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BUILDING AND ORNAMENTAL STONES IN OLD QUEBEC - A WALKING TOUR

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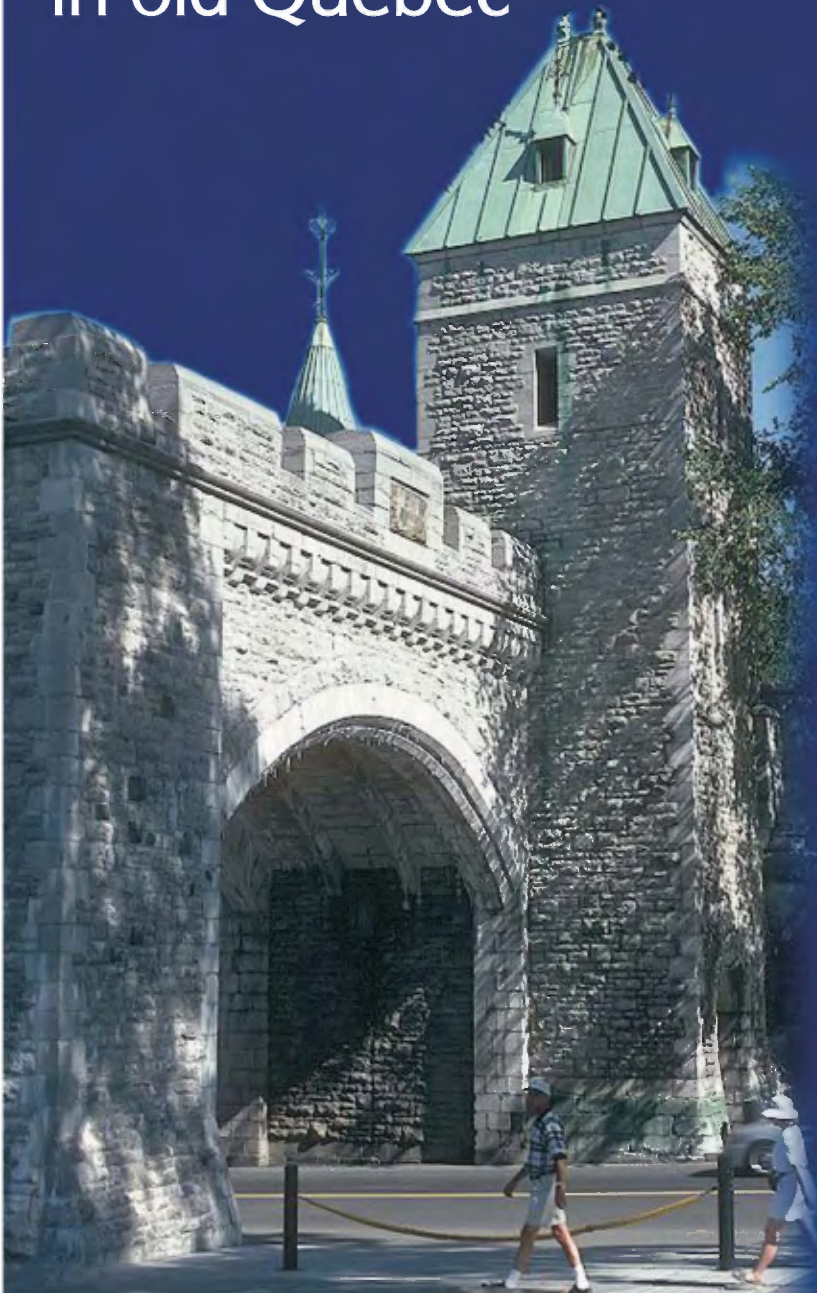
Québec 



april 29<sup>th</sup> 2001



# Building and ornamental stones in old Québec



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R. Ledoux

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## INTRODUCTION

Québec City, with its old historic houses, its fortifications, its prestigious buildings and its commemorative monuments, all grouped within a relatively small perimeter, constitutes a privileged place to observe a wide variety of building and ornamental stones.

To this end, we have prepared a pedestrian tour that will lead you from the Grande Allée Est in Québec's Haute-Ville (Upper Town) to the Old Port in the Basse-Ville district (Lower Town), through some of the most picturesque streets and squares in Old Québec. Along the way, we will examine certain buildings and monuments that illustrate the various types of stone used in Québec City throughout the years, as well as the architectural styles specific to each time period.

This guide includes a description of the principal types of stone used in Old Québec; a section on the weathering of building stones with a few typical examples; a systematic description of visited locations including historical data, the identification of the types of stone used and their principal features, weathering phenomena and damage incurred by certain structures. This guide is completed by an exhaustive bibliography for those who wish to obtain more information on certain types of stone or certain sites. We have also included a glossary, which gives a brief definition of architectural or geological terms for readers who are not familiar with these fields.

## ACKNOWLEDGEMENTS

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## DESCRIPTION OF PRINCIPAL BUILDING STONES USED IN OLD QUÉBEC

Built on a rocky promontory at the contact between the Appalachians, the St. Lawrence Lowlands and the Canadian Shield, Québec City has always had access to an abundant

resource of building stone, that was intensely used under the French Regime in the 17<sup>th</sup> century. The types of stone used during this period included black calcareous shale, limestone and sandstone, mainly used for masonry work. In addition to these locally derived stones, dimension stone from elsewhere in Québec (Figure 1) but also from other Canadian provinces and the United States were used in the second half of the 19<sup>th</sup> century with the development of the railway system. These consist of limestone and sandstone mainly used for the façades of wealthy residential homes and public buildings; granite mainly used for the pedestals of commemorative monuments as well as for the landscaping of public squares and the construction of a few buildings; slate for roof coverings and marble for interior decoration of buildings.

## CARBONATE ROCKS

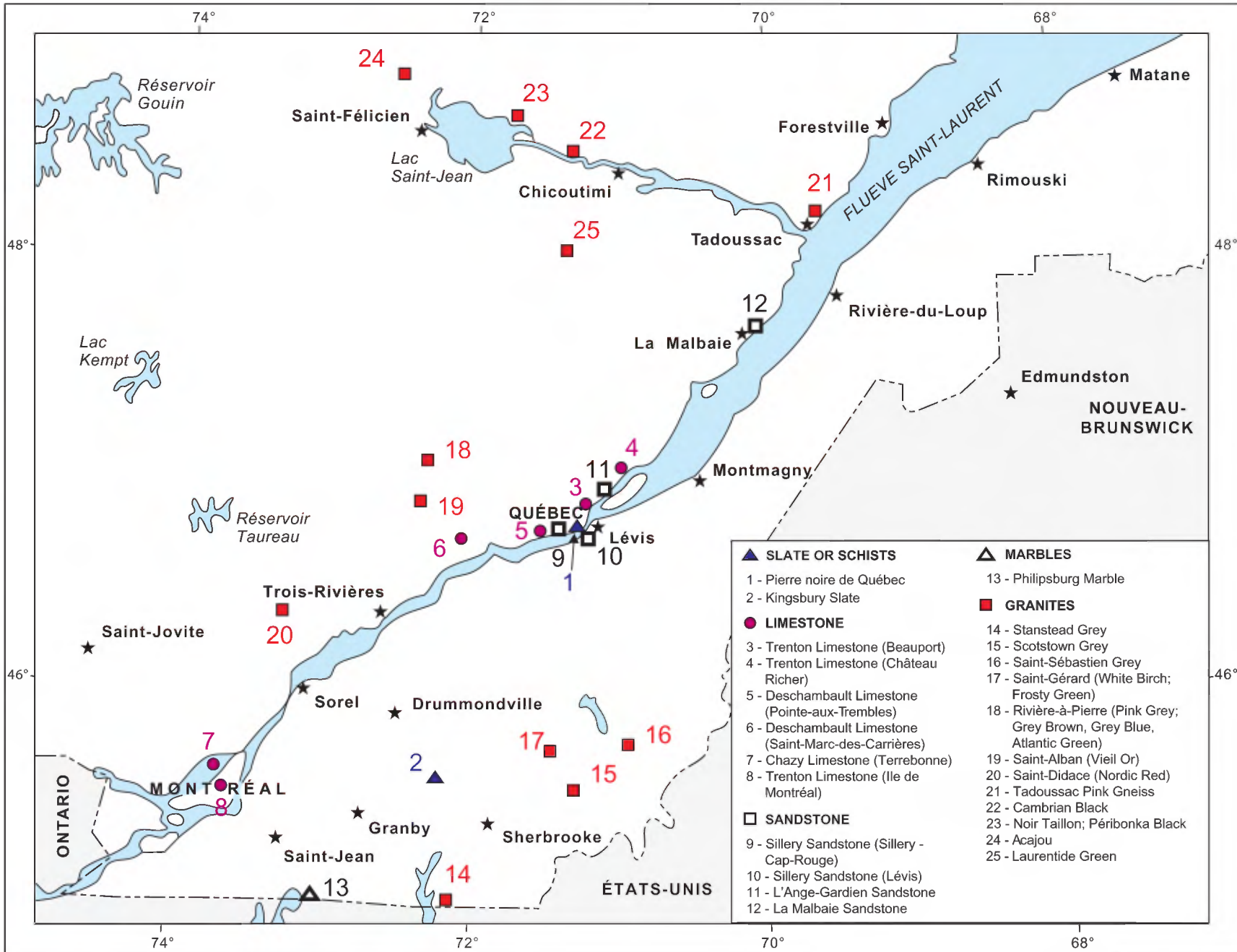
Carbonate materials, very abundant in the Québec City area, are used in construction from the 17<sup>th</sup> century on. These materials include the "pierre noire de Québec", Beauport and Château-Richer limestone and Pointe-aux-Trembles limestone, with the subsequent addition of Deschambault limestone. In addition to these local stones, a few other limestones from various locations were sporadically used from the end of the 19<sup>th</sup> century to the present day.

