Mims
Ministero delle infrastrutture
e della mobilità sostenibili

Conservatorio
diMilano

Il Bosco della Musica

Concorso internazionale di progettazione

MUR

Regione
Lombardia

Comune di
Milano

Action Plan Programme

A.P.P

In the vacant places
We will build with new bricks
There are hands and machines
And clay for new brick
And lime for new mortar
Where the bricks are fallen
We will build with new stone
Where the beams are rotten
We will build with new timbers
Where the word is unspoken
We will build with new speech.

Thomas S. Eliot, Chorus of the workmen, from Choruses from "The Rock"

Foreword

Inaugurated on 3 September 1808, the Milan Conservatoire, established by Royal Decree of Napoleon in 1807 by Eugène de Beauharnais, Viceroy of Italy, and housed in the former convent of the Church of Santa Maria della Passione, has since then been one of the most prestigious institutions for the study of music on an international level. Puccini, Ponchielli, Mascagni, and then... Nino Rota, Riccardo Muti, Riccardo Chailly, Daniele Gatti, Gianandrea Noseda, Barbara Frittoli, Giovanni Allevi, Malika Ayane... and the story continues, as does the story of the great teachers who have succeeded one another at the Conservatoire, Michelangelo Abbado, Salvatore Quasimodo, Fernanda Pivano, Bruno Canino, Franco Donatoni, Salvatore Sciarrino... a list that is destined to continue into the future.

Today, Italy's first and most important Conservatoire in terms of the number of students and teachers and the number of courses of study offered, it is attended by more than 1750 students; it employs 244 teachers; it offers more than 150 courses of study between Level I and Level II, from early music to pop-rock, as well as Level I and Level II masters, master classes and seminars with internationally renowned teachers - more than 60 per year; involves a significant number of donors and patrons, who provide scholarships for the students and offer them important prizes as part of the Conservatoire Prize, which,

The two concert halls are the stage for them and for the teachers, for a total of around 200 productions a year: the smaller one dedicated to Puccini, the most famous of the Milan Conservatoire's students, and the larger one, the Verdi Hall, one of Europe's best concert halls, also home to the historic seasons of the Serate Musicali (Musical Evenings), the Società del Quartetto (Quartet Society) and the Società dei Concerti (Concert Society).

Also performing in Sala Verdi and Sala Puccini are the Conservatoire's 'orchestras': the OSCoM, Orchestra Sinfonica del Conservatorio di Milano, a unique model of stable orchestra born within an Institute of Higher Music Education; the Youth Orchestra; the VJO Verdi Jazz Orchestra, the big band of the Verdi in Milan; the Verdi Band and the newly formed Verdi Ritmo-Sinfonica. In addition to the ONJ National Jazz Orchestra of the Conservatories, a project of the Ministry, which has been in residence at the Verdi in Milan for six years, underlining the close relationship between the Milanese institution and the relevant Ministry. In addition to the concerts mentioned above, there are the productions of the three most recent Institutes of Modern and Contemporary Music, of Musical Theatre and of Ancient Music, engaged in artistic activities according to their own

specificities. In particular, the Institute of Musical Theatre oversees opera productions, which from 2019 the Conservatoire will produce in collaboration with the Teatro Carcano, a historic Milanese stage.

As for the Verdi Room, upon entering it, the public is unexpectedly confronted with the display of instruments from the Conservatoire's Historical Collection, which was founded in the late 19th century and over the centuries has become one of the most interesting collections of musical instruments from the Italian school. It contains instruments of extraordinary value, including an Amati viola, Guadagnini violins, a Maggini cello, to mention but a few.

The collection represents only a part of the Institute's heritage, whose Library holds more than 500,000 bibliographic units, available to teachers and students, but also to the scientific community and those who wish to approach music. The Milan Conservatoire Library is in fact a public library. Recently established, and the first example in the AFAM system, is the Milan Conservatoire's Digital Library, which boasts no less than 8 tera of digitised materials. Not to forget the online resources: NKODA, medici.tv, Berliner Philharmoniker Digital Concert Hall, amongst others. Again, a heritage available to the community of students and lecturers, but also to scholars, again testifying to the great openness of the Conservatoire and its Library to the demands of contemporary research.

The Conservatoire itself, also in its historical premises, is open to the public for guided tours by appointment. Permanent and open to visitors are the exhibition dedicated to Giuseppe Verdi, inaugurated on the occasion of Verdi's bicentenary; the exhibition of the Toscanini Lot recently donated to the Conservatoire, among whose memorabilia is the Maestro's famous tailcoat, a gift from Riccardo Muti; and in the Cloisters an important display of contemporary sculptures, in collaboration with the Pomodoro Foundation. In addition to the temporary exhibitions that the Conservatoire organises, for example, on the occasion of the La Scala premiere, as part of the city's Prima Diffusa project.

All of the above marks the conservatoire's centrality in Milan's artistic and cultural itineraries and its increasing openness towards the City. In this regard, an additional artistic programme was signed very recently, at the behest of the Milan City Council: the Conservatoire and its students have been chosen as the protagonists of the 'civil' concerts, organised for particular anniversaries of the civic year, from the Memorial Day in January to the concert for the Piazza Fontana massacre in December.

Not least, the conservatoire's international vocation places it at the centre of a network of relations activated in the didactic, productive and musical research spheres, with university institutions in Italy, Europe - more than 60 active Erasmus exchanges - and worldwide, particularly in the United States and the Far East, moreover with didactic and productive exchange projects that see the Verdi students' residences abroad and reciprocal residences of foreign students and teachers in Milan.

The Conservatoire's vocation today, therefore, its openness to the City, and more generally to the entire musical world, has pushed it in the direction of the creation of the new premises in Rogoredo: a model, as will be seen in this Action Plan Programme, of an open and sustainable campus, to which it will be possible to transfer the knowledge and beauty cultivated within the walls of via Conservatoire for more than two centuries. This intervention will benefit not only future students - the conservatoire with its two campuses will be able to accommodate many more than it does now - but also the city's users, first and foremost the residents of the Rogoredo/Santa Giulia district, who will be involved in an urban redevelopment project in the name of culture and more specifically musical culture.

Chapter 1

1. GENERAL AIMS

The "Il Bosco della Musica" ("Forest of Music") International Design Competition envisages the creation of a new campus for Milan's "G. Verdi" conservatoire in the former industrial district of Rogoredo. The project envisages the construction, within a public green area, of a multifunctional structure equipped with classrooms, laboratories, an auditorium, student residences, refreshment areas and the redevelopment of the palazzina “ex chimici”, the former Redaelli steelworks, currently in a state of disrepair.

The 'G. Verdi' Conservatoire in Milan is growing rapidly and has a considerable space issue (for the academic year 2021-2022 there were over 1,300 applications for new admissions; due to a shortage of space and staff, only about 500 could be admitted). In addition, it has no accommodation facilities for students, 70% of whom are foreigners and off-site and who have great difficulty finding accommodation even compared to other university students due to the type of study that often causes issues with neighbours. Finally, the launch of the new popular music courses (pop and rock), in addition to space limitations, also entails difficulties in terms of acoustic coexistence between the different genres. From the outset, the explicit desire was not to seek venues in the centre of Milan, but to fit into an urban context characterised by particular social needs. In this way, the intention was - and is - to actualise the social vocation of the conservatoires, which owe their name to the fact that they originated in orphanages, as opportunities for young people to receive a musical education. For this reason, a dialogue was initiated with the Milan City Council to identify the area of the City in which to intervene. It was therefore deliberately chosen to build it in Rogoredo, so that it could become an active part of the urban regeneration process while also addressing a number of critical social issues. In the recent past, Rogoredo has had the honour of being known as the so-called 'drug forest': since 2017, in Parco Cassinis, a low-priced heroin dealing activity has arisen, attracting very young people from the city, thanks to its proximity to the underground.

The situation at Cassinis (the so-called 'drug forest') has improved considerably thanks to the collaboration between the City of Milan, Italia Nostra and citizens

https://lascuoladeiquartieri.it/portfolio_page/boschetto-di-rogoredo-italia-nostra/

https://www.italianostra.org/news-nazionali/rogoredo-da-zona-di-spaccio-a-parco-pubblico/

At the beginning of 2019, when the Milan Conservatoire was beginning to think about a new location to decongest its historic premises in the centre of Milan. Newspaper reports and images of the 'drug forest' published first of all by the Corriere della Sera, which raised a debate on the situation in the suburbs, gave rise to two thoughts. The first: drugs exert a powerful attraction. To defeat it, policing the area is necessary, but it is not enough. A more powerful attraction is needed, and the Beauty that music expresses is one. The second: the first conservatoires emerged in orphanages, to give a chance through education to boys and girls who had nothing but their talent. The 'Bosco della Musica' was also born as a positive response to the phenomenon of the 'Drug Forest'. Together with the municipality, the area between Rogoredo, Monte Penice and Pizzolpasso streets was identified. This area is part of the larger urban redevelopment project underway in Milan as envisaged in the updated P.I.I. Montecity-Rogoredo. This project undoubtedly constitutes an essential contribution to a true urban regeneration through education and culture that can overturn the semantics of the suburbs in a positive, anthropological and cultural sense, turning marginality into value, otherness into a contribution of meaning. The challenge is therefore to make this periphery a place for the imagination of the future, in the beautiful expression of Arjun Appadurai.

The intention is to create an open and sustainable campus, i.e., a green area open to the public that will form the hinge between the historic Rogoredo suburb and the new Santa Giulia. This campus will have to constitute a didactic and cultural pole related to popular music, jazz and electronic music, equipped with classrooms, laboratories for electronic music and sound design, laboratories for piano restoration and tuning and shared laboratories for violin making, an immersive auditorium, residences for students and visiting professors, and refreshment areas. These facilities should be open to the public and to young people wishing to start productive activities in the musical field. Of particular relevance are the possible functional interactions with public and private subjects that are located in the area, such as Sky and the future manager of the Olympic Arena planned in Santa Giulia, which will be dedicated after the Milan-Cortina 2026 Games to live entertainment. These synergies may also foreshadow the birth of a cluster on live music and digital music.

The project shall take into consideration both the dimensional and localisation characteristics of the areas identified by this Competition and the technical and functional needs expressed by the Conservatoire. It shall guarantee high standards of quality, functionality and technology and it shall

be characterised by an approach oriented towards environmental sustainability, focusing on innovative solutions, resilient with respect to climate change, capable of reducing greenhouse gas emissions and aiming at energy neutrality, also through water valorisation.

The competitors will have to observe the preservation of the former "chemist's" building, designed by Enrico Agostino Griffini, as the last testimony and physical memory of the site's industrial past, and finalise it to educational functions.

