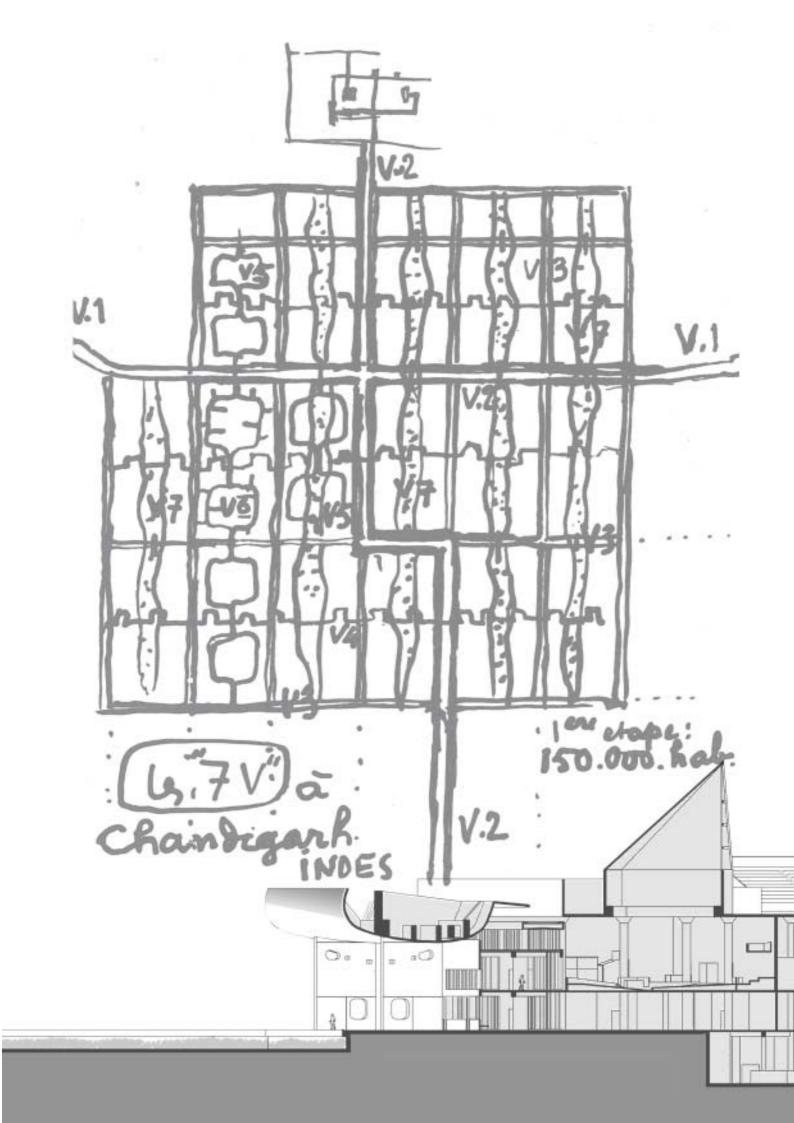
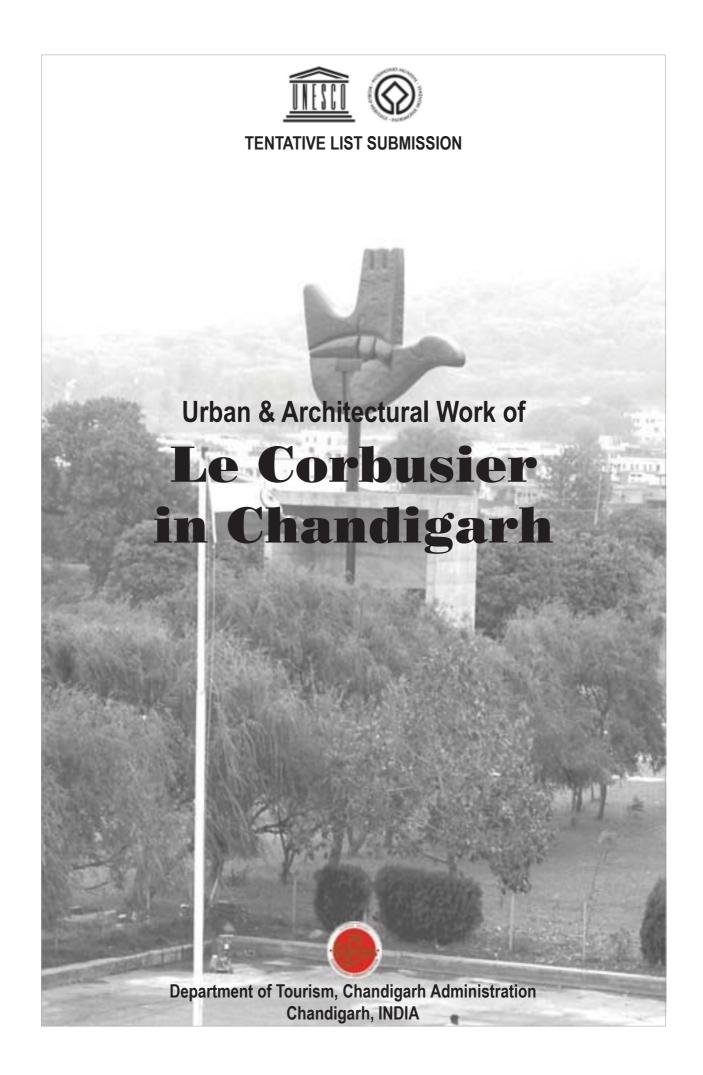


