

Museographic
Programme
for the Fortress
of Bard *Planning &*
design guidelines

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1

The Site



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1.1 Bard

Bard is a small village in the Aosta Valley covering a little more than three square kilometres with a population of about 160. It is about 400 m asl, 47 K from Aosta, the Regional capital city, 22 K from the city of Ivrea, 65 K from Turin and 140 from Milan and from Geneva.

The village is located to the orographic left of the Dora Baltea River: where the valley narrows the river meanders around a powerful rounded ridge measuring about 300 feet high, moulded by glacier erosion and blocking the furrow of the valley.

The result is a geologically and geographically interesting location which contributed to the development of Bard's strategic role as the 'Gate' or 'Lock' to the Aosta Valley. Bard became the natural border of the valley, coinciding with the language, political and Church's boundaries.

Bard can be reached by road driving along Aosta's National Road (SS) 26 and the (toll) motorway A5 exiting at the Pont Saint Martin Junction from the South and the Verrès Junction when coming from the North, five and nine kilometres from Bard. Long distance and international motorists to or from France and Switzerland travel along the motorway using the Mont Blanc Tunnel and the Great Saint Bernard's Pass or crossing the Small Saint Bernard's Pass, the latter being closed in the winter months.

The built up area is accessed via a road which feeds into the old national and Roman roads just beyond Donnas: it reaches and crosses the village length wise before rejoining the national road (SS 26).

The closest railway station along the Turin-Pré-Saint-Didier line is the Hône district, to the orographic right of the valley, about 500 m from Bard.

The Turin Caselle-Pertini Airport (60 kilometres) and Aosta's tourist (45 kilometres) are the closest airports.

1.2 The Fortress of Bard

The medieval village of Bard is overshadowed by the sheer size of its Fortress which commands the Western slope of the rock, strategically positioned to block the entrance to the Valley. It was built between 1830 and 1838 on the ruins of the previous fort which had been raised to the ground by Napoleon for having resisted his siege in May 1800. The current fortress is the latest of a series of fortified buildings layered there over time, certainly at least since the 10th century.

Charles Félix ordered the Fortress to be re-built and put it in the hands of Francesco Antonio Olivero, Captain of the Royal Engineers, who had already worked at the Exilles Fortress in the Susa Valley and the Esseillon Fort in Modane. The fortress area is a three-tier system of *Opere* or Works positioned between 400 and 467 a.s.l: the lowest one, the

Opera Ferdinando consists of two main buildings, the Upper and Lower Opera Ferdinando. The middle one, the *Opera Vittorio*, with the *Opera Mortai* at its foot, and the *Opera Carlo Alberto*, high up, the most imposing of the three which forms a whole with the Opera di Gola. Smaller buildings include the *Opera Avanzata*, *Opera Supplementare*, the *Scuderie* (Stables) and the later development, the *Polveriera* (Powder Magazine). Altogether, the Fortress has 283 rooms to house a garrison of 416 men, twice as many quartered, manning 50 guns with a range of calibres.

The stronghold has never been touched by war which is why it is virtually intact: Bard recalls Exilles, Fenestrelle, Vinadio and Esseillon built at the same time and thanks to its outstanding state of preservation it is one of the best examples of an early Nineteenth Century blockhouse, having undergone minimal conversions and extensions between 1878 and 1880 to house the new breech loaded rifled artillery.

The Fort was used as a munitions store and military prison once the reasons for rebuilding it ceased to exist, and in 1915 it was dismantled. In 1975 it ceased to be used and to be part of the Military demesne.

In 1990 the Fortress became part of the Aosta Valley Regional Land Heritage.

1.3 The Medieval Village

Over the past one hundred and fifty years the village of Bard has experienced a decline which can be explained by the semi-isolation following the construction of the new by-pass. However, one of the side effects of avoiding through traffic which lead to the decline of the Fortress, was the overall preservation of the building which has retained its appeal and has not been affected by obvious modern age inconsistent additions as has happened elsewhere.

The main road offers a number of attractions: recent and current public and private restoration has improved the appeal as will the future work to be carried out in the framework of the guidelines included in the regeneration and refurbishment plan for the Village.

A number of 13th-16th Century buildings, some of which are connected by cross round headed arches with façades of historical and architectural value make up very appealing pedestrian walk.

The most precious buildings include: *Casa Challant*, its architecture and decorations resembling those in the Issogne Castles; the *Casa Valperga*, with an elegant mullioned window with two lights which has since been walled up; the *Casa Urbano*, now restored as a shopping and residential building; the *Casa Ciuca*, with a 'viret' or daring stone spiral staircase can be admired, now a wine shop and cellar as well as guesthouse; the elegant 18th century *Palazzo Nicole*, which belong to the last of the Bard Counts, with a façade that still sports the holes of the bullets of the 1800 siege.

1.4 The Lower Aosta Valley

Bard is the virtual focus of a very compact district which includes the Lower Dora River Valley from its source above the town of Ivrea to the wide Montjovet bend where the valley narrows once again before being channelled along an East-West axis from Saint Vincent to Aosta.

The Lower Aosta Valley is a land of vineyards and chestnut copses, animal farming and more recently manufacturing industry. Its modern structure and infrastructure have not cancelled its very appealing features: the potential as a tourist venue greatly exceeds its current – albeit high level – use.

The district is oval shaped with a number of cultural and environmental points of interest, the two foci – Verrès and Pont-Saint-Martin - being the closest motorway junctions. Places of interest include the remains of the Ancient Roman ‘*Via publica*’ to the Medieval villages and castles, garnished by a top quality cuisine. The area also offers walking and hiking paths, as well as free climbing.

A bird’s eye view shows the Gressoney and Ayas Valleys branching off to the orographic left : well known tourist and ski resorts are part of the Monterosaski complex. On the other side, the Champorcher and Champdepraz Valleys with the Mont Avic Natural Park. These valleys are shorter and offer more limited tourist facilities.

1.5 The Region’s Heritage Network

The renovation of the Bard Fortress and Village is part of a wide ranging thorough project aimed at appreciating the historical, artistic, archaeological anthropological-folk-ethno and environmental regeneration of the Aosta Valley. Work on the Fortress of Bard stands out as the most remarkable of the region, considering its position and boundaries which is why the venue can be considered the symbol of the region’s heritage network.

Bard bears witness to the system, as it includes the nature, proto-historical, Roman and medieval remains, the lay and religious heritage as its role as a fortified building which has or is being appreciated.

Each of these features is appealing in itself, but also echoes the other similar parts of the Aosta Valley’s heritage: Bard can be seen as the ideal starting and finishing point of many environmental and cultural routes which open up close and far, the most suitable place to introduce the knowledge of Valley and its discovery.

2

Geography, Tourism and Cultural Heritage



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2.1 Geography and tourism

Bard is found at the entrance of the Aosta Valley, on the threshold dividing the Po Plain from the Alps, at the entrance of the Valley which leads to the highest mountain in Europe, the Mont Blanc - visited by many tourists in summer and winter alike. The Fortress is well positioned for tourist flows: it can be easily reached from Northern Italy, the bordering regions of Switzerland and France as it controls the main route of the Western Alps, where all traffic driving from North to Southern Europe has to pass.

The catchment area for Italian day or week-end trippers to Bard has a population of 14 million, counting the provinces with a capital city located no more than 250 kilometres away.

The French area, measured with the same criteria, includes the Rhône-Alpes, with a population of 5.5 million and a part of the Provence-Alps-Côte d'Azur with a population of 4.5 million.

In Switzerland the potential tourists in the 200-250 k radius refer to a population of 3.5-4 million.

Altogether, 1.9 million foreign tourists are thought to pass through the Aosta Valley on top of an Italian market totalling 3.3 million, which means that this region can hopefully count on about 5.2 million tourists to develop its industry.

Lastly, if one considers the flow figures for the two main road tunnels, that is the great Saint Bernard and the recently reopened Mont Blanc, 2.5 million tourists go through the Aosta Valley, 1.5 of which Italian, 500,000 French, and 400,000 Swiss and as many from the Northern Europe.

2.2 Tourism in the Aosta Valley

The Aosta Valley is a sought after winter resort, well known abroad also for its network of famous and well attended skiing centres. Over the past decades, winter sports have developed leading to seasonal variations in tourist numbers, which peak in the December to April season, with 40.6% of overall regional accommodation and catering being accounted for at that time.

Summer in the Aosta Valley displays a wealth and variety of destinations and itineraries in its main massifs and valleys: hikers, ramblers, Alpine climbers and holiday-makers alike can be seen, and July-August account for 43% of overall regional accommodation and catering.