### Pierre noire de Québec

The Haute-Ville district is underlain by rocks of the Appalachians, namely comprised of an assemblage of argillaceous limestone and shale, assigned to the middle Ordovician Québec City Formation (St-Julien, 1995). Argillaceous limestones, occurring as massive beds 30 cm to over 3 m thick, were abundantly used under the French Regime, mainly in masonry work. Historical accounts of construction under the French Regime generally refer to this lithology as "*pierre noire de Québec*" (Québec blackstone) or "*pierre noire du Cap*" (Cape blackstone). This "*pierre noire*" consists of black argillaceous limestone, massive or thinly laminated, which is easily separated into blocks of specific dimensions. Although it has a massive aspect, this rock is highly fissile, and when exposed to harsh weather conditions, it exfoliates into thin layers. According to Charbonneau (1989), this "*pierre noire du Cap*" was always used in the massive part of masonry walls, as an interior covering, and more rarely as the exterior stone facing. In the latter case, the walls were generally coated with roughcast or wood panels to protect the stone from harsh weather conditions. The stones were also laid out parallel to bedding.

The "*pierre noire du Cap*" was quarried in several locations in the Haute-Ville district of Old Québec, often on the construction site itself. One of these former quarries is still visible, near a parking lot on rue Berthelot, near the Grande Allée.

FIGURE 1 - Québec sources of building and ornamental stones used in Old Québec.



## Beauport and Château-Richer Limestone

Beauport and Château-Richer limestone is a fine-grained dark brownish grey stone, with a pale grey-blue weathered surface, which was used in the masonry walls and foundations of numerous houses and buildings in Old Québec. This stone is derived from the Trenton Group limestones (middle Ordovician) exposed north and east of Québec City, between Loretteville and Château-Richer, in the St. Lawrence Lowlands. From the 17<sup>th</sup> century on, Trenton limestone was quarried in numerous locations as building stone as well as for lime production. Under the French Regime, the principal quarries were located in the Beauport area. In the 19<sup>th</sup> century, several quarries were still in operation in the Beauport area as well as along the Côte de Beaupré in Château-Richer to produce ashlar (Parks, 1914). Today, Trenton limestone is still extracted in a small quarry near Château-Richer, for use as building stone.

Typical Trenton Group limestone of the Québec area consists of thin slightly undulating beds separated by thin beds of black calcareous shale. Since beds rarely exceed 20 cm thick, these limestones were mainly used as rough blocks for foundations, or roughly squared for exterior stone facings. Under the French Regime, Beauport limestone was often used as dimension stone, namely for quoins and frames of stone masonry houses (Charbonneau, 1989).

## Pointe-aux-Trembles Limestone

This medium-grained highly fossiliferous limestone, most often dark grey but also brownish grey, was abundantly used as dimension stone in Old Québec in the early 18<sup>th</sup> century, but especially during the first half of the 19<sup>th</sup> century. This stone was extracted from a thickly bedded limestone sequence of the Deschambault Formation (lower Trenton) outcropping east of the town of Neuville, north of the railway. These thick limestone beds are still visible in a former quarry which produced crushed stone several years ago.

Among the distinguishing features of this limestone are its dark grey colour, the presence of layers very rich in branching *Hallopore* bryozoans, very well developed stylolites as well as the numerous argillaceous separation cleavage planes.

According to Charbonneau (1989), historical accounts reveal the use of stone from Pointe-aux-Trembles as early as 1714; the Pointe-aux-Trembles quarries are mentioned in a report by the Geological Survey of Canada that dates back to 1852-53 (Logan, 1864), but they were subsequently abandoned in the 1860s, replaced by quarries in Saint-Marc-des-Carrières.

Under the French Regime, Pointe-aux-Trembles stone was mainly used for window and door frames as well as for quoins in masonry work. It was also used for the production of flagstone. In the 19<sup>th</sup> century, the façades of numerous buildings were entirely finished with Pointe-aux-Trembles limestone, cut

in standard-sized ashlar to allow regularly spaced courses, and it was also used for portico shafts and entablatures.

## Deschambault or Saint-Marc Limestone

Deschambault limestone, also referred to as “*Saint-Marc stone*”, is extracted from a series of thick limestone strata outcropping near the town of Saint-Marc-des-Carrières, about 80 km west of Québec City. These beds, totalling 3 to 4 metres maximum thickness, form the upper part of the Deschambault Formation, an important limestone unit at the base of the Trenton Group (Clark and Globensky, 1975).

Typical Saint-Marc stone consists of medium to coarse-grained limestone composed almost exclusively of fossil debris, including *Rafinesquina* brachiopods, *Prasopora* bryozoans and crinoids. The rock has a pale brownish grey colour on fresh surface, is pale grey on cut or bush-hammered surfaces. Deschambault limestone sometimes contains small pockets or geodes partially filled with black bituminous material, as well as thin argillaceous layers parallel to bedding. The limestone generally forms beds 75 cm to 15 m thick, which allows the extraction of large blocks. “Saint-Marc stone” is very compact, preserves its sharp edges and is well suited for carvings and sculptures.

Extraction of Saint-Marc limestone began in 1835, and has continued without interruption until the present day. This limestone is used for the stone facing of a multitude of residential homes and buildings in Québec City. Some of the finest examples we will see along the way include the Hôtel du Parlement (Parliament Building), the Louis-S.-St-Laurent building (post office on Côte de la Montagne), the Palais Montcalm, the Town Hall, former banks on rue Saint-Pierre and the Customs building in the Old Port.

## Other Limestones

During the tour, we will see other Canadian limestones, very similar to Deschambault limestone, used as dimension stone in a few buildings, as well as imported limestone exhibiting different colours, which served as monument stone.

Canadian limestones include the “*Chazy or Terrebonne limestone*”, from Île Jésus (Laval Formation, middle Ordovician), “*Pierre grise de Montréal*” (Montréal greystone), extracted from the lower Trenton Group on the Île de Montréal, “*Queenston limestone*” from the Niagara Peninsula (Ontario) extracted from the Silurian Lockport Formation. These building stones, although once very widely used, are no longer in demand.