Urban & Architectural Work of Le Corbusier in Chandigarh

Department of Tourism, Chandigarh Administration Chandigarh, INDIA







TENTATIVE LIST SUBMISSION

STATE PARTY: INDIA

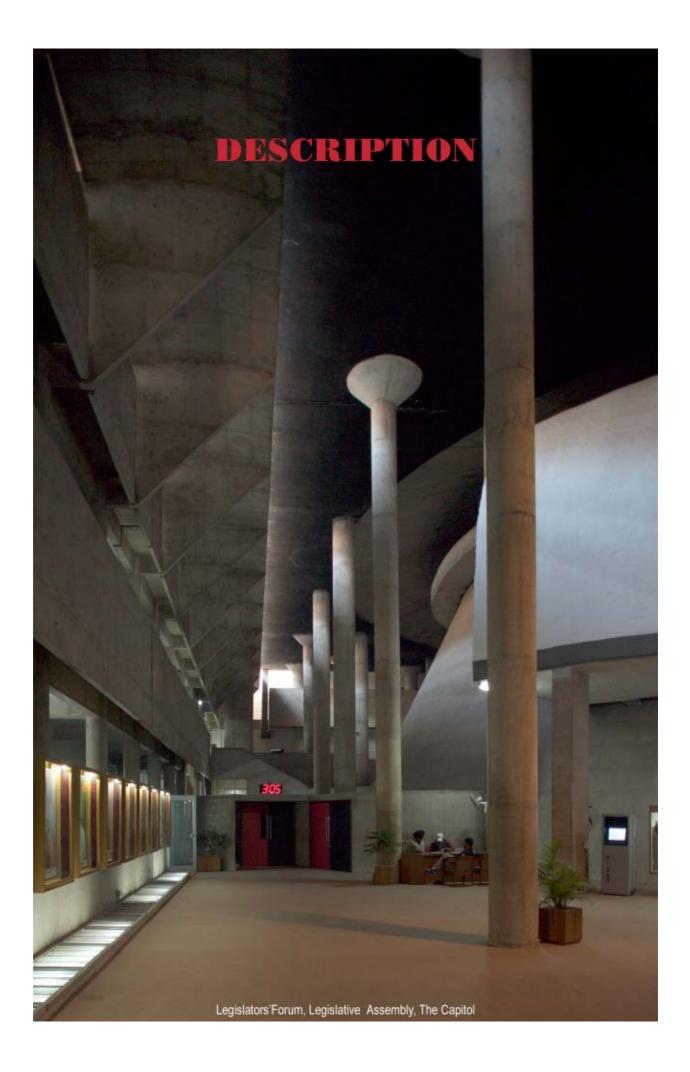
DATE OF SUBMISSION: October 2006

NAME OF PROPERTY: Urban & Architectural Work of Le Corbusier in Chandigarh

STATE, PROVINCE OR REGION: Union Territory of Chandigarh

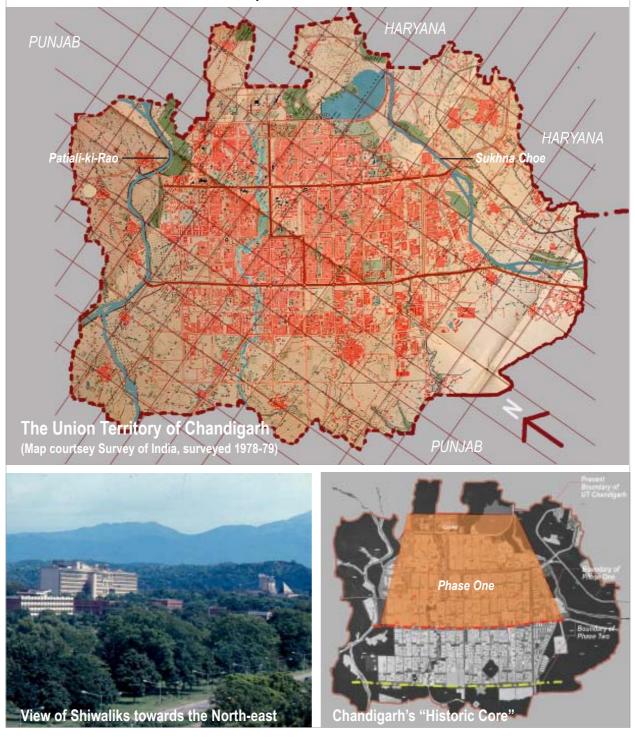
LATITUDE AND LONGITUDE: 30° 44' 25" N., 76° 48' 30"E

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Date:	Sign	nature:	



Location

The city of Chandigarh is situated at the base of the Shiwalik Range of the Himalayas, at 333m above sea level, approximately 260 km northwest of India's capital, New Delhi. The site is a gently sloping plain, with two seasonal rivulets – *Patiali-ki-Rao* and *Sukhna Choe* – marking its northwest and southeast boundaries. The city forms the urban core of the "Union Territory of Chandigarh", which has a total area of 114 sq km. All of the urban and architectural work of Le Corbusier listed in this document is located within Chandigarh's "Phase One", an area of approximately 70 sq. km. which can be regarded as the city's "Historic Core."



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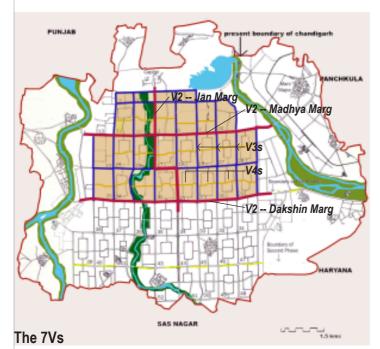
		Description
Historical B	ackground	The idea of building Chandigarh was conceived soon after India's independence in 1947, when the tragedy and chaos of Partition, and the loss of its historic capital Lahore, had crippled the state of Punjab A new city was needed to house innumerable refugees and to provide an administrative seat for the newly formed government of re-defined Punjab. Beginning in early 1951, most of Phase One had been completed by 1965.
		Unlike the 14 other contemporaneous new Indian towns, Chandigarh was regarded as a unique symbol of the progressive aspirations of the new republic and the ideology of its struggle for independence. If was accordingly modeled as a city of prestige, as an aesthetic ideal and, above all, as a social utopia. In the process, it became the first post-colonial city in India to provide a generous cultural and social infrastructure and equitable opportunities for a dignified, healthy living even to the "poorest of the poor".
		The near vacuum of indigenous expertise needed to realize this dream prompted the search for Western skill. Yet, conscious of the specificities of their situation, the search was narrowed to "a good modern architect who was not severely bound by an established style and who would be capable of developing a new conception originating from the exigencies of the project itself and suited to the Indian climate available materials and the functions of the new capital."
Pierre Jeann Chandigarh. 2. Le Corbusier	and his associate, eret, on the site in with Pandit Nehru on sit to Chandigarh in	The Chandigarh Project was, at first, assigned to the American planner Albert Mayer, with his associate Matthew Nowicki working our architectural details. Le Corbusier's association with the city was purely fortuitous, a result of Nowicki's sudden death in August 1950. Beginning in 1951, he continued to be associated with the city as the principal 'architectural and planning advisor' till his death in 1965. As it turned out, there was none else who could have matched Prime Minister Nehru's lofty optimism and his progressive, modernist vision for an impoverished, politically unstable, newly independent nation.

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Devising the Urban Form

The most significant role played by Le Corbusier in Chandigarh was in conceiving the city's present urban form. It is the well-ordered matrix of his generic 'neighborhood unit' and the hierarchical circulation pattern of his '7Vs' that has given Chandigarh its distinctive character.