The Valley is rightly famous for its Roman and Medieval heritage – and specially for its castles - which are visited every spring by schools and by Italian and foreign tourists more evenly distributed throughout the year.

Lastly, the third age, or senior tourist segment was considered in the framework of the Bard Fort and Village renovation. This tourist group is potentially interesting because of their greater time availability and because of their leaning towards organised and group travelling even in low season.

2.3 The Fortress: a Tourist Attraction

The Bard Fortress dominates the entrance to the Aosta Valley making it an unexpected architectural signal, possibly the most visible spectacular and emblematic of the Alpine fortified buildings.

After nearly a century of neglect, in spite of the major renovations, the stronghold still looks as if it is part of, hewn out of the rock, partly hidden by plants. Once work has been completed and the theatrical lighting put in place, the Fortress will be a landmark, making the Village and Fortress of Bard into a must for all the tourists coming to the Aosta Valley.

2.4 Culture and the Fortress

The museographic programme for Bard includes a comprehensive set of projects for the Fortress, consistently with the *genius loci*, a very complete series which however manages to maintain the distinct features of each one.

The museographic programme revolves around two main themes, in the Opere Basse and in the Opera Carlo Alberto: the Fortress and its history in the context of the border and fortified building system of the Western Alps in one, and the other presenting the Alps as a whole and in detail, offering an all encompassing version of the main features of the mountains.

The development of a large 'Parco delle Alpi e delle Montagne (Park of the Alps and Mountains)', of the 'Museo delle Frontiere (the Museum of Borders)' and of the 'Museo del Forte (Museum of the Fortress)' offers the opportunity to enjoy the wide spaces of a museographic approach able to blend the historical tradition of museums, thanks to the innovative role of the interpretation centres, the communicative strength of a theme park.

The main features of the museographic programme will be contextualised in a venue including a Space for Temporary Exhibitions, the 'Vallée culture' Space on the cultural heritage of the Aosta Valley, a 'Galleria della memoria (A Gallery of Memories)' where well known and less well known characters of the Alps can be meet, a 'Scala del tempo (Time Line)' giving the most important dates of the history of the Alps and a 'Percorso panoramico (Panoramic Route)' of the site.

The final opening of the Fortress to the public will be marked by a number of events, such as exhibitions, concerts, theatre pieces, historical re-enactments and will include a hotel, a high quality restaurant, a brasserie and cafeteria as well as dedicated shops, cultural services and hospitality for the public.

Bard will thus become the main and most comprehensive centre for the discovery and knowledge of the Alpine space and the mountains, without forgetting fortified buildings and borders. The uniqueness and the appeal of the Fortress will stem from these themes, but will develop also thanks to the means used in presenting them, and to the theatrical and avant-garde museography. A comprehensive tour will allow visitors to enjoy the global nature of the experience within the centre, with the stimuli and various attractions as part of an education + entertainment = that is an edutainment - approach.

2.5 The Museum of the Alps and Mountains: the Missing Place

Unlike the sea, mountains have no one place which can interpret and its complexity and variety a space devoted to the discovery of nature and history, to evolution and life were it only of that extraordinary area at the heart of Europe: the Alps. There are a countless 'Alpine Museums', in Turin, Courmayeur, Chamonix, Sion, Annecy, Grenoble just to mention the most famous ones in the Western Alps, while Trent, San Michele d'Adige, Bern, München and Innsbruck in a wider context. Each and every one however, are characterised by and maintain their openly regional approach or are specialised in one theme or discipline. None has a general vocation or a comprehensive approach, a feature lacking all the more so in the widely spread small local identity museums.

None of the existing museums offers a comprehensive view of the characterising features of a mountain: in fact although ranger may differ, these features form a common denominator and the foundation of such a place.

A way of depicting mountains in time and space, unveiling them as a whole; satisfying and triggering curiosity and interest, leading to the understanding of all the phenomena and dimensions hidden within the Alpine region: these are the main aims of the project to appreciate and renovate the Fortress of Bard, and will be a distinctive feature of its future image.

2.6 Fortresses and Fortified Buildings: Filling a Gap

Very little is currently offered in Italy, France, Switzerland on the history of fortresses and borders: once more, what there is can be found in small museums with a local standing, which often revolve around local short-lasting events with a limited amount of exhibits.

On the Italian side of the Western Alps the Fortress of Exilles is the only one to address the history of fortified buildings. The Fortress also houses the Museum of the Alpine Troops (Museo delle truppe alpine). The Fenestrelle and Vinadio Fortresses have no themed museum sections and are basically a museum unto themselves, although livened up by guided tours, temporary exhibits and summer theatrical events and concerts.

In France none of the main fortified buildings open to the public is currently offering anything comparable to the Exilles Fortresses's exhibition on the building and the history of fortified building systems in the Alps over the past four hundred years. In Switzerland the fortified buildings that can be toured are quite small and the museum exhibits are mostly centred on the forts themselves and on the way they operated.

Alpine troops are a theme mostly developed by small, local museums which focus on the district troops, as is the case of Grenoble and of Tiroler Kaiserjagermuseum in Innsbruck. The Saint Maurice Museum in the Valais is mainly devoted to the development of the fortification systems from the early 19th to the 20th Century.

Bard would therefore appear to have the space for a museum focussing on the developments in the fort in the context of a more general evolution of the attack and defence systems and of artillery. It also has the scope to include the Western Alps and their multifaceted geography, dealing with complex issues such as populations becoming residents, transient people, and reaching to the creation of borders which over the centuries divided the Duchy of Savoy first, then the Kingdom of Sardinia, and lastly Italy from France and the Switzerland up until the present day when the European perspective will lead us beyond them.

3

Restoration and Renovation of the Fortress and Medieval Village



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3.1 The Chronology of the Works

Renovation work at the Fortress of Bard began in late 1992 when a feasibility study was planned followed by an operational plan for the restoration and renovation of both Fortress and Medieval Village, as well as a couple of tourist and nature walks.

In 1996, following the approval of the plan by the Regional Council and the Bard Town Council, consistently with Regional Law 10/96, the Regional Government was authorised to proceed with the investments included in the plan. Work was to be carried out directly or contracted out to a limited company to start up and manage the activity through a foundation or another legal entity which included the Region as well as other public and private subjects. The terms of the articles & conditions and the call for bids for the final and operative plans as well as site management conditions were laid down in September. In November Finaosta were mandated to establish the limited company which led to the establishment of Finbard Spa (Ltd) on the 11th of December 1996.

In October 1998 Finbard Spa published a call for bids for the work in the first and second segments concerning: the accessibility of the Fortress, the restoration of the Opera Carlo Alberto and di Gola; heating/cooling systems, air conditioning, electrical, water and special systems as well as the mechanical systems for the power station and grid, the medium voltage distribution substation. The facilities of the Fortress and Medieval Village including the building work to position the grid and lighting of the Village underground.

Contracts were awarded on the 31st of December 1998 and were carried out by March-April 1999 by the ad hoc consortium of companies that had been set up for the purpose.

In August 1999 the modified final plan was approved as was the implementation of the third section which Finbard publicised the following September. A consortium of companies was awarded the work in November, the date of completion having been set for March 2000.

The third section included the re-paving of the Village, the restoration of the Genio Warehouse and Storage for the Town Hall (Casa Comunale), of the Urbano Building converted to residential housing, the former Town Hall converted to a hotel and restaurant, as well as the Casa Ciuca, now a wine cellar and shop as well as a guesthouse. Further consolidation of the Rocca was also awarded in October 1999.

In July 2000 the Information Point 'Infobard' was opened in the Casa Challand along with an exhibition on the history and restoration plan of the Village and Fortress.

In 2001 the Community, the national and regional governments funded the completion of the Village and Fortress renovation and the creation of the Pont-Saint-Martin-Donnas-Bard cultural tourism district 'micro-system'. In November, the Aosta Valley Region, Finaosta and Finbard finalised an agreement to complete the restoration of the Village and Fortress.

In June 2002 the first, second and third sections were completed.

The notice of the preliminary planning and site management for the furnishing of the business, accommodation & catering, and administration premises was published in the month of November.

Furthermore, the fourth section concerning the coverage and the renovation of the Opera Supplementare is underway. The following are also being completed: restoring the access roads to the Fortress both on the Hône and Donnas sides; the restoration and recovering of the Opera Vittorio, Ferdinando Superiore and Inferiore as well as the indoor building work limited to the plaster, the flooring, the staircase, fixtures and framework.