The green area is linked to the desire to implement the city's endowment of green areas, contributing to a significant response to the current environmental challenges. Particular attention must be paid both to maximising permeable green areas and to protecting and increasing biodiversity, optimising construction, management and maintenance costs, and allowing for the connection with the planned park in Santa Giulia.

The new campus is to become a true landmark for the neighbourhood, as well as a place to meet and enjoy leisure time. The area behind the Palazzina - like the Auditorium - will host events of various kinds, such as shows and concerts, with a view to greater openness towards the neighbourhood and the city: a regeneration operation with interventions, initiatives and activities, the result of the collaboration between the Conservatoire and the Municipality of Milan.

Chapter 2

2. FRAMEWORK & STATUS

THE ROGOREDO DISTRICT

The competition area, where the new Campus will be built, is located in Rogoredo, in Municipality 4, in the south-eastern part of the Municipality of Milan.

The Rogoredo district borders the districts of Nosedo to the north-west, Morsenchio to the north-east, and the Municipality of San Donato Milanese to the south-east; it is a short distance from Chiaravalle Abbey to the south. An ancient 'loco' mentioned in a diploma of the King of Italy, Charlemagne, in the year 880 (its name derives from the late medieval Latin robur, oak, meaning 'oak wood', a name of botanical origin also common to other districts such as Lorenteggio or Nosedo), bordered by the Strada Romana and belonging to the parish of Nosedo. From Maria Theresa's edict of 1755, we learn that the compartment of the duchy of Milan was divided into parishes and Rogoredo belonged to the parish of San Donato, known as 'Plebe Sandonatese', and within it to the municipality of Nosedo. With the Napoleonic Decree of 9 February 1808, Nosedo and therefore also Rogoredo were annexed to the Municipality of Milan, only to separate again with the Lombardy-Venetia Kingdom: from 1816 Rogoredo returned under Nosedo and was, with this locality, united to Chiaravalle Milanese in application of the Royal Decree of 9 June 1870, and finally aggregated to the Municipality of Milan with the Royal Decree of 2 September 1923, along with ten other municipalities bordering the Lombard capital.

Rogoredo, since 1880 connected to Porta Romana by the Milan-Lodi steam tramway, experienced from the end of the 19th century a process of industrialisation with the establishment of a steel processing plant (the Acciaierie Redaelli).

In an area not far away, other chemical industries sprang up near the Cascina Morsenchio: a plant of the Società Italiana Prodotti Esplosivi (Italian Explosive Products Company), later Appula S.A. absorbed in 1941 by Montecatini Montedison; it was precisely these industrial settlements that greatly increased the district's population. Until the 1980s, life in the district therefore revolved around the activities of large industries, which made use of the station, located on the railway line from Milan to Pavia and Piacenza, and its freight yard.

With the expansion of construction in Milan, it became necessary to upgrade the suburban section (from Porta Romana to Rogoredo station): in 1918, the Tranvie Interprovinciali Padane, TIP (Interprovincial Tramways of the Po Valley) company supplemented the steam tram service to Lodi with a 'local' service powered by electric traction, transforming some pre-existing trailers into electromotors. After a few years, management of the local service passed to the municipal public transport company, ATM, which included it in the urban network as line 32, moving the terminus back from Porta Romana to Piazzale Corvetto. The urban tramway remained single-track, a unique case in the city network.

After the Pontinia overpass was built, the level crossing was maintained for the steam tram only, still managed by TIP, until it was replaced with buses on 3 March 1937 (also managed by ATM from 1939). The urban tram remained in operation until 1960 when, in order to build the motorway entrance, it was replaced by trolleybus line (later the car line) no. 84, on a route connecting Rogoredo station to the city centre via the Piazzale Cuoco area. In 1967, another trolleybus, no. 95 (also later an automobile line) directly connected Rogoredo station with the other districts to the south/west of Milan. Beyond the railway, the Rogoredo neighbourhood was served by line 41, first with minibuses (1970s), then with buses and finally replaced by extensions of line 84. The main innovation, however, occurred in 1991, with the southern terminus of metro line 3, whose facilities, despite its name of San Donato, do not encroach on the territory of the municipality and fall to all intents and purposes within the district of Rogoredo.

The industrial suburb of Rogoredo remained a nucleus detached from the city until the late 1980s, when the opening of the underground station (1991) expanded the railway station's function as an interchange point for many commuters, who work in the city every day while living in the south of the province and beyond (Pavia, Piacenza, Lodi, Voghera).

Ever since the construction of the Pontinia flyover that diverted traffic from the old Stradale Piacentino, Rogoredo has remained a kind of 'independent village' in the city: the existence of a single

road in and out of the built-up area (redesigned in 2006 with a concatenation of two roundabouts to manage the growing traffic coming from outside the city, from the centre, from the district and from the Tangenziale) has long spared Rogoredo from the logistical stresses of an important axis such as the Via Emilia.

In 1988 work began on renovating the station, which was enlarged for the arrival of the railway link and the high-speed train line (2008), and for the massive increase in users caused not only by commuters but also by the reuse of the former Montedison and former Redaelli industrial area, on which the new Santa Giulia district now stands. Only one building remains of the Redaelli industrial plant, the Chemical Analysis Laboratory (Palazzina 'exchimici'), a building in the shape of a semicircle that is now used as the conservatoire's teaching space.

As part of these projects, the district's isolation was broken in the years 2008-2010 also thanks to the extension of Via del Futurismo with the junction for the Bypass and the extension of Via Giacomo Manzù and Via Luigi Sordello, effectively connecting Rogoredo to the nearby district of Morsenchio.

The only reference to Rogoredo's wooded past - erased since the Middle Ages by the agricultural development of the vast estates of the Chiaravalle Abbey and the grange of the Umiliati of Morsenchio - is the district's park, laid out in the late 1960s along the elevation of the Pontinia flyover overlooking the railway and home to a modern War Memorial for the Fallen of the First and Second World Wars. At the northern edge of the park, next to the station, there remain some buildings of the 16th-century Cascina del Carmine or Palma, which guarded an area that opened to the east onto large agricultural areas towards Ponte Lambro and Linate, now cut off by the Eastern Bypass.

From a hydrographical point of view, the district is crossed by the Redefossi cable, buried at the end of the 1980s during the works for the construction of metro line 3, which together with a series of small irrigation ditches now covered or dried up acted as drainage for the waters of the area along with the nearby Vettabbia.

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Wikipedia, Rogoredo

2.1. ONGOING TRANSFORMATIONS

The new Milan Santa Giulia district consists of two parts. The southern area is located near Rogoredo station and has already been realised. This area includes a new residential district, already inhabited and equipped with services, the European headquarters of Sky, a large equipped park (Parco Trapezio), a new kindergarten, a retail street (Promenade), and a new business centre soon to be built. The northern area, still to be developed, will consist of a large urban park and a new project area with residences, offices, a retail & entertainment district and a network of pedestrian streets, squares and public spaces.

Below are links to the major transformations:

https://www.comune.milano.it/aree-tematiche/urbanistica-ed-edilizia/attuazione-pgt/montecity-rogoredo-programma-integrato-di-intervento

https://blog.urbanfile.org/2022/06/17/milano-rogoredo-santa-giulia-firmato-laccordo-per-completare-il-nuovo-quartiere/

http://www.milanosantagiulia.com/

https://www.santagiuliaspark.com/

https://blog.urbanfile.org/2020/08/28/milano-rogoredo-santa-giulia-il-progetto-spark-1-2-3-4-5/

https://davidchipperfield.com/project/arena-in-santa-giulia

https://blog.urbanfile.org/2022/03/10/milano-santa-giulia-presentato-il-progetto-per-larena-olimpica/

https://blog.urbanfile.org/2021/04/09/milano-ambito-sud-est-la-nuova-metro-tranvia-repetti-rogoredo/

https://blog.urbanfile.org/2021/03/09/milano-santa-giulia-al-via-il-secondo-prolungamento-per-la-paullese/

https://www.youtube.com/watch?v=cw_kEsg0FIs&t=3s

https://redosgr.it/merezzate/

https://www.comune.milano.it/aree-tematiche/urbanistica-ed-edilizia/attuazione-pgt/ex-magazzini-commissariato-taliedo-via-bonfadini-73-piano-attuativo

https://blog.urbanfile.org/2020/11/10/milano-taliedo-un-progetto-per-larea-militare-di-via-bonfadini-73/

https://www.comune.milano.it/aree-tematiche/urbanistica-ed-edilizia/attuazione-pgt/adp-scali-accordo-di-programma

https://www.fssistemiurbani.it/content/fssistemiurbani/it/in-primo-piano/news-ed-eventi/2020/6/15/i-vincitori-di-aaa-architetticercasi--2019-ripensano-il-futuro-d.html

https://www.comune.milano.it/aree-tematiche/urbanistica-ed-edilizia/attuazione-pgt/porto-di-mare-ambito-di-trasformazione-urbana

https://www.comune.milano.it/-/rigenerazione-urbana.-partono-i-lavori-all-ex-karma.-presto-un-nuovo-polo-per-la-musica-e-lo-sport-a-porto-di-mare

2.2. ACCESSIBILITY

The Competition area enjoys excellent accessibility, given its proximity to the ring road and motorway system, the Rogoredo high-speed railway station, as well as the Passante Ferroviario station, and the Rogoredo stop on the M3 underground line.

In addition, it enjoys proximity to large territorial infrastructures such as the Ortomercato (vegetable market), the general markets, the former slaughterhouse, the logistics areas of Via Toffetti, the industrial areas of Via Mecenate, Linate airport, and the Rogoredo railway station with its interchange car park.

2.2.1. ROAD NETWORK

The classification of the streets that delimit the competition area - Via Rogoredo, Via Monte Penice and Via Francesco Pizzolpasso - with reference to their construction, technical and functional characteristics is established by Art. 2 of the New Highway Code (Legislative Decree 285/1992 and subsequent amendments) which divides them into the following types: A - Motorways; B - Main extra-urban roads; C - Secondary suburban roads; D - Urban slip roads; E - Urban neighborhood streets; E-bis - Urban cycling roads; F - Local roads; F-bis - Cycle and pedestrian routes. In compliance with the indications contained in the aforementioned Code, in the Directives of the Ministry of Public Works for the drafting, adoption and implementation of urban traffic plans (Official Gazette No. 146 of 24/06/1995) and the functional and geometric standards for construction of roads (Ministerial Decree 6792/2001), the functional classification of the road network of the Municipality of Milan in the update of the General Urban Traffic Plan, definitively adopted in 2013, was defined as indicated in the following table:

NETWORK	CORRESPONDING ROADS	
	IN THE SUBURBAN AREA	IN THE URBAN AREA
Primary Network	Extra-urban motorways Main suburban roads	Urban motorways Urban slip road
Principal Network	Main suburban roads	Urban slip roads Urban inter-urban roads
Secondary Network	Secondary suburban roads	Urban district roads Inter-urban local roads
Local Network	Local suburban roads	Local urban roads

In particular, in Ordinance No. 334 of 10/03/2021 (https://www.comune.milano.it/documents/20126/434769837/Ordinanza+n.+334_2021+del+10.03.2021.pdf/f33bc077-f5bf-7549-b29a-604b094aaeb7?t=1625730774476), the roads delimiting the Competition area were classified as local urban roads (F). Local roads fulfil a distribution function within local areas. According to Ministerial Decree 6792/2001, with regard to category F, local urban roads have a single carriageway, 2.75 m lanes, one or more lanes in each direction, a 0.50 m right bank and a 1.50 m minimum pavement. A design speed of between 25 and 60 km/h is set.