The Matrix comprises a regular grid of the fast traffic V3 roads which define each neighbourhood unit, the 'Sector'. The Sector itself was conceived as a self-sufficient and — in a radical departure from other precedents and contemporarous concepts — a completely introverted unit, but was connected with the adjoining ones through its V4 – the shopping street, as well as the bands of open space that cut across in the opposite direction. Day-to-day facilities for shopping, healthcare, recreation and the like were arrayed along the V4 – all on the shady side. The vertical green belts, with the pedestrian V7, contained sites for schools and sports activities.





Conceptual Sketches

SPORT

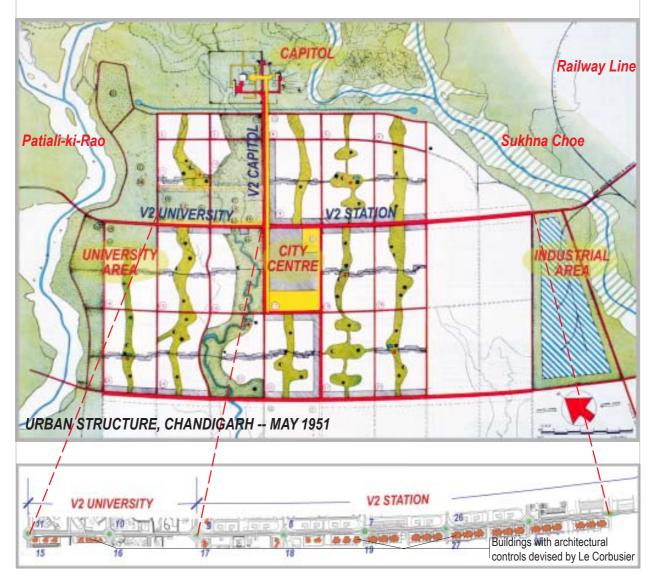


Tentative List Submission -- "Urban & Architectural Work of Le Corbusier in Chandigarh"

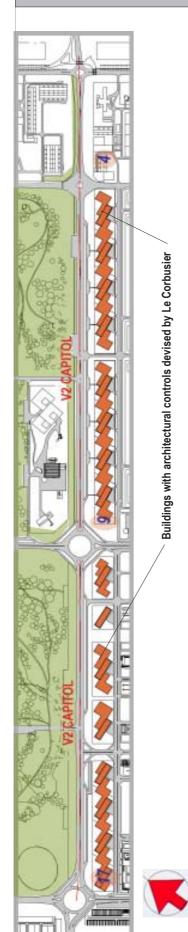
Urban Form

A city such as described above could be placed almost anywhere. But what distinguishes Corbusier's design for Chandigarh are the attributes of its response to the setting. The natural edges formed by the hills and the two rivers, the gently sloping plain with groves of mango trees, a stream bed meandering across its length and the existing roads and rail lines – all were given due consideration in the distribution of functions, establishing the hierarchy of the roads and giving the city its ultimate civic form.

Connecting the various accents of the city – such as the Capitol (the 'head'), the City Centre ('the heart'), the University and the Industrial Area (the two 'limbs'), etc. and, also scaling its seemingly undifferentiating matrix, were the city's V2s. Corb's 'V2 Capitole' or Jan Marg (People's Avenue), was designed as the ceremonial approach to the Capitol. His 'V2 Station', the Madhya Marg (Middle Avenue), cut across the city, linking the railway station and the Industrial Area to the University. The third V2, Dakshin Marg (South Avenue) demarcates the first developmental phase of the city.

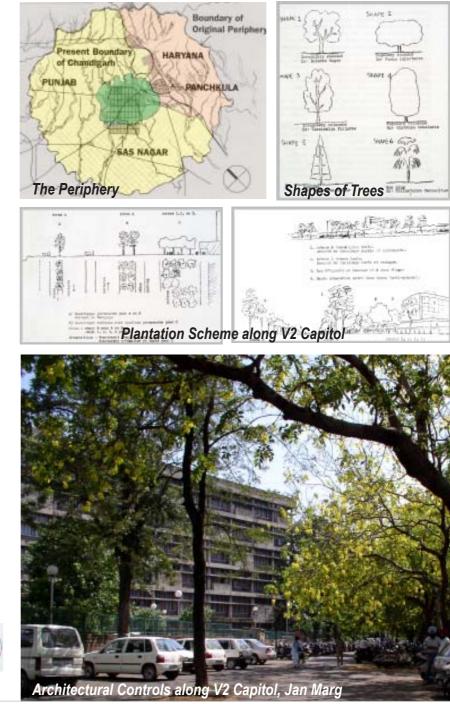


Tentative List Submission --- "Urban & Architectural Work of Le Corbusier in Chandigarh"



Urban Form

Le Corbusier's contribution to regulating the built mass of the new city includes an extensive range of architectural controls covering volumes, façades, textures — especially for the major commercial and civic hubs such as the V2s. Recognizing the crucial role of trees as elements of urban design, he also devised a comprehensive plantation scheme, specifying the shape of trees for each category of avenues, also keeping in view their potential for cutting off the harsh summer sun. A protected green belt, the 'Periphery', which was given a legal backing through a legislative act, was introduced to set limits to the built-mass of the city and as a measure against unsolicited sprawl outside the plan area.



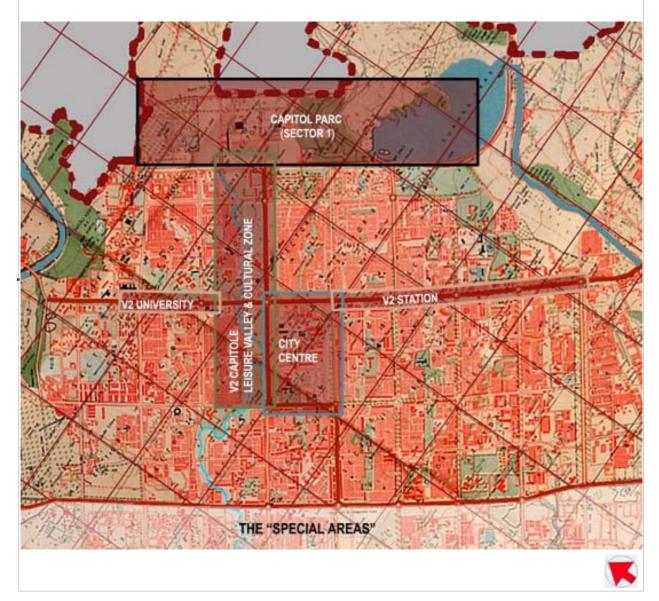
Tentative List Submission -- "Urban & Architectural Work of Le Corbusier in Chandigarh"

Architectural Contribution

on Besides determining the city's urban form, Le Corbusier, as the "Spiritual Director" of the entire Chandigarh Capitol Project, was also responsible for designing the key 'Special Areas' of the city, each of which contains several individual buildings.