State of the Existing Facilities and Installations at the Opere

4

4.1 The Fortress



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Renovation work carried out in 2002 was aimed at: accessibility of the Fortress including the construction of a multi-storey car park, reception, lifts, the complete functional building restoration of the Carlo Alberto and di Gola Opere; the general installation system, the installation system of the Carlo Alberto and di Gola Opere, the installation system at the Opere Basse and the consolidation of the rocky slopes.

4.1.1 — Accessibility

The multi-storey car park has 113 parking places. It is partly above ground and is found at the foot of the Rocca (the Rock). Another 80 places will be built opposite the graveyard, in the upper part of the Village, towards Donnas.

The **reception building** stands close to the multi-storey car park. It is three storeys above ground with the inclined lifts of the first section housed in the basement. The entrance hall is on the ground floor as is the ticket office for visitors. Staff Offices are on the first floor.

Lifts connecting the reception buildings and the Opera Carlo Alberto and di Gola have three inclined segments and one vertical one. They cover a 102 metre difference in height, with an hourly load of 400 and 250 people. The first lift stops at the Ferdinando Opera, the second one at the Opera Vittorio and the third at the Opera Carlo Alberto, where the vertical lift can also be found. Inclined lifts are crystal cylinders with an emergency staircase running along the whole route.

4.1.2 — Functional and Building Renovation of the Opera Carlo Alberto and di Gola

In the Opera Carlo Alberto and di Gola modifications of the additions and non original structures were removed. These vertical elements – such as lifts and goods elevators or hoists

- are functional to the new uses and the elimination of architectural barriers. Indoor fixtures have been developed consistently with pre-existing period conditions, by recovering original material or replacing them with similar materials.

4.1.3 — The partial restoration of the Opere Basse

The Opera Mortai is located between the Opera Ferdinando and the Opera Vittorio and the technological centre of the Fortress services are on its roof. In the course of the work the Opera Mortai was re-roofed after it was emptied from the sand and the reinforced concrete floor was laid.

The re-roofing of the Covered Link was initially limited to the section between the Opera Vittorio and the Opera Supplementare: it was restored and waterproofed as well as having rough bare plaster.

4.1.4 — General equipment and utilities

The thermo-refrigerating substation on the Opera Mortai roof consists of a thermal power station with two 690 kW heat generators and two 376 kW heat absorbers and 422 refrigerators.

The main electric power station is an MV/LV and the fortress receives medium voltage and is located in a building close to the secondary access to the Fortress on the Hône side. Medium voltage power reaches the main MV/LV electrical substation- positioned on the same level as the substations on the Opera Mortai roof – beneath the link-road. A 250 kW power generator has also been installed in the inside the engineering area to power the most privileged loads – such as the thermal power station, some lifts, the light circuits, etc.

Drinking water: drinking water is accumulated in a tank in the basement of the Opera Carlo Alberto. A well feeds the tank after having been pre-filtered with self-cleaning filters . The water reaches the various substations located under the roofs (lofts) of the Opere following a series of flat and upright (horizontal and vertical) pipes like the ones for the circulation of liquid in air conditioning systems.

The fire fighting substation water. Two strong electrically powered pumps in the same premises as the drinking water system, build up the pressure for the fire fighting water system. This network follows upright (vertical) pipes until it reaches the loft level and then reaches the various users through a generalised distribution also known as a shower system which conveys the water to the lower floors in the Opera Carlo Alberto and di Gola.

Main networks for the distribution of water, including the thermo-refrigerating substation reach the loft of the Opera di Gola and Carlo Alberto where the main substations of the buildings are located. The main distribution network for liquids develop along flat - horizontally positioned - off-stakes with a water column for the sprinkling.

The lofts of the Opera Supplementare and Opera Vittorio house the substations with branches from the main grid of the Carlo Alberto and di Gola Opere.

In the Opera Vittorio the substation powers the connection between the second and the third segment of the inclined lifts. In the Opere Mortai and Ferdinando there are only the exclusively indoor links between the generating power stations and the lofts of the various buildings passing.

The main electricity branches come from the low voltage (LV) general control panel and power the panels controlling the mechanical installations of the various technological features of the buildings, lifts and specific public lighting control panels. Lines are standard or preferential and follow the outside of the building, in partly underground tracks.

4.1.5 — Installations at the Opera Carlo Alberto and di Gola

The thermo-mechanical installations Opera Carlo Alberto and di Gola are powered by substations positioned in the lofts of the buildings; water and other hydraulic installations are in the basement floor. There is a thermo-refrigerator station in the Opera di Gola and two in the Opera Carlo Alberto, one for the main building and the other for the Opera Supplementare.

Air conditioning systems in the Church and Conference Hall are all-air with a partial recycling. In the exhibition spaces, offices and catering – restaurant, cafeteria, etc – air conditioning is a mixed air-water system with double ad direct air intake pipe fan-coil devices.

Sanitation, warehouses, archives, corridors and part of the exhibition spaces in the basement as well as the shops and service areas of the Opera Supplementare are equipped with heating systems and radiators. In the Scuderie and in some of the premises of the Opera Supplementare radiant panel heating systems under the floor. All sanitation facilities (toilets and washrooms) are equipped with forced ventilation (extraction) systems.

The **natural gas feeding system (network)** has automatic gas interception valves outside the buildings, controlled by the gas detection system.

A centralised automated **technical equipment for control and command** – air conditioning, water and fire fighting and the optimal management to file all data on the operation and consumption of the monitored installations and equipment. Alarm systems are centralised and all peripheral subsystems are integrated.

A distribution network branches off from the central water works in the Opera Carlo Alberto basement floor following a main entrance hall to the lofts in the Carlo Alberto and di Gola Opere with a general shower like distribution until it reaches the main users that is to say sanitation (toilets and wash rooms).

All **sanitation** matches requirements, including services for the non self-reliant and able bodied, equipped according to standards and law. Taps are mostly single control faucet devices.

Fire fighting equipment consists of a fixed hydraulic system according to Fire Brigade requirements.

The main electrical equipment in the Opera Carlo Alberto and di Gola are located in premises on the ground floor of the Opera Carlo Alberto. Main transmission and distribution lines start from each one of the building control panels and feed into the floor or area panels in each building, which then supply users or groups of users.

Lighting is organised according to supply needs and destination. There are several **lighting systems**: ceiling and wall lights for the toilets and washroom areas, uninterrupted fluorescent light tracks for corridors and indoor connecting paths; sealed fluorescent ceiling or wall lights for technical and engineering premises, storage rooms; adjustable light-clusters on metal brackets for the exhibition areas; wall flood-lights for indirect lighting of the wall and ticket office; wall lights for direct/indirect lighting for the projection hall; suspended or ceiling lights for direct/indirect lighting in the projection hall; low luminance suspended or ceiling lights for offices; wall lights with a centralised switch for the indoor staircases.

Lighting for the inner courtyards in the Opera Carlo Alberto and di Gola and outdoor lighting of the buildings and alike are currently being defined.

Wall **power points** are being installed in all the non technical premises, numbers depending on the size of the room and according to civil building finishing standards. Kitchen and technical and engineering rooms are equipped with adequately protected power points.

The Opera Carlo Alberto and di Gola also have an **emergency lighting system; telephone systems and data transmission systems**, as well as **fire detection systems** with optical smoke detectors throughout to protect the entire complex, a **sound transmission system** for general or emergency messages to the public; **access control equipment, a closed circuit and centralised TV system**.

4.1.6 — The Opere Basse equipment and installations.

OPERA VITTORIO — The **thermo-refrigerating substation** is located in the loft of the Opera Vittorio: it is supplied by the main grid of the main power stations where the hot water boiler collector at high and low temperature are found. Boilers are intended to heat the whole building although currently they are only supplying the transit areas between the last two sections of the lifts on the ground floor. Systems are partially operated by ventilation convectors and toilets and washrooms (sanitation) also have radiator systems.

The **hydraulic water systems** are basically distribution networks of water and sanitation draining exclusively in the transit area between the inclined lifts. The fire water system uses UNI 45 hydrants in the ground floor transit area.

On the ground floor of the transit area between the two inclined lifts the building is powered by its **LV control panel**. Lines feed all the terminals for all the points both for lighting and power, exclusively in the transit area between lifts.

Smoke detection, sound and intruder alarm systems are known as **special systems**, once again exclusively in the transit area between inclined lifts. CCTV is available in the lift exit area.

All the Opera Vittorio premises have no electrical or special systems. As in the case of the mechanical installations and equipment, there is a technical and engineering room, accessed through the floor to be used for the distribution to the grid and terminals of the electrical and special systems.