The connection with the primary network of the A51 east ring road and the A1 motorway (the so-called 'Autostrada del Sole') is made:

- through the local network of Via Rogoredo (exit 2 - Rogoredo), which also connects to the nearby municipality of San Donato;
- through the local network of Via del Futurismo and the main suburban network of the Paullese Road (exit 3 - Paullo - San Donato);
- Pontinia flyover (main slip road network): connection with the city centre.

2.2.2. PARKING AREAS

The car parks currently present within the Competition area are to be removed and become the area of intervention for design.

In the vicinity of the Competition area, there are surface car parks along Via Rogoredo, Via Monte Penice and Via Pizzolpasso. There are also pay car parks along the adjacent Via del Futurismo and Via San Mirocle. Approximately 200 m from the competition area there is the ATM Rogoredo Santa Giulia car park: the car park is chargeable and has 669 parking spaces.

2.2.3. PUBLIC TRANSPORT SYSTEM

The Competition area is located in a strategic position with respect to the national-regional and Milanese public transport system. In fact, near the Competition area is the Rogoredo high-speed railway station, which is also the Passante Ferroviario station where the following suburban lines run: S1 (Saronno - Milano Passante - Lodi), S2 (Mariano Comense - Milano Passante - Milano Rogoredo), S12 (Melegnano - Milano Passante - Cormano) and S13 (Pavia - Milano Passante - Milano Bovisa). This system is connected to the metro lines, in particular the M3 line, which intersects the suburban railway lines right at Rogoredo station.

The area is served within a radius of approx. 500 m by the following TPL lines:

- Bus 84 L.go Augusto – S. Donato M3 (urban)
- Bus 88 V.le Ungheria – Rogoredo FS M3 (urban)
- Bus 95 Q.re Barona – Rogoredo FS M3 (urban)
- Bus 140 Rogoredo FS M3 – San Donato (suburban)

https://www.comune.milano.it/documents/20126/11989287/DCC_38_2018_All+2a_DdP+%2815 52925707315%29.pdf/8ec4dc16-41ce-9aca-77bb-484411921261?t=1572449707468

For the cycle network see:

https://www.cittametropolitana.mi.it/portale/news/Cambio-il-Progetto-Biciplan/

Chapter 3

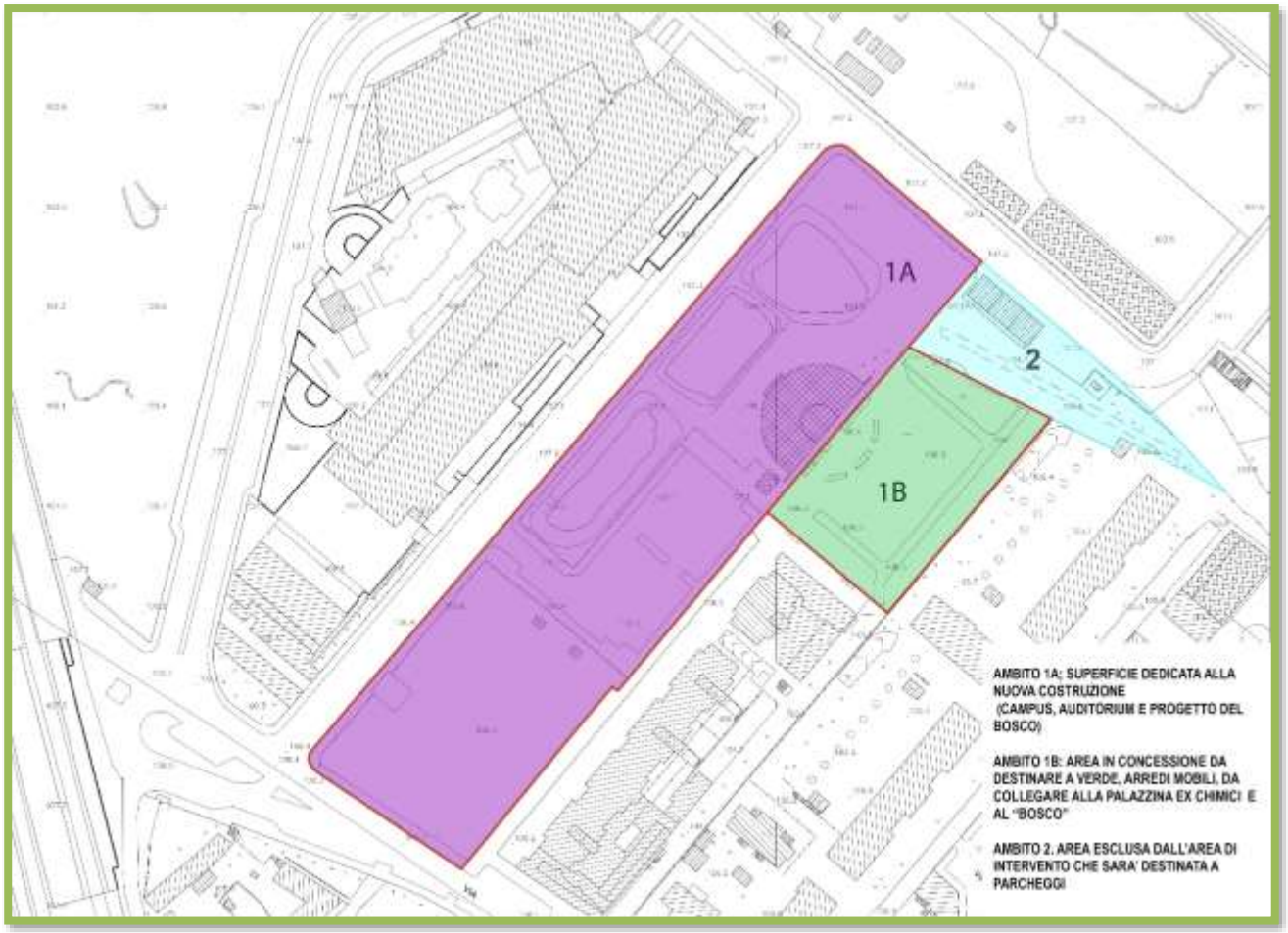
3. OBJECT OF THE COMPETITION

The aim of the competition is the elaboration of a project at the level of a technical-economic feasibility project (PFTE).

The competition area is defined in the attached "3.1 photo plan of the competition area".

The area is bordered on the Via Penice side by the SKY building, on the opposite side by newly constructed condominium buildings, and on the Via Francesco Pizzolpasso side by the boundary of the Montecity Rogoredo masterplan, the site where, among the many planned interventions, the Palaitalia, which will host part of the 2026 Winter Olympics, will be built.

The lot is defined in two AREAS: 1A and 1B.



1A: This is the area dedicated to new building. The built environment must be designed exclusively in this part, taking into account urban and existing constraints with particular regard to hydrogeological, airport, and other restrictions.

The theme of the competition is the "Bosco della musica" ("Forest of Music"); special attention must therefore be paid to the theme of the built environment in relation to greenery. The theme of green design is in fact a pivotal point together with the design of the Campus and Auditorium. The two architectures will have to somehow dialogue and "merge".

Another important asset is that dedicated to sound and music, a technological/design theme among the bullet points of the entire project.

Within sphere 1A there is also the former chemical building, a witness to the area's industrial past. The latter, protected by the Superintendence, is to be maintained and rethought, preserving its shape, volumes and external elevations, as a reminder of the site's industrial archaeology.

1B: This area is, as it stands, separated by a wall facing the former chemical building. Nothing can be built in this area.

It will only be a place for greenery and furnishings. It is to be thought of as a connection to the Palazzina and the Bosco and can be (but not necessarily) a space for performances/concerts. It should, however, only be designed with natural elements.

The wall (which runs along the entire edge facing a newly built apartment block) can be demolished, but in the part facing the apartment block the idea of a barrier/filter between the public space (of the Forest) and the private space (of the apartment block) should be preserved. The same wall at the Palazzina should be opened up to allow the annexation of sphere 1B to sphere 1A.

On Via Pizzolpasso, on the other hand, the iron fence adjacent to the gas cabins, which obviously remain excluded from the area of intervention, is to be maintained.

For the rest, the Forest will have no fencing and will be usable by all.

Marker 2, on the other hand, indicates one of the areas that in the Montecity Rogoredo variant will be designated for parking and that is not part of the intervention area.

The boundary on this side is in fact the one that acts as a hinge between the lot object of the competition and the New Montecity Rogoredo Masterplan (for further details see attachment 6.4).

Chapter 4

DESIGN GUIDELINES

All the following indications are indicative, the square metres are indicated approximately to leave room for the competitor to identify solutions consistent with what is expressed and compatible with the urban planning constraints of the PGT Milano 2030.

4.1 PALAZZINA "EX CHIMICI"

4.1.1 Relation with the context

The Palazzina ex-Chimici, designed by Enrico Agostino Griffini, is the last memory of Rogoredo's industrial past. Its preservation and development are therefore also essential for reasons of district identity.

Exact surveys are not available at the moment, particularly with reference to heights. However, a redrawing dwg file and historical floor plans are part of the available documents.

The indications in the following paragraph will be able to take possible compatibilities into account.

It is located within the green area, where no vehicular traffic will be allowed. Pedestrian accessibility will have to be guaranteed, also in the part behind the building, where a green open space will have to be created that can be used as an open-air auditorium (nothing built in this space, but only possibly furnishings and solutions that allow for musical/theatre/etc. performances, in any case removable and taking into account the acoustic theme in relation also to a neighbouring condominium space).

4.1.2 Functional Programme

The spaces of the Palazzina (2 storeys approx. 480 sq.m. per floor, for a total of 960 sq.m. in the project) are to be used for the teaching and production activities of the Jazz and Popular Music Schools (pop/rock).

Each floor shall be equipped with a bathroom room with facilities for women, men and the disabled. This room shall have an ante-bathroom with adjoining storage space for cleaning equipment. Each room shall have at least 4 toilets.

The premises shall be air-conditioned, acoustically insulated, wired with fibre optics and set up for a Wi-Fi system.

The roof shall be used for the production of renewable energy.

The functions to be provided in the building complex are listed below.