The most significant of these is the 'Capitol Parc' — the 'head' and *la raison d'être* of the entire enterprise. A parallel undertaking – one of almost equal significance as the Capitol, was Le Corbusier's design of the city's 'heart', the City Centre.

In time, the design of the 'Cultural Complex' along the 'Leisure Valley', including the Government Museum and Art Gallery and the College of Art (L-C's Centre for Audio-visual Training), as well as some other smaller works (such as the Boat Club and parts of the Sukhna Lake, which essentially were seen as integral parts of the Capitol parc) were also undertaken by him.

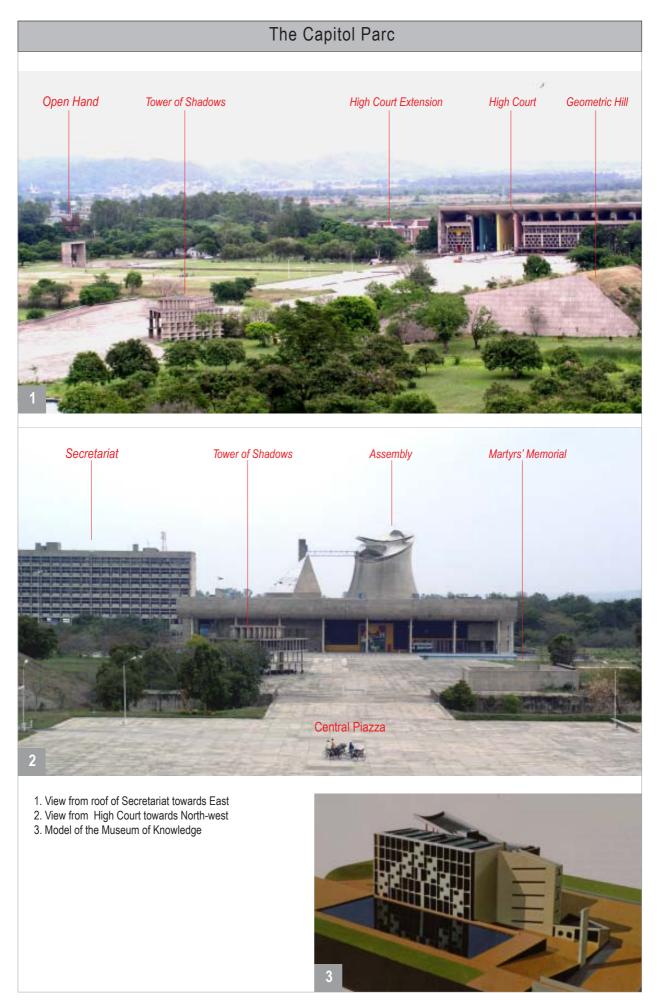


	Description
The Capitol Parc (Sector 1)	The Capitol Parc is located at the 'head' of the city against the backdrop of the Shiwalik Hills. Comprising the Capitol group of buildings, flanked by the 'Rajendra Park' and the 'Sukhna Lake' on each end, it stretches across the entire width of the city. Symbolizing celebration of democracy in a newly-independent nation-state, the Capitol group of buildings was built to a monumental scale. The group represents Le Corbusier's largest and most significant constructed architectural creation where the architect put in his heart and soul for over 13 years, painstakingly designing and monitoring the realization of its ingenious layout, its major 'edifices', its 'monuments' as well as pieces of furniture, lighting fixtures and works of art, including the famed enamel door for the Legislative Assembly, monumental tapestries and low-relief sculptures cast in concrete.
THE CAPITOL PARC	SUICHWA LAKE of the sector 6
Legislative Assembly	Open Hand Tower of Shadows High Court
THE CAPITOL GROUP OF BUIL	Image: Notest and the second secon

Tentative List Submission -- "Urban & Architectural Work of Le Corbusier in Chandigarh"

	The Capitol	Parc	
EDIFICES 1. Secretariat 2. Assembly 3. High Court 4. High Court Extension 5. Museum of Knowledge MONUMENTS a. Open Hand b. The Modulor c. 24 Solar Hours d. Martyrs' Memorial e. Tower of Shadows f. Course of the Sun	Le Corbusier's Capitol for Chandigarh comprises four 'Edifices' – th High Court, the Legislative Assembly, the Secretariat and the Museur of Knowledge – and six 'Monuments', all arranged within a profusel landscaped park-like environment. The layout is based around a invisible geometry of three interlocking squares, their corners an intersection-points marked by 'Obelisks'. The northern and wester edges of the larger 800m-side square define the boundaries of the Capitol, while the two smaller, 400m-side squares determine relative placing of the four 'Edifices' and proportions of the spaces in between Harmonious relationship between various structures is furthe established though the consistent use of exposed reinforced concrete The most significant aspect of the layout, however, is the facilitation of uninterrupted pedestrian linkages throughout the complex. A vas concrete esplanade between the High Court and the Assembly thu became the central design feature, along which were arrayed the si 'Monuments' and various pools of water. All vehicular circulation wa arranged, and dug out where necessary, at 5m below the esplanade The large quantities of earth thus obtained were used to create 'artificia		
Obelisk			Capitol group and emphasizin ificent view of the hills beyond k
Gate	Obelisk 400m	Obelis	sk 400m Obelisk
		The Esplana	ade Contraction of the second se
	Artificial Hill	2	Artificial Hill

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The Capitol Parc

The Edifices

The built 'Edifices' — the High Court, the Legislative Assembly, and the Secretariat — represent the three major functions of democracy. Considered as Le Corbusier's most mature plastic creations, each of these is a masterpiece in itself, representing the adaptation of European Modernism, use of 20th century materials, and his personal directive principles to local conditions of cost, climate and technology. The fourth 'edifice', originally the Governor's Palace, but later replaced by the futuristic 'Museum of Knowledge', is yet to be realized.

Though the form and design of each 'Edifice' is distinctive, their commonalities reinforce their collective role as a group. All designs exhibit the multifarious possibilities of deploying reinforced concret, and, the unique expression that was achieved in this modern material through application of indigenous techniques and respect for local constraints. Also – in response to the client's brief – all buildings share a concern for controlling climate without aid of mechanical devices. This is evident in the orientation of the buildings, the careful design of the *brise-soleil* as well as intricate systems devised for trans-aeration.

The first of the buildings, the **High Court** housed 9 law courts and their attendant spaces. Le Corbusier's design included furniture, light fittings, and 9 large tapestries, one for each court. Completed by 1955, the building is significant as the first demonstration and a major vehicle for acceptance of exposed reinforced concrete surfaces and modern aesthetics even for buildings of power and prestige in India. In time, a low-rise 'Extension' in exposed brickwork was also added to the east.