OPERA MORTAI — The main substations for the entire Fortress are located under the roof of the Opera Mortai. Tubes connecting hot water and cabling supplying the Opera Mortai, the Polveriera (Powder Magazine) and the Opera Ferdinando Superiore and Inferiore through a vertical section leading down to the floor of the Opera itself. The Opera Mortai also has a technical and engineering room space, just like the Opera Vittorio: it will house all the grid and networks for air conditioning, water and electricity. The rest of the building lacks any distribution and other equipment.

OPERA FERDINANDO — The equipment and installations of the Opera Ferdinando Superiore and Inferiore are comparable to the Opera Mortai: the main connections are supplied directly by the central substations under the roof of the Opera Mortai. Opera Fernando also lacks any other distribution or other equipment.

4.1.7 — Outdoor works

The roads of the Village connecting the Village to the Fortress on the South-Eastern side, Donnas, and on the North-Western side, Verrès have lighting.

4.1.8 — Consolidating the rock slopes

The rocky slopes of the fortress have been consolidated using barring, filling the cracks with concrete, rivets, metal protection riveted nets anchored with retention cables and reinforced concrete underpinning.

4.2 The Village

The following work was carried out in the mediaeval village of Bard: electrical cables and grids were placed underground, flooring and paving were re-laid, public lighting renovated and building work was carried out on four buildings that were also restored to use: the former warehouse of the Genio became the new Casa Comunale (Town Hall), Casa Urbano was converted to shops and residential accommodation, Casa Ciuca became a wine shop and cellar as well as accommodation; the former Casa Comunale (Town Hall) has been converted to a hotel and restaurant.

The following grids and networks have been placed underground throughout the Village of Bard: sewerage mains, telephone lines (Telecom) following the removal of the one above ground, electric lines (Enel) following the removal of the over-ground lines, water mains and gas network (new). The paving of the Village was carried out using artificially aged stone slabs along the main roads. Public lighting was laid down using street stand alone and wall street lights to replace the existing one.

The new Casa Comunale (Town Hall) was constructed in the Church Square converting two buildings belonging to the former Genio Warehouses, which have been connected to the new building with a metal and glass hinge forming a single façade with zinc plate covering to be used as a hall. This is where the vertical or upright connections by stairs and lift.

Casa Urbano, is a medieval building which has been restored and converted to residential accommodation in the main building – three housing units – and in the back – a multi-storey unit. Premises for a business concern opening onto the street are available on the ground floor. A stair-case connects it up and down (vertically).

Casa Ciuca, was an aristocratic house of the late Middle Ages, with an ancient helix-shaped staircase and remains of the foundation wall of the Roman road. It has been converted into accommodation (a guesthouse) with eighteen beds, divided into two large shared quarters, two flats and a double room. On the ground floor and basement a cellar and wine shop. A stair-case connects it up and down (vertically)

The new hotel and restaurant were built converting the former Town Hall (Casa Comunale) in the Church Square. The hotel was a C-shaped three storey building the main section running parallel to the street and the two side buildings being positioned at a T. The hotel has 40 beds, in 20 double rooms on two floors. A lift and stairs have been put in for vertical connection.

5

Project completion



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Restoration of the Opera Supplementare led to the removal of existing flooring and paving with river pebbles and wood floor boards. Lucerna stone was then laid in place. The cleaning and sanding of the indoor plaster with repair of the damages and subsequent re-plastering with de-humidifier; the restoration of the existing iron bars of existing grating and railings with new ones, the re-covering of wood and *lose* or stone roof tiles and of the rainwater settling tank.

The reinforcement of the plaster from the outer and inner walls as well as the inner courtyards of the Opera Carlo Alberto and di Gola included the brushing and hand-scraping of the surface; cleaning the plastered and stone parts; reinforcing existing plaster and treating the stone with poultice or low pressure sanding.

In the re-roofing of the Opera Vittorio, Ferdinando Superiore and Inferiore and of the Opera Supplementare load bearing wooden structures were used covered in irregularly shaped Luserna stone tiles.

Access to the Fortress from the Hône and Donnas sides are guaranteed by the rebuilding of the protection wall to shield the carriageway, ripping the road bed; the placing of the wearing surface in light grey bituminous conglomerate, the fixing and regeneration of the road railings and the construction of new railings; lighting and the disposal of rain water.

In the Opera Vittorio, Mortai, Ferdinando Superiore and Inferiore work mainly concerned: water or hydro-cleaning of the surfaces, cleaning and scraping off of the damaged plaster; restoration and re-plastering of the surfaces; a coat of whitewash; demolition and removal of the wood floor boards in concrete or stone, the removal of the layers underneath the screed to even out the bottom surface to strengthen the sides and covering of the main cables. Water cleaning of the surfaces, restoration of the stone and iron parts, the restoration or replacement of the hand rails and banisters of the staircases. Dismantling, restoring and then reassembling existing fixtures and fittings, where necessary. Hydro or water cleaning of the surfaces of the covered Communication section; restoration of the stone and iron parts, replacement of the wooden handrail or banister; lighting.

6.1 Cultural Itineraries and Nature Walks



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Close to the Village and Fortress of Bard there are other features of historical interest, such as the Roman Pont Saint-Martin Bridge, the section of the Roman road close to Donnas and the medieval village close in the Donnas municipality. The road network and the functions they organise around are the links that connect what appear to be isolated incidents.

Projects concerning the Pont Saint-Martin /Donnas/Bard micro-system are expected to finish by the end of 2005: their aim is to enhance their potential and tourist access and usability by upgrading and extending hotel and stop over - parking areas. Projects mainly regarded the renovation of the eastern end of Donnas Village, the restoration of the arched portal which is the gate to the Village and its immediate surroundings, the creation of parking areas, the appreciation of the vineyards nearby. The improvement of the area along the Bellet Stream, the renovation of the Western end of the Village of Donnas and of the Roman Road, the laying out of the area between the Donnas-Bard municipal road and the Dora Baltea River including the re-opening of the closed national (A) road, the creation of parking areas, the elimination of architectural barriers, the re-laying of the Bard-Donnas municipal road along the route of the Roman road and the improvement of the surrounding areas. The building of a pedestrian and bicycle bridge on the Lys Stream at Pont Saint Martin.


6.2 Other Projects

Other projects to improve and renovate the Fortress, the village and the surrounding area – including the Fortress lighting – are currently being defined or considered.

The following are also being considered: the improvement of the pedestrian path to access the Opera di Gola from the Donnas side. The creation of green areas and the laying out of an Alpine botanical garden, and relaying the paths such as the path Napoleon used to outflank the enemy or the historical route of the fortified buildings from Albard to Col and the Tête de Cou and so forth.

7

Activities: Locations and Premises

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7.1 Opere Basse

The Opere Basse include the Opera Avanzata, the Opera Ferdinando Superiore and Inferiore, the Opera Mortai, the Polveriera, the Opera Vittorio, the Covered Link (Comunicazione coperta), the inner and outer roads included in the Fortress boundaries right up to the entries to the Opera Carlo Aberto.

7.1.1 — The Opera Ferdinando

The Opera Ferdinando consists of two main buildings which are connected and known as the Opera Ferdinando Superiore and Inferiore. Here there will be the **Museum of Borders**, an illustration of the history of the Western Alps, of their population as well as the evolution of their borders and the problems which follow their overcoming and their defence from the invasions which regularly threatened these areas over the centuries.

Although historians have been addressing these issues for a time, these changes and history have not been represented in a museum context which would be all the more interesting in view of the opportunity of increasing awareness of the history of this part of the Alps: for centuries they were the centre of rivalries between nations and the sovereigns of these lands. Thus the history of the Bard Fortress will be more effectively contextualised.

7.1.2 — The Opera Mortai

The re-opening of the embrasures and cannon housings which had been partly walled in the 1880s means the Opera Mortai can now profit from a series of rooms with good natural illumination and a wide ranging view. The area can not be accessed by lift but has to be reached on foot using the inner road which is why it can not easily be incorporated in the museum route. It is seen as a **stop over area, to rest and have refreshments**, specially suited for school parties and groups.

7.1.3 — The Powder Magazine (Polveriera)

The Powder Magazine or Polveriera is located between the Opera Mortai and the base of the Opera Vittorio: it has no direct access by lift but is one large room to become a **Learning Space**, mainly - albeit not exclusively - to illustrate topics related to the tour for school children or groups. Opportunities to view some items or related subjects more in depth will also be offered.

