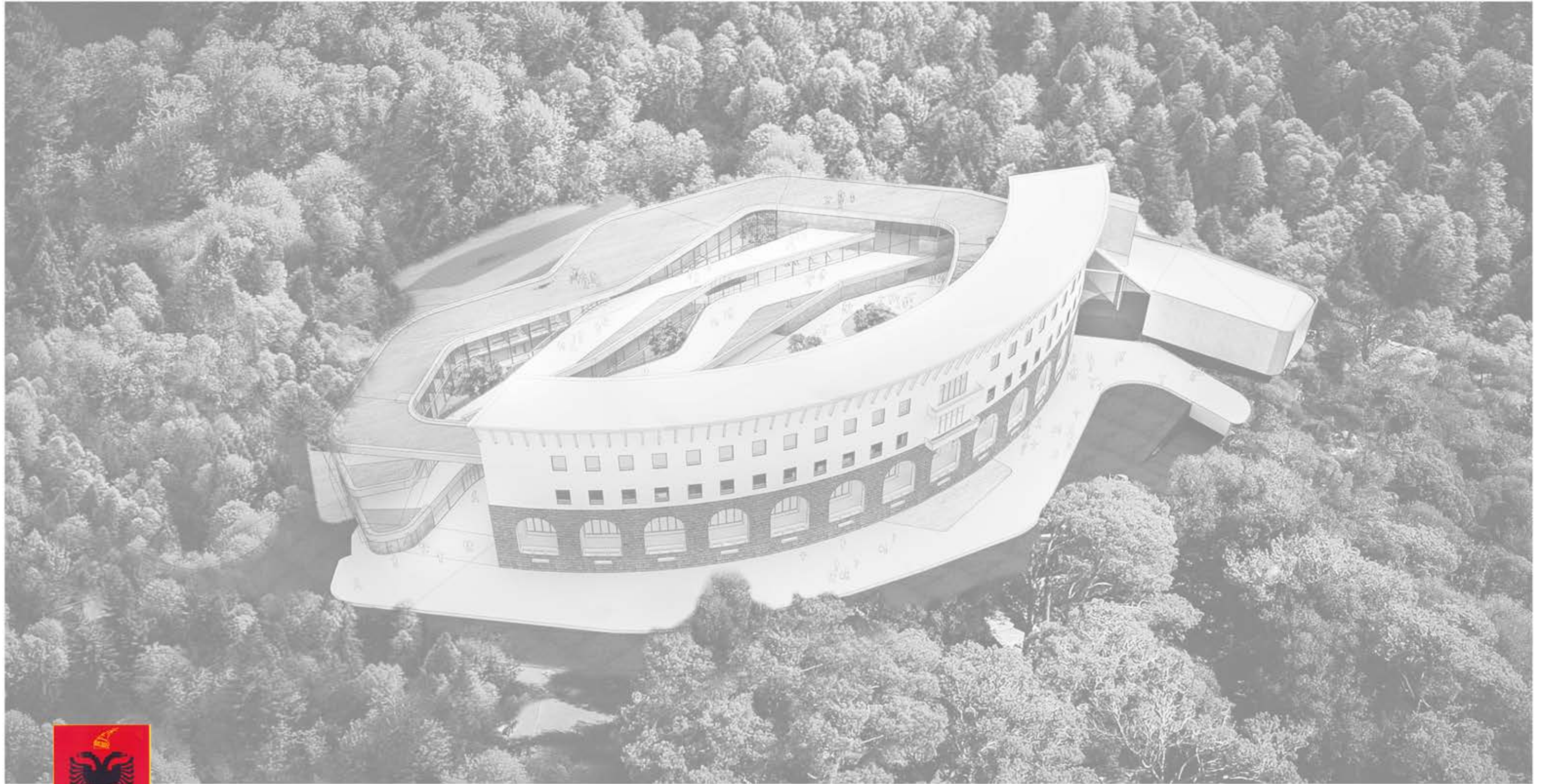


“Project idea of rehabilitation of the building of Supreme Court – Redesigning the new headquarters of the Supreme Court and the School of Magistrates”

“Revitalizing the past to enter the future”



REPUBLIC OF ALBANIA
MINISTRY OF URBAN DEVELOPEMENT
NATIONAL TERRITORIAL PLANNING AGENCY

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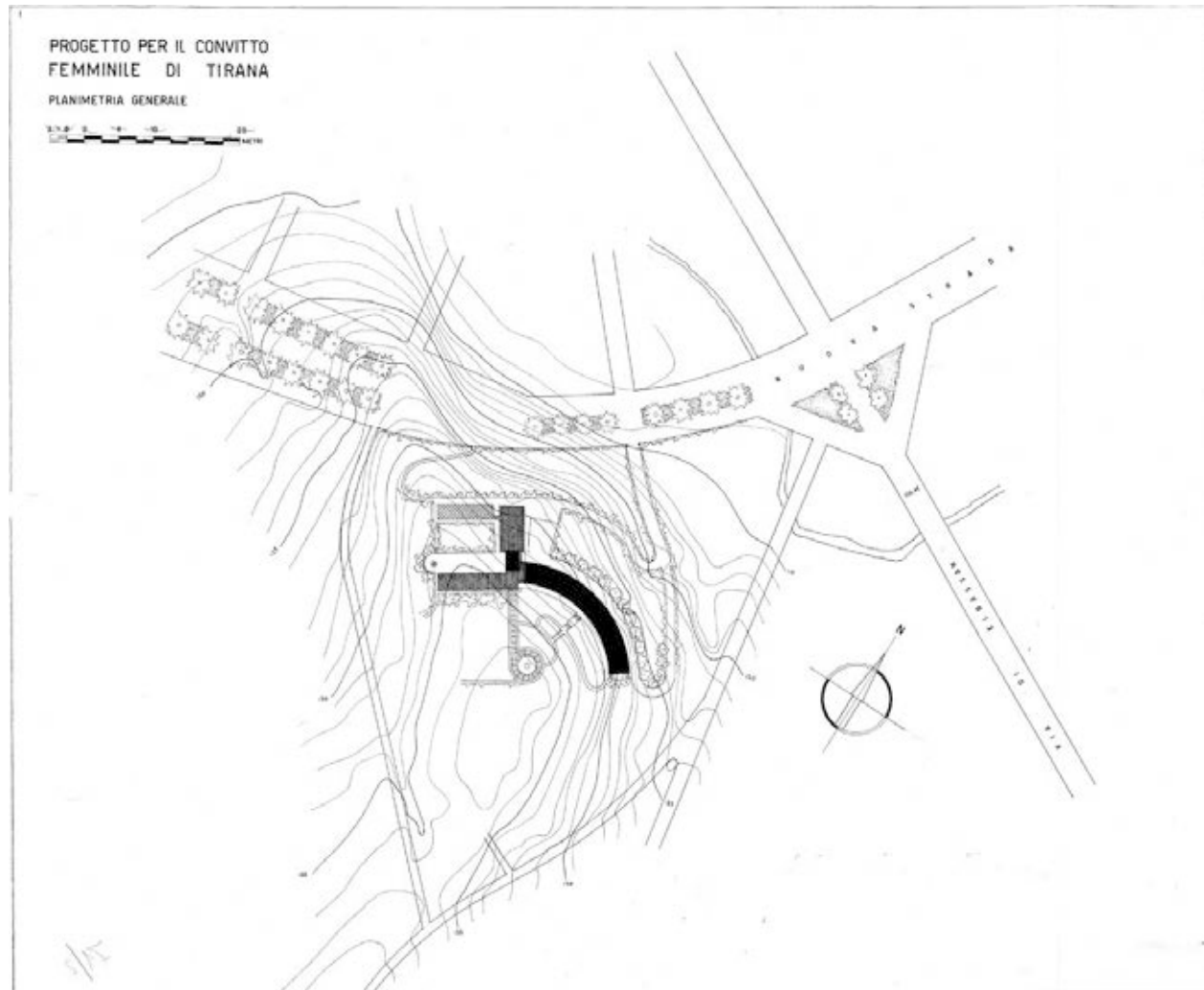
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SITE CONDITIONS

The Project of Cesare Valle



Original Design: General Plan

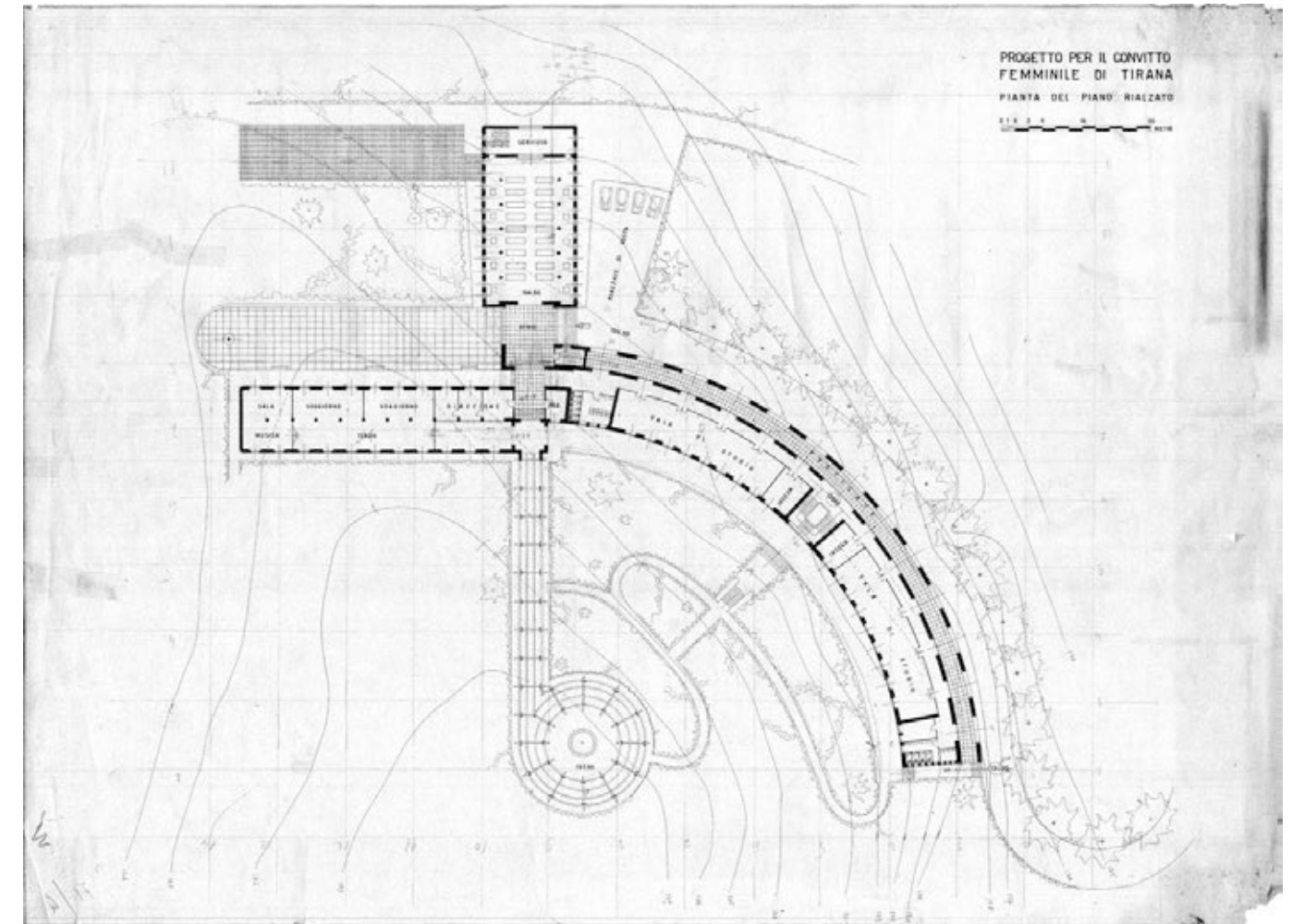
The intervention of Valle to the Female Boarding School lies on the northern edge of the big park of Tirana, bounded by Rruga Elbasanit (thoroughfare linking Tirana with Elbasan).

The design study of the Female Boarding School, today Faculty of Geology, starts from the functional analysis, combining the design method of rationalism with the suggestions of organic architecture. In the project, Valle played with four main volumes proposing a five-story tower covered with stone as the center of the other three parts. The four lower volumes have different functions: the first, curved, is dedicated to the study rooms, the second to the bedroom and the third and the fourth to the living areas.

The system of degrading terraces, following the contour lines of the park and at the same time, the curved shape of the building of the study rooms, serves to optimize exposure to the sunlight. The base of the curvilinear body is composed of a rhythm of arches, covered with the same stone of the tower. The same

Phase 2

coating is used for the shell of the other two bases parts of the bodies, creating a strong visual impact. The treatment of facades was inspired by the local traditions construction. The extensive use of rustic stone, the monumental portico with round arches and the volume of the tower evoke characters of rural architecture.



Original Design: Ground Floor

The focus of the connections between the various interior spaces, and these with the park, is the atrium of the main building, bonding of three separate volumes that extend into the surrounding landscape. In line with this hall it grows the volume of the sleeping area features from a basilica plan with three naves separated by two rows of columns. The basement floor houses, in addition to services also the kitchen, the pantry and the dining hall of the general staff; It is equipped with a service entrance on the parking side and is connected to a fourth body factory orthogonal to it, destined for the accommodation of the staff, while the raised floor is destined to the cookhouse. Orthogonal from the atrium is placed a volume of one floor, in which there are the direction, the music room and two living rooms communicating with each other.