Imported limestones include “*Indiana limestone*” and “*Château-Landon stone*”. Indiana limestone (or Salem limestone) is a Mississippian yellowish brown stone, quarried in the Bloomington-Bedford area; it forms the pedestal of the Jeanne d’Arc monument, and the cladding of a few building façades.



Château-Landon stone from France is a fine-grained upper Eocene lacustrine limestone with a greyish white colour; it forms the impressive pedestal of the Champlain monument.

## SANDSTONES

Sandstones used as building stone and as dimension stone are local sandstones, extracted in various locations along the St. Lawrence River from rock formations in the Appalachians and the St. Lawrence Lowlands (Sillery sandstone, L'Ange-Gardien sandstone, La Malbaie sandstone). At the end of the 19<sup>th</sup> century, sandstones from other locations (Maritimes, United States, Ontario) were shipped to Québec City thanks to the developing railway system.

### L'Ange-Gardien Sandstone

The rocks present along the St. Lawrence River, between Boischatel and Château-Richer belong to the Caradocian (late Ordovician) Utica and Lorraine groups. These rocks consist of a thick grey shale sequence, which also contains thin beds of fine-grained brown sandstone, as well as thicker (up to 1 m) lenticular beds, often cross-bedded, of coarser-grained sandstone. These brown sandstones were abundantly used as building stone in the 19<sup>th</sup> century under the name “*L'Ange-Gardien sandstone*” or “*Côte-de-Beaupré stone*”. According to St-Julien (1995), this sandstone forms a turbiditic sequence in the Lorraine Group.

Typical L'Ange-Gardien sandstone is fine to coarse-grained, and consists of various lithic fragments (quartz, limestone, feldspar, fossil debris) embedded in a calcareous cement, which takes on a rusty brown, buff brown or green colour on weathered surfaces. L'Ange-Gardien sandstone was mainly used as squared ashlar for the exterior stone facing of buildings, but it was also used as flagstone, to pave streets and in military masonry work.

The exact location of quarries that supplied this type of sandstone is not known. The sandstone undoubtedly comes from several sites near the town of L'Ange-Gardien, either along the St. Lawrence or at the top of the escarpment where the town was built. A quarry located at a site called “Les Islets”, in front of Château-Richer has been reported (Charbonneau, 1989)..

### Sillery or Cap-Rouge Sandstone

The Sillery or Cap-Rouge sandstone is a greenish rock that was used in Québec City in the construction of several wealthy homes, churches, for the Martello towers and the walls forming the Fortifications and the Citadel. These sandstones were derived from several quarries located on the north shore of the St. Lawrence, between Cap-Rouge and the Québec Promontory, and on the south shore of the St. Lawrence in the Lévis area (Figure 1). The quarries

were located in massive sandstone beds reaching up to 10 metres in thickness, interstratified with green and red shales and mudstones. These assemblages are situated in the Nappe de la Chaudière, in the Allochthonous domain of the Appalachians, within the Saint-Nicolas Formation of the lower Ordovician Sillery Group (St-Julien, 1995).

According to St-Julien (1995), typical Sillery sandstone is fine-grained or very coarse (micro-conglomerate), green or greenish grey, and mainly composed of quartz and feldspar, sometimes pinkish in colour, accompanied by various rock fragments (shale, granite, volcanic rock). The matrix, which forms 15 to 20% of the rock, generally consists of illite and chlorite.

The massive beds of Sillery sandstone made it possible to produce large size dimension stone, which was namely used for the base of large buildings, and for the walls of the Citadel. Sillery sandstone is hard, but can still be chiselled to produce beautiful smooth-faced or tooled surfaces.

Sillery sandstone is generally fairly durable. However, when set on edge (perpendicular to the bedding direction), it exfoliates into thin layers, which, over a long period of time, may adversely affect structures built using this sandstone. As we will see during our field trip, these stones had to be replaced in several locations.

### La Malbaie Sandstone

The base of the Ordovician rock sequence in the La Malbaie area is marked by a succession of sandstone beds assigned to the Cap-à-l'Aigle Formation (Rondot, 1989). Fossils observed in this formation, namely the trilobite *Bathyrus Johnstoni* and the brachiopod *Triplesia cuspidata* (Hall), suggest a Black River age. These sandstones, totalling over 50 m in thickness, mainly outcrop along the shores of the St. Lawrence, in the Pointe-au-Pic and Cap-à-l'Aigle areas. Quarries were in operation near Cap-à-l'Aigle at the turn of the century, producing a building stone known as “*La Malbaie sandstone*”. This stone was used locally as well as in a few buildings and residential homes in Québec City. Difficult quarrying conditions combined with intense folding and fracturing and colour variations from one layer to the next, resulted in a very short history of operations for these quarries.

Rock outcrops along the shore generally display greyish sandstone beds with argillaceous cement that alter to a greenish colour, overlain by white or light grey sandstone with calcareous cement. The best construction materials were extracted from these upper beds.

### Other Sandstones

The development of the railway system in the 1870s fuelled the import of new types of sandstone to Québec City, such as

those from Bouctouche and Miramichi in New Brunswick, Nepean sandstone from Ontario and Ohio sandstone from the United States.

Bouctouche and Miramichi sandstones, assigned to the middle Carboniferous Millstone Grit series, are fine-grained yellowish brown to olive green sandstones composed of quartz, feldspar, volcanic rock and mica grains, bound by an argillaceous and weakly calcareous cement (Parks, 1916). These relatively soft rocks, very easy to cut at low cost, were very popular for construction purposes.

Ohio sandstone, extracted from quarries about 40 km west of Cleveland, corresponds to the Mississippian Berea Formation. It is a greyish to buff-brown medium-grained sandstone, composed of quartz grains cemented with silica and minor clay. Difficult to cut but very durable, Ohio sandstone was frequently used as trim or ornamental work that included delicate sculptures.

Nepean sandstone is very similar to Ohio sandstone. It was extracted in the Nepean area, Ontario, in Cambrian Potsdam Group strata.

## GRANITES

Due to the lack of easily accessible granite resources, the first granites, from the Stanstead and Rivière-à-Pierre areas in Québec, from New Brunswick and the United States, arrived in Québec only in the second half of the 19<sup>th</sup> century, following the development of railroad facilities. Initially used for ornamental purposes (monuments, columns, pilasters, etc.), granites were later used as dimension stone in several public and commercial buildings, and more recently, in the landscaping of parks and public squares (flagstone, monuments, fountains).

The proposed tour provides an overview of the numerous granite varieties used over the years in Québec City. Most of these come from Québec, but also from other Canadian provinces and the United States. A brief description of the principal granites, based on their origin, is provided here.

### Estrie Region

Granites from this region essentially consist of grey granite from middle Devonian plutons. Five varieties may be recognized on our circuit.

The most widely known variety is **Stanstead grey granite**, extracted from a vast intrusion east of Lac Memphrémagog. This granite was among the first to be used in Québec, and it may be observed in numerous buildings and monuments. It consists of a medium to coarse-grained grey rock composed of a uniform mixture of white orthoclase, plagioclase, quartz (about 20%), biotite and minor muscovite (Burton, 1932).

**Saint-Sébastien grey granite** comes from the Sainte-Cécile – Saint-Sébastien pluton. Also referred to as “**Silver Grey**”, this granite was once a very popular building stone in Québec. It is a medium to coarse-grained biotite granite, slightly lighter coloured than Stanstead granite, and contains slightly pinkish feldspar grains.

**Saint-Gérard grey granite**, also marketed under the name “**Birch White**”, is extracted from the Aylmer pluton, east of Lac Aylmer. This is a pale grey, nearly white muscovite-bearing granite with minor biotite (it contains less than 2% black minerals), used mainly for construction purposes. “**Frosty Green**” granite, on the other hand, is a fine-grained greenish grey variety which contains watery green feldspars. It forms a facies of the Aylmer pluton, locally found in a single quarry and selectively mined as ornamental stone.