7.1.4 — The Opera Vittorio

The Opera Vittorio is reached by the second section of the lift, and the '**Museum of the Fortress and Fortified Buildings**' will be housed. The Museum will illustrate the development of the fortified mountain buildings in the Bard and Aosta Valley site throughout the centuries, referring to the changes taking place in the methods of defence and attack

with specific reference to artillery. A description of methods of fortification and attack from the times of the ancient Romans to the 19th century with the ways military architecture responded to such changes will precede the above.

7.1.5 — The Covered Link - Comunicazione coperta

The Covered Link joins the Opere Basse up until the Opera Carlo Alberto, making it possible to walk up or down from one Opera to the other entirely undercover. The Link can be made more attractive if organised as a **Time Line** marking the most important dates of the Western Alps at regular intervals: events can be recalled by images, and a comment which visitors can listen to through their headsets.

7.1.6 — The inner road

The route which leads from the Main Gate (Portone principale) to the Opera Carlo Alberto can be made attractive by positioning map, boards, explanatory posters and a sound system thus creating a **Panoramic route** explaining how to discover the site. Points of special interest will offer additional information on the landscape and above all a description of the role and architecture of each of the Opere found encountered along the way.

7.2 The Opera Carlo Alberto

The Opera Carlo Alberto is the largest and most imposing of all the Opere: it has a large inner courtyard and is found at the top of the Rock or Fortress. The Opera di Gola is part of the same building.

7.2.1 — The ground floor

The ground floor of the Opera Carlo Alberto is a multi-use space. The Church is the main access acting as an **Atrium** or Entrance Hall for the complex: the information centre, the ticket office, the wardrobe or cloakroom, places to stop and take a rest. The large **Courtyard** will be equipped for open air performances, concerts, theatrical events and historical re-enactments. At other times it will be used as a transit and rest area for the public. In the western wing of the covered portico or arcade surrounding the court yard there are four spaces intended for the **Vallée Culture (Valley (&) Culture) Space** illustrating the historical and cultural heritage of the Aosta Valley with a temporary and a permanent section. The portico will also lead to the **Exhibition Area** in the large rooms of the embrasures cannon housing: it will be used for temporary exhibitions- not exceeding six months – focussing on various topics following a comprehensive and consistent plan. The **Contemporary Section of the Park of the Alps and Mountains** opens onto the eastern side of the portico: this will house exhibitions on current relevant topics on the present and future of the mountains. Lastly, the **Control Room** for security and monitoring of the Fortress is on the facing the Opera di Gola.

7.2.2 — The first floor

The first floor houses the **Park of the Alps and Mountains**- a virtual exploration and discovery of the Alps, marked by sections each one highlighting of facet, an important feature: the landscape, history, nature, life and work, culture, the images and representation of the Alps to our day and age. The Park of the Alps and Mountains is the focus of the Fortress project, its centre, offering a theatrical display and a selected presentation of original collections and objects.

It develops into a comprehensive view of the Alps and of the main mountain ranges of the world, as well as offering the tools and codes to better understand their complexity and diversity.

7.2.3 — The second floor

The end of the south-eastern wing houses the **Conference and Projection Room** which can seat 100 and is equipped with an audiovisual system with loudspeakers on the walls. Two large rooms in the north-western wing have been earmarked for the **Storage of the Exhibition and Museums of the Fortress**, connected to the other floors through a goods lift; the second room is to be a **Multi-Media Library** specialised in the Alps, the mountains, the Aosta Valley and Alpine fortifications; it will also house a reference library, a sound library and a video library with a documentation centre on the Fortress. On the same floor, inside the south-eastern wing, there are other **Offices** of the Management Agency (Ente di gestione): six rooms coming off a corridor leading to the Conference and Projection Room. Lastly, in the north-western wing, the second floor also houses the **technical area** which are closed to the public.

7.2.4 — The Basement

The basement houses **the Prisons** which are perfectly preserved in their original state, as isolation cells. They will be re-organised as a **Gallery of Memories**, the idea being that of recalling the characters of the prisoners of the cells in all ages but also the most significant characters to have passed through the Fortress or people whose history was somehow related to the history of the Western Alps. The Basement also houses a second **Storage Room**, to be used by the Exposition area and by the **restaurant service areas**.

7.2.5 — The Stables

The building next to the Opera Carlo Alberto, at one time used as stables, is now used to house a number of services: storage of exhibition material, spaces for parking service vehicle, equipment and the tools and maintenance for the maintenance of the outer areas, and so forth.

7.3 The Opera di Gola and Opera Supplementare

In the upper section of the Fortress reception, accommodation shops and catering are found, housed between the Opera di Gola and the Opera Supplementare.

7.3.1 — The Opera di Gola

The Opera di Gola has a separate entrance via the outer road which climbs up the Rock or Fortress on the Donnas side. However, it can also be accessed using the lift or from the Courtyard of the Opera Carlo Alberto which houses the catering and accommodation of the Fortress.

Here one finds: a **hotel** seen as a '*hotel de charme*' with ten double rooms and one ensuite, totalling 22 beds all on the first floor of the Opera with the reception desk area on the ground floor in entirely refurbished premises. A **Cafeteria** on the ground floor of the Opera, to the left of the visitors' entrance hall, used by both the Museum and the Hotel, with large premises able to host a number of customers. There is a **restaurant** on the ground floor of the Opera with kitchens in the basement and lifts and hoists connecting the two floors. The restaurant can seat about one hundred customers, some in the former powder magazine and in a room next to which was built with glass panes in a conservatory-like style. The **brasserie** is also on the ground floor of the Opera, in the premises next to the Restaurant, three rooms for about forty customers and one for cooking, making use of an restored original wood oven.

7.3.2 — The Opera Supplementare

Lastly, **business premises** are in the Opera Supplementare in between the inclined lifts and the straight or vertical one: there are six shop premises, two for tour operators and one service area. Premises will house an artistic craft shop, a book shop specialising in mountain books and literature, and a stationary-gift shop as well as a herb shop and a shop specialising in local foodstuff and drink.

7.4 Summary Tables: Premises and Surfaces

	CHAP.	OPERA	USE	TOT sqm	
OPERE BASSE	7.1.1	Opera Ferdinando	Museum of Borders	1,609	
	7.1.2	Opera Mortai	Refreshments	279	
	7.1.3	Polveriera	Powder magazine Learning Area	147	
	7.1.4	Opera Vittorio	Museum of the Fortress and of Fortified Buildings	606	
				TOTAL	2,641
	7.1.5	Covered Link	Time Line	n.a.	
7.1.6	Inner Road	Panoramic route	n.a.		
OPERA CARLO ALBERTO	7.2.1	Ground floor	Entrance Hall	1,866	
			Court-yard		
			Vallée Culture Space		
			Exhibition Area		
				Contemporary Section of the Park of the Alps and Mountains	1,823
7.2.2	First Floor	Park of the Alps and Mountains			
7.2.3	Second Floor	Conference Hall	2,224		
				Exhibition Space	
				Multi-Media Library	
7.2.4	Basement	Offices		960	
		Technical Services			
7.2.5	Stables	Prisons-Gallery of Memories		132	
		Storage Rooms			
		Restaurant and Refreshments service areas			
			TOTAL	7,005	
OPERA DI GOLLA	Basement	Restaurant		2,348	
		Cafeteria			
		Brasserie			
	Hotel				
First floor	Hotel		2,348		
	Second floor	Technical and Engineering Areas			
			TOTAL	2,348	
OPERA SUPPLEMENTARE		Ground floor	Shops	347	
			Tour Operator Premises		
			TOTAL	347	

8

The Museographic Programme



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8.1 The Park of the Alps and Mountains

The theme park on the Alps and the mountains is seen as a journey in space and time, first and foremost in the Alps but subsequently, as the scope widens, through the mountains of the world. It is about the world of the mountains as a physical and geographic feature, and as a symbolic, a constant exchange between here and now, and far and wide-ranging, aimed at highlighting both the uniqueness and diversity in a world that shares so many common deep traits.

The exposition route consists of five sections, each one having a theme: it will be organised as a theatre scene where multi-media technology and high tech, scale models, 3-D reproductions and so forth are used to rebuild the environment, making use of a range of available media.

Each section will consist of *islets* where various collections will be exhibited as if a small museum or the reconstruction of an environment in themselves, a interpretation centre, following a range of exposition models.

The *first section* describes the mountain environment, its landscapes. The deep and far reaching influence of humans beings and the interface between people and the mountains – starting with the Alps and extending the comparison - will also be illustrated.