The Building Now

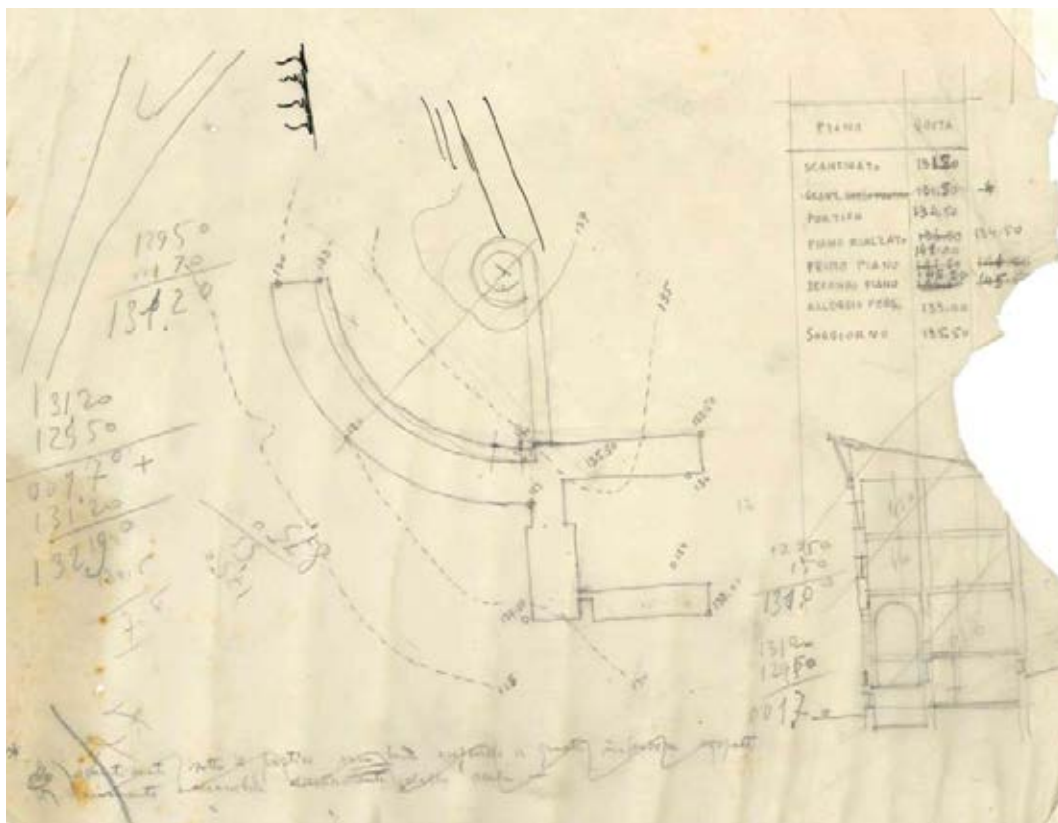
From the large complex, determined by the war, it was built only the body of the building of a circular arc, which has been transformed by the Communist Party, in 1949, in the Marxist ideology school. Today it houses

the Fakulteti Gjeologji Miniera (Faculty of mineral Geology). The building constructed does not respect totally the original project of Valle. On the back facade is absent the stone that was proposed to cover part in the basement of the building and the rhythm of windows is different from that of the initial project. The roof that was realized in the existing building differs from that of the initial project because it is made with two flaps instead of one.

The magistrature school building was constructed in the treed area of the park during the period of the communist regime, is connected with the building designed by Cesare Valle with a bridge lifted from the ground by a length of 28m. The simple four storey building appear as a parallelepiped set in an elevated relief in relation with the old building the of the current faculty.

The functional distribution scheme of this object is very simple with the hallway between and classes on the sideways. The entries in to this object are carried through the bridge that connects the main entrance of the faculty as well as the second entry of the building itself.

CRITERIA USED FOR THE PLANNING CHOICE



Original Sketch by Cesare Valle

“...The second problem is related to the purposes of restoration. It’s difficult to think, apart from a very limited number of buildings, of a purely aesthetics fruition, of a museification... Therefore the purposes are difficult to define a priori if not in the limitation to the purposes that are compatible with the conservation. Even living inside buildings originally destined to residence can be a destructive purpose. On the other hand, considering the general deficiency of means, only a functional justification can guarantee the resources for interventions and certainly they have to be examined as single case and within the temporal limits defined by administrative

restriction".

(Franco Borsi, *Il restauro del moderno: problemi e interrogativi*, in A-letheia 4, 1994)

The assertions of Franco Borsi are absolutely up to date when referred to a stratified and complex building such as the one designed by Cesare Valle in Tirana in 1937 for the Female College and only partially realized between 1940 and 1943.

The project, aim of the contest, has as first goal the restitution of the building to a large and public use: therefore the planning choices tend to improve as much as possible its usability as well as its reputation, guaranteeing its preservation. It's the essence of *valorization*, as defined by the Italian Codice dei Beni Culturali e del Paesaggio¹.

During the years separating us from its construction, the building has suffered a lack of appropriate maintenance—it is evident observing for example the internal paintings—and thus of “conservation”; but also of the realization of architectural works incongruous with the qualities of the original building. This as an effect connected to the sequences and the stratifications of History that compromised the qualities of the building.

The simplest solution, which restoration offered during its disciplinary sequence, and thus the more widespread one, consisted in bringing back the form to the original equilibrium condition, to that state in which its being didn't yet represent a problem. On the contrary, a preservation that wants to be efficient and culturally up to date can't "mechanically" bring back a form to a previous equilibrium.

The task of the designer must be the prudent reorganization of the world, already alive, that he has in front of him and that has never to be considered dead, without value. Therefore we mustn't think that we have to extract a still unformed subject from the chaos, nor consider of being in front of a dead reality which has, in some way, to come back to life.

On the contrary, the task of those who intend to preserve an architecture and its form, as form of life, is, first of all, to study it in every expression and, through the study, to understand and appreciate it in its different times. In the totality of the times that can be read in its form, in its structure, in its spaces.

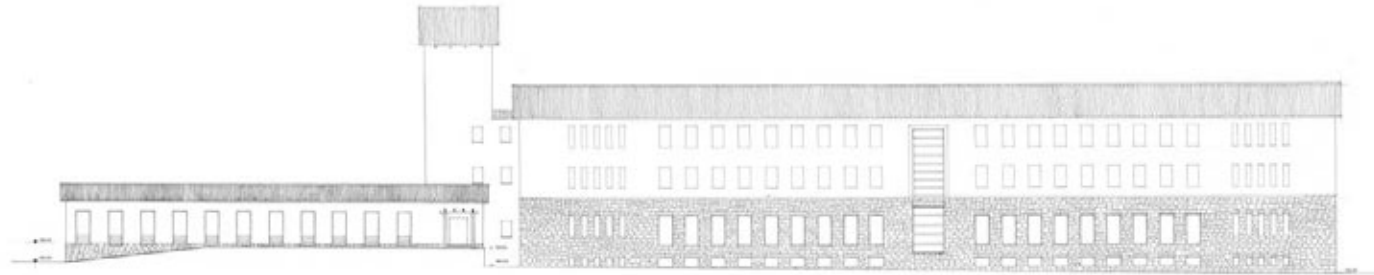
The project, refusing an hypothetical intervention of *ripristino* which, in this case, wouldn't even be legitimated as such, starts from the original projects of Cesare Valle and aims to reinterpret its image in a contemporary key, with the goal to reconstruct that equilibrium of volumes which the original architect would have wanted to give to the complex.

If the totality of studies and investigations, of planning choices, of operative definitions and of the ones taken in the construction site that characterize a restoration, always configures itself as a way of doing contemporary architecture, even more so will be an intervention in which the strictly preservative part comes up beside that of the ideal reconstruction of the first architect's will.

In addition, regarding the modes in which we inherit the architectures and we work on them, we must be aware that inevitably other transformations will occur after us and we can't imagine them, but we must try to make possible their free expression. For this reason, the totality of the interventions which are proposed has as leitmotif that of the stratification of contemporaneity over the layers delivered us by the History; a layer

¹ D. Lgs. 42/2004, Codice dei Beni Culturali e del Paesaggio, art. 6, *Valorisation of the cultural heritage*, c. 1: “The valorisation consist in the practise of the functions and in the discipline of the activities direct to promote the knowledge of the cultural heritage and to guarantee the better conditions of use and public fruition of the same heritage. It also includes the promotion and the support of the conservation interventions of the cultural heritage”.

which future architects may decide to assume as pre-existence or to remove, returning to the current situation.



South Façade of the Original Design

The modernity of an intervention is proved by its ability to express a full awareness of the knowable experiences, of the time that we have behind us, of the succession of the critical orientations that animated the doing and of the horizons of the judgment which allowed to evaluate the past. The modernity of an intervention is evaluated on its foundations in history.

Realizing a new building is an activity of the present as much as preserving an architecture of the past: expressing the role that we recognize to history in the project, and also our way of making history. They are manifestations of the maturity conquered by our critical conscience and thus expression of our judgment capability.

The diversity that characterize the addition, qualifying it as a product of our present respect to the inherited existing reality, can't be reduced to a question of forms, otherwise it would risk to become something formal; furthermore, language diversity isn't a guarantee of value.

Every distraction of attention, every end of observation, jeopardize the life of the form. With respect to the method, these are the guidelines to redact the project that, assuming the historic part as a constant, chose the way of re-contextualizing it in the past –taking the choices of the original architect as a guide– and in the present –referring to those relations of volumes and forms with contemporary architectural choices.

Compatibility in the insertion of the new functions

The choices of intervention impose first of all the respect of what remains of the original project. For this reason, the insertion of the new functions should take into account the specific capacities of that architecture, avoiding to jeopardize such a testimony with the choices related to the new functions. Therefore all that entails an increase of the loads will be placed in the bottom level, the basement, while in the levels out of soil will be situated the less onerous functions from the structural point of view. The opportunity offered by the addition of new volumes will allow to “unload” the body, with its circular trend, by the most onerous tasks, these being transferred to the tower (with mechanized lift system) and to the other additional bodies of the building. This will resolve the accessibility problems, also vehicular/for the lift, along the different levels. So, the historic building will be able to continue to exist in its original essence, without the interferences connected to excessively heavy measures taken to strengthen the building that would also compromise its interpretation.

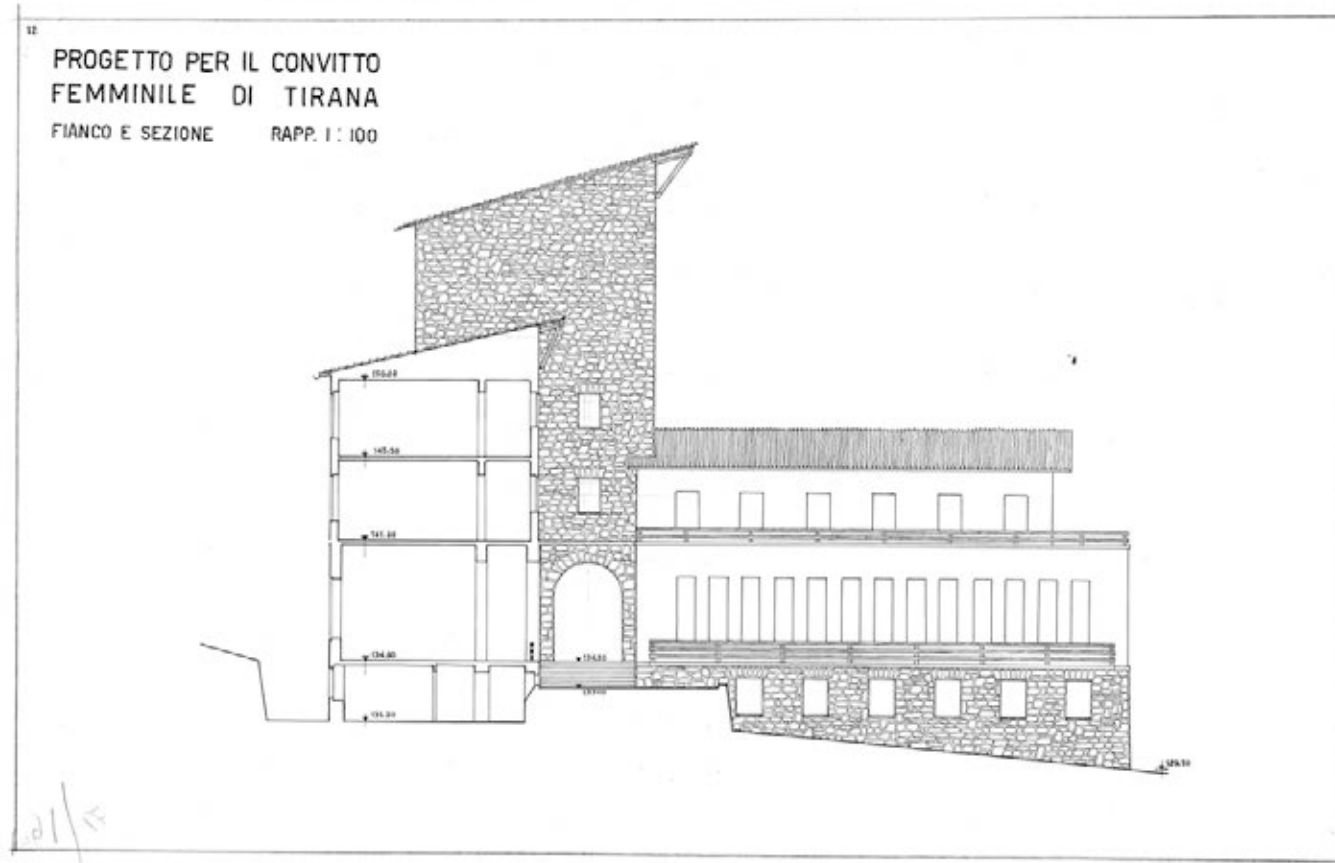
Compatibilities related to the choice of materials

In this case, as well, the project imposed itself a clear rule: to let the pre-existence to speak its own language; to adopt a new language, never allusive to that of the pre-existence, for the new parts and just for the parts that will add themselves to the existing reality. It's an attitude profusely rooted in the tradition of Occidental restoration since its first codifications, in which any intervention of imitation of the ancient must be banished, while what is added must speak nowadays the language of contemporarily. For what concerns the interventions related to the existing, beside the choices of integrated conservation, it must be added that even in the choice of the hewn stone which will be employed to complete the base on the southern side of the complex (that moreover will be partially covered by the new basement volumes) it has been chosen to adopt a simplified language, different from the one originally employed on the northern side, with ashlar characterized by simplified geometries and by more regular mortar joint. Therefore the compatibility between the ancient and the new interventions is guarantee on several fronts: on the aesthetic front, with the employ of the new technological and material languages exclusively used in the new parts; and on the physical-chemical front, with the employ of materials that are similar to the previous ones in the chemical composition and in the physical behavior, but adopting finishes and partitions that make them easily recognizable to a careful look.