The 240m long, 24m deep and 50 m high **Secretariat**, was seen as a solution to 'problems of modern offices' such as adequate lighting, ventilation, economy and efficiency. The plan incorporated two ramps for vertical pedestrian movement. These bold vertical elements, along with the elaborately worked out Modulor-based façade, multi-level interior spaces, and the terrace garden are the key design features.

The most elaborate structure of the group is the **Legislative Assembly**. The design of its top-lit Forum, the sickle-shaped Portico, and the thin hyperboloid shell of the immense, column-free, circular Assembly Hall, is a landmark achievement that displays the immense plastic and structural potential of concrete. Le Corbusier's creative genius is also apparent in his use of light and colour in the interior spaces, the tapestries as also the ceremonial Enamel Door.

Crowning the group, 'at the summit of V2 Capitol', the **Museum of Knowledge** was to serve a dual function as a place for state receptions as well as a research and data centre using the-then futuristic electronic devices. Plans for realization of this edifice are underway, albeit with a changed function.

The High Court







- Top: Pandit Nehru at inauguration of the High Court, 19 March 1955.
- Centre: Exposed RCC surfaces of the Ramp in the Entrance Hall.
- Bottom: Detail, south-east facade.



The High Court -- North-west Facade





The Secretariat



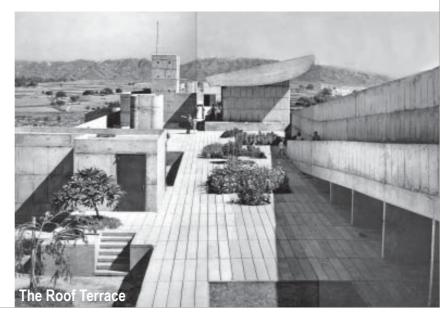


View from pedestrian connection to Assembly & High Court



- Top: External face of the Ramp connecting all floors.
- Bottom: Board-marked texture of the RCC staircase





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The Assembly













- 1. South-east facade -- view from High Court
- 2. View from roof terrace of Secretariat
- 3. Pools flanking the "Governor's Entrance"
- Legislators' Lounge
- 4. 5. Main Chamber
- 6. Council Chamber with Le Corbusier's tapestries
- 7. The Enamel Door



Tentative List Submission -- "Urban & Architectural Work of Le Corbusier in Chandigarh"

The Capitol Parc

The Monuments

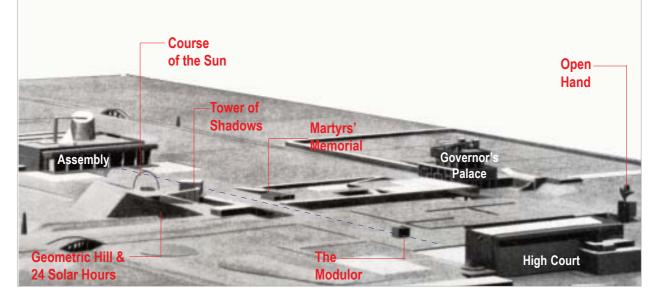
Set up around the central axis of the esplanade, Le Corbusier's "Monuments" are sculptural elements symbolic of his strongest design preoccupations as well as the pride and the spirit of the new republic.

The **Open Hand** stands as the material symbol of the city's ideology — ...open to receive the created riches ...open to distribute them to its people..." The 12.50m wide and 8.86m Hand, is sculpted out of beaten iron sheets. A metal structure, designed to turn gently with wind, holds it 27.80m above the "Trench of Consideration" at its base.

The **Modulor** represents the all-pervasive visual order of Chandigarh. The monument was designed as a 5.3m high cube containing an iron 'Modulor, partially enclosed by concrete walls with bas-reliefs showing principles of Le Corbusier's 'harmonic measure to the human scale'.

The **Martyrs' Memorial** honours all who had laid down their lives in India's long-drawn freedom struggle. The structure comprises a ramp and a group of sculptures – a 5m 'martyr', a 'broken column' symbolizing fall of the British Empire, and mythological figures a 'lion' and a 'serpent' symbolizing the rebirth of the spirit of Indian people.

The **24 Solar Hours**, the **Tower of Shadows** as well as the **Course of the Sun**, grouped closely, underscore Le Corbusier's pre-occupation with the sun's influence on man's daily life and the architectural challenges presented by the complex climate of Chandigarh. The '24 Solar Hours' was to be inscribed on the 45m wide inclined face of the 'Geometric Hill'. The 'Tower of Shadows' occupies a square of 15.5m. Its facades give varying sun-control solutions for the four cardinal directions. The 'Course of the Sun', the preliminary design sketches for which indicate two tall parabolic arches of steel standing in a pool of water, was to depict the deviation between the summer and winter solstice.

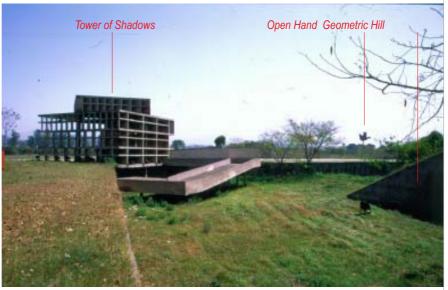


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The Tower of Shadows Above: Interior Detail Right: View towards east

