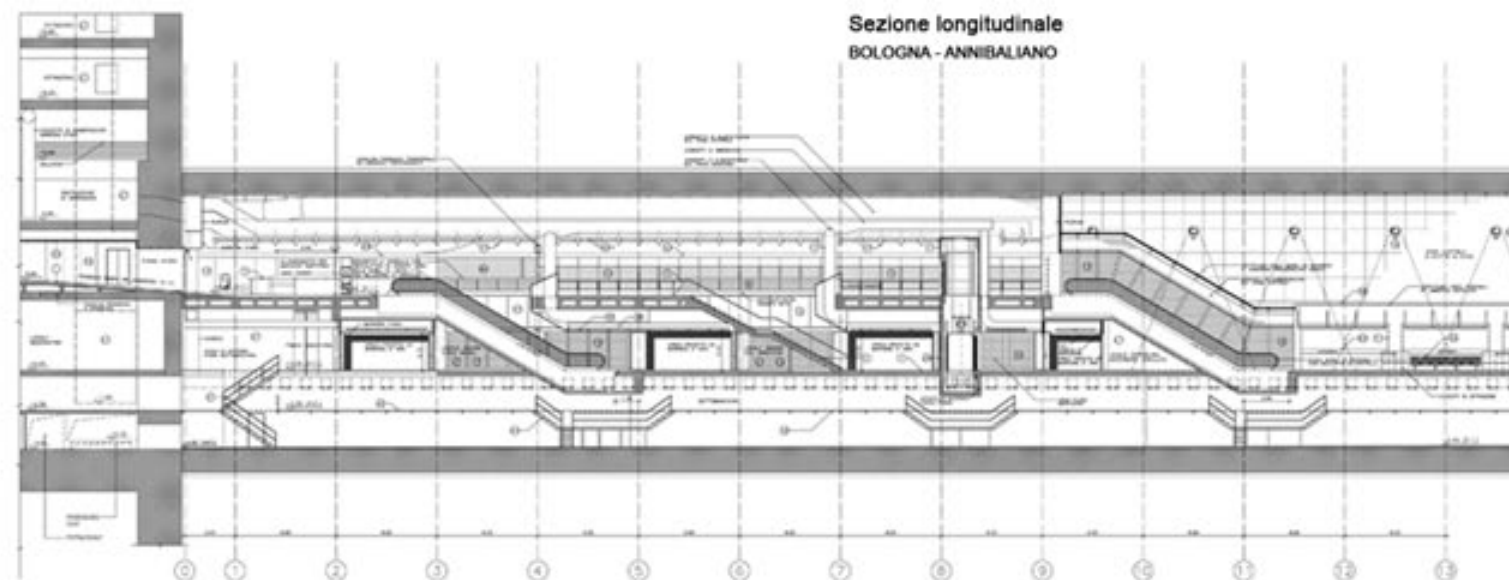
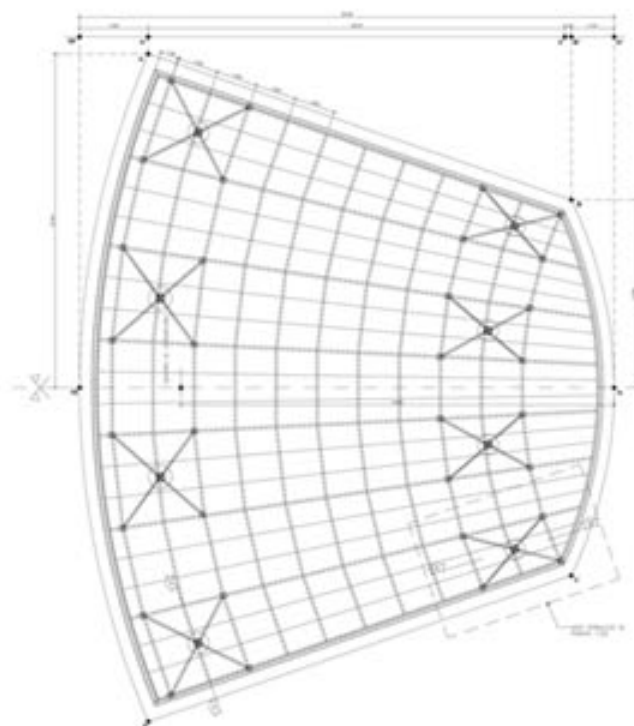
Prospetto su parcheggio



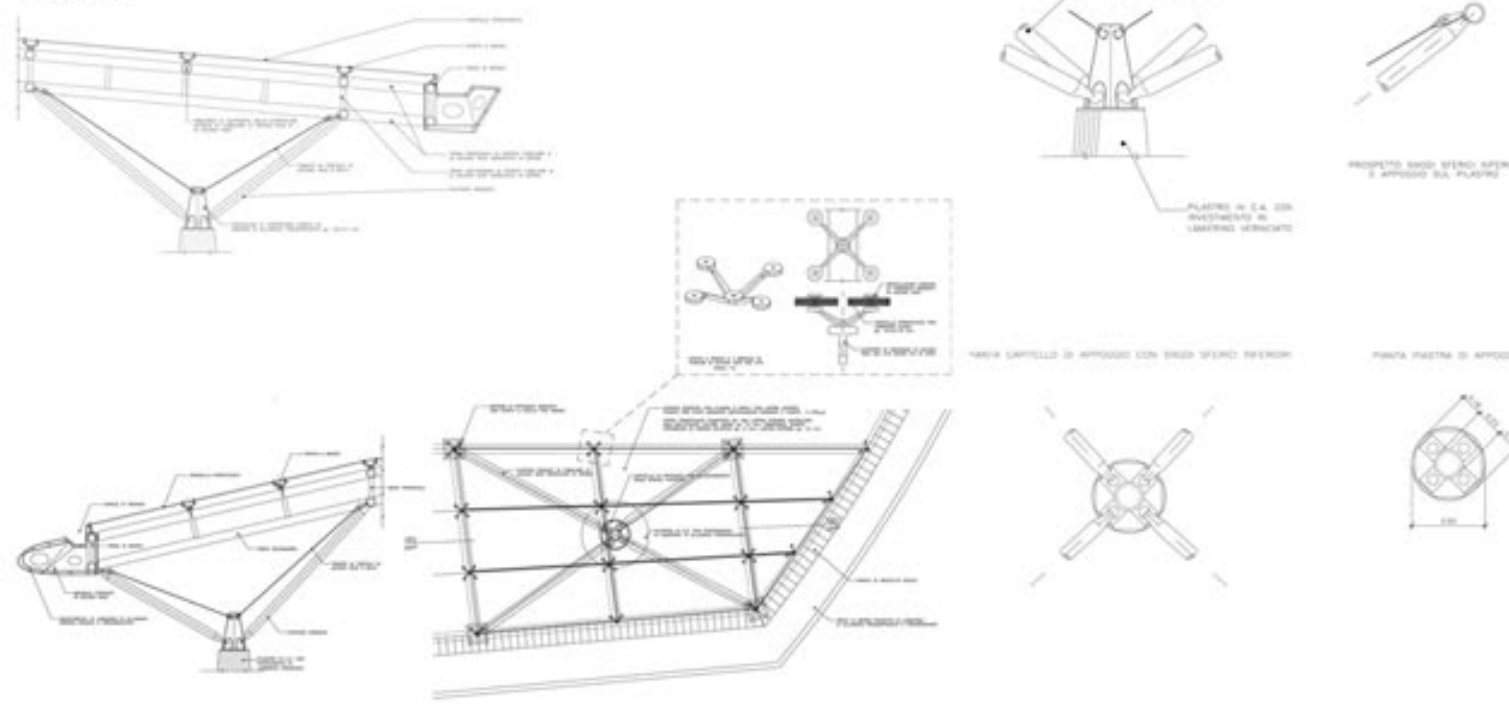
Prospetto su Via Bressanone



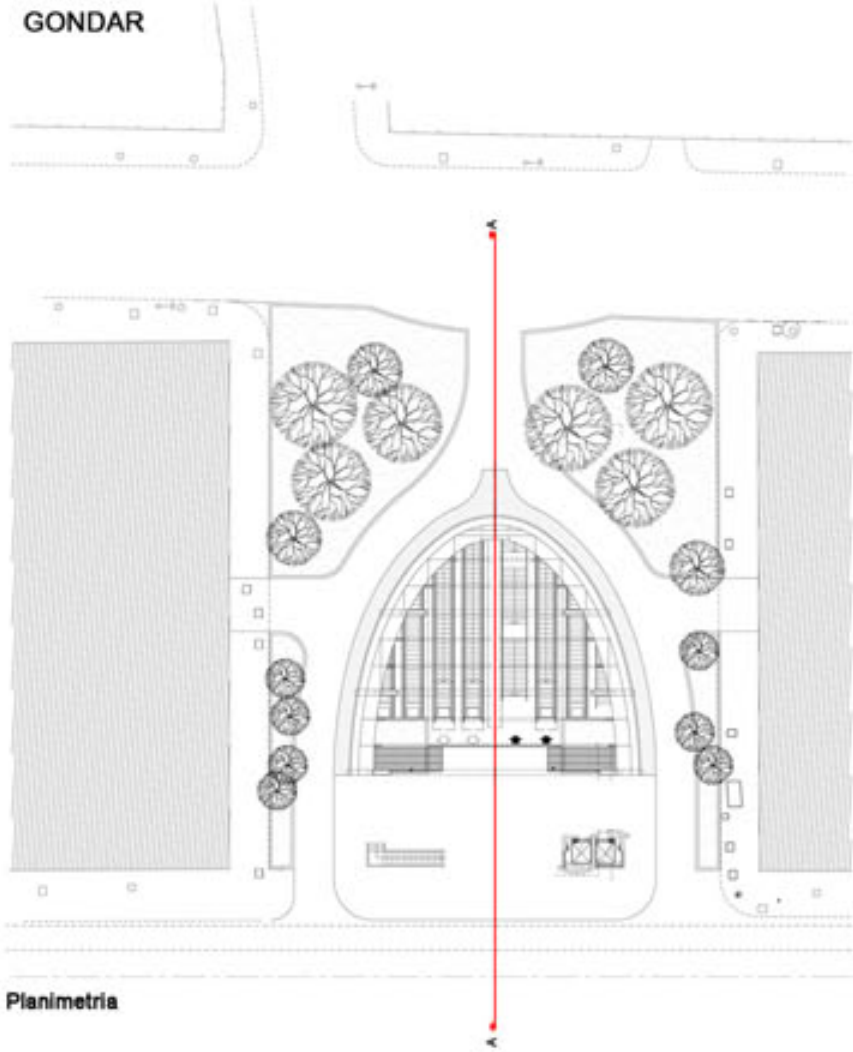
Prospetto su Corso Trieste



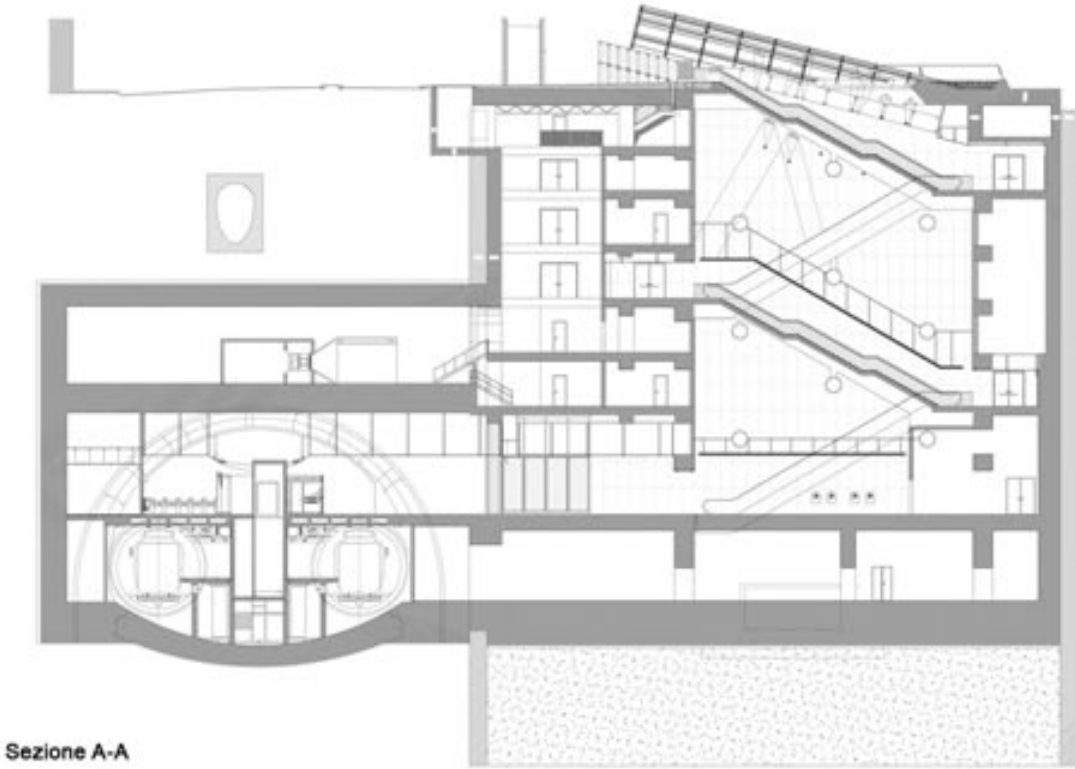
Particolari



GONDAR



Planimetria

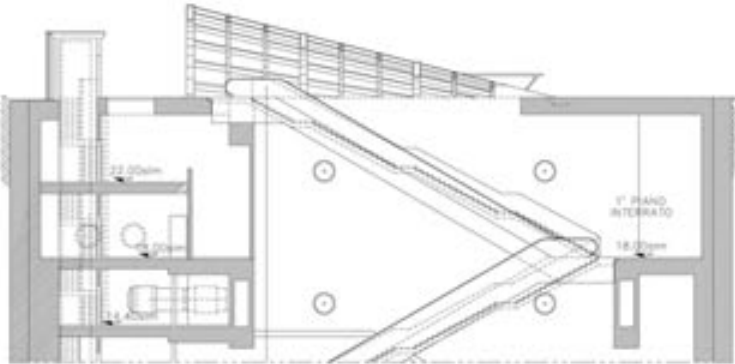


Sezione A-A

Prospetto laterale copertura



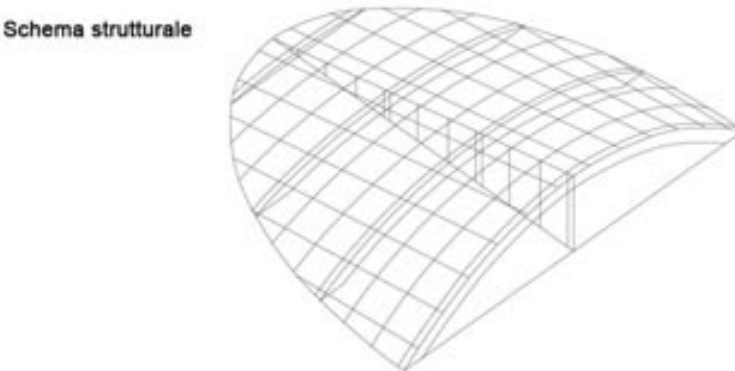
Stralcio Sezione



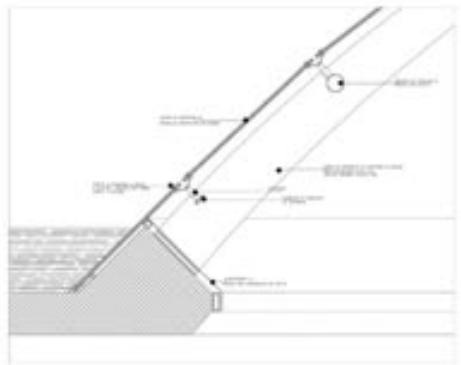
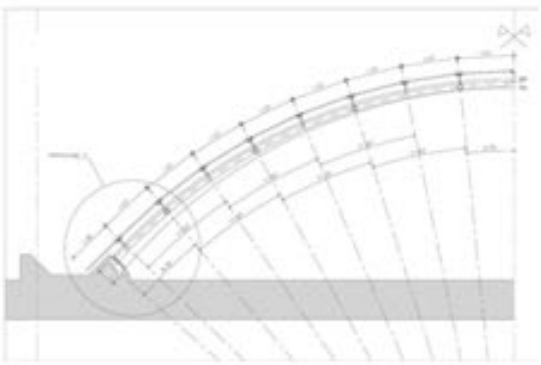
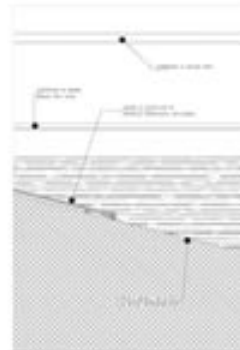
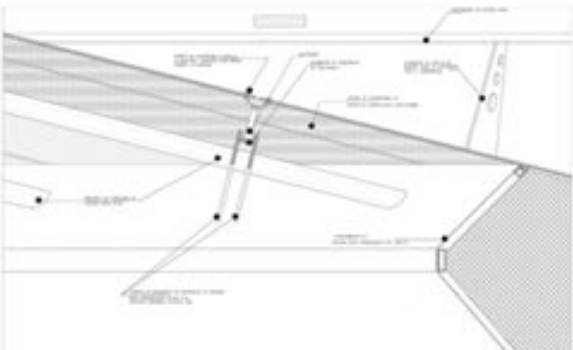
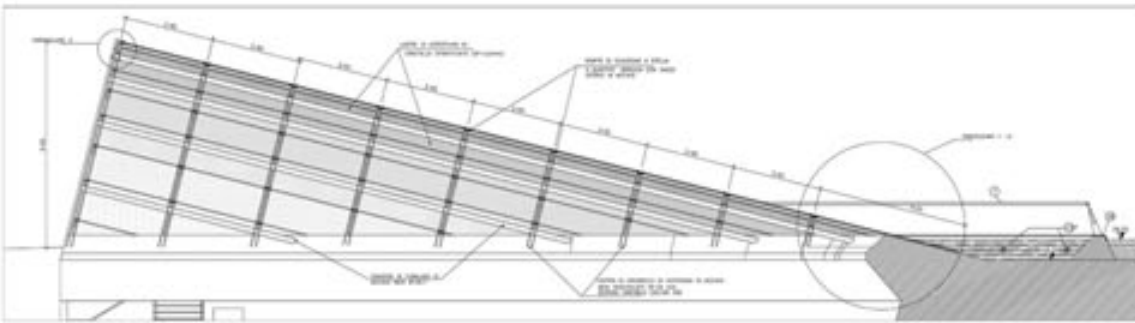
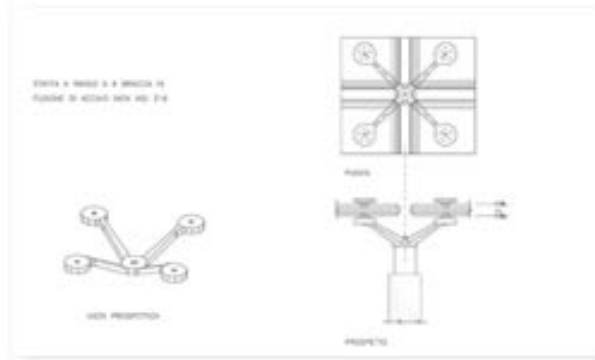
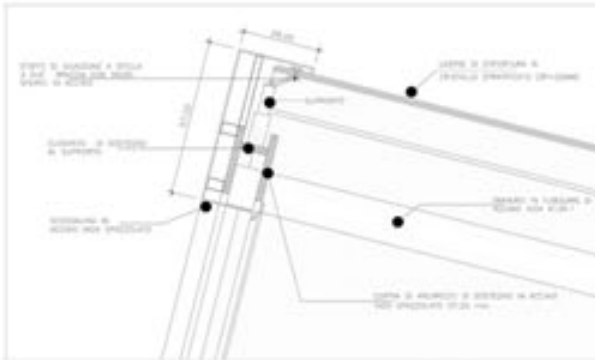
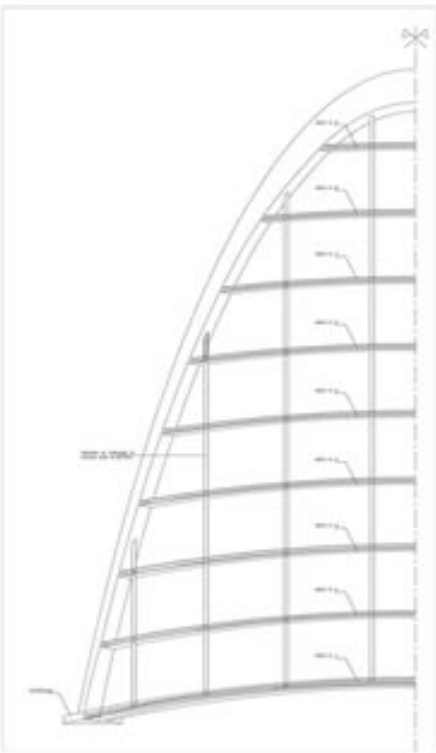
Prospetto su Viale Libia



Schema strutturale

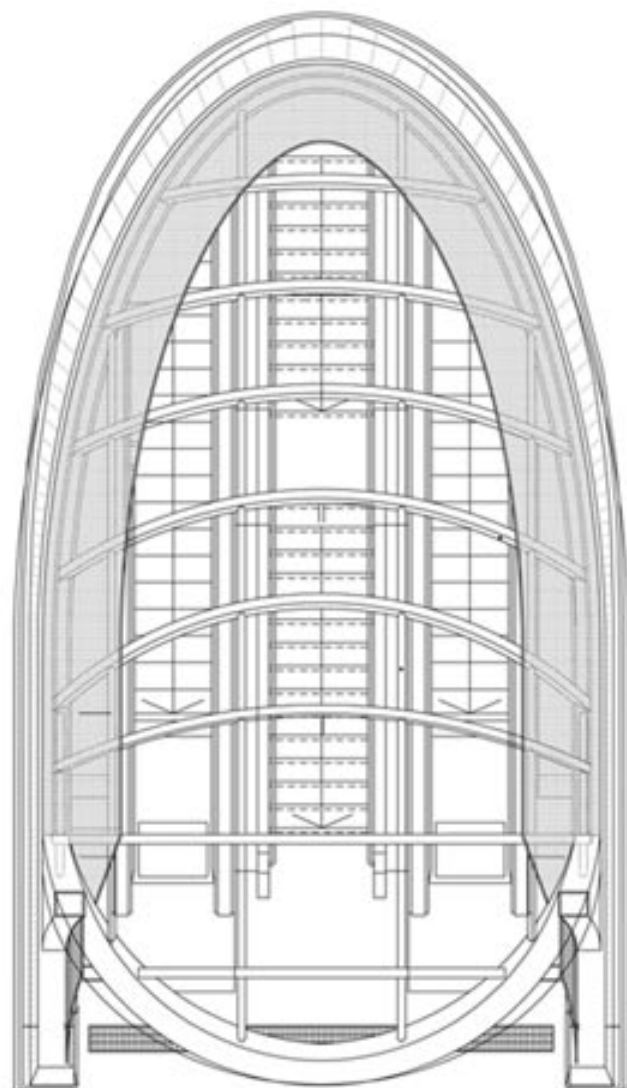


Particolari

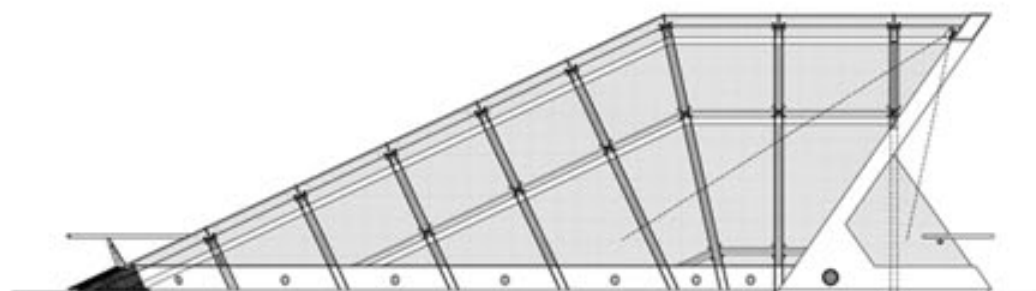


CONCA D'ORO

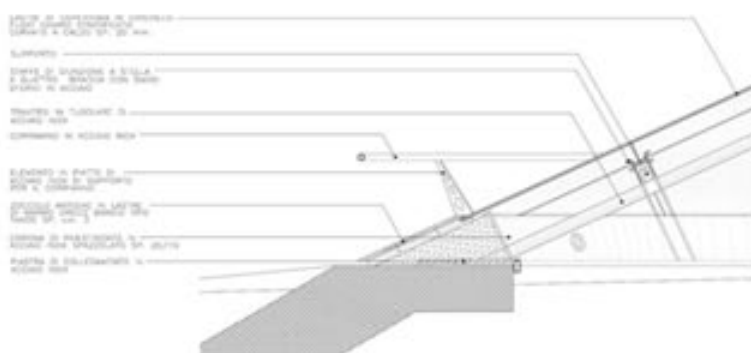
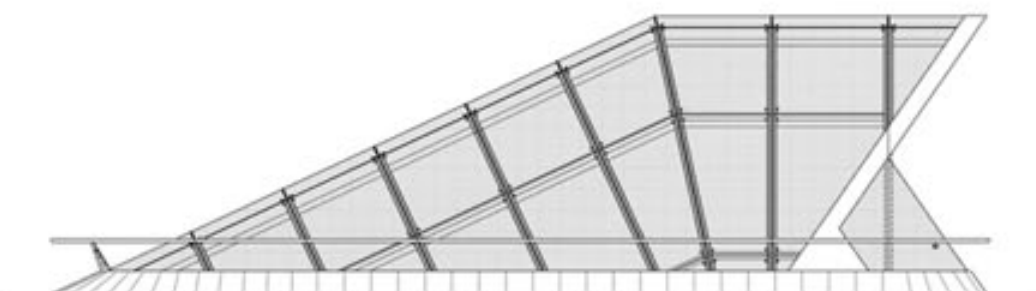
Pianta



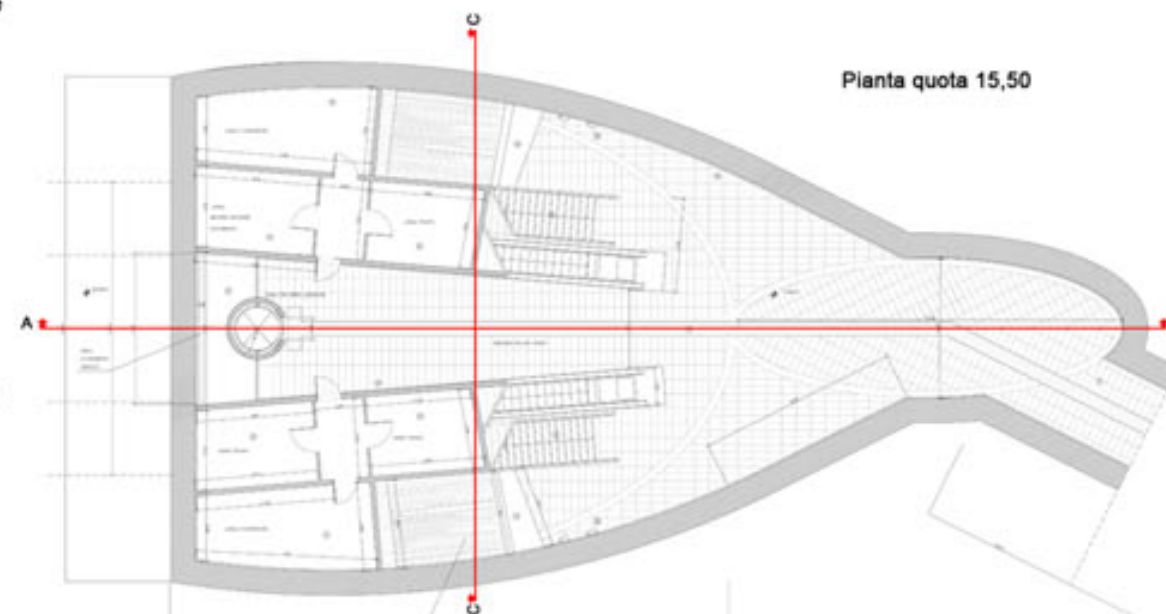
Sezione longitudinale



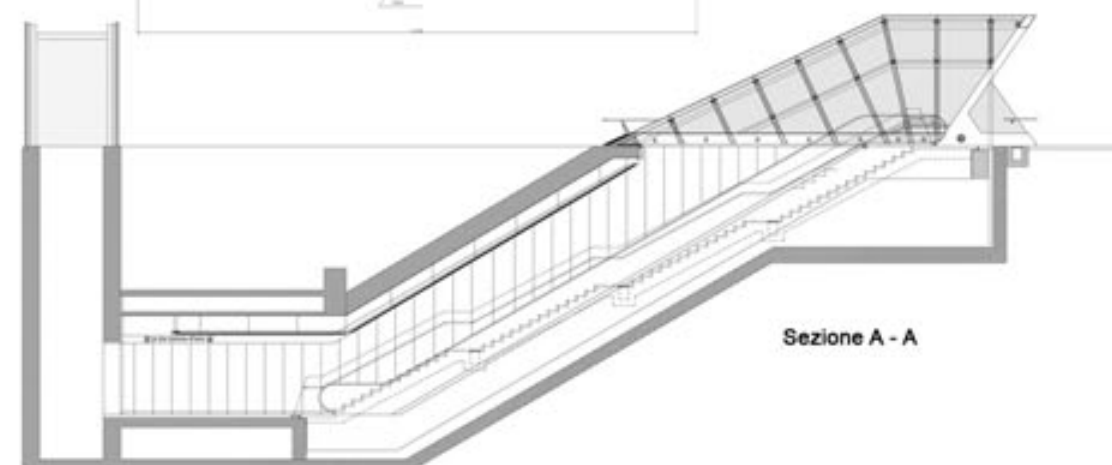
Prospetto Laterale



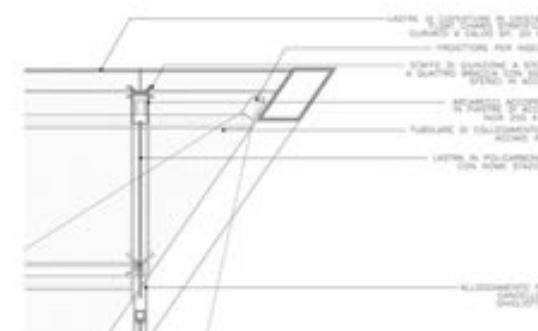
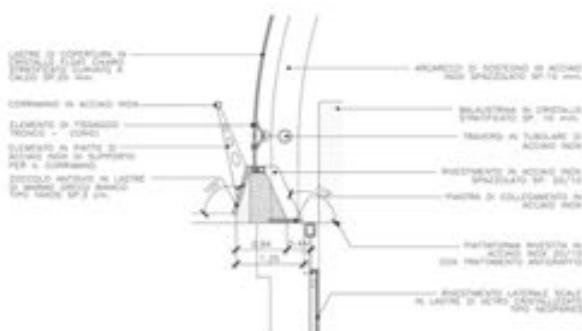
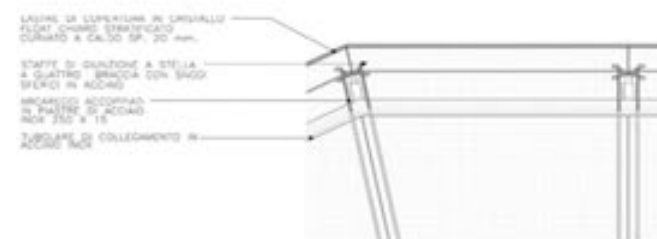
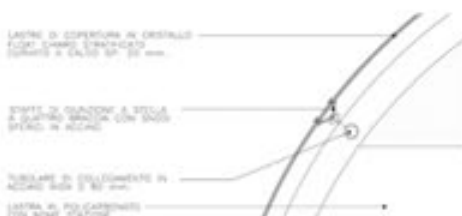
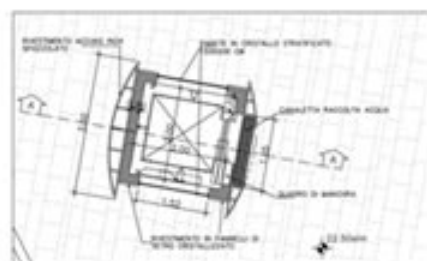
Pianta quota 15,50



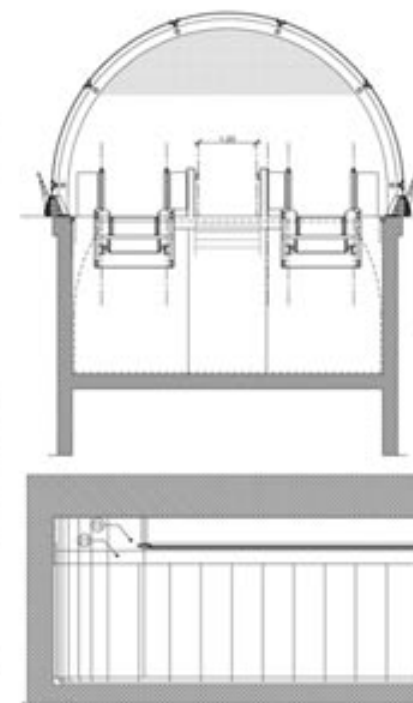
Sezione A - A



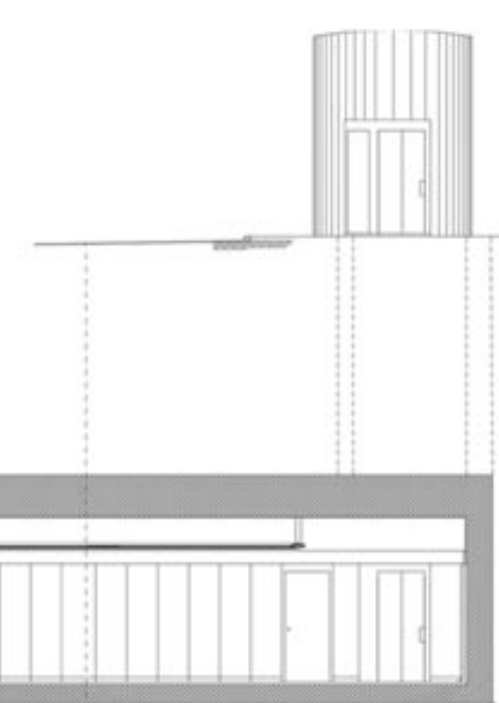
Particolari



Sezione C - C



Sezione su Piazza Conca D'Oro



The background is a grayscale architectural rendering of a city skyline with various building shapes. Overlaid on this is a thick, blue, stylized line representing a metro route. The line starts from the bottom left, moves horizontally, then turns vertically, and continues with several loops and turns across the cityscape. The text is centered over this graphic.

Node Bologna Automatic Metro Line 1 and Line 2

Firm	ERREGI
Location	Bologna, Italy
Client	Metropolitana Milanese S.p.A. Municipality of Bologna
Total amount of bid	130.736.756\$
Year of start	2000
Current status	preliminary project

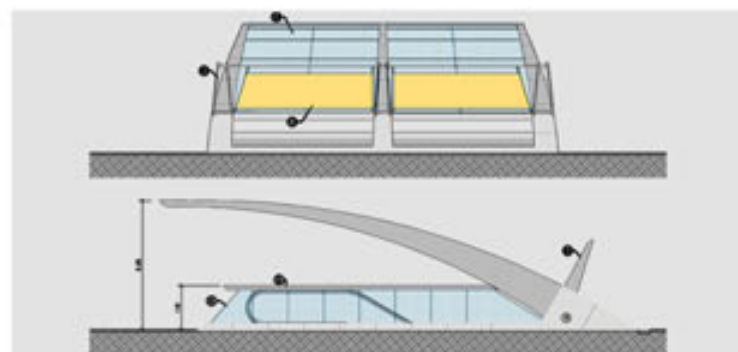
Role and professional involvement of bidder Preliminary and final traces of horizontal and vertical alignment, study architectural design and urban integration, structural design of the stations.

Line 1, with 8 stops to run on open, begins from the parking area of exchange of Fair-Michelino, Viale Europa, interchanges with the railway station and ride through the historic center along the line of Via Indipendenza, serving Piazza Maggiore and attesting in the south reaching military discharged ex Staveco, with the planned parking interchange south

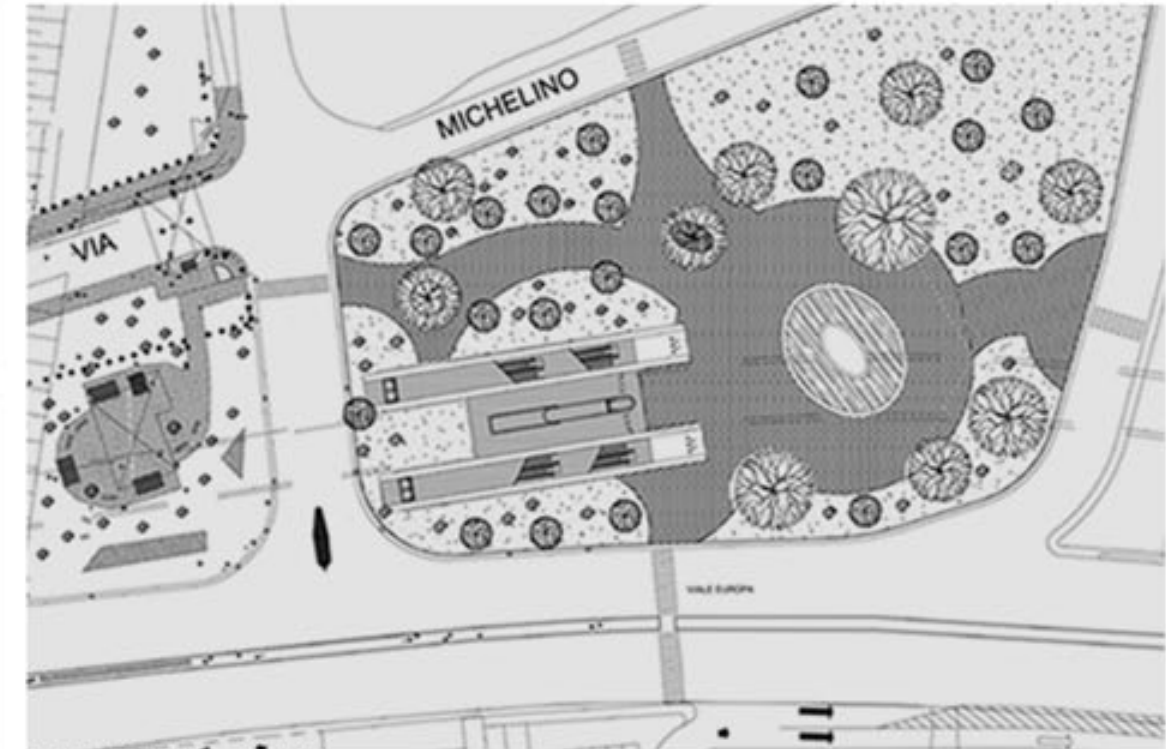
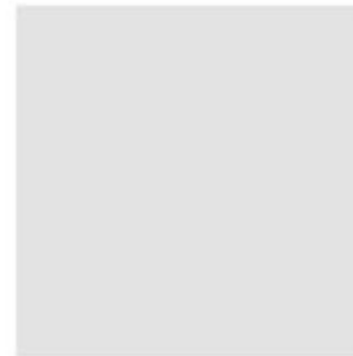
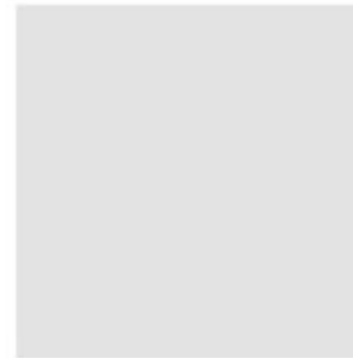
Line 2, will be linked to a line just north of Bologna station and allow the connection of the historic center and train station with new large university districts, residential and service. The route of Line 2, consisting of 8 stops in the open, developed starting from the airport G. Marconi, with the bus stop located in the basement of terminal 2 and ends in correspondence of the Bologna train station.



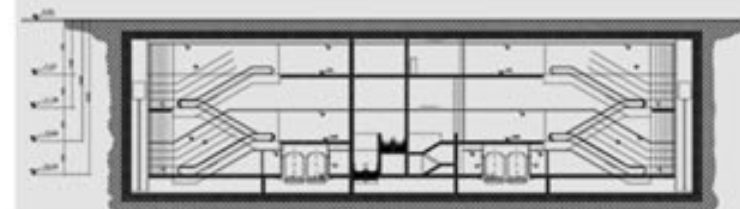
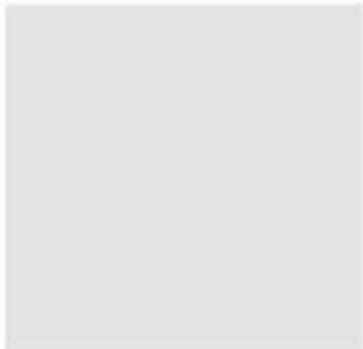
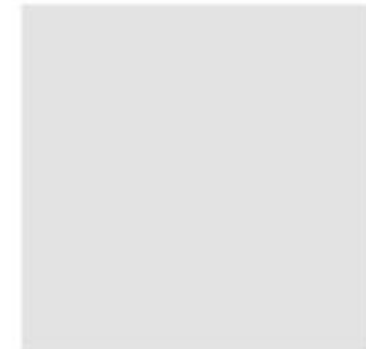
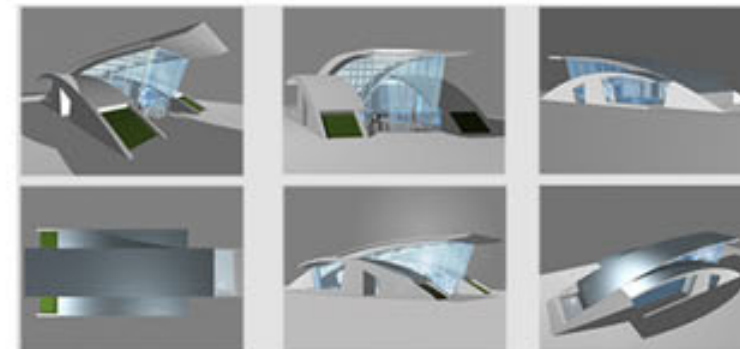
TRACK



TRACK



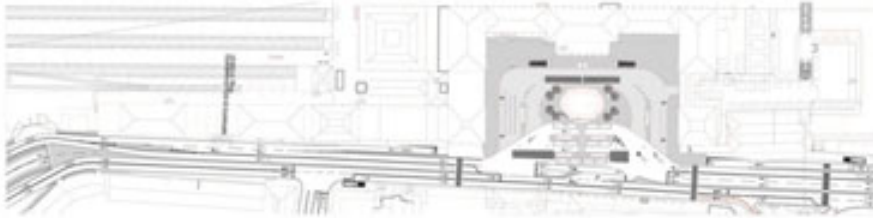
FIERA MICHELINO STATION



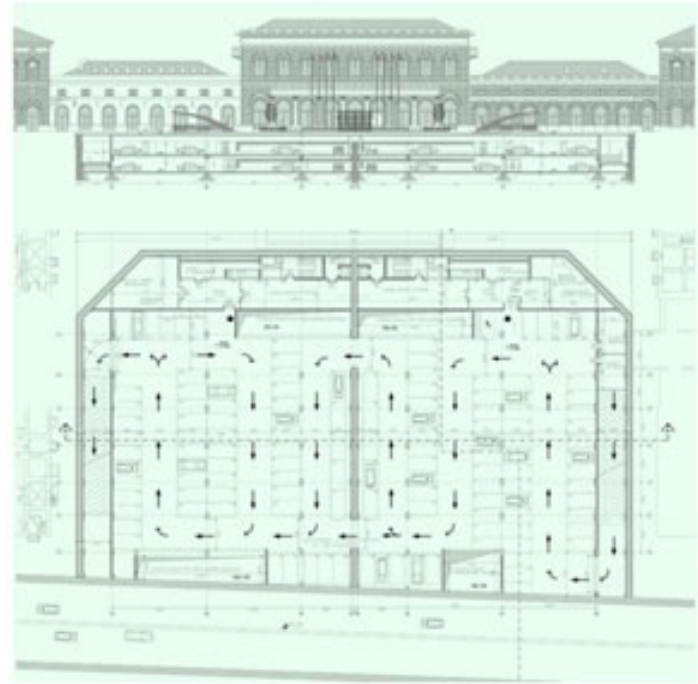
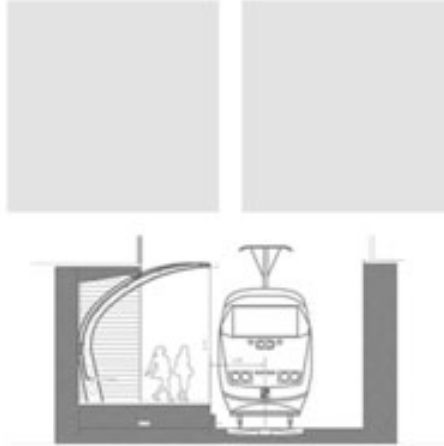
BOLOGNA STATION



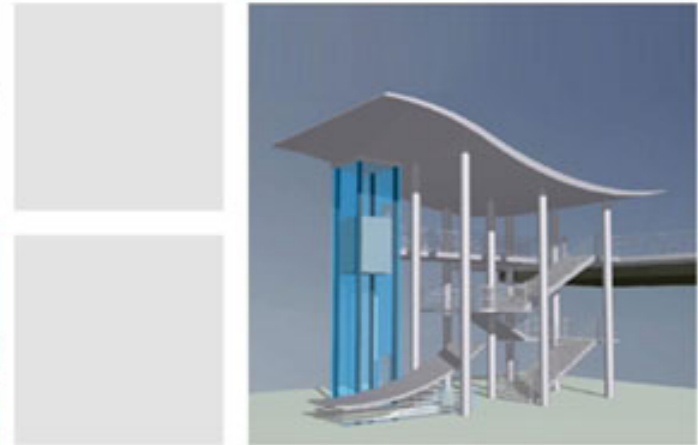
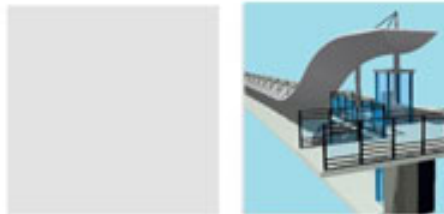
NODE BOLOGNA- AUTOMATIC METRO: LINE 1 AND LINE 2



ROAD SYSTEM STUDY



FRONT VIA DELLE RIMESSE



The background is a grayscale architectural rendering of a dense urban environment. A specific building complex is highlighted with a thick, blue, semi-transparent outline, showing its footprint and internal courtyard. The text is centered over this highlighted area.

Metro Automatic Eur Palasport Tor De' Cenci

METRO AUTOMATIC EUR PALASPORT-TOR DE' CENCI

Firm	ERREGI
Location	Rome, Italy
Client	Metro Engineering
Total amount of bid	234.000.000 \$
Year of start	2000
Current status	Project

Role and professional involvement of bidder

Detailed Architectural
Structural design
and Equipment

They have been developed preliminary project infrastructure, functional studies, architectural and urban design of the stations and landscape architecture.