The *second section* is diachronic and therefore retraces the history of how the Alps were populated throughout time, dwelling on the most important milestones in human settlements. Era after era, the main human achievements in the Alpine district are described. A comparison between the settling in the Alps and in other mountains will be aimed at highlighting the particular features of the Alps compared to other ranges.

The *third section* deals with mountains as such. The passing of seasons, the short-lived plant season, and the main implications that can be drawn when for mountain dwellers.

The *fourth section* is devoted to the Alpine community, to the life and work on the mountains, highlighting the very diverse yet comprehensive range which centres on the men and women who live there, on the life cycle and the basic community structures: family, daily life against the backdrop of other mountain communities.

The *fifth section* will house the yearly cycle, the Alpine culture through its festive and working seasons, the authorities of the community, religious feelings, how the social, economic and power spheres organise. The introduction of a number of examples from other communities sets the pace where comparison extends beyond a trivial and reductive approach.

The *sixth and last section* is intended to retrace the discovery and ‘invention’ of the Alps which became the play ground of Europe and a mass tourist attraction. The modernisation of the Alpine community will also be retraced while a bird’s eye view will be cast from the Alps to non European ranges, with a special emphasis on the past two centuries.

8.2 The Entrance to the Opera Carlo Alberto

The Atrium or Entrance Hall will be in the former Church: a comprehensive presentation of the activities inside the Opera Carlo Alberto should also house some essential services such as the wardrobe or cloakroom and the visitors' information point which also doubles as a ticket office and hands out the headsets for the multi-language sound communication system. The Entrance is a place for the public to stop and rest before and after the tour of the Opera Carlo Alberto.

8.3 The Contemporary Section of the Park of the Alps and Mountains

The contemporary section is the 'ideal' ending to the development of the Park of the Alps and of the Mountains, although it can be visited independently especially as it is on the ground floor which to a degree makes it self-contained.

The topics will be presented with critical but objective presentations. There will be no definitive conclusion, focussing on major topics such as the environment, flows of tourism, mountain economy. Halls will be reorganised regularly, possibly on a yearly basis, so as to offer topical exhibitions.

8.4 The «Vallée Culture» Space

The «Vallée Culture» Space is on the ground floor of the Opera Carlo Alberto: it is intended as a centre of promotion and as a window for the historical, artistic, archaeological, folk-anthropological and landscape heritage of the Aosta Valley seen from different point of view. The Space will be organised in two parts, one permanent and one temporary: the permanent section will be updated and refreshed regularly and will include the various features of the region's heritage; the other section will house temporary exhibitions, illustrating specific topics or research activities focussing on research, restoration, appreciation of specific activities. Exhibits will be renewed at roughly yearly intervals.

8.5 The Opera Carlo Alberto Exhibition Centre

The large space on the ground floor of the Opera Carlo Alberto is divided into large sections which at one time were cannon housings: it will be used for temporary exhibitions. The idea is to use it for exhibitions with a strong appeal to the wider public in the summer and focus on more school oriented exhibitions in the winter period – targeting students and pupils but not only. The heritage, history, images and representations of the Alps and Mountain environment is expected to be the theme shared by all these events.

8.6 The Prisons

The prisons of the Fortress is one of the spaces best preserved in their original state. Following the restoration the premises underwent, there are 43 small cells and a cobblestone area. The area has an appeal of its own and is the ideal background for the '**Gallery of memories**' where the characters directly or indirectly linked to the Fortress are contextualised. Reconstructions are scientifically accurate and they are accompanied by sound and text

recalling and re-enacting the history of the Fortress in its daily living, along with the more momentous events which marked Bard's entrance into the greater flow of history.

8.7 The Museum of Borders

The first and foremost aim of the Museum of the Borders is to make the public aware of the wealth and specific nature of the Western Alps which for centuries were at the centre of rivalries between nations and the states which governed them throughout time. The project is addressed to a very diverse public in terms of age and background. The very rich and complex history of this of this Alpine border will be successfully conveyed if the message reaches the public so that visitors may correctly contextualise the role of the spaces in history and discover and understand the remains of the fortified architecture which speaks of this evolution.

The message develops in three sequences one on each floor of the two Operas, which retrace the main three periods of the long standing history of the Western Alps.

The *first period* is the opening section when the western Alps were part of a larger or inexistent or undifferentiated political space and were only a natural obstacle. Human immigration flows and the intense trade and cultural exchanges which in the Roman Ages was made easier by the development of the road network and which continued throughout the Middle Ages.

The *second period* was a time of closure when an increasing number of fortified buildings were built. The hills, passes and valleys were closed higher and higher up as the nation states came into being, except for the fifteen years of the other Empire, the one created by Napoleon the 1st, when the two sides of the western Alps became part of the same political entity. Roads were built in those days, as had happened in the Roman times, and some of the fortresses were dismantled.

Lastly, *the third period*, led to the definitive opening when after World War Two a single political space was established in Europe led to the progressive abandoning of a single political space – that is Europe – and as a result fortified buildings were abandoned and tunnels and motorways were built to cross them from side to side.

The Museum will make use of the most modern and involving techniques considering the fact it must be made accessible to a vast public, consisting of tourists of all nationalities students and groups, Italian and European alike.

8.8 The Museum of the Fortress and Alpine Fortified Buildings

The Opera Vittorio is located just under the Opera Carlo Alberto. Changes were introduced in 1880 and only five cannon casements with reduction and the place for the cannon casings to be stored.

The area will be organised so that the history of the Fortress, of its defensive role can be seen as part of the history of Bard on one side and on the other the architectural solutions adopted by the military engineers to perfect the siege artillery from the Middle Age Castles which the Aosta Valley is famous for, to the present day and age, will be shown.

Subsequent developments in fortified buildings and the description of the siege engines or machines will also be described, ranging from the Roman times till the development of the 15th century fortification with bastions seen as the answer to the developments in the

field of artillery and iron cannon balls. The rules governing the art of attack and defence in the fortresses of the time up until the development of the fortified buildings with bastions will be illustrated with the most interesting examples in the Western Alps.

The Fortress of Bard will then be illustrated as an example of the early Nineteenth century Italian school which drew inspiration from the theories of the Marquis of Montalembert who wrote about the 'perpendicular' fortified building. There are many examples of this type of fortified building in both the Italian and French Valleys.

The Museum will illustrate how these Fortified buildings which had become outdated after the invention of the rifled artillery and the progressive increase in the destructive power of the mortar were converted and adapted so as to make it possible for the buildings to withstand these new weapons. Examples of solutions can be seen in some of the Bard Fortress casements. Lastly, the reasons why these buildings were down-graded to prisons, barracks and warehouses will be illustrated, as the reasons why they were replaced by new fortified buildings in the early 20th century and in the Thirties.

Two casements will be re-construction to show visitors the different ways in which the artillery the Fortress had at various times operated. The casements will house the reproductions of cannons from two eras – 1840 and 1880 – positioned for firing with the attendants wearing the uniform of the regiments stationed at the Bard Fortress at the time. Likewise, the Infantry casement on the lower floor will house a re-enactment and reconstruction, with fusiliers positioned for firing and soldiers ready to load, from the two periods.

8.9 The Opera Mortai

Renovation and refurbishment will restore the casements of the Opera to their original features and the reopening of the cannon embrasures walled up in 1880 will allow more light into the area and enable visitors to enjoy a nice view on the valley.

In the high season the Opera Mortai will offer simple refreshments to visitors coming down from the Opera Carlo Alberto or going up to the Opera Ferdinando. It will act as a cafeteria offering meals prepared elsewhere, catering also for those who wish to eat a packed lunch or take a rest under cover. Out of season these same premises can be used by school groups wishing to put their backpacks down before visiting the Opere Basse. The backpacks can be picked up at the end of the tour in time to eat the lunch they may have brought from home.

The last of the rooms with the mortar casement dating back to the time when the Fortress was built can be considered as an additional attraction of the cafeteria.

8.10 The Powder Magazine (Polveriera)

This large, rectangular shaped high ceiling well proportioned room will be used as a learning room and conference hall which teachers can use with students, or specialised tour-guides and group leaders when illustrating the Fortress, offering general and specific information or yet again to organise debates.

This is why the Powder Magazine seats about 50 people, that is two classrooms or a tourist coach. Chairs have folding tables, there will be a rostrum or podium for speakers, a table, a roaming and fixed microphone system, a sound system and so forth. Considering the many uses it can be put to the room will also have to be equipped with projection systems, audiovisuals and multi-media using available systems, as well as roll-up or fold-away screen or wall projection screens.