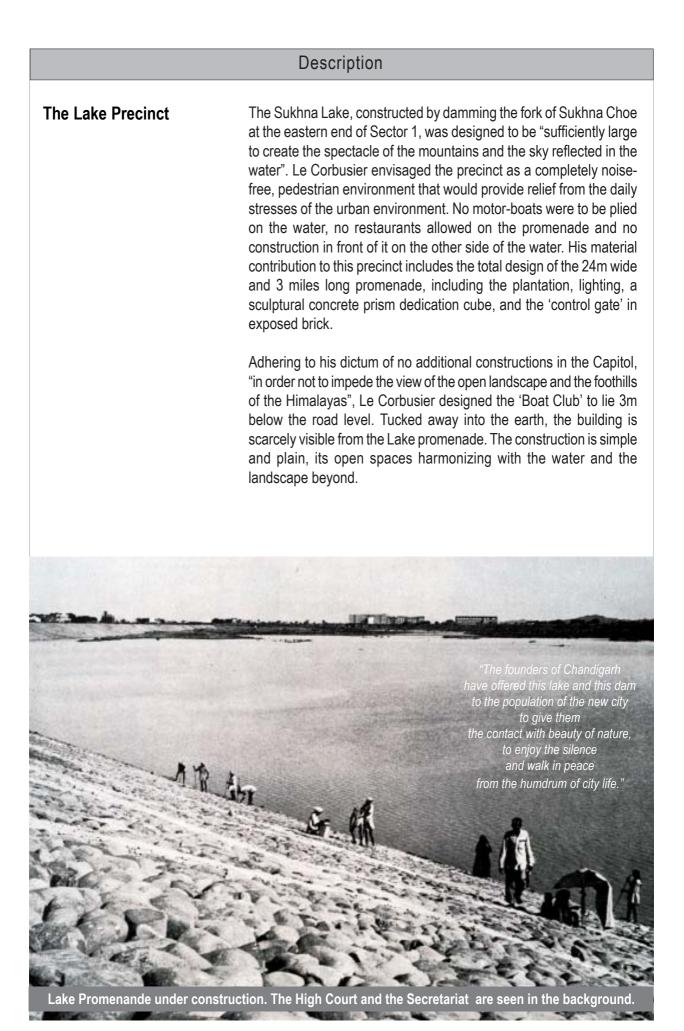




Above: Detail of mural on Martyrs' Memorial Right: Monuments along Central Piazza



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The Leisure Valley and Cultural Centre

The Leisure Valley, fashioned out of an existing stream site, is a continuous linear park meandering through the length of the city. The area was conceived by Le Corbusier as an informal cultural and recreational zone offering walking trails and amenities for youth clubs, popular street theatre, etc. Besides directing the layout of pedestrian paths and landscaping, Le Corbusier also designed the series of small-sized 'spontaneous' open air theatres that were to be located in different parts of the Leisure Valley.

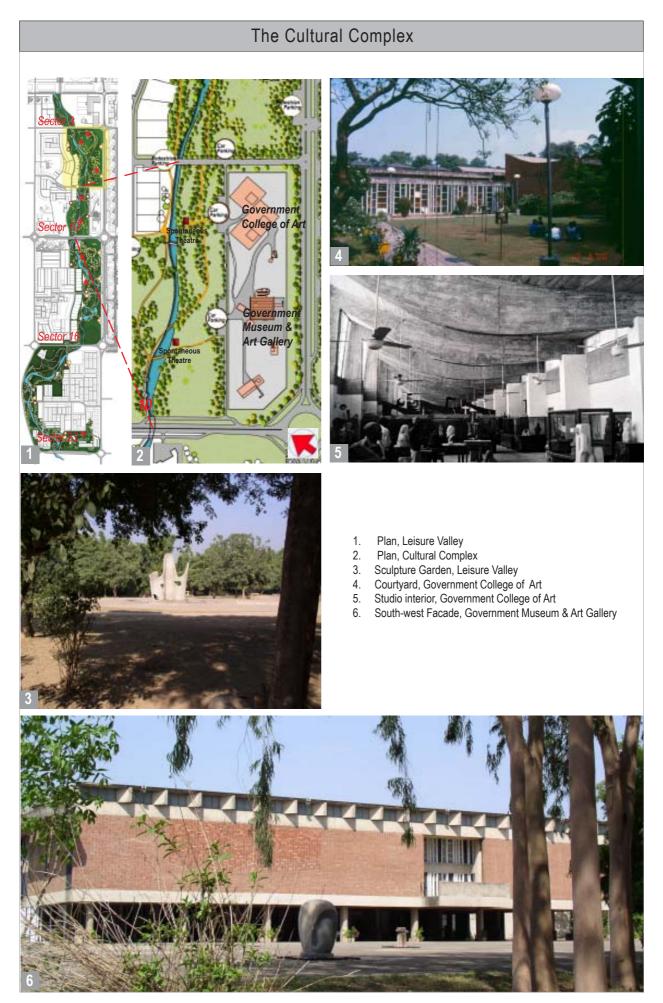
The 'Cultural Complex' per se is located across the City Centre, at the junction of the two main V2 boulevards. It was to comprise a Museum (originally conceived as a 'Museum of Knowledge'), an Audiovisual Training Centre (now the Government College of Art), a pavilion for temporary 'Itinerant Exhibitions' and, the 'Miracle Box'.

The College of Art was the first building to be designed and constructed at the Cultural Complex. Comprising a simple arrangement of flexible, top-lit studios and attendant spaces, the building is unique in the sense that it has no direct parallel to any of his other works. On the other hand, it is linked to Le Corbusier's other contemporaneous designs in its play of two standardized modules that operate both horizontally and vertically. The design was later repeated at the College of Architecure in Chandigarh.

The central building of the group, the Government Museum and Art Gallery, forms part of a series along with his museum at Ahmedabad, India and Tokyo, Japan. Based on Le Corbusier's theme of the neverending spiral, it is designed as an introverted, top-lit cuboid, its various interlocking floors accessed through ramps. Like the College of Art, the Museum too is constructed out of exposed burnt brick and raw concrete, with prominently displayed exposed concrete gargoyles. Though the design of the Museum was finalized during his lifetime, the building was constructed after Le Corbusier's death.

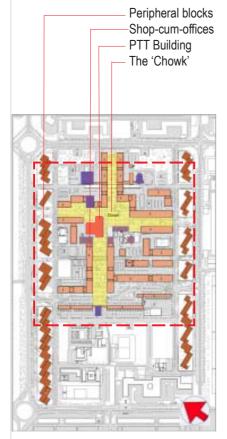


Aerial View of the Audio-visual Training Centre (Government College for Art), Sector 10