- A space used as a porter's lodge, near the entrance, with an adjoining room of approximately 9 square metres for archives and document printing equipment.
- Teaching rooms:
    - n. 10 teaching rooms (spaces dedicated to individual lessons, equipped with a baby grand piano, seats, music stands, workstation arrangement for individual lessons) of approximately 22 square metres, with a minimum height of 3 m;
    - n. 2 teaching rooms for individual percussion lessons, equipped with an upright piano in addition to seats and music stands, approximately 22 square metres, with a minimum height of 3 m.
    - no. 4 teaching rooms for ensemble lessons for small groups, equipped with a baby grand piano, seats, music stands, workstation provision, of approximately 50 sq. m, with a minimum height of 3.5 m (if possible, depending on the height of the inter-floor).
    - n. 2 teaching rooms for ensemble music (spaces dedicated to ensemble teaching for large groups, one room dedicated to the Jazz Music school and one room dedicated to the Popular Music school, equipped with a baby grand piano, seats, music stands, workstation provision), approximately 100 square metres, with a minimum height of 4 m (if possible, depending on the height of the inter-floor).
- n. 2 teaching rooms for collective courses (spaces dedicated to collective teaching for an estimated capacity of 50 - 60 students. This classroom should provide desks for the students, a desk, workstation, blackboard, wall screen/projector and stereo broadcasting system) of approximately 80 square metres, with a minimum height of 4.5 m (if possible, depending on the height of the inter-floor).

    - n. 1 teaching room for collective courses (space dedicated to collective teaching with the provision of at least 20 workstations with dedicated workstation) of approximately 60 sq. m, with a minimum height of 3 m.
- n. 1 room dedicated to teachers, approximately 22 square metres., with a minimum height of 3 m. with, next to it, an archive room + printer of approximately 12 square metres;
- n. 1 Office for technical equipment, approx. 14 square metres; this space (in which the materials manager will manage the technical needs and where the equipment for common use of the teaching spaces will be kept) is preferably located on the ground floor.
- Space for storage and technical rooms, to be located preferably in the basement.

4.2 New construction spaces

4.2.1 Relation with the context

The Campus will fit into a context that will act as an appendix and almost as a link with Santa Giulia Sud, Santa Giulia Nord and the Borgo di Rogoredo.

The central theme is that of the Forest, understood as green architecture, and of Music, also taken as sound design.

4.2.2 Functional programme

These spaces shall be characterised by environmental sustainability, social sustainability (in particular by enhancing accessibility and the relationship with the context of the local urban fabric) and economic sustainability, both in their construction and subsequent management, minimising their impacts.

Roofs shall be used for the production of renewable energy and/or as green roofs.

Spaces must be air-conditioned, acoustically insulated, wired with fibre optics and set up for a Wi-Fi system.

Systems for lighting (these with integrated LEDs) and heating with automatic switch-off or dimming devices, remote control, separate consumption accounting for the various functions, and additional energy-saving devices shall be provided.

The surfaces indicated for each room are net of external perimeter walls and internal partition walls.

4.2.3. SPACES FOR THE ELECTRONIC MUSIC SCHOOL

Teaching and production area, totalling approximately 260 square metres.

n. 1 Teaching room, approximately 60 square metres, with a h of 3.0 m. Space dedicated to the teaching of theoretical group courses for a maximum number of 30 students. This classroom must be equipped with desks and seats for students, desk, Workstation, blackboard, wall screen/projector and four-phonic sound system.

n. 1 Teaching room, approximately 50 square metres, 3 m high. Dedicated space for teaching group courses with the possibility of transforming the students' workstations into individual networked workstations for a maximum number of 20 students. This room must be equipped with student desks, lectern, workstation, blackboard, wall screen/projector and stereo speaker system.

n. 1 Filming room, approximately 50 square metres, with a height of 3 m. This room must communicate with the two previous teaching rooms both visually and through acoustically insulated doors. Dedicated space for the recording of instrumental ensembles at the service of the teaching of electroacoustics courses. This space shall be acoustically treated as a recording room.

n. 2 Teaching rooms, approximately 50 square metres, 3 m high. Spaces dedicated to teaching art/composition courses for a maximum number of 20 students. These classrooms must be equipped with removable desks for students, a desk, workstation, blackboard, wall screen/projector and stereophonic sound system. One of the two classrooms will also be able to accommodate small instrumental groups for live electronics courses.

Research and coworking area, totalling approximately 100 square metres.

Spaces dedicated to the students' compositional/performing/multimedia work, as follows

- n. 1 Electronic experimentation laboratory, approximately 30 square metres, with 3 m h. Laboratory for the experimentation and prototyping of electroacoustic and multimedia devices such as loudspeakers, sensors, microcontrollers, etc.. It will have to be equipped with electrical equipment, cabinets and shelves for storing the various electronic components.

- n. 2 Production studios, approximately 20 square metres, 3 m h. Mixing studios for students, equipped with Workstation and MIDI equipment for digital music production and equipped with a 2.1 playback system

- n. 1 Multimedia studio, approximately 30 square metres, 3 metres h. Multi-purpose space equipped with mobile control room, two mobile tables, projector and flexible set up of loudspeakers (monitors). Can also be used as a rehearsal room for small formations (duo, trio).

- Recording Studio, approximately 250 square metres, to be located in whole or in part in the basement, as follows:

- Direction: 50 square metres, with 5 m h. Acoustic treatment must be provided for audio music direction use, high acoustic insulation;

- Main filming room: 150 square metres, with h 5 m. Highly acoustically insulated space for recording room use: it will be visually connected to the control room by a glass surface;

- Accessory filming room: 25 square metres, in direct communication with the main filming room; it too shall be visually connected to the director's office by means of a glazed surface;

- Technical room (engine room): 10 square metres;

- Hallway: 15 square metres;

Offices

- n. 1 Staff office, approximately 22 square metres, with a minimum height of 3 m with, next to it, archive + printer room of approximately 12 square metres.

- n. 1 Materials Manager's Office, approximately 16 square metres in size, with a h of 3.0 m with, next to it, a warehouse of approximately 30 square metres; (space in which the Materials Manager will manage technical needs and where equipment will be stored)

- Toilets

Each floor shall be equipped with a toilet room with facilities for women, men and the disabled. This room shall have an ante-bathroom with adjoining storage space for cleaning equipment. Each room shall have at least four toilets.

4.2.4. Multipurpose hall

This consists of a space of approximately 180 square metres, with a height of 9 m, suitable for the following uses

holding electro-acoustic concerts and multimedia events;

hosting conferences, seminars and workshops with a large number of participants;

recording room for large ensembles.

The hall shall be prepared for the installation of a multi-channel audio projection system that shall reflect the state of the art of the most innovative technologies in use, such as currently Ambisonics systems, Wavefield Synthesis, L-Isa, 360° video projections and live tracking systems such as those installed in the halls of equivalent international institutions, such as those indicated below as examples:

BEAST – Birmingham https://www.birmingham.ac.uk/facilities/ea-studios/about/meet-beast.aspx

IEM Cube - Graz (Ambisonic) https://iem.kug.ac.at/en/services/rooms.html

Georgia Tech - The Cube (Atlanta) https://icat.vt.edu/studios/the-cube.html

Ccrma - Stanford https://music.stanford.edu/venues/ccrma-stage

Hydra - Harvard https://huseac.fas.harvard.edu/hydra

The room should also provide

an adjoining auditorium (which can also be oriented, if necessary), a machine room of approximately 10 square metres, suitable for accommodating particularly noisy technical equipment (it must therefore be adequately soundproofed) a Control room, adjacent to the multi-purpose room, of approximately 30 square metres, with a height of 3m (professional mixing room connected to the multipurpose room in which to develop the audio/video pre and post production of the projects carried out there).

4.2.5. Auditorium – Concert Hall

The 400-seat Auditorium will host the students' production activities aimed at the public. It will also be able to host the final rehearsals of all the Milan Conservatoire's Academic and Master's courses,

as well as being a structure that can be loaned to external clients for various types of events (concerts, conventions, seminars, meetings, etc.) without this constituting an obstacle and interference with the teaching, production and research activities that are ordinarily present in the spaces of "Il Bosco della Musica".

The Auditorium is envisaged to be conceived according to the following distribution scheme

- Concert Hall + Service Spaces of the Concert Hall in the backstage area: preferably above ground, with entrances from the public spaces of the project area;

- Concert Hall Service Spaces: at basement level, in close correlation with the Concert Hall and Service Spaces in backstage area

- Rehearsal Spaces: at basement level,: functionally autonomous with respect to the Concert Hall Service Spaces, but with the possibility of complete functional integration with the spaces mentioned in the previous points.

Description of the spaces

Concert Hall

The Concert Hall will be sized to accommodate 400 people, the spatial conformation of which will be taken care of by the designers so as to guarantee high performance standards with regard to optimal enjoyment by the public of live events of different types and belonging to different musical genres. It may also constitute a space for conferences and film screenings. It will have to be prepared for the installation of variable active acoustic systems.

Note on Variable Active Acoustics

The acoustics of a venue consists of the series of reflections created by the walls, floor, ceiling and furnishings of the venue. This phenomenon profoundly influences the listening experience and is a fundamental part of the design of an innovative performing arts environment, with profoundly different characteristics depending on whether it is, for example, a drama theatre or a concert hall. An active acoustic system, also called electroacoustic architecture, is an electroacoustic system that is able to substantially vary the acoustics of a space to make it suitable for the use that is made of it on each occasion.

- What it consists of:

An electroacoustic system essentially consists of:

- Set of microphones (quantity in the order of a hundred units)
- Set of loudspeakers (also in large quantities)
- Control and processing matrix

The microphones and loudspeakers will be incorporated into the wall and roof cladding, and therefore barely or not at all visible to the audience, depending on the aesthetic choices that will be made in the room set-up regardless of the acoustic system.

- *The purpose behind it*

The purpose is to substantially change the acoustics of the hall to make it suitable for profoundly different events, the different nature of which usually makes coexistence in the same physical environment problematic.

In contrast, a room with passive (traditional) acoustics is, when well designed, designed to make one specific type of event optimal.

A summary list of the types of halls open to the public referred to as examples is as follows:

1. Concert hall for symphonic music
2. Concert hall for chamber music
3. Halls for electroacoustic music with immersive listening systems
4. Opera houses
5. Theatres
6. Jazz Clubs
7. Pop Music Concerts
8. Churches
9. Conference halls
10. Classrooms for collective lessons and masterclasses
11. Video projection rooms with soundtrack

As things stand today, if one changes the use of one of these rooms, even temporarily, from the use for which it was conceived and designed, one encounters considerable problems in terms of public enjoyment, and the results are therefore usually modest. Suffice it to think, for example, of the listening quality of a symphonic concert held in a large church (an

environment that is conversely excellent for choral or sacred music performances), or that of a conference held in a concert hall.