Conservation interventions of the existing building

For what concerns the existing building, the geometrical, material and structural investigations will be implemented in the project helping to chose the best technological and material solutions to guarantee the survival of the maximum possible part of the historical testimony:

- the strengthening of the structure will be realized with the aim to improve the resistance of the existing vertical and horizontal structural elements, turning to interventions of juxtaposition with resistant elements and to increase the resistance capabilities of the existing elements through the adoption of light technical solutions (reinforcement with FRP; stiffening and connections using metal elements embedded in the existing panels –tie rods, hoops, wind braces...);
- all the new plant equipment will be inserted in the existing building, taking care to minimize the impact in the designing and realising phases (employing fan coil system for heating/cooling plant, to reduce to the minimum the sections of the supply pipes; collocation of the service pipes for the primary air and for all the plant design in a new false ceiling, arranged in the distribution corridors, to minimize the impact on the existing building in terms of ducts and crossings demolitions) and in the management phase (definition of management protocols useful to reduce the thermal stress in the structure);
- the vertical connections will exploit, as much as possible, the opportunities offered by the addition of the new volumes, including there the heaviest intervention (principal lifts; stairs compliant with legal standards; etc); this to respect the rules of safe and good accessibility (that will implicate the creation of –mechanized and not mechanized– vertical links less invasive also in the existing building, taking care to identify the less sensitive points of the horizontal structures. It will be update also the principal stairway, which will become the functional and symbolic cornerstone of the intervention of the New Court.



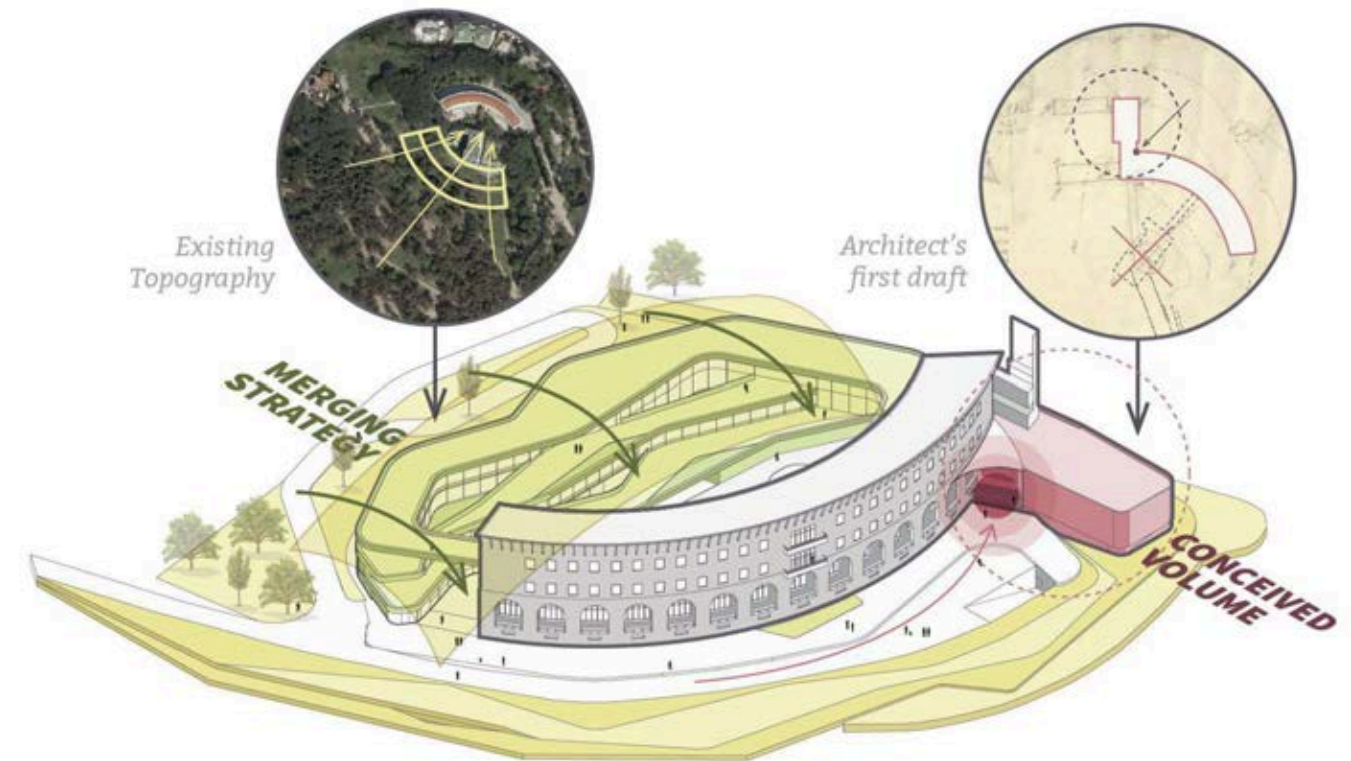
Original Design: Section

Attention to the arboreal heritage

The intervention takes note of the situation from the botanical point of view that it was created around our building; rather, it takes the cue from the needs related to the project to rethink the vegetable environment, also in light of the historical investigation of the whole built complex. The insertion of parks and gardens in the same period in which the building was built was quite normal, and still exist many testimonies of great cultural and botanical interest. Moreover the project predicts an activity of survey and census and reorganization of the present trees, with the aim to reconfigure, according to the original lines, the presence of the green and the relation between the vegetable parts and the built parts in the site.

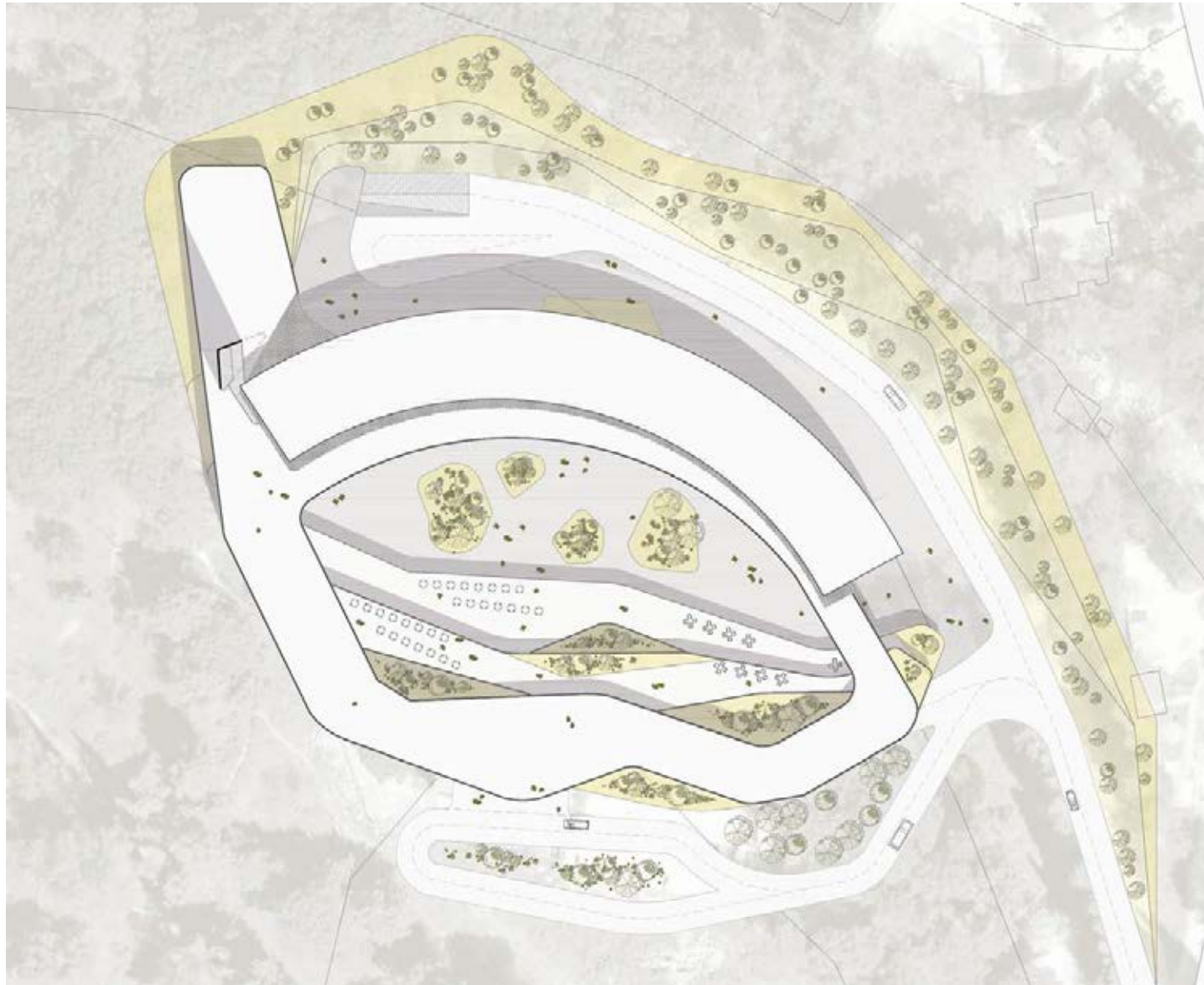
Landscape insertion of the new parts

The project assumes as pre-existences not only the curvilinear building, the only testimony of the original project, but also the landscape in which it is located. Even though all that is added to this context will have, on one hand, the aim to (re)bring the surviving building into the closest conditions to the ones that Cesare Valle wanted to create in the '30ies; on the other hand, it will have the aim to limit the annoyance that the new addition should create to the site. So the new volumes will be limited in their vertical extension, organically inserted in the landscape and partially underground in the contour lines of the site; except for the tower that assumes a symbolic meaning in the general idea of the design.



DESIGN CONCEPT

The Design starts from the analysis of the first project by the Engineer Cesare Valle, from the natural environment of the site, inside the Lake Park of Tirana, and from the attempt to conciliate the historical heritage and the new functions of the existing building with the combination of the new building, for the School of Magistrates, through the idea of a low environmental impact architecture.



The area of competition is situated among an important Park of Tirana, the *Parku i Madh i Tiranës*. The area is between two backbones: the boulevard and the Student City Area. The entrance is on the *Rruga Gjeneral Nikols* street, who comes from the *Rruga e Elbasanit* highway, a road who links Tirana with Elbasan. The *Rruga Gjeneral Nikols* rises along the hill. The road turns of 180 degrees to reach the area. We will take advantage of the opportunity that this competition is giving us by adding value to the use of the Park with the creation of a green path for pedestrians and bicycles. This path will link the two areas of the city crossing the hill and having the central square of our proposal as a focal point.

The vehicle entrances will be split for the Supreme Court and the School of Magistrates. The Judges and the inmates will enter along the north side of the facade of the Supreme Court building. They'll have a parking in the basement level of the new added building on the north west side, which will be besides the pedestrian entrance for Judges.



Landscape Strategy

Architectural program

A public parking is reserved for the School and visitors through the ground floor of the school of Magistrates, which will be communicated directly to the public central square of the intervention "The forum".

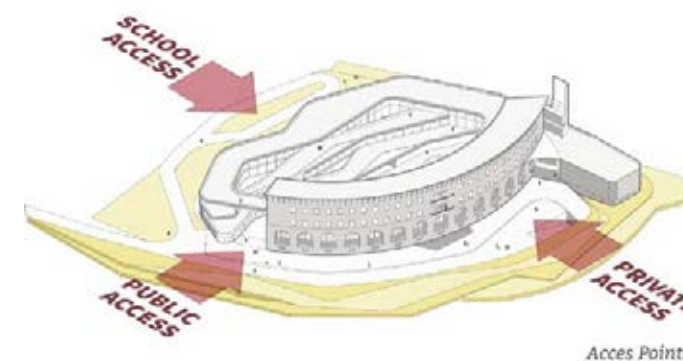
According to the idea of a peaceful communication with nature we localized the parking area in the basements, underneath part of the School building, to not ruin the Park's environment.

A new road comes from the one existing to reach the main entrance to the School on the south west side of the hill using the natural inclination of the territory to approach the highest level of the existing hill, always being respectful to the Park and it's trees.