8.11 The Covered Link

The museography programme includes a Covered Link with wall projections at regular intervals. Images will include portraits, texts in their original language referring to the most important dates and events that marked the history of the Fortress and the western Alps, assort of **Time Line** accompanying visitors moving in either direction along the road of memory. Comments will be heard through the headsets visitors can pick up at the entrance with recorded sound effects and short remarks.

8.12 The inner road

From the Main Gate (Portone principale) right up to the Opera Carlo Alberto the wide inner road winds up supported by powerful slope walling, thus creating a **Panoramic Discovery Route of the Site** which in good weather conditions is especially pleasant and can become a part of the Fortress's museographic discovery

It will have to be equipped with a communication system consisting of information tables with bearings and also a sound system to deliver the information and remarks on what can be seen from the various stations which will be selected among the most significant ones.

9

Visitor Services

9.1 Access to the Fortress

A comprehensive multi-communication system will be installed from the car park area to the long pedestrian walks leading to the Fortress: sign posts, posters, information in several languages, multi-media points, all to indicate the entrances and the routes. A basic description of the area of the Fortress and what it has to offer, the routes, rest and refreshment areas will be offered in various languages.

9.2 The Tourist Information Centre (InfoPoint) for the Aosta Valley and Wine-Tasting Window

The Tourist InfoPoint of the Aosta Valley will be located under one of the two arches beneath the pedestrian bridge leading to the Fortress. The second arch of the bridge will house the 'window' of the Casa Ciuca Wine-shop and Cellar (Enoteca Casa Ciuca) for tasting and selling which is in the main street of the Village. Wine and other food produce will be sold close to the multi-storey car park.

The premises will be built with two self-supporting frames holding up the windows framed by the supporting arches of the bridge, so as to create comfortable and functional premises without changing their history or architecture.

9.3 Access to the Fortress, Ticket Offices and Reception Areas

The Fortress can be accessed via two roads and a pedestrian access.

The *roads* leading to the fortress through the via di Gola will not be open to the public but will be used as a service road and will have a bar at the entrance. Access will be given to the hotel and restaurant clients, preferably with a shuttle service, to deliveries, to the staff of the Fortress, the hotels, catering and shops, as well as clearly to emergency services.

Access to the Fortress through the *Main Gate* (Portone principale) can be used by visitors and their vehicles. It will act as access to the public and, in certain cases, transit for service and emergency vehicles, while the inner road will be left accessible to traffic.

Access to the Fortress will also be possible via the Reception building, where the lifts – the three inclined lifts and the vertical one – lead to the Opera Carlo Alberto, to be used exclusively for the movement of people.

The second and third access will also house ticket offices, with manual and automatic cashier services. One of the premises, on the ground floor of the Reception building will be purpose built with the furnishings and facilities for the services. Near the Main Gate another services area like the one described above, with the same functions, will be built. A third ticketing area will be available in the Entrance Hall of the Opera Carlo Alberto for the hotel, restaurant and brasserie customers.

Areas to control access and reception of the public will be aimed at the direct management of reception, information and of the manually operated cashier desk even when automatic payment and cash systems are available. The distribution of audio-guides will also be organised as well as monitoring accesses.

9.4 Multi-lingual Communication Systems

The Fortress has a cultural and tourist appeal which suggests it will attract a very mixed-language public with the result that communication will have to be through the medium of at least four languages: Italian, French, German and English.

To avoid making communication too cumbersome, texts in the museum area will be limited to a minimum, resorting to sound systems, headsets to transmit information. Headsets will be available at the entrances.

10

Directions, Signposting, Furnishings and the Like

10.1 Signposting

Fortress sign posting and directions include a number of means aimed at identifying places, routes and itineraries so as to help the public find their way in the Fortress, in the museum and exposition areas, in the areas of transit and communication as well as for services.

Signposting will use maps, posters, tables, captions, multimedia units and a clear and self-evident set of symbols. Text will be in the four above mentioned languages.

The selected information systems will make up an integrated and comprehensive information system, easily identified and detectable, while not contrasting with the environment, consistently with the historical and architectural nature of the place. As far as possible, sign posting and captions will be part and parcel of the museum areas and expositions.

10.2 Furnishings

The areas and spaces of the museographic programme, including transit and communication and services for visitors will have be equipped with all the fixtures and furnishing needed to guarantee adequate comfort to visitors. Accessories will also maintain the standard. Seating, rubbish and litter containers and any other urban furnishing required will be up to standard in the outdoor areas too.

10.3 Materials

Theme Park planning will include multimedia systems as part of the exposition itinerary and various types and sizes of written materials (on paper).

Such material will not only include the leaflets and brochures illustrating the itinerary, but also any more in depth publications, short pamphlets, catalogues and any other literature completing the offer of information and communication in the Theme Park.

11.1 Safety and Security

Museum and exposition spaces will plan-for safety, that is to say is to say safety standards will be used when planning objects, furnishings and facilities, consistently with standards for museum building and considering that the premises will house collections and objects that need safe keeping and are listed.

A risk analysis will be performed in selecting materials, furnishings and connected apparatuses and systems, as well in the lay-out of items , so as to eliminate all potential hazards.

Specific attention will be devoted to safety issues where there is access from the outside, to surrounding walls and areas, to entry area, to places close to the museum and areas with other uses, heating/cooling systems, electric grids and any special systems in view of the major risk to people, things and facilities, consistently with current legislation on museums and heritage.

11.2 Video-surveillance

The Fortress will be equipped with a video-surveillance system guaranteeing remote surveillance of the exposition areas, outside areas, accesses round the clock. Methods will vary according to the area and conditions- working or otherwise. Specifically, the system will carry out remote monitoring of outer halls and spaces in total darkness; video-units and image recording will be used only in case of anomalies being recorded, to reduce passive surveillance and alarms to a minimum.

The whole system will converge on the Control Room, manned 24 hours a day and located in the Opera Carlo Alberto. This position is strategic in the event of any action to be taken, or secondary monitoring carried out in all the other Opere. Secondary positions will only be manned during the Fortress's opening hours so that staff may act in need.

12

Service Areas

12.1 Storage Rooms

Two areas have been allocated as temporary storage rooms for works. These areas will be available both to Exposition and to the Park of the Alps and Mountains; the first area is on the second floor and the second in the basement of the Opera Carlo Alberto, totalling 600 sqm, both serviced by a goods or service lift.

Both rooms will have the required safety and room environment control systems, the furnishings and the technical facilities – such as fixed grids, various size shelves, metal furniture, reinforced cupboards, tables, work-benches, trolleys, test engines, tools and equipment, and so forth. The larger room, on the second floor, may also be subdivided into smaller spaces, to be used for different functions.

12.2 Literature and printed material: storage

A small area will be set aside for the storage of catalogues, publications and printed and audio-visual materials from exhibitions to probably sold and distributed in the Exposition area itself.

In the case of the Park of the Alps and Mountains, of the Museum of Borders, of the Museum of the Fortress and of Fortified Buildings, of the Vallée Culture Space no materials will be on sale. However, storage space will be needed just the same for printed and other materials. Again a small room, possibly out of the Control Rooms.

12.3 Storage of Materials for Events

Shows and events – such as concerts and shows - in the central courtyard means room will be needed to store chairs, stages, gazebos, loudspeakers not being used and means of transport. These rooms do not require any particular furnishing, they will be located in the Stables (Scuderie), close to the Opera Carlo Alberto Courtyard and can be used as storage and warehouse for other materials.

12.4 Storage of Furnishing and Management of the Premises

Each Opera will have a room for the temporary storage of the furnishings and the equipment for management of the premises. The size of the rooms will vary according to need and possibilities.

12.5 Monitoring and Video-surveillance Rooms

The Control Rooms in the various Operas - location having being roughly defined - video-surveillance systems, electrical systems, heating/cooling systems and special systems will be located. Premises will also be furnished and equipped to carry out the services.

12.6 Services for outdoor areas

Indoor and outdoor maintenance require room to store tools, implements and other materials for emergencies have to be positioned in spaces accessible to emergency vehicles.

12.7 Staff services

As there is as the cafeteria, a brasserie and a restaurant inside the Fortress no provision has been made for the staff canteen. The Opera Fernando houses men's and women's changing rooms with lockers, chairs and tables as well as staff toilets and wash rooms. There are rooms large enough for the purpose that can be adequately furnished. They will also be used as room for staff to rest.