These 'improper' uses result in a problematic listening experience for both the audience and the actors of the performance (musicians, actors, speakers, etc.).

Sometimes an attempt is made to overcome the shortcomings of the venue with ad hoc mounted amplification systems with the problems that these entail in terms of cost, set-up time, logistical difficulties, etc.

- How it affects the listening experience of the people attending the event:

The system deals with optimising these reciprocal sound interactions, all of which are essential in a performance, whatever type it is:

- o Listening to the performance by the audience
- o Listening to the audience by the musicians and/or speakers on stage for adequate feedback
- o Mutual listening between musicians on stage
- o Mutual listening to the audience members for feedback on reactions to the performance

- How it is managed:

Once the system has been definitively assembled and calibrated by the installer, the operator in charge only needs to switch on the system and select the preset relevant to the type of event being held at the time.

- What is no longer necessary:

- o It will no longer be necessary to mount microphones, loudspeakers, and monitoring systems for musicians with their various cabling by specialised personnel.
- o The corresponding financial resources will not have to be committed, nor will the physical space have to be kept occupied for the time needed to carry out the audio setup and subsequent dismantling.
- o Additional human intervention may only be necessary in the case of pop or jazz concerts if specific electroacoustic processing is required for the repertoire performed (special effects, ad hoc microphones, etc.). Even in this case, however, there will be no need

to set up the sound system (by far the most onerous human and financial commitment in the management of a pop event) and it can therefore be easily carried out by the conservatoire's technical staff, without the need for external services.

It will consist of:

- Foyer of approximately 90 square metres, comprising:

  1) Ticket office area of approximately 6 square metres + adjoining office of 9 square metres;
  2) auditorium manager's office, approximately 9 square metres
  3) dressing room for hall staff, approximately 18 square metres
  4) bathroom for staff, consisting of ante-bathroom and toilet room created adjacent to the spaces referred to in points 1 - 2 - 3 above (ticket office staff, theatre manager and auditorium staff)
  5) cloakroom for the public, suitably sized according to the capacity of the auditorium, approximately 16 square metres;
  7) Public toilets, with facilities for women, men and the disabled. This room shall have an ante-bathroom with adjoining storage space for cleaning equipment. Each room shall have at least 4 toilets for women and 4 for men.

- Stalls, of approximately 380 square metres, also with sloping cavea;

- Stage, approximately 110 square metres, of rectangular proportions (approximately: proscenium of 12 m, depth of 8 m, minimum proscenium height: 6 m), with side entrances to be located near the proscenium on both the right and left sides, for the entrance of the artists and/or equipment necessary for the performance. The overall height will be such as to allow the installation of suitable stage lighting equipment according to the most advanced lighting standards;

- Audio/video control room, opposite the stage, approximately 36 square metres in size and 4.0 m h;

- Control room lights, adjacent to the a/v control room, approximately 12 square metres;

- Service spaces Concert hall in backstage area, of approximately 150 square metres, defined as follows:

    1) Free space for parking artistic masses - storage of stage equipment of approximately 50 square metres;
    2) 3 dressing rooms of 14 square metres each, each with independent access and its own bathroom with shower;
    3) Stage manager's station, near the stage entrances;
    4) Service room for stagehand and stage staff, approximately 12 square metres;
    5) Bathroom + ante-bathroom
    6) Elevator + stairwell, with a usable area of at least 1.8 m x 2 m for movements to and from the basement areas.

- Service areas Concert Hall in the basement, of approximately 230 square metres, defined as follows:

    1) 2 dressing rooms for the artistic masses, of approximately 36 square metres, one for women and the other for men, each with a dedicated bathroom of at least 18 square metres in which there are at least 2 toilets and 2 showers;
    2) Storage room for stage equipment, of approximately 28 square metres;
    3) Storage room for musical instruments, approximately 24 square metres;
    4) Medical-nursing room, approximately 28 square metres, with a dedicated bathroom measuring approx. 6 square metres;
    5) Freight elevator + stairwell (coming from the upper floor) with a usable area of at least 1.8m x 2m;
    6) Loading/unloading area for goods - equipment - instruments, of approx 50 7 square metres;
    7) Artists' entrance, from the external spaces.

    The spaces on the basement level will also be accessible from the outside from the driveway (for unloading instruments and supplies) and from the artists' entrance.

- Rehearsal spaces, at basement level (at least partially), of approximately 500 square metres, defined as follows

- n. 2 rehearsal rooms, each of at least 100 square metres and 4 m - 4.5 m in height, each with independent access from the common areas and acoustically isolated from the context.
- n. 1 rehearsal room, 200 square metres in size and 6 m in height, with independent access from the common areas and acoustically isolated from the context.

Each rehearsal room shall host different types of performance and production activities (without amplification, with amplification, electro-acoustic musical performances, etc.) The two 100 square metre rehearsal rooms shall be equipped with suitable mobile space dividers, so that they can be reconfigured, if necessary, into two separate rehearsal spaces, each measuring 50 square metres, each with independent access and acoustically isolated from the surroundings.

- Storage space belonging to the rehearsal rooms, approximately 24 square metres;

- 2 changing rooms, one for women and one for men, approximately 28 square metres each;

- bathroom room with facilities for women, men and the disabled. This room shall have an ante-bathroom with adjoining storage space for cleaning equipment. Each room shall have at least 4 toilets.

- Access for artists and students independent of the Concert Hall

The rehearsal spaces referred to in the previous points shall be used for the conservatoire's production activities. These spaces, however, shall be conceived from the distribution and functional point of view in such a way as to guarantee complete autonomy of use with respect to the service spaces in the basement level of the Concert Hall, thus avoiding possible interference between the activities carried out in the Concert Hall and in the respective spaces and the activities carried out in the rehearsal spaces, especially in the event that the Concert Hall and therefore its service spaces are given on loan for use to external subjects.

4.2.6. Fab-Lab

Fab-Lab will be a space intended for teaching and experimentation in the construction and maintenance of keyboard instruments and violin making.

The space intended for workshop activities will be located in the basement: an upper level will be dedicated to frontal teaching. The whole will include the following uses:

1) Room for loading - unloading goods - instruments and equipment, with access from the parking area, of approximately 50 square metres;
2) Workshop, measuring approximately 300 square metres, with the possibility of subdividing the space internally by means of mobile systems; it shall be possible to contain equipment, workbenches and installations for piano restoration and violin-making.
3) Classroom for theory lessons for approximately 25 students and measuring approximately 60 square metres, built on the floor above the teaching laboratory (possibly on a mezzanine floor), which will be equipped with drawing desks, seats, teacher's desk + blackboard, projector and workstation;
4) Storage room for storing equipment, tools and materials, measuring approximately 35 square metres;
5) Bathroom room with toilets for women, men and the disabled. This room shall have an ante-bathroom with adjoining storage space for storing cleaning equipment. Each room shall have at least 2 toilets.
6) Access for staff, lecturers and students from the outside, and forgiving access from the basement level.

4.2.7. Mixed residence

The Residence shall accommodate students and, temporarily, off-site lecturers, visiting professors, artists, etc.

The spaces will have to comply with the minimum dimensional standards and guidelines - taking into consideration, however, the functions provided on campus (cultural spaces, laboratories, etc.) or located in the immediate vicinity (sports and recreational areas) that may compensate for these criteria - set forth in the Ministerial Decree of 30 November 2021 of the Ministry of University and Research, published in the Official Gazette of 16 February 2022.

There shall be a total of approximately 190 rooms, of which approximately 35 shall be double rooms and 155 single rooms. All the rooms shall allow individual study of music, therefore they shall be adequately soundproofed. They must also be equipped with a bathroom and connected to the fixed network and WI-FI. They shall not be equipped with a kitchen. Instead, common kitchen and living areas must be provided for blocks of rooms, tending to be one for every 10/12 rooms.

Rooms for storing cleaning materials, consumables and cloakrooms should be provided on each floor.

A gymnastics room of a maximum of 50 square metres must also be provided, as well as toilets with shower and adjacent male/female changing rooms.

4.2.8. Canteen

The Canteen, with a total area of approximately 925 square metres on the ground floor, net of the outdoor area and the functions that can be located in the basement, to which a space outside the building must be added, shall constitute the catering space for the entire Campus. It will have to perform the functions of a bar, restaurant and self-service restaurant. It will necessarily be located on the ground floor and face the green area. In view of the evening use of the Auditorium, the possibility of building it adjacent to the Auditorium should be considered.

The whole must comply with the reference regulations, also taking into consideration the possibility of opening to the external public, namely:

- dpr no. 327/80 art.28 - mandatory minimum requirements for production and packaging workshops
- dm no. 37/08 - installation of systems inside buildings
- dm 12/4/1996 - dpr no. 151/2011 - fire prevention
- law no.13/89 - dm no.236/89 - overcoming architectural barriers
- building and hygiene regulations of the Municipality of Milan
- directives of the Milan ATS
- directives of the Fire Brigade Command

and will include the following functions:

1. Input
2. Bar/Self-Service/Dining Room
3. Private dining room
4. Kitchen
5. Public toilets (bathroom and ante-bathroom)
6. Outdoor area
7. Toilets and changing room for staff
8. Pantry
9. Cold store pantry

In order to maximise usable space for users, the functions referred to in points 7), 8) and 9) above may be located in the basement, providing a lift shaft if necessary.

4.2.9. Administrative offices

Offices will tend to be located on the ground or first floor. Their location will have to be established according to the architectural layout of the building complex, but also according to functionality.

- Entrance with receptionist/secretarial desk and waiting room of approximately 30 square metres;
- no. 2 offices of approximately 22 square metres each, for managerial staff
- no. 6 offices of approximately 16 square metres each
- no. 1 storage room of approximately 14 square metres
- no. 1 meeting room of approximately 40 square metres
- Bathroom with toilets for women, men and the disabled. This room shall have an ante-bathroom with adjoining storage space for cleaning equipment. Each room shall have at least 2 toilets.

4.2.10. Technical and service rooms

Service spaces for the entire structure, to be located at basement level (height to be defined according to the geotechnical characteristics of the ground), determined as follows:

- Garage with 25 parking spaces, 3 of which for disabled people and 3 arranged for the installation of recharging for electric mobility; a parking area for bicycles, motorbikes and scooters shall also be provided.
- Access aisle to the loading-unloading area of the Auditorium, the canteen and the residence, designed so that trucks can easily manoeuvre to retrace the aisle in the direction of the exit after loading - unloading operations;
- Plant area - technical rooms, sized according to the building's plant engineering needs (heating - cooling, domestic hot water production + medium - low voltage electrical transformer substation if necessary, serving the entire building) easily accessible from the basement level entrance aisle for emergency and/or plant maintenance needs;
- Server room + adjacent service room, sized according to the needs of use of the entire building; adequate cooling systems must be provided;
- Storage - warehouse for guest quarters and residence service equipment, sized according to the capacity of the building
- Laundry room, serving the residence, sized according to the capacity of the structure
- Changing room, for use by the service staff of the residence: approximately 28 square metres, with toilet and shower room of at least 6 square metres.