**Scotstown grey granite** (or “**Scots Grey**”) comes from the Scotstown pluton, about 50 km west of Sherbrooke. This stone, used in a large number of buildings throughout Canada, is a coarse-grained granite whose colour is highly reminiscent of the Stanstead grey granite.

### Rivière-à-Pierre Area

Rivière-à-Pierre, a small town located 100 km northwest of Québec City, has been a very active dimension stone production centre for over 100 years. The granites that have contributed in making Rivière-à-Pierre such an important site include several varieties of coarse-grained granites, pinkgrey, brownish grey or green, extracted from a vast intrusion to the east and north of town, as well as a medium-grained grey-blue granite, extracted from a quartz diorite body that extends west and south of town, along with a pink-grey gneissic granite extracted near the town of Saint-Alban in Portneuf County. The first granites were extracted in 1887-1888; these were used to cap a low wall at the former Court House in Québec City, as well as the base of the Jacques-Cartier – Brébeuf monument along the Rivière Saint-Charles. These early quarries were located along the railroad, near Migwick, about 30 km north of the current townsite (Obalski, 1889-1890).

The **grey-pink granite** was for many years the dominant variety of granite produced in Rivière-à-Pierre. It is a coarsegrained rock that was abundantly used in the Québec City area for major construction projects such as the pillars of the Pont de Québec (bridge), the shores of the Rivière Saint-Charles, as flagstone, curbstone, paving stone; it was also used as building stone in large public buildings and churches. According to Osborne (1933), the rock is composed of microcline, albite, quartz and biotite. Its colour, which shows minor variations from one quarry to the next, is derived from the pink or grey-mauve colour of feldspar phenocrysts.

The **brownish grey granite** constitutes the main variety quarried today. This type of granite, extracted from several quarries, is sold under various names, the most widely known are “*Nara Brown*”, “*Deer Brown*” and “*Caledonia Original*”. According to Bellemare (1997), the composition may range from a granite to a coarse-grained porphyroid quartz monzonite. The principal distinguishing features of this stone are the brownish grey to blackish grey colour of the potassic feldspars, and the pale yellow tinge of quartz grains, which give the rock a more or less darker colour overall.

**Green granites**, marketed under the names “*Prairie Green*” and “*Atlantic Green*” have been quarried in the area since the early 1960s. These rocks consist of coarse-grained quartz mangerite, composed of feldspar, quartz and amphibole, locally found in the main granite intrusion. The colour of this facies, very beautiful on polished surface, varies from green to greenish grey.

**Grey-blue granite**, better known as “*Midnight Blue*” or “*Dark Blue Pearl*”, is a medium-grained dioritic gneiss composed of quartz, plagioclase and hornblende. Due to its gneissic texture, the colour of this stone varies from pale to dark grey, depending on the orientation of the cut surface. On a bush-hammered surface, the stone takes on a lovely pale grey sheen, whereas in polished surface, it has a dark grey-blue colour. This stone, which was once very popular, is no longer in demand.

The granite “*Vieil Or de Saint-Alban*” is a fine to medium-grained salmon pink stone that was quarried for several years north of Saint-Alban, about 20 km south of Rivière-à-Pierre. The rock contains between 5 and 10% biotite and displays a foliated or gneissic texture.

### **Saguenay – Lac-Saint-Jean and Côte-Nord Regions**

This region has supplied a wide variety of granites to Québec City, including the renowned black granites extracted from large anorthositic complexes of the Canadian Shield, and other various coloured granites.

The granites “*Noir Taillon*” and “*Péribonka Black*” are two similar stones extracted from the Lac-Saint-Jean anorthositic complex, northwest of Alma. In both cases, the rock is an anorthosite composed of coarse black plagioclase crystals accompanied by 5 to 15% interstitial magnetite or ilmenite. The plagioclase owes its black colour to small ilmenite inclusions.

“*Cambrian Black*” granite comes from the Saint-Nazaire area east of Alma, from a small biotite-pyroxene anorthosite intrusion cross-cutting a recrystallized anorthosite (Nantel, 1984). The rock is medium-grained and contains 5 to 10% opaque minerals (ilmenite and magnetite); plagioclase laths are black and are preferentially oriented, which gives the rock a characteristic texture.

“*Nordic Black*” granite from the Rivière-Pentecôte area in the Côte-Nord region is extracted from an anorthosite zone included in the Rivière-Pentecôte anorthositic complex (Nantel and Martignole, 1991). This stone is characterized by large crystals of black plagioclase that reach up to 15 cm, and large interstitial spaces filled with opaque minerals (ilmenite, magnetite, pyrrhotite).

Coloured granites include “*Acajou*”, a medium-grained brownish red quartz monzonite extracted from the Chamouchouane pluton near Saint-Thomas Didyme, north of Lac Saint-Jean; “*Laurentide Green*” granite, extracted from the Mont Apica mangerite body in the north part of the Parc des Laurentides; “*Tadoussac*” granite, a pink granitic gneiss featuring slightly greyish layers or streaks, quarried near Grandes-Bergeronnes.

### **Other Regions in Canada**

The two principal red granites used in Old Québec come from New Brunswick and Manitoba.

“*New Brunswick Red Granite*” comes from the St. George area, in Charlotte County, southwest of Saint John. Quarries located in a Devonian granitic intrusion were operated sporadically between 1872 and the end of the 1940s, mainly for monument stone (Martin, 1992). These quarries produced three granite varieties: bright red, light red and pinkish grey. According to Carr (1955), the St. George red granite is formed of orthoclase, plagioclase and quartz; given the high plagioclase content, the rock is classified as a granodiorite. The red colour is most likely due to the presence of hematite inclusions in the feldspars. This granite takes on a very pronounced polish, which offers a lovely contrast with bushhammered surfaces, thereby making it a highly-prized stone for monuments. In Québec City, this stone was used for remarkable monuments such as the Montcalm monument near the Loews Le Concorde hotel, the F.X. Garneau monument near the Porte St-Louis, and the Cardinal Taschereau monument on Place de l’Hôtel de Ville.

The red granite from Manitoba is the “*Royal Canadian Red*”, a medium-grained red granite extracted from a quarry located 13 km from Whitemouth; it is the principal stone used in Place d’Youville.

### **SLATES**

Slates were very little used in Québec City. Under the French Regime, slates were imported from France, and because they were very costly, were only used for the roofing of public buildings or the homes of wealthy residents. After the Conquest, this material reappeared only in the second half of the 19<sup>th</sup> century; it still covers certain roofs on the Grande Allée and in Old Québec. Slate was also used a few years ago, when a house in Place Royale was restored.

We have no information on the origin of these slates. Grey slate roof tiles of residential homes built between 1860 and 1920 most likely come from the Richmond area in the Estrie region, where important quarries were operated. Red or green slates, on the other hand, probably come from Vermont or New York State.

## MARBLES

Marbles from various locations, some from Québec, were used for interior decoration purposes in a few public buildings in Québec City.

Québec marbles come from the Philipsburg area; these were offered by different companies between 1905 and 1962 under the name “*Missisquoi marbles*”. These include various types of pale grey marble, sometimes with a green or pink tinge, and a black marble, respectively quarried from the Strites Pond and Wallace Creek formations, of the lower Ordovician Philipsburg Group (Globensky, 1981). From a petrographic standpoint, Missisquoi marbles are actually finegrained non-recrystallized limestones (calcilutites); they are called marbles because they make a very beautiful polished stone. Some striking examples of these marbles may be observed in the Customs building in the Old Port and at the postal counter in the Louis-S.-St-Laurent building on rue de Buade.

Among the other marbles, the most remarkable are the “*Tennessee pink marble*” and the Italian “*Botticino marble*”, chosen to decorate the former Court House on rue Saint-Louis as well as the Édifice Honoré-Mercier on Parliament Hill.