12.8 Cleaning Service Rooms

Cleaning services will include: a main room for the material and equipment probably located in the Opera Ferdinando and some other smaller rooms that could be seen as closets located in other Operas - and on all floors in the Opera Carlo Alberto. There will also be a space to park the small electric vehicle used for staff, material and tool transport and the cleaning of the outdoor spaces.

12.9 Vehicle Parking Spaces

Fortress service vehicles - such as motorbikes, small vehicles, snow ploughs - and so on can be parked in spaces in the Stables (Scuderie) which do not require conversions for the use.

12.10 Other Spaces and Rooms

Not all spaces and rooms have been allocated: according to where they are they may be used for technical uses, storage rooms, warehouse and so on as the overall project to reuse the Fortress develops.

13

Implementation Programme

13.1 Planning

Work for the Fortress of Bard will be carried out in three stages:

- The planning of the *museographic programme* is the object of the final preliminary tender, and work will have to be completed by May 2005, as the opening of the Fortress is expected by June 2005;
- The planning of the *opening exhibition* will be awarded as a separate contract and the expected exhibition date is also by June 2005.
- The plan to *complete the implementation* will also be awarded to the Associazione Forte di Bard (Association of the Bard Fortress) as a separate contract following the opening of the Fortress – for the implementation of the Multi-Media Library (Mediateca), of the Contemporary Section of the Park of the Alps and the Mountains and of their re-organisation, the re-enactment and re-organisation of the Prisons and the Covered Link as well as the temporary exhibitions following the opening one.

Planning is still only to be considered as semi-definitive, while Finbard retains the right to postpone part of the Museographic programme, in the event of the state of the work requiring it or in the event of needs and events requiring different timing and scheduling.

Lastly, a number of projects and events are planned for the year before the opening of the Fortress, as a forerunner and as part of the communication project which will begin before June 2005. The lighting of the Fortress and all events and projects aimed at illustrating the overall project, the work underway to increase knowledge of the Fortress and promote its image.

13.2 Outline of the Contract

The object of the tender is to plan the preliminary and final site management of the following sections of the museographic programme:

- The Park of the Alps and Mountains, described in Chap. 8.1;
- The Entrance Hall of the Opera Carlo Alberto, described in Chap. 8.2;
- The «Vallée Culture» Space, described in Chap. 8.4;
- The Museum of Borders , described in Chap. 8.7;
- Museum of the Fortress and Fortified Buildings, described in Chap. 8.8;
- The Opera Mortai, described in Chap. 8.9;
- The Learning Space in the Powder Magazine, described in Chap. 8.10;
- The Panoramic Route, described in Chap. 8.12;
- Services, listed in Chap. 9;
- Signposting. Furnishings and Materials, listed in Chap. 10;
- Safety, Security and Video-surveillance, listed in Chap. 11;
- Service Areas , listed in Chap. 12.

Preliminary and final planning will focus on:

- The development of *the scientific project* and *setting up* of the exposition and museum spaces: the Park of the Alps and Mountains, the Museum of Borders, the Museum of the Fortress and Fortified Buildings, the «Vallée Culture» Space;
- *The setting up* and the *furnishing* of the reception, refreshment and learning spaces: the Entrance Hall of the Opera Carlo Alberto, Opera Mortai, and Powder Magazine (Polveriera);
- *The completion of the utility, functional, security and safety systems* of the Opere Basse: Opera Ferdinando, Opera Mortai, Polveriera, Opera Vittorio;
- *The architectural, technical system planning and the furnishing* and connections, the connections of utilities of the Tourist Info-point and of the Main Gate (Portone principale) of the ticket Office;
- *Technical and utility system planning* of the following: ticketing, multi-lingual communication, video-surveillance and multimedia equipment included in the museographic and temporary sections;
- *The furnishing and setting up* of the spaces open to the public, circulation, toilets and washrooms, including the identification of supplies;
- *Graphic planning and designing* of sign-posting and published material.

13.3 Timing and Contents of the Museographic Project

13.3.1 — Project awarding

Five projects will be selected in the two step planning of the tender according to the procedures indicated in the call: the five will submit their projects within 90 days as a *preliminary pre-project*. They will be given more comprehensive guidelines will be allowed to survey the site and have a meeting with the customer.

The project winner will be asked to draw up a definitive or final project and site management plan for the implementation of the museographic programme, as described in the paragraph above.

13.3.2 — The Project: Steps

The *preliminary project* will be drawn up taking remarks and proposed modifications, integrations and the any adjustments suggested by the customer into consideration. The customer approves the preliminary project and according to the above described procedure, the *final or definitive project* will be developed; validation will be required before final approval.

Technical specifications for the contracting out of the work required by the project will be part and parcel of the project itself as will all the information required to draw up the articles and conditions of the executive plan by the contracting party.

13.3.3 — Implementation

The contractor will be responsible for the executive plan which will be validated by the customer. The party will also be responsible for the completion of work. The Contractor may also be awarded part or all of the subsequent management of activities.

13.3.4 — Time schedule

One hundred and eighty days for the phase described in 13.3.2, not including validation time. The same time is awarded to the step described in 13.3.3 not including validation and technical testing and approval of work. Work must be concluded by May the 20th 2005 without any extensions or derogations.

13.3.5 — Costs: an estimate

A total sum of ten millions of Euros is given as a rough estimate for the implementation of the museographic programme.

13.4 Summary Tables: Project Surfaces

	CHAP.	WHERE	USE	TOT sqm
MUSEUM AND EXPOSITION AREAS	8.1	Opera Carlo Alberto	Park of the Alps and Mountains	1,496
	8.4	Opera Carlo Alberto	«Vallée Culture» Space	133
	8.7	Opera Ferdinando	Museum of Borders	1,058
	8.8	Opera Vittorio	Museum of the Fortress and Fortified Buildings	402
	8.9	Opera Mortai	Reconstruction of the Mortar Casement	16
			TOTAL	3,105
ENTRANCE, REFRESHMENTS AND LEARNING SPACES	8.2	Opera Carlo Alberto	Entrance Hall to the Opera C. Alberto	217
	8.7	Opera Ferdinando	Entry to the Museums of Borders	79
	8.9	Opera Mortai	Refreshments	135
	8.10	Powder Magazine	Learning Room	108
			TOTAL	539
SERVICE ROOMS	12.1	Opera Carlo Alberto	Storage for the Operas	
	12.2	Opera Carlo Alberto	Literature and Printed Material Store-room	
	12.3	Stables	Storage Room for Materials used in Events	
	12.4	All the Opere	Storage Room for Furnishings and Equipment	
	12.5	All the Opere	Monitoring and Control Room	
	12.6	Stables	Service Areas for the Outdoor Parts	
	12.7	Opera Ferdinando	Staff Changing Rooms	
	12.8	Opera Ferdinando	Cleaning and Changing Rooms	
	12.9	Stables Service	Vehicle Parking	
	12.10	All the Opere	Other Rooms	
		TOTAL	1,235	
CIRCULATION SPACES		Opera Carlo Alberto	Circulation Spaces	1,176
		Opera Vittorio	Circulation Spaces	94
		Opera Mortai	Circulation Spaces	0
		Powder Magazine	Circulation Spaces	0
		Opera Ferdinando	Circulation Spaces	94
			TOTAL	1,364

	CHAP.	WHERE	USE	TOT sqm
TOILETS AND WASHROOMS (SANITATION)	8.1	Opera Carlo Alberto	Toilets & washrooms- sanitation	183
	8.7	Opera Vittorio	Toilets & washrooms- sanitation	13
	8.9	Opera Mortai	Toilets & washrooms- sanitation	31
	8.10	Opera Ferdinando	Toilets & washrooms- sanitation	38
			TOTAL	265

	WHERE	USE	TOT sqm
SUMMARY OF THE OVERALL SURFACE OF THE OPERE BASSE	Opera Vittorio	Fortress Museum	606
	Opera Mortai	Refreshments	147
	Powder Magazine	Learning Room	279
	Opera Ferdinando	Museum of the Borders	1,609
		TOTAL	2,641

	USE	WHERE	TOT sqm
GENERAL SUMMARY	Exhibition Spaces	Carlo Alberto, Vittorio, Mortai, Ferdinando	3,105
	Reception & Accommodation	Carlo Alberto, Mortai, Polveriera Ferdinando	539
	Open Areas	Carlo Alberto, Vittorio, Ferdinando	1,364
	Service Rooms	C. Alberto, Scuderie, Vittorio, Mortai, Ferdinando	1,235
	Sanitation (toilets & washrooms)	C. Alberto, Vittorio, Mortai, Ferdinando	265
		TOTAL	6,508