4.2.11. Outdoor area

The outdoor area, green spaces, pedestrian paths and penetrability will be the themes of the construction of the "Bosco" around the new buildings. All taking into account the urban planning indications of the area.

The "Bosco" will be without fences, so the issue of safety is a further cue:

Consideration will have to be given to:

- lighting devices with automatic switching on/off

- anti-violence alarm devices

- the possibility of introducing a multimedia library

4.3. IMPLEMENTATION OBJECTIVES: SUSTAINABILITY, TECHNOLOGY, INNOVATION

The "social" recovery of a place known for other events is the cornerstone of the new transformation of the lot, with the birth of a "Forest of Music" that will make music its liveliest soul, together with socialisation and regeneration from a broader point of view.

In general, the following aspects should be taken into account in the design of the intervention:

- indoor environmental quality;
- natural lighting;
- natural ventilation and indoor air quality; and
- indoor pollution and healthiness of rooms with the reduction of indoor electromagnetic pollution and the reduction of material emissions;
- acoustic comfort;
- thermo-hygrometric comfort

The use of Information Modelling Methods and Tools today represents a highly effective tool for the subsequent management of the building organism through Facility Management, its use will be decisive in guaranteeing the efficiency of the project.
The design of the green and public spaces will be part of a wider system of transformation of the city, and will have the purpose of making this space usable with a living soul and aimed at the citizen. It will have to be a place of reference for the students of the Campus but also for the whole city.

The designed space must be *sustainable, technological and innovative*

- Sustainable because it should "ensure that the needs of the present generation are met without

compromising the ability of future generations to meet their own needs".

- Technological because it will use tools aimed at reducing emissions, clean energy, efficient production and sustainable use of resources
- Innovative because it brings together the regeneration of the environment and natural ecosystems with the paradigm of new construction, aiming for sustainable social and environmental quality.

The design should focus on social, economic and environmental benefits: mitigation of microclimate, energy saving, reduction of air and noise pollution, reduction of water runoff velocity, growth of biodiversity.

4.3.1. ENVIRONMENTAL SUSTAINABILITY AND MINIMUM ENVIRONMENTAL CRITERIA (MEC)

Competitors are asked to adopt a design approach oriented towards environmental sustainability and decarbonisation, in line with both the Air Climate Plan (A.C.P.) recently approved by the Municipality of Milan and its three founding components (mitigation of and adaptation to climate change and safeguarding air quality), and with the commitments that the Municipality has undertaken within the C40 Cities network in the fight against climate change.

The approach to be adopted must also be consistent with the "Do No Significant Harm" (D.N.S.H.) principle of the European taxonomy. The life cycle of a building takes into account all the phases from its conception to the end of its useful life, in order to calculate its costs.

The design proposal must therefore take into consideration the Minimum Environmental Criteria (MEC), approved by Ministerial Decree of 11 October 2017; that is, a series of social, environmental and economic requirements that have the great value of sustainability.

The provisions of Art. 10 of the Implementation Regulations of the Rules and Regulations Plan of the P.G.T. of the Municipality of Milan, which promotes and incentivises: *"environmental sustainability and urban resilience through the introduction of new standards. With reference to the objectives defined in the Plan Document, all the interventions shall act in terms of reducing and minimising carbon emissions, improving urban drainage and microclimate, creating green infrastructures with the aim of reducing the input of meteoric water into the sewage system, mitigating heat islands, and raising housing standards by increasing the presence of urban greenery"*.

For all further details please refer to the Milan Municipality website.

The Plan regulates the implementation modalities of the rule, which also applies to "the realisation of new buildings for services of public initiative directly or transferred to the Administration through the offsetting of urbanisation charges, as well as to the realisation of new buildings for services and equipment, whether public or private for public use or of general interest". Considering also the strategic nature of the intervention, the zeroing of CO2e emissions should be encouraged, according to the technical criteria dictated by Art. 10.

This objective can be achieved through the introduction of the following design elements, for each of which measures are provided in alternative or compound form.

See the "Technical Document for the implementation of the discipline of Art. 10 "Environmental Sustainability and Urban Resilience" of the Implementation Rules of the Rules Plan, containing the calculation methodology for the minimisation of carbon emissions and the achievement of the Climate Impact Reduction Index", available at the link:

https://www.comune.milano.it/documents/20126/434769123/Documento+tecnico+Art+10+-+DD+797+del+5_02_2020.pdf/806064dd-a45d-a806-081f-18a181bf6174?t=1580915737127

Design element	Measures to be used to minimise CO_{2e}
High energy performance solutions	Adoption of design solutions to minimise CO_{2e} emissions related to the building's energy uses (related to winter and summer air conditioning, domestic hot water preparation, ventilation and, for the tertiary sector, lighting and passenger transport)
Renaturalisation interventions, including through forms of green integrated into buildings	Provision of green surfaces and roofs
Technologies for reduced water consumption and rainwater reuse	Recovery of rainwater
	Equipment of water-saving devices
Use of sustainable materials and/or recycled content	Use of building materials with recovered or recycled contents
Adoption of surface finishes with a high solar reflectance coefficient	Creation of external surfaces that reduce the “heat island” effect
	Construction of roofs that reduce the “heat island” effect
Solutions for sustainable mobility	Provision of suitable parking spaces for bicycles and installation of charging points for electric vehicles

Moreover, again with reference to Art. 10, "the implementation of the interventions shall provide solutions to improve environmental quality and adaptability through the respect of a "Climate Impact Reduction" index, understood as the ratio between green surfaces" (permeable ground surfaces, semi-permeable ground surfaces, semi-permeable paved ground surfaces, green roofs, green roofs of underground buildings, green walls) "and the territorial surface of the intervention [. ...] For new

construction interventions it is mandatory to achieve a "Climate Impact Reduction" index higher than 0.2".

Competitors must propose solutions able to guarantee, in the subsequent phases of project development, the maximisation of permeable green areas and compliance with the provisions of Art. 10.

It should be noted that compliance with the provisions of Art. 10 must be demonstrated in the P.F.T.E. finalisation phase. With reference to the "calculation for the minimisation of climate-altering emissions" and to the "calculation for the achievement of the Climate Impact Reduction Index" the competitors shall refer to Annexes A and B of the Technical Document for the implementation of the discipline as per Art. 10 "Environmental Sustainability and Urban Resilience" of the P.d.A. of the P.G.T..

Annexes A and B can be downloaded at the following link:

https://www.comune.milano.it/aree-tematiche/urbanistica-ed-edilizia/pgt-approvato-e-vigente-milano-2030/sostenibilita-ambientale-e-resilienza-urbana

It calls for a bioclimatic design approach that utilises natural elements such as sun, wind, water, soil and vegetation to create comfortable and thermally efficient buildings.

This will require both the use of passive measures and the use of innovative materials and technologies for heating and air conditioning, ventilation and lighting systems.

The potential of domotics for the realisation of "intelligent" buildings and the coordinated, integrated and computerised management of technological systems (heating and air conditioning, water, gas and light distribution, video-surveillance systems, etc.) and of information and communication networks will have to be taken into account, in order to make

management flexible, improve comfort, safety, energy saving and the internal quality of the building.

Competitors are asked to equip the building with systems for the collection and reuse of rainwater, also with a view to mitigating the effects of climate change and hydraulic risk.

The design guidelines will have to follow the Nature Based Solutions (N.B.S.): a concept used by the European Commission that identifies strategies, actions, interventions, based on nature and adapted to the local context, that provide environmental services and socio-economic benefits capable of mitigating the consequences of climate change.

In particular, with regard to the theme of adaptation and resilience to climate change, the project proposal should include actions at the building level to ensure adaptation and resilience to risks such as increased overheating in the summer months and inadequate heating in the winter months with consequent possible discomfort and damage to health, the increased risk of extreme weather events that could compromise the safety and integrity of the building, and the increased risk of flooding events that could overload drainage systems and damage structures and materials.

4.3.2. WATER MANAGEMENT AND HYDRAULIC RISK MITIGATION

The building should have an impact that integrates with the green areas, great attention should be paid to "green" redevelopment, preferring planting to large paved areas.

Reference is made to the table on constraints and to the in-depth studies on the PGT of the Municipality of Milan to carefully evaluate the constraints of the area, especially in relation to geological and hydraulic feasibility, and to make proposals consistent with the project area.

With regard to the hydraulic protection of the territory, competitors are invited to consult the annex "5.2 Guidelines for the design of sustainable urban drainage systems in the municipal territory" by the Municipality of Milan.

Also available at the following link:

https://www.comune.milano.it/documents/20126/190345684/Linee+Guida+per+la+progettazione+dei+sistemi+urbani+di+drenaggio+sostenibile+nel+territorio+comunale.pdf/522c413c-1bae-53fd-c97f-257e56f9766f?t=1612963876611

4.3.3. “GREEN” CRITERIA FOR URBAN DESIGN: "GREEN" ARCHITECTURE

The concept of the entire lot will have to be based on forward-looking choices about the future of the district, considering the design of public green spaces, lighting, furniture and the settlement of the built environment.

The approach must therefore be aimed at:

- sustainability for the protection of the environment
- human ecology that aims to foster social relations
- technology that builds better and is inspired by nature itself

It will therefore be necessary to build spaces that have a positive impact on the health and well-being of the people living in and using them.

It will be crucial to create a balanced relationship between people and their environment, correlating aesthetics and function.

Green areas will have to be designed to improve the conditions of climatic well-being, e.g. greater use of evergreen species helps purify the air even in the dormant season. Construction methods and techniques will have to be chosen taking into account the conformation of the

soil, its characteristics and the risk associated with it. The problem of rainwater management must be addressed so that the soil can drain water properly.

For this reason, it is important to restore green areas in the city, to avoid using additional soil to construct new buildings, and to choose suitable materials for outdoor paving, squares and other public surfaces.

- https://www.isprambiente.gov.it/contentfiles/00004100/4138-rapportoaree-verdi.pdf/

4.3.4. ARCHITECTURAL ACOUSTICS

Architectural acoustics is a fundamental aspect of the project. It will be necessary to ensure acoustic comfort inside residences and offices, conference and concert halls by measuring and controlling noise and sound reverberation, sound insulation and sound distribution and absorption. Objectives include speech intelligibility, freedom from unwanted external noise and acoustic characteristics of a concert hall that can enhance the maximum timbre expression of music.

Particular attention must be given to acoustic comfort with regard to the performance in terms of sound insulation, noise transmission reduction and sound comfort that the buildings must guarantee to the users, as also specified in the previous paragraphs in detail.