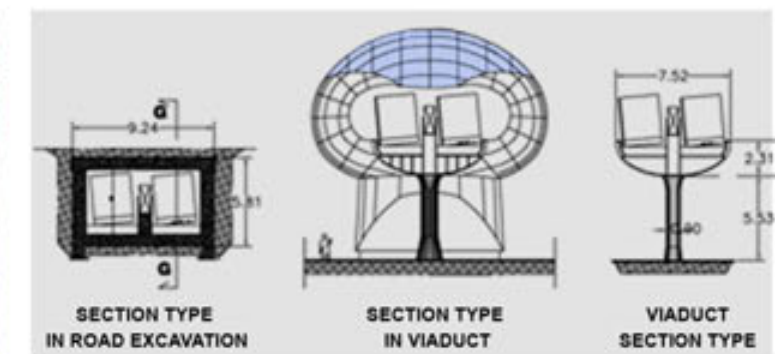
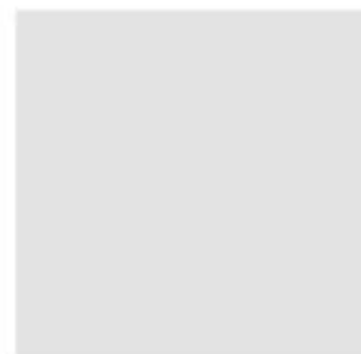
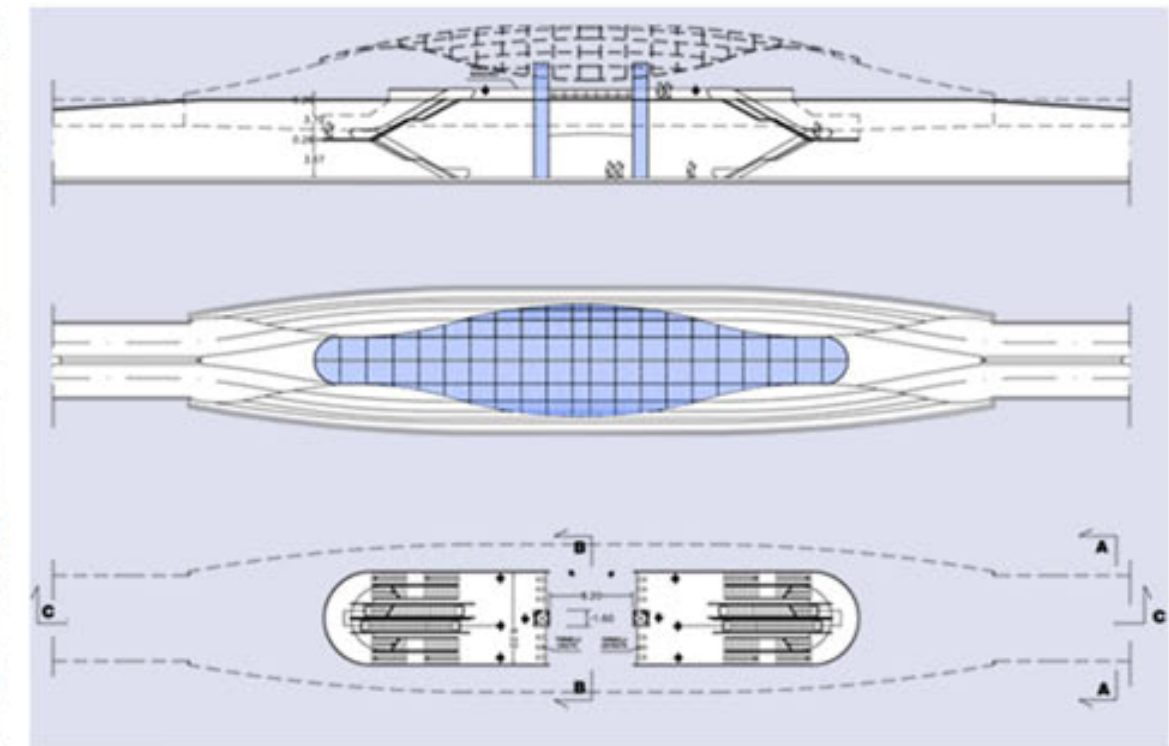
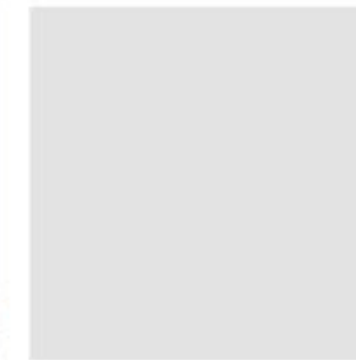
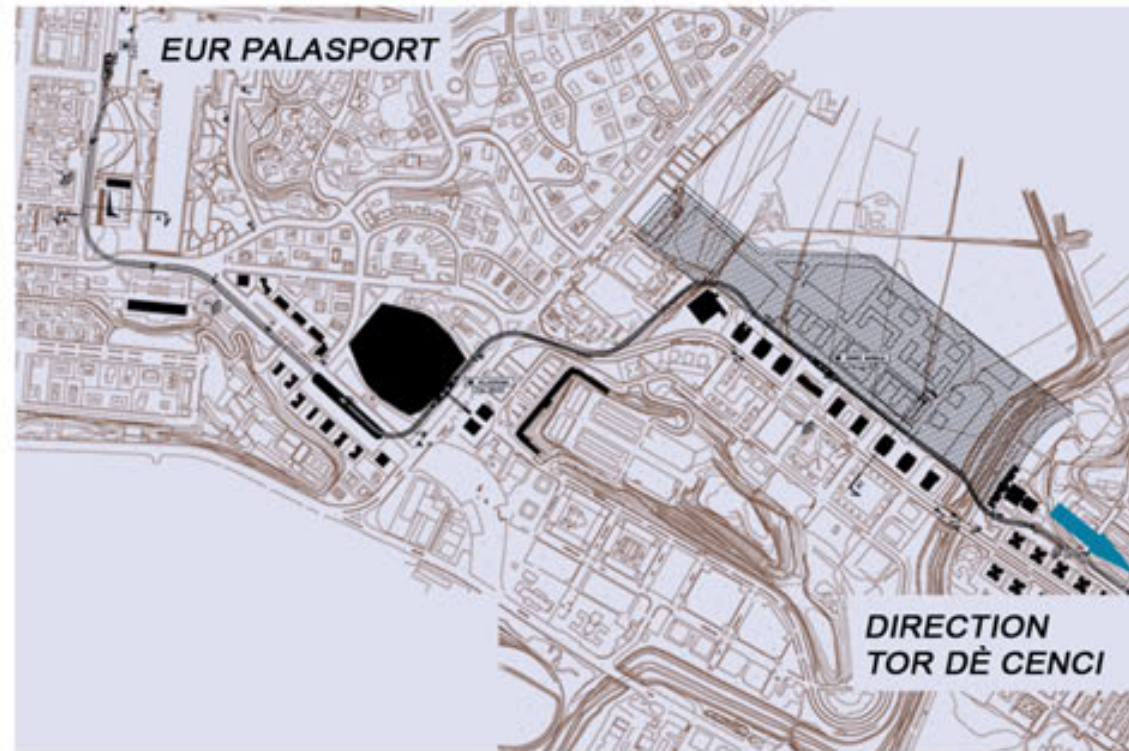
They were included preliminary study of environmental impact and variation to the final design of the tracks, the road structure and interference with traffic.

Preliminary design for a new metro line on viaduct. The plano-altimetric design originated from the bus interchange station with metro Line B Eur Fermi in Rome, and develops, partly in tunnel and viaduct in part with an innovative system of underground led bound, about 10 km in areas of different characteristics, high landscape value or intense urbanization.

Particularly innovative were the elevated stations and the minimal impact of the planned work on the territory.

The savings was also important in comparison to a normal metro

Has also studied the environmental impact the project and developed the storage and maintenance center





Salerno Porta Est Concept Design



Firm **ERREGI (with C&A and PROAP)**

Location **Salerno, Italy**

Client **Salerno Municipality**

Total amount of bid **401.069.518 \$**

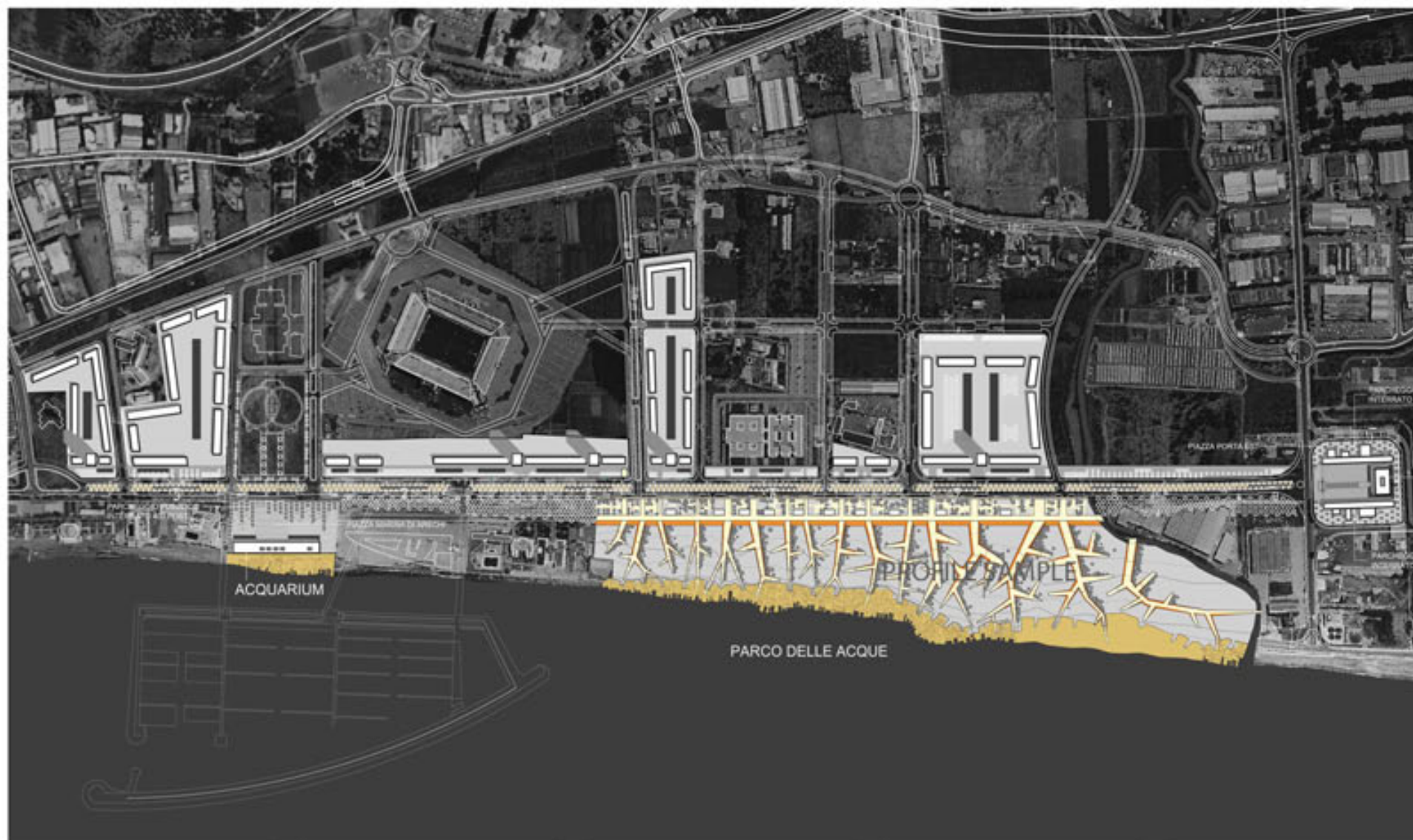
Year of start **2007**

Current status **Preliminary design**

Role and professional involvement of bidder **Preliminary Architectural
Structural design
and Equipment**

Our project for the restoration and development of the area east of Salerno, in keeping with the historical memory of the city and the choices of the Administration, consists of a series of doors, both literally and figuratively, from the architecture program and the contemporary significance. We use water in different ways to characterize and to give immediate recognition to the new public spaces representative of the city.

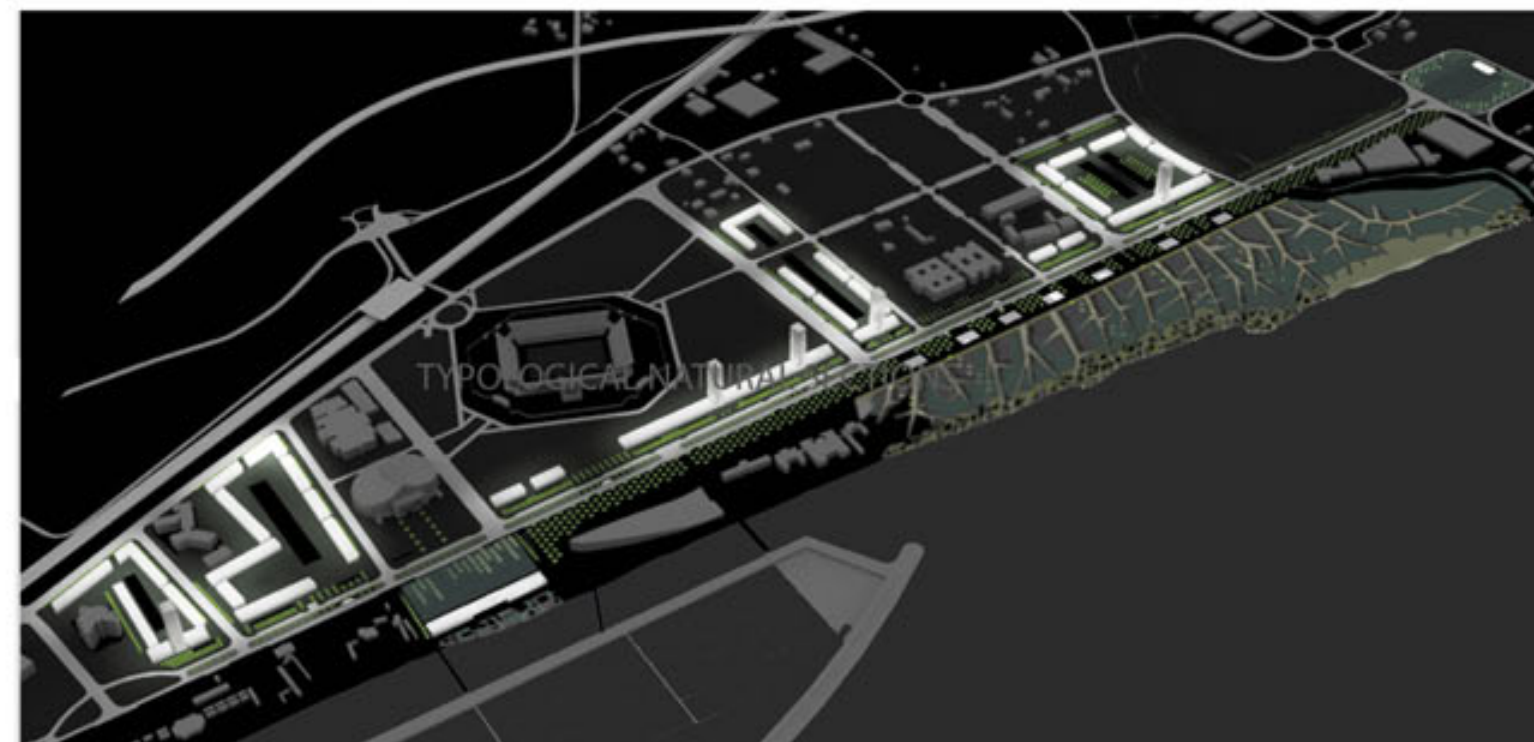
At the urban scale the two-door Urban Center buildings and dell'ACQUARIUM stressed both longitudinally and transversely in the center of the boulevard is built as an automated PEOPLE MOVER system that provides mobility with zero impact essential for sustainable development in the area. At the architectural scale public buildings are the basic elements of two new major squares and five-landmark towers, residences high, dot the boulevard, allowing facilities to preserve large areas of public and semi-public around which individuals develop their projects. Finally, the WATER PARK finally returns to the community the last long stretch of coast available in the city.



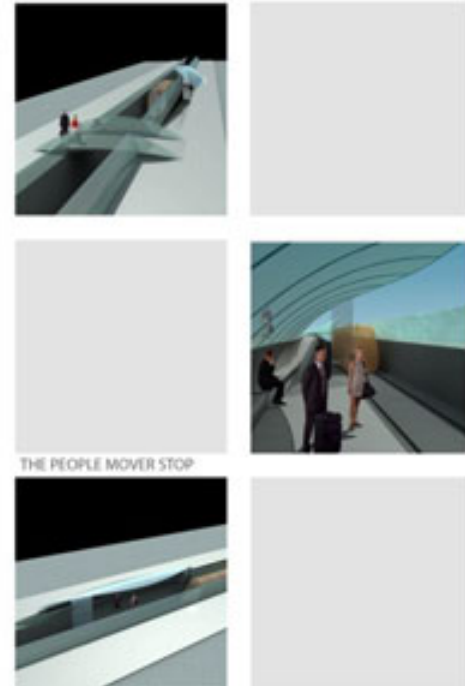
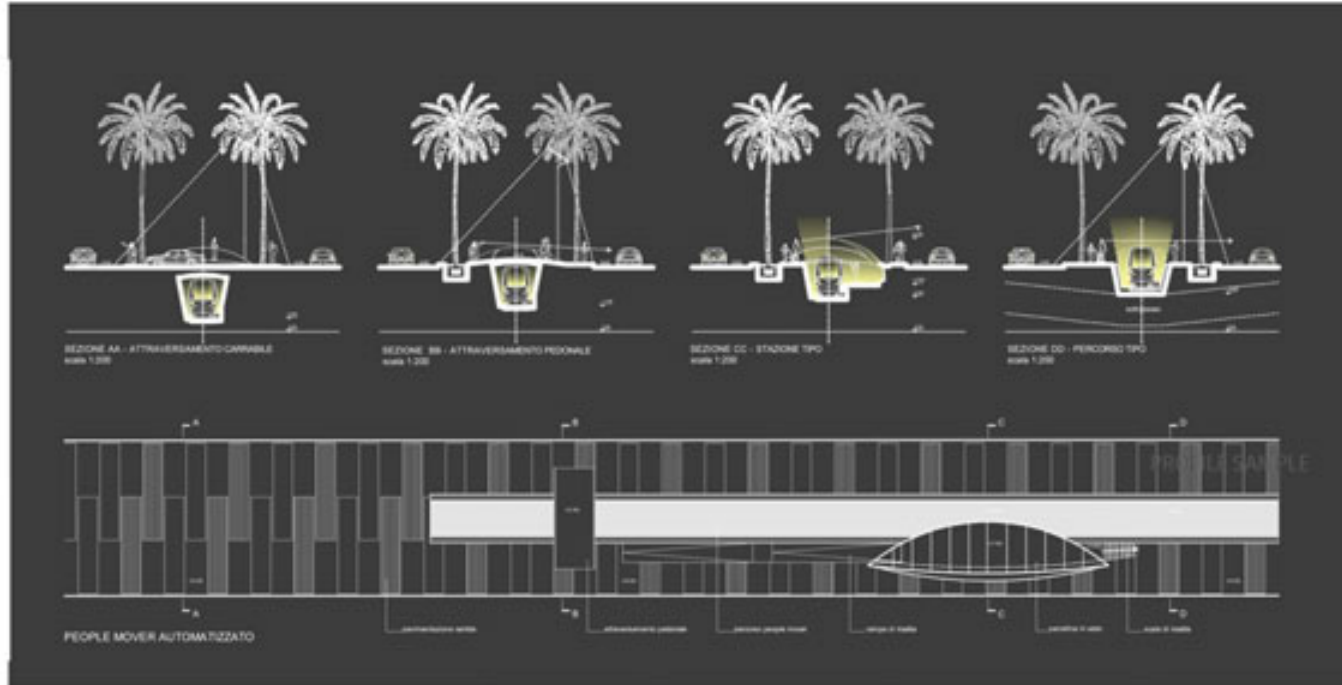
WATERFRONT MASTER PLAN



PARK DESIGN DETAIL



GENERAL VIEW



PEOPLE MOVER DETAILS



GENERAL VIEW OF ACQUARIUM



GENERAL VIEW OF AQUARIUM



TRAMWAY INFRASTRUCTURE

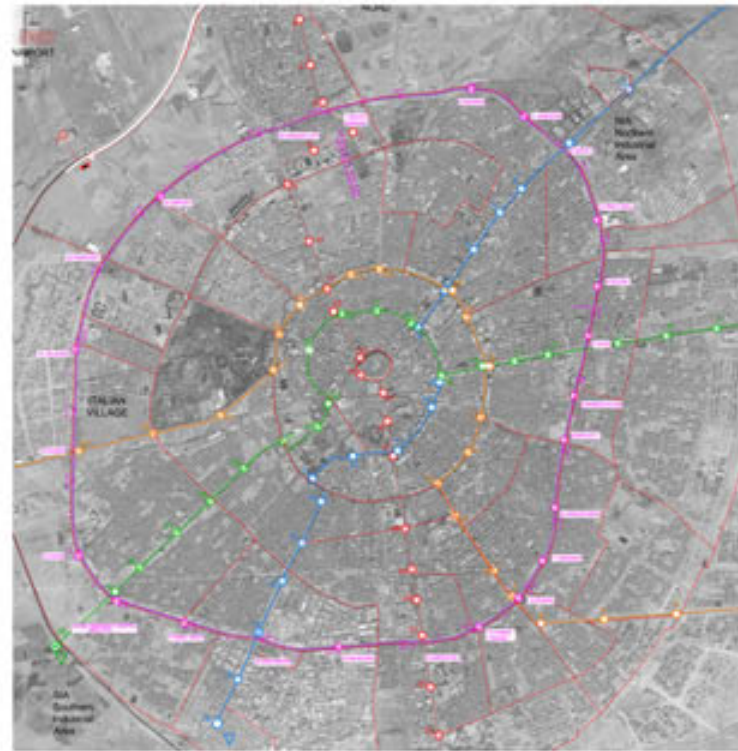
- Light Rail Transit Ring Line 5 Erbil – Kurdistan, Iraq
- Light Rail Transit – Sulymaniya – Kurdistan, Iraq
- Atac Tram Marshalling Site Rome - Italy
- Tram System and Storage Palermo – Italy



Light Rail Transit Ring Line 5 Erbil Kurdistan - Iraq

LIGHT RAIL TRANSIT RING LINE 5 ERBIL

Firm	ERREGI
Location	Erbil, Kurdistan, Iraq
Client	Kurdistan Regional Government
Total amount of bid	345.093.965 \$
Year of start	2014
Current status	Final design
Role and professional involvement of bidder	Preliminary architectural, structural and infrastructural design



GENERAL OVERVIEW



TYPICAL STOP GENERAL VIEW

The new tram of Erbil, named T5 Circle Line will develop into Erbil along the existing Ring 4 also known as Ring 100, which is the ring road about 4 km from the center of Erbil. The Ring 4 in the East is also called Peshawa Quazi while in the West, Quazi Muhammad and has normally a green belt in the middle of the carriageway and service roads especially in the West part of the Ring 4. The green belt is approximately 8m wide, with a minimum of 4 lanes for vehicles, in each direction, and in some sections (East part of the Ring) even in the streets of service left and right with 2 or 3 lanes in each direction. Generally, the new T5 Circle line is expected to be placed on the sides of the existing green belt, with a little reduction of the existing dimension of the carriageway. The tramway is generally separated from the roadway by a barrier of protection that reduces by about 3,40 m the existing carriageway, always guaranteeing, in most of the Ring 4, three lanes in each direction march. Ring 4 has different sections along its length.

The stops of T5 Circle line are designed by pursuing the following objectives:

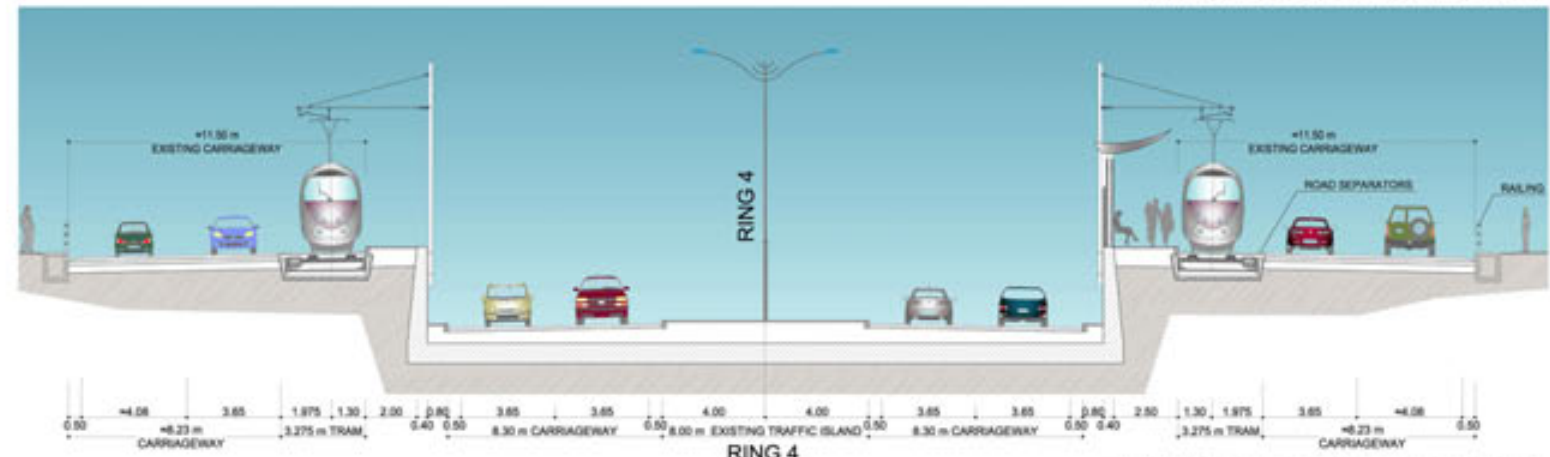
- Respond in the best way possible to the needs of functionality, comfort and safety of users
- To give citizens a product of high design and technologically innovative solutions
- Ensuring maximum durability of materials and finishes
- Use elements of street furniture integrated into the overall design
- Use renewable energy sources (photovoltaic roof)



GENERAL NETWORK PLAN - KEY PLAN



T5 CIRCLE LINE MAKMOOR INTERSECTION KM 14+115



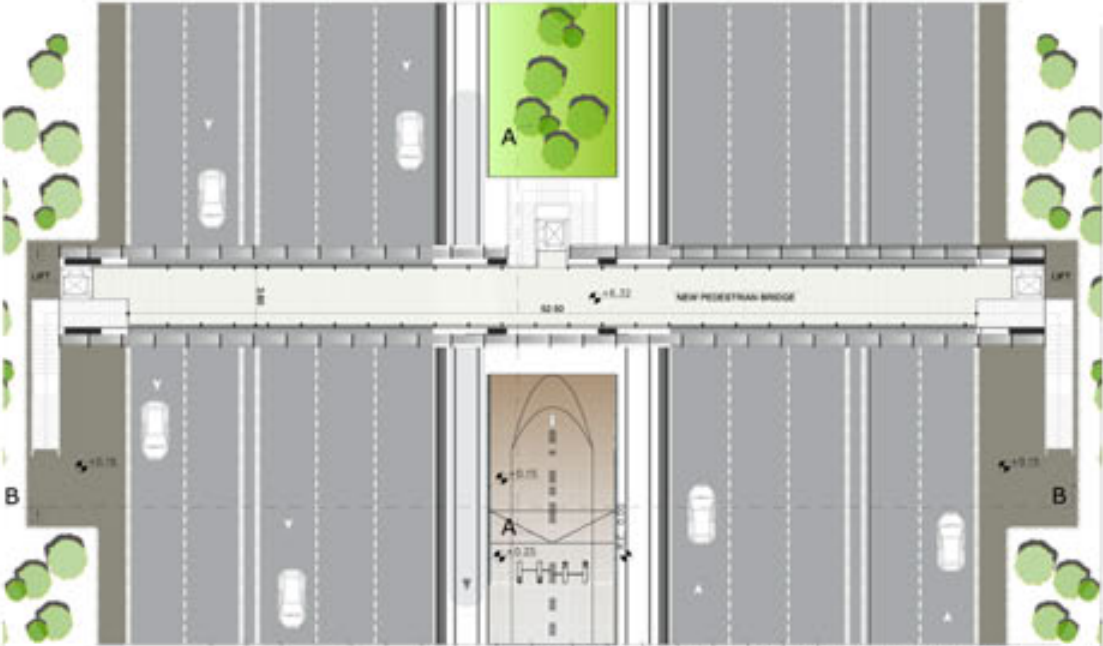
TYPICAL STOP - CROSS SECTION



TYPICAL STOP - PROFILE



TYPICAL STOP - PLAN



TYPICAL STOP WITH PEDESTRIAN OVERPASS - PLAN



TYPICAL STOP WITH PEDESTRIAN OVERPASS - CROSS SECTION



OVERPASS GENERAL VIEW



RENDERING TYPICAL STOP



RENDERING TYPICAL PEDESTRIAN OVERPASS

The background is a grayscale architectural rendering of a city skyline. Overlaid on this is a thick, stylized line representing a light rail transit route. The line is composed of white and blue segments, forming a complex network that winds through the city blocks. The text is centered over this graphic.

Light Rail Transit Sulaymaniya – Kurdistan - Iraq

SULAYMANIYA - LIGHT RAIL TRANSIT

Firm	ERREGI
Location	Sulaymaniya, Kurdistan Iraq
Client	Kurdistan Regional Government Council of Ministers Ministry of Transportation
Total amount of bid	535.000.000 \$
Year of start	2011
Current status	final design approved
Role and professional involvement of bidder	Detailed Architectural Structural design and Equipment

The Sulimania Tramway System is composed of 8 lines with a total length of 58,840 meters and globally 128 stops.

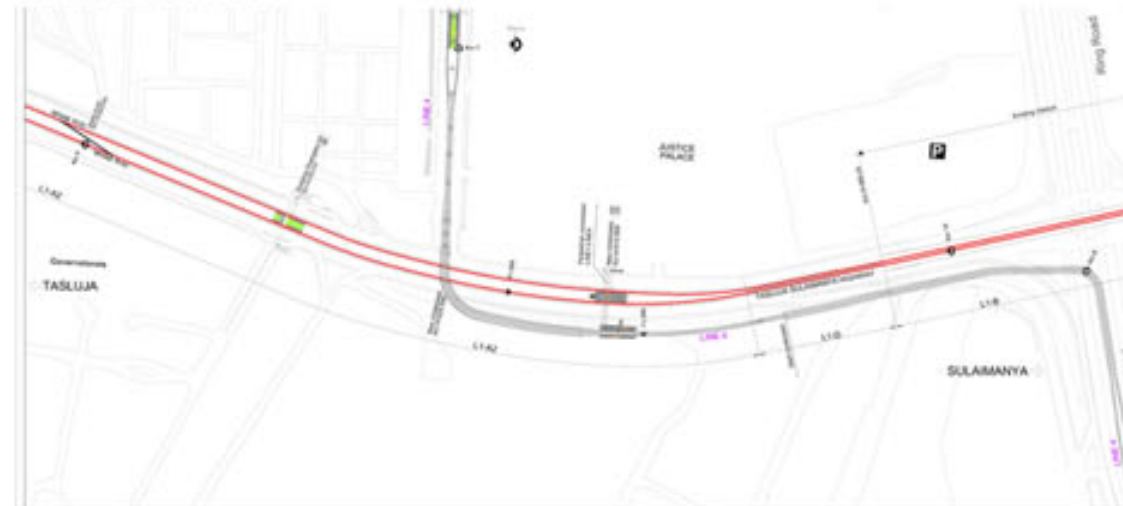
The system is composed also of 2 Depots: the main one, at the beginning of Line 1, in the west part of the City beside the Trasluj-Sulimania Highway, also includes the Maintenance Workshop, the Office Building and the Operation Control Center, and the secondary Depot, located close to the Sulimania Ring Road.

The tramway system designed in this project constitute the essential backbone of the transportation system of the City of Sulymania and will support the future urban development, and it should be developed and improved by introduction of an integrated transport policy program of the city. The system should be realized in phases, giving high priority to Line 1 and the Main Depot and implementing bus lines along the other Lines' routes in the first Phase.

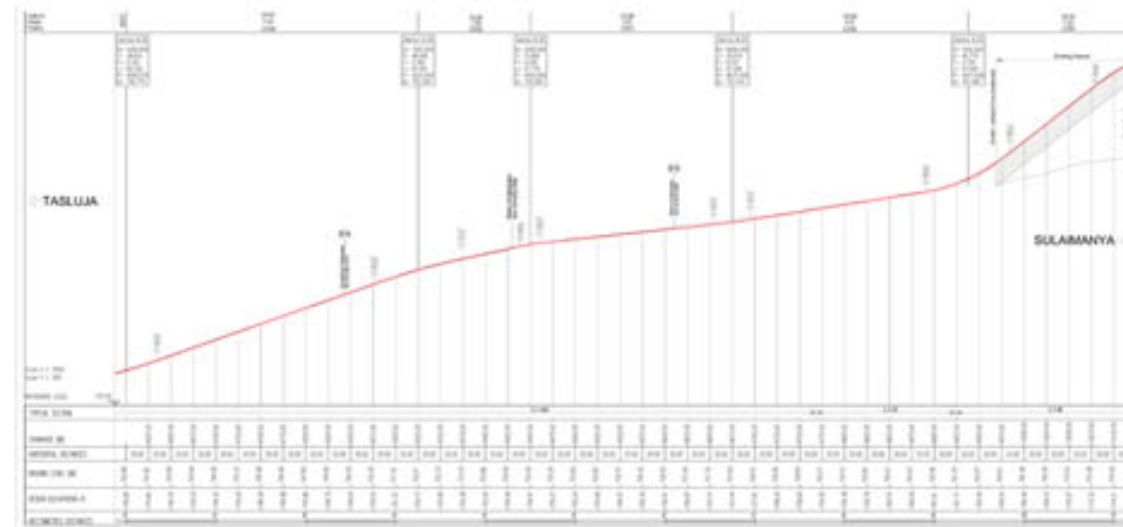
In the design of the System particular attention was given to preserving existing green areas along the roads where tram line are located.



GENERAL LAYOUT VIEW



PLAN FROM Km 9+000.00 to Km 10+125.00



PROFILE FROM Km 9+000.00 to Km 10+125.00



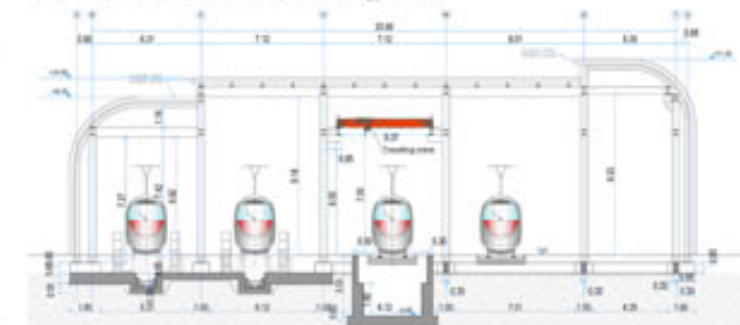
OFFICE BUILDING AND MAIN DEPOT IN GENERAL CONTEXT



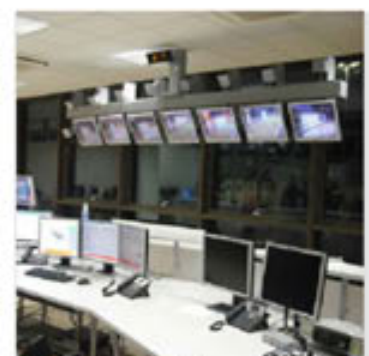
O.C.C._BUILDING AND OFFICE BUILDING_EXTERNAL VIEW



MAIN DEPOT AND WORKSHOP_PLAN



TRASVERSAL SECTION_MAINTENANCE BUILDING



CONTROL ROOM



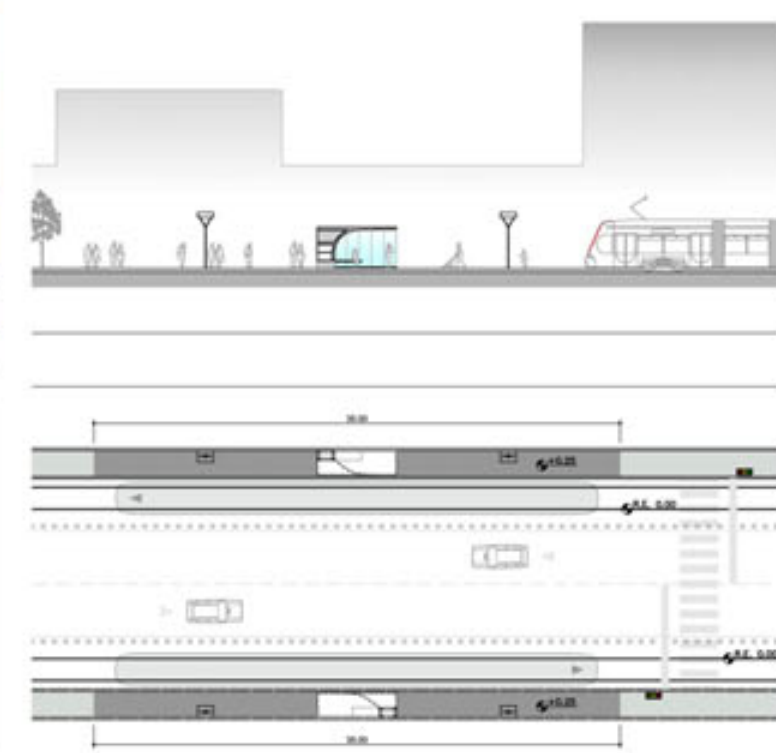
ONE WAY SHELTER VIEW FROM OVERPASS



DOUBLE WAY SHELTER VIEW BY NIGHT_SALIM STREET



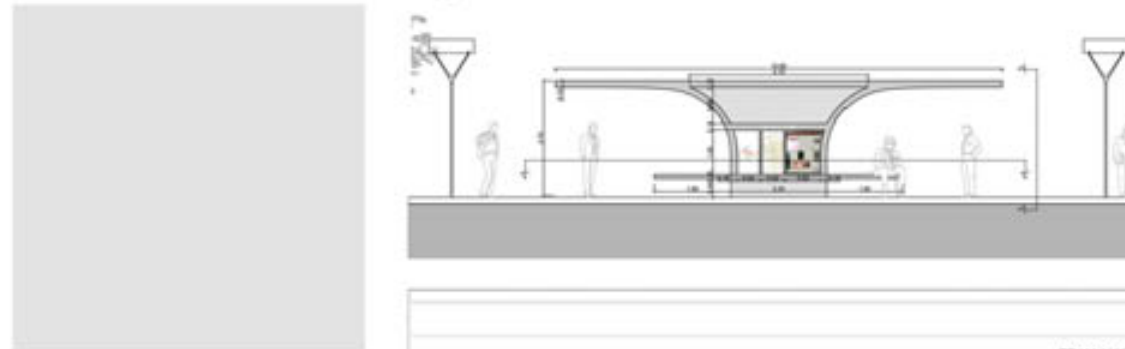
TYPICAL STOP SINGLE WAY



TYPICAL STOP SINGLE WAY_PROFILE AND PLAN



TYPICAL PEDESTRIAN OVERPASS_TRANVERSAL SECTION



TYPICAL STOP DOUBLE WAY



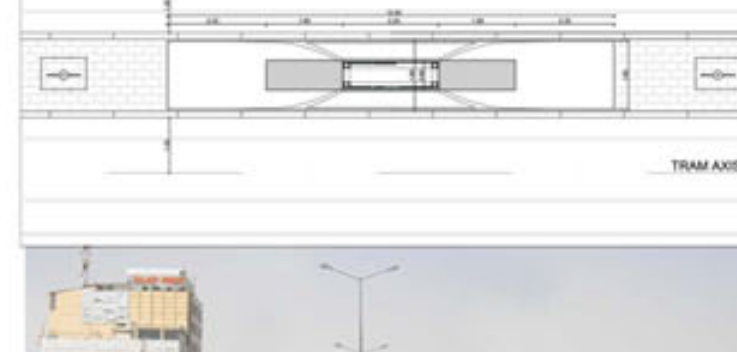
TYPICAL STOP DOUBLE WAY



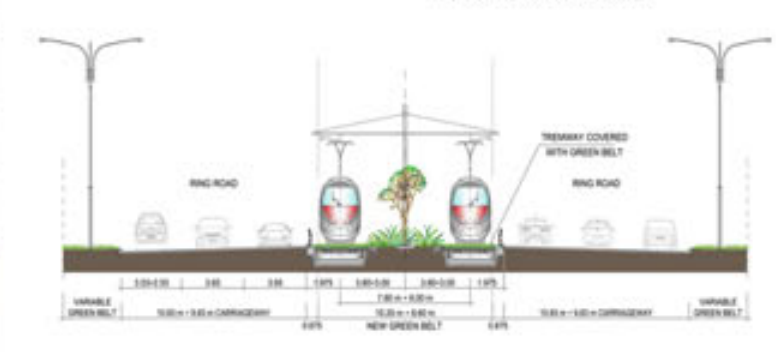
TYPICAL RING ROAD



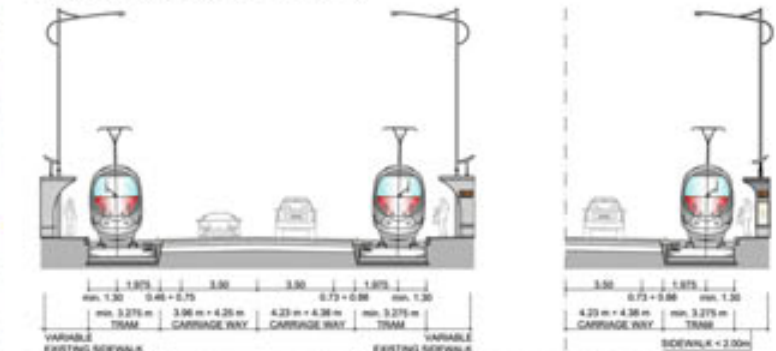
GENERAL VIEW TYPICAL PEDESTRIAN OVERPASS



TYPICAL STOP DOUBLE WAY SHELTER_FRONT ELEVATION, PLAN,
DOUBLE WAY SHELTER VIEW_SALIM STREET



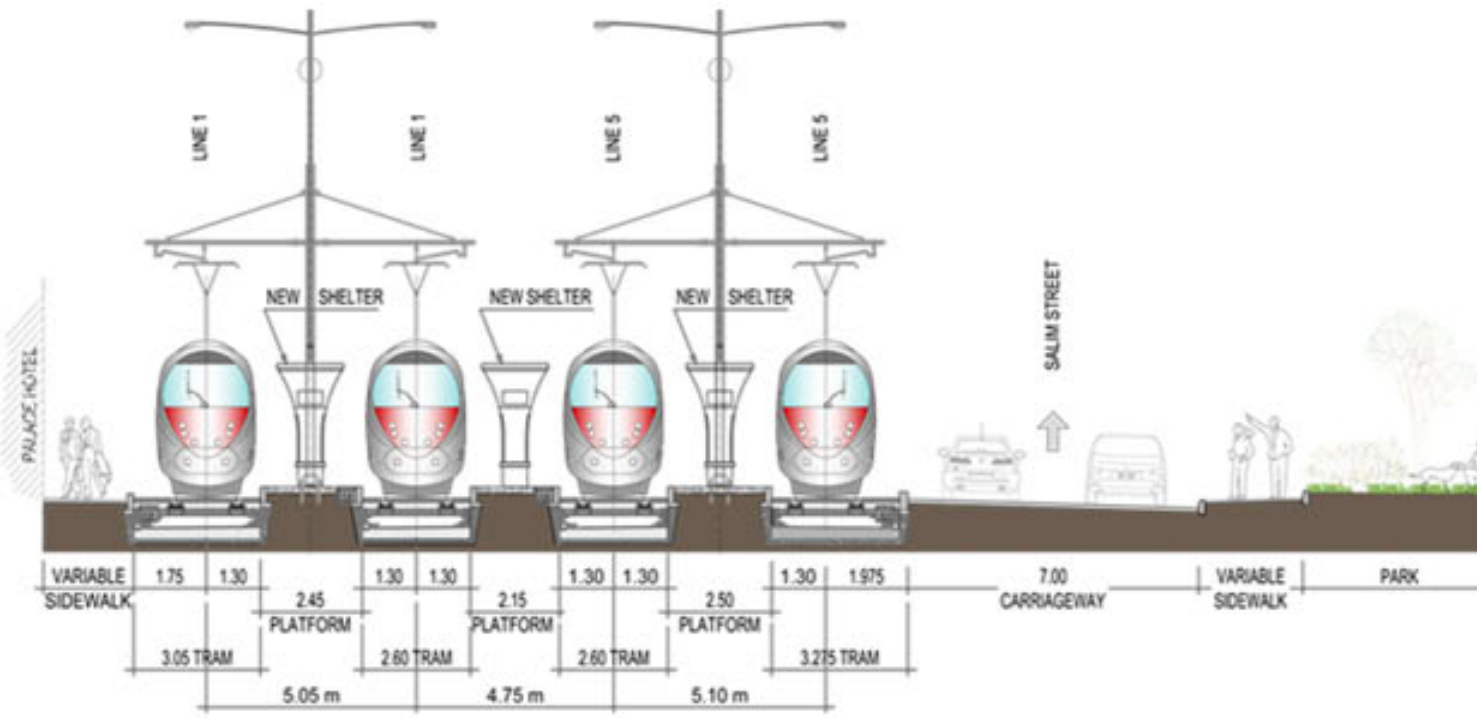
TYPICAL RING ROAD SECTION



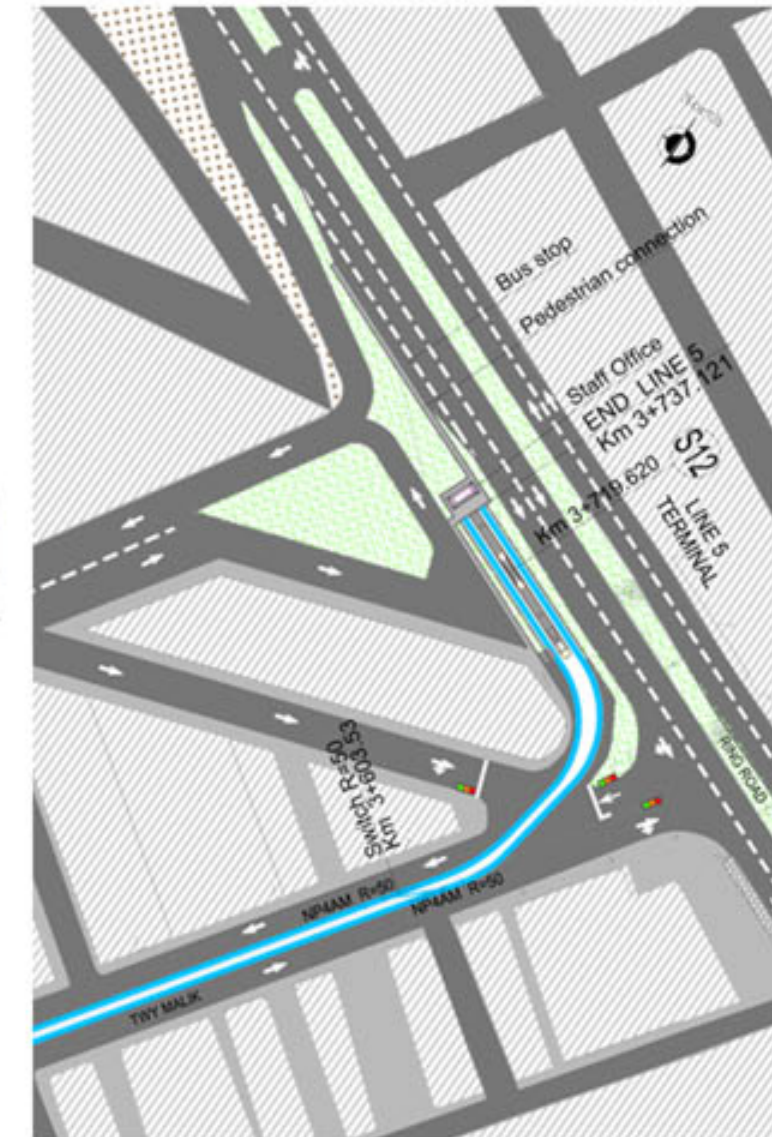
TYPICAL STOP WITH TOTEM FOR SIDE WALK_CROSS SECTION



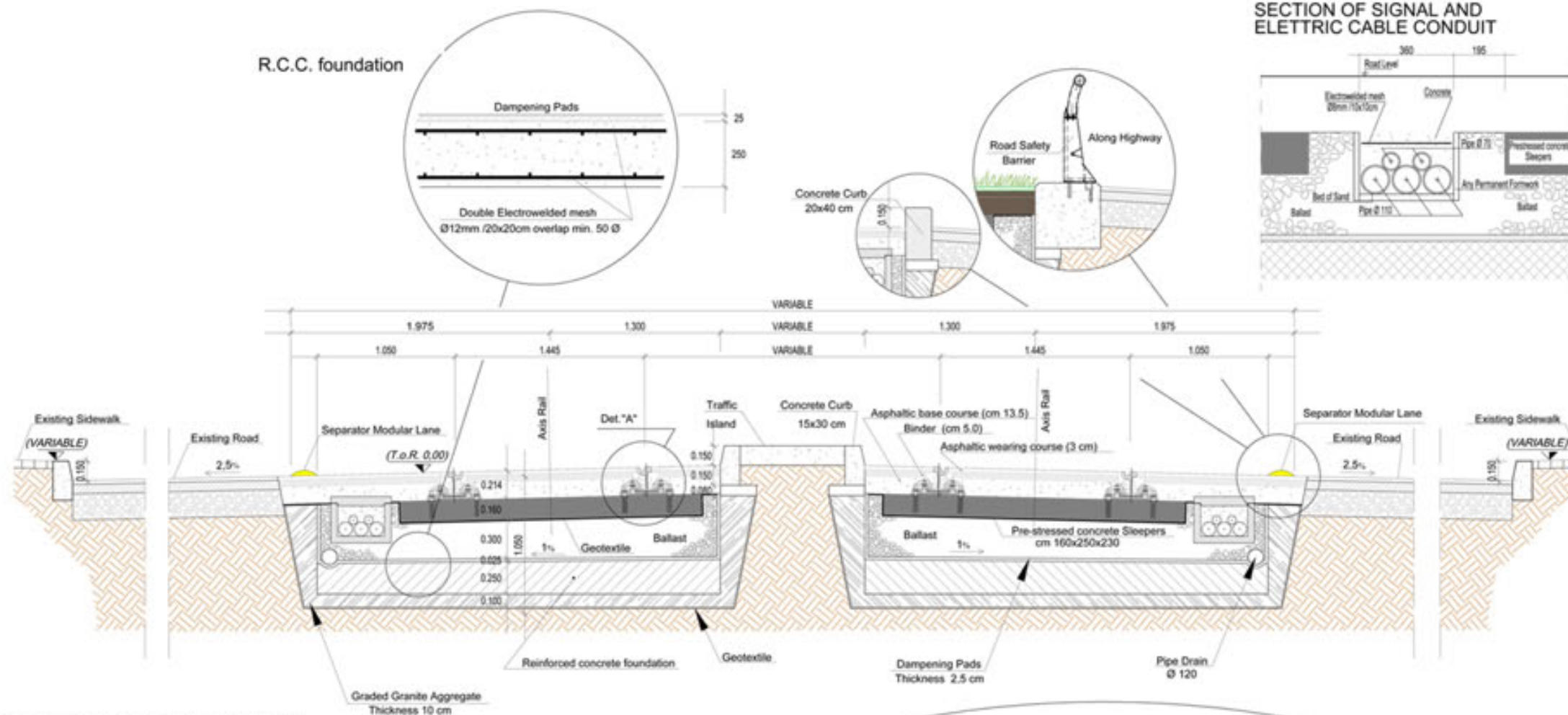
TERMINAL ALONG SALIM STREET



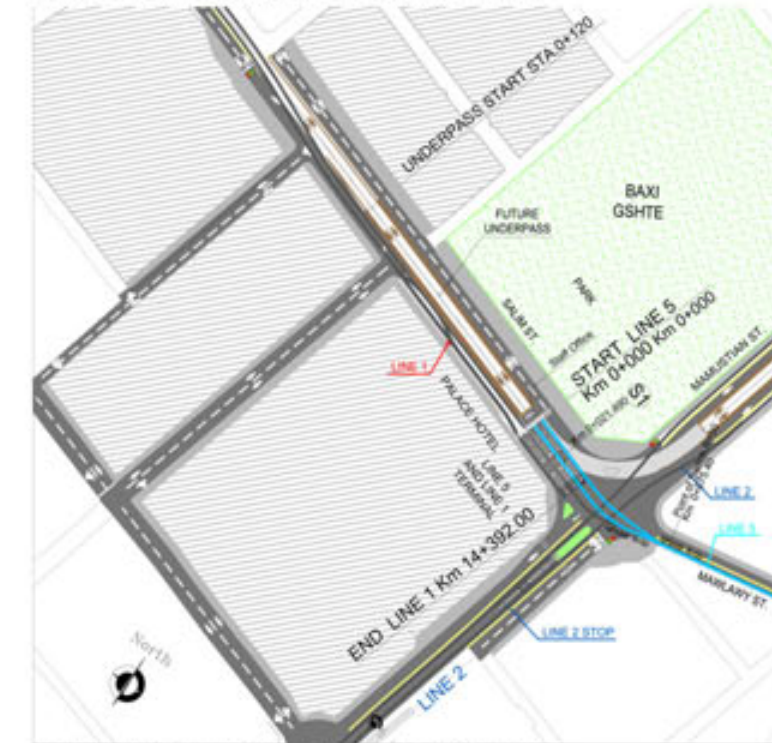
TERMINAL TYPICAL SECTION ALONG SALIM STREET



END TYPICAL TERMINAL PLAN_SALIM STREET



TYPICAL SECTION SEPARATE PLATFORM



START TYPICAL TERMINAL PLAN_SALIM STREET

The background of the slide is a faded, aerial photograph of a city, likely Rome, showing a dense urban landscape with various building shapes. Overlaid on this image is a network of thick, semi-transparent lines in white and blue, representing the tram system. These lines form a complex grid and loop through the city blocks. The text 'Atac Tram Marshalling Site' and 'Rome - Italy' is centered over this background.