Tennessee pink marble comes from the Knoxville area in eastern Tennessee. This marble is extracted from strata in the Ordovician Holston Formation. According to Bowles (1939), the rock is a fine-grained pale pink limestone largely composed of fossils (bryozoans and crinoids) embedded in secondary calcite; one of the distinguishing features of this marble is the presence of brownish stylolites.

Botticino marble is a creamy Jurassic limestone, quarried near the town of Brescia in northern Italy. This marble generally displays thin brownish streaks (Bowles, 1939).

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## WEATHERING OF BUILDING STONES AND MONUMENTS

The ageing of stones does not always create undesirable effects. Sometimes surface weathering may embellish a stone by forming a uniform pleasantly-coloured aesthetic patina, or by allowing the antique character of monuments or façades of historical buildings to stand out.

On the other hand, harsh weather conditions may cause stones to decay more rapidly. Rain carried by violent winds, humidity followed by intense sun exposure or the freeze/thaw cycle, adsorption and/or absorption of airborne acid polluting agents ( $\text{H}_2\text{SO}_4$ ,  $\text{HNO}_3$ ), run-off from the corrosion of bronze elements (copper sulphate hydroxides: brochantite and antlerite) leached by rain, contact with snow or slush saturated with de-icing salt, efflorescence from the stone itself or derived from the mortar, absorbed in the pores and when crystallizing cause the rock to disintegrate through haloclastia; all these factors contribute in weakening the stones, and are expressed in fading, films or coatings of secondary oxidation products, scaling, peeling, shattering, disintegration, honeycomb alteration and lesions appearing as fractures. Iron-bearing minerals such as pyrite, pyrrhotite, hypersthene are easily oxidized and weathered out of the stone surface, and the presence of stylolites and/or swollen argillaceous minerals in sedimentary rocks lead to fracturing. Bush-hammered and tooled surfaces are obtained by hitting the stone with hammers equipped with spikes and picks, which results in a bruised stone surface that is easily scaled or exfoliated.

The following examples illustrate a few types of weathering observed on monuments or building façades in Québec City.



Peeling of a column in Stanstead granite, 20 Pierre-Olivier-Chauveau Street.



Honeycomb alteration in dolomitic limestone of the Chazy Group, Château-Frontenac.



Disintegration at the base of a column in Stanstead granite, 20 Pierre-Olivier-Chauveau Street.



Disintegration and oxidation of the Bouctouche sandstone, N.B., 1 des Grisons Street



Scaling of bushhammered Sillery sandstone with vertical bedded plane, Fortifications wall.



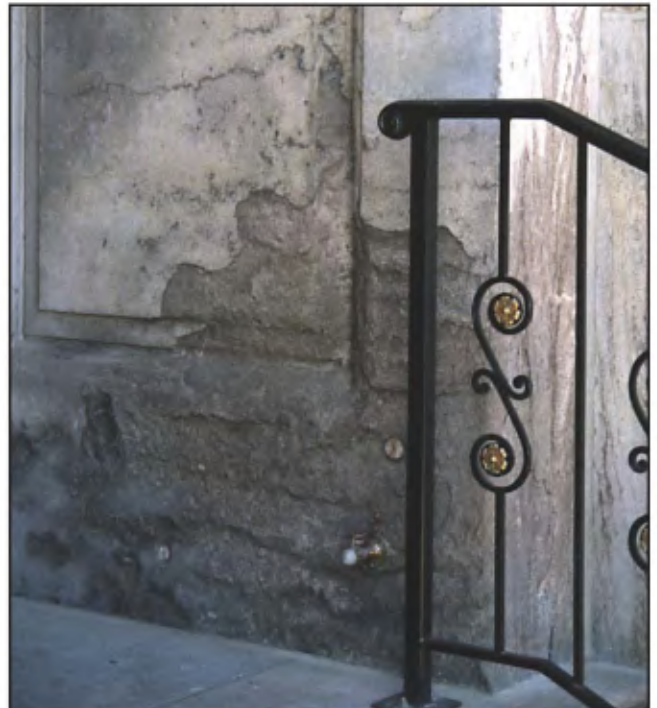
Colored patterns on Stanstead granite caused by adsorption of flowing corrosion products from bronze statues of the Honoré-Mercier Monument.



Cracking in Deschambault Formation limestone from Pointe-aux-Trembles, Wolfe-Montcalm Monument.

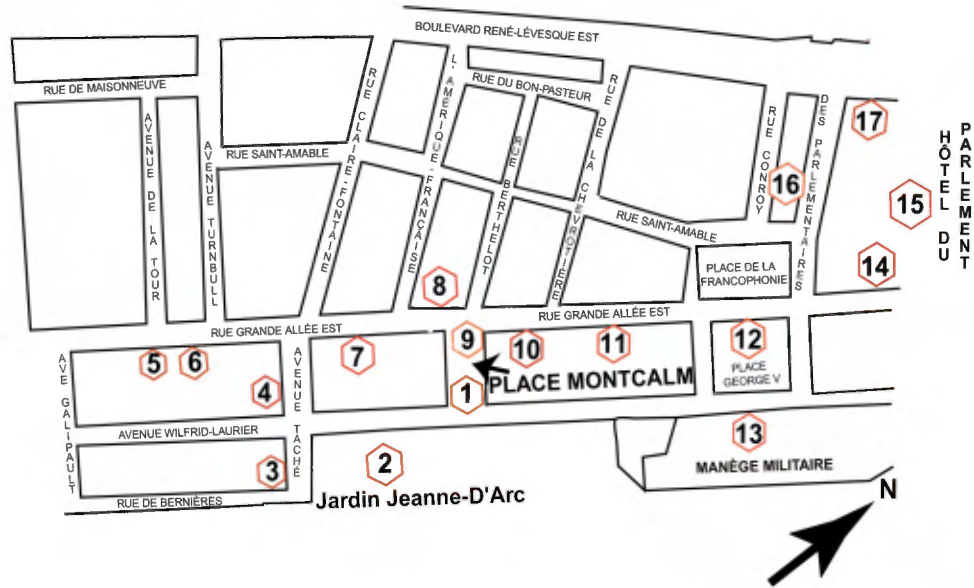


Cracking and disintegration of the Château-Landon limestone from France, Champlain Monument.



Disintegration of Terrebonne limestone (Chazy), Portal of Honor of the Parlement Building.