4.3.5. MATERIALS AND FINISHES

Materials should be simple and durable. They must be high-performance and have a dual aesthetic and functional value depending on the location with particular attention to the phenomena of

acoustics and soundproofing between private rooms and the condition of maximum acoustic quality in shared spaces.

The materials should guarantee the absence of thermal bridges and heat loss to the outside, avoiding almost completely the risk of mould, condensation and humidity stagnation.

The life cycle of the building should be as zero-impact as possible: from its construction to its demolition. Ensuring that no toxic or environmentally harmful residual substances are released.

The fundamental principles, by way of example but not limited to, are therefore:

- Reduction of energy costs

  Through the use of photovoltaic solar panels, thermal insulation techniques, natural ventilation, geothermal technology and correct orientation of rooms with respect to sun exposure.

- Environmental respect

  At the time of design and construction, the variables of the terrain in which they are located must be taken into account: temperature, lighting, slopes, humidity, presence of vegetation and altitude. The ultimate aim is to minimise water waste and CO2 emissions. The water table and all territorial constraints must be considered, taking into account the mitigation of any hydrogeological risk.

- Well-being

  The objective is to guarantee all kinds of comfort: thermal, hygrometric, light and acoustic.

- Use of bio-ecological materials

The use of natural, easily disposable and, above all, low environmental impact materials will be appreciated.

4.3.6. PLANTS

All plant choices shall be aimed at guaranteeing the minimisation of energy consumption, as well as the maximisation of the exploitation of renewable energy resources.

A Smart Building must be designed to reduce emissions and energy consumption through design strategies that increase efficiency and reduce consumption, favouring the use of renewable energy. Guided by a model we could call DEED: decarbonisation, electrification, efficiency and digitisation

4.3.7. INTEGRATED DESIGN AND APPLICATION OF INFORMATION MODELLING METHODS AND TOOLS

The design of this intervention must be developed in compliance with the principles of Building Information Modelling, applying the Information Modelling Methods and Tools referred to in Articles 23 c. 1 letter h) and c. 13 of Legislative Decree 50/2016 and DM560/2017 and subsequent amendments, as well as in accordance with the requirements of the UNI 11337 standard (the entire series) "Digital Management of Building Information Processes".

In addition, Article 6 of DM 560/2017 and subsequent amendments establishes the timeframe for the gradual compulsory use of electronic methods and tools specific to construction and infrastructure. This work falls under the case provided for in paragraph "d) for new construction works and interventions on existing constructions, except for ordinary maintenance works with a tender amount equal to or greater than €15 million from 1 January 2022".

Therefore, the Lombardy - Emilia-Romagna Interregional Superintendency for Public Works

requires, for this intervention, the use of the specific electronic methods and tools, referred to in Article 23, paragraph 1 letter h), on a compulsory basis, having fulfilled the obligations set forth in Article 3 (Preliminary obligations of the contracting stations) of Ministerial Decree 560/2017.

The objective of the application of electronic information modelling methods and tools is the optimisation of the work realisation process, through the development of information models that, evolving during the different design levels and being updated during the realisation phase, are functional to support the management of the work during its entire life cycle.

In order to achieve this goal, it is necessary to govern the digital process of realisation of the work from the earliest stages of design.

As part of the application of information modelling methods and tools, it is necessary to establish strategic information objectives that are to be understood as a common strategy to be pursued by all stakeholders. Therefore, as part of the design of this intervention, the Department has set out strategic project goals, as a result of which the objectives and uses of information models have been defined.

The logic behind these objectives is contained in the Public Contracts Code (D.LGS. 50/2016) and in the Regulations (D.P.R. 207/2010), enriched by the focus on data quality.

The objective is to integrate and complete the traditional requirements framework, made explicit through a documental corpus consisting of a series of graphic and documentary information documents (cf. D.P.R. 207/2010), with a logic that also focuses on the quantity and extent of the information contents, their transmission modalities, data quality, future use and traceability.

Attached to this design brief is the Information Specifications (IS) for the development of the technical and economic feasibility project, which will be awarded to the winner of the design competition.

The fulfilment by the Contractor of the requirements expressed in the Informative Specifications is

to be considered mandatory and, therefore, this document shall have contractual value.

In response to the requirements set out in the Tender Specifications, the bidders shall draw up the Information Management Offer (IMO), a document in which the information flows, technical specifications and decision-making processes of the bidders will be explained. The Imo, drafted by the successful bidder, will evolve, after the conclusion of the tender contract and before its execution, into the Information Management Plan (IMP).

4.4 CONSTRAINTS AND CLARIFICATIONS

4.4.1 GEOLOGICAL, HYDROGEOLOGICAL AND HYDRAULIC COMPONENT

In the P.G.T. Milano 2030, according to the degree of hydraulic hazard, the characteristics of the surface water table and the geological-geotechnical aspects, feasibility classes have been identified that zone the entire municipal territory, reported in table "R.01 Geological and hydraulic feasibility". Specifically, the Competition area was classified in feasibility class IIIc ("Feasibility with significant limitations" as per art. 45, paragraph 5, of the Implementation Rules of the P.G.T. Rules Plan): area with low water table submergence (< 5 m).

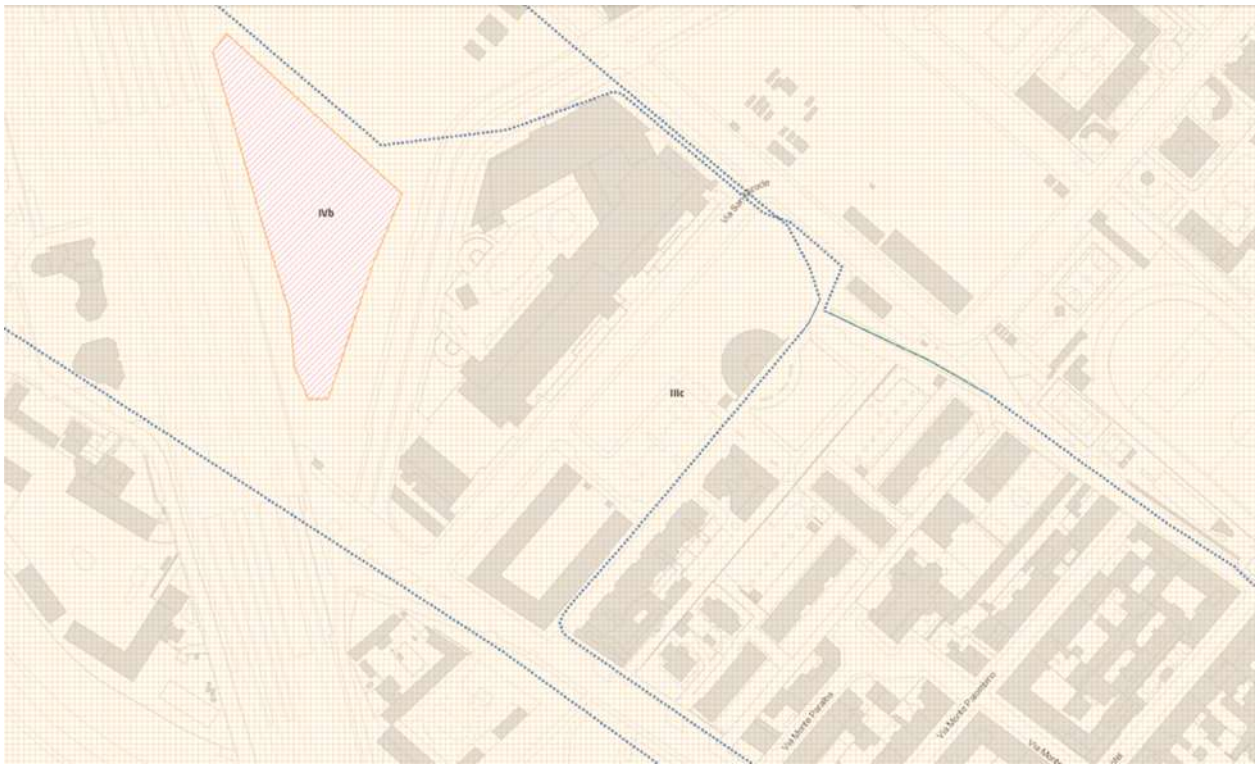


Fig. Table R.01 Geological and hydraulic feasibility.

Specifically, planners are asked to take into account the phenomenon with regard to the construction of underground or basement rooms pertaining to the new Campus, water discharges and compatibility with hydraulic invariance criteria.

4.4.2 HYDROGRAPHIC NETWORK

As indicated in table "R.09 Hydrographic network", inside and near the Competition area, there are the Cavo Taverna and the Roggia Gerenzana, identified in the P.G.T. as watercourses, partly tombed, partly uncovered, belonging to the private water network. As indicated in Art. 50 of the P.G.T. Rules and Regulations Plan, a buffer strip 4 m wide from the edge of each bank is envisaged for the network within the Consolidated Urban Fabric (C.U.F.). It will be necessary to carry out a detailed instrumental survey in the subsequent design levels to define their exact position and size. As defined in Art. 7 of the Hydraulic Police Regulations (annex no. 2 of the R.P.D.) it is not possible to

construct works within the riverbeds. Within the buffer strips, the interventions as per Article 8 of the aforementioned Regulations are possible, subject to the authorisation of the competent Hydraulic Authority.

Fig. Table R.09 Hydrographic network

4.4.3 HEIGHT LIMITS

The new Campus may have several above-ground storeys. Given the proximity to the Milan-Linate airport, it should be noted that the limit imposed on the heights of buildings must be respected, which is 147.85 m above sea level, as reported in table "R.08_Ostacles and dangers for air navigation" attached to the P.G.T. Rules and Regulations Plan.