Atac Tram Marshalling Site Rome - Italy

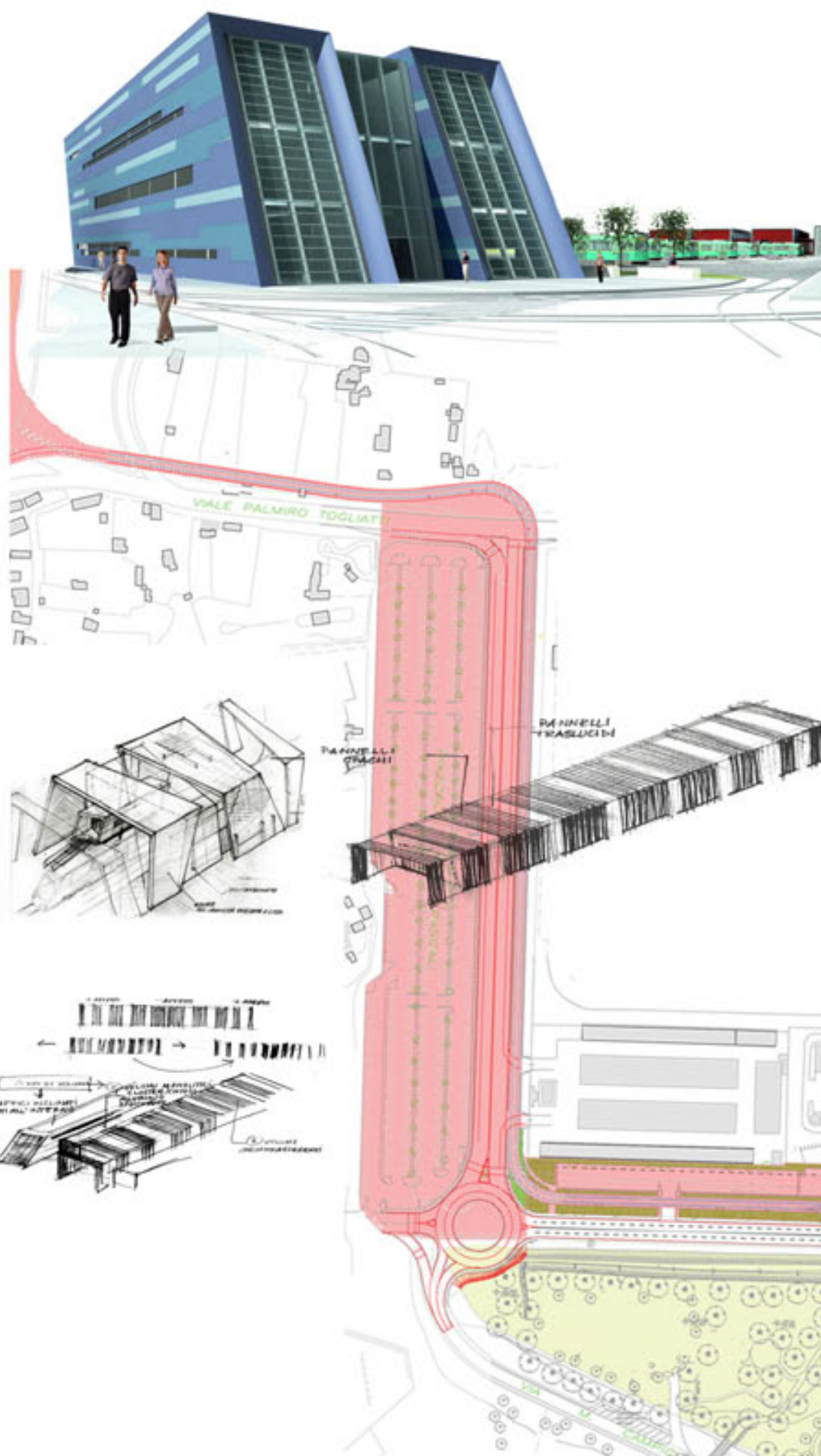
TRAM DEPOSIT AND WORK SHOP ATAC "PALMIRO TOGLIATTI" - ROME

Firm	ERREGI
Location	Rome, Italy
Client	ATAC
Total amount of bid	76.512.526 \$
Year of start	2004/2006
Current status	Project

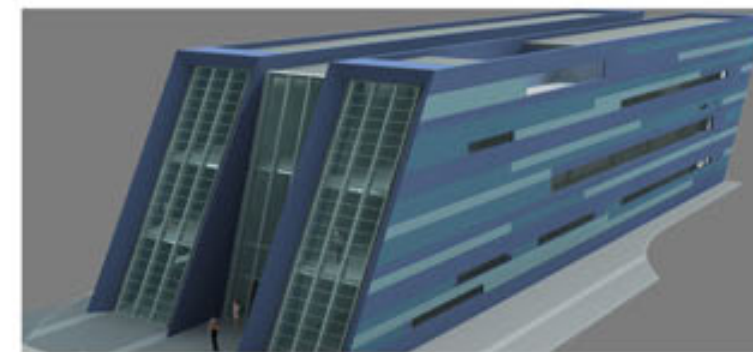
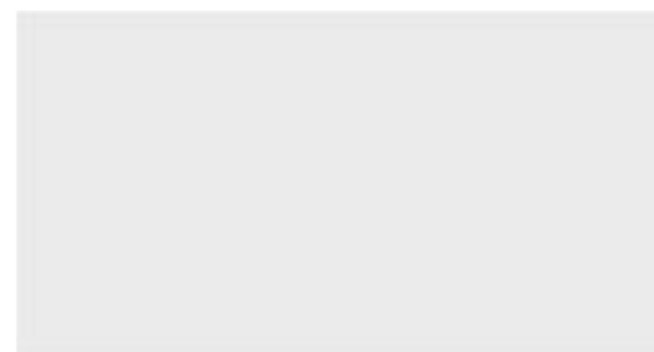
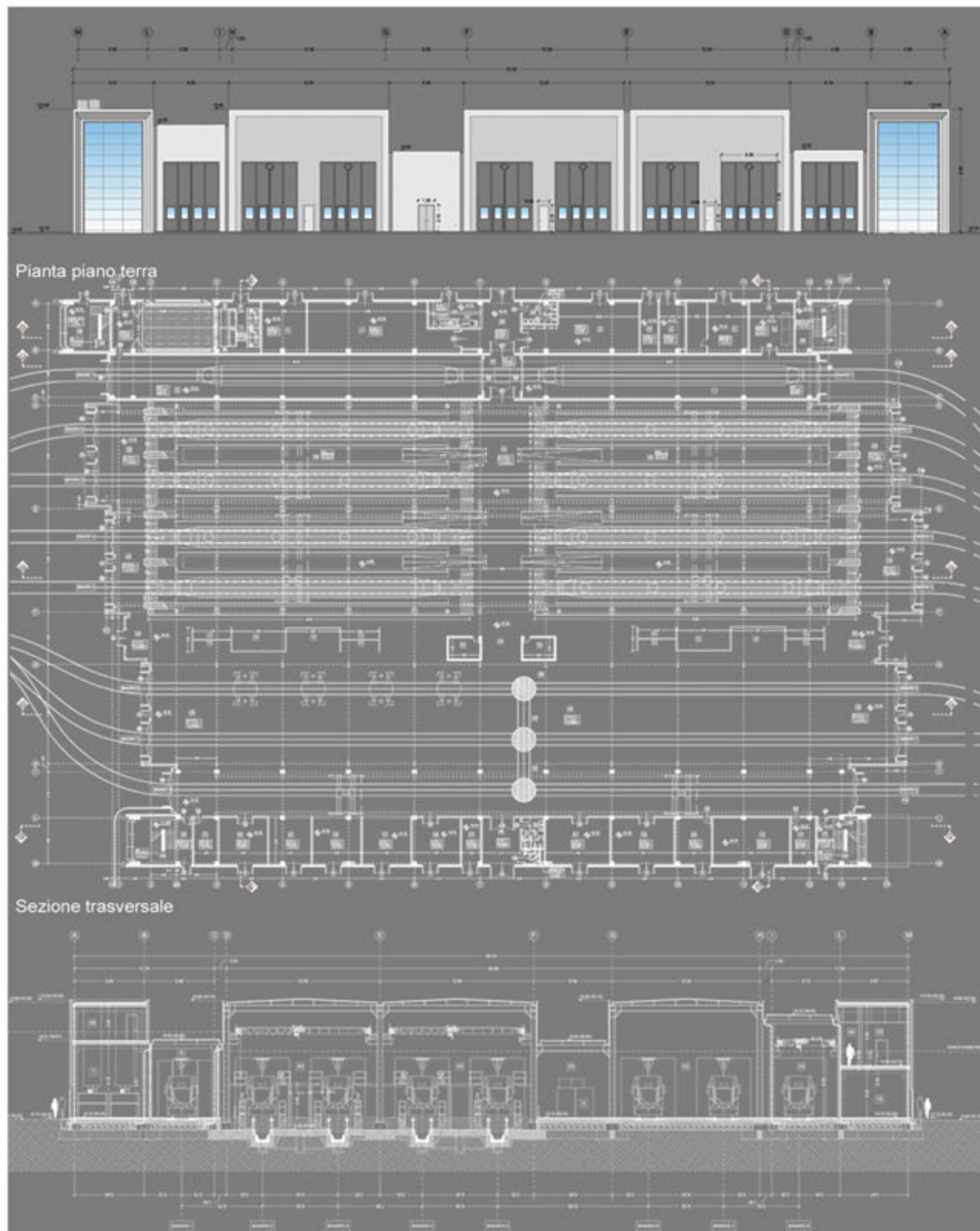
Role and professional involvement of bidder

Detailed design of civil works and railway utilities

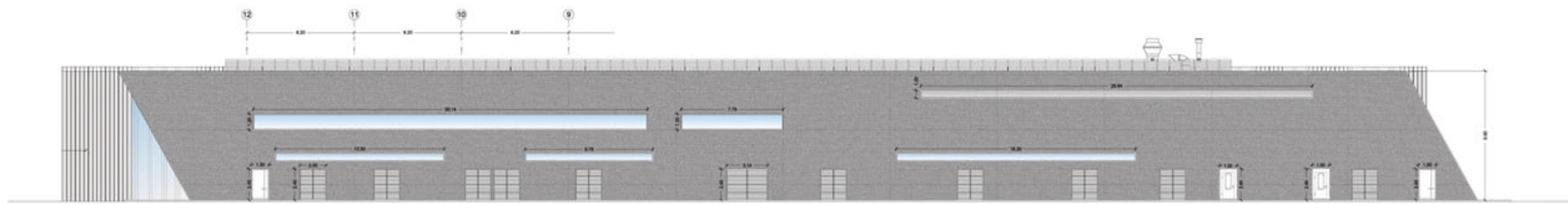
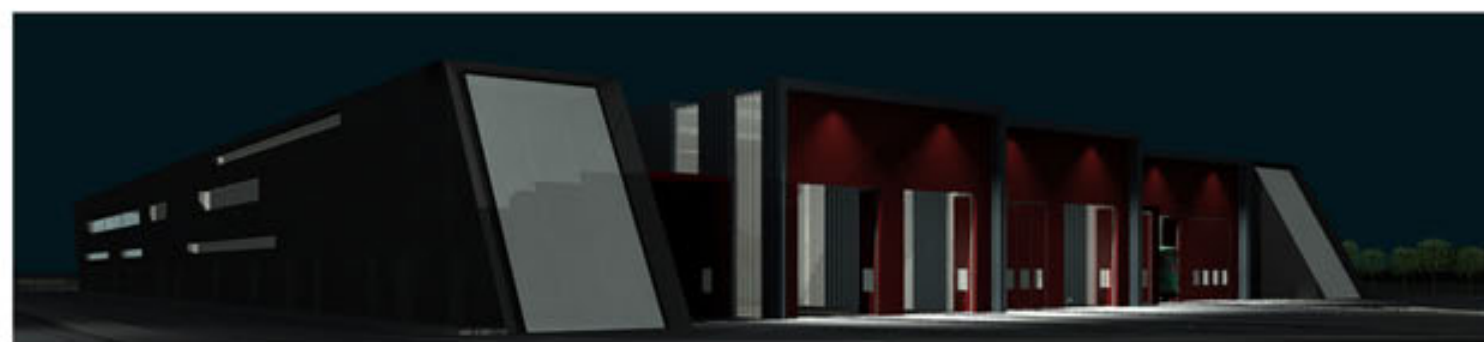
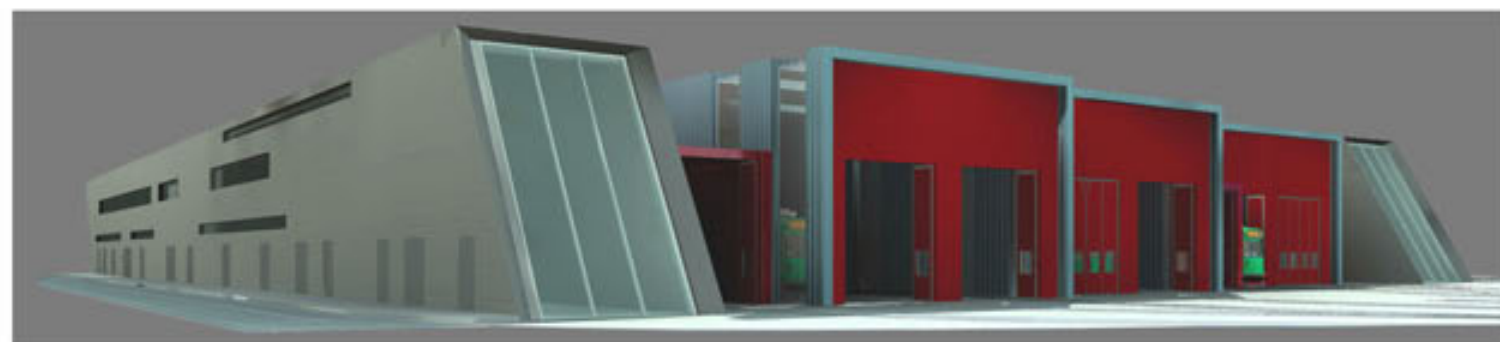
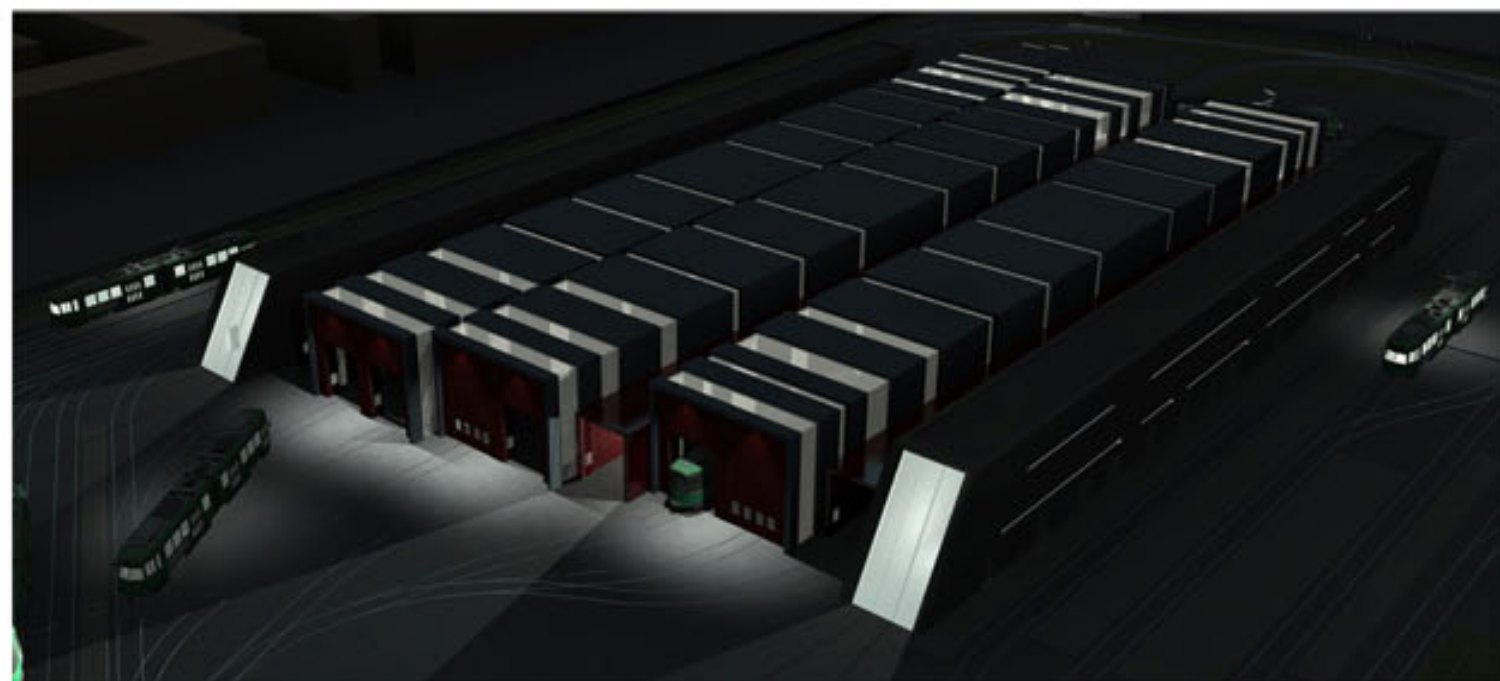
The concept under the whole complex has been thought gives the image of a living creature, whose various components are integrated with each other in order to achieve the efficiency not of the facility alone but of the whole network in which this area can be rewarded as both the brain and the heart. The main gate has been equipped with all necessary instruments for the control of access and egress of trams and workers as well as with all devices for the monitoring system, in order to insure adequate safety and efficiency standards. The access towards the offices leads to an area, which looks isolated only in appearance, containing the control room. From this point it is possible to look over every activity carried out in the premises and, by mean of an electronic panel reproducing the network, to check in real time the traffic conditions on the network. The aim of the design is to give the idea of being focused on work while being opened towards the outside world using protective walls alternated to wide glass walls. Due to the strategic relevance of this "industrial area" for the efficiency of the tram network of Rome, procedures have been carefully planned to achieve the optimization of all activities necessary to the correct functioning of the system. In order to attain this result all the most advanced technologies available have been used having also always in mind the respect of the highest health and safety standards as well as power efficiency. The design has been developed following the Building Automation philosophy in order to achieve the complete electronic control of all networks of utilities and services.



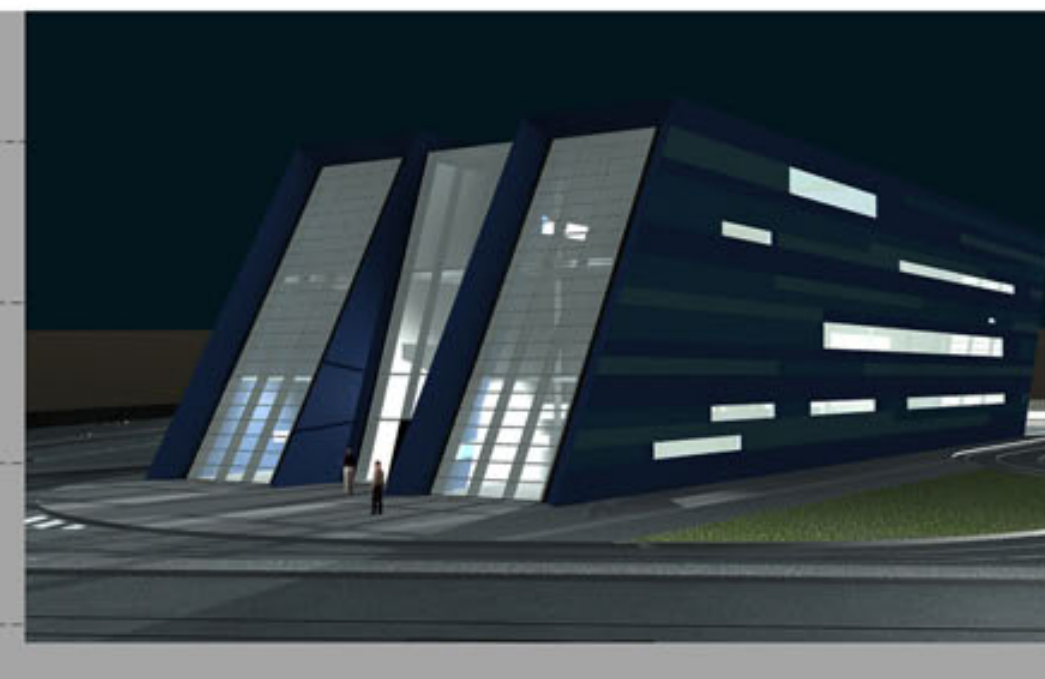
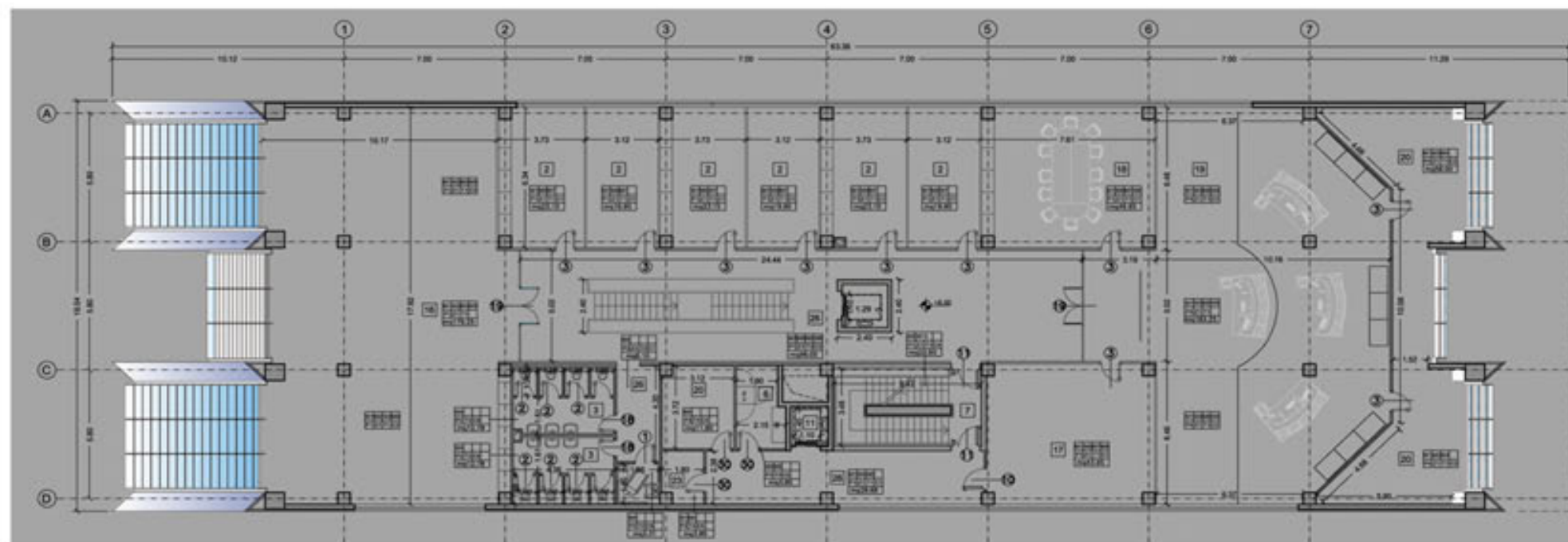
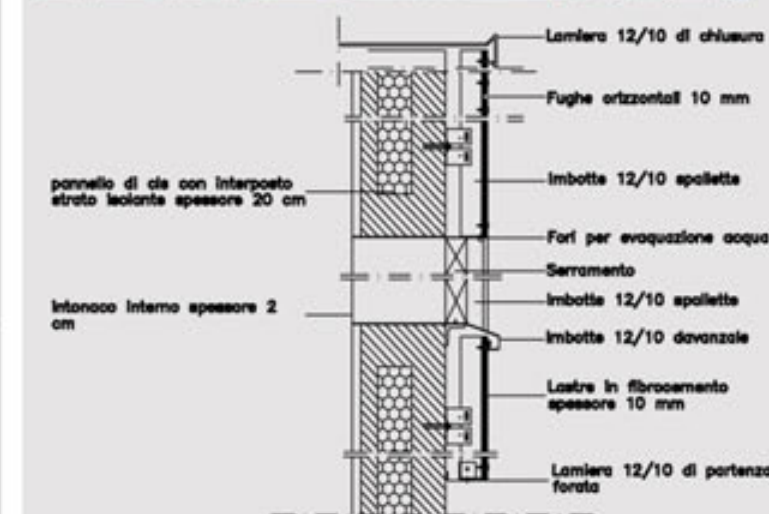
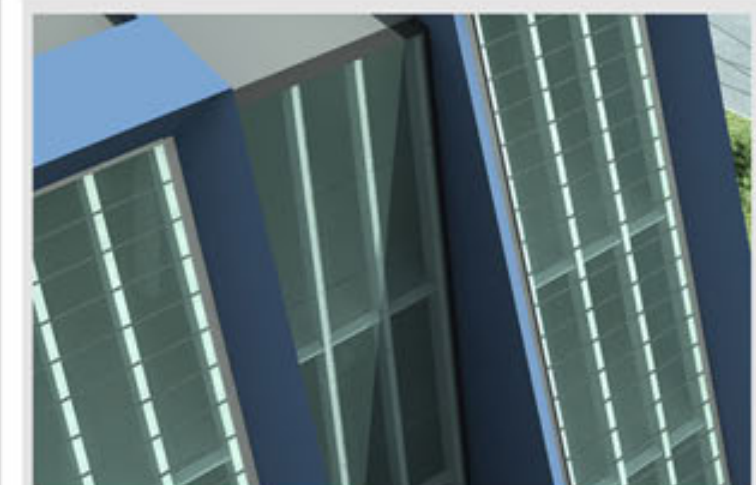
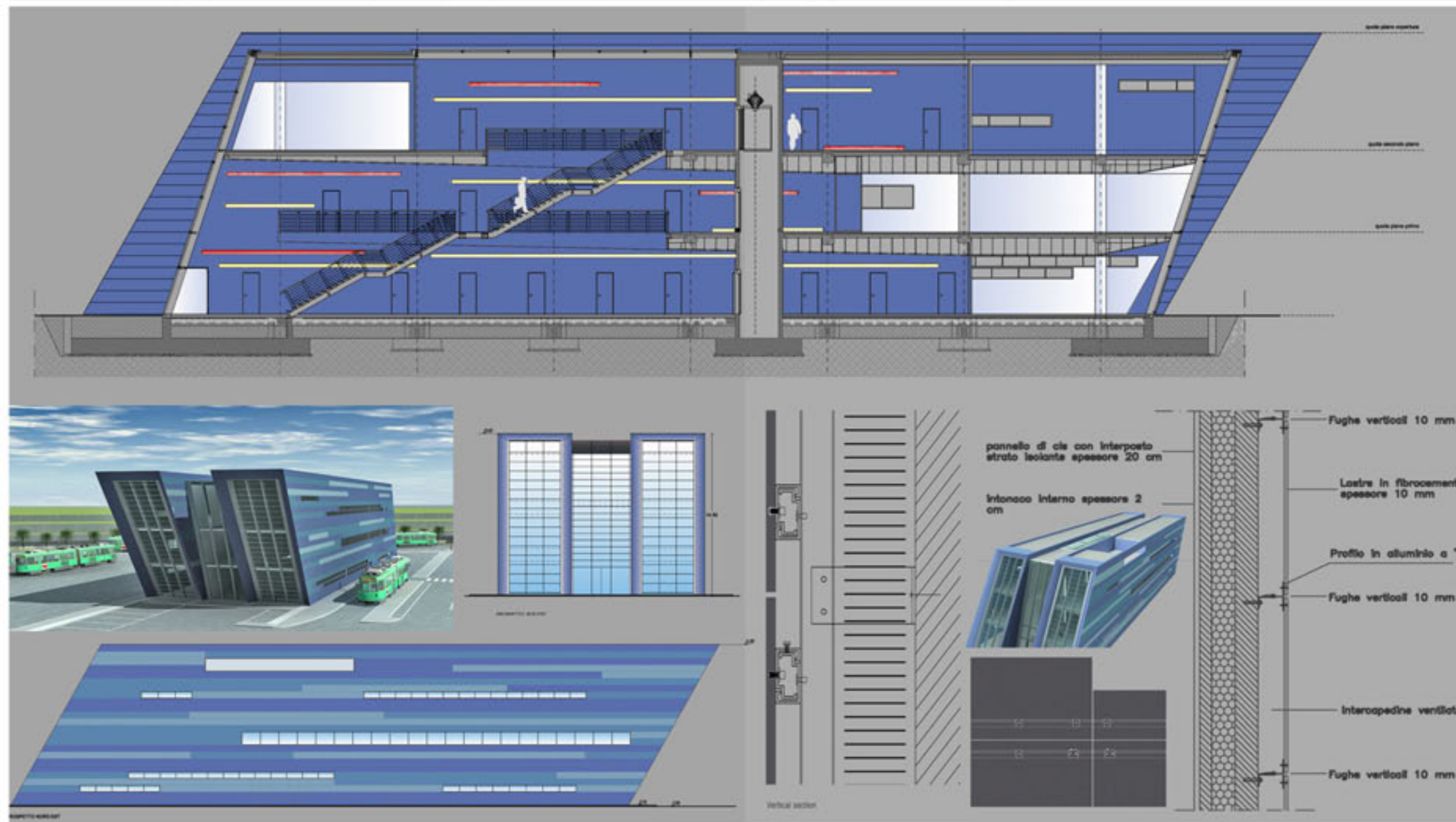
MASTERPLAN AND GENERAL VIEWS

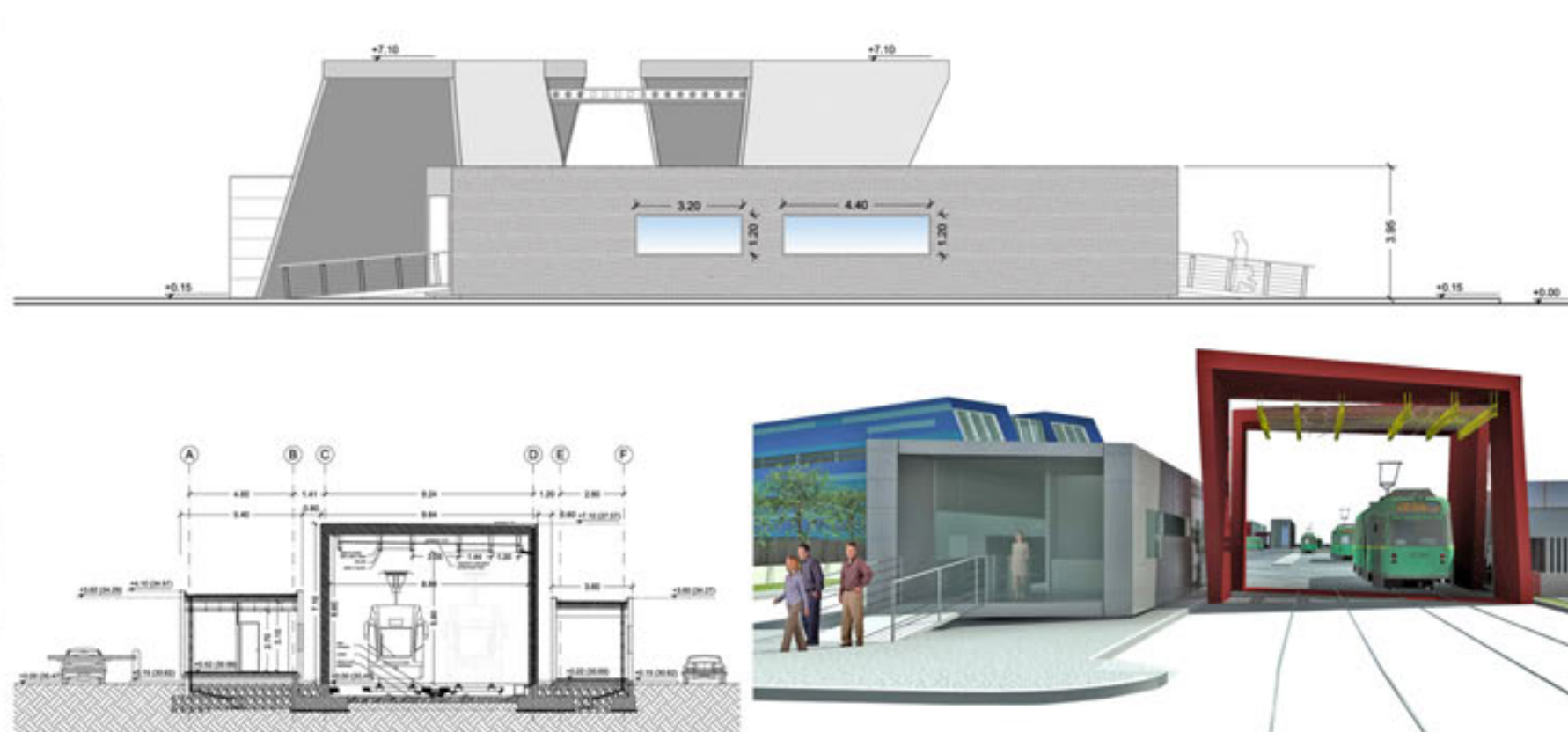


TRAM DEPOSIT AND WORK SHOP ATAC "PALMIRO TOGLIATTI" - ROME



TRAM DEPOSIT AND WORK SHOP ATAC "PALMIRO TOGLIATTI" - ROME







Tram System and Storage - Palermo

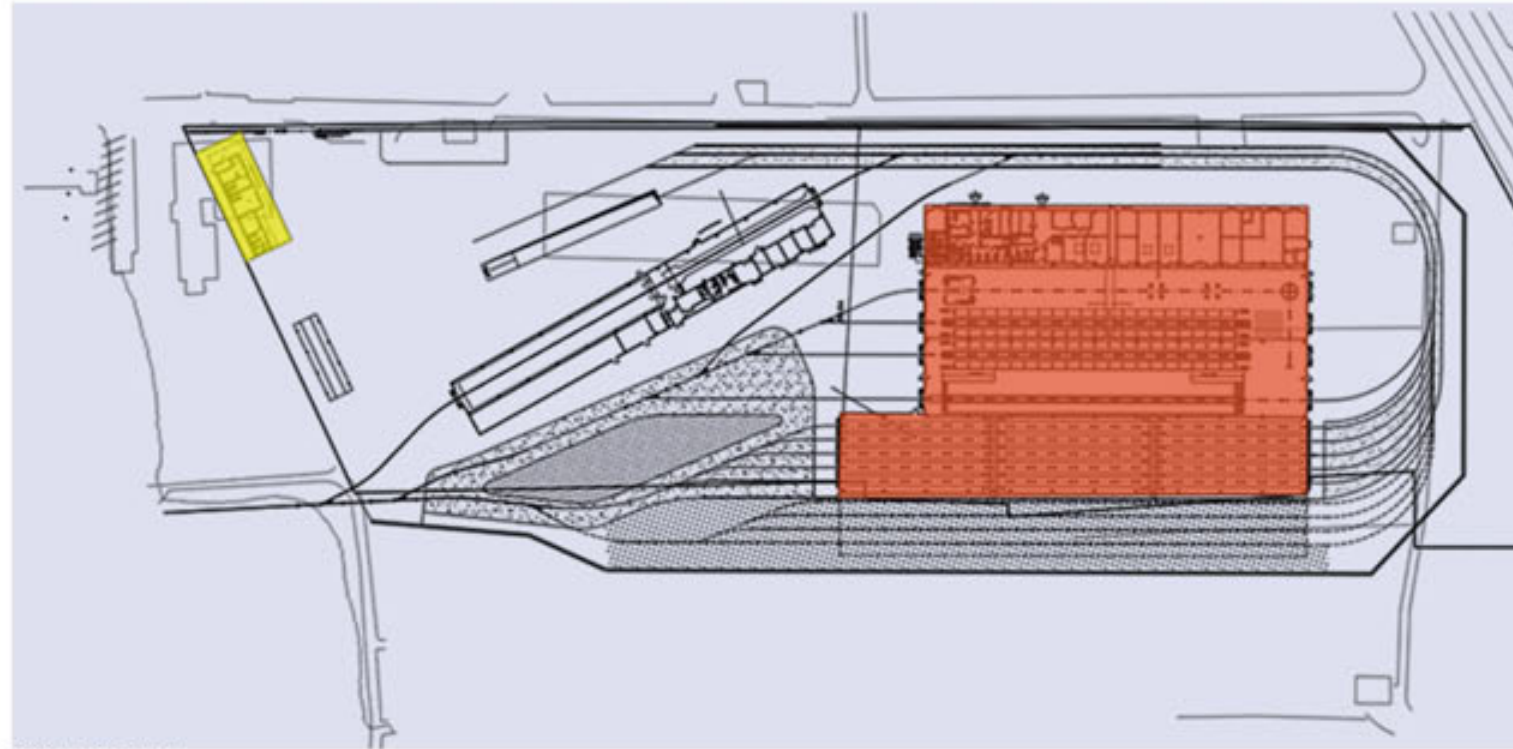
Firm	ERREGI
Location	Palermo, Italy
Client	AMAT Palermo
Total amount of bid	64.078.702 \$
Year of start	2004
Current status	definitive project
Role and professional involvement of bidder	Detailed Architectural Structural design and Equipment

The final draft of the new tram lines in the city of Palermo (Ita), is aimed at improving public service of the city center. In particular, it focused on:

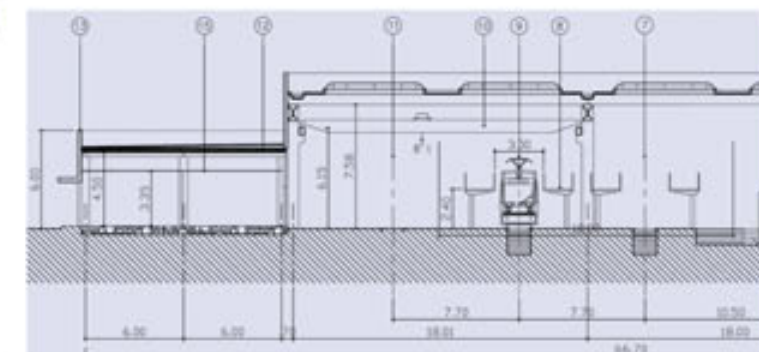
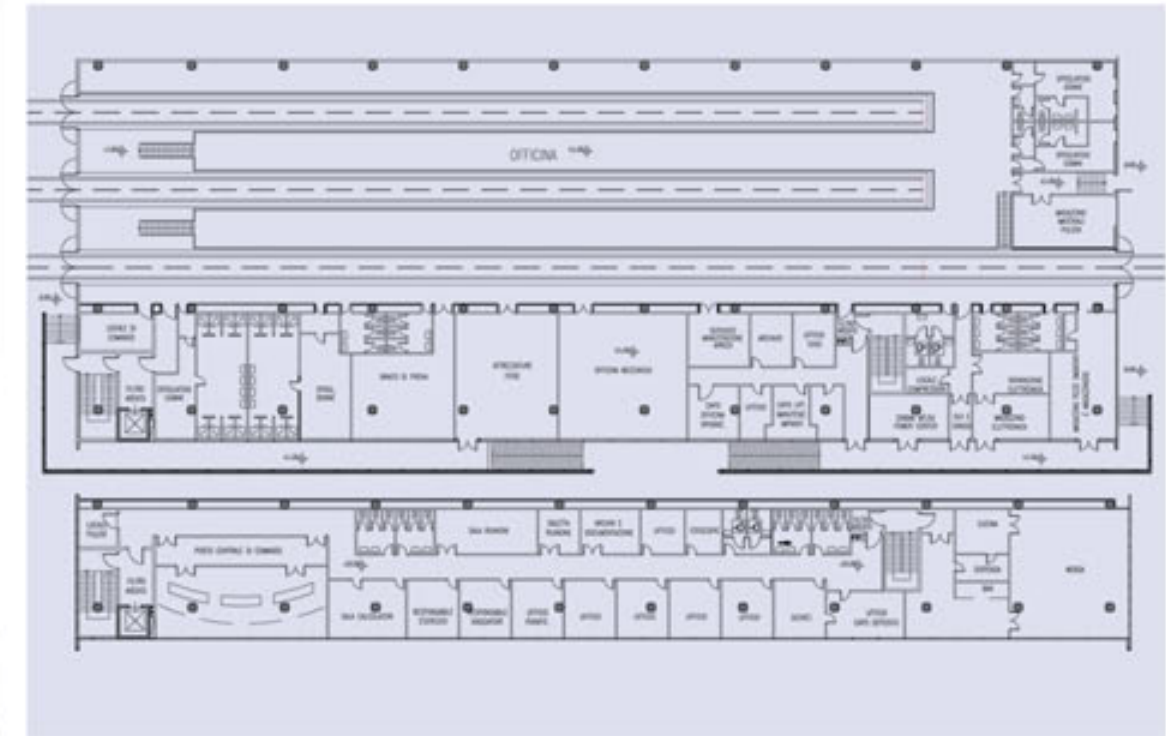
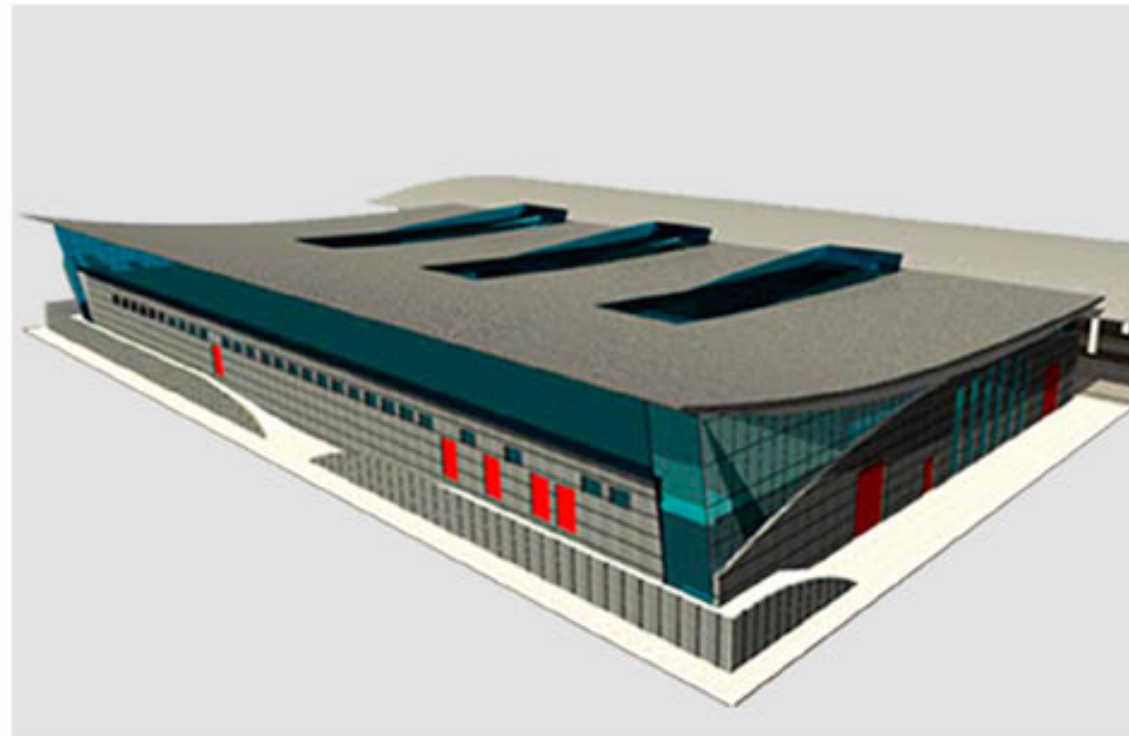
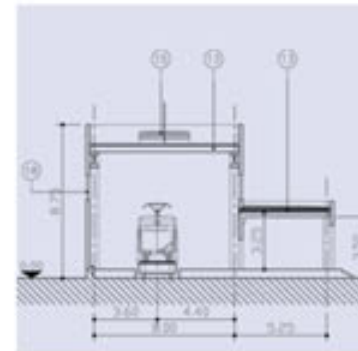
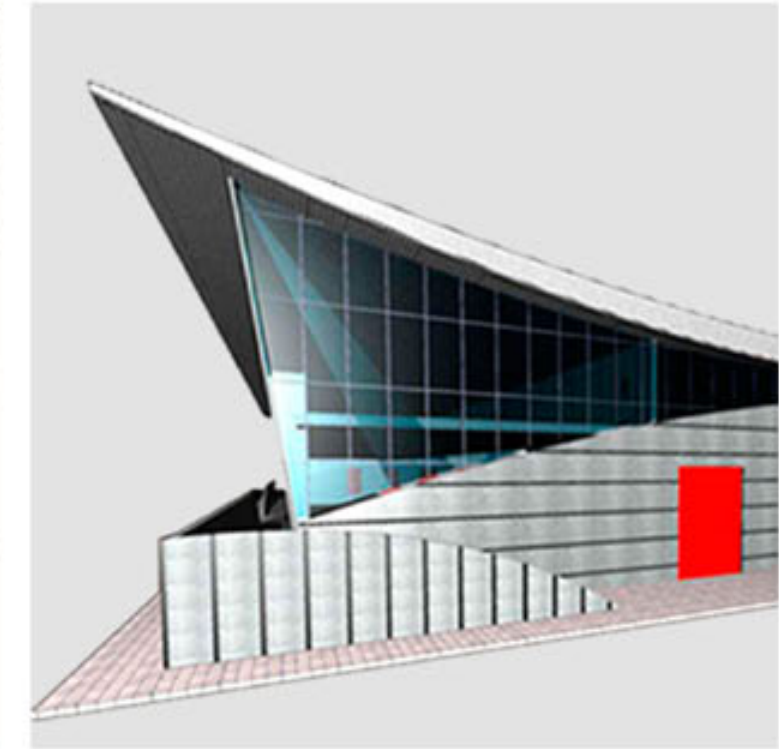
- Variant P.D. Line "1" for moving storage "Roccella and connected to the line.
- Variant P.P. Line "3" (Viale Regione Siciliana - Notarbartolo and dir. Line L. da Vinci CEP)
- Environmental Impact Study P.D. Line "3" and update S.I.A. Line "1" to move. deposit.