## LOCATION OF STOPS 1 to 17

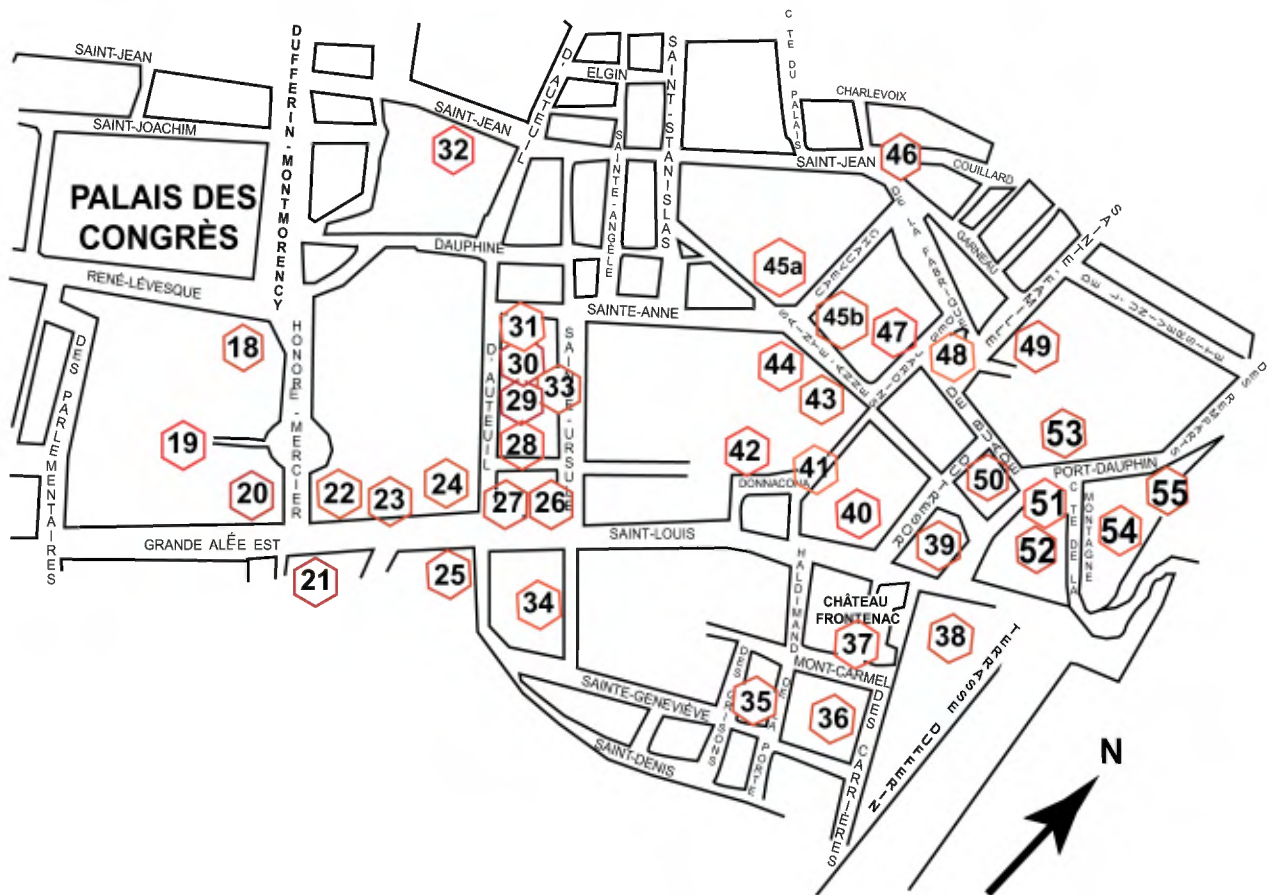


- 1- Monument De Gaulle
- 2- Monument Jeanne d'Arc
- 3- Centre d'accueil du parc des Champs de Bataille
- 4- Tour Martello N° 2
- 5- Édifice Guy-Frégault
- 6- Édifice Placements Québec
- 7- 425 et 435 Grande Allée Est
- 8- Église Saint-Coeur-de-Marie
- 9- Monument Montcalm

- 10- Maison William Price
- 11- 641 Grande Allée Est
- 12- Monuments de la place George V
- 13- Manège militaire
- 14- Monument Duplessis
- 15- Hôtel du Parlement
- 16- Édifices André-Laurendeau et D
- 17- Édifice Honoré-Mercier



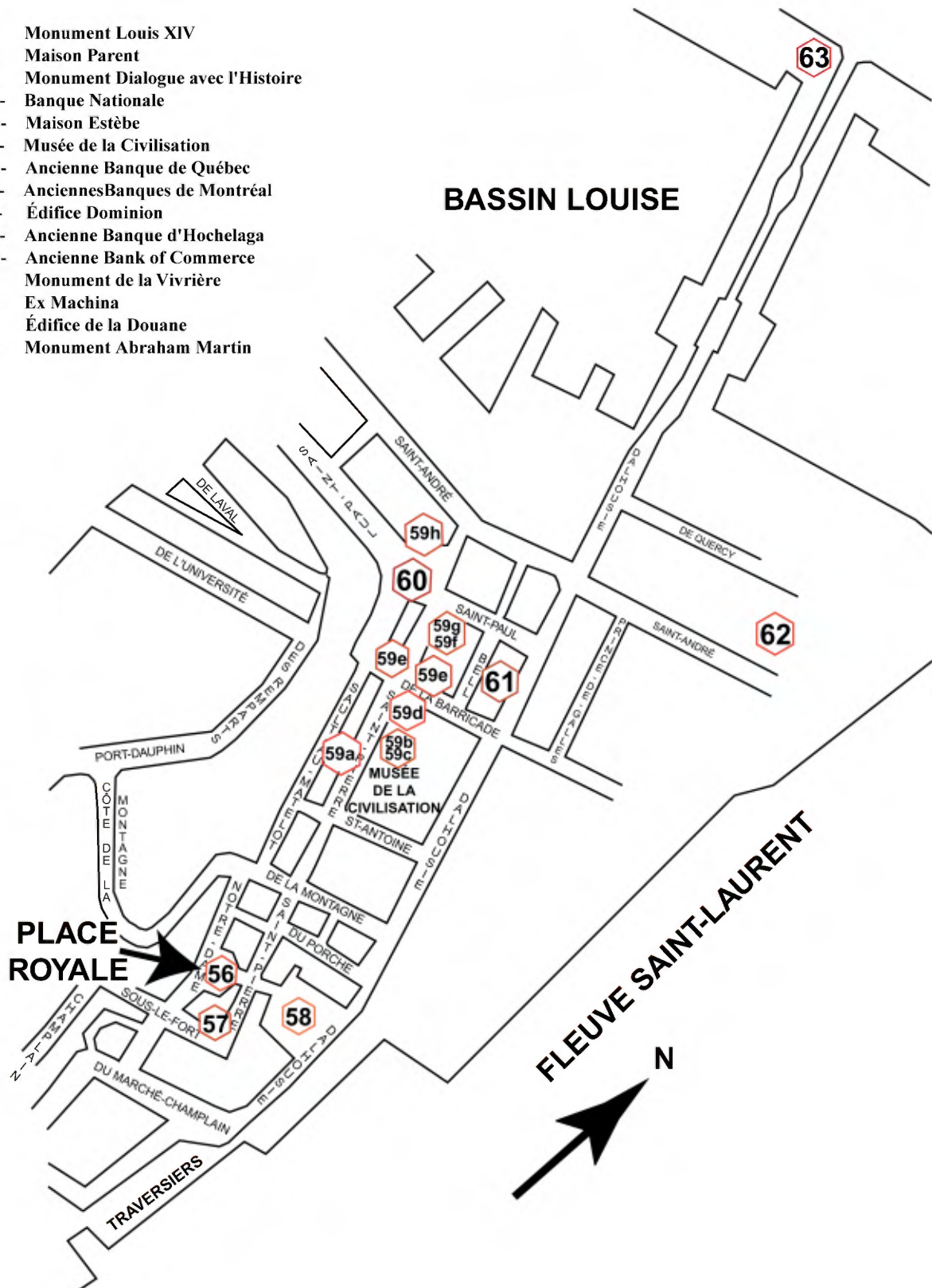
## LOCATION OF STOPS 18 to 55



- |   |  |
|---|--|
| <ul style="list-style-type: none"> <li>18- Monument René-Lévesque</li> <li>19- Portail de la Porte d'Honneur</li> <li>20- Monument Honoré-Mercier</li> <li>21- La Croix du Sacrifice</li> <li>22- Monument F.X. Garneau</li> <li>23- Monument aux Conférence de 1943 et 1944</li> <li>24- Monument aux Braves de la Guerre des Boers</li> <li>25- Maison Sewell</li> <li>26- Maison Cureux</li> <li>27- Maison &lt;&lt;en terrasse&gt;&gt; du Manoir de l'Esplanade</li> <li>28- Maison McGreevy</li> <li>29- Maison du 51 rue d'Auteuil</li> <li>30- Maison Sewell-Paquet</li> <li>31- Maison du 43 rue d'Auteuil</li> <li>32- Place d'Youville et Monument des Muses</li> <li>33- Maison Owen-Murphy</li> <li>34- Église Unie Chalmers-Wesley</li> <li>35- Maisons des rues De La Porte et Des Grisons</li> <li>36- Monument Wolfe-Montcalm</li> <li>37- Hôtel Château-Frontenac</li> </ul> | <ul style="list-style-type: none"> <li>38- Monument Champlain</li> <li>39- Monument de la Foi</li> <li>40- Ancien Palais de Justice de Québec</li> <li>41- Monument en hommage aux Femmes Éducatrices</li> <li>42- Monument de Marie-de-l'Incarnation</li> <li>43- Édifice Price</li> <li>44- Terrasse 73-81 rue Sainte-Anne</li> <li>45a- Ancien Pavillon des Sciences Commerciales</li> <li>45b- Monument aux Frères éducateurs &lt;&lt;L'ENVOL&gt;&gt;</li> <li>46- Monument Livernois</li> <li>47- Mémorial de l'Ancien Collège des Jésuites</li> <li>48- Monument du Cardinal Elzéar-Alexandre Taschereau</li> <li>49- Musée de l'Amérique Française</li> <li>50- Édifice du Daily-Telegraph</li> <li>51- Monument Monseigneur de Laval</li> <li>52- Édifice Louis-S.-St-Laurent</li> <li>53- Archevêché de Québec</li> <li>54- Monument George-Étienne Cartier</li> <li>55- Monument Louis-Hébert</li> </ul> |
|---|--|