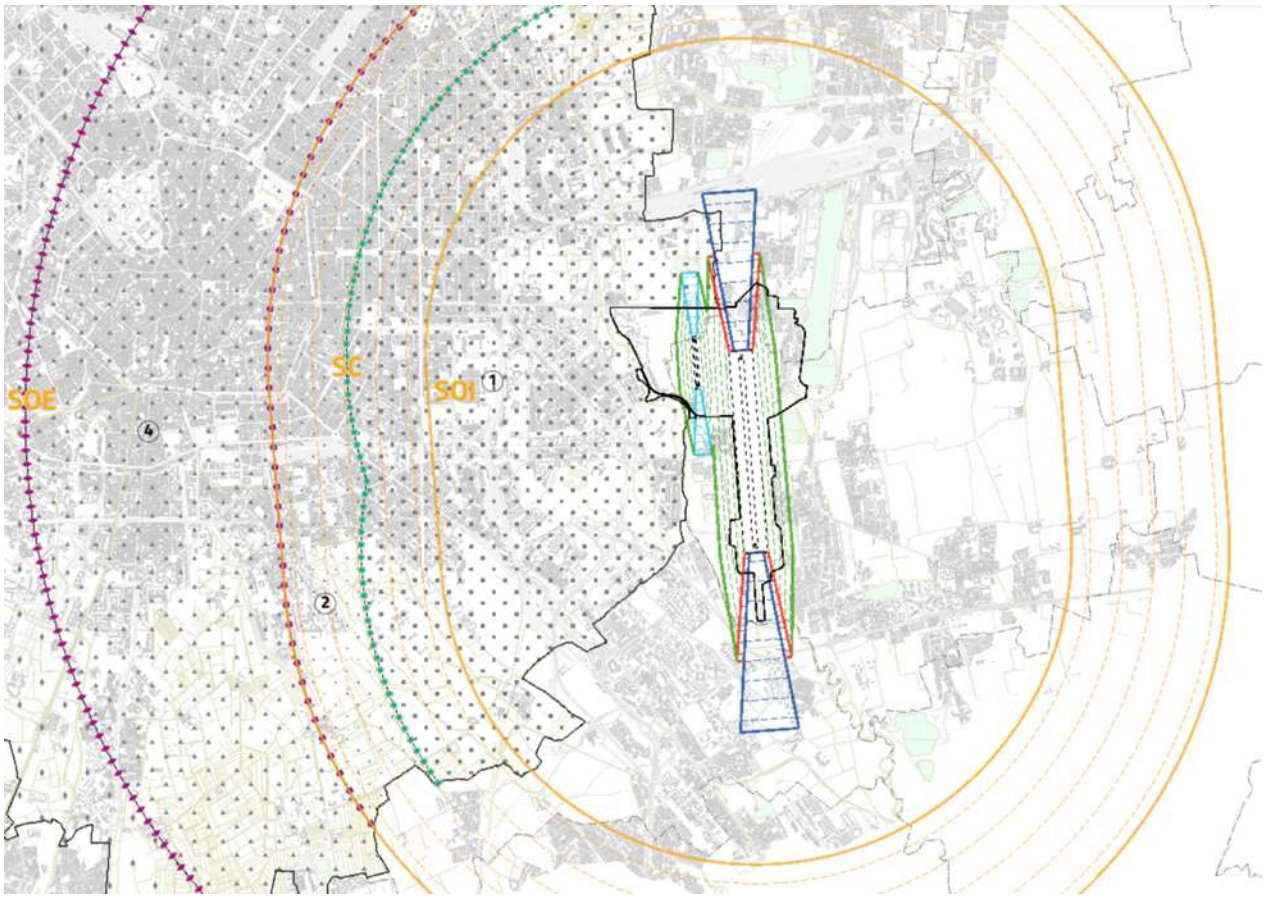


Fig. Table R.08 Airport constraints

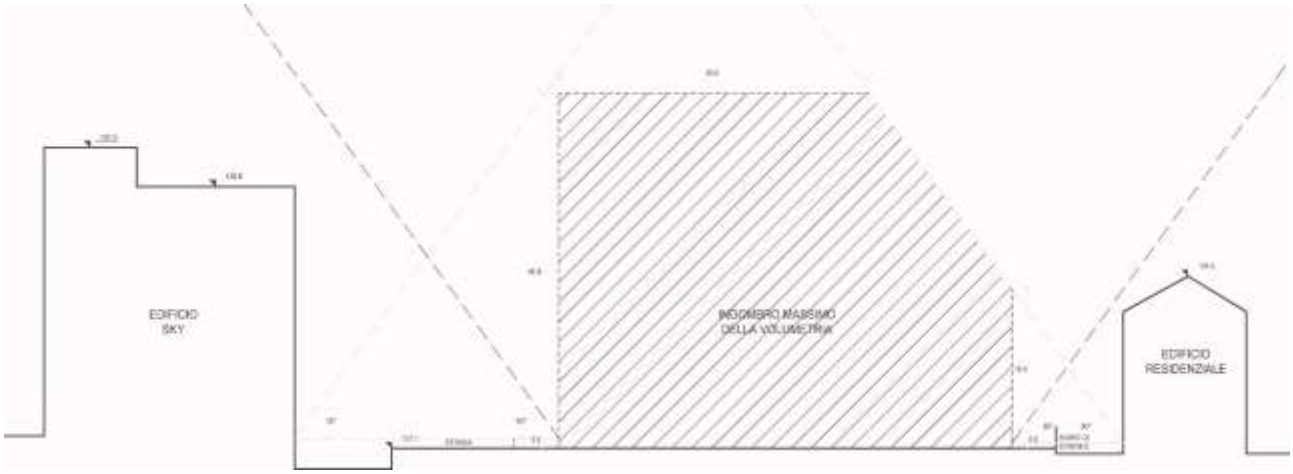
The competitors shall take into consideration that the height of the Competition area varies between 106 m and 107.1 m a.s.l., with the only exception of some slopes along Via Monte Penice, which have heights varying between 103 m and 104.7 m a.s.l.

For further details on the elevations, please refer to the annex "3.1 PHOTOPLAN WITH COMPETITION AREA".

4.4.4 BUFFER STRIPS AND DISTANCES FROM BOUNDARIES

As reported in the previous paragraphs, the main roads adjacent to the Competition area - Via Rogoredo, Via Monte Penice and Via Francesco Pizzolpasso - have been classified as local roads - F, according to Ord. no. 334 of 10/03/2021.

The construction will be designed considering the following scheme.



In any case, reference is made to the sector regulations, excerpts of which are provided; it remains the competitor's obligation to verify the constraints and propose solutions compatible with the regulations in force.

In any case, reference is made to the sector regulations, excerpts of which are provided; it remains the competitor's obligation to verify the constraints and propose solutions compatible with the regulations in force.

With regard to the buffer zones for building in built-up areas, please refer to Article 28, paragraph 2 of Presidential Decree 495/1992: "2. For type E and F roads, in the cases referred to in paragraph 1, no minimum distances from the road boundary are established for the purposes of traffic safety".
With regard to distances from the boundaries, please refer to the following regulatory references as well as the broader sector regulations:

- Ministerial Decree no. 1444 of 2 April 1968 (with reference to the absolute minimum distance of

10 m. between windows and walls of buildings in front);

- Building Regulations of the Municipality of Milan (Article 86).

Specifically, we report the provisions of Article 86 of the R.E., to which reference is made:

"1. In the case of new construction [...], the distance of buildings from the boundary of adjoining land belonging to another property may not be less than [...] than m. 5 [...], measured from the edge of the façade or projecting balconies. Below this distance, constructions are allowed on condition that the consent of the neighbouring property is demonstrated by means of a registered and transcribed deed, to be produced at the same time as the presentation of the title, always obviously without prejudice to the mandatory minimum distance of 10 m. between window fronts. The minimum distance from the boundaries referred to in this paragraph is set at half of the mandatory minimum distance borrowed from Ministerial Decree 1444/1968 and shall therefore always be applied with this ratio in accordance with any super-ordinate, derogatory or substitute regulatory provisions.

3. [...] in new construction [...] the absolute minimum distance of at least 10 m. between windows and walls of buildings in front [...] is always compulsory; in the presence of projecting balconies it is measured from their external edge. This distance is assumed perpendicular to the front.

4. Without prejudice to the absolute minimum distance of 10 metres in the cases referred to in paragraph 3 above, in all cases of new construction [...], interventions must also be designed in such a way as to guarantee adequate conditions of sunshine for the pre-existing buildings. To this end, if the new volumes in the project are in front of an existing window front, regardless of the intended use of the room in front, the following graphic verification must be satisfied a half-line conducted on the plane perpendicular to the façade of the pre-existing building, in correspondence with the axis of the view placed in the lowest position and inclined by 60° on the horizontal plane of the floor of the room in which the view is located, starting from the intersection between this and the external wall

of the building, must be external to the physical bulk of the new volumes. [...]

5. Buildings facing public spaces must meet the condition of paragraph 4 if this does not conflict with the proper integration of the building with the built environment and surrounding public spaces. [...]

7. The compulsory minimum distance referred to in this article [...] is taken from Ministerial Decree 1444/1968 and shall therefore be applied in compliance with any super-ordinate, derogatory or substitute regulatory provisions".

5. FINANCIAL LIMITS AND ESTIMATED INTERVENTION COSTS

The maximum cost of the work to be carried out (economic framework, including the amount of the works, design costs, work supervision, testing, safety costs, costs of the Competition and sums available to the Contracting Authority) is set at € 47,000,000.00 (VAT included).

The share relating to the works is set at € 33,000,000.00 (excluding VAT), including external safety charges.

Within the aforementioned amounts, the categories that make up the work are listed in the following table that shows the composition of the work and the correspondence between

- the classification pursuant to Presidential Decree 207/2010
- the classification pursuant to Ministerial Decree of Justice 17/06/2016.

Categoria	Destinazione funzionale	"ID-Opere"	Grado di complessità	Importo
EDILIZIA	Edilizia residenziale privata e pubblica di tipo corrente	E.06	0,95	6.000.000,00
EDILIZIA	Biblioteca, Cinema, Teatro, Pinacoteca, Centro Culturale, Auditorium, Museo, Galleria d'arte	E.13	1,20	10.000.000,00
EDILIZIA	Opere di riqualificazione paesaggistica e ambientale di aree urbane	E.19	1,20	2.000.000,00
EDILIZIA	Opere di riqualificazione su edifici di interesse storico artistico	E.21	1,20	2.000.000,00
STRUTTURE	Strutture o parti di strutture di tipo semplice in cemento armato	S.03	0,95	3.000.000,00
IMPIANTI	Impianti sanitari	IA.01	0,75	2.500.000,00
IMPIANTI	Impianti riscaldamento/raffrescamento	IA.02	0,85	2.500.000,00
IMPIANTI	Impianti elettrici	IA.04	1,30	3.000.000,00
Costo stimato per la realizzazione dell'opera (compresi oneri sicurezza)				**33.000.000,00**

Completion of the PFTE will be the responsibility of the winner without further financial reward.

The winning project must be fully adapted and co-ordinated with the remediation work, as well as with the opinion of the authorities.

NOTE:

Please refer to the regulations in force and to the website of the Municipality of Milan for any further details.

In compliance with the provisions of Article 23, paragraphs 7 and 16 of Legislative Decree 50/2016 and subsequent amendments and additions, the estimate of the work must be based on the current Prezzario regionale delle opere pubbliche Regione Lombardia (Regional Price List of Public Works of the Lombardy Region), available at the following link: https://www.regione.lombardia.it/wps/portal/istituzionale/HP/DettaglioServizio/servizi-e-informazioni/Enti-e-Operatori/Autonomie-locali/Acquisti-e-contratti-pubblici/Osservatorio-regionale-contratti-pubblici/prezzario-opere-pubbliche/prezzario-opere-pubbliche

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