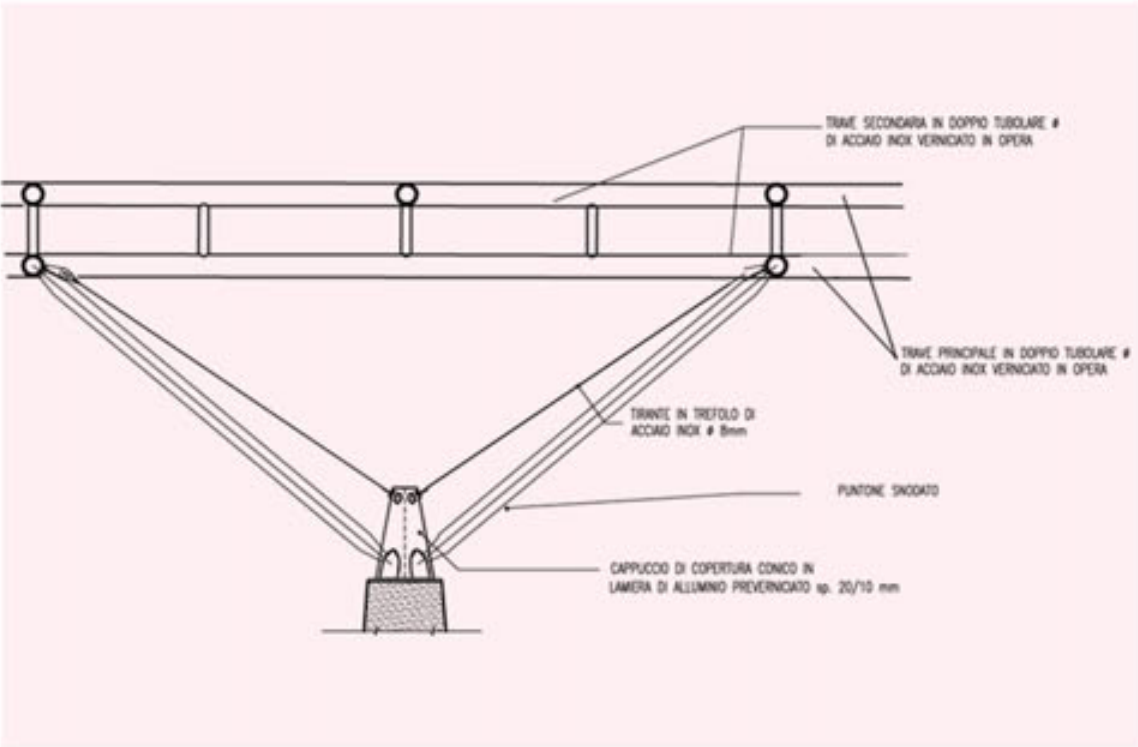
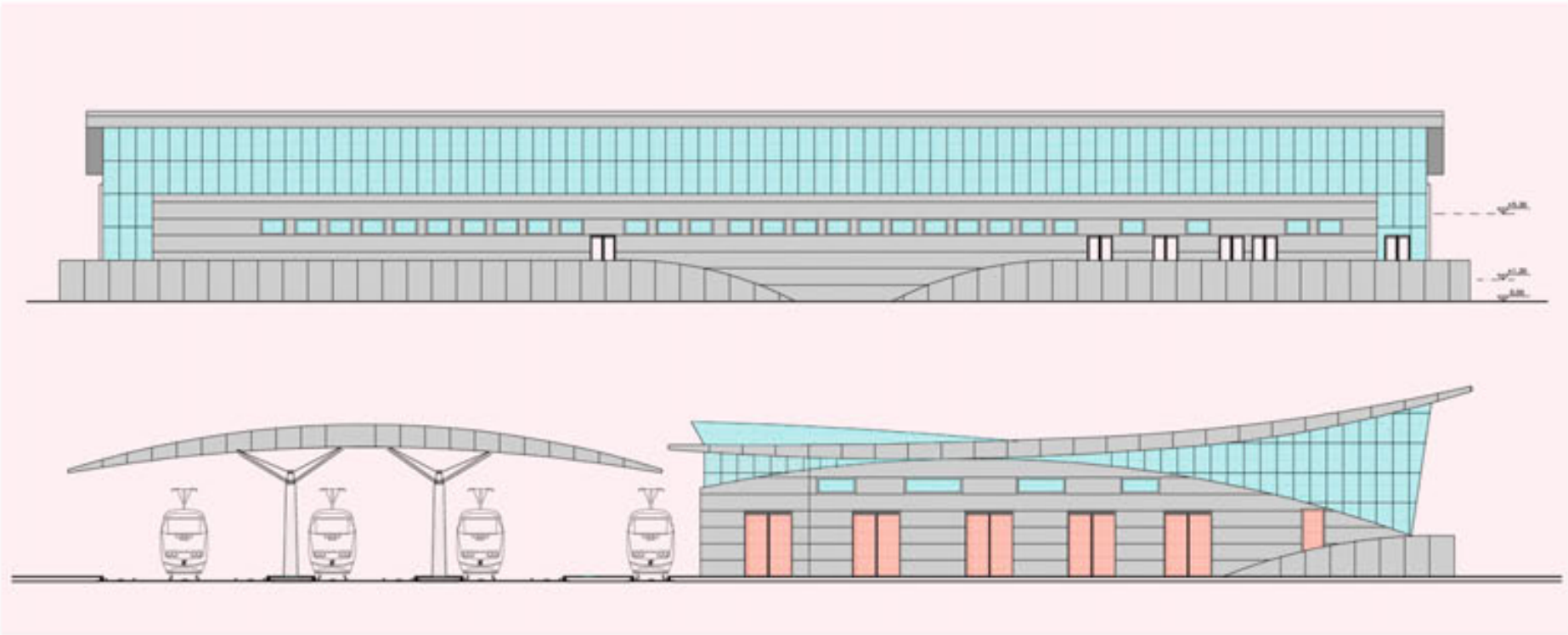
The two new tracks connected with already projected line 2 - Leonardo Da Vinci in two places. The section on Viale Regione Siciliana is a ring of 5800m, while the tract directly to CEP is a double track along 1.480m.

The Line 3, consisting of two closely connected to Line 2, the effect of synergy in the use on the carriage park increases significantly. The conformations of the Line 2 and Line 3, with the latter connected, assume a structure that fans out, as they proceed from the center outwards. Thanks to this structure, and with a number, limited to 7 vehicles, it was possible to ensure an efficient service to users, with very high frequencies in central areas, more sensitive to mobility solutions, frequency decreases towards the periphery

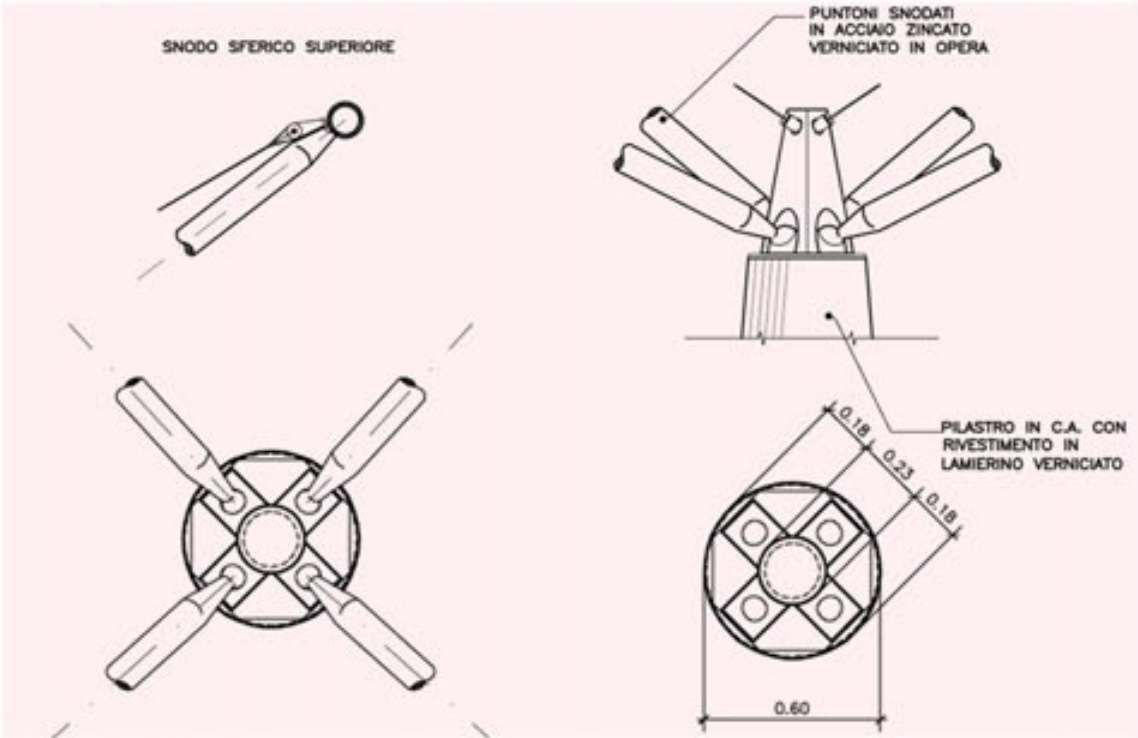
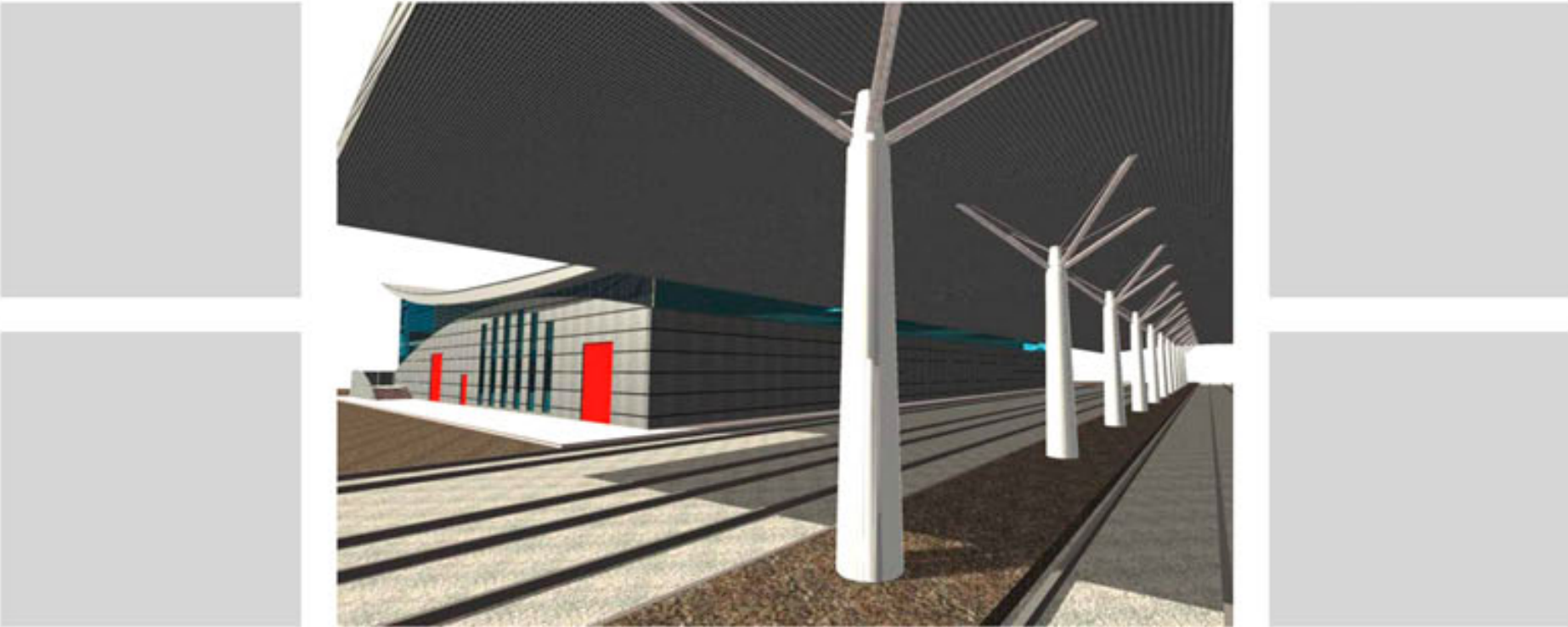


TRAM STORAGE

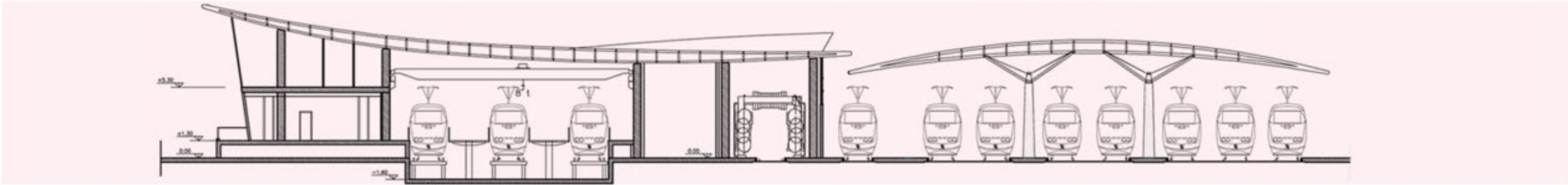




ROOF DETAIL



DETAIL SHELTER HUB

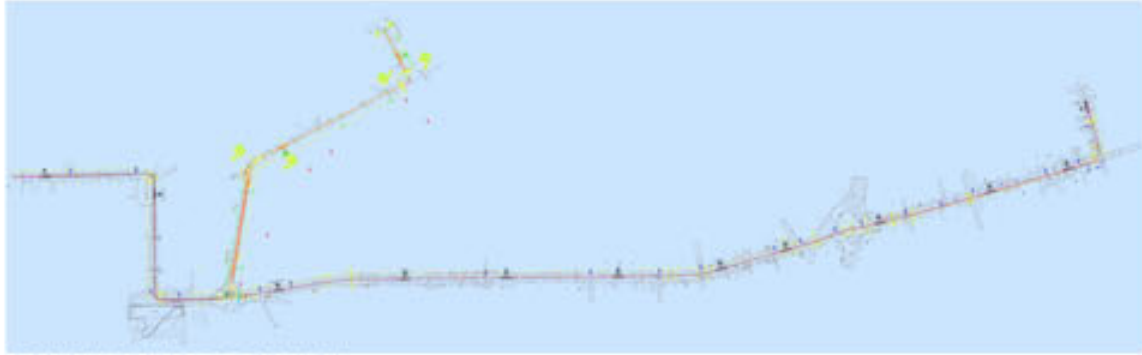




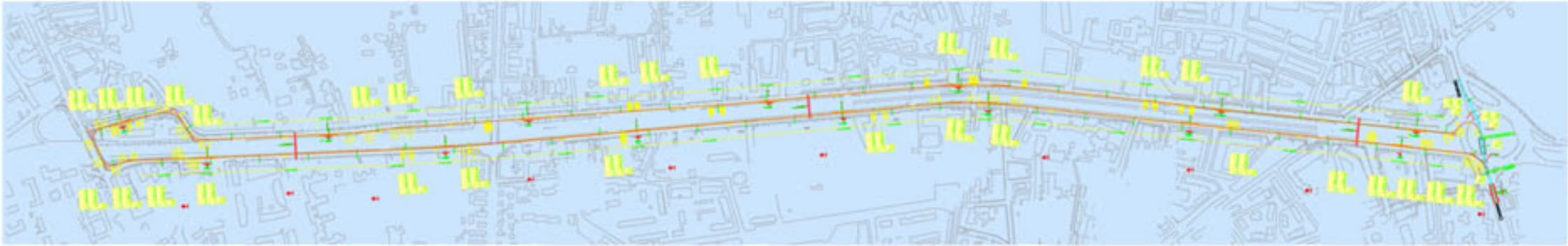
GENERAL CHOROGRAPHY LINE 1, 2, 3



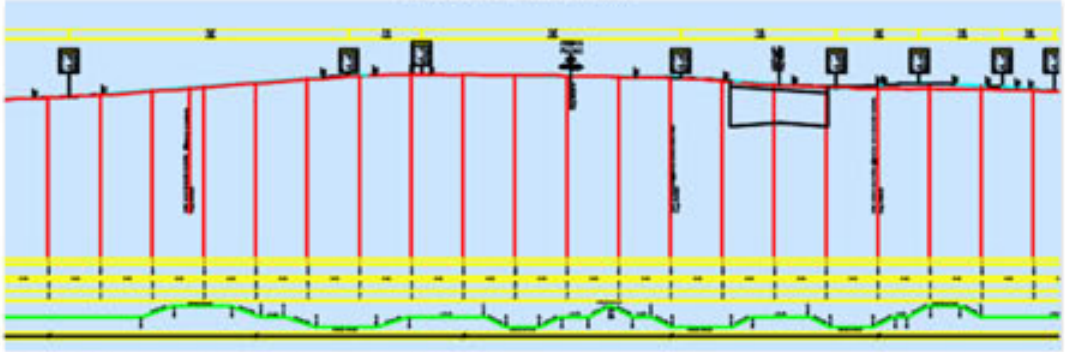
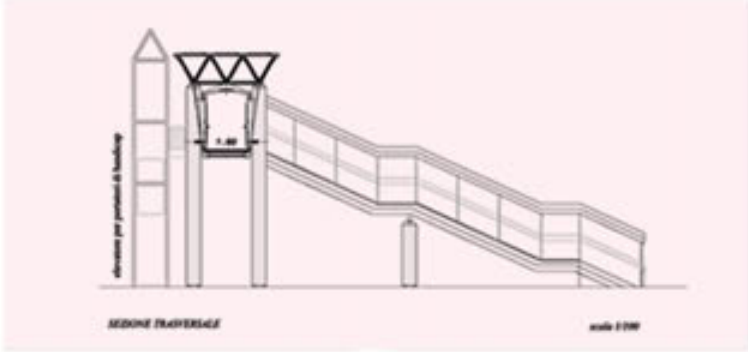
CALATAFIMI BRANCH RELEASE-LEONARDO DA VINCI



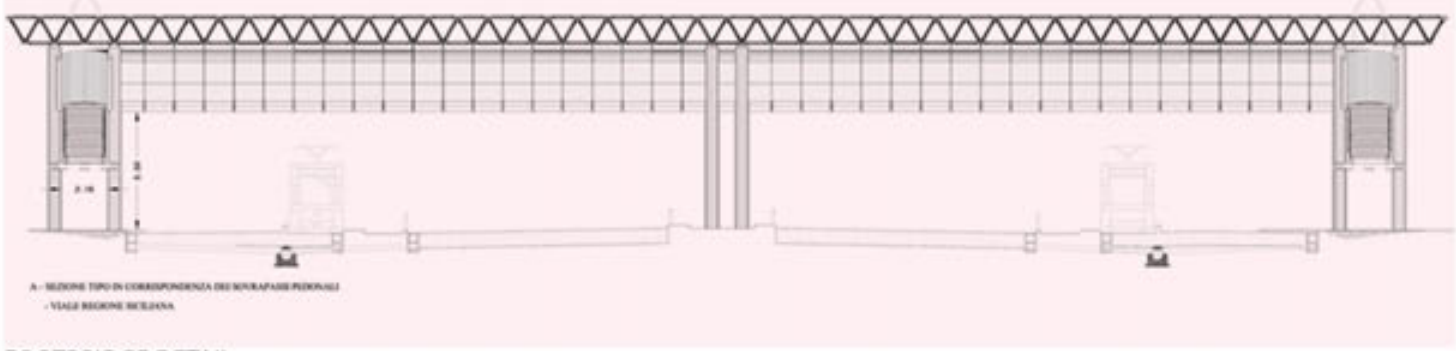
BRANCH LEONARDO DA VINCI



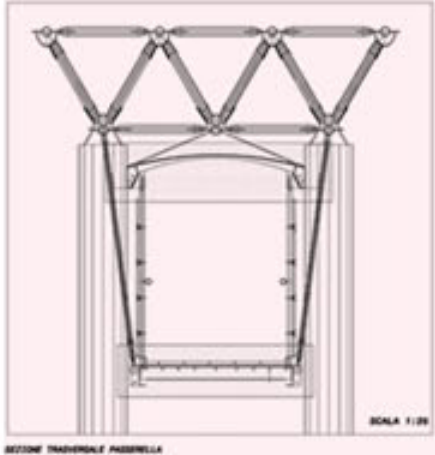
BRANCH CALATAFIMI



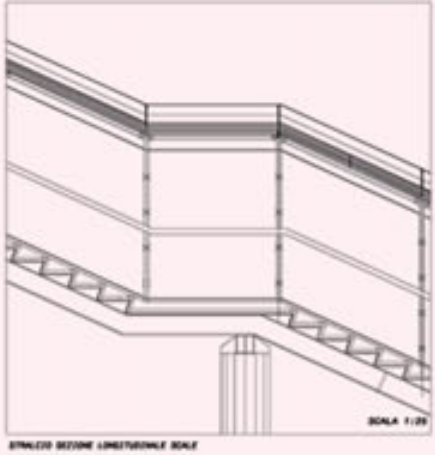
BRANCH CALATAFIMI-LONGITUDINAL PROFILE



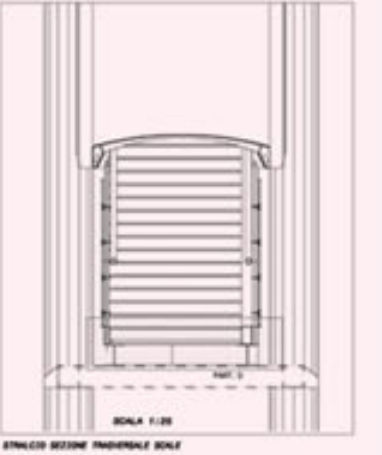
FOOTBRIDGE DETAIL



SEZIONE TRASVERSALE PIAZZELLA



STRALEZZO SEZIONE LONGITUDINALE SCALE



STRALEZZO SEZIONE TRASVERSALE SCALE



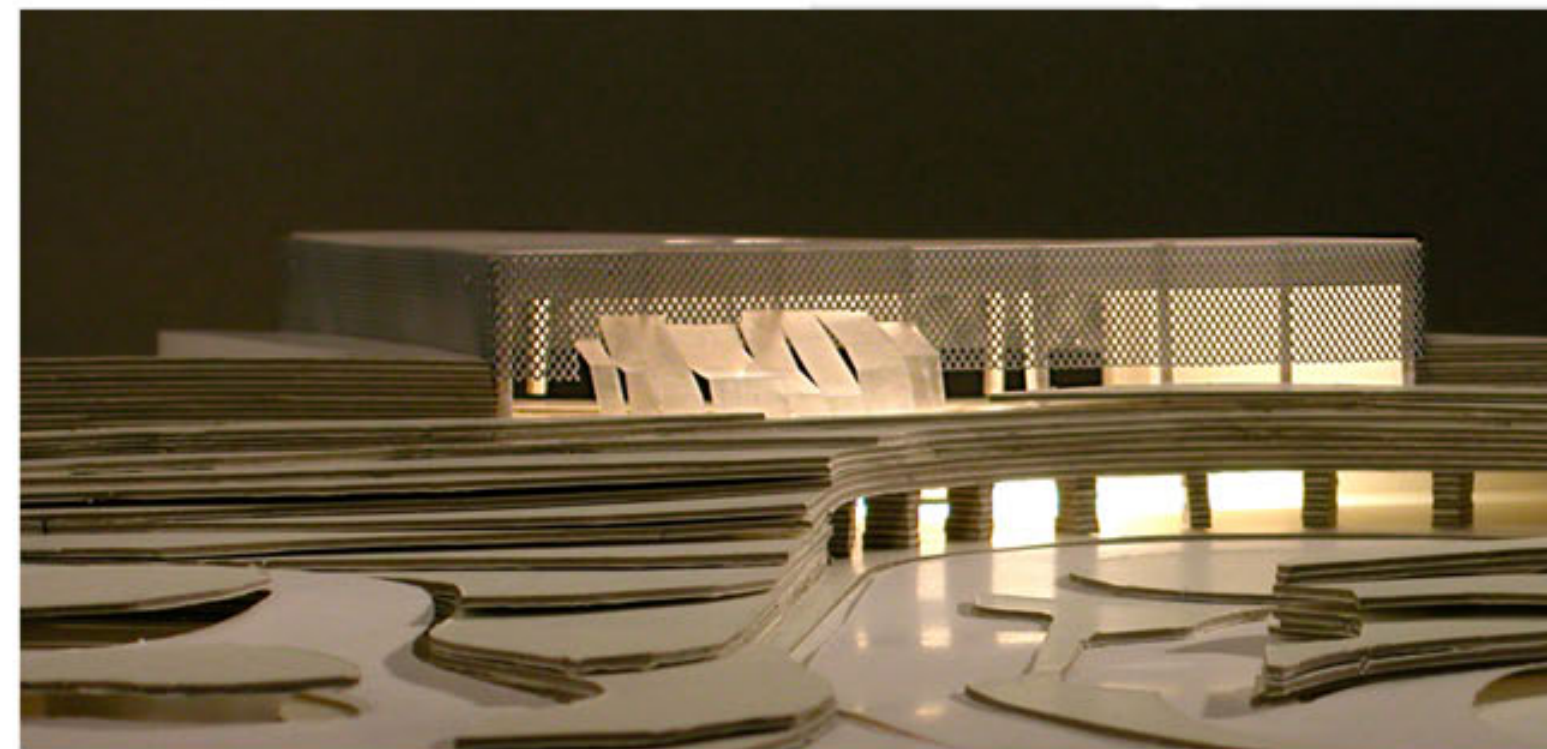
AIRPORT TERMINALS

- Pantelleria Airport, Pantelleria island – Italy
- Olbia Airport, Costa Smeralda Sardinia – Italy
- Fiumicino International Airport - Terminal “E”
Expansion and Revamping - Italy

The background is a faded, high-angle architectural rendering of a city with various building shapes. Overlaid on this is a large, semi-transparent blue geometric shape that resembles a stylized 'R' or a series of interconnected blocks, framing the central text.

Pantelleria Airport Pantelleria island - Italy

Firm	ERREGI
Location	Pantelleria Island, Italy
Client	ENAC
Total amount of bid	15.720.000 \$
Year of start	2004/2006
Current status	Built
Role and professional involvement of bidder	Concept, preliminary and architectural, civil and utilities detailed design



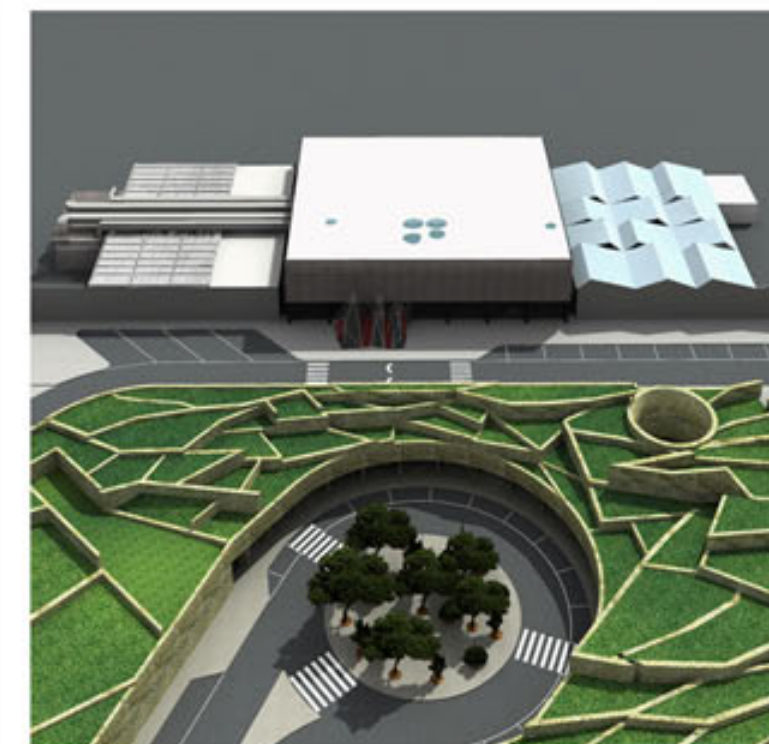
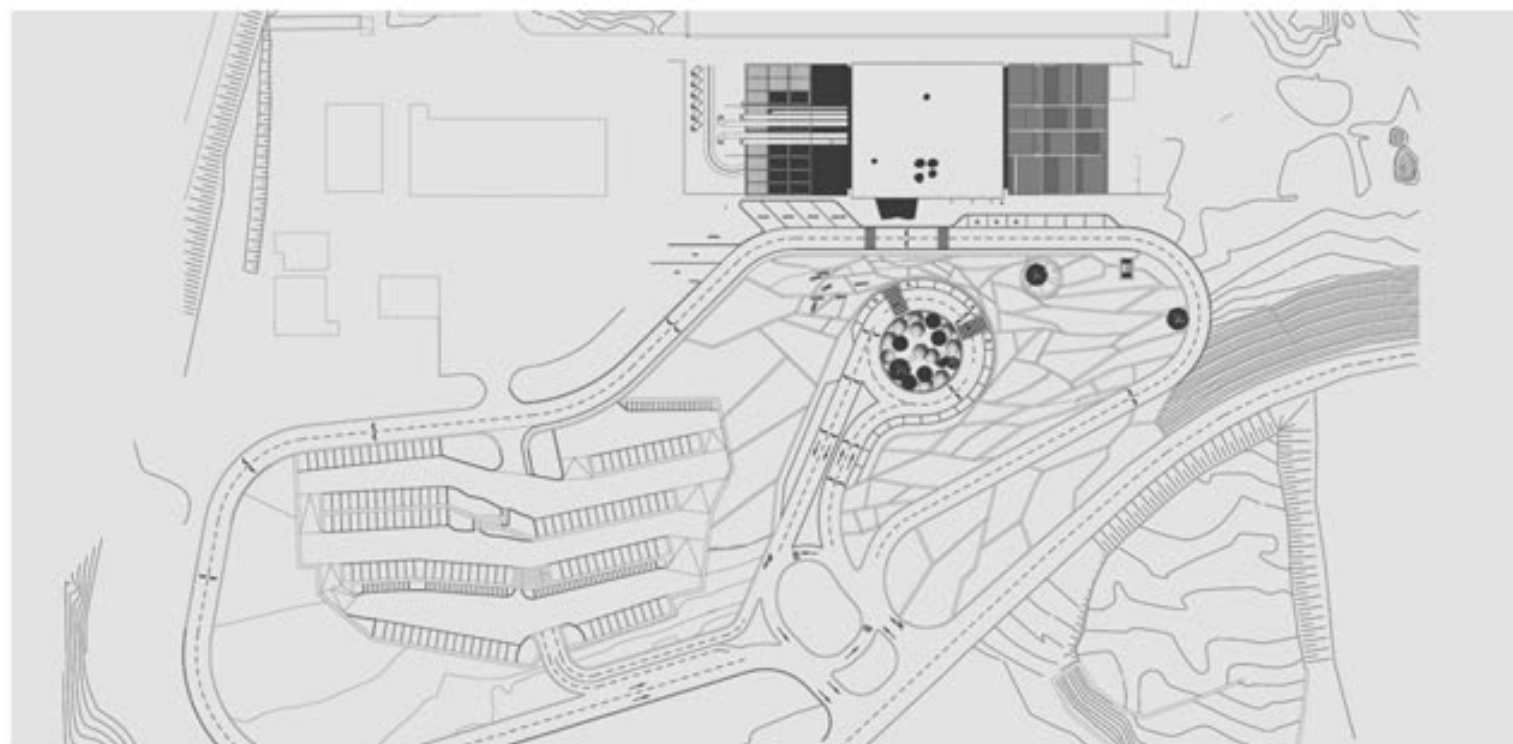
The guidelines followed for the design have been driven by the will of restoring the natural environment as much as possible, reusing the existing structure and changing its appearance to fit better within the landscape of the island. The philosophy at the origin of the whole project has been respectful of the natural environment and pursued the design of the structure as part of the hosting landscape.

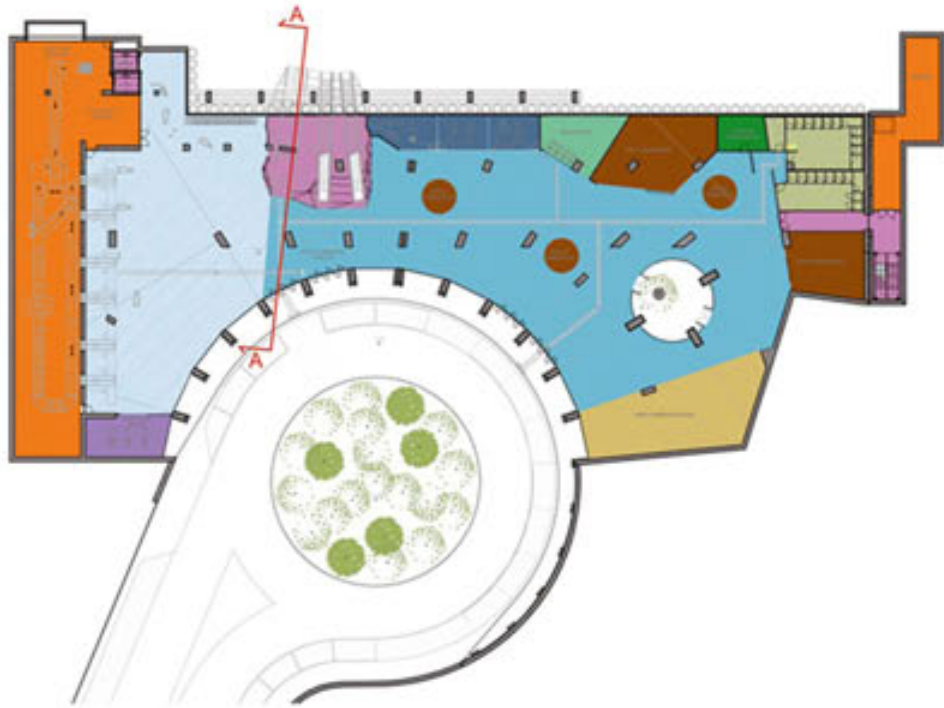
Following the course of traditional uncemented walls, the access road progresses into the countryside leading the passengers to the departures or the parking and arrivals zone. This layout has been realised on two levels using a natural difference in height of the ground.

The outside of the existing building has been "shaded" with a steel wire net, through which the sunlight passes illuminating the interior in a milder and more homogeneous way. The new part of the building on the ground floor is a fresh place, with dark walls made of volcanic rock and a white roof, enlightened by light shafts passing through the "crater" and the typical Pantelleria garden. The glass element acting as a junction between the two levels looks as a natural intro-mission on the artificiality of the terminal building.

In order to achieve as much as possible energy self sufficiency for the air terminal, photovoltaic panels have been located on the rooftop of the main building with a studied orientation to attain the highest performance.

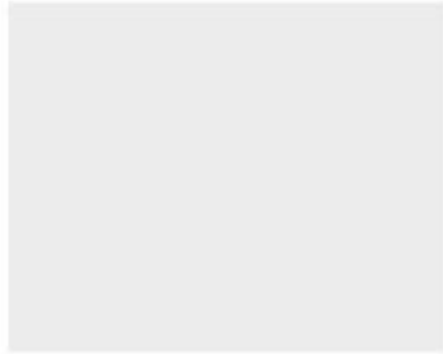
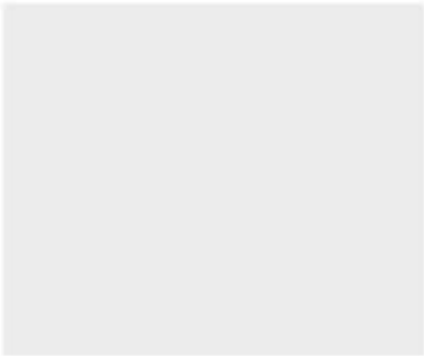
In order to evaluate the esthetical impact of the structures on the surrounding environment a 3D model has been implemented with the use of virtual reality to simulate real conditions.



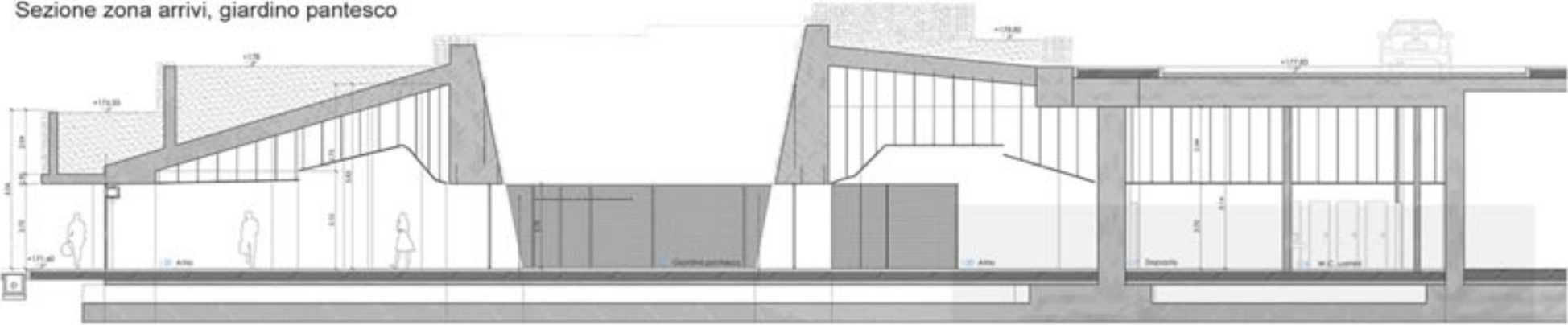


PIANTA PIANO IPOGEO
KISS AND RIDE, CHECK IN, GIARDINO PANTESCO,
STRUTTURE COMMERCIALI E DI RISTORO

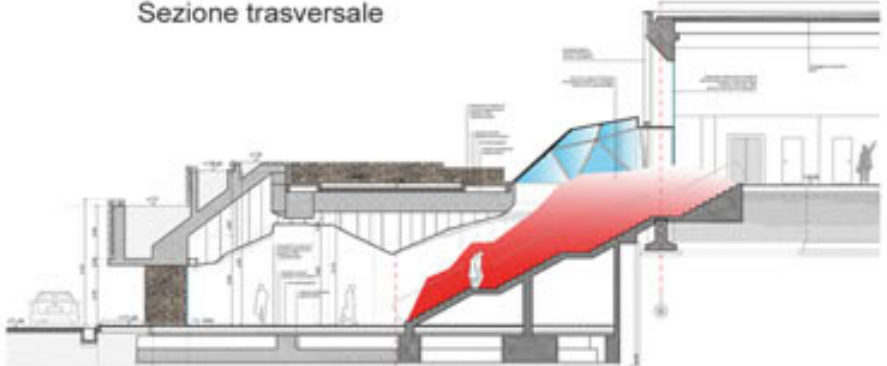
DESTINAZIONI D'USO - PARAMETRI DIMENSIONALI		
PIANO INTERRATO AEROSTAZIONE	SUP.TOTALE LORDA	2963 m ²
	SUP.PARZIALI	SUP.TOTALI
ATRIO PARTENZE		964 m ²
AREA CHECK-IN		638 m ²
SPAZIO CONNETTIVO AD USO PUBBLICO		192 m ²
SPAZI COMPAGNIE AEREE		45 m ²
ENTI DI STATO		74 m ²
SPAZI COMMERCIALI		195 m ²
FOOD & BEVERAGE		159 m ²
BIGLIETTERIE / INFORMAZIONI		47 m ²
VANI TECNICI		525 m ²
SERVIZI IGIENICI		102 m ²
LOCALI A DISPOSIZIONE		22 m ²



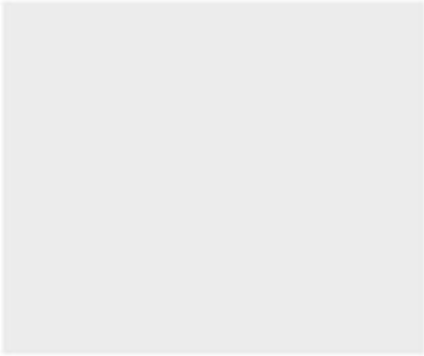
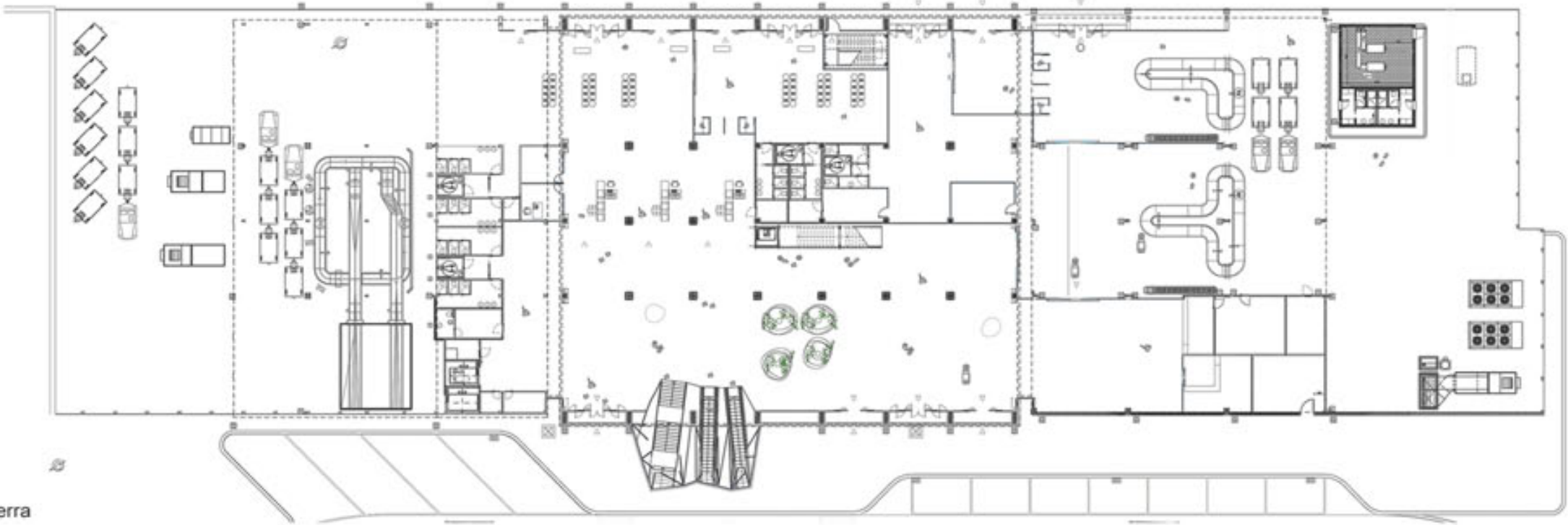
Sezione zona arrivi, giardino pantesco

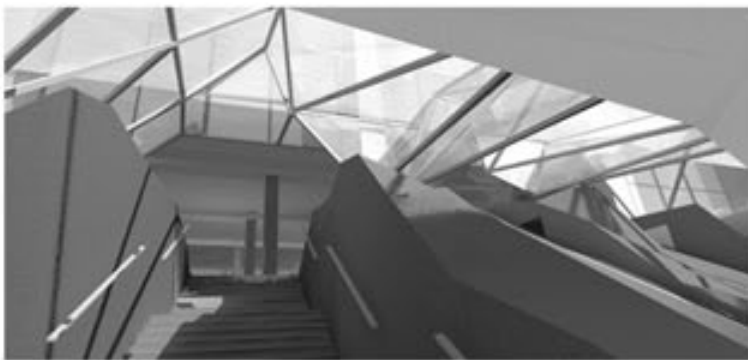
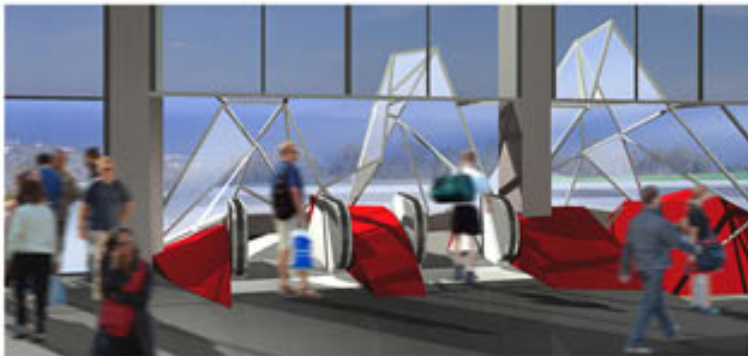
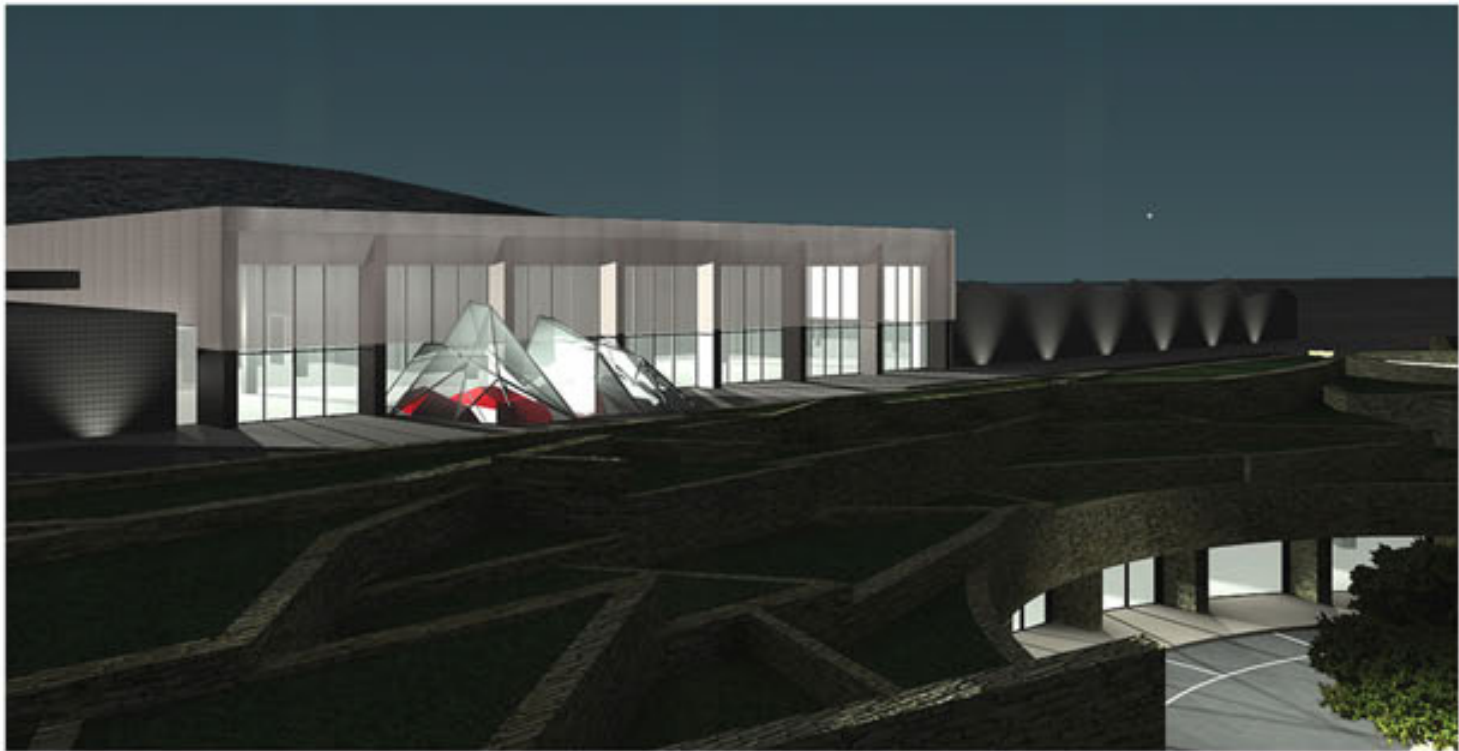