## LOCATION OF STOPS 56 to 63

- 56- Monument Louis XIV
- 57- Maison Parent
- 58- Monument Dialogue avec l'Histoire
- 59a- Banque Nationale
- 59b- Maison Estèbe
- 59c- Musée de la Civilisation
- 59d- Ancienne Banque de Québec
- 59e- Anciennes Banques de Montréal
- 59f- Édifice Dominion
- 59g- Ancienne Banque d'Hochelaga
- 59h- Ancienne Bank of Commerce
- 60- Monument de la Vivrière
- 61- Ex Machina
- 62- Édifice de la Douane
- 63- Monument Abraham Martin



## STOP 1: MONUMENT DE GAULLE

Place Montcalm, avenue Wilfrid-Laurier

**History:** the De Gaulle Monument was erected in the park on Place Montcalm, near avenue Wilfrid-Laurier, to commemorate the visit to Québec, in July 1967, of General Charles De Gaulle, President of France. It was unveiled on July 23, 1997. The bronze statue, showing the General in military uniform, was created by sculptor Fabien Pagé. On the front of the pedestal, the following words were engraved:

CHARLES DE GAULLE  
1890-1970  
PRÉSIDENT DE LA RÉPUBLIQUE  
FRANÇAISE  
DE 1958 À 1969

(translation: “Charles de Gaulle, 1890-1970, President of the French Republic from 1958 to 1969”), along with an excerpt from a speech he delivered on July 23, 1967: “*On assiste ici à l’avènement d’un peuple, qui dans tous les domaines, veut disposer de lui-même et prendre en main sa destinée*”. (translation: “We are witnessing here the coming of age of a nation, who wishes to control its own affairs and take its own destiny in hand”).

**Monument stone:** the die on which the statue is fixed consists of polished “Frosty Green” granite extracted from a quarry in Stratford, near Lac Aylmer in the Estrie region (see p.5), whereas polished “Atlantic Green” granite from Rivière-à-Pierre (see p.6) was used to adorn the angles and the slab at the base of the monument. Decorative tiles and bandelets around the monument are made of the same material.

**Weathering:** The colour of the Rivière-à-Pierre “Atlantic Green” granite has faded rapidly, and numerous white stringers and darker stains have developed.



De Gaulle Monument with pedestal in Frosty Green and Atlantic Green granites.

## STOP 2: MONUMENT JEANNE D’ARC

Parc Jeanne d’Arc

**History:** this monument to Joan of Arc (1409-1431) was erected in the centre of a beautiful flower garden, named Parc Jeanne d’Arc, to commemorate soldiers killed during the battle of the Plains of Abraham in 1759 and the battle of Sainte-Foy in 1760. This monument was reportedly anonymously donated by two Americans, very fond of the Old Capital. However, according to many sources, the donators are identified as Mr. and Mrs. A.W. Huntington, from New York City. The names of the sculptor and architect who created the statue are engraved on the cenotaph as Anna Hyatt Huntington and A. Baille. The monument was unveiled on September 1<sup>st</sup>, 1938. The equestrian statue represents Joan of Arc wearing an articulated armour, with headgear and visor raised, holding in her left hand the reins, and in her right hand her sword raised high to rally troops. This statue is an exact replica of one found in New York City.

**Monument stone:** the monument’s pedestal is formed of a 28- ton parallelepipedal block of Indiana Limestone, extracted from a quarry located near Bloomington, Indiana. It consists of calcarenite from the Carboniferous (Mississippian) Salem Formation (see p.3), and includes foraminiferous fossils and fragments of bryozoans, crinoids, corals, brachiopods, cemented by clear calcite. The limestone is massive and displays cross-laminations.

**Weathering:** the buff colour of the limestone results from the oxidation of iron present in minor quantities. This stone has resisted remarkably well to 60 years of exposure to harsh weather conditions and cold winters without developing fractures or alteration stains, except for green run-off from the corroding bronze, which colours the slab at the base of the pedestal and the projecting cornice beneath the equestrian statue. Only the sculpted designs on the slab at the base are slightly scaled in a few locations.



Joan of Arc Monument with pedestal in Indiana Limestone.

**STOP 3: DISCOVERY PAVILION OF  
THE NATIONAL BATTLEFIELDS  
COMMISSION**  
390, de Bernières

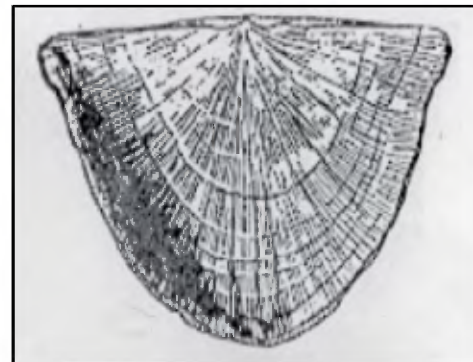
**History:** this building, resembling a small castle, was built in 1940-41 to house the offices of the National Battlefields Commission, which was created on March 3, 1908.

**Building stone:** the building is entirely clad in dimensional limestone of the Deschambault Formation quarried in Saint-Marc-des-Carrières, 80 km west of Québec (see p.3). Bossaged stones of variable height are set as random coursed ashlar to form a “Roman opus”. The stones consist almost exclusively of fossil debris typical of limestone quarried in Saint-Marc-des-Carrières, including white bivalve shells of the brachiopod *Rafinesquina alternata*, and white nipple-shaped colonies of the bryozoan *Prasopora orientalis*. Window and door frames are made of the same dimensional limestone but with a bush-hammered finish. A few blocks exhibit a residual black bituminous coating. Limestone quarry operations initially began in 1835 in Saint-Marc-des-Carrières, and have continued without interruption until the present day. The arrival of the Transcontinental Railway in 1879 had a considerable impact on the quarry operations, which eventually supplied the construction of large buildings in Québec City such as the Hôtel du Parlement, Église Saint-Jean-Baptiste, Town Hall and prestigious banks on rue Saint-Pierre. The brownish colour of the rock, its light-coloured patina, the brachiopods *Rafinesquina alternata* appearing as white shells 3 to 4 cm wide, and bryozoans *Prasopora orientalis* whose multi-fenestrule colony forms a white circular nipple-shaped spot, represent the distinguishing features used to identify Saint-Marc-des-Carrières limestone.

**Weathering:** Freshly quarried and cut Deschambault limestone is generally light grey, but with time it takes on a brownish beige colour, and fossil shells become very white.



390, de Bernières, built with limestone of the Deschambault Formation from Saint-Marc-des-Carrières.



Brachiopod: *Rafinesquina alternata*



Bryozoan: *Prasopora orientalis*

## STOP 4: MARTELLO TOWER N° 2

Corner of avenue Taché and avenue Laurier

**History:** the Martello\* Tower N° 2, built between 1808 and 1811, formed part of a line of defence composed of four towers west of town, between the St. Lawrence River and the Rivière Saint-Charles, built in the fear of an American invasion. The west wall, i.e. looking towards the countryside at the time, is thicker than the east wall, oriented towards the Fortifications. The tower was restored in 1988.