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The City Centre

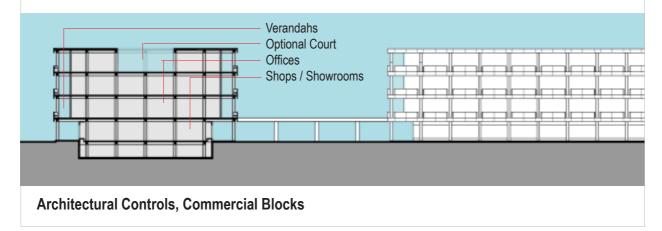


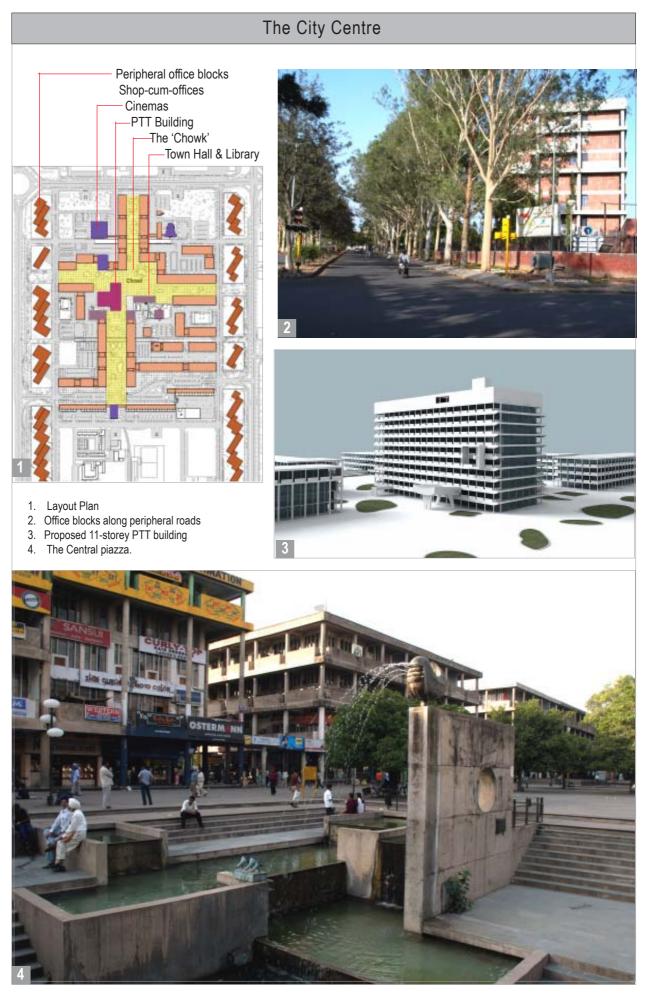
Layout, Sector 17

Commensurate with its status as the cultural and commercial hub of the city as well as the centre for local governance, the City Centre, occupying an entire sector at the junction of the two major V2s, was given special attention in the urban scheme. The sector was broadly divided into two zones, the southern reserved for district administration and, the northern — designed by Le Corbusier — for civic functions.

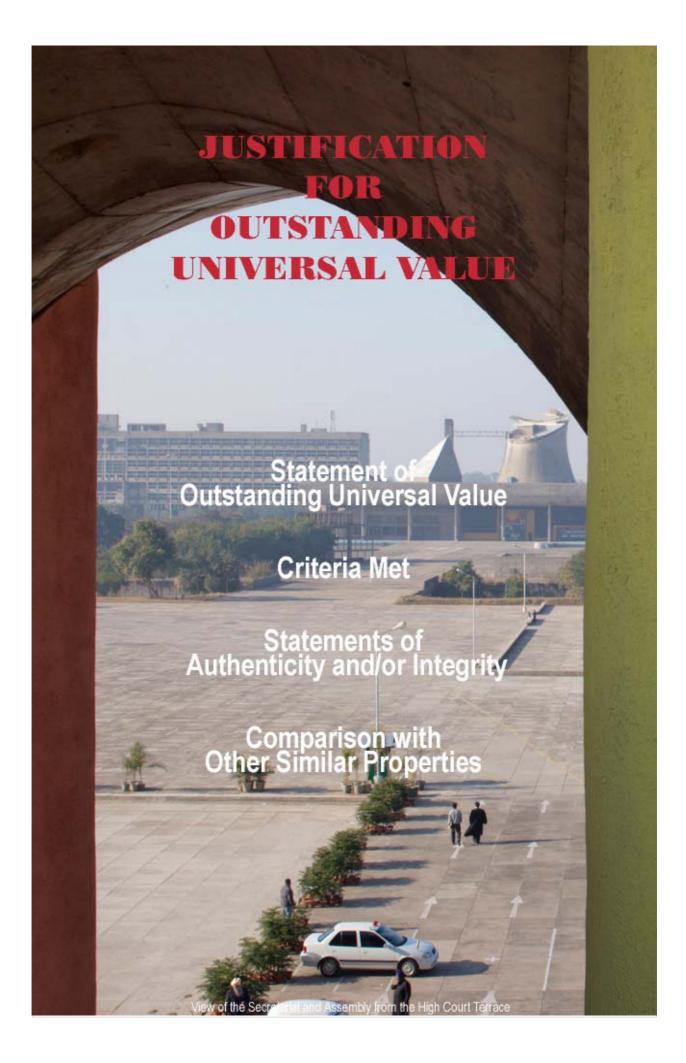
As in case of the Capitol, this zone is designed on the basis of complete segregation between the vehicular and pedestrian traffic. The layout also respects the overall urban design of teh city as well as the Indian concept of a 'Chowk' — a central node at the crossing of the two pedestrian axes around which were arrayed the major civic functions such as the Town Hall and the Library. The highlight was to be an 11-storey tower, with public amenities such as the post & telegraph occupying the ground floor. Detailed plans for this building were made by Le Corbusier, but it is yet to be realized.

Since the realization of this area depended upon the sale of individual sites over a long and indeterminate period of time, all constructions in the City Centre were governed by the "System of Construction and Architectural Treatment of Exterior Controls" that, like the rest of the city, was determined by limitations of economy and technology. A uniform four-story height was established for all commercial buildings. A basic reinforced concrete frame of the most economical bay size (17'-3") and capable of interior modification was specified. Around the outside of every building block would be a 12 feet wide compulsory verandah and a unifying exterior pattern of columns and standardized concrete balustrades. A "Schematic Design" produced by the Capital Project Office governed special buildings such as the cinema halls and petrol pumps that would not ordinarily fit in the above pattern of building.





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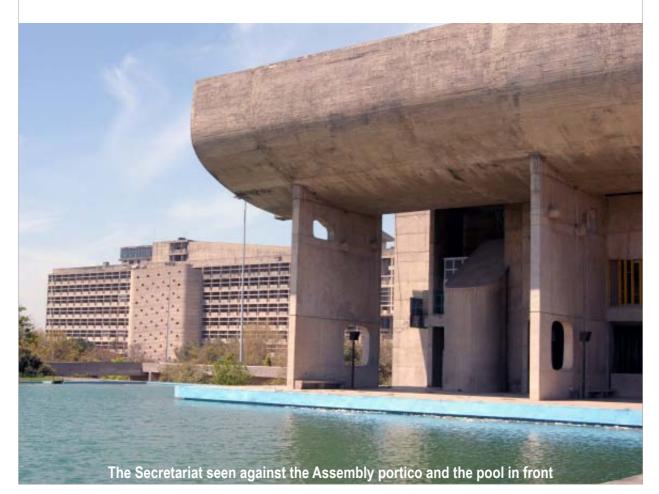


STATEMENT OF OUTSTANDING UNIVERSAL VALUE

Representing the architect's sole realized urban scheme, as also his last and largest architectural ensemble, Le Corbusier's urban and architectural work in Chandigarh forms a significant link for establishing his incomparable, global contribution to the development of urban planning, architecture and building technology in the 20th century.