Sezione trasversale

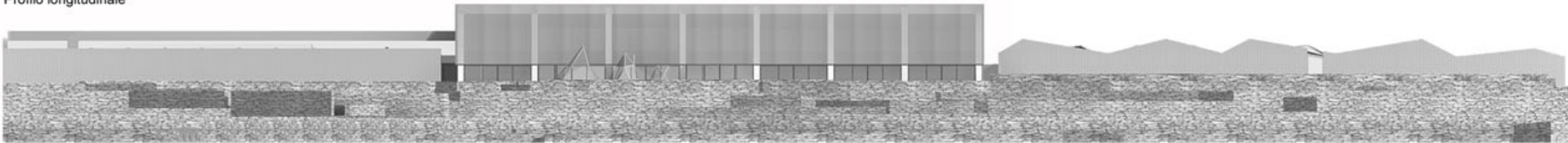


Pianta piano terra



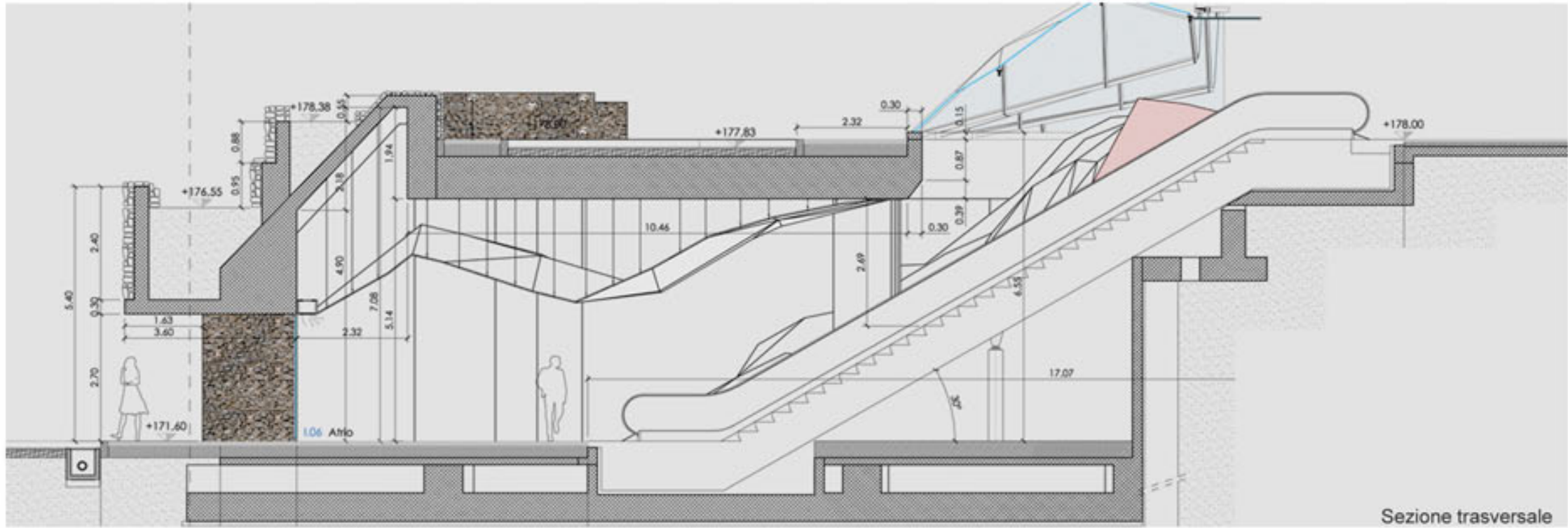
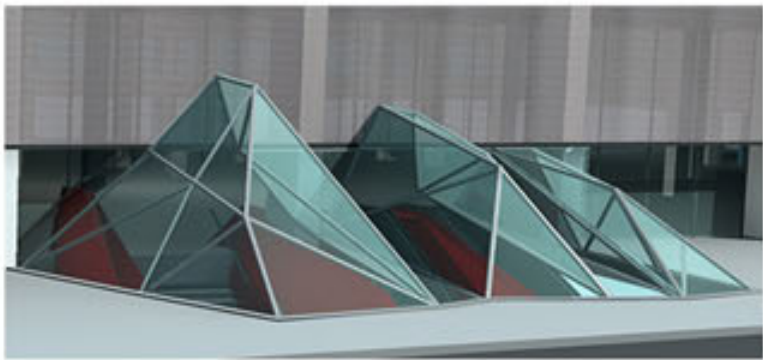
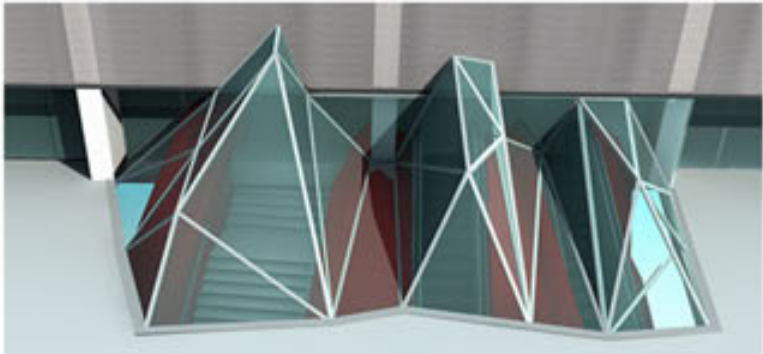


Profilo longitudinale

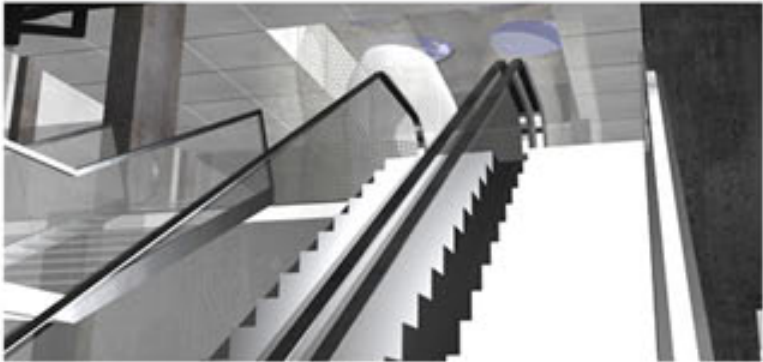
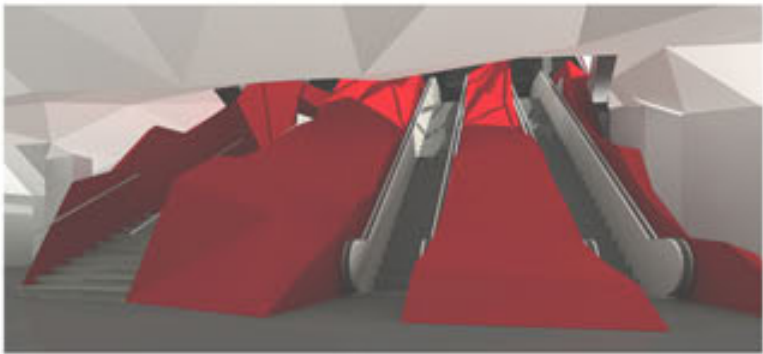


Sezione trasversale

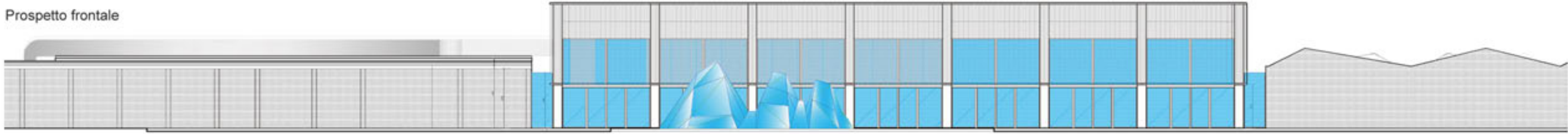


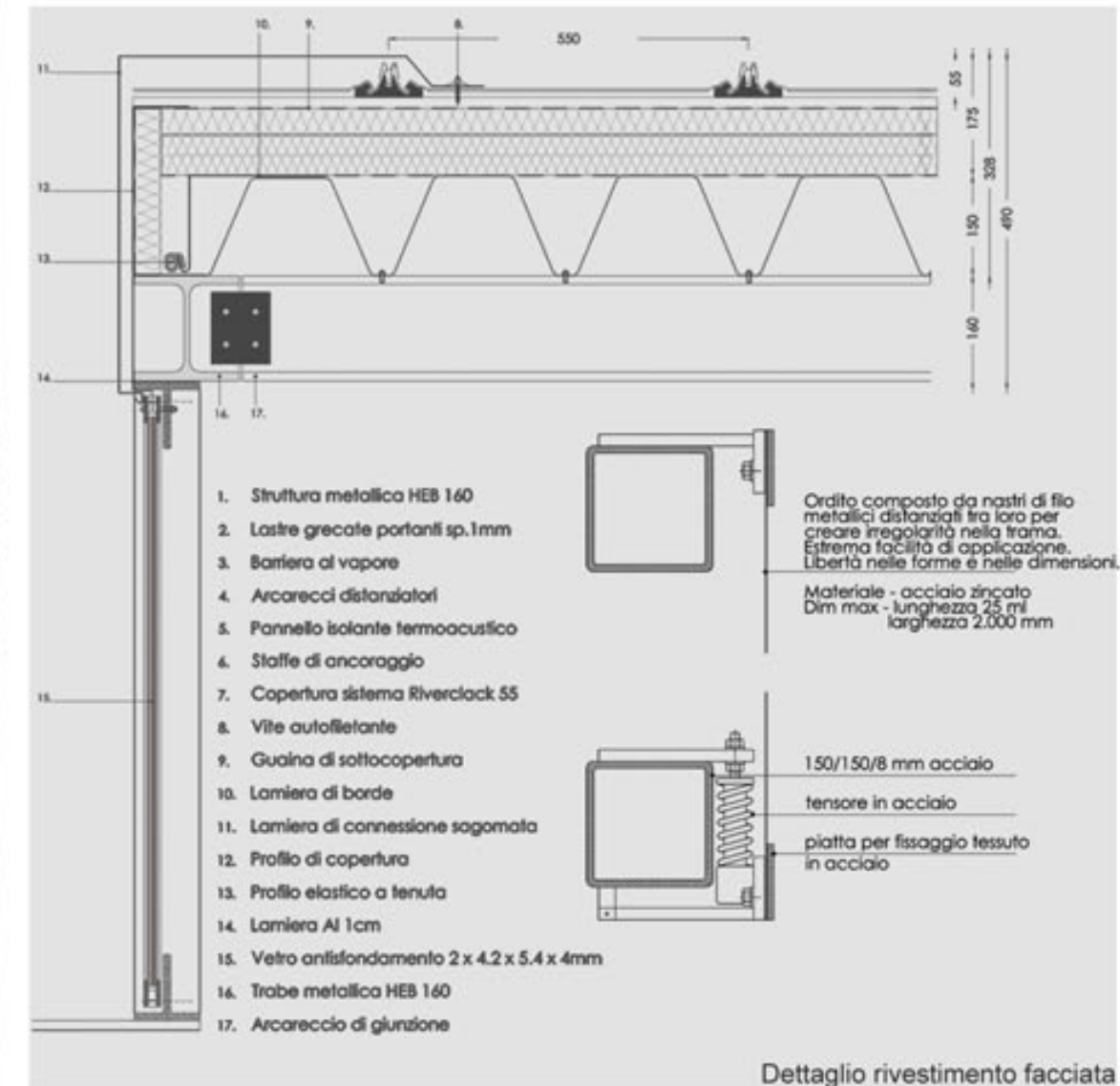


Sezione trasversale



Prospetto frontale





Tipologia arredo, sedute





The background is a grayscale architectural rendering of a dense urban skyline. In the center, a large, modern building with a complex, angular roofline is highlighted with a blue outline, making it stand out from the other buildings in the scene.

Olbia Airport Costa Smeralda-Sardinia-Italy

Firm	ERREGI
Location	Olbia, Italy
Client	GEASAR
Total amount of bid	8.730.000 \$
Year of start	2006/2007
Current status	Built

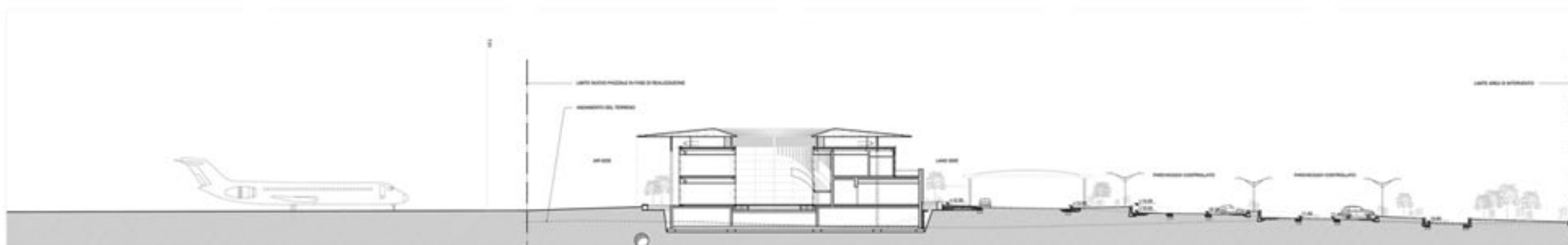
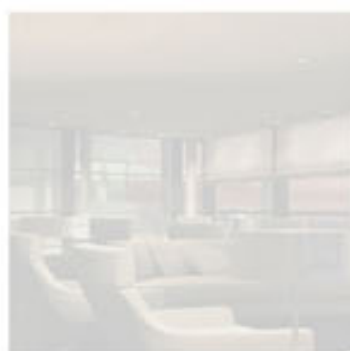
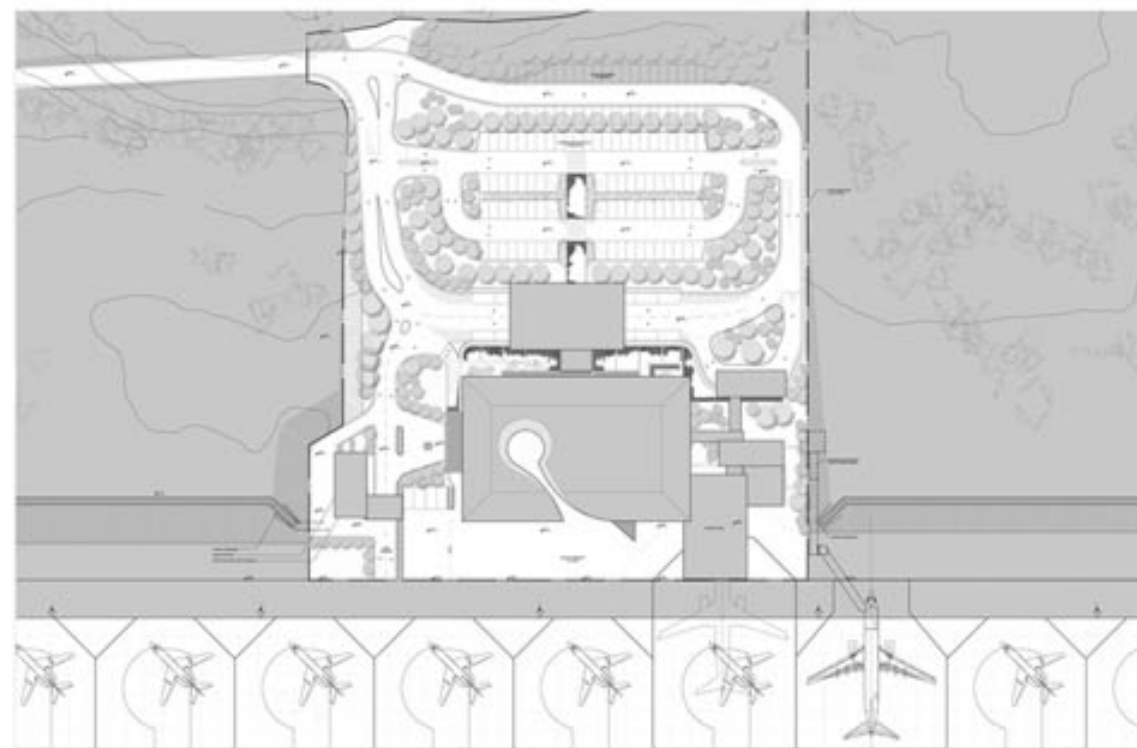
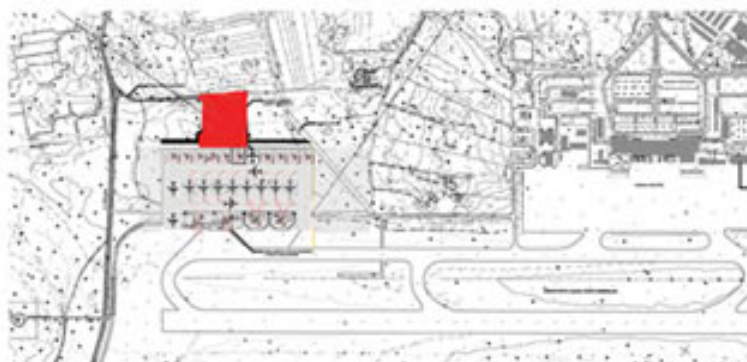
Role and professional involvement of bidder

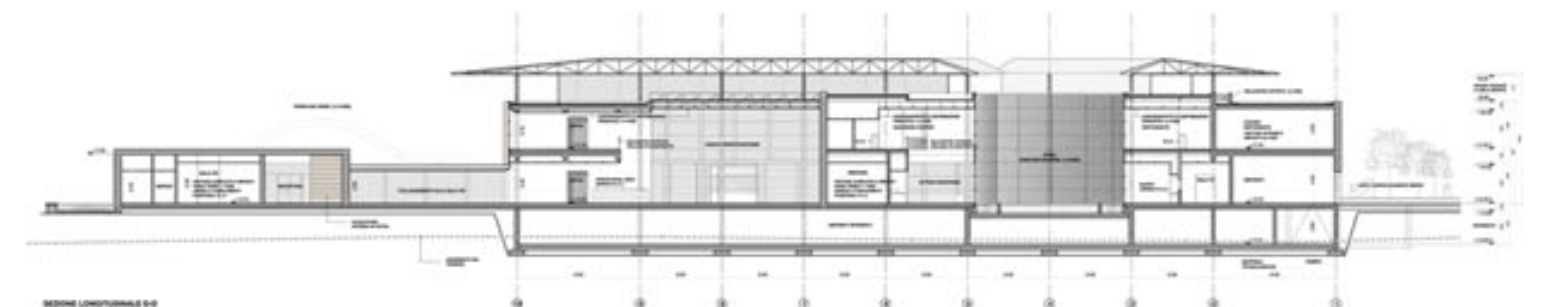
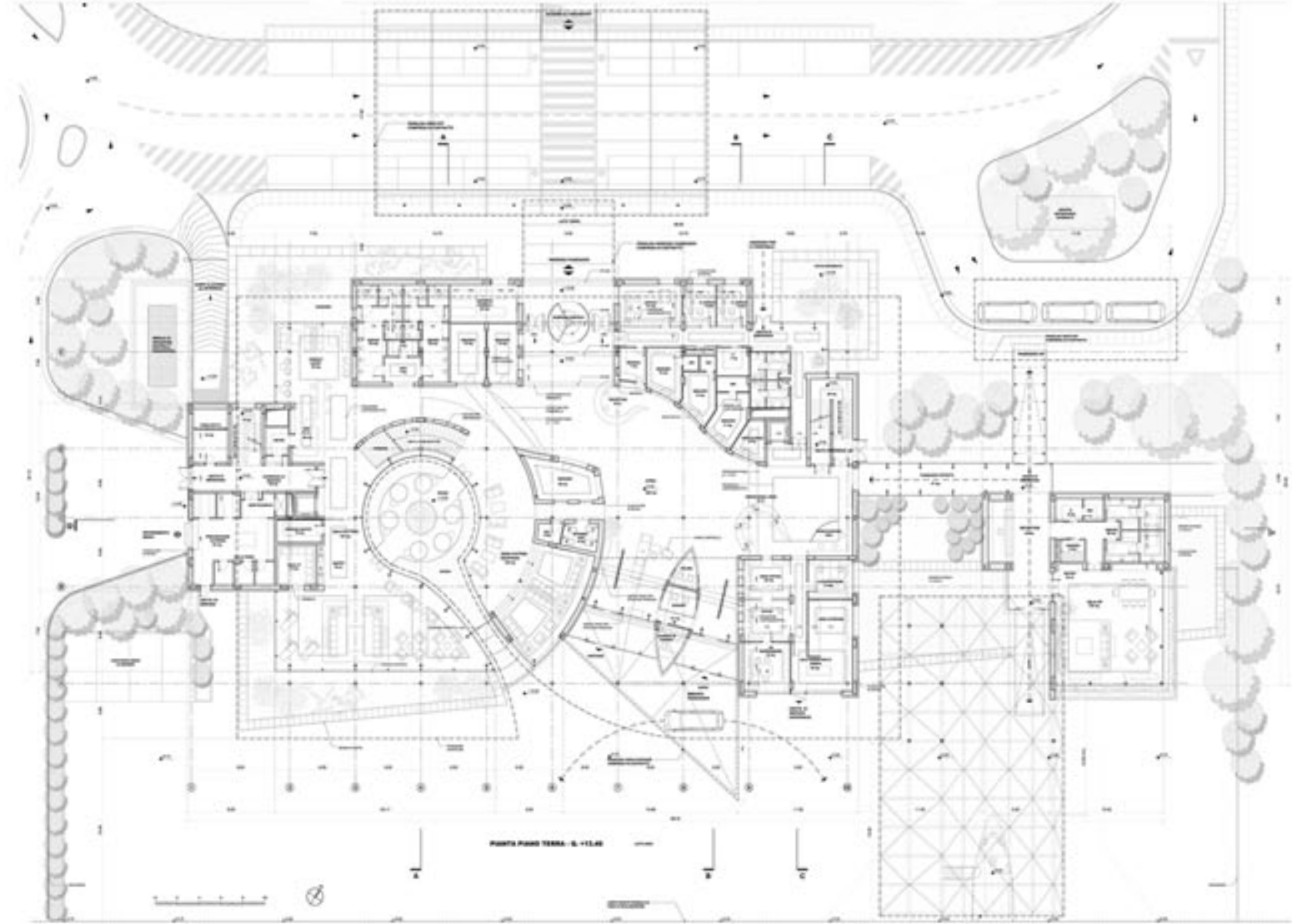
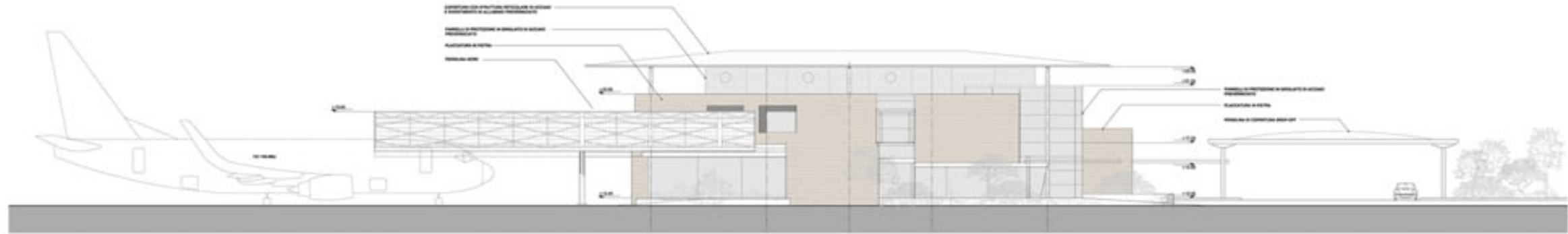
Architectural, Structural and Equipment detailed design in collaboration with Archigroup and Didier Lefort Architects

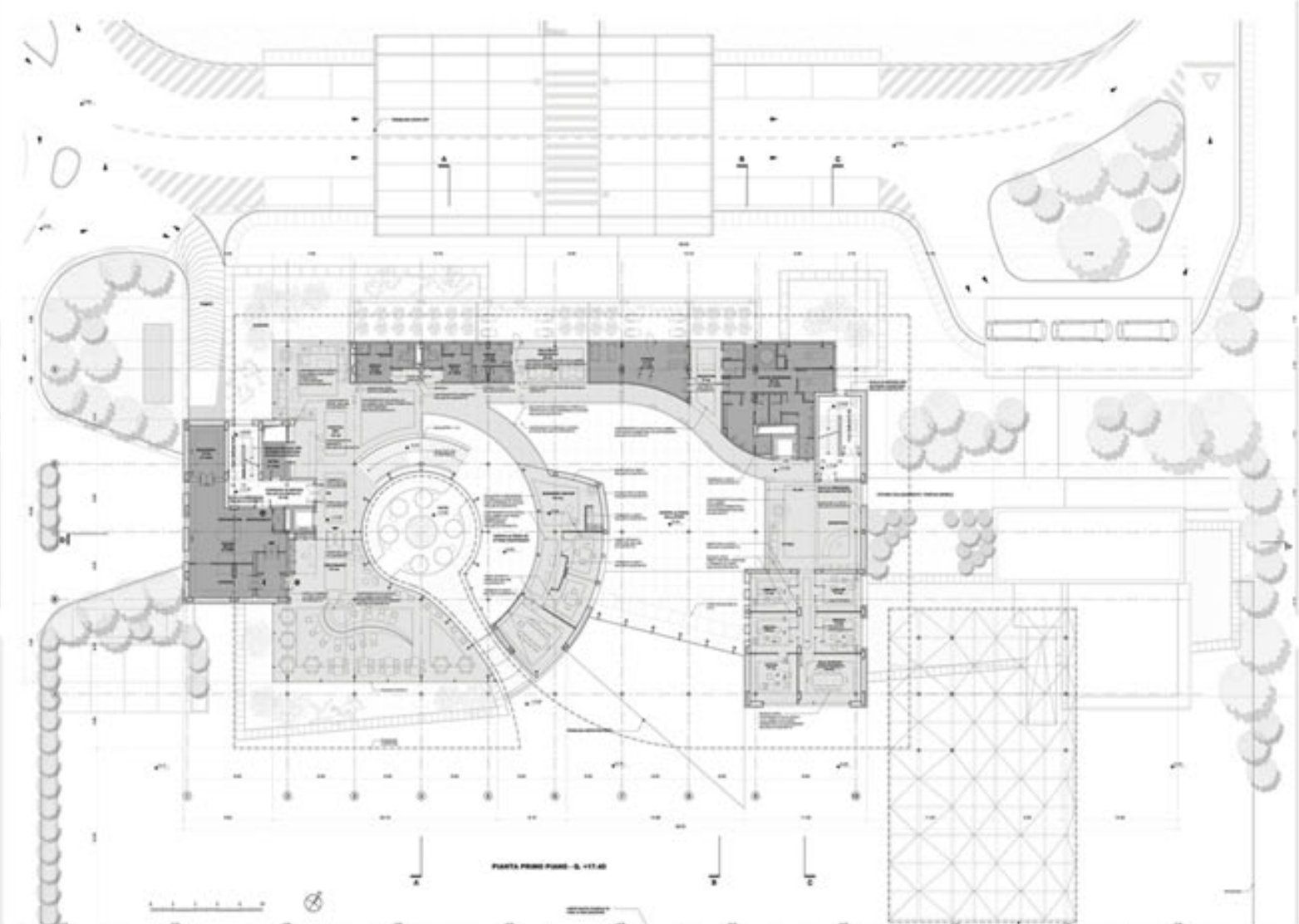
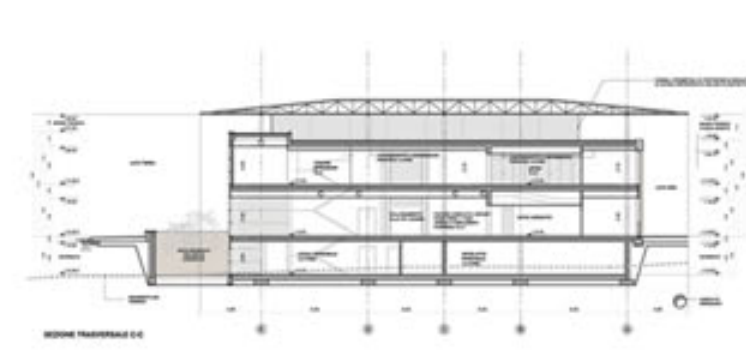
The design of the new terminal building for the airport of Olbia shows peculiar architectural characters, impossible to be compared with other buildings of this kind. The aim was to create something different from the usual airport, with an external look of a representative building and an interior like an exclusive club. For this reason local stone has been extensively used for construction and the building has been partly covered with typical vegetation, which also gets inside.

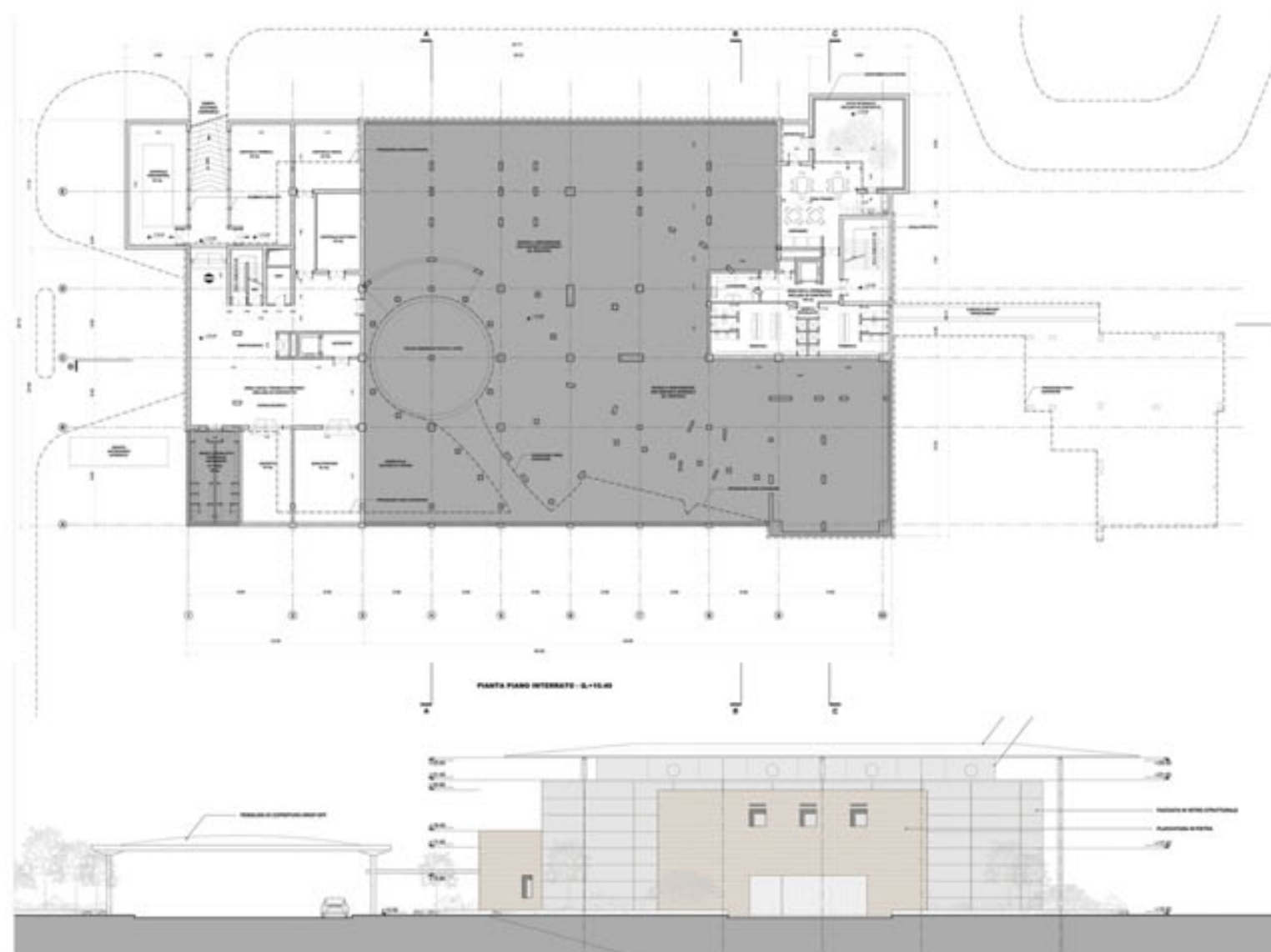
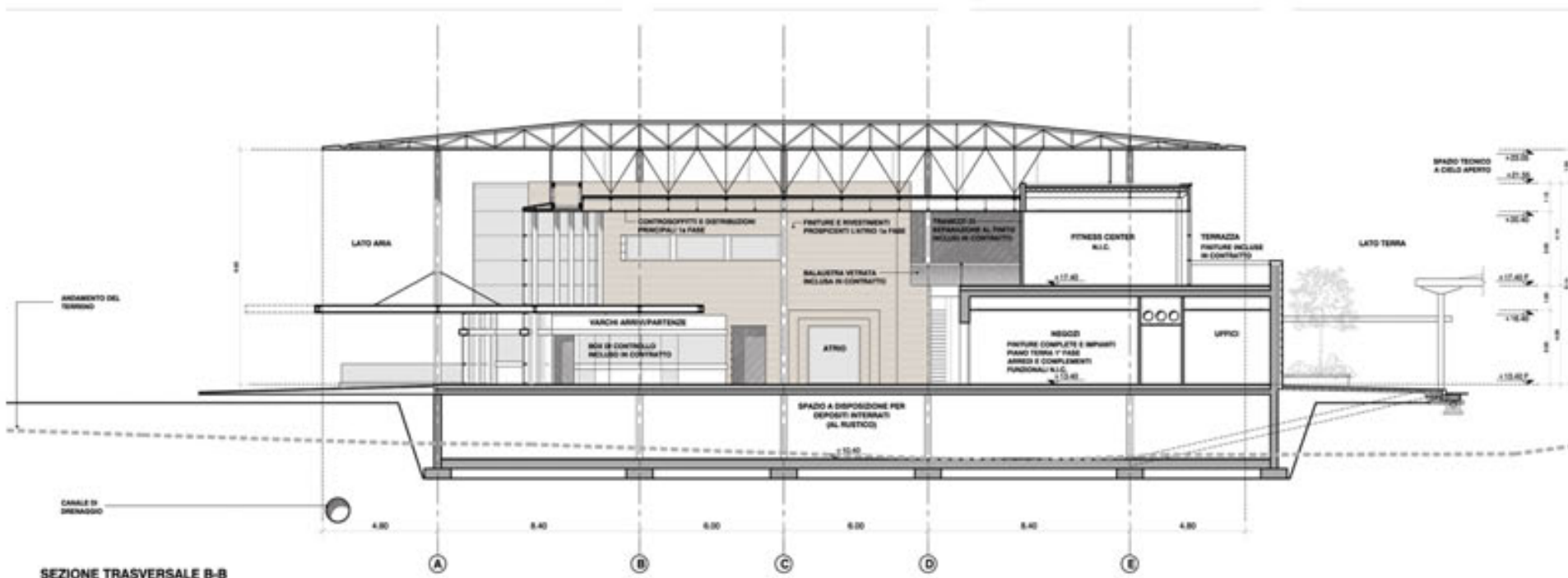
The most visible element is the cover, extremely thin, supported by very slim columns, covering the whole terminal area. This cover has two functions: shading the glass façade in the hot season and providing a protection against the rain for passengers when alighting from bus shuttles on the "Air side". At the same time it creates a space between the building and the roof where it is possible to locate the air conditioned and forced ventilation utilities.

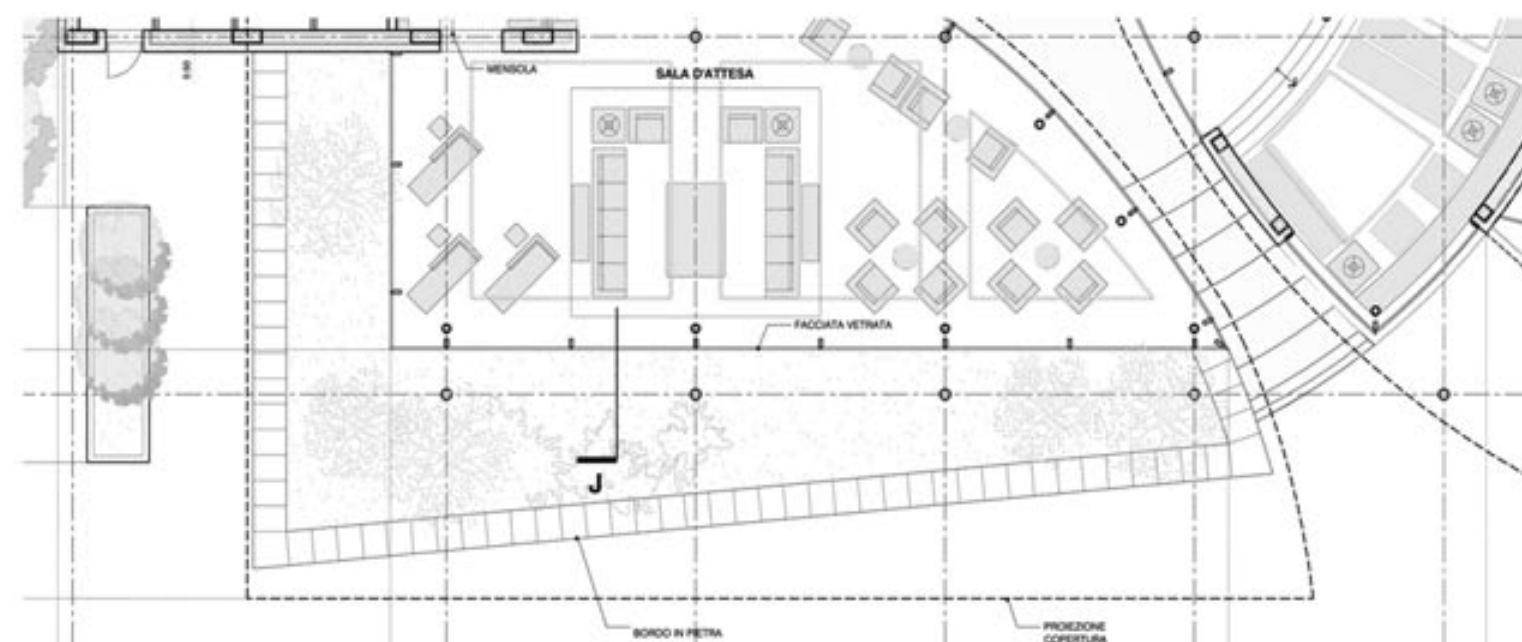
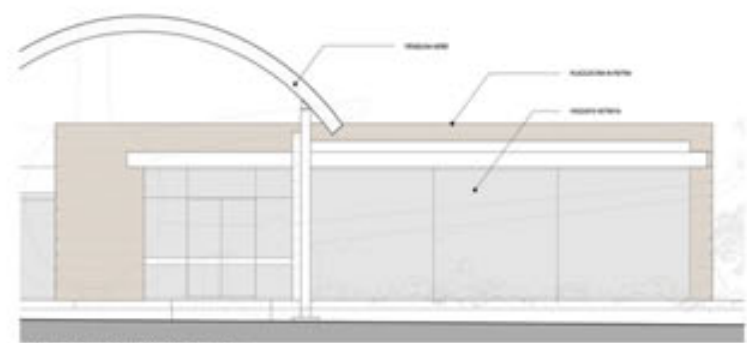
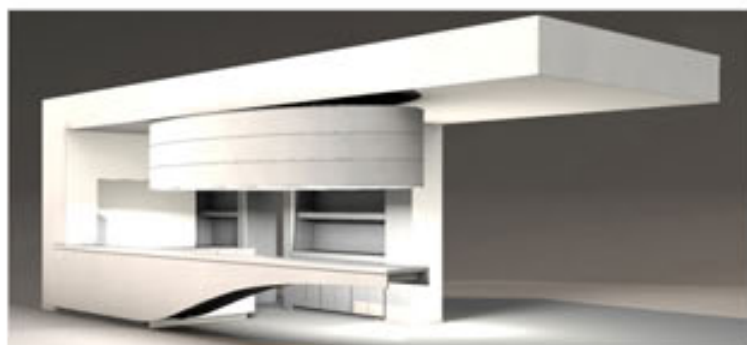
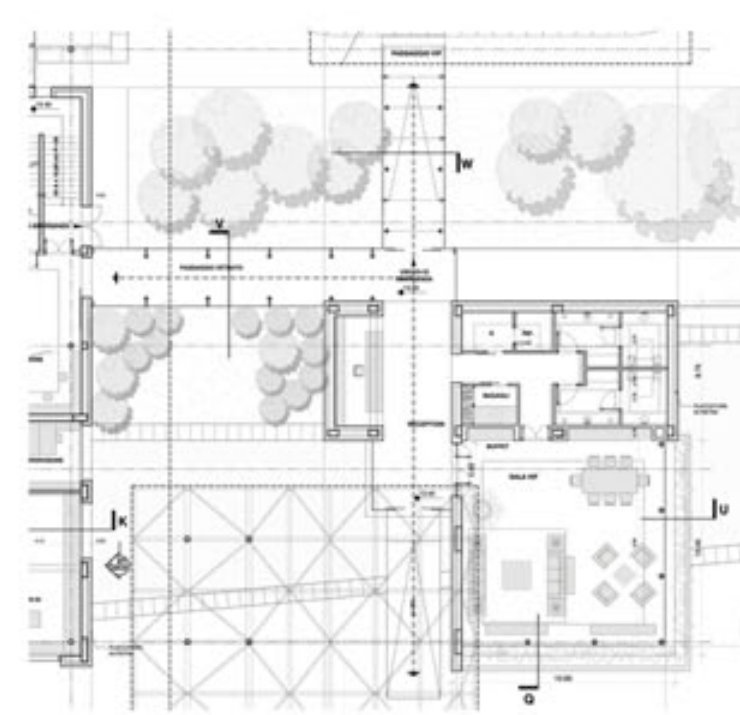
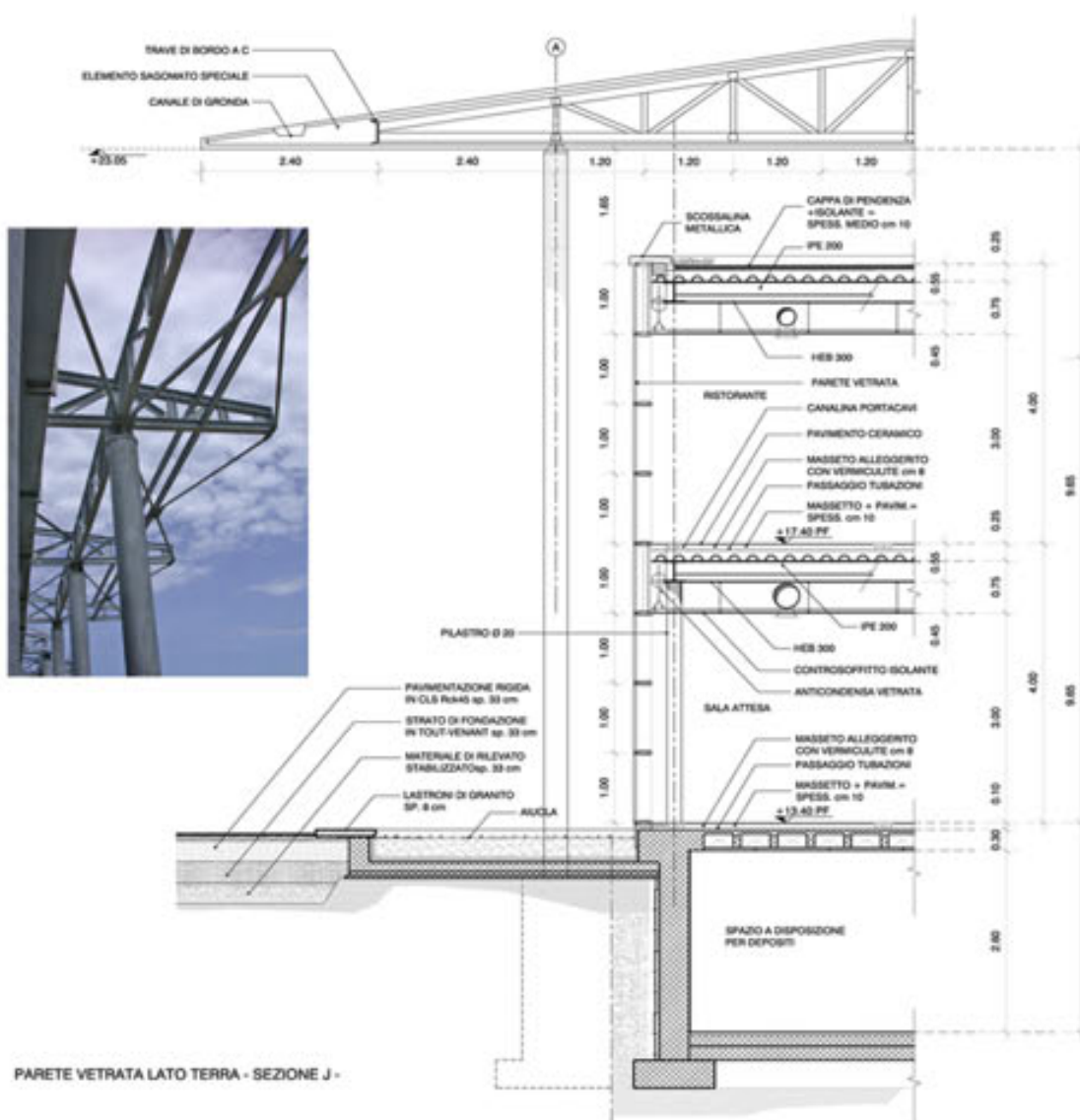
Another strong character of the design is the circular court, with plants and water, located in a glass cylinder in the core of the building. The functional study of the new terminal building is the result of a verification on the passenger, crew and staff flows as well as of an analysis of air traffic data, airport company requirements, operating arrangements, service offered, with particular regard to baggage handling, passengers boarding and crew assistance, in addition to aircrafts maintenance and other services on land.













Viste dell'esterno







Fiumicino International Airport Terminal “E” Expansion and Revamping - Italy

FIUMICINO INTERNATIONAL AIRPORT - TERMINAL "E" EXPANSION AND REVAMPING

Firm	ERREGI
Location	Rome, Italy
Client	ADR
Total amount of bid	3.361.720 \$
Year of start	2015
Current status	under construction
Role and professional involvement of bidder	Detailed Architectural Structural design and Equipment

The project involves the renovation and expansion of the Terminal "E", located in the international arrivals of Fiumicino in Rome. Terminal E represent a junction between the existing buildings and the two new departure areas.

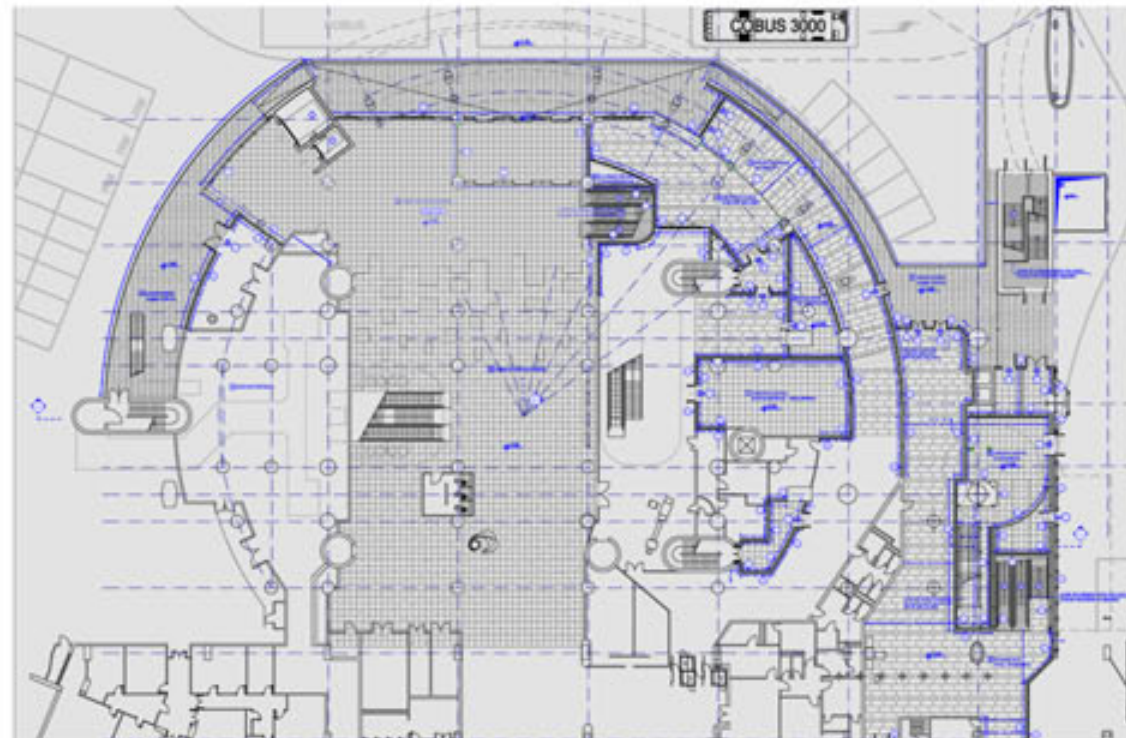
The works include:

- Demolition of the current external and internal partitions;
- Demolition of the floor finishes and ceiling;
- Reconstruction of the new blind partitions and windows as designed;
- New flooring in line with the standards of the other neighboring buildings (interior finishes and furnishings);
- New ceilings in line with the standards of the other neighboring buildings;
- New covering of the structural elements;
- New signaling system to the passenger;
- New air-conditioning systems;
- New electrical and special equipment.

Particular care has been taken in updating the Terminal "E" to the new fire regulations and normative and the definition of the fire resistant internal walls.