The proposal is composed by two separate buildings, each one of them with a different program; the two buildings are from two different historical periods, which makes the intervention a little more challenging . They are joined formally through the lines of the architectural language subtracted from the form of the

territory that also integrates it with the surrounding environment and offer the possibility to appreciate the historical building designed by Cesare Valle. This language wants to reach this target also by a reinterpretation and by a formal reprocessing of the original design choice.

The existing building today lost the essential linguistic aspects from the first design concept and this is the reason why it's very difficult to completely understand it now.



Access Points

Our proposal tries to give back the original height composition, value that is shown in the never ending Valle's design and it tries to link the old building enclosing it with the new one.

The new function assigned to the building is the new Headquarter of the Supreme Court. This function permits to reinterpreted the composition aspect offering the possibility to give more value to the building and at the same time giving back the height original design power. The School of Magistrates will be, in the other hand, a contemporary way to give more importance to the ancient building and it gives the possibility to integrate two different languages coming from two different historical periods. This is to demonstrate in which way now the

Albania looks the future endorsing its history. The two complex overlook on a big square-garden who represents the “forum”, it’s going to represent the public space where it could be possible to meet people, lawyers and students to share opinions, to discuss and to participate to the juridical life of the Country.

All the routes are been thinking to divide and to optimize the paths and to permit the access also for disabled people everywhere.

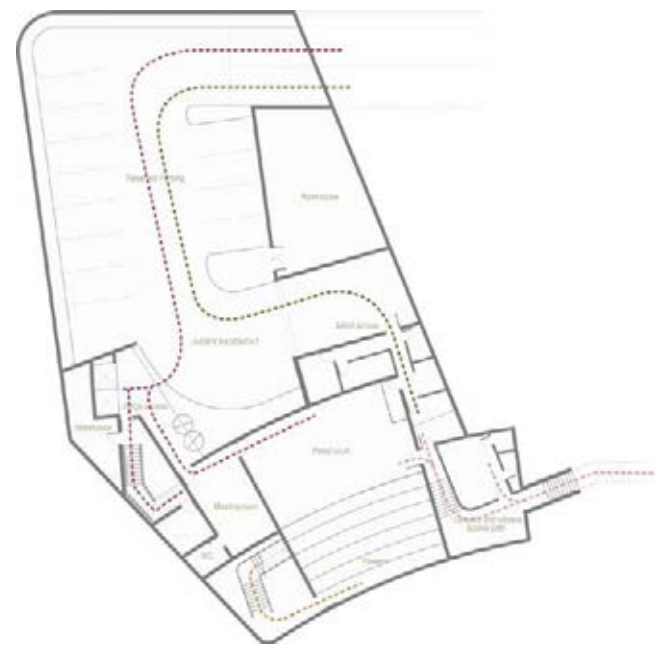
The New Headquarter of the Supreme Court

The ancient building designed by Cesare Valle will be the new Headquarter of the Supreme Court. This new function entails the necessity of more space. The frame added try to connect the existing volume with the new one using a coherent language of integrated architecture with environment.

The new headquarter represents the juridical rise of the Country. The Justice as a “lighthouse” and as a “forum”. It works as a reference point for people and as an inclusive square for share ideas and points of view.

A Juridical system that, from the new location on the high hill, it’s the new reference point and it’s at the service of people and it’s at the level of people to demonstrate the high democracy point achieved.

We want to propose again a one inclination roof, as it was in the original design, to give back the true formal value to the building. The main façade it’s architecturally the best one and it’s very close to the first design. For security requirement we have to put glass wall inside the façade arches. On the other hand, we intervene in the south façade to optimize internal paths and trying to give back a status that it lost during the completing.



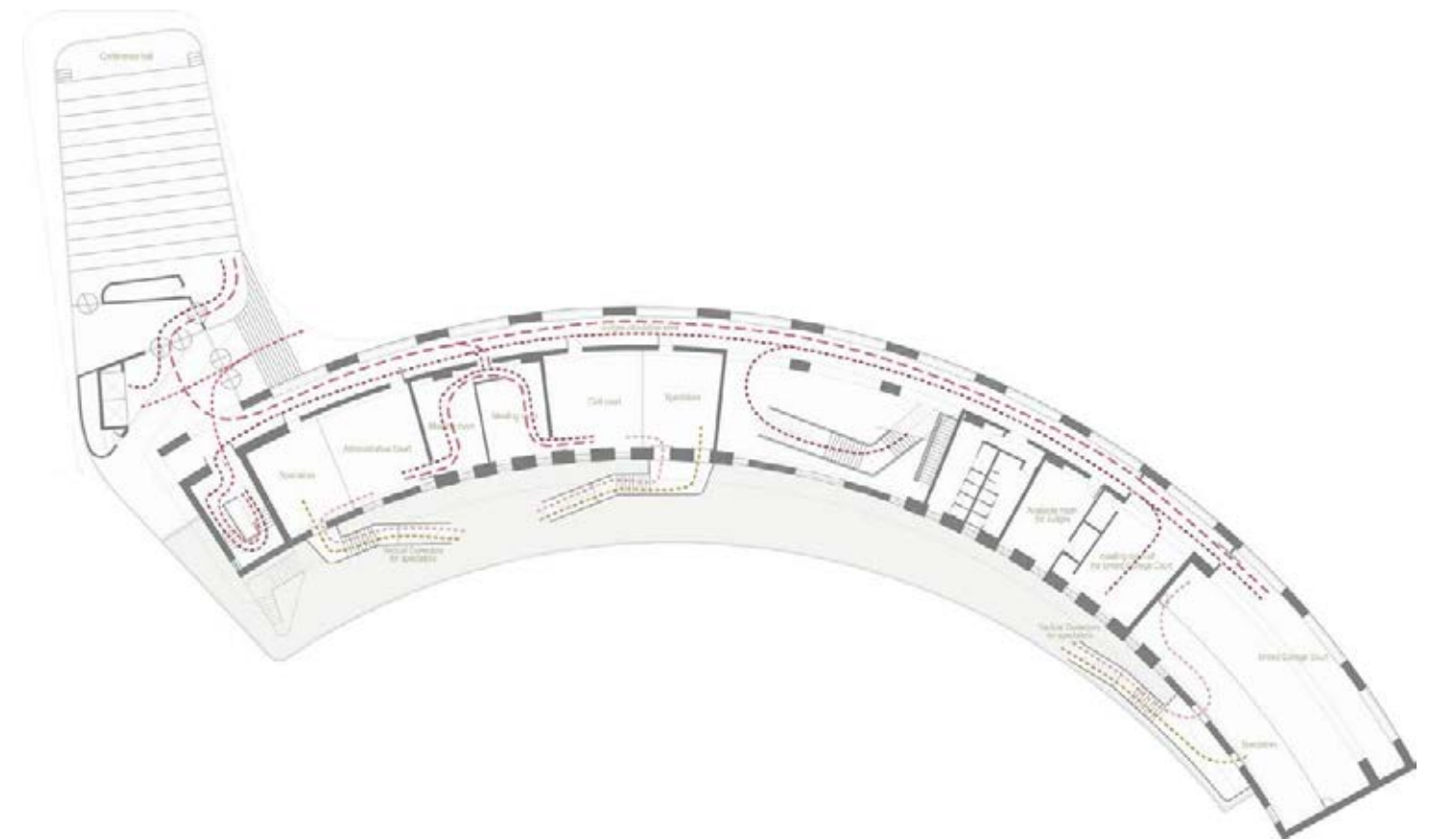
According with the requests we have added a new frame to the West that is on three levels. On the ground floor there is the Conference Hall, a room that can accommodate about 200 spectators, in the basement there will be room to accommodate the Judges and Prosecutors from overseas while in underground level there will be parking for judges and controlled entry of prisoners they will be transported to the courtroom passing through a safe and exclusive.

The detainees transported with cars or vans arrive in a special box that will be closed with special shutters security. In this way, the prisoner will be brought through a controlled path in a holding cell, and from this can then be brought to the court for the judicial hearing. Formally this frame is integrated into the overall architectural language intervention. It takes shape on the performance morphology of the hill on which rests, going to enter into the ground. Its height is at the level of the coating to the

existing building and ashlar approaches this through glass surfaces. An illuminated tower is placed between the two frames, the new one and the existing one. Besides reminding the tower planned in the original project, in which he had only meant to landmark of the complex, used to connect by lifts the parking with the reserved judges area and also has an important symbolic value. This element is in fact the "guiding light of justice" and will be the exclusive access to the Judges. The location of this new frame and the inclusion of the tower are a reinterpretation of the original design and have been included to try to bring the focus of composition where they had been conceived at first, allowing a better understanding. The public has an exclusive entrance in the

garden between the court and the school. This area represents the "Forum", that is, a square, a public space in which to meet, discuss and exchange opinions as was done in the "Forum Romanum". So the public entrance will affect the existing facade that currently does not correspond to the original project and was further scarred by the insertion of a connecting corridor with the current building of the school judiciary. We are going to demolish this connection with the building and this will result in an intervention on the existing facade. Starting from this opportunity we want to make sure to give the right balance in this facade that is obviously not finished because of the stone cladding missing.

The stone on the façade the main, from the ground up to the level of the top surface of the floor of the first floor, runs along the short sides but stops abruptly and not covers the south elevation. This lack of meaning to lose coating that should be the basis of a massive and powerful structure. All the more reason for the new function that has been designed today the building, this stone base must be completed to instill the idea that the Supreme Court is based on a solid and safe. So we're going to complete the facade with a covering of stone cut, however, in a more stylized to highlight the relevance of the intervention and not to create a fake. A glazed Hall, host to the input of the public, approaches the front until it reaches the height of ashlar, by a transparent structure to the existing supported. This Hall is home to the ground floor: the front desk, waiting rooms for the public, the studies available to the lawyers and toilet. This adherence structure is opposite to the south building facade and must be shielded from sunshine by the vertical sun shields and horizontal internal furniture.



The public can reach the Civil Courts rooms, Administrative and Units in the ground floor by the stairs outside the existing south facade, inside the new Hall frame. The Ground Floor entrances for judges cross the entrance to the north west, and to the public across the central patio on the south side of the building. Courts Administrative, Civil and United are in the Ground Floor and the Criminal Court is in the Basement. For

security, access to the Court is closely controlled through rooms and access paths quite defined. The public enter the Criminal Court from the ground floor on the south side and can reach a stage in echelon raised to the court's echelon to give the possibility to look down the process without interferences. Lawyers and texts have access from the southern, allows them to go down to Court and the texts have protected rooms directly connected with the court for more safety, where they can wait for the moment when they're going to testify.

The jailed enters from the reserved car park through a path that leads him directly to one of the three waiting cells, and to be transferred after to the glass box inside the courtroom of the Court. A room next these cells will be assigned to a cop and there will also be a room available to allow prisoners to speak privately with their lawyers. The room for the interview is linked directly to the classroom to allow access to lawyers and will have access from the inmates for security reasons.

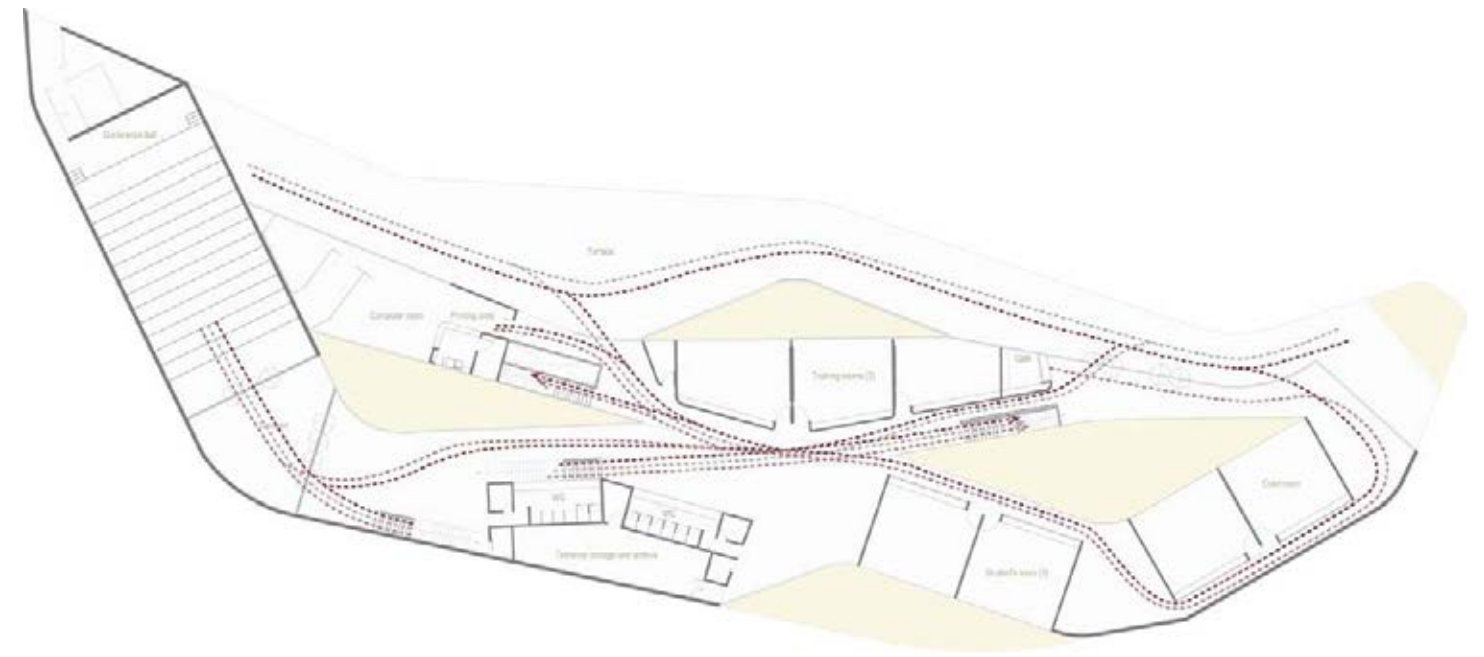
The judges enter the courtroom through a personal elevator from the north parking or through the connect stairs of their offices. At the Basement level there are the judges cafeteria and rooms available for personnel (drivers, maintenances, cleanings, etc ...) with changing rooms where necessary. On the First Floor are all the judge's offices directly connected with the assistant's rooms. On the Second Floor there are the Library for Judges, the office of the Head of the Supreme Court, the Office of the Chancellor and one of his subordinates, the Unit of Research and Public Relations, the Unit of Research, Publications and Library, the office of Prosecutor, Informatics, Security and Finance.