An exceptional example of a well-preserved, large-scale, and comprehensive civic design and pioneering architecture in exposed concrete, the work illustrates an ingenious amalgamation of the social, aesthetic and technological ideology of European Modernism, the architect's personal design philosophy with the progressive agenda and the techno-cultural constraints of a new Asian republic.

These manifestations in 'Le Corbusier's Chandigarh', in turn, played a key role in the evolution of post-colonial, modern urbanism and architecture of India and South Asia.



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Justification for Outstanding Universal Value				
CRITERIA MET				
(i) (ii) (iv) (v) (vi) (vii) (ix) (x)				
Le Corbusier's urban plan for Chandigarh — with its integration of the functional and the efficient with the aesthetic and the human — is a modern masterpiece that has made an outstanding contribution to creation of the highest standards of 20 th century urbanism. The ingeniuty of the various groups of buildings, individual monuments, and Le Corbusier's works of art in Chandigarh lies in his outstanding sense of form, his plastic inventiveness as well as a successful synthesis of modern methods and materials with local culture and constraints.				
Le Corbusier's work in Chandigarh with regard to its town plan, landscape, and its architectural creations represents a landmark integration of the social, aesthetic and technological concerns of the European Modern Movement with the progressive, socio-political agenda of the Republic of India. This interchange of values, in turn, became a catalyst of post-colonial modernization and exerted a powerful influence on subsequent cultural, societal, economic and technological development in India and South Asia.				
The urban and architectural work of Le Corbusier in Chandigarh contains outstanding examples of comprehensive civic design and building typologies that were based on the CIAM principles. The properties also illustrate the processes of de-colonization and post-colonial modernization of an Asian nation. The design, construction and technological systems of the town plan and various individual buildings represent a significant developmental stage of Modern Indian and South Asian Architectural and Urban History.				

STATEMENTS OF AUTHENTICITY & INTEGRITY

- i. No change has been permitted in the 'urban core' of Le Corbusier's Master Plan, which retains the authenticity of its original form & design, materials & substance, use & function as well as spirit & feeling. Changes in the setting and reduction of Periphery, which occurred following the political division of Punjab in 1966, and the growth of the city have not compromised the integrity of the nominated area.
- ii. Despite additions of some new structures and a few unsympathetic interventions to the architectural ensembles and individual buildings designed by Le Corbusier, the authenticity of form & design, and material & substance remains high. The principle material, exposed concrete, is generally in a good state of repair. The authenticity of use & function as well as location & setting is unimpaired.
- iii. All urban and architectural development in Chandigarh continues to be regulated under a series of Acts and Regulations contained in the **Punjab Act No. XXVII of 1952** that was formulated to accord with the concepts and ideas prescribed in Le Corbusier's original Master Plan.



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COMPARISON WITH OTHER SIMILAR PROPERTIES

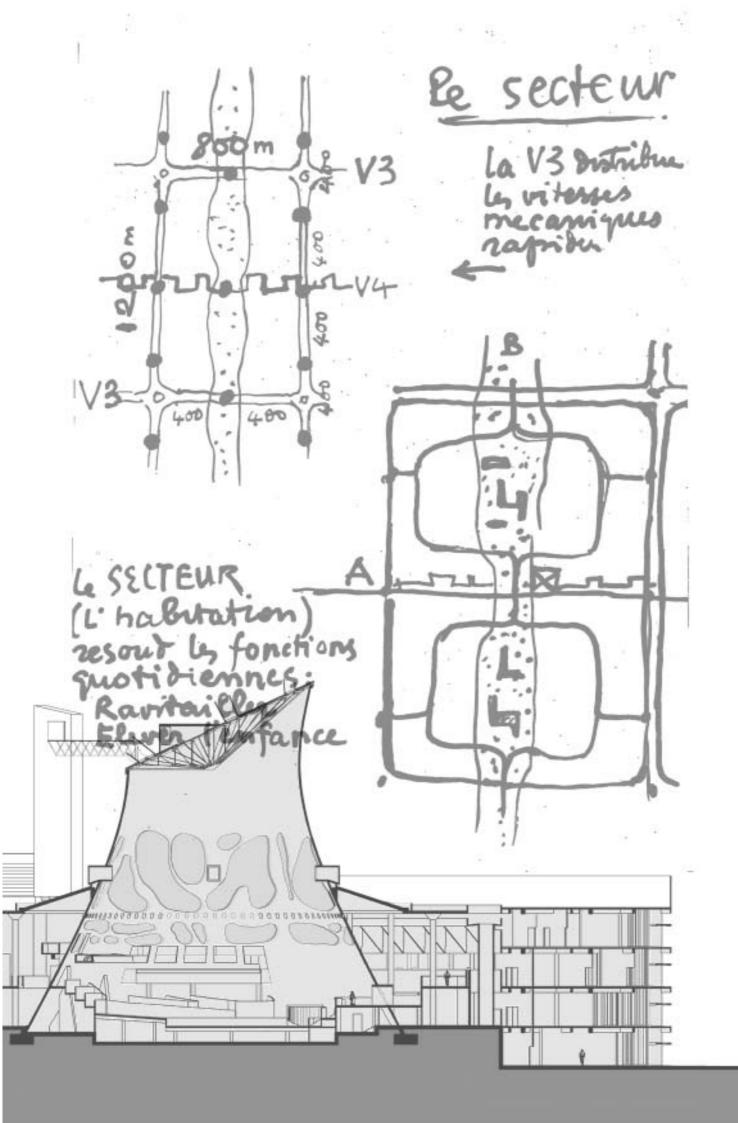
Le Corbusier's work in Chandigarh is an essential link in the series formed by his other works in France, Switzerland, Belgium, etc. that are/ are to be included in the proposed "Trans-border Serial Nomination of Le Corbusier's Work". It is, however, unique as comprising the only realization of Le Corbusier's urban precepts as well as his most mature plastic work.

In comparison to group of works by other architects, e.g., "Works of Antoni Gaudi" and "Major Town Houses of the Architect Victor Horta", both already inscribed on the World Heritage List, the "Urban and Architectural Work of Le Corbusier in Chandigarh" stands out on account of its vast range of projects as well as its far-reaching influence on subsequent developments.

"Le Corbusier's Chandigarh" is also comparable with other 20th century cities such as "Brasilia", "The White City of Tel Aviv" and "Le Havre – the city rebuilt by August Perret", all inscribed on the World Heritage List, but represents a different set of values and design criteria.



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TENTATIVE LIST SUBMISSION

Urban & Architectural Work of Le Corbusier in Chandigarh

Department of Tourism , Chandigarh Administration Chandigarh, INDIA