VIEW OF MAIN FACADE



PLAN - GROUND LEVEL



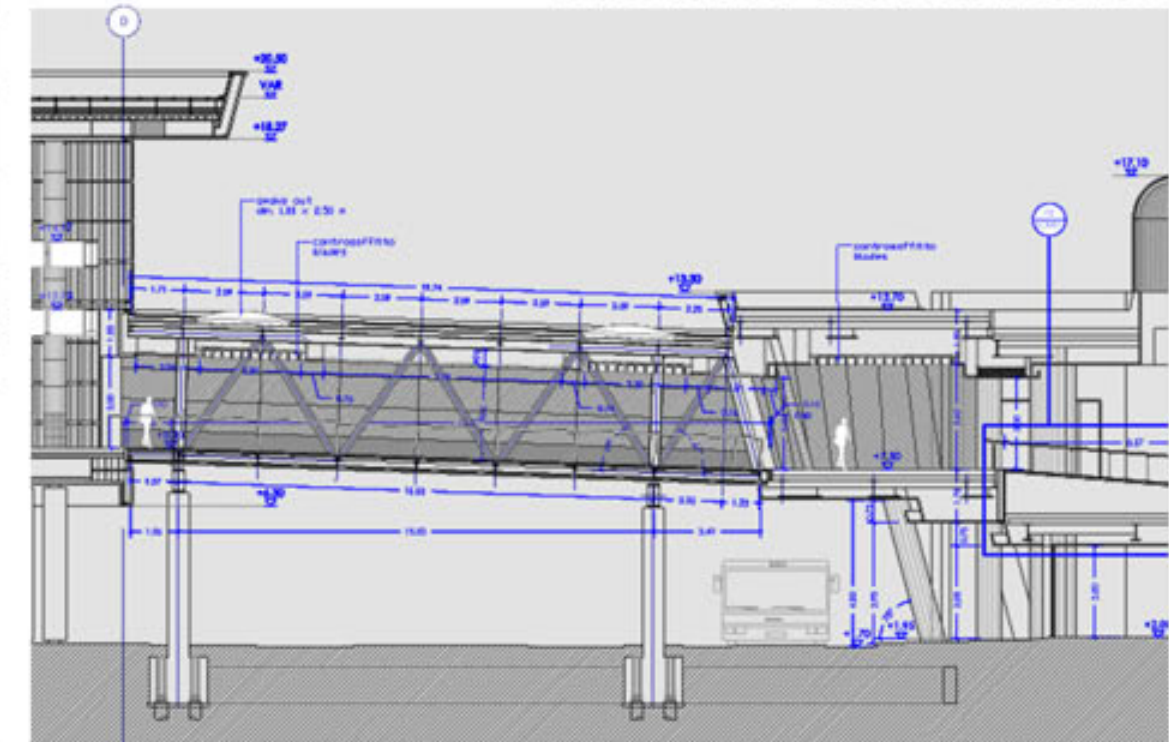
INTERIOR VIEW



LONGITUDINAL SECTION



PERSPECTIVE VIEW OF "ONE STEP SECURITY" CORRIDOR



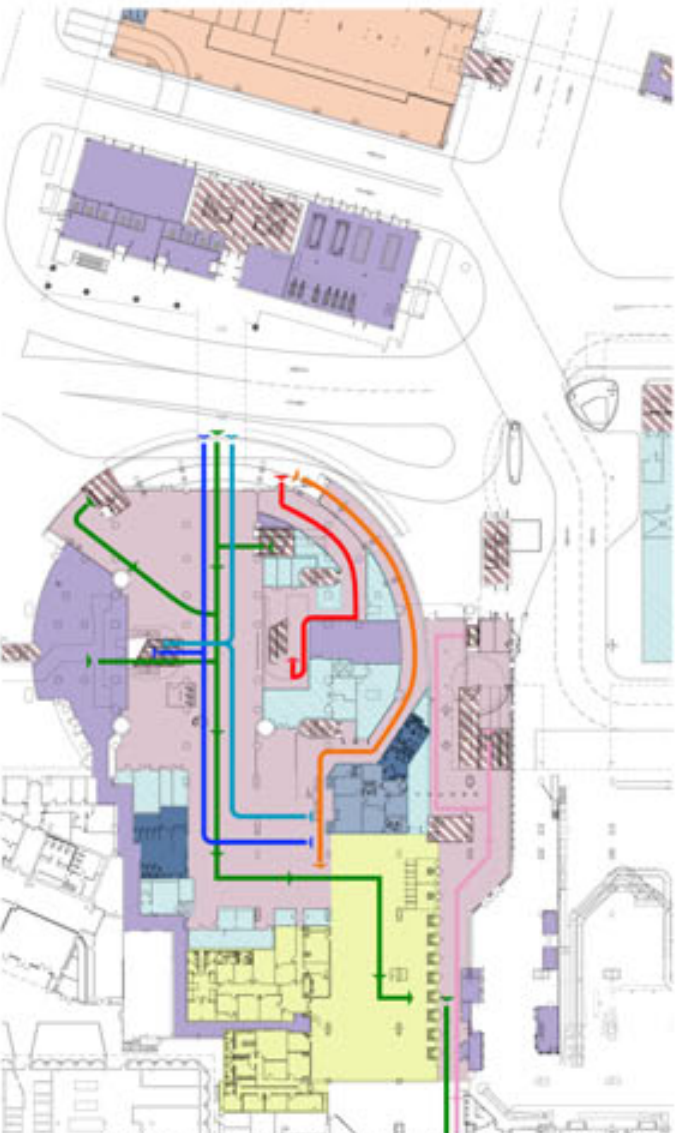
TRANSVERSAL SECTION



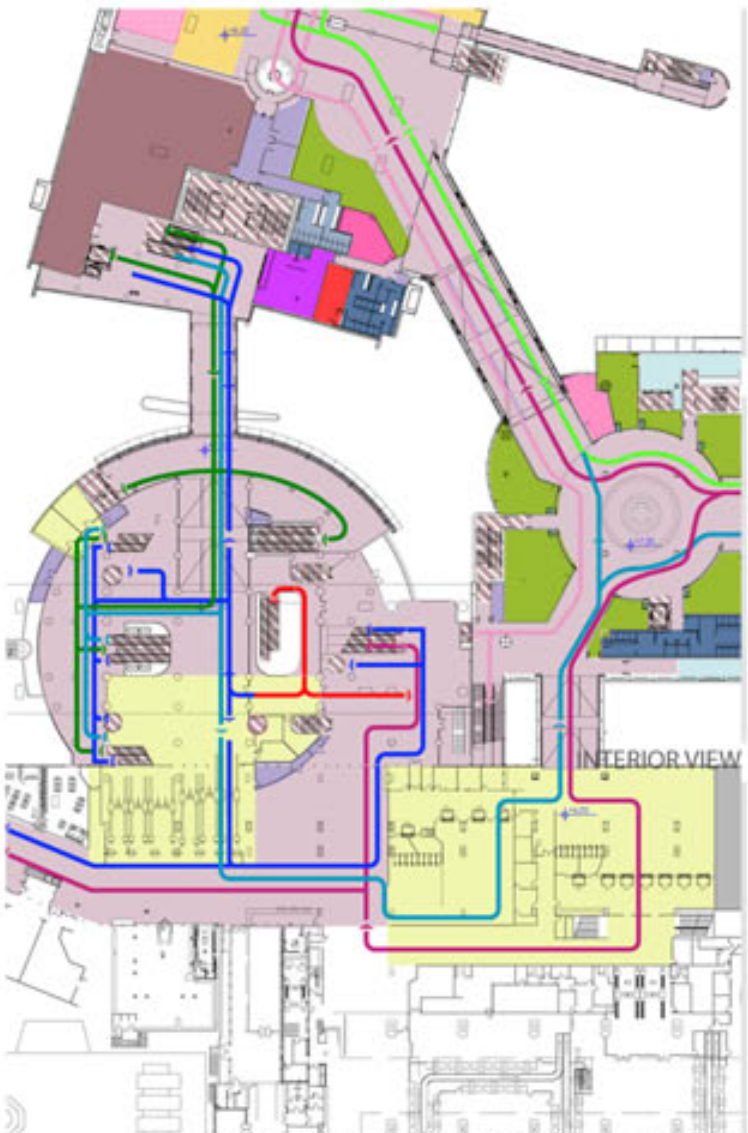
TERMINAL "E" - ACTUAL SITUATION



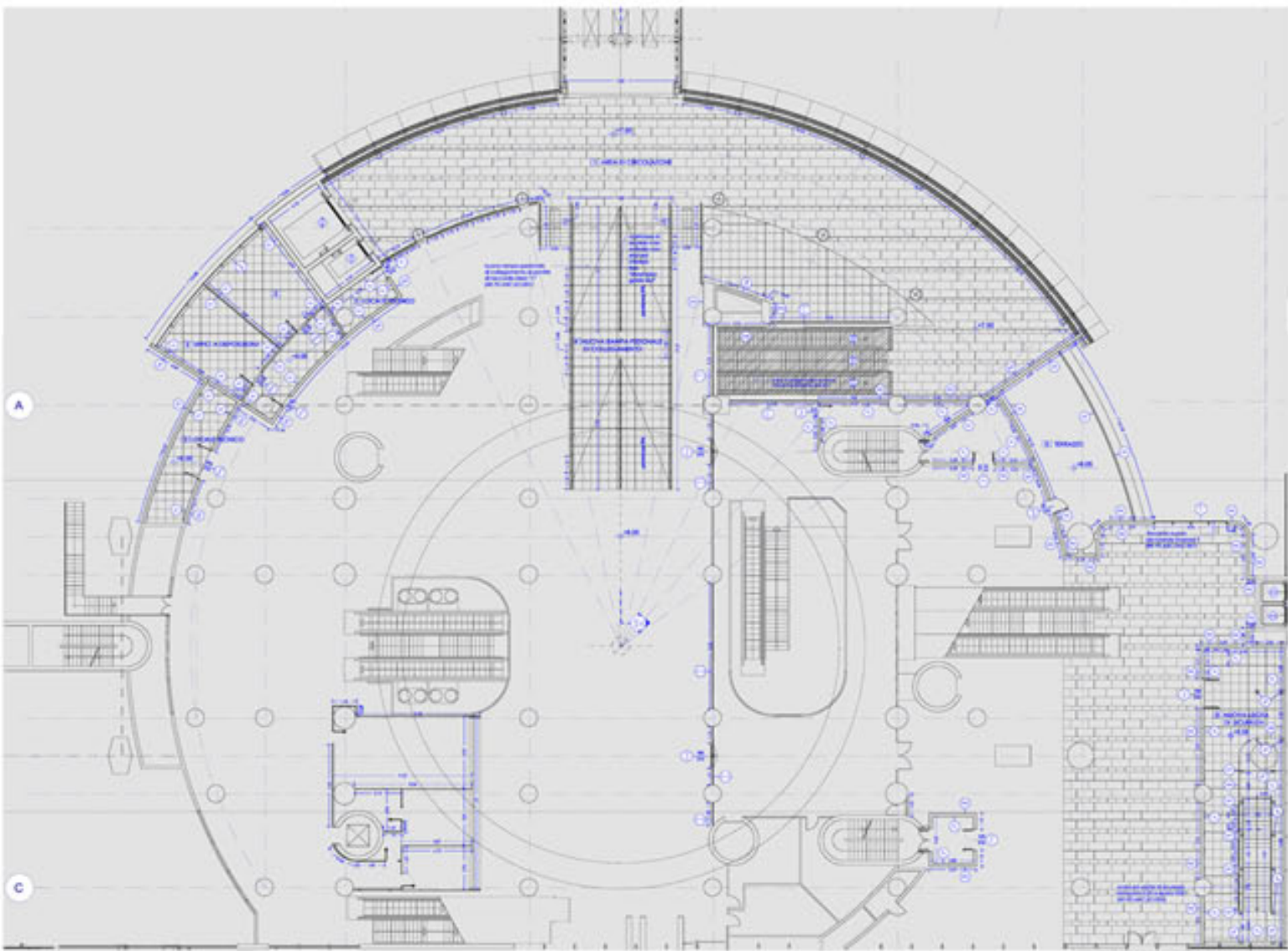
INTERIOR VIEW



GENERAL FUNCTIONAL SCHEME - GROUND FLOOR



GENERAL FUNCTIONAL SCHEME - FIRST FLOOR



FIRST FLOOR PLAN



ROADS AND PARKING

- Multi-Level Parking Pincio Rome – Italy
- SS 597 Sassari - Olbia Road Project Lot 3 – Italy
- SS 597 Sassari - Olbia Road Project Lot 8 – Italy
- Ponte dei Congressi, New Bridge over the Tiber River Rome - Italy

The background is a grayscale architectural rendering of a dense urban environment. In the center, a specific building complex is highlighted with a thick, semi-transparent blue outline. This highlighted area represents the 'Pincio' parking lot, showing its multi-level structure and surrounding urban context. The rest of the city is rendered in a lighter, faded style to provide context without distracting from the main subject.

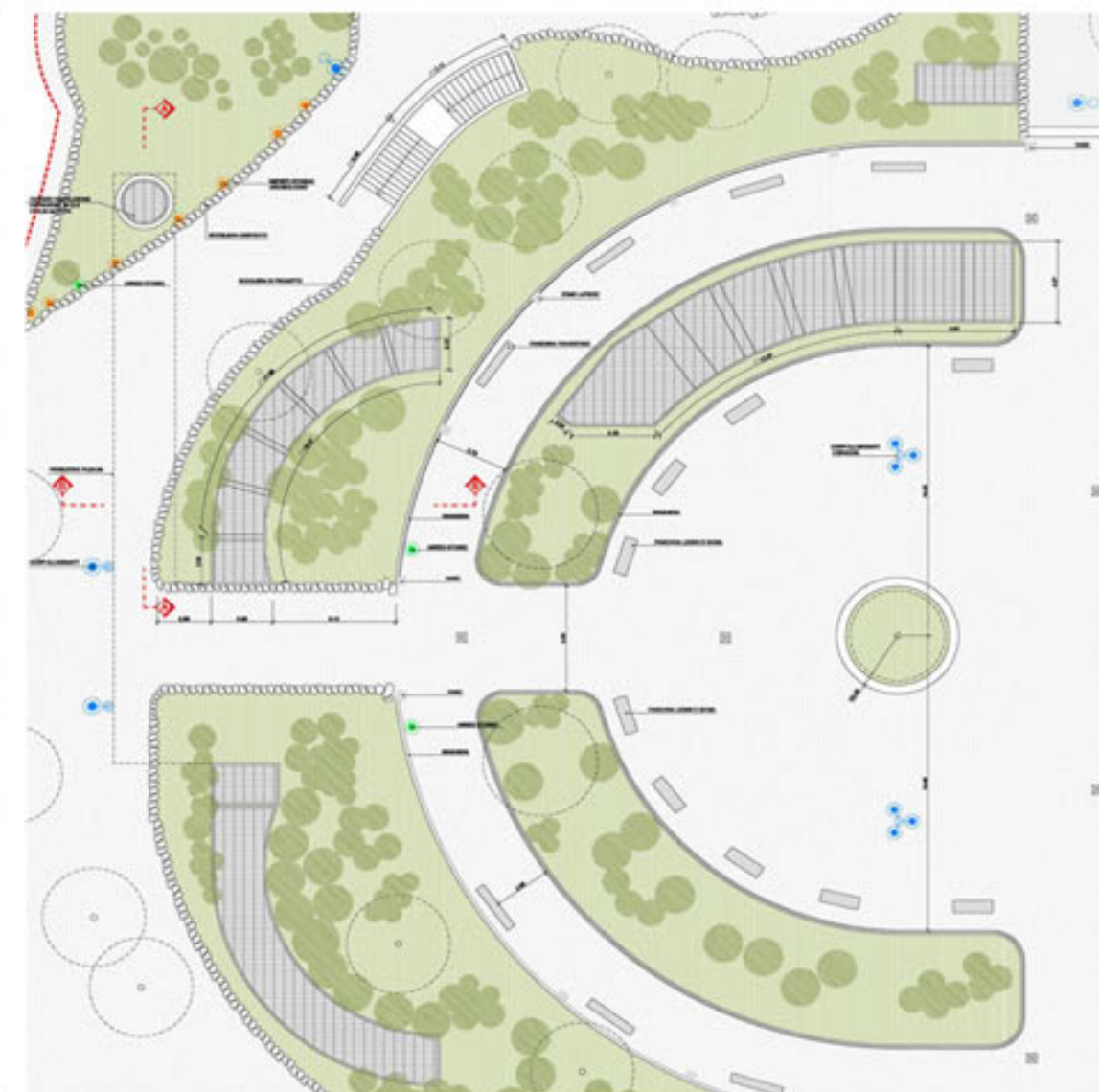
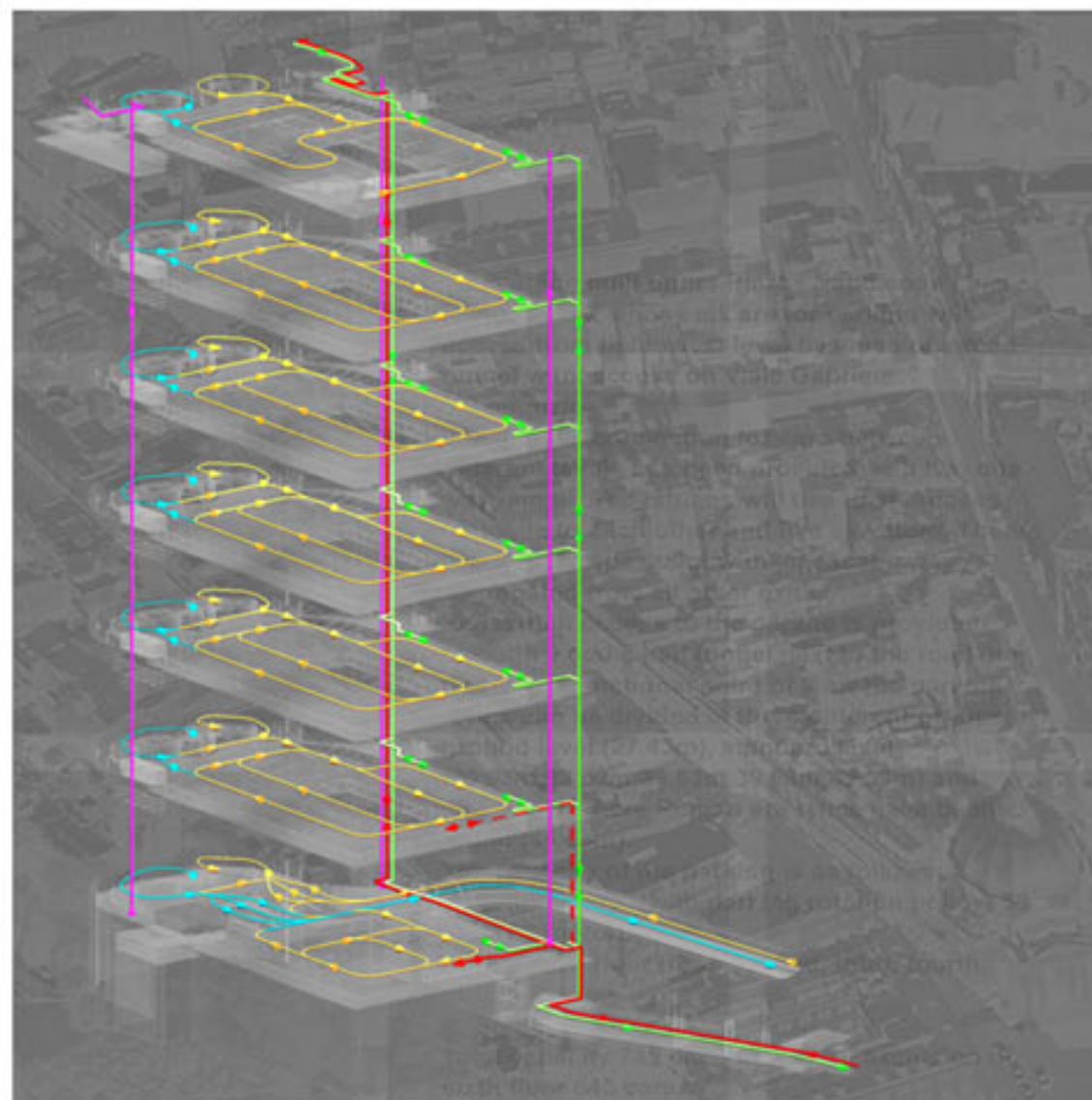
Multilevel Parking lot “Pincio” Rome - Italy

Firm	ERREGI in A.T.I. with SAC
Location	Rome, Italy
Client	ATAC
Total amount of bid	29.787.164 \$
Year of start	2007/2008
Current status	Project

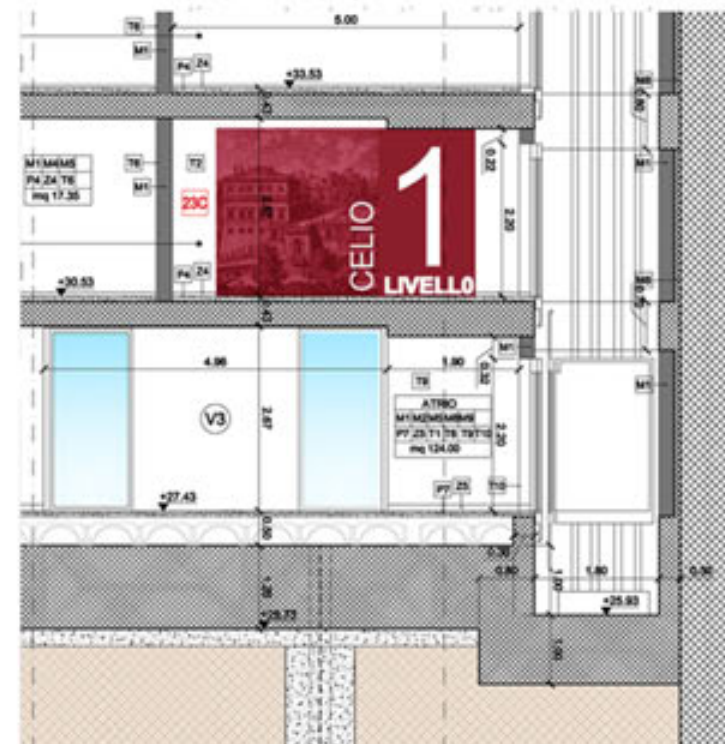
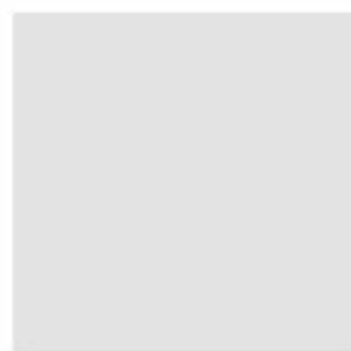
Role and professional involvement of bidder

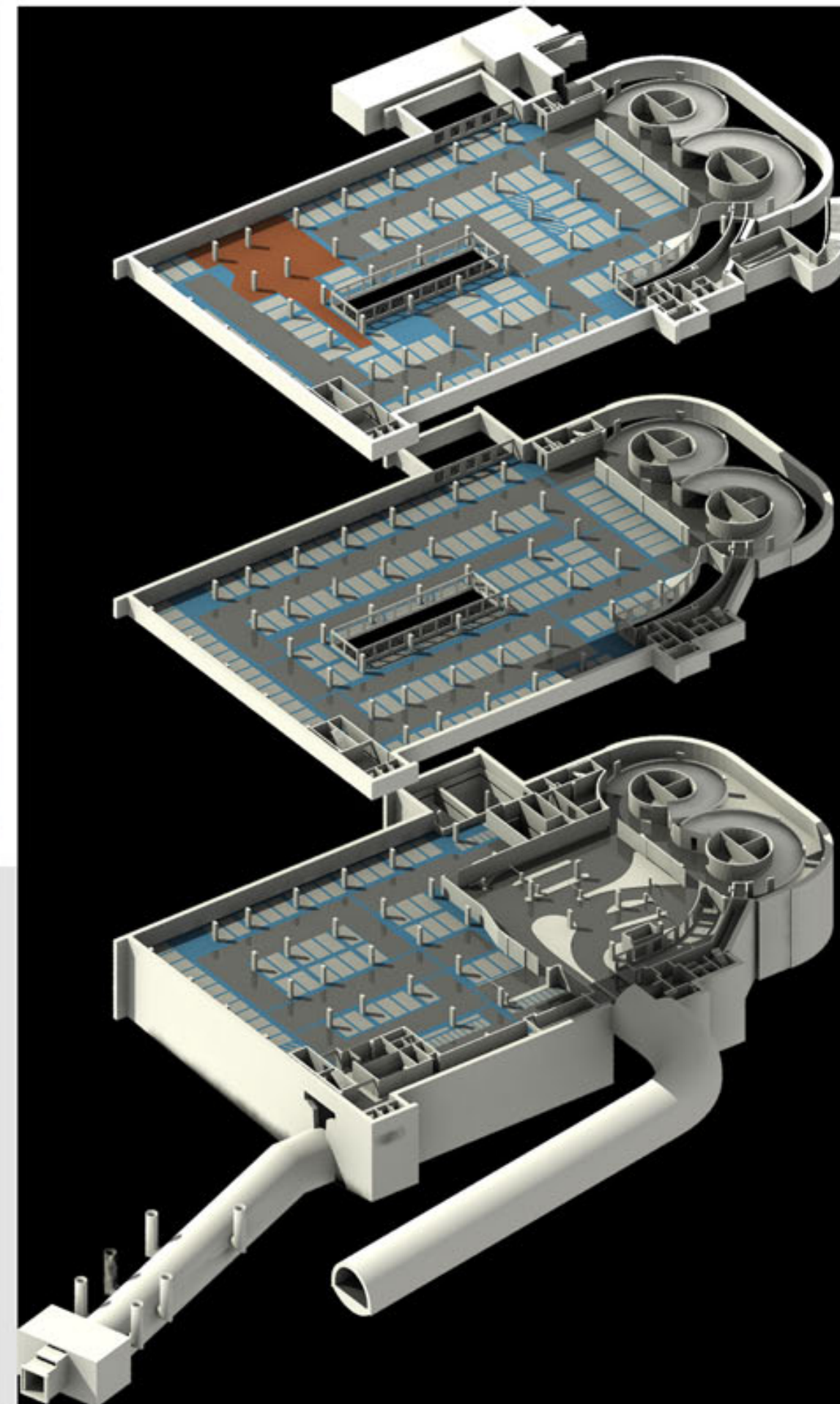
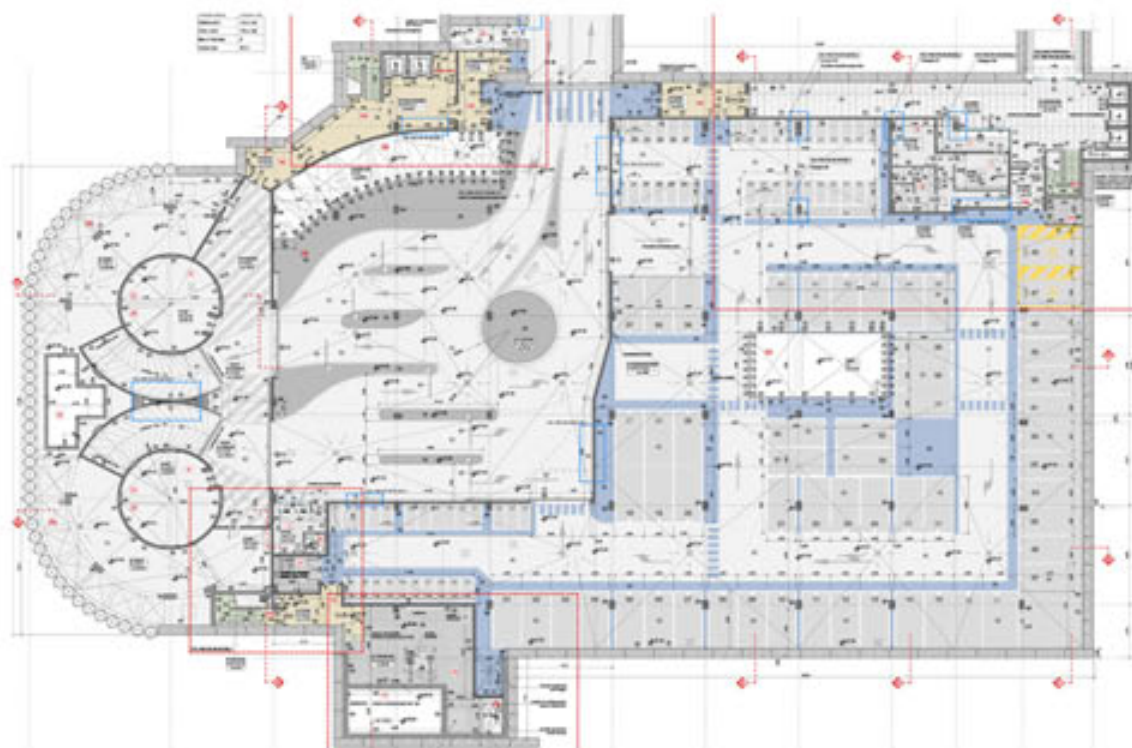
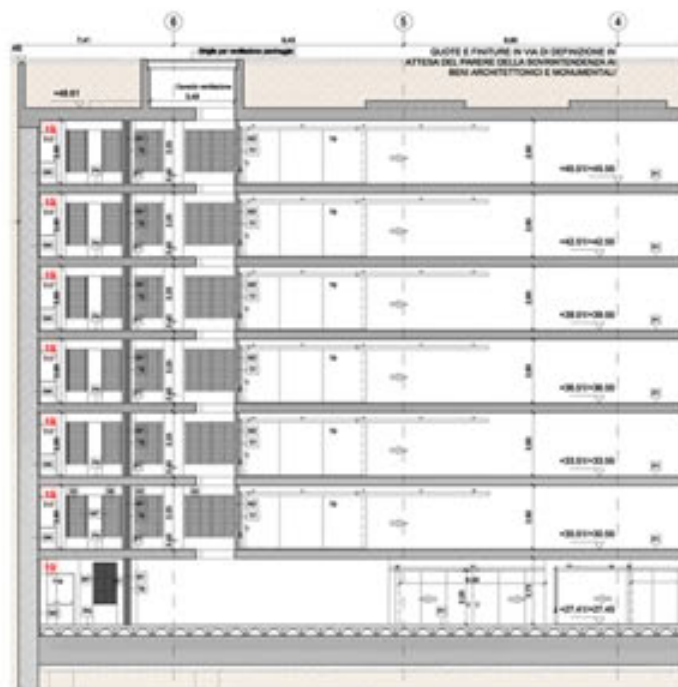
Design for construction of civil works and civil services

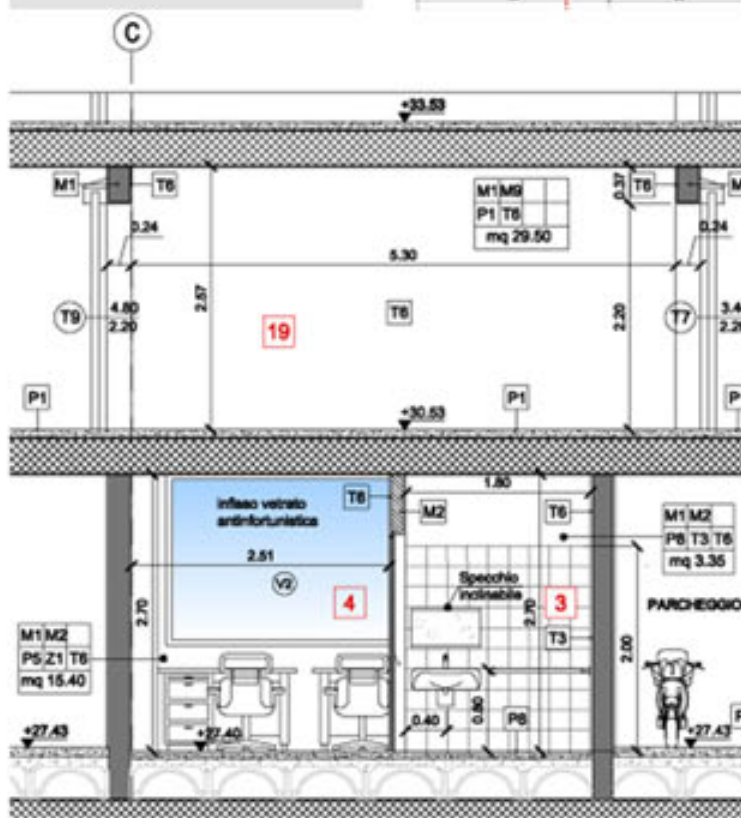
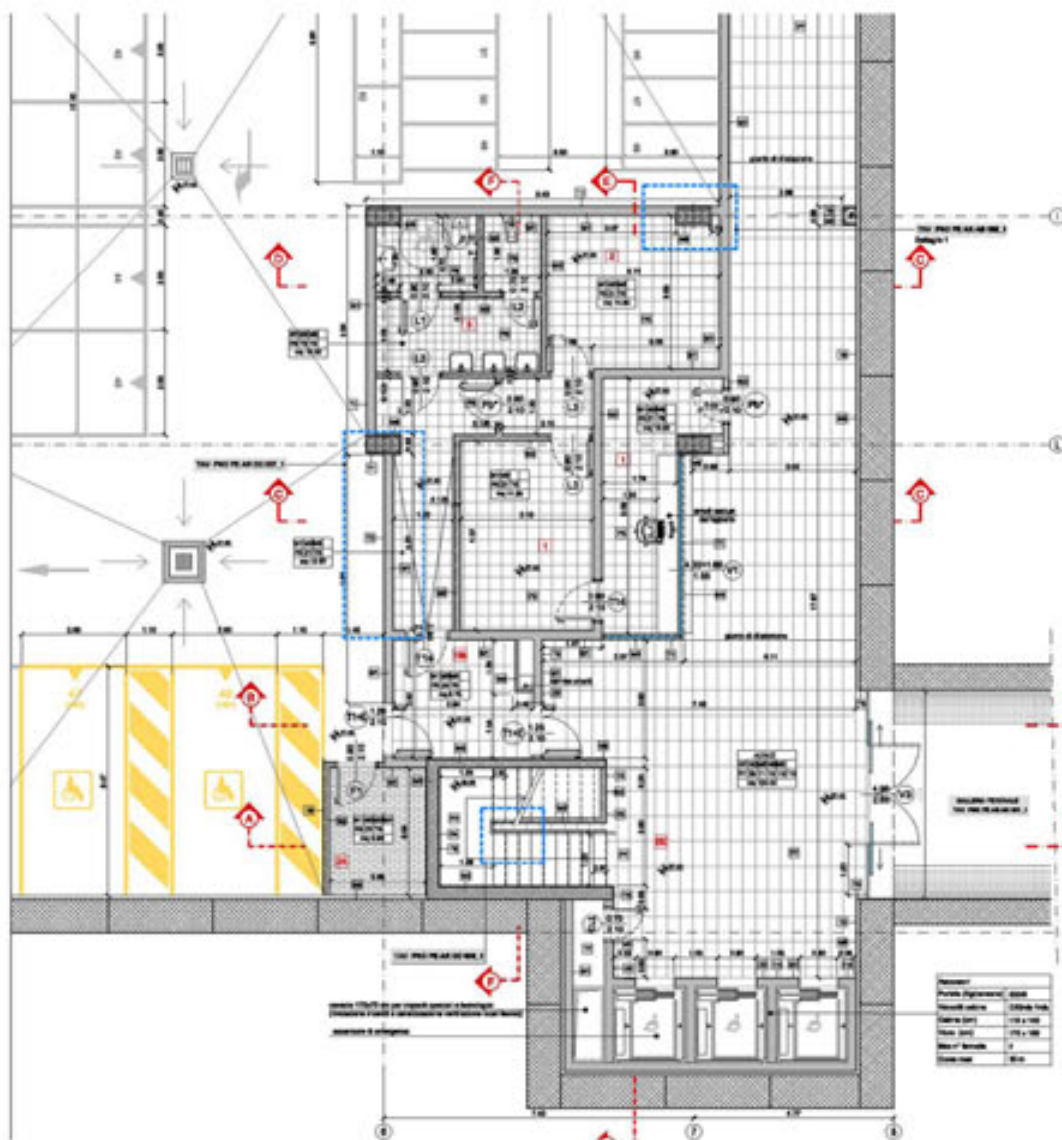
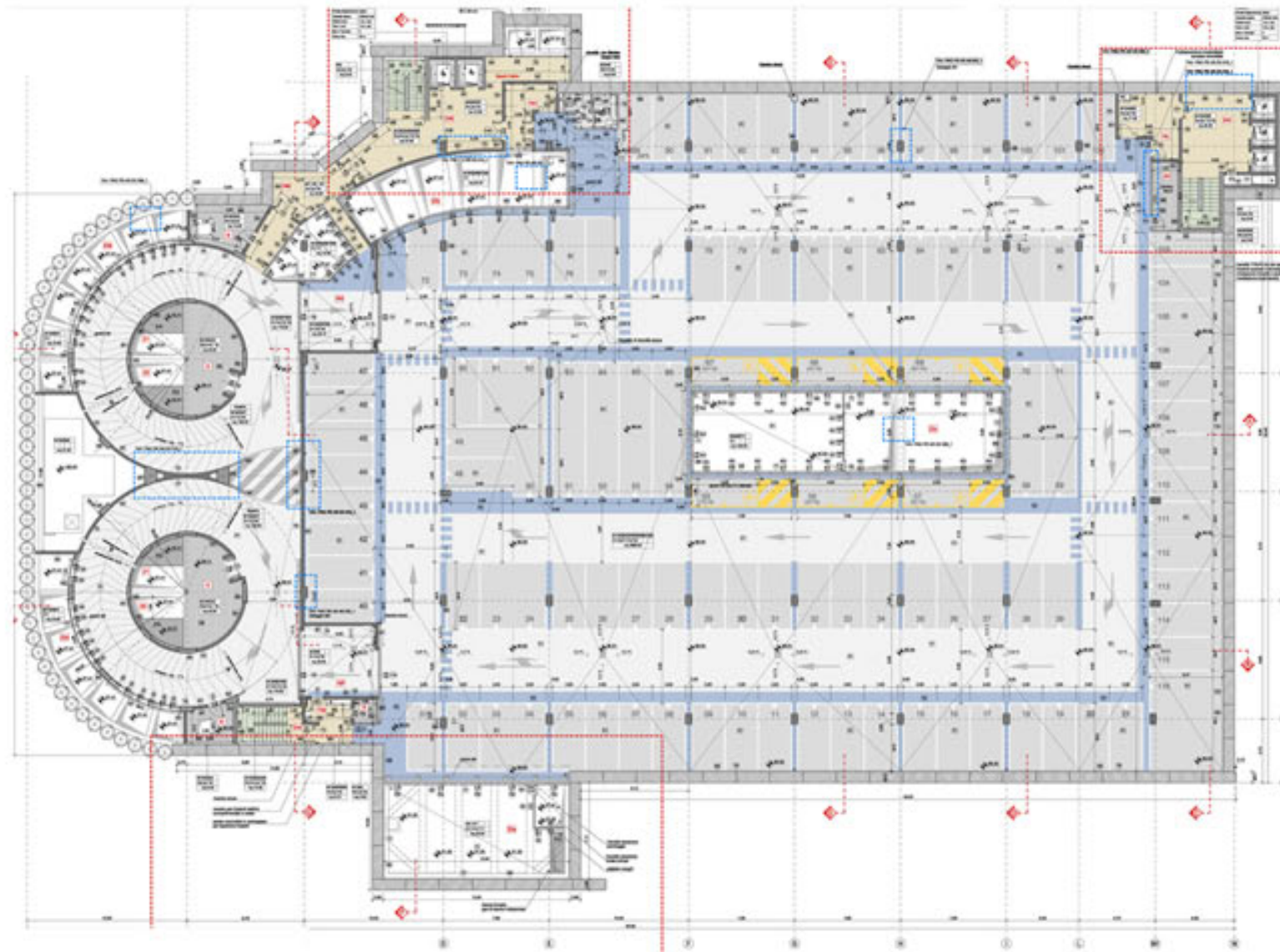
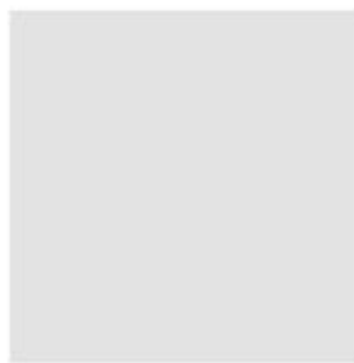
The garage built under Piazza Napoleone I has seven levels, whose six are for parking with access from the lowest level by mean of a road tunnel with access on Viale Gabriele D'Annunzio. The vertical connection for cars between different levels has been provided with two one way ramps. Pedestrians will use to staircases opposite to each other and five elevators. There are also escape stairs with an escape way segregated from all other exits. Pedestrian access to the garage is provided through a dedicated tunnel next to the road one. Under the functional point of view the parking levels can be divided in three different groups: ground level (27.43m), standard level (30.53m,33.53m,36.53m,39.53m,42.53m) and sixth level where Roman era relics have been found (45.53m). The capacity of the parking is as follows: - Ground floor (with parking rotation policy) 58 cars, 62 motorcycles - Standard floor (first, second, third, fourth, fifth) 117 cars - Sixth floor 99 cars Total capacity 742 cars, in case of exclusion of sixth floor 643 cars. The design philosophy has been aimed to the preservation and valorisation of the historical and artistic setting of the area. This has always been kept as a reference in the approach to the design issues. The peculiar situation, with a high sensitivity under the archaeological point of view, has drawn a lot of attention both for management of the design process and for the design itself. Every component of the structure has been carefully evaluated keeping in mind possible interaction with the surrounding environment.

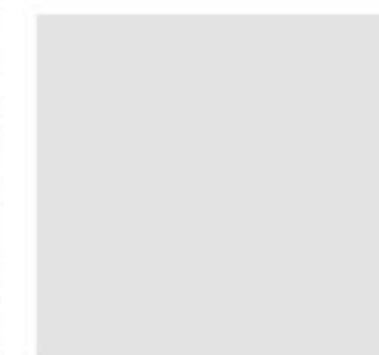
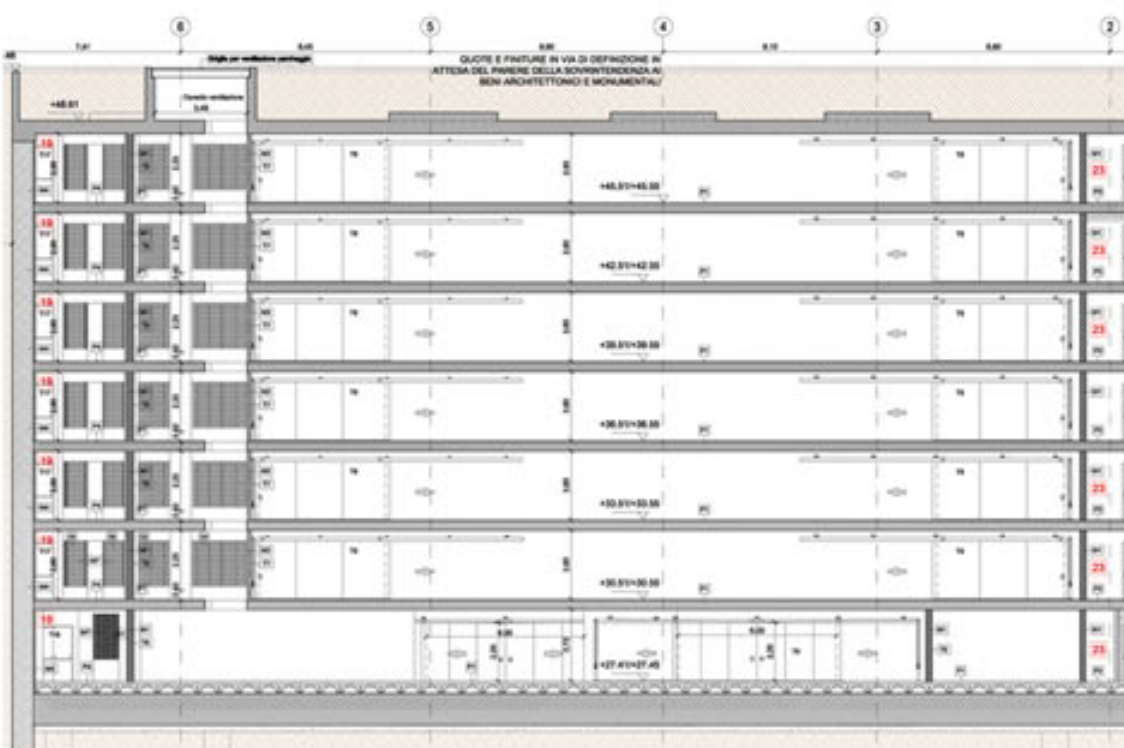
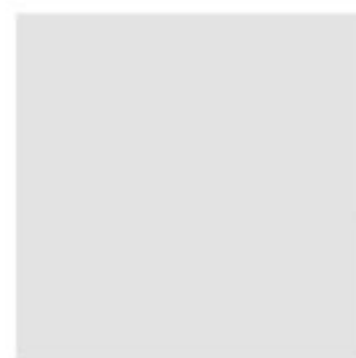
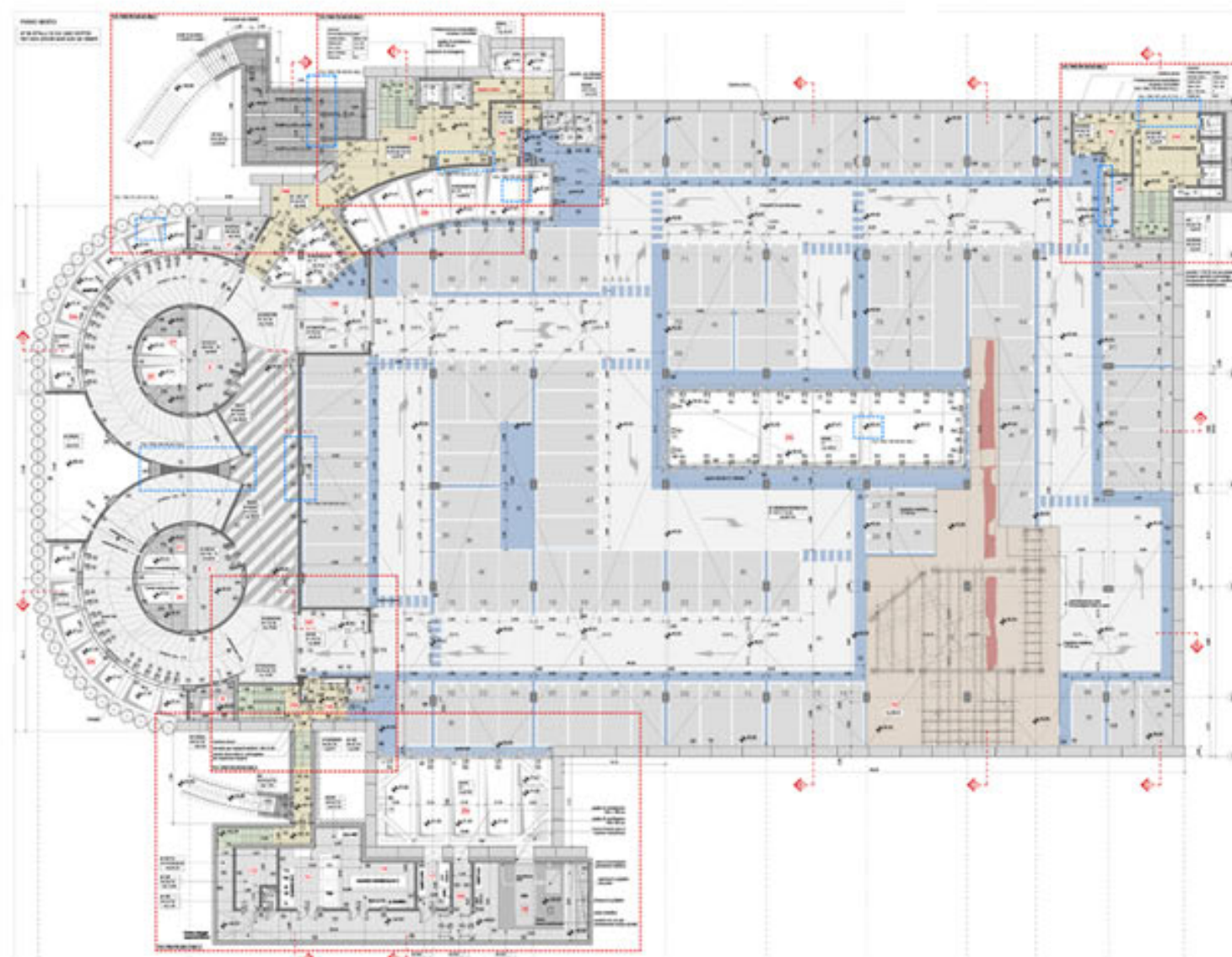
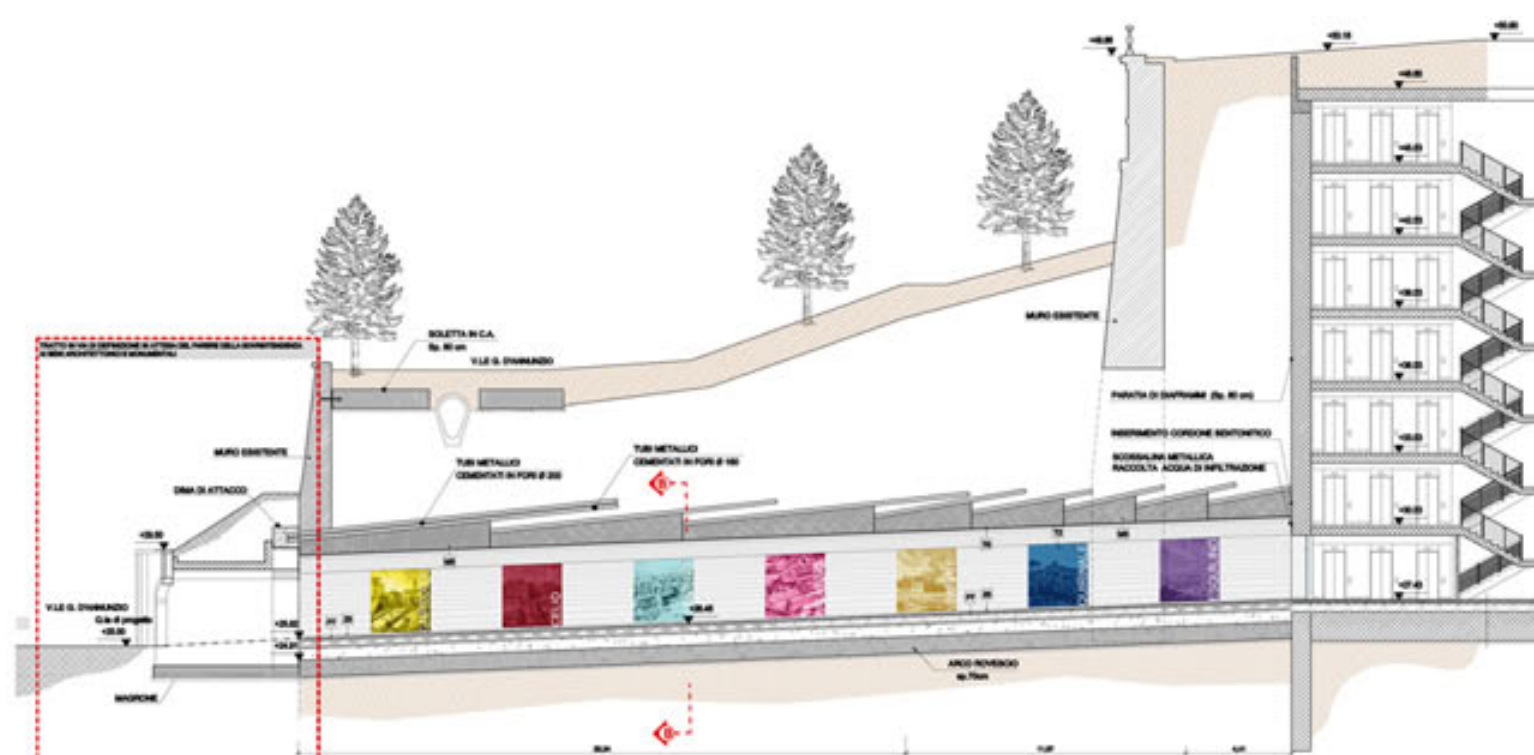
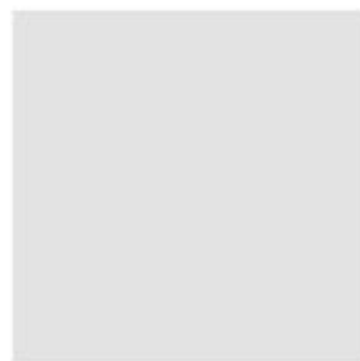
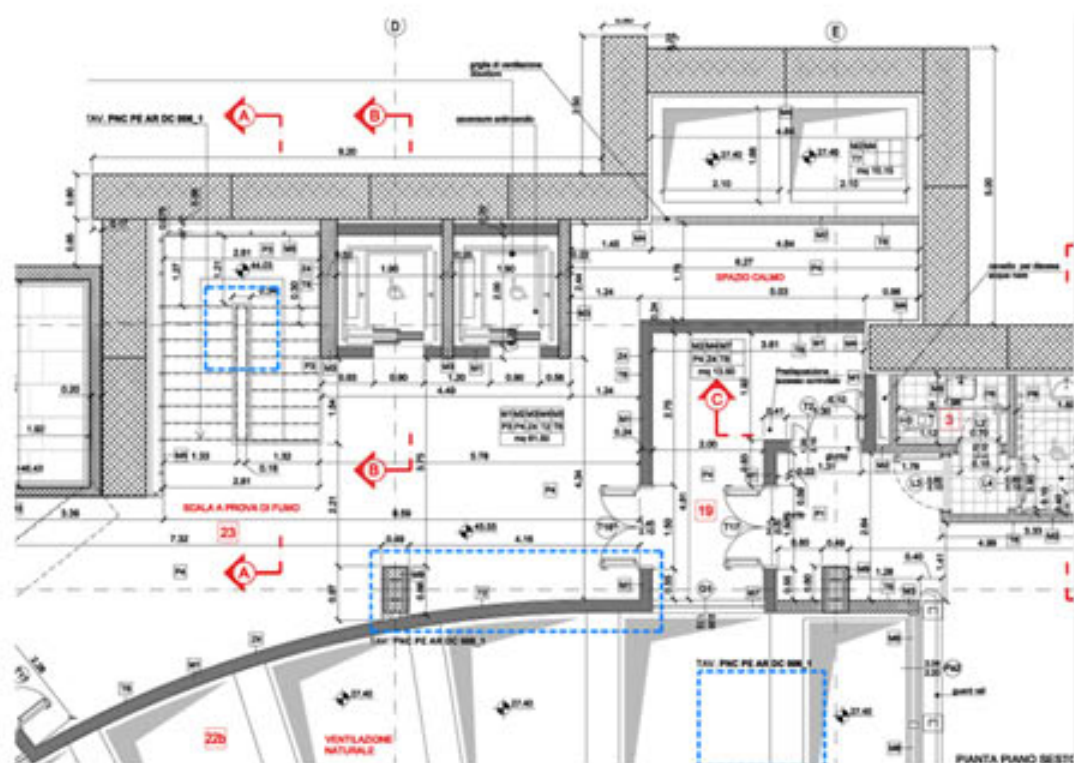