The School of Magistrates

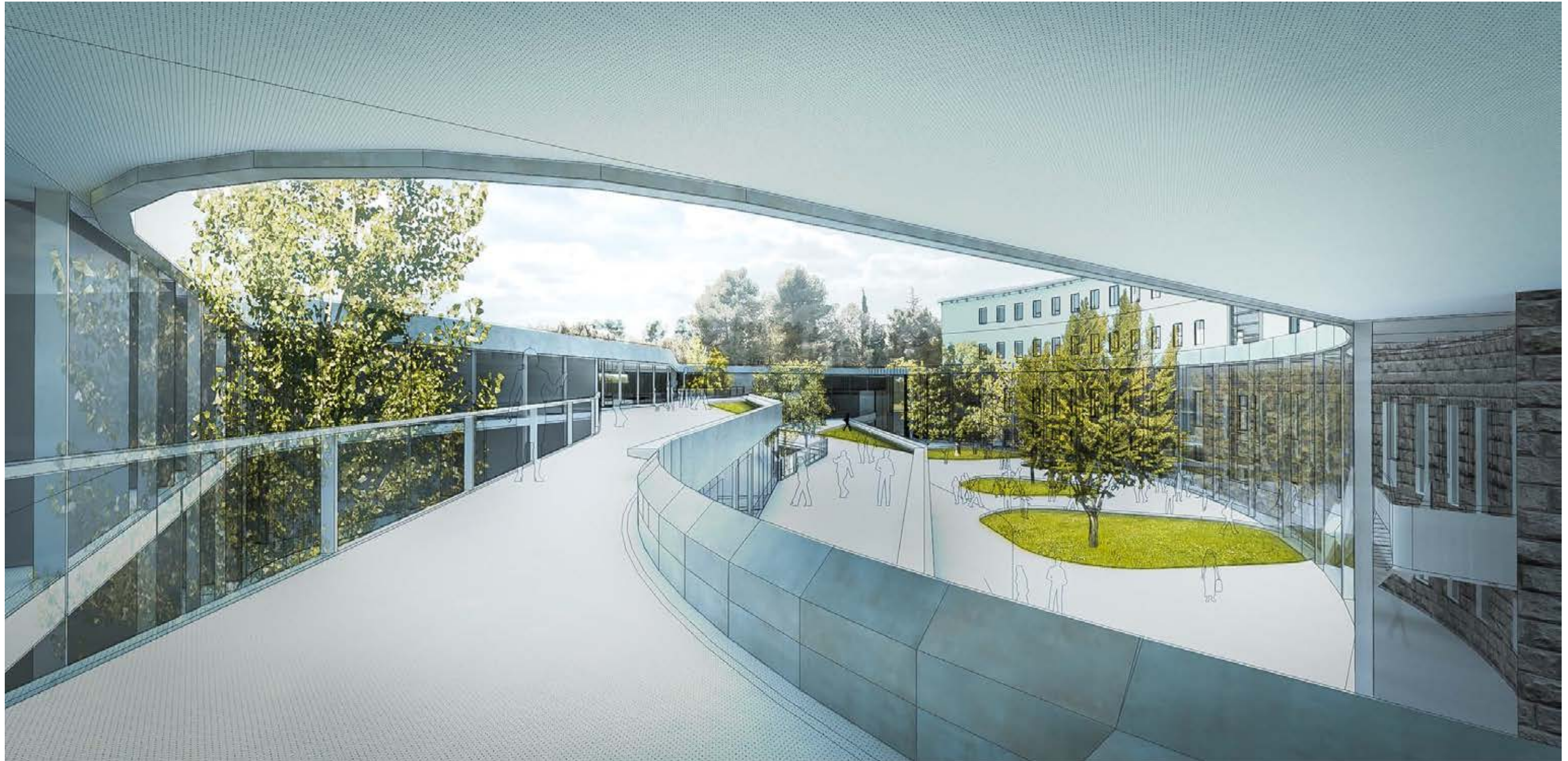
Although the School of Magistrates is linked to the Supreme Court, because that is the place that students will reach at the end of their studies, the two buildings will be two separate and independent entities. They will be bound only by an architectural language that tries to find a connection between the new frame with the park and with the existing historic building. It was decided to demolish the building dating to the eighties, which today already hosts the School of Magistrates, and the corridor linking at the currently building Valle de Cesare, to go to enter a building more in keeping with the large and beautiful park within in which it is located. The building of the new school has been designed pursuing minimum environmental impact.

This building is developed on three levels which rest the hills through a building with steps who were the base is on the same central square level in accordance with the Supreme Court building. The composition form of these frames was born from the topography of the park. There are two entrances. The main entrance to the school is through an imposing double height foyer at the second floor. It can be accessed through a driveway or a pedestrian way. At this floor there is all the administrative School area, to make easily to enjoy the use of all the administrative services without crossing the building. At the same layer there is also the Meeting Room, the entrance to the Conference Hall, the Catering and the Canteen. Two internal courtyards allow offices have natural light and ventilation. The floor below, the first floor, includes all student's classrooms, the training rooms, the Court room, the computer room, the printing house, the technical storage and the archive. Another courtyard is in addition to the two floors that go upstairs. At the lower level there's the ground floor. This is the level of the public square, the square representing the "Forum", an area to interacting and exchange ideas. This square symbolically represents the hug between the two buildings. A hug of the School toward the Court. A hug that touches the existing building but leaving a glass space between them to respect the past bringing him toward the future. The square is the physical point of dialog between the two. Two different languages each one representing their own age and that find interaction through a central space for sharing and comparing. According to this concept, there are spaces and services for public utility as the library, the cafeteria and the Mock Trial Hall. The Conference Hall instead development through all three levels. The main access is through

the higher frame, while the lower level there will be an emergency exit. It is a hall that will accommodate 200 spectators in an area of 250 sq.m.



This School tries to come from the hill, respecting the environment, and it hugs the existing building to conclude the first green idea of integration with the nature started at 1937 from a different point of view. This union creates a green square for people. It'll be the location to start a new walk of innovation for the Country. Taking care of environment and of history.







MATERIALS AND METHODS OF CONSTRUCTION

Structural hypothesis

SCHOOL OF MAGISTRATES

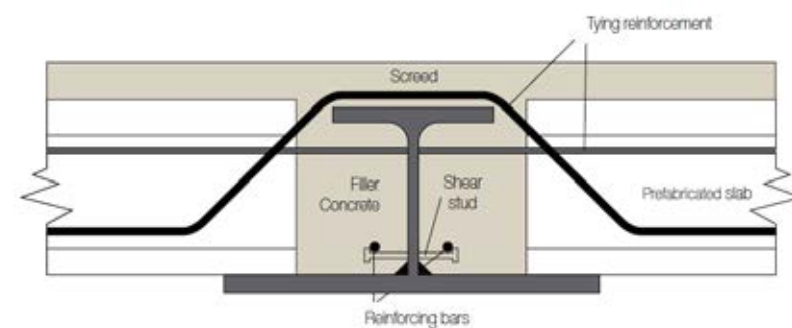
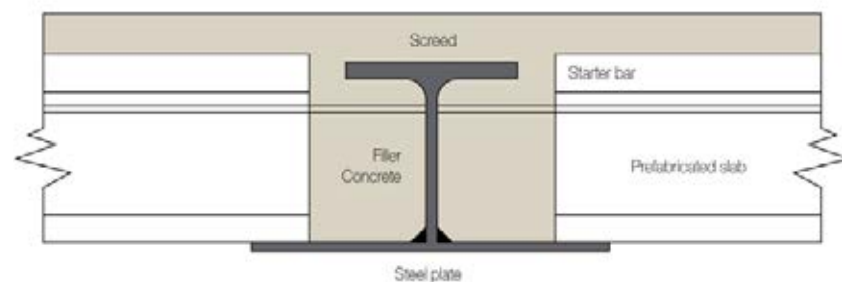
Excavations: In order to reduce the volumes involved, the excavations follow a terraced slope, according to the new building multi-level architectural cross-sections. The area at a lower level (approximately 131 m) is delimited on the upper side by a reinforced concrete wall of about 4.0 m height. The upper area (from levels 134 m to 137.50 m) excavation face will be supported through reinforced concrete sheet piles providing also the protection for the adjacent existing road.

Foundations: in order to minimize earthmoving operations, the foundations layout will be based on the excavations profile. In the final design stage, according to the outcome of geological and geotechnical surveys, the proper solutions to avoid differential settlements will be devised by adopting, if necessary, deep foundations systems.

Structural concept: a steel structure is proposed for the new building. This choice aims to limit both construction activities duration and construction-site vehicles traffic such as concrete mixer, pumps etc. given the surrounding landscape quality. Moreover, as known, steel structure solutions allow to realize large spans also in seismically-active regions thereby providing greater flexibility to the building distribution of spaces and functions.

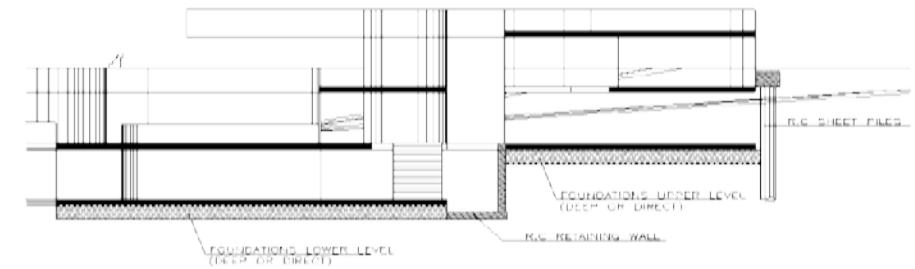
The primary requirement of the horizontal structural elements is to limit the floor height in order to limit in turn the overall height of the building laying along the existing natural slope. Towards this goal the so called

"SLIM FLOOR" type of beams can be employed. They are characterized by a reduced height that can be fully integrated within the floor thickness, the latter can be realized by means of either precast concrete alveolar slabs or steel sheets.



This solution allows to span floor areas of about 10x7 sqm, with a steel quantity for beams and pillars of about 40 kg/sqm and a total height of the structural slab of 40 cm.; moreover a

flat lower surface of the floor is obtained. This solution also provides an effective fire resistance since the beams with only the bottom plate exposed, even with no protection, ensures REI 60 fire resistance class.



SUPREME COURT

Part of the work will be devoted to the seismic vulnerability assessment of the Supreme Court building. A reliability analysis of the building under both static and dynamic loads will be carried out. Given the building relevance and the investment that the building renovation project entails, this aspect becomes crucial for ensuring the sustainability of the intervention itself in relation to the high seismicity region. The refurbishment works encompassing finishing works such as flooring, wall coverings, renovation and/or reconstruction of ceilings, as well as mechanical, electrical and plumbing systems, offers the opportunity to increase the reliability of the buildings, with a moderate cost increase if compared to the total project cost.

The methodology used to perform this analysis can be divided into the following phases:

- metric and structural details survey of the existing structural elements;
 - structural testing aimed at identifying the mechanical properties of materials;
 - development of reliable computational models enabling to simulate the behavior of the building under static and dynamic loads due to earthquake excitation;
 - construction safety factors estimation
 - critical evaluation of the obtained results for a wise planning of the strengthening interventions.
- The structural analysis and design will be performed in compliance with the Eurocodes standards and according to the most recent studies on the seismic activity and zoning of Albania.

ENGINEERING WORKS

Design criteria

The current need for energy and environmental sustainability, were developed in this project in building solutions, through different types of interventions on and on different types of systems.

The project involves the use of all solutions, technologies and procedures that make in the early stages of design, implementation and use reduced consumption of energy and a rational use of resources through the adoption of renewable energy power the equipment provided, thereby allowing the obtaining of a good energetic class, with consequent optimization of fuel consumption.

For intervention they were considered systems and solutions which can respond to multiple requirements simultaneously..