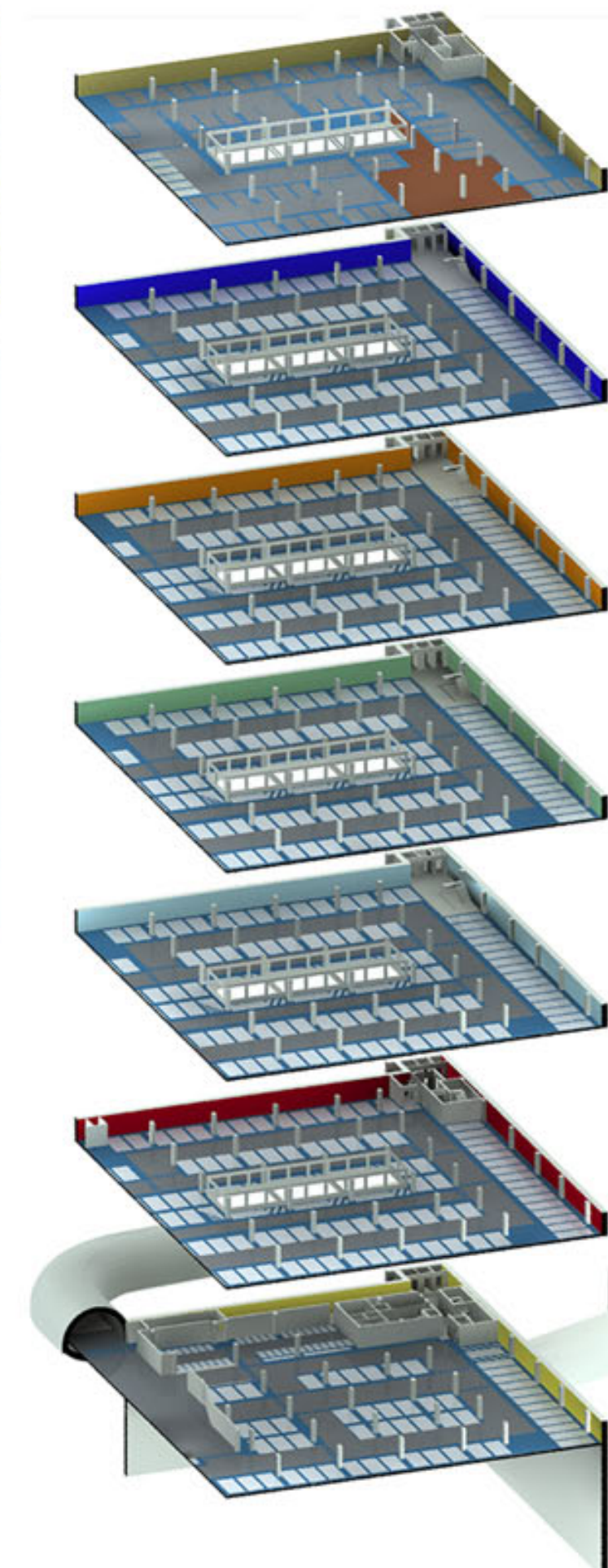
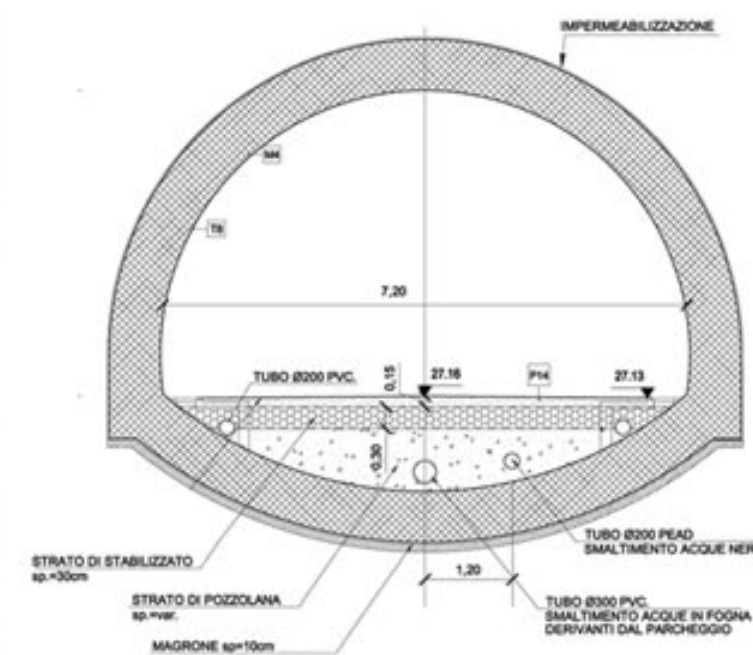
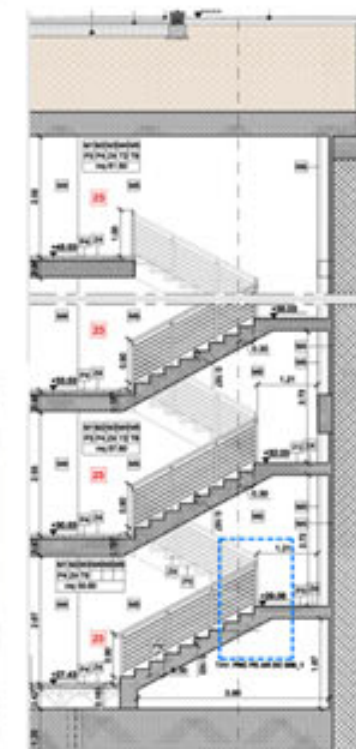
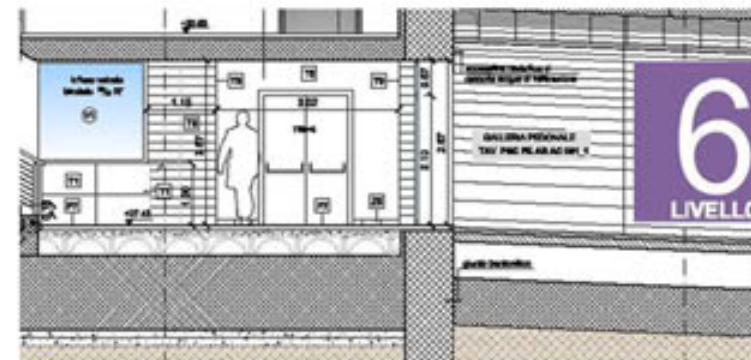
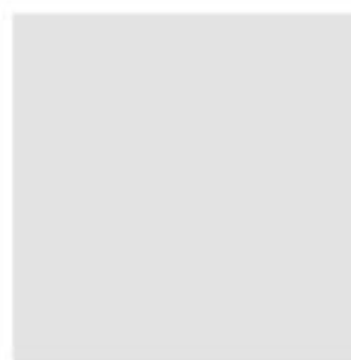
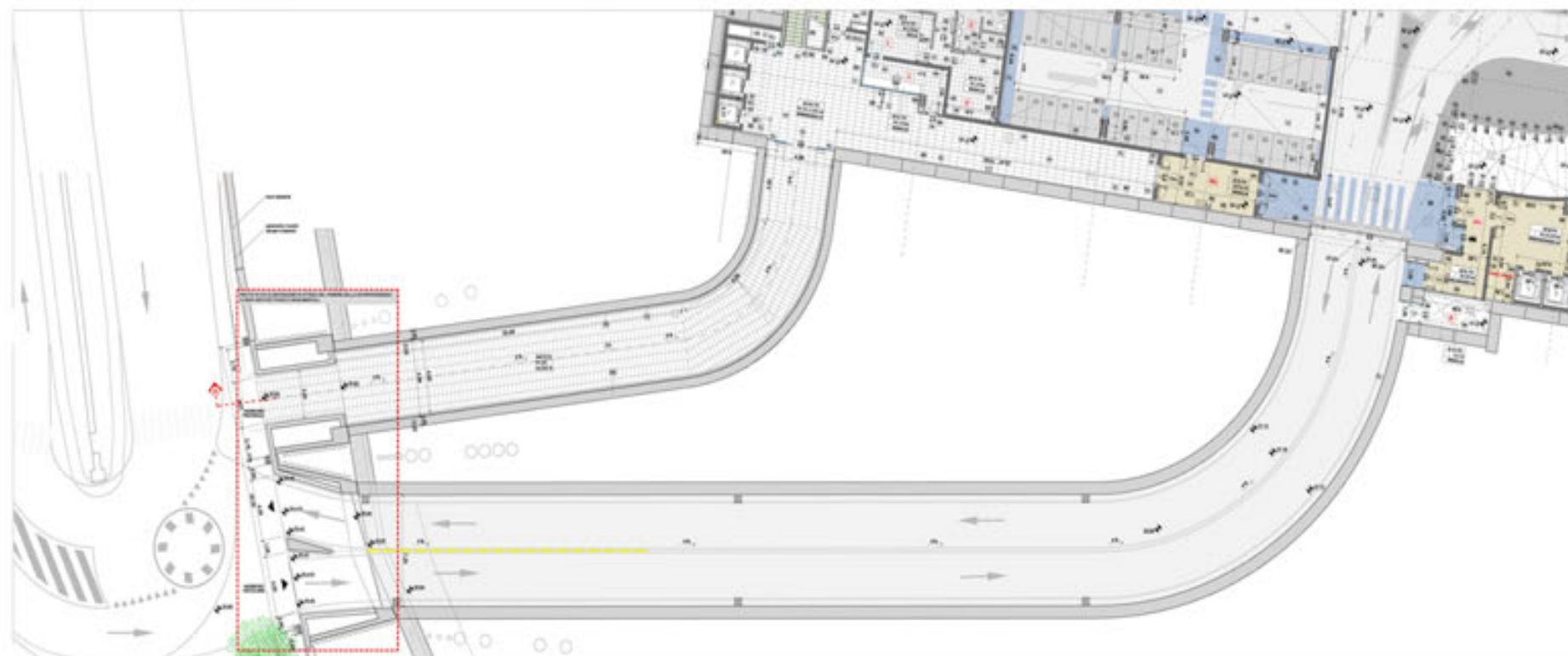
The design philosophy has been aimed to the













SS 597 Sassari – Olbia Road Project Lot 3 - Italy

Firm	ERREGI
Location	Sardinia, Italy
Client	ANAS S.p.A
Total amount of bid	120.000.000 \$
Year of start	2013
Current status	Under construction
Role and professional involvement of bidder	Transport, Infrastructural and Equipment design



GENERAL OVERVIEW



"ULA" JUNCTION RENDERING

The track of lot 3 has a length of 11,900 (from km 24 + 200 to km 36 + 100) and starts at the end of the adjacent Lot 2, near the junction Martis. The design of the new road axis, further alignment of the lot "2" in plano-altitude variant of the highway SS597, Sassari Olbia. Up to 29 km + 500 the highway SS597 ensures continuity parallel to the path of the project, from km 29 + 500 until the end of the lot 3 continuity is ensured with a series of local roads that cross at various points in the path of the project and attaching to the fabric of local road.

The main works, provided in Lot 3 are:

Martis Junction, Tula Junction, Intersection SS 597, Junction N°6, Junction N°6A, Bridge PO01, Bridge PO02 - Secondary roads, Bridge PO02-bis - Secondary roads, Bridge PO05-Rio Mannu, Bridge PO06-Rio Cuzi, Bridge PO07-Rio Pentuma, Bridge PO08, Bridge PO09, Viaduct km 34+500, For the continuity of part of the secondary roads: Underpass SO06, SO07, SO02, SO03.

Waste-water platform, properly filtered by new works of defense provided along the route, discharging into the existing hydraulic lattice. For hydraulic continuity under the track, have been provided for works of adequate size, in light of new specific hydraulic, resulting flood of 2011.

Accesses to agricultural funds are guaranteed through the implementation of a series of roads co-planar and reconnections to the fabric of local road variously interconnected with the existing network.



PROPOSAL LIGHTING ROUNDABOUT INDIRECT LIGHT



WORK IN PROGRESS OVERPASS - JUNCTION "ULA"



HORIZONTAL ALIGNMENT WITH DETECTION OF THE MAIN WORKS



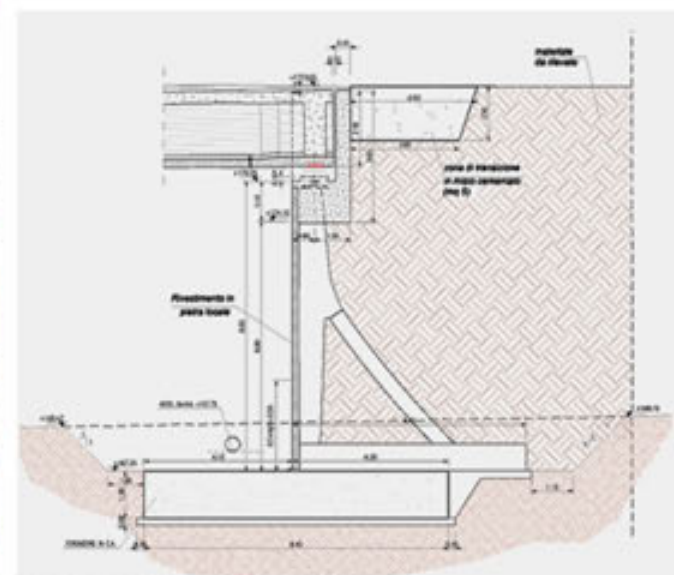
"TULA" ROAD JUNCTION PROJECT



RENDERING- GREEN AND ENVIRONMENTAL MITIGATION WORKS



WORK IN PROGRESS OVERPASS - JUNCTION "TULA"



JUNCTION "TULA" ATTACK SHOULDER



RENDERING- GREEN AND ENVIRONMENTAL MITIGATION WORKS



JUNCTION "TULA" - CONSTRUCTION PHASES SITE



RENDERING- GREEN AND ENVIRONMENTAL MITIGATION WORKS



SS 597 Sassari – Olbia Road Project Lot 8 - Italy

SS 597 SASSARI - OLBIA ROAD PROJECT LOT 8



Firm	ERREGI
Location	Sardinia, Italy
Client	ANAS S.p.A
Total amount of bid	101.640.982 \$
Year of start	2013
Current status	Under construction
Role and professional involvement of bidder	Transport, Infrastructural and Equipment design

The route of lot 8 is an integral part of the overall project of modernization of the route Sassari – Olbia (SS 597) , that the current section to one lane in each direction , will be brought to Type B - the main country road , with separate carriageways separated by a central reservation or impassable and 2 lanes in each direction.

The implementation of the new infrastructure ensures the strengthening of the internal cross road link between Sassari and Olbia with a consequent reduction in journey times that, in fact , facilitate the connections of the small towns insistent infrastructure with major poles of attraction of Sassari and Olbia.

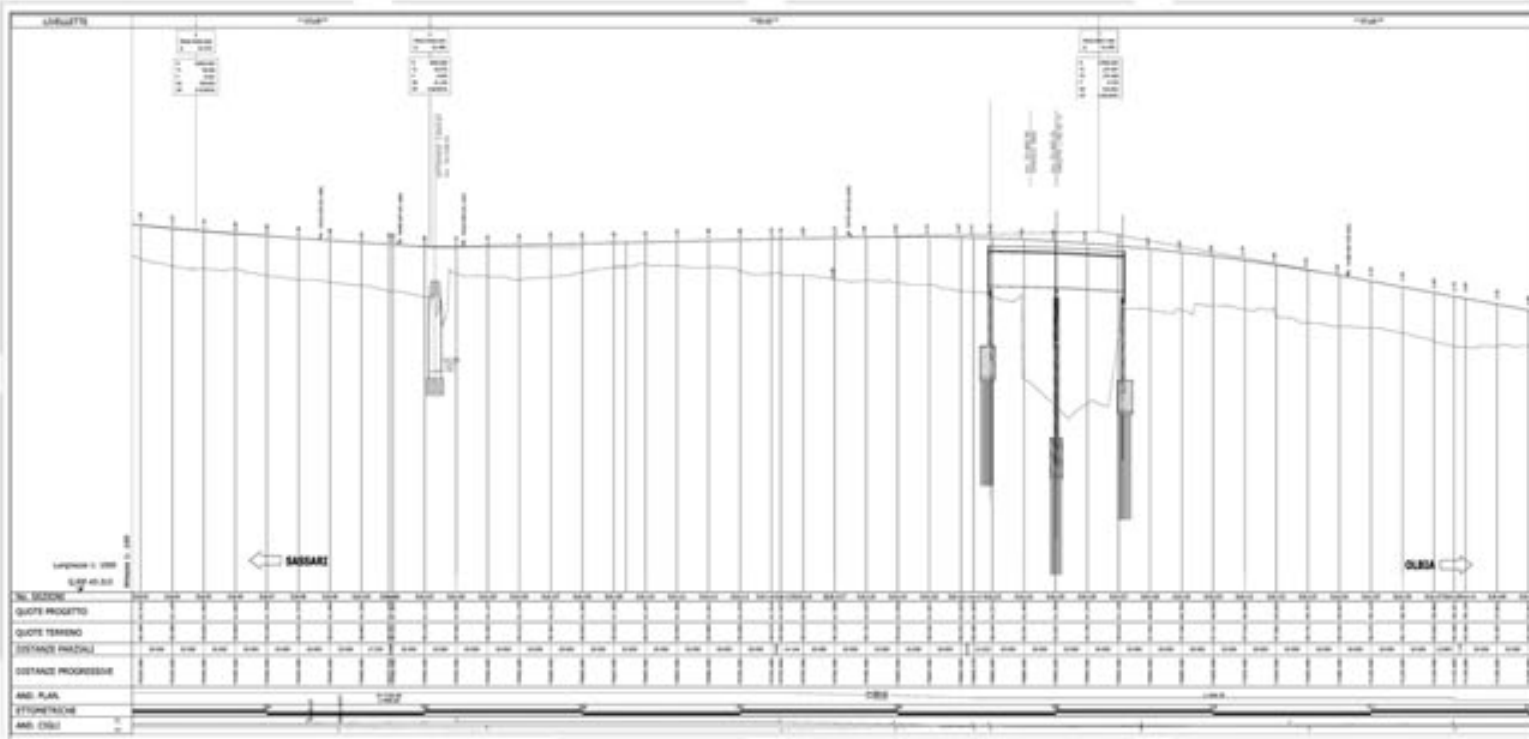
The design of the main axis , begins the gradual km 68 +600 , end of lot 7 , Further below the alignment of horizontal and vertical alignment on the north side of the body existing road (on the left) and ends at the beginning of the lot 9 (programmable km 76 +992) . For most of the route follows the development of the existing abutments , except for a slight deviation at the km 72 +500.In order to ensure continuity of operation on the North / South of local roads caught several works have been planned to cross the viability of the project. Access to agricultural land , originally served by the SS 597, were secured through the implementation of new sections of road co-planar , interconnected with the existing road network. This will involve the adjustment of the Intersection of Enas , free partial cloverleaf , with ramps in two adjacent quadrants .



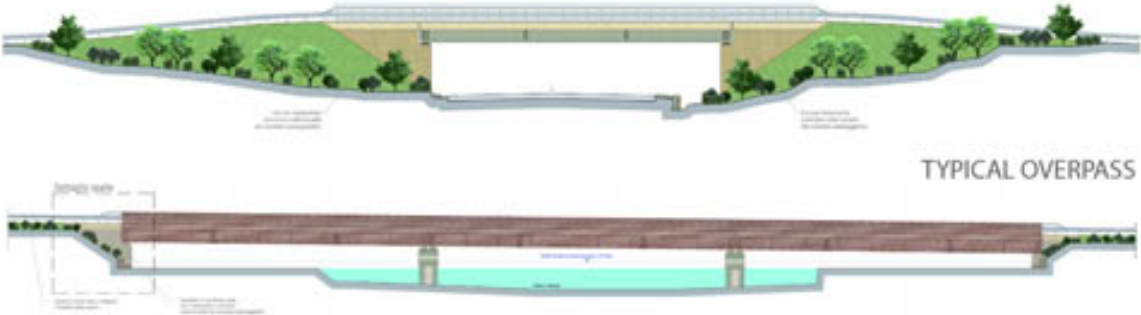
GENERAL OVERVIEW



ROAD PROJECT PLAN (EXCERPT)



ROAD PROJECT PROFILE (EXCERPT)

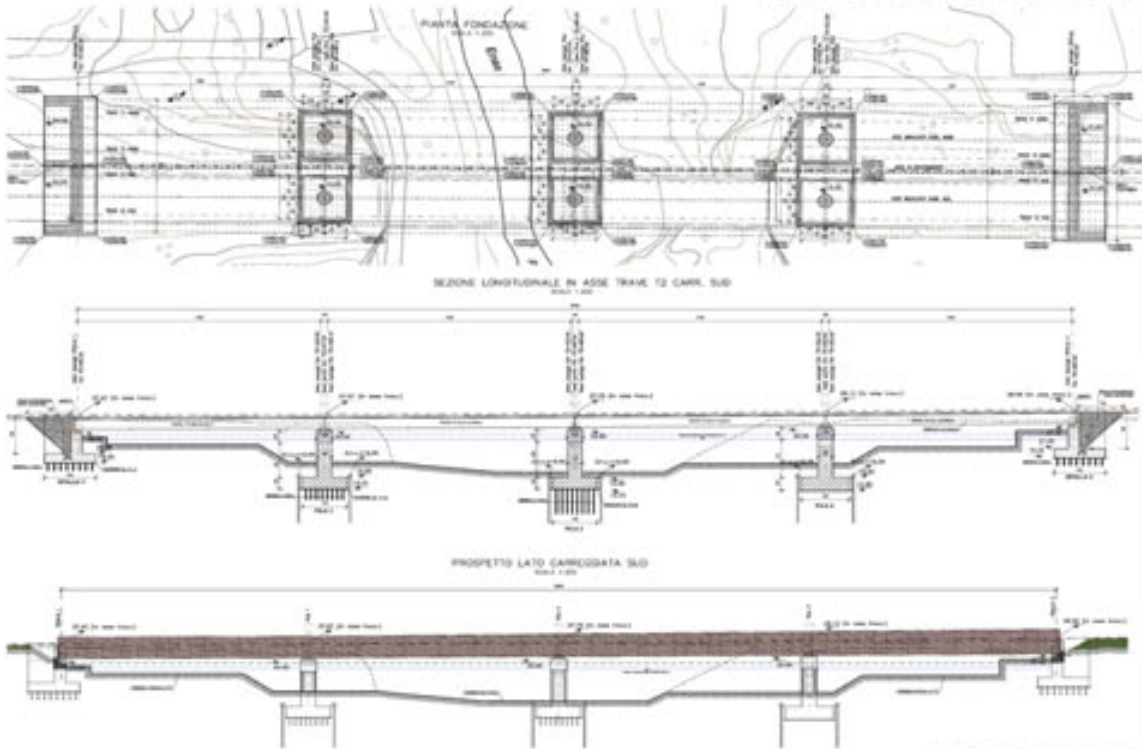


TYPICAL OVERPASS

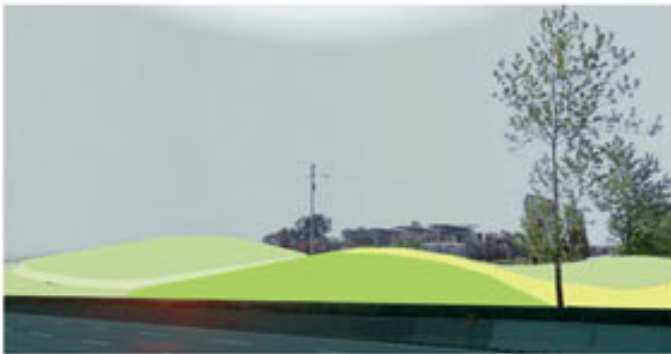


TYPICAL VIADUCT - PROFILE

TYPICAL VIADUCT CROSS SECTION



VIADUCT EXEMPLE



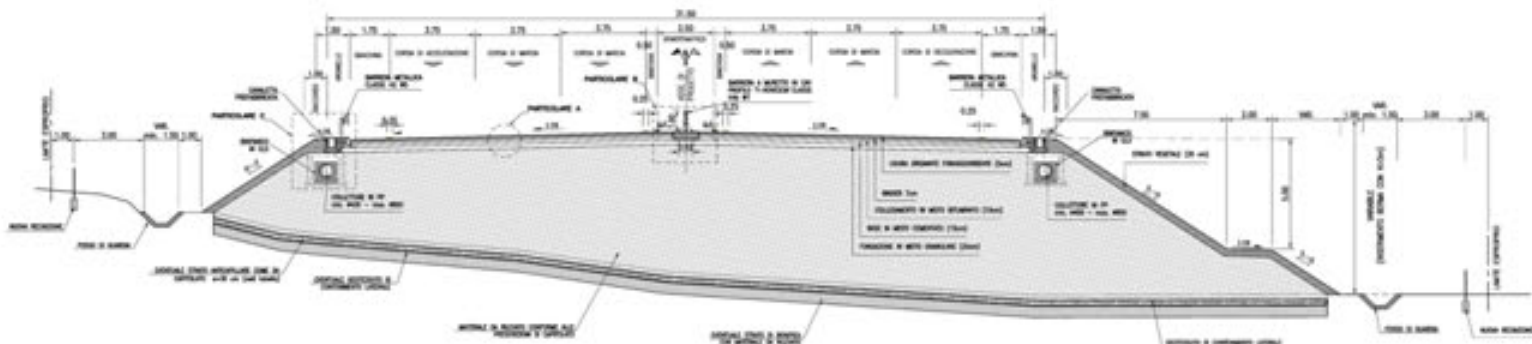
MITIGATION OF THE ROAD PARALLEL AREAS - 3D SIMULATION



EXISTING SITUATION



MITIGATION OF THE ROAD PARALLEL AREAS - CROSS SECTION



TYPICAL CROSS SECTION



PROJECT

GREEN MITIGATION OF THE CROSS AREAS



MITIGATION TREATMENT OF THE RAILWAY OVERPASS

The background is a faded, grayscale architectural rendering of a cityscape. It features various building forms, including a prominent bridge structure that spans across the scene. The rendering is semi-transparent, allowing the text to be clearly visible over it.

Ponte dei Congressi – New bridge over the Tiber river Rome - Italy

PONTE DEI CONGRESSI - NEW BRIDGE OVER THE TIBER RIVER - ROME

Firm	ERREGI
Location	Rome, Italy
Client	Risorse per Roma S.p.A
Total amount of bid	245.538.028 \$
Year of start	2013
Current status	Preliminary design
Role and professional involvement of bidder	Preliminary infrastructural, structural and architectural design

The system infrastructure consists of the New "Ponte dei Congressi" bridge and the set of complementary works, viaducts and roads, will provide new access to the city of Rome.

The connection to the airport Leonardo Da Vinci and the "Via del Mare" road in fact represent two of the most important arteries of the metropolitan area of Rome.

Just as hypothesized, the new infrastructure has done the same functionality of a large rotating system connecting arteries above with Isaac Newton Street and Via della Magliana street.

Finally, the additional branch of the rotating system that allows you to connect with the Indian Ocean street, is in fact a new outlet to the southern part of the city with a nearly direct connection to the Pontina Street in the direction of the GRA.

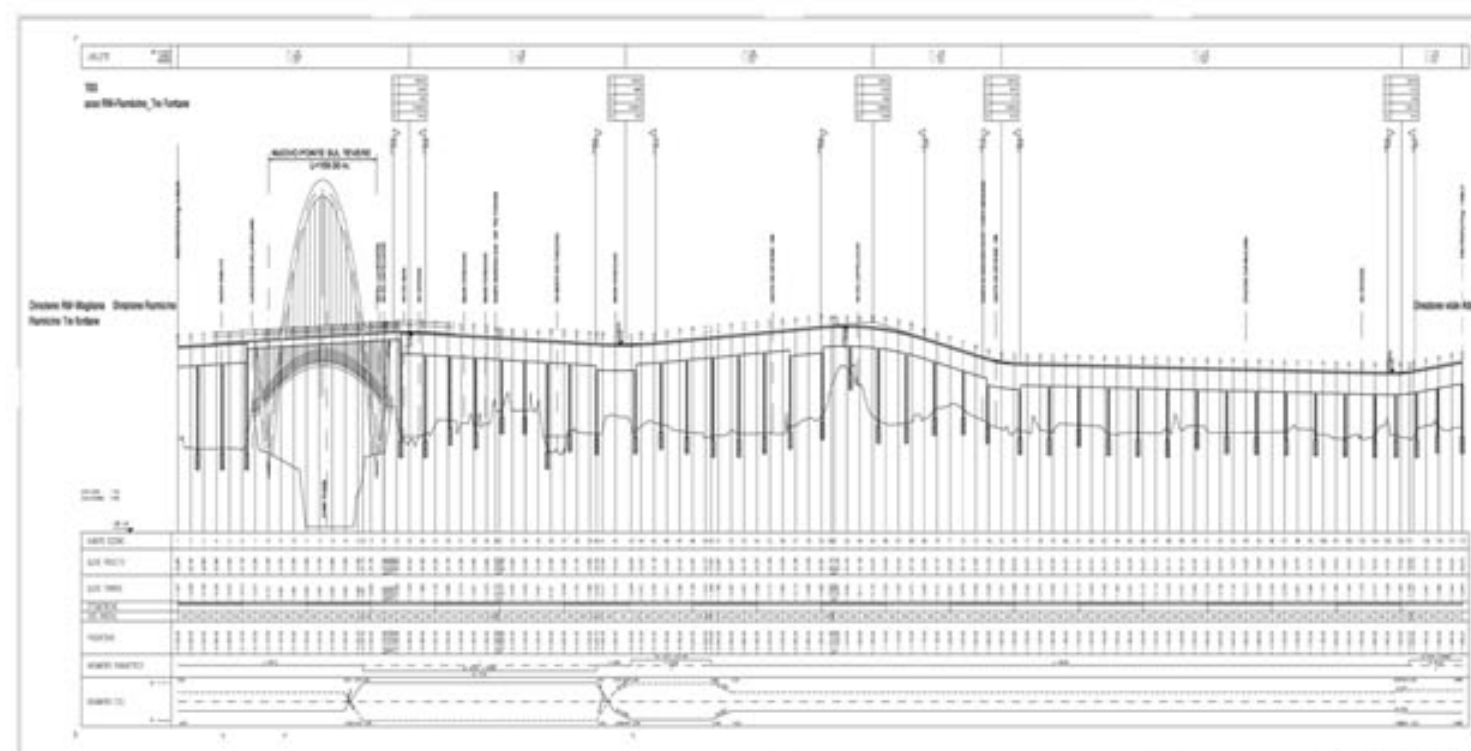
The project involves a series of steel-concrete viaducts access to what is the main work: the Ponte dei Congressi new bridge.

In Bridge are allocated, at a higher level, the docks and vehicular traffic safety, while at the lower level have settled spaces pedestrian promenade and bicycle paths. The deck is made up of elements of the longitudinal box section with high torsional stiffness that are connected to the two steel arches formed of tubular profiles with hangers. The hangers are made of pre-stressed diagonal stays supporting the deck limiting the deformation out of the plane.

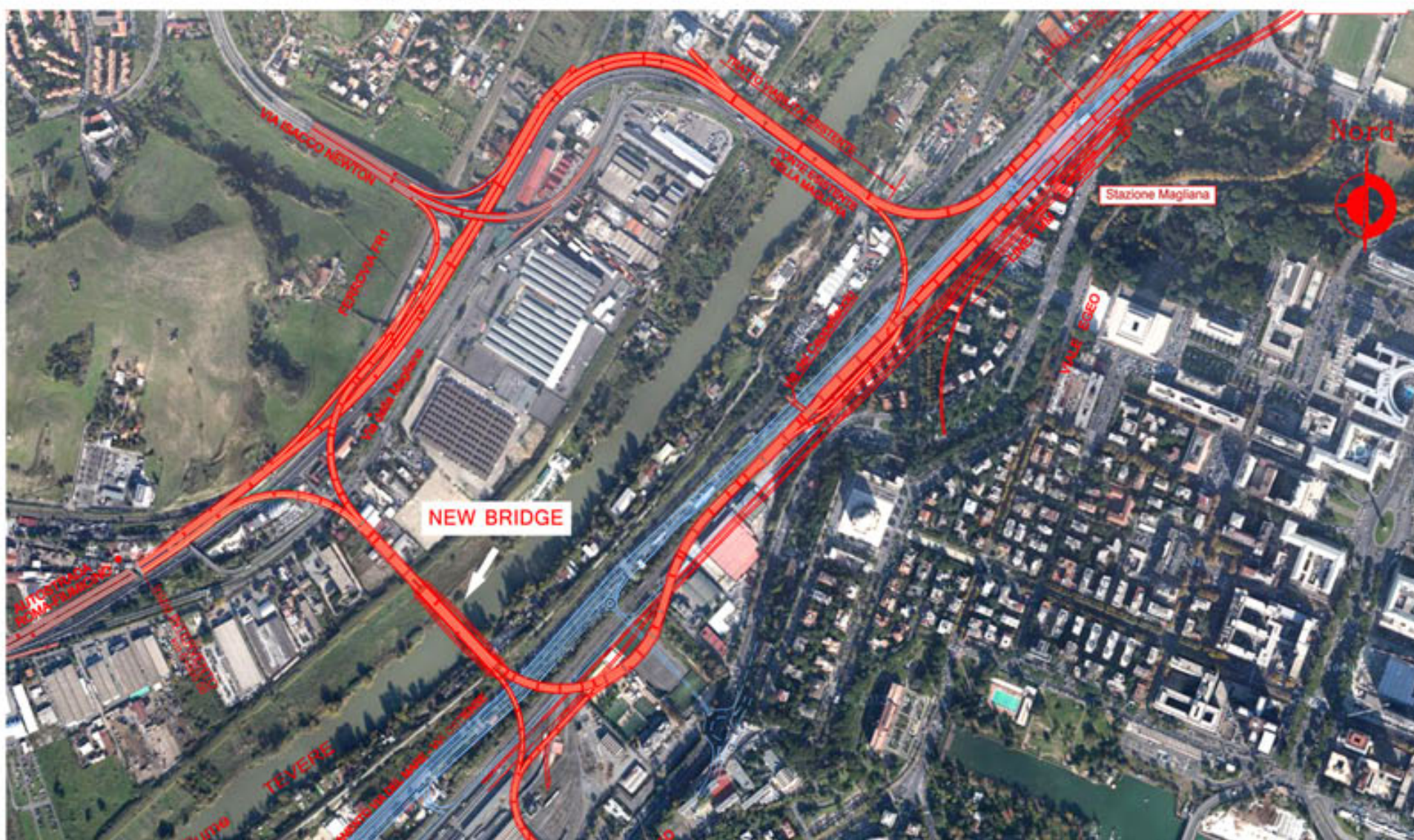
The bridge has a clear span of 168m to the bow and arrow is approximately 18 m above the extrados of the floor.



GENERAL LAYOUT VIEW

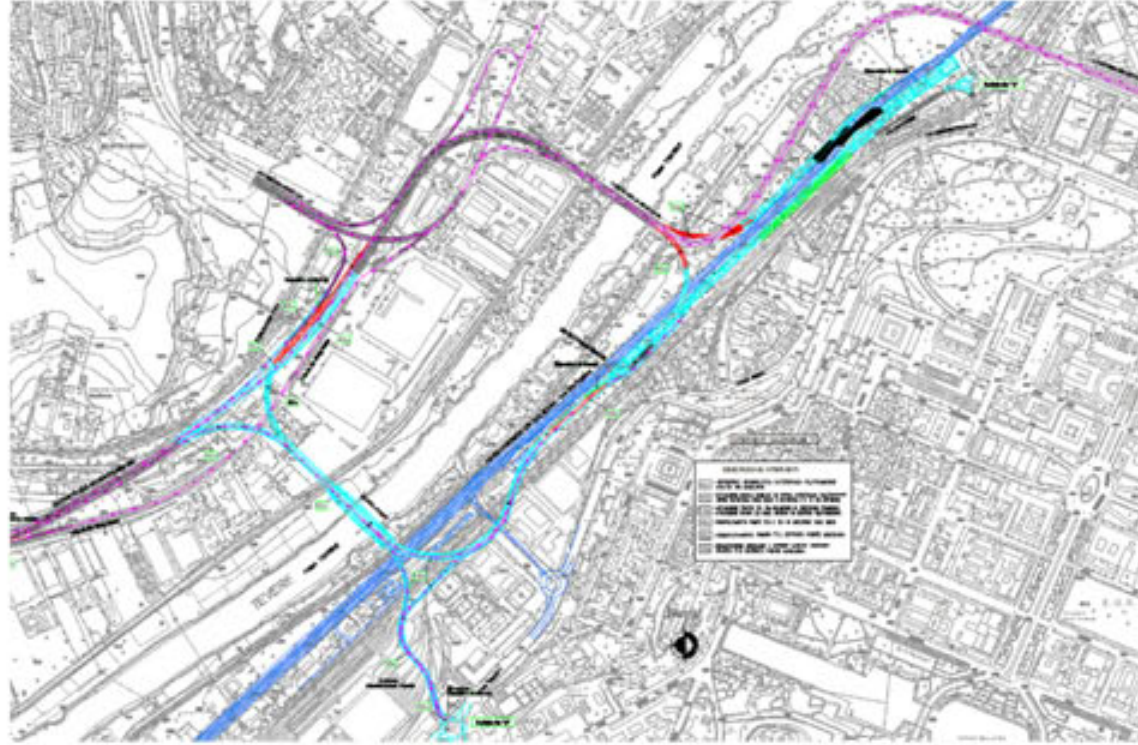
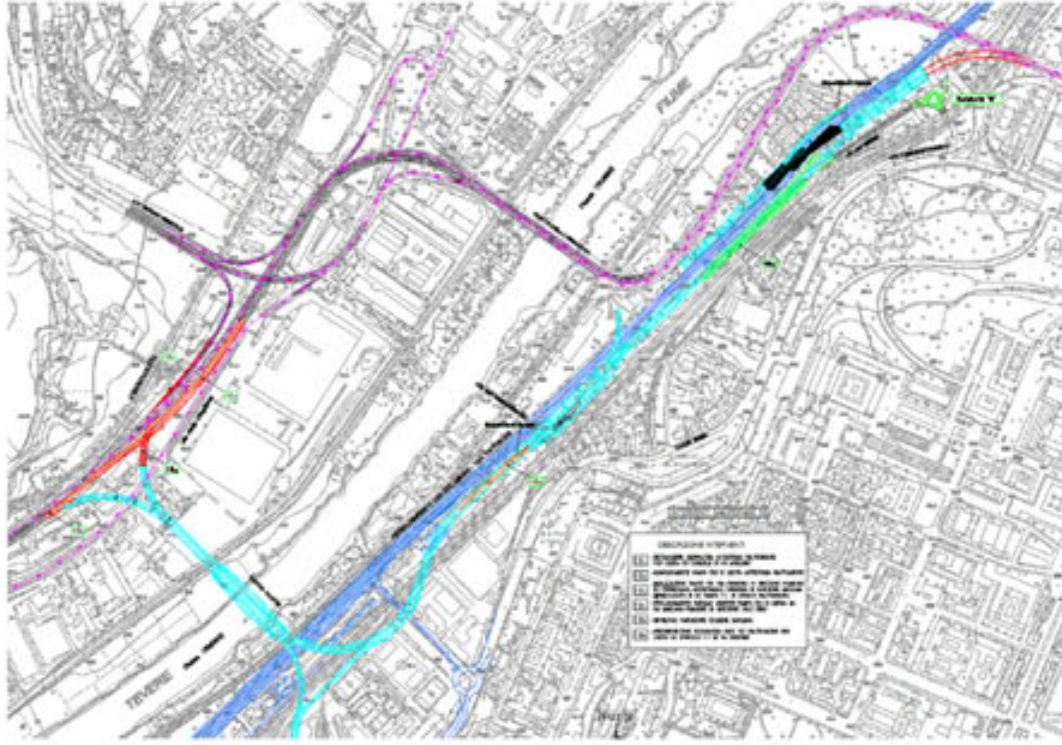
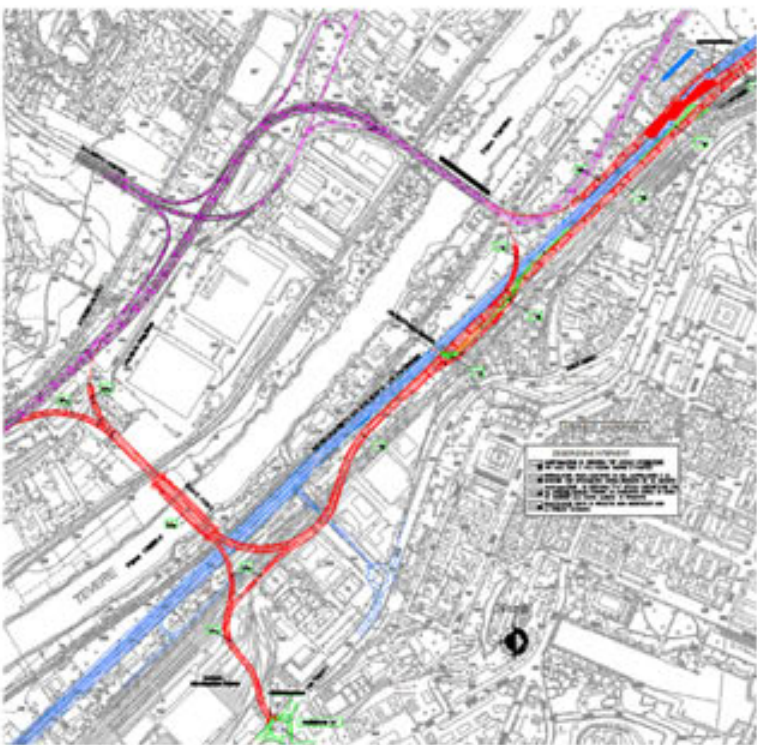


ALTIMETRIC PROFILE

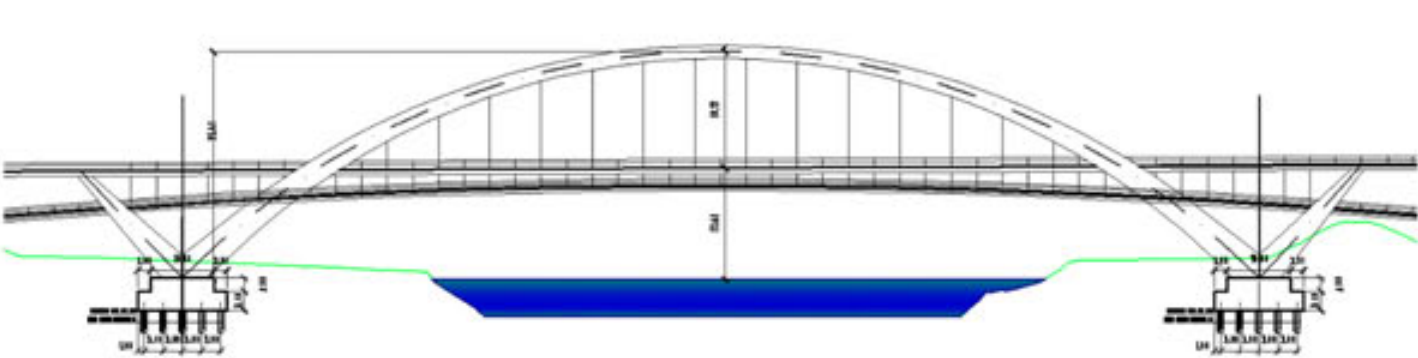


GENERAL PLAN VIEW

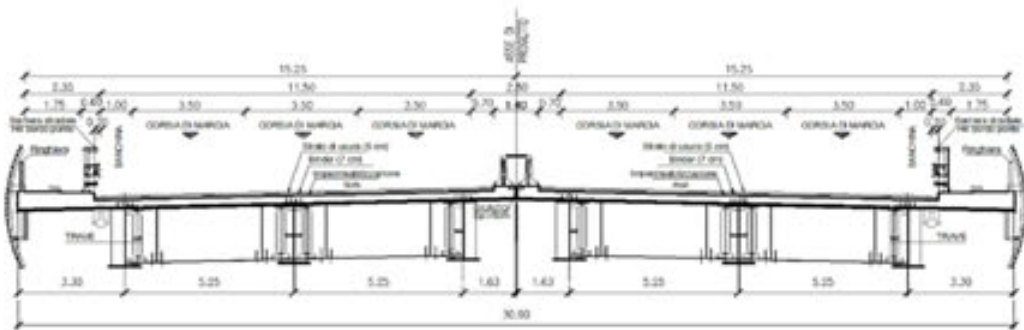
PONTE DEI CONGRESSI - NEW BRIDGE OVER THE TIBER RIVER - ROME