By way of example, but not exhaustive, they are provided:

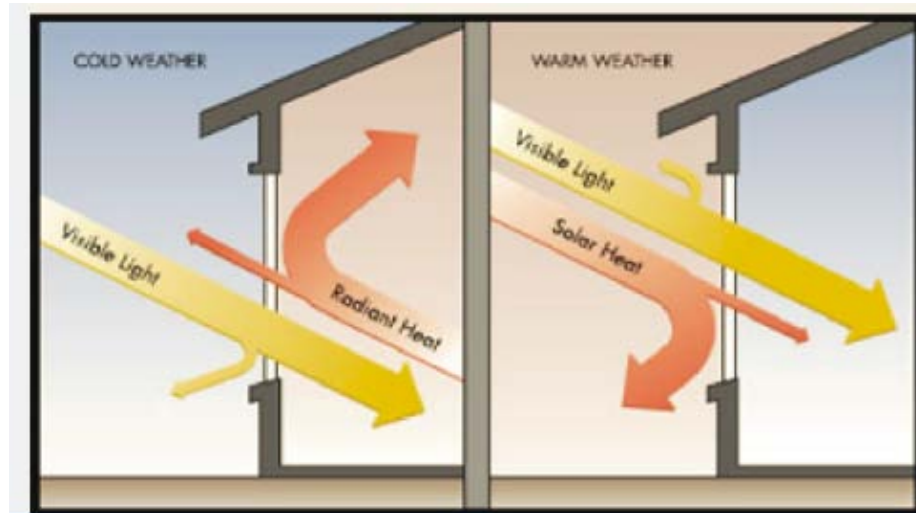
- construction of the building with mass characteristics and insulation such as to optimize performance under winter and summer;
- Use of energy efficient LED lamps;

- Using high-efficiency heating system with integrated heat pump, geothermal energy, solar thermal energy for air-conditioning (winter and summer) through floors radiant floors;
- remote control systems for the management of field devices;
- use of solar photovoltaic systems, for the production of electricity from renewable sources, at km 0 with a good percentage of contribution to the electricity needs;
- accumulation with rainwater collection and reuse of the same for compatible uses, through the creation of special supplementary systems for collecting, filtering and delivery.

Solutions for thermal insulation

The project design provides different solutions concerning the building envelope, depending on how you intervene redevelopment of existing facilities or new construction.

The design choices concerning the building envelope have been guided by the objective to allow the achievement of high energy performance, increasing indoor comfort and minimizing energy consumption for heating / cooling and CO2 emissions.



For this purpose have been provided high-performance materials and characterized by LCA (Life Cycle Assessment) and environmentally sustainable energy.

Window fixtures

We will be using frames made of aluminum with thermal cutting multi-chamber with color appropriate to the context, with double glazing 4-15-4 with low-emissivity coating. The factor of shading will be guaranteed by the existing body comparable to the existing solutions (interior curtains). The sun protection of the glass will be by brise soleil (Supreme Court) and curtains (School of Magister) both solutions will be properly powered.

Vertical structures and coverage

The coverage of the existing block will be of light type, built in laminated wood with insulating polystyrene adequately protected by a vapor barrier. In the outer layers of the package of coverage will be provided, also exploiting the new conformation of the flap, an air chamber for the ventilation of the roof.

For widening on the sud side of the Supreme Court, it will be used in part an opaque cover in sandwich panels with polyurethane foam and glass part.

The new structure dedicated to the School of Magister will be realized with materials of more modern conception with vertical infill formed of blocks of autoclaved aerated concrete, able to provide a good thermal transmittance value and at the same time to guarantee a good attenuation of the phase shift of 'heat wave incident. The protection of the blocks toward the ground will occur with the addition of extruded polystyrene foam.

The coverage will be realized starting from the supporting structure with the technique of cool roof, allowing to realize a roof garden but can provide excellent thermal performance especially in summer conditions. The layer of thermal insulation provided will be made of extruded polystyrene foam.

Strategy plant design

The design and the type of the various system was carried out in order to realize a system that has characteristics of efficiency, reliability, safety and security for people and things, of care and respect for all regulations in view of the particularity of the situation. The technological systems, wired or fluid, a total divided into six categories:

- Mechanical system
- Electrical system
- Plumbing and sanitay system
- Fire fighting system
- Special systems
- Building Management System (BMS)

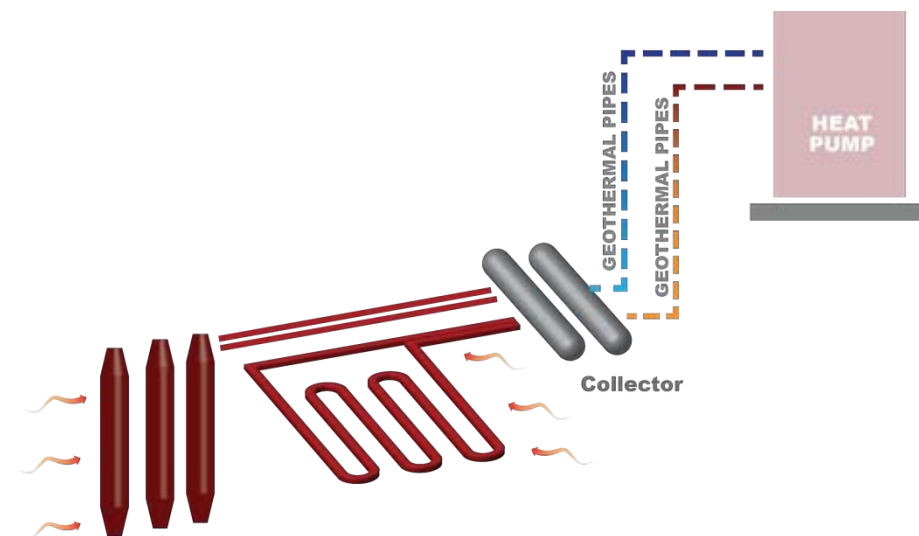
The design choices were conducted to ensure:

- *Reliability* of all mechanical parts, in all operating conditions, but especially in those situations of severe instability and / or possible interruption of service, with the use of high technology systems and with a special engineering of the power supply system and that of monitoring;
- *Optimal compromise between quality of service and economy*, to this end, the electrical system is designed to guarantee a great capacity for optimization depending on the needs of management, a high efficiency of the lighting degree (widespread use of systems to LED).

The strengths of the project in general are:

- *Diversification of energy sources*: in order to ensure, both in terms of electricity demand that thermal / fridge, a large proportion of the contribution of renewable energy sources and alternative;
- *Partitioning of the energy of the areas*: the two structures are independent from the energy point of view to ensure continuity of supply in the event of malfunction or failure.
- *Reduce energy costs and renewable energy*: it has resorted to the use of renewable energies in different systems, so as to maximize the use of geothermal energy, solar thermal and photovoltaic, reaching very high energy efficiency standards and to while minimizing the consumption of non-renewable resources.

- *Optimization of maintenance*: the presence of a central principal technological, compartmentalized with plants divided by area of relevance, ensures rapid response and low interference with the activities of the building complex;
- *Light system* characterized by the use of lighting of high technical value and functional, able to provide high-performance illumination and comfort.



Mechanical System

The principles that inspired the choice of the energy mix for the generation of hot and cold fluids lies in the fact that, statistically, only half of the peak power is used fairly consistently throughout the year to justify investments in highly innovative sources of production; the other half of the power is used only during times of peak demand, and in particular climatic conditions, all conditions that occur, in percentage, for a few days a year. As a result the project was based on the principle that a large part of the thermal power is generated from renewable or high efficiency. The remaining part leverages technologies cheaper, especially for the maintenance, but which is used only a few days a year.

As said above it is expected:

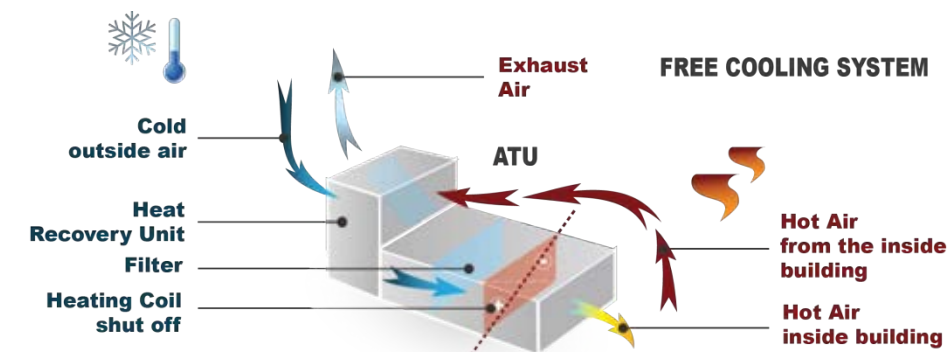
- geothermal system: through the creation of a horizontal and vertical probes placed beneath the structures to implement (the new building and parking) slaved to geothermal heat pumps;
- solar heating system: the coverage of the Supreme Court will be placed solar heating panels that will provide a significant thermal power in the winter for heating facilities. In summer will generate an output of hot water through an absorber, you will be used for summer cooling;

- heat pumps: on completion of the above systems, either used for the coverage of the variable component of the power requirement for the coverage of power peaks requested, it involves the use of heat pumps air / water.

The hot and cold fluids are conveyed to the two buildings through two circuits:

- high temperature circuit: it distributes hot water for the generation of domestic hot water

low-temperature circuit: distributes fluids (hot cold) at low temperature to the radiant panels the fan coils and ducted units.



As for the interior of the buildings, the buildings have been equipped with radiant floor can perform heating and cooling systems in classrooms and common areas. In offices and crowded areas is a system of fan coils water for humidity and the relative control.

Electrical system

The facility will be powered with 2 transformer cabin in order to make electrically separate the two buildings of the building complex.

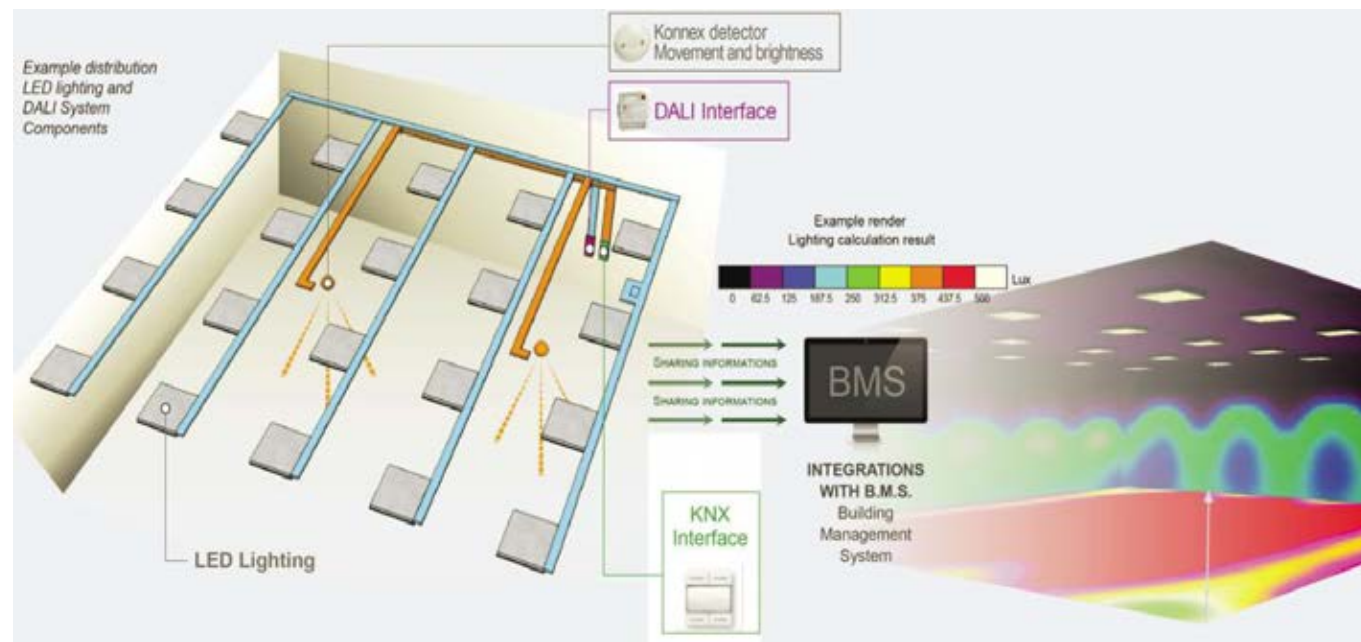
The distribution system, for both areas, involves the construction of a transformer substation with an electric panel medium voltage upstream of the general device.

Sockets

The buildings will be equipped with plug sockets for fixed installation of various types, depending of use; each socket or group of sockets is connected to a power line protected upstream by magnet-thermic differential breaker with high sensitivity 30mA I_d.

Lighting system (LED – DALI)

To optimize energy consumption and, at the same time, ensure energy savings to the structure, will be used LED lamps. The use of such equipment has many advantages, among the more you have meanings:



- duration of operation (the high emission LEDs arrive at approximately 50,000 hours) and absence of maintenance costs;
- duration not affected by the number of power on / off;
- energy saving;
- reduction of environmental pollution because in these lamps are not hazardous substances such as heavy metals, no mercury and help to decrease the production of CO₂;
- not have disposal problems because they do not contain pollutants, such as mercury and metal halides.

In order to obtain a greater reduction of consumption it is expected to provide a management system of dimmable lights with DALI technology (*Digital Addressable Lighting Interface*) in all classrooms and offices. This system will be characterized by the DALI technology and then will be managed on a standard protocol (example KNX): the system will be able to provide information to an operator / control station, signaling the failure of the lamp, ballast and controls, facilitating maintenance and operation of the lighting system and through the presence detectors and light sensor and gateways for the management of the DALI protocol can be automatically adjust the intensity of artificial light as a function of the level of natural light present on the outside with the objective of ensure maximum level of energy efficiency and comfort.

Intelligent electric panel

The electrical system will provide for the use of electrical panels "intelligent" able to collect the states, alarms interfaced equipment, multimeters measures in the area, the regulation of technological system; devices and circuits should be arranged so as to maintain the insulation distances appropriate to ensure their operation and to facilitate maintenance with the necessary degree of safety.

The main electric panels are equipped with digital multimeters significant at each switch of arrival framework for energy sections normal / preferential.

The multimeter provides Modbus RS485 serial output for interfacing to the system of centralized general supervision, while allowing access to various levels of information. The main electric panels are equipped with protections interfaced with a display that allows the complete monitoring of all sizes typical; all data protections are always accessible remotely via interface MOD-BUS, in bidirectional mode, or is allowed to be

reading that changing any parameters, and you can make the remote control if the apparatus installed allows it (motorized switches, contactors, etc).

In addition, gateways are provided for interfacing the system with Modbus Ethernet network.

Photovoltaic system

It involves the construction of a photovoltaic plant of 300 square meters built in the cover of enlargement on the sud side of the Supreme Court.

Plumbing and sanitary system

The water system will be connected to the existing water system. By means of autoclaves both centralized inside of the substations present in the manufactured, an appropriate pressure is maintained in order to ensure correct performance at all utilities.

The hot water is produced locally due to solar heating system and heat pumps.

In order to decrease the costs of irrigation of green areas, it has been provided for the accumulation tanks of rainwater.

Fire fighting system

In order to ensure the conditions of fire safety, the complex will be equipped with a hydrant system outside and inside.

The exterior of the buildings is covered by a network of hydrants subsoil and the interior of all manufactured is served by the network of hydrants wall-mounted.

The system will be equipped with a group of pressurization and a reserve of water such as to ensure the simultaneous operation of hydrants for at least 60 minutes.

Special systems

Public address system and internal communication

For transit areas there is a sound system that allows calls from any room service. Ads can be made as individual calls, group or collective circuits desired speaker and also have functions EVAC.

In the rooms of service stations are installed with microphone, function keys and selector circuits. From these stations you can make separate announcements for each circuit, group or collective announcements.

Phone and data system

It involves the construction of a structured cabling infrastructure for the distribution of telephone users and data composed of cabinet in the building place in dedicated local and suitably conditioned on the ground floor of the building, which will stabilize the lines of the operator input and the which derive the fiber optic cables and telephone cables for connecting cabinets multipair data plan. The facility will be equipped with extensive telecommunications infrastructure to enable the delivery of connectivity services required.

Smoke detection system

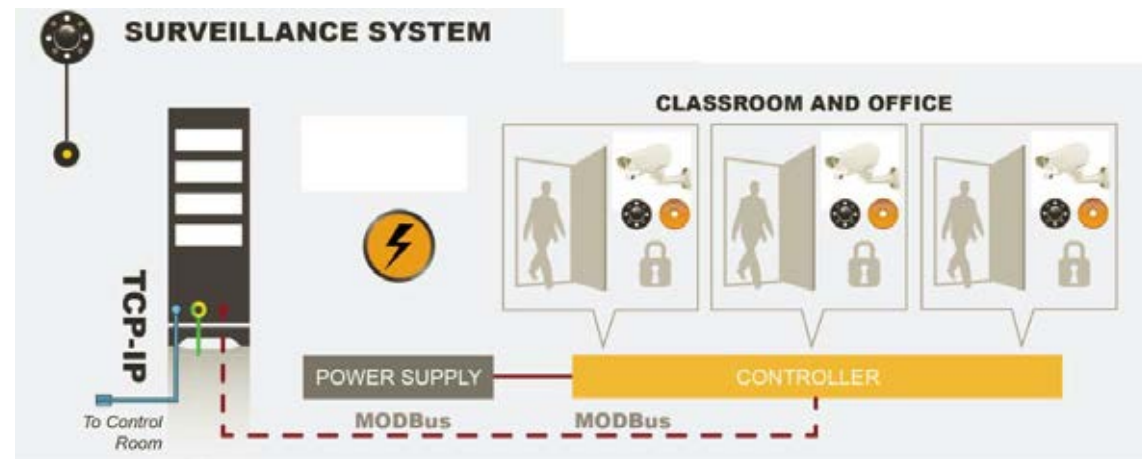
The smoke detection systems must be able to detect through several steps the specific gases that are given off by a fire. Early detection in computer rooms, cold stores etc. systems are used automatic evacuation of the smoke. In case of alarm the central fire detection systems active evacuation of smoke and heat and controls the elevators and ventilation systems. The central fire detection systems also gives the same warning to the people present in the institute, the fire department and the external operations centers.

All components are of the type addressable, connected to the central control site is of the electronic type microprocessor multi-zone, complete with buffer battery.

The fire detector system is of type addressable so as to enable the unequivocal identification of all elements in the field, placed on connecting lines closed at the control panel, with connection to the central control site.

Which element of strong innovation, the type of system selected, allows you to make automatic testing of periodic maintenance. In this way are drastically reduced maintenance time and out of service, preventing direct access to the sensors, avoiding, at the same time, that the sensors spoilage due to the test gas.

Safety system



The safety management system in the control room is used to monitor, control and view all the messages and alarms, as well as communicate with the technological systems connected to it.

The connection to the complex technological systems is realized through secure protocols (avoided the simple links to contact).

Closed circuit television system

The CCTV system has the dual purpose of allowing the operator to make a visual check of the most important areas to remote and the video signal for a remote control (central control). The signal can thus be used both for a direct vision that for a possible remote management.

Safety and monitoring of the building will be provided by systems Perimeter protection, alarm and security, from access control systems, fire detection systems, a video surveillance system with digital imaging (cameras and Fixed Dome) and a speaker system and sound system.

As video sources are supported both analog and IP cameras, also mixed together in a video system. Analog cameras are coded video server.

All video streams to the display units of live images and memories of the images may be included in the network as Unicast / TCP, or as multicast traffic (for both live and stored must be possible to separate settings).

System control gates and access

The system of access control is constituted by autonomous units of door control. The controllers have their own intelligence which ensures independent operation of the system even in case of failure of the main system. All processes in progress at the time are saved and stored in special registers.

All doors closely linked to the functions of the Supreme Court will be monitored to prevent burglary and sabotage.

The magnetic contacts are protected from actions related to third parties. The opening takes place through an electric lock motorized. The card reader at the entrance is mounted at a height of 120 cm on the side not protected, in correspondence of the movable wing of the door. The output is carried out analogously via card reader in the protected area, placed in correspondence of exterior doors and gates.

The control and monitoring of the system are made via the terminal management system of security at the hall alarms.

Programming, certification and maintenance of the devices that allow access is via the central computer system security management. At the control room displays the status of opening / closing the doors.

Control system underbody of the vehicle for entry areas

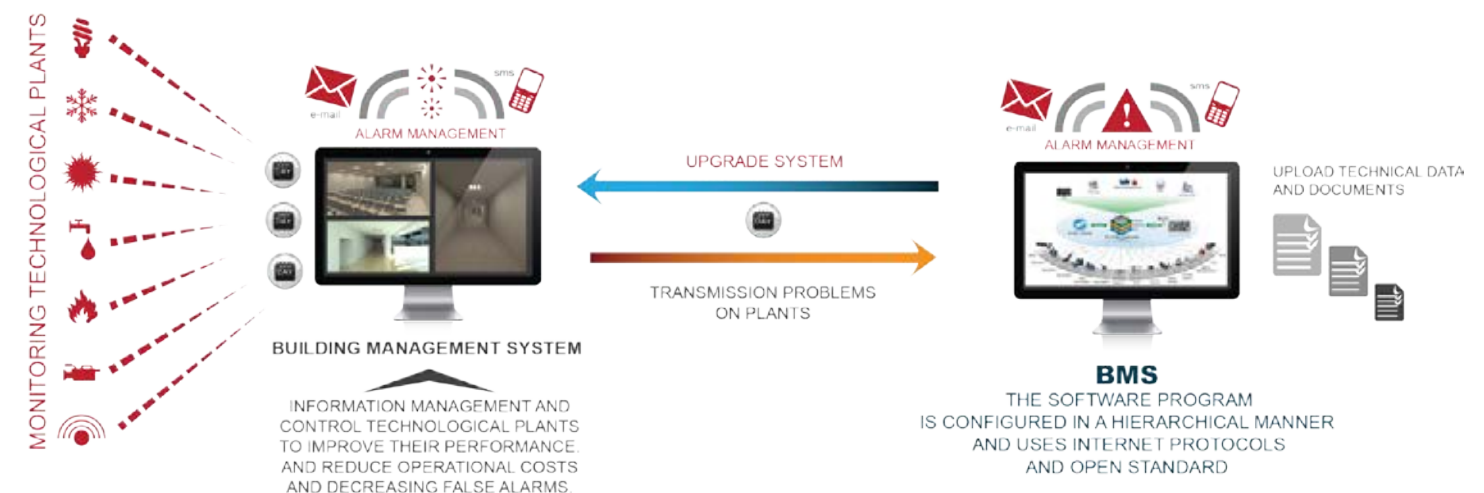
In the entrance area vehicles is provided a video surveillance system for control of the underbody of the vehicles. With the help of these cameras can scan, recording the underbody of the vehicle and displaying the room service responsible.

Building Management System (BMS)

All technological systems present in the structure will be subjected to a supervisory system able to manage and control the various systems such as the mechanical systems but also the lighting, the motorization of the brise soleil and in general the special installations with particular reference to surveillance systems.

The system will collect status and alarms interfaced equipment, multimeters measures in the area, adjustment of mechanical and will interface with the DALI system.

In particular it will be possible to remotely control all the technological systems and the control of the same in real time.



The system proposed in the present project, essentially consists of a system architecture consisting of peripheral units constituted by electromechanical actuators for the management of water flows (solenoid valves) and to contactors for isolation of electrical circuits.

With these systems it is possible to concentrate all the information on the operation of the systems located in the building, to process them in order to get more information for calibration and controls of the same, to allow a significant reduction of personnel control plants.

The primary objective is the control for remote data, the ability to intervene in security, the reduction of energy costs with the consequent increase in the amount of energy available for use (better resource management).

The system is a "distributed intelligence". This means that each system is completely independent from the remote control system and works independently of whether it is connected or not. All operating logics are resident in the microprocessors of the individual devices installed at the plants, therefore able to function even in the absence of the network.

APPROXIMATE COSTS ESTIMATION

OBJECT: "PROJECT – IDEA OF REHABILITATION OF THE BUILDING OF SUPREME COURT – REDESIGNING THE NEW HEADQUARTERS OF THE SUPREME COURT AND THE SCHOOL OF MAGISTRATES"						
n.	Description	sqm/mc	Amount	Construction cost	Value	Total
Excavations and dump transports (Court-School-Parking)						
1	Excavation open section	mc	13.630,00	5,00	€	68.150,00
2	R.C. Retaining wall	mq	315,00	172,50	€	54.337,50
3	R.C. Sheet piles	ml	90,00	944,00	€	84.960,00
Demolition and dump transports						
4	Demolition renovated buildings Supreme court (civil works)	sqm	4.400,00	15,00	€	66.000,00
5	Provisional and preparatory works (civil works)	sqm	3.000,00	10,00	€	30.000,00
6	Demolition cover Supreme Court	sqm	1.200,00	10,00	€	12.000,00
7	Demolition Corps factory (civil works) school of magistrates and service buildings	mc	8.800,00	5,00	€	44.000,00
Structural works Supreme Court						
8	Structural Foundation (civil works)	mc	950,00	85,00	€	80.750,00
9	Structural work in Elevation (civil works)	mc	950,00	140,00	€	133.000,00
10	Roof (structural and finishing works) Supreme Court	mc	1.120,00	60,00	€	67.200,00
Structural works School of Magistrates						
11	Structural Foundation (civil works)	mc	1.600,00	85,00	€	136.000,00
12	Structural work in Elevation (civil works)	mc	3.150,00	190,00	€	598.500,00
Supreme Court building renovation (background floor ceilings walls windows doors etc.) (finishing works)						
13	Basement floor plan	sqm	1.100,00	350,00	€	385.000,00
14	Ground Floor plan	sqm	1.100,00	450,00	€	495.000,00
15	First Floor Plan	sqm	1.100,00	450,00	€	495.000,00
16	Second Floor Plan	sqm	1.100,00	300,00	€	330.000,00
17	Roof plan	sqm	1.100,00	150,00	€	165.000,00
Supreme Court building extension (background floor ceilings walls windows doors etc.) (finishing works)						
18	Entrance Hall	sqm	450,00	605,00	€	272.250,00
19	Guesthouse	sqm	500,00	605,00	€	302.500,00
20	Glass facades entrance hall Court and guesthouse	sqm	1.384,00	400,00	€	553.600,00
School of Magistrates New building (background floor ceilings walls windows doors etc.) (finishing works)						
21	First level	sqm	1.100,00	550,00	€	605.000,00
22	Second level	sqm	1.400,00	550,00	€	770.000,00
23	Third level	sqm	650,00	550,00	€	357.500,00
Supreme Court Technological plants						
24	Elevators	n.	2,00	15.000,00	€	30.000,00
25	HVAC				€	1.212.000,00
26	Electrical Systems				€	990.000,00
27	Water and sanitary system				€	66.000,00
28	Fire protection system				€	70.000,00
29	Telephone, acces and computer system networks				€	330.000,00
School of Magistrates Technological plants						
30	Elevators	n.	1,00	10.000,00	€	10.000,00
31	HVAC				€	438.000,00
32	Electrical Systems				€	390.000,00
33	Water and sanitary system				€	65.000,00
34	Fire protection system				€	45.000,00
35	Telephone, acces and computer system networks				€	180.000,00
Furnishings						
36	Furnishings	lump sum			€	50.000,00
37	Signals of address	lump sum			€	10.000,00
Landscape						
38	External landscaping (green)	sqm	1.200,00	25,00	€	30.000,00
39	Landscaping (road works)	sqm	800,00	70,00	€	56.000,00
Underground Parking						
40	Park 15 car	n.	15,00	12.000,00	€	180.000,00
41	Park 35 car	n.	35,00	11.000,00	€	385.000,00
Construction cost					€	10.750.627,00
Construction cost					lek	1.490.036.902,20