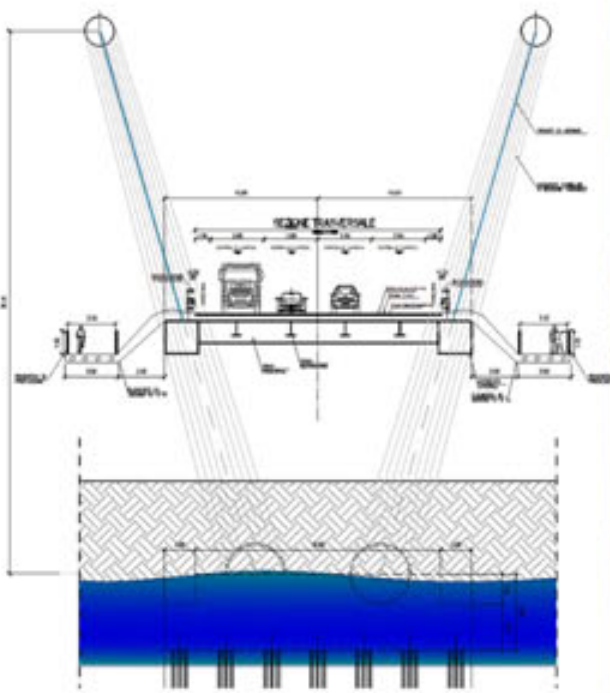
CONSTRUCTION PHASES: 1 - 2 - 3



LONGITUDINAL SECTION OF THE BRIDGE



VIADUCT: CROSS SECTION



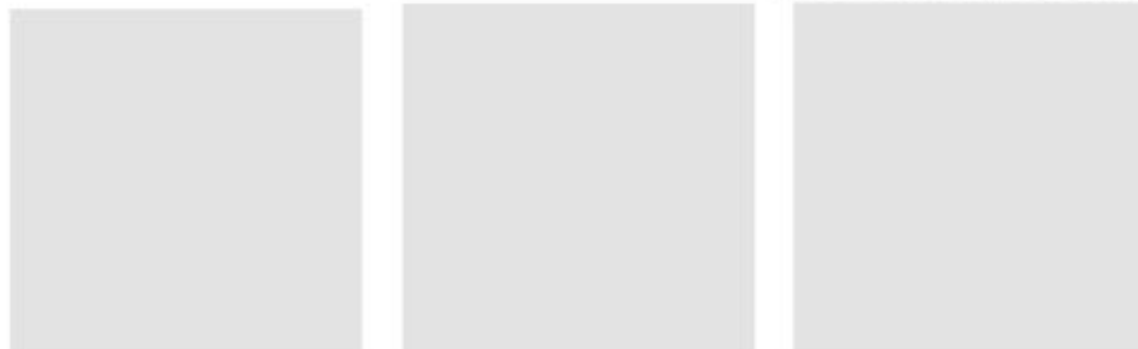
CROSS SECTION OF THE BRIDGE



PERSPECTIVE VIEW OF THE BRIDGE



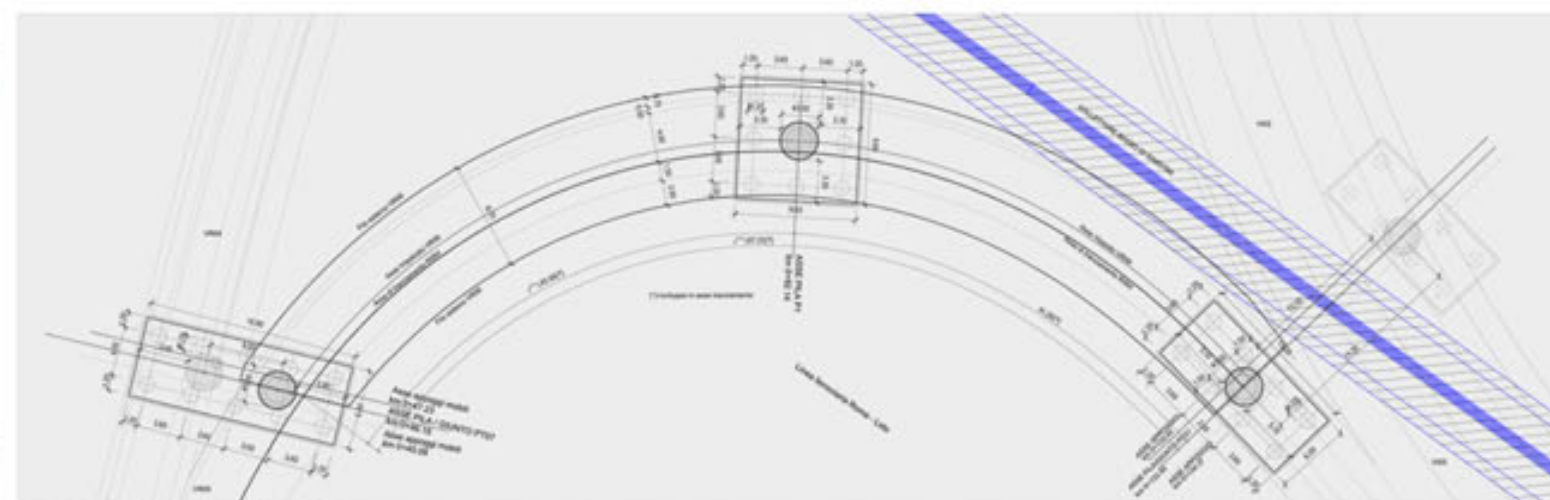
VIADUCT: LONGITUDINAL SECTION



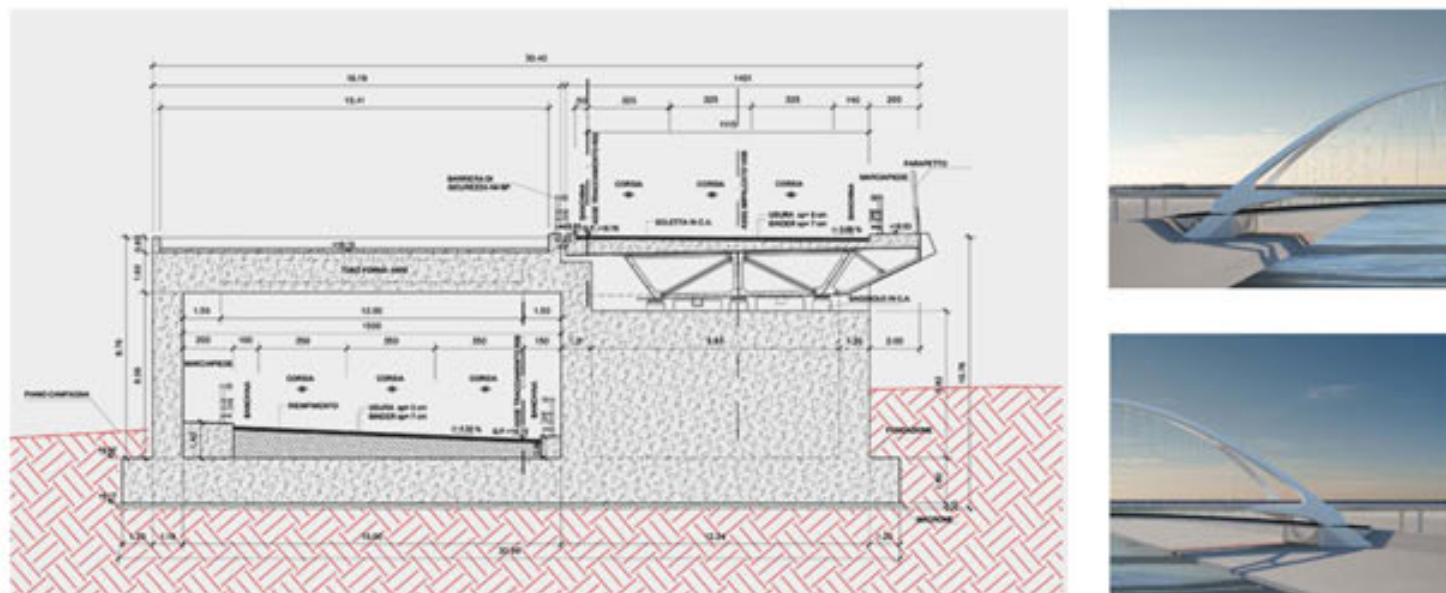
PONTE DEI CONGRESSI - NEW BRIDGE OVER THE TIBER RIVER - ROME



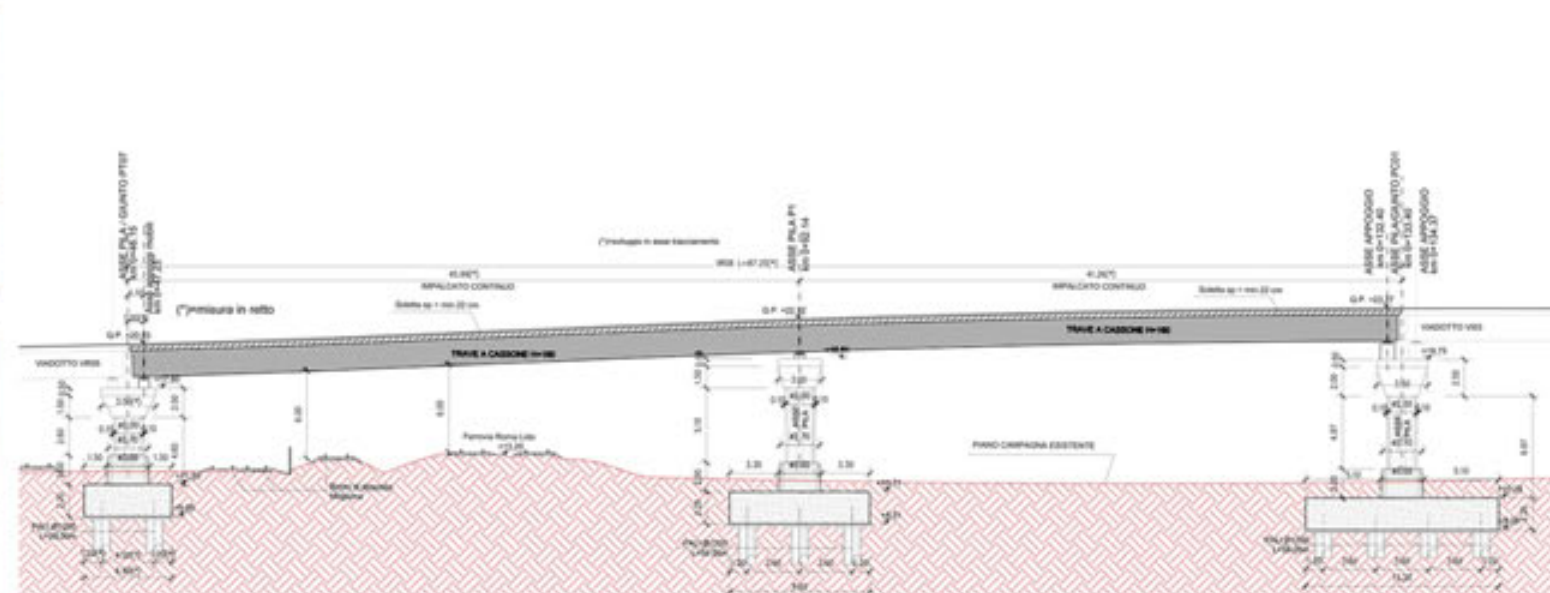
PLAN WORKS OF ART - GALLERY



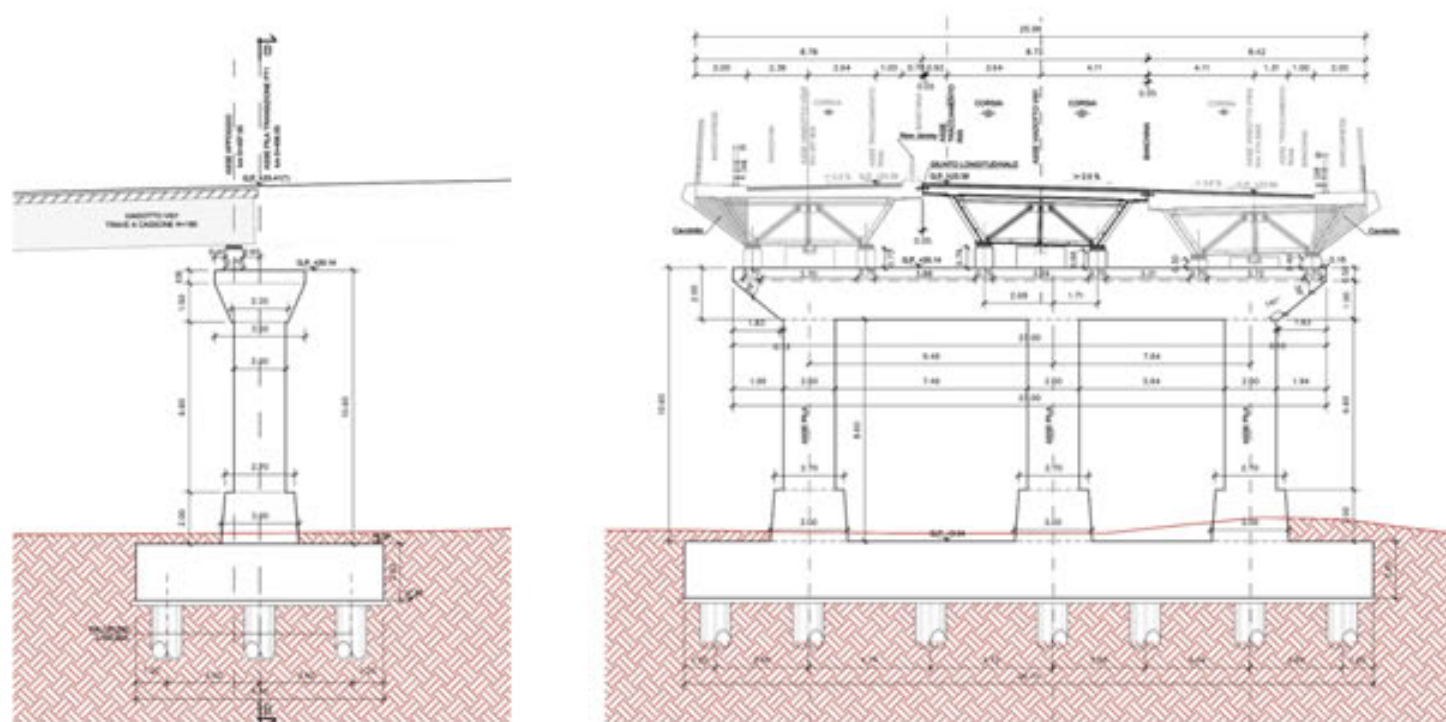
FOUNDATION VIADUCT PLAN



CROSS SECTION DECK COVERING

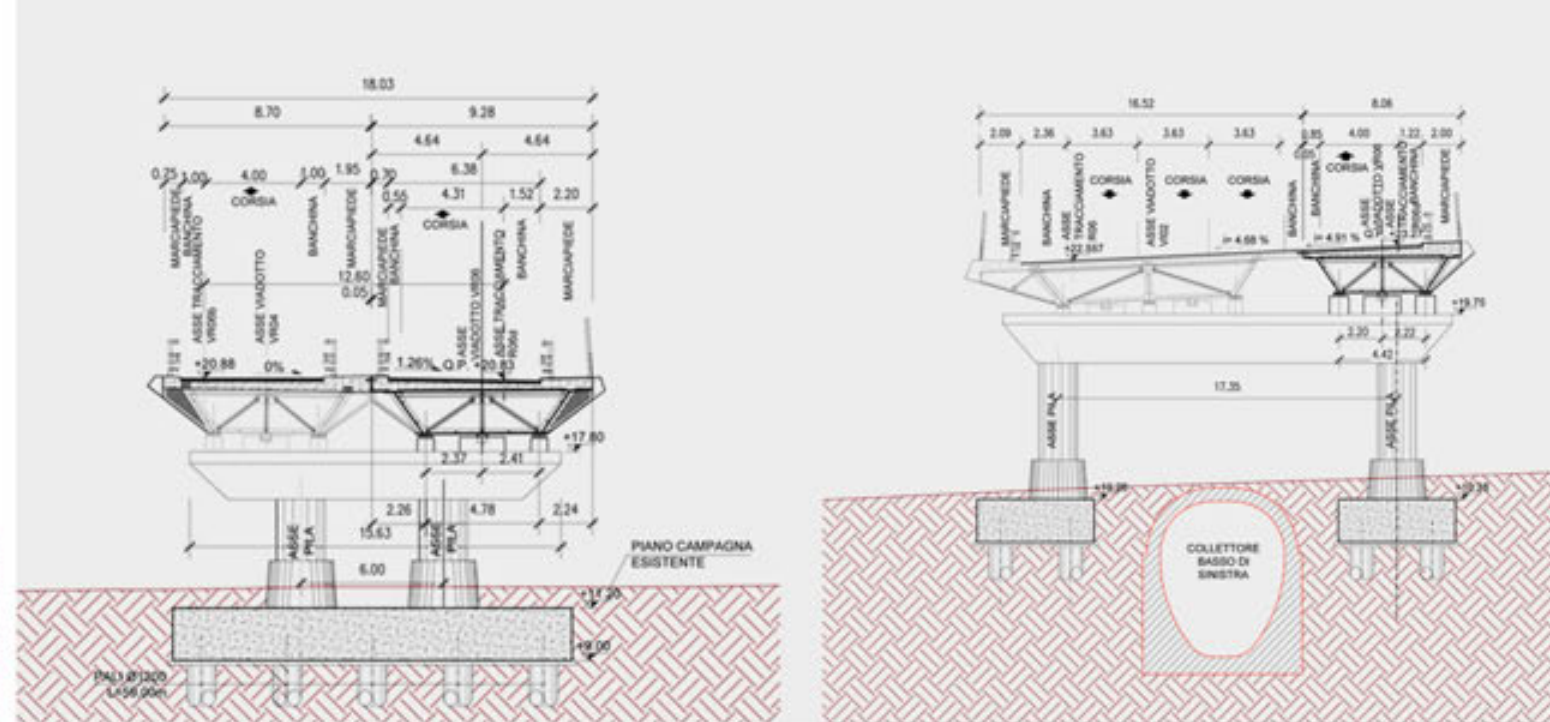


LONGITUDINAL PROFILE VIADUCT



CROSS SECTION CARPENTRY STACK TRANSITION

LONGITUDINAL SECTION CARPENTRY STACK TRANSITION




VIADUCT CROSS SECTIONS



MULTIMODAL TERMINALS

- Authorities Port of Venice – Italy
- Naples Shunting Station – Italy

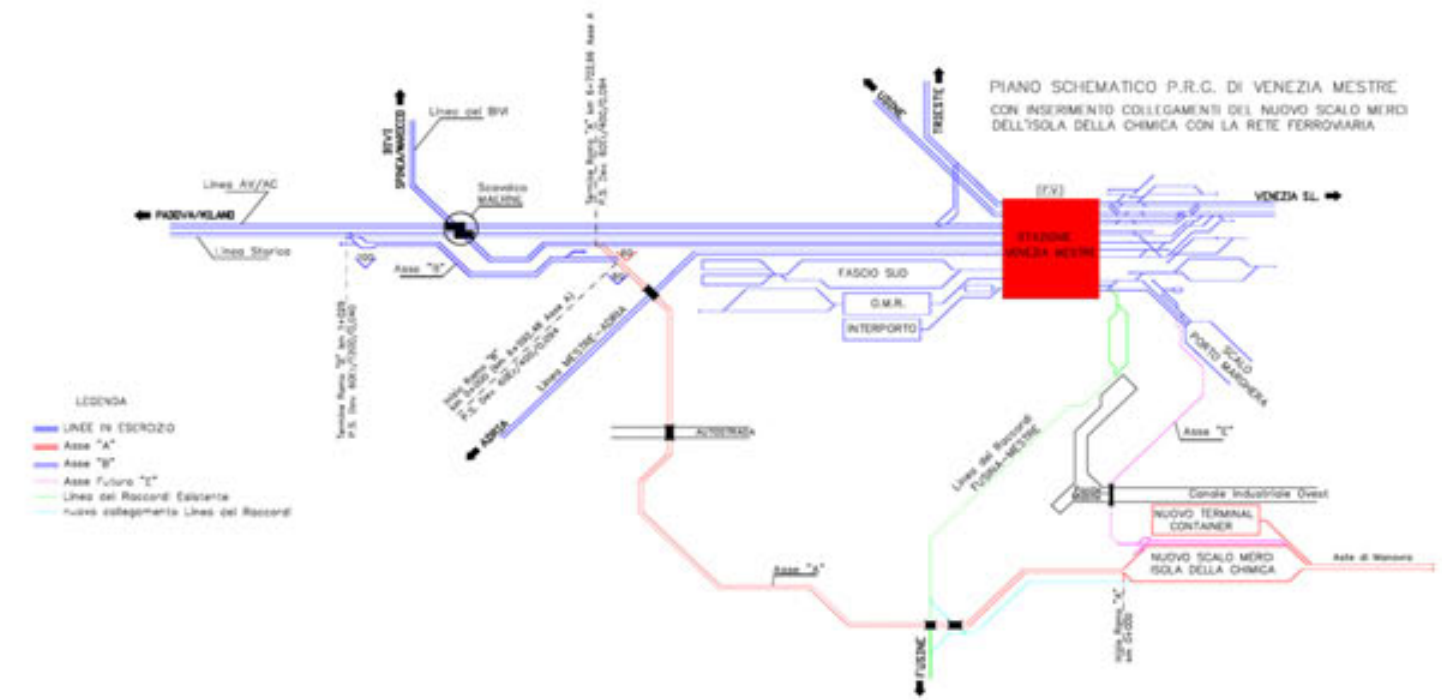


Authorities Port of Venice Venice- Italy

Firm	ERREGI
Location	Venice, Italy
Client	Authorities Port of Venice
Total amount of bid	79.246.176 \$
Year of start	2012
Current status	Preliminary and Pre-Final design
Role and professional involvement of bidder	Preliminary and Pre-Final infrastructural, environmental and equipment design



LOCATION



FUNCTIONAL SCHEME

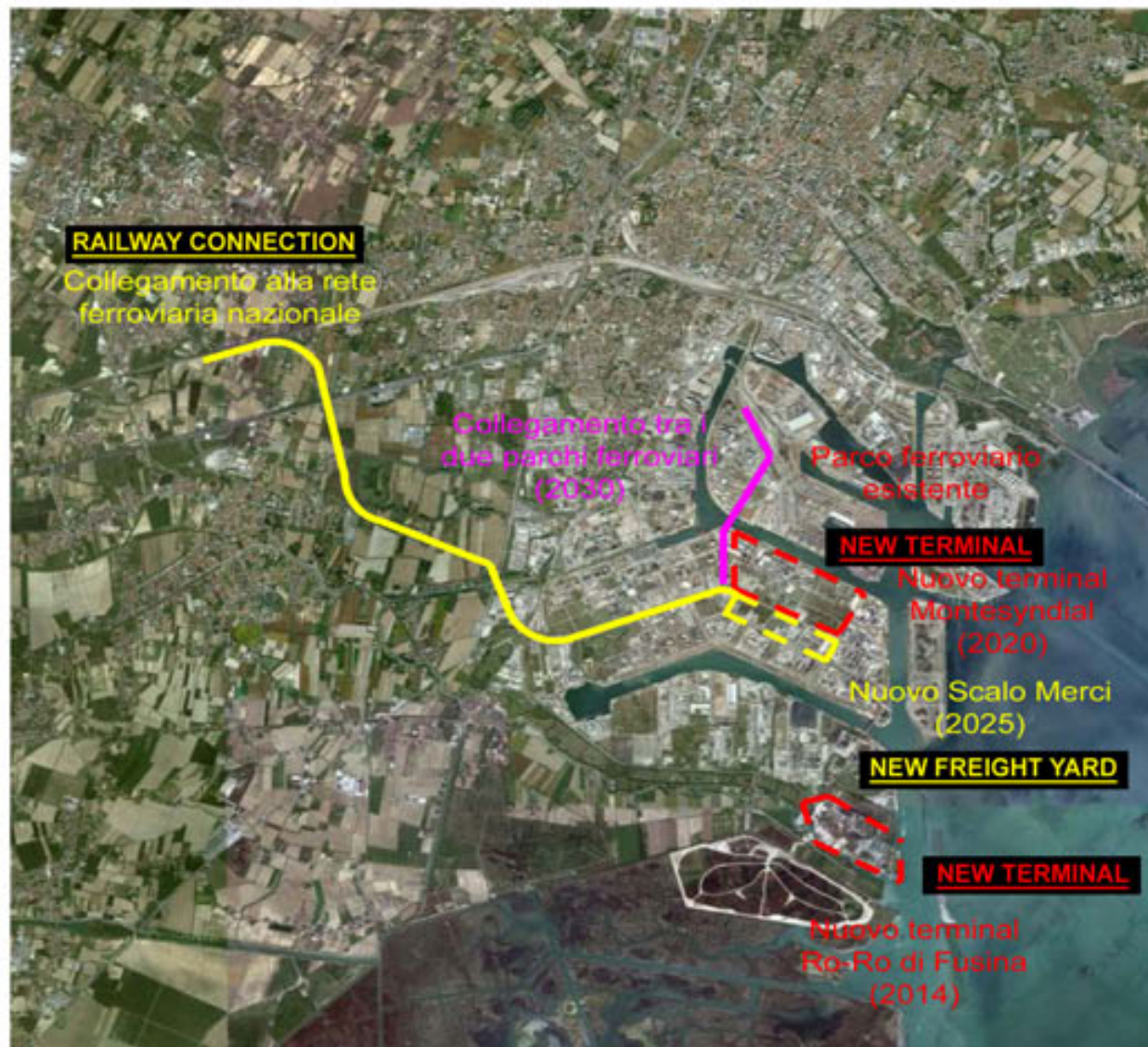
The design concerned the new freight terminal serving the new Container Terminal island of Chemistry of Venice, tracks, rail and road and rail link to the necessary national network afferent to Venice Mestre.

The new freight yard in Marghera is developed alongside the new intermodal terminal will be built on the island of Chemistry, the North- East, in the former area Montefibre and will be used mainly as container traffic for that terminal.

The freight in the project, has a longitudinal extension of about 1.1 km and a transversal extension of about 90 m. It is composed of a bundle of 12 tracks, of which, 7 binary beam Arrivals / Departures, 5 binary auxiliary beam and the remaining 8 tracks used for beam bearings.

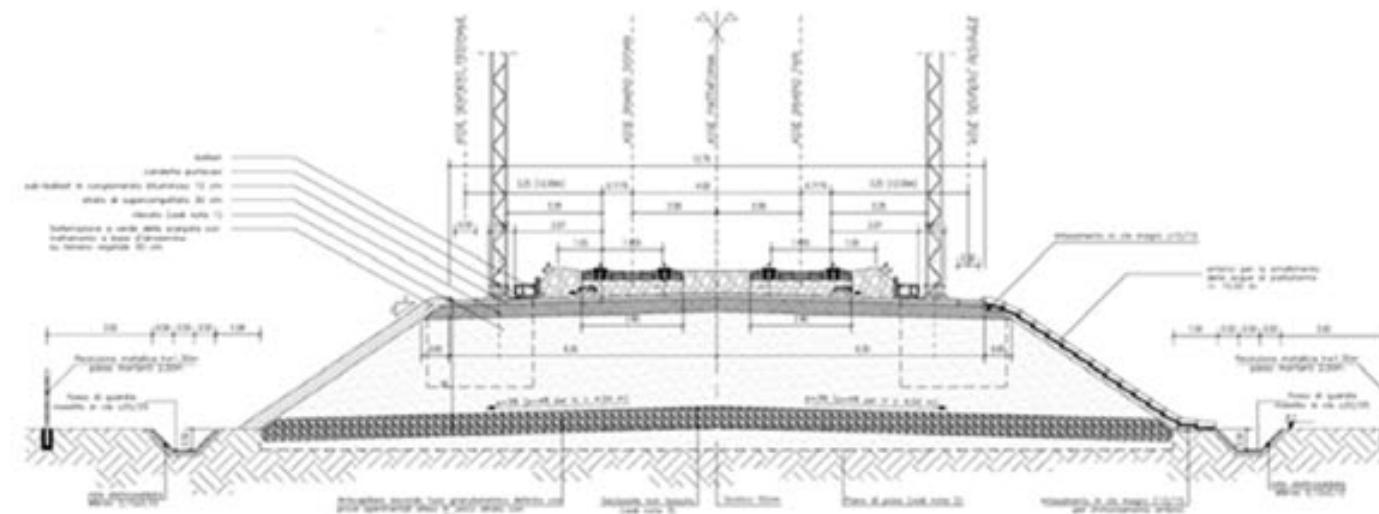
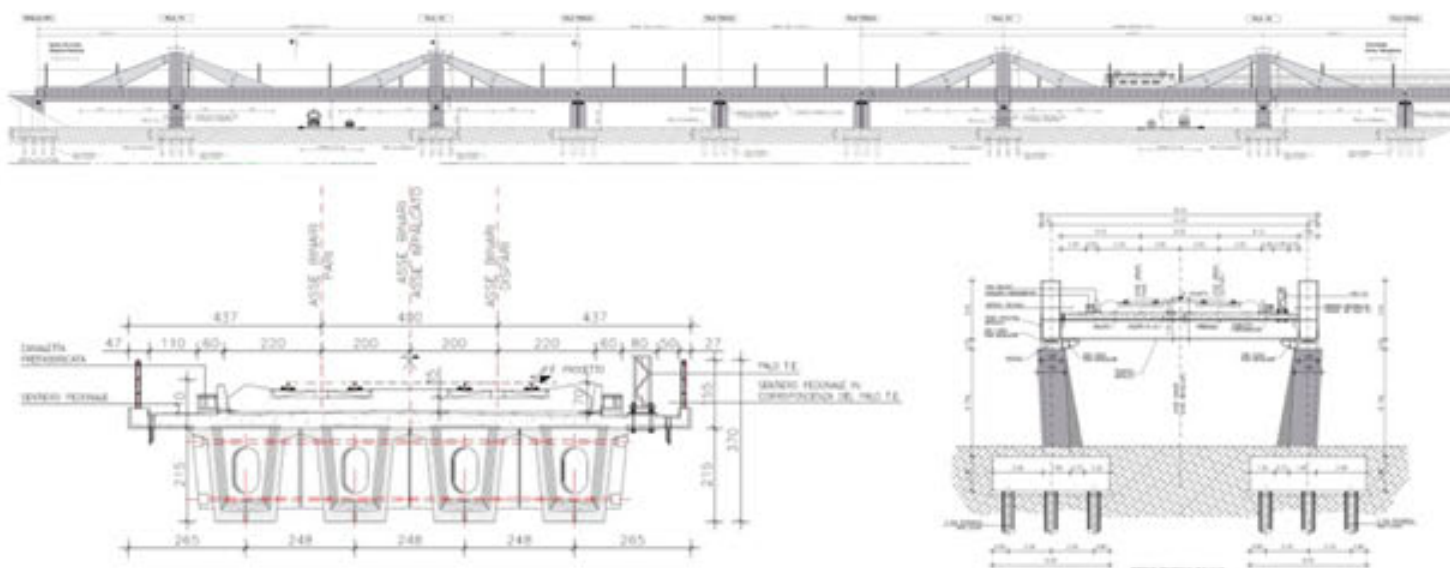
Rail connections to provide for the realization of a double track is independent ("A" axis) of the length of m.7.315, which ends near the overpass of Maerne. Several traits are in the viaduct, to allow the permeability of the territory, otherwise compromised by extensions high embankments. The same "A" engages with a strap fitting double track on the existing line to Milan / Bologna and Padua (axis "B") approximately 845m long.

The "C" axis assumed, and ' in the first section about 585m long, but as mentioned its extension and ' the subject of feasibility studies.

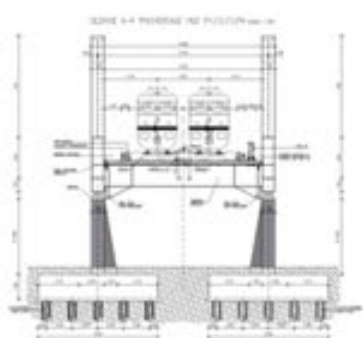
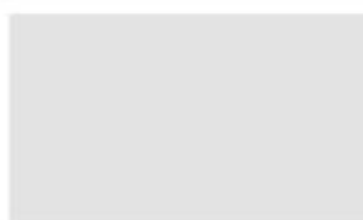


GENERAL PLAN VIEW

ALTIMETRIC PROFILE (EXCERPT)



TYPICAL SECTION DETECTED IN LINE



TERMINAL MONTESYNDIAL



Naples Shunting Station



Firm	ERREGI
Location	Naples, Italy
Client	ITALFERR
Total amount of bid	33.300.000 \$
Year of start	1998
Current status	Built

Role and professional involvement of bidder

Design for construction of civil works and railway services

The detailed design of buildings for maintenance of high speed trains (MAV) and ordinary trains (MAB) is included in the Impianto Dinamico Polifunzionale in Naples, which is a complex destined to garaging and maintenance of both high speed and ordinary rolling stock.

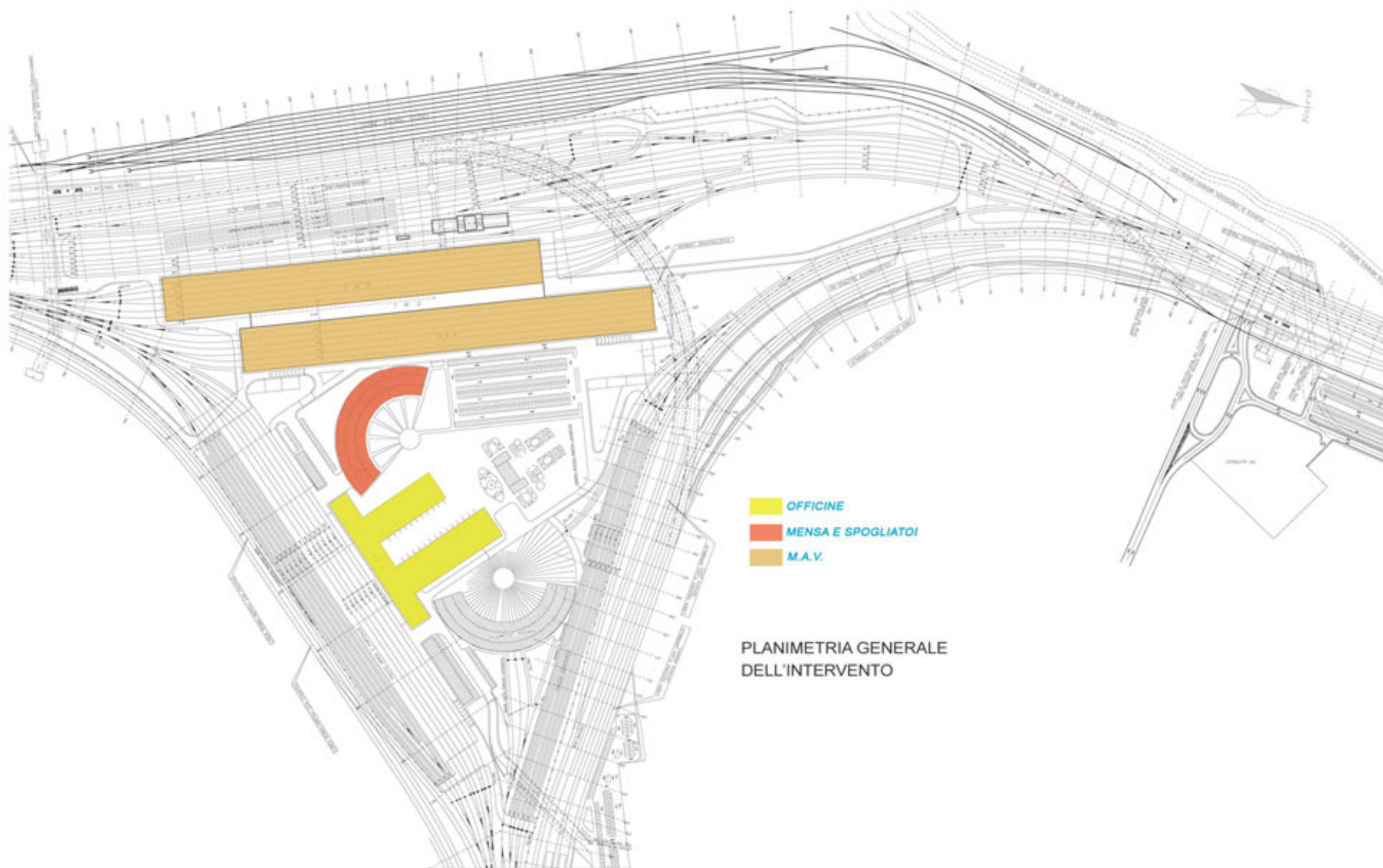
The buildings, including a buried store, are located at the junction of different lines of the Naples railway system.

The complexity of the project lied into the necessity of adapting different structures of big dimensions to the existing railway network providing their accessibility at the same time.

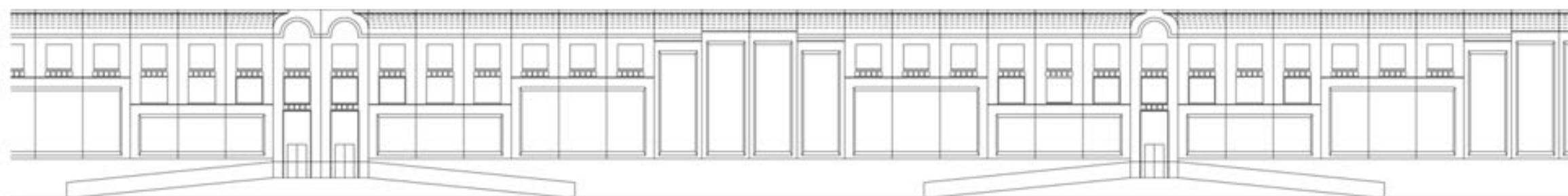
The structure of the new building for maintenance of high speed and ordinary trains has been realised with precast elements of pre-stressed concrete. The building is composed of three different blocks having different heights and connected with joints between them. In some areas of the building it has been considered the presence of bridge-cranes.

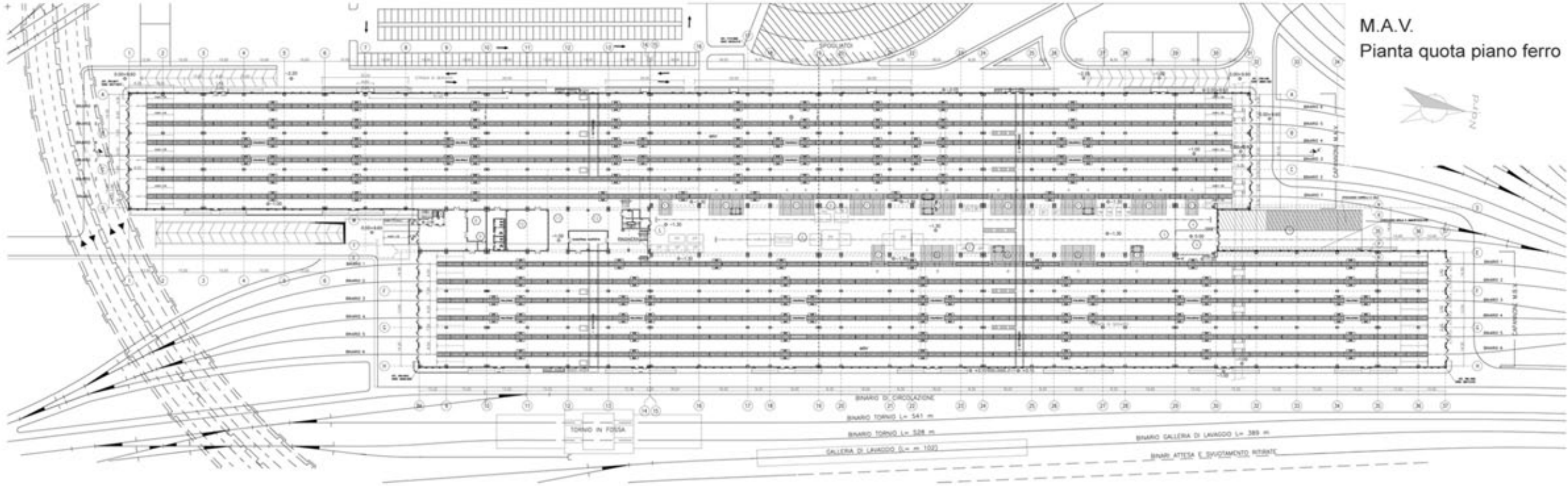
The main structural elements are:

- Precast pre-stressed concrete roof tiles of big dimensions;
- Pre-stressed concrete Omega beams;
- Reinforced concrete columns fully restrained at the base

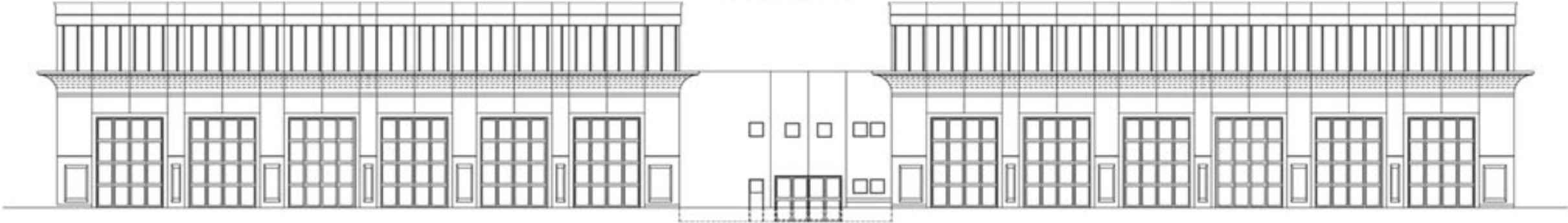


Stralcio Prospetto Ovest M.A.V.

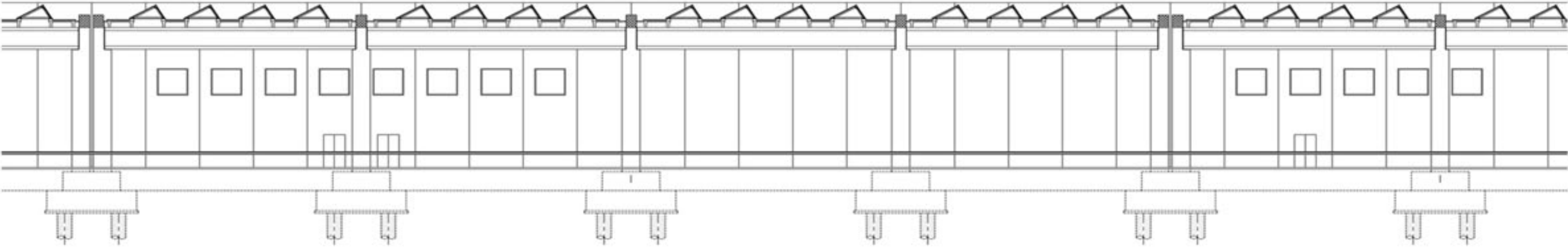


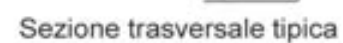


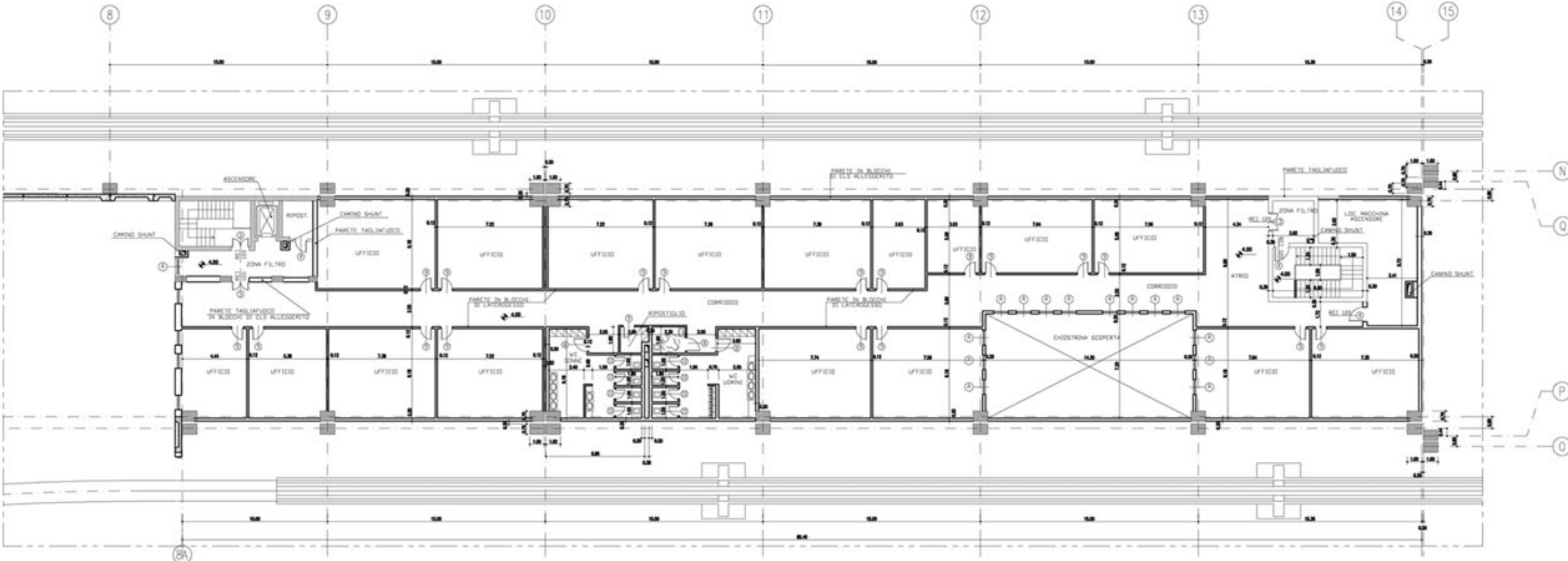
Prospetto Sud



Stralcio Sezione longitudinale M.A.V.



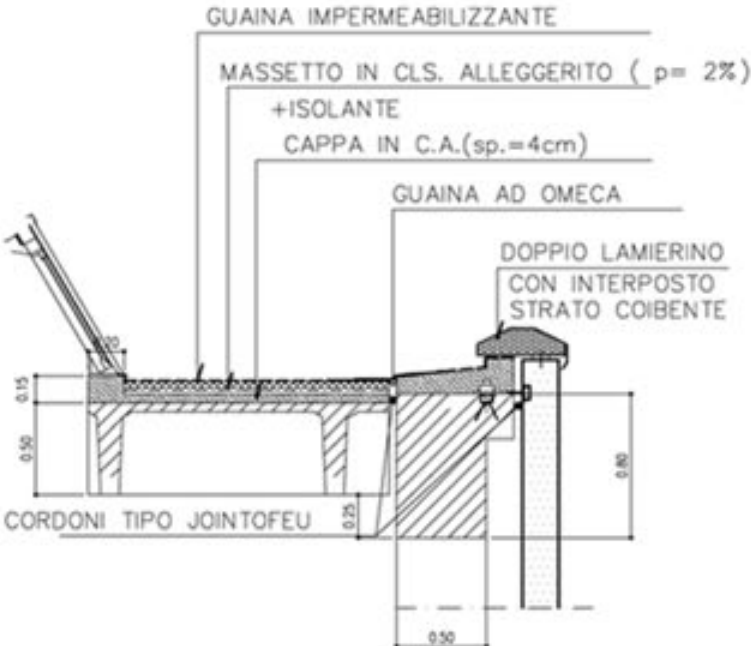
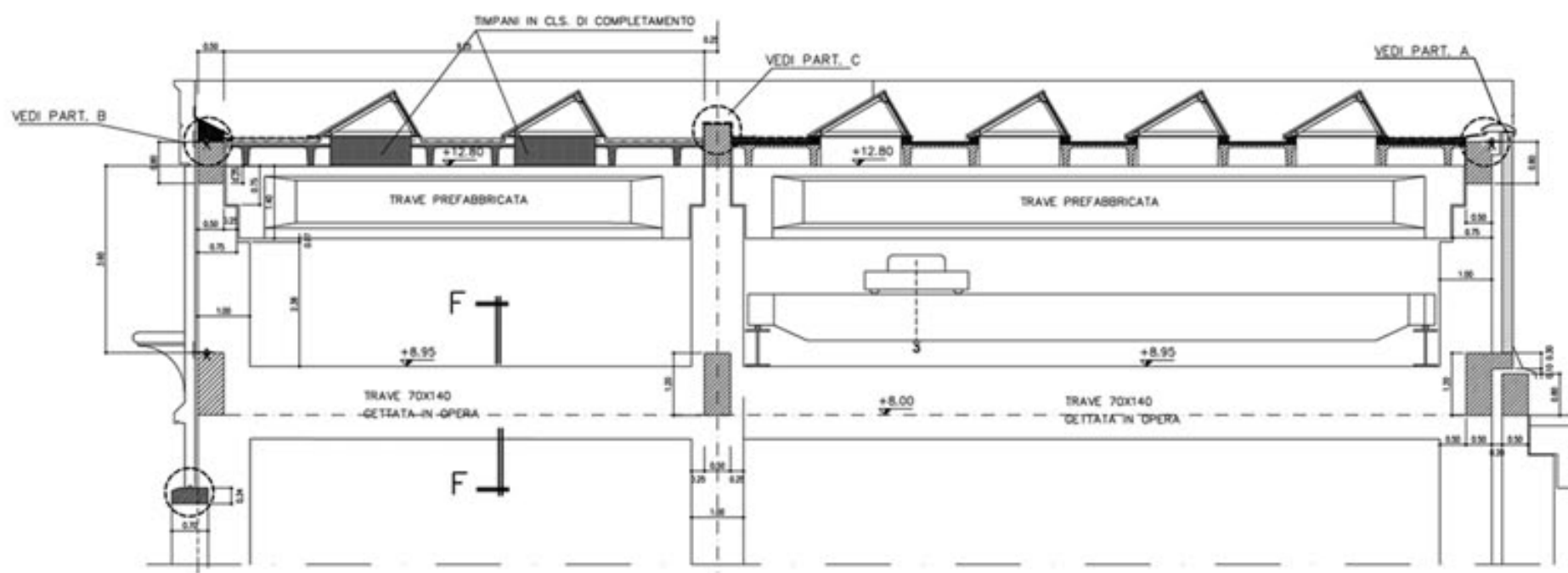




Stralcio pianta uffici a quota +4.00 m

M.A.V. : Sezione particolare copertura

Particolare A





ERREGI Offices



director's room



meeting hall

Head office and general direction

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Tel 064747662 Fax 064743272
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meeting hall details



ERREGI Offices



meeting hall



Operating office

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entrance



ceiling details



ERREGI - Facilities



**Frame Erregi
apartments
and suites**

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Tel +39 064815230



4 + 3



4 + 3



4 + 4



2