LIST OF ALL MEMBERS OF THE DESIGN TEAM AND THEIR ROLES

- Arch. Tommaso Valle as Project Coordinator
- Arch. Armand Vokshi as Landscaping Expert
- Arch. Cesare Valle Jr. as Project Manager
- Arch. Lucia Mencaroni as Design Architect
- Arch. Alejandro Ochoa as Design Architect
- Arch. Natalia Alcocer. as Design Architect
- Arch. Jose Castellitti as Design Architect
- Arch. Estanislao Niklison as Modelling Collaboration
- Arch. Juliana Vélez as Grafic Collaboration
- Arch. Monica Suarez as Grafic Collaboration
- Prof. Arch. Marco Pretelli as Expert in Rehabilitation of Historical Buildings
- Arch. Giulia Favaretto as Expert in Historical Buildings
- Prof. Arch. Micaela Antonucci as Expert in Historical Buildings
- Ing. Michele Rossi as Senior Structural Engineer
- Arch. Gianluca Valle as Cost Estimator
- Ing. Gianluca Balzarini as Structural Engineer
- Ing. Adriano Bezzi as Mechanic Engineer

TIRANA The Supreme Court and the School of Magistrates “Revitalizing the past to enter the future”

CONCEPT

The Supreme Court and the School of Magistrates are two of the most important institutions in the Albanian legal system. The Supreme Court is the highest judicial authority, while the School of Magistrates is the institution responsible for the training and education of judges. The project aims to revitalize these two institutions, preserving their historical significance while integrating modern architectural and functional requirements. The design concept focuses on creating a harmonious blend of old and new, ensuring that the buildings serve their purpose effectively while reflecting the rich cultural heritage of Tirana.

DESIGN CONCEPT

The design concept is based on the idea of creating a new architectural language that respects the historical context of the site while introducing modern design elements. The concept involves the following key points:

- Integration with the Urban Fabric:** The new buildings are designed to seamlessly integrate with the existing urban fabric, maintaining the historical character of the area.
- Preservation of Historical Elements:** Existing historical structures are preserved and restored, serving as a bridge between the old and the new.
- Modern Architectural Language:** New buildings are designed with a modern architectural language, featuring clean lines and functional spaces.
- Functional Requirements:** The design ensures that the buildings meet all functional requirements, including adequate space for judicial proceedings, training, and administrative functions.
- Accessibility and Sustainability:** The project emphasizes accessibility and sustainability, ensuring that the buildings are easy to reach and environmentally friendly.

PHASE 1: CONCEPT DEVELOPMENT

The first phase of the project involves the development of the design concept. This includes site analysis, conceptual design, and the creation of a master plan. The master plan outlines the overall layout of the project, showing the relationship between the new buildings and the existing urban fabric.

PHASE 2: DETAILED DESIGN

The second phase involves the detailed design of the buildings. This includes the development of architectural drawings, such as floor plans, sections, and elevations. The design team works closely with the client to ensure that the buildings meet all requirements and reflect the desired architectural vision.

PHASE 3: CONSTRUCTION

The third phase involves the construction of the buildings. This includes the procurement of materials, the hiring of a construction team, and the execution of the construction work. The project team monitors the construction process to ensure that the buildings are built to the highest quality standards.

PHASE 4: COMPLETION AND HANDOVER

The final phase involves the completion of the project and the handover of the buildings to the client. This includes the final inspection, the signing of the handover documents, and the commencement of the building's use.



avatelier

Studio Valle

SUPREME COURT | SCHOOL OF MAGISTRATES

AKPT

1/6

Location: Tirana, Albania

Client: Ministry of Justice, Republic of Albania

Architect: Studio Valle Progettazioni S.r.l.

Design Team: Studio Valle Progettazioni S.r.l.

Project Status: Conceptual Design

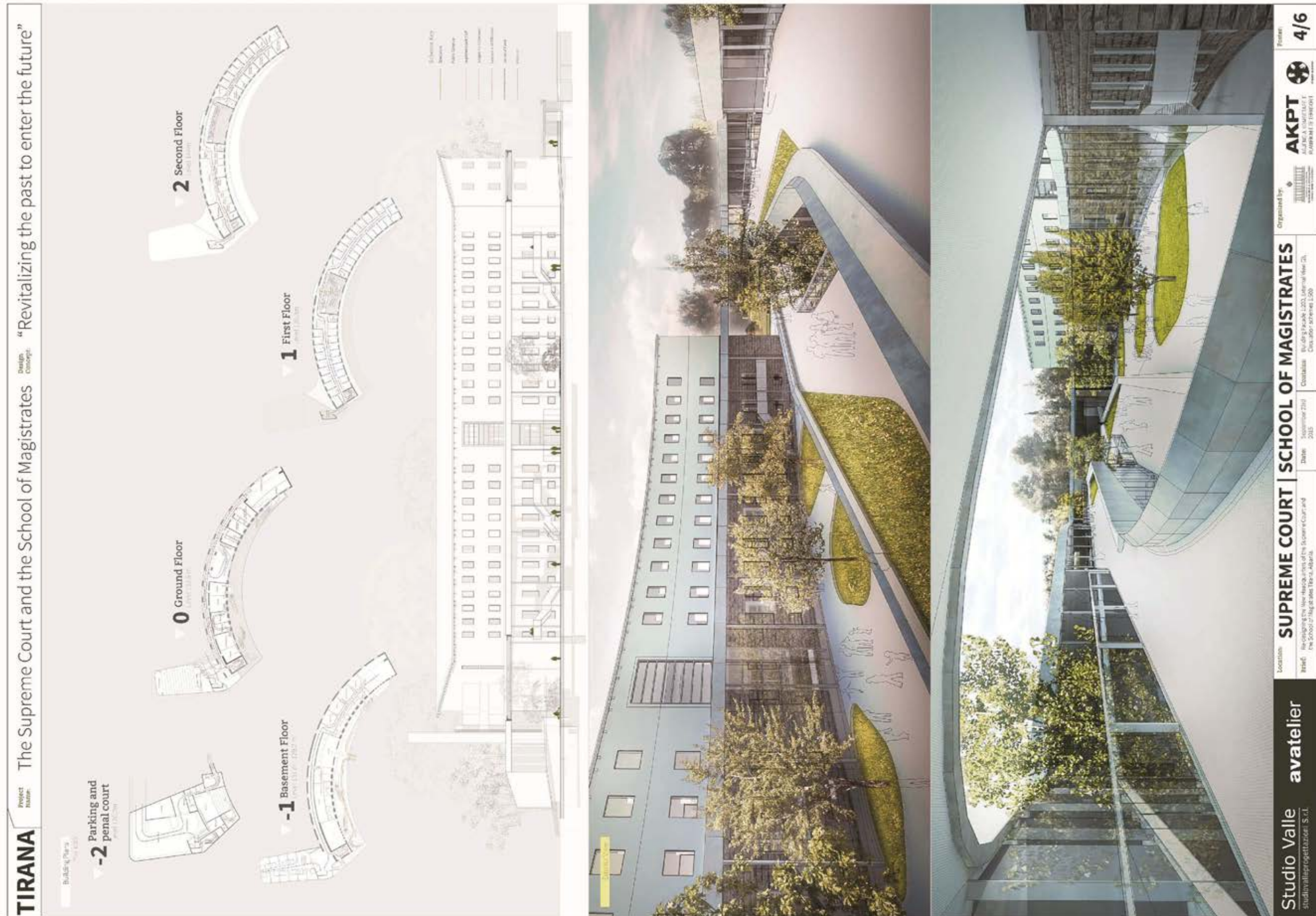
Scale: 1:500

Date: 2023

Project Description: The project aims to revitalize the Supreme Court and the School of Magistrates, preserving their historical significance while integrating modern architectural and functional requirements. The design concept focuses on creating a harmonious blend of old and new, ensuring that the buildings serve their purpose effectively while reflecting the rich cultural heritage of Tirana.

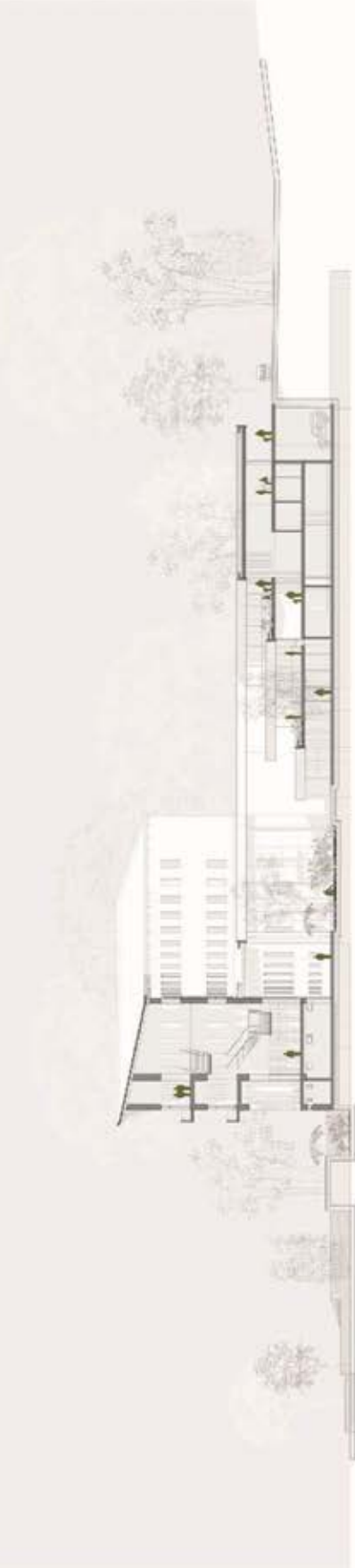


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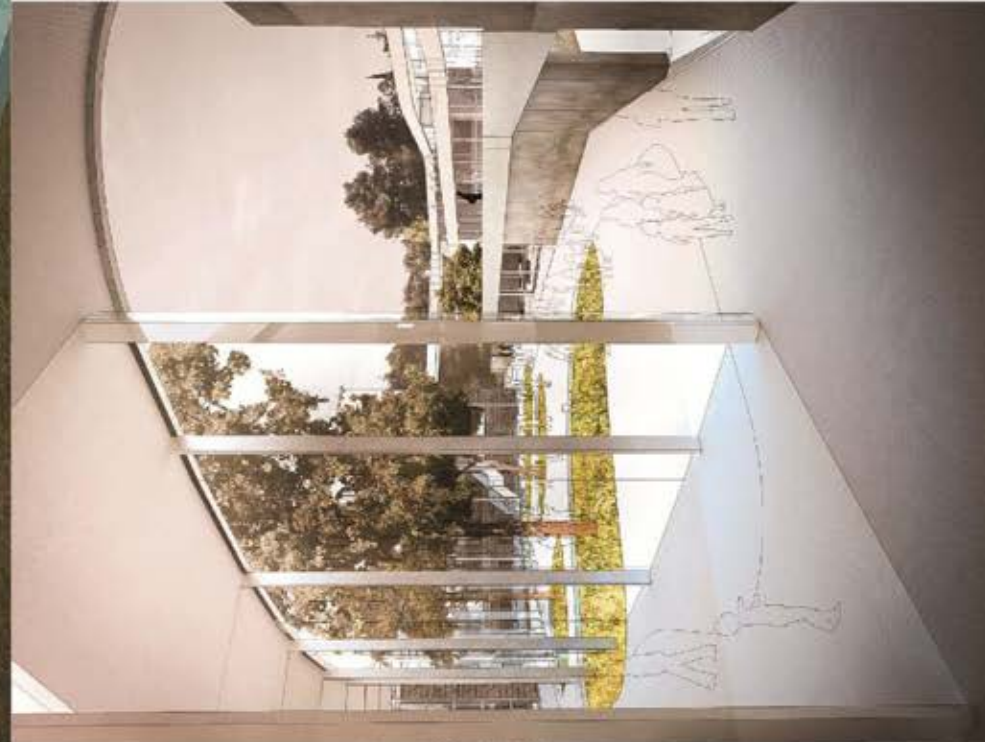


TIRANA Project Name: The Supreme Court and the School of Magistrates Design Concept: “Revitalizing the past to enter the future”

Section Section
01/2024



Section Section
01/2024



Circulation Scheme

“Public” Floor 1

Entrance
Reception
Waiting area
Conference hall
Cafeteria
Kitchen
Bathroom
Storage
WC

Student's classroom floor 2

Reception
Waiting area
Classroom
Library
Cafeteria
Kitchen
Bathroom
Storage
WC

Administrative Floor 3

Reception
Waiting area
Office
Meeting room
Cafeteria
Kitchen
Bathroom
Storage
WC

Section Day
Section Night
Section Rain
Section Snow

Studio Valle
studiovalleprogettazioni s.r.l.

avatelier

SUPREME COURT | SCHOOL OF MAGISTRATES
Location: Revitalizing the New Republic area of the Supreme Court and the School of Magistrates in Tirana, Albania
Date: September 2024
Status: Building design, 100% design, 100% construction

Organized by: **AKPT**
AKPT is the Albanian Association of Architects and Urban Planners, established in 1991.
Poster: 6/6