**Building stone:** the tower is built in squared blocks of dimensional Sillery sandstone, of the Nappe de la Chaudière (see p.4). This very quartz-rich green sandstone contains a subordinate amount of feldspar, and its matrix contains chlorite and/or glauconite. It frequently includes conglomeratic layers. Stones laid out parallel to bedding often display graded beds. This green Sillery sandstone, also called Cap-Rouge sandstone, was intensely quarried during the 19<sup>th</sup> century in several locations along the north shore of the St. Lawrence, between Cap-Rouge and the Québec Promontory, and along the south shore in the Lévis and Saint-David area. It was used in the 19<sup>th</sup> century to build the Fortifications, the Citadel, the prison on the Plains of Abraham, for churches and numerous upper class homes.

**Weathering:** sandstone blocks set on edge display a yellowish brown weathering rind, and have a tendency to peel. Tower N° 2 was restored in 1988.



Martello Tower N° 2 in Sillery sandstone of the Chaudière nappe.

*\*Military construction inspired from a Mortella tower in Corsica. The name Mortella later became Martello.*

## STOP 5: ÉDIFICE GUY-FRÉGAULT

225, Grande Allée Est

**History:** this structure was built in three phases: the south wing along avenue Wilfrid-Laurier and the central wing perpendicular to it were built between 1942 and 1945; whereas the wing that forms the façade on Grande Allée Est, an asylum for Protestant orphans, was torn down in 1954 to make way for a larger and taller building; finally, two stories and an attic were added to the central wing in 1964. The building currently houses the main offices of the Ministère de la Culture et des Communications.

**Building stone:** the dimension stone used for the upper stories consists of Saint-Sébastien grey granite (see p.5); blocks of variable dimensions form a mosaic pattern, whereas the window frames, trim and stringcourses consist of brushed Deschambault Formation limestone from Saint-Marc-des-Carrières (see p.3). The base of the building as well as the banister of the entrance portal, and the enclosing wall in the back are made of large bossaged blocks of grey-pink granite from Rivière-à-Pierre (see p.5). The stringcourse, with slope and overhang, that runs along the base of the building, the banister cap of the Grande Allée entrance portal and the coping of the enclosure wall on avenue Wilfrid-Laurier, as well as the sidewalk tiles are all made of flamed grey-pink granite from Rivière-à-Pierre.

**Weathering:** bossaged blocks of Rivière-à-Pierre grey-pink granite have a darker hue due to the absorption of soot, whereas the lighter colour of the stringcourse with slope and overhang and the copings made of the same flamed granite has remained.



Guy Fregault Building: walls in Saint-Sébastien grey granite; window frames in Deschambault limestone from Saint-Marc-des-Carrières; basement in grey-pink granite from Rivière-à-Pierre..

## STOP 6: PLACEMENTS QUÉBEC BUILDING 333, Grande Allée Est

This recent structure is partly covered in pale grey “White Birch” granite panels from the Saint-Gérard area in the Estrie region (see p.5), and the entrance portal is decorated with beautiful columns carved in “Cambrian Black” anorthosite from Saint-Nazaire in the Lac-Saint-Jean region (see p.7). The thermal finish brings out the white colour of the Saint-Gérard granite, and outlines shiny muscovite plates.

The adjoining Renaissance-style house, resembling a small castle, on the east side of the modern building used by Placements Québec, houses the Lise Watier Institute. It was built in the early 20<sup>th</sup> century, and with bossaged Beauport or Château-Richer limestone blocks (see p.3) set as coursed ashlar. The portico, window frames, footing and stringcourses are made of Deschambault limestone from Saint-Marc-des-Carrières (see p.3). Numerous blocks of Beauport or Château-Richer limestone were replaced in 1997, they are easily recognized thanks to the stone’s blue colour, whose surface will eventually be coated with a grey weathering rind, much like older blocks.



333, Grande Allée Est: Building in Beauport or Château-Richer limestone blocks, and trim in Saint-Marc-des-Carrières limestone.

## STOP 7: 425 AND 435, GRANDE ALLÉE EST

This opulent house at **425, Grande Allée Est** with its eclectic style, displays rounded and square elements, a gable, a conical turret roof and a pyramid-shaped roof. Built for Fred W. Smith, manager of the Banque d’Union de Québec in 1898-1899, it was purchased in 1912 by Louis-Alexandre Taschereau (1867-1952), Prime Minister of Québec from 1920 to 1936; he lived in this house until 1950. All the masonry walls of this luxurious house consist of squared

and bossaged limestone blocks of variable dimensions set as random coursed ashlar, quarried from the Deschambault Formation in Saint-Marc-des-Carrières (see p.3). The same limestone was used for portal ornaments, a cartouche left of the tower, the stringcourses and the gable. The limestone from Saint-Marc-des-Carrières is remarkably well preserved, only the gable needed to be consolidated given its vulnerable position.



425, Grande Allée Est: House in Deschambault Formation limestone from Saint-Marc-des-Carrières.

The house at **435, Grande Allée Est** was built in 1900, with an architectural style similar to the neighbouring house at number 425. It was owned by John H. Holt then by his widow from 1900 to 1951. The masonry is also in Saint-Marc-des-Carrières limestone.



435, Grande Allée Est: House in Saint-Marc-des-Carrières limestone.

## STOP 8: ÉGLISE SAINT-COEUR-DE-MARIE 530, Grande Allée Est

This Roman-Byzantine style church was constructed in 1919-1920. The walls are clad in bossaged grey-pink granite from Rivière-à-Pierre (see p.5), whereas the ornamentation of openings, arches and quoins are in Deschambault Formation limestone from Saint-Marc-des-Carrières (see p.3). Once again, the grey-pink granite from Rivière-à-Pierre has become much darker, almost black, over time due to the absorption of soot. Important restoration work was carried out on the tower in 1997.



Saint-Coeur-de-Marie Church built in grey-pink granite from Rivière-à-Pierre and Deschambault limestone from Saint-Marc-des-Carrières.

## STOP 9: MONUMENT MONTCALM Place Montcalm, Grande Allée Est

**History:** this monument stands in the small Parc Montcalm a few hundred paces from the location where the hero was mortally wounded on September 13, 1759, at the same time as Wolfe. It was unveiled on October 16, 1911. It is an exact replica of the Monument Montcalm in Vestric-Candiac, near Nimes in France, where the Marquis de Montcalm was born in 1712. The bronze statue is the work of artist sculptor Léopold Morice, and the light red granite pedestal was designed by architect Paul Chabert. The statue represents a mortally wounded Montcalm, his right hand supported by

an angel with long wings waiting to crown the hero. The only inscription engraved on the monument is:

« À MONTCALM, LA FRANCE, LE CANADA »

**Monument stone:** the pedestal is formed of light red granite extracted from a quarry in the St. George area, Charlotte County, New Brunswick (see p.6). The central body is made of polished light red granite, whereas the convex and concave rings beneath the bronze and at the base of the monument are made of the same material but with a bush-hammered finish, which gives it a pale pink colour. The circular base on the ground consists of bossaged blocks. This monument is a good illustration of the marked contrast between polished and bush-hammered surfaces. The quarries in St. George that delivered this red granite were sporadically operated between 1872 and the end of the 1940s, mainly for monument stone. It was used in Québec City for two other monuments, in honour of François-Xavier Garneau and Cardinal Elzéar-Alexandre Taschereau.

**Weathering:** the polished granite on this monument, exposed to harsh weather conditions since 1911, has preserved its original colour and does not show any sign of weathering. A small vertical crack is noted at the base of the central body and its underlying convex ring.



Montcalm Monument with pedestal in red granite from St. George, New-Brunswick.

## STOP 10: MAISON WILLIAM PRICE 575, Grande Allée Est

**History:** the house at 575 Grande Allée Est was built in 1901 by Sir William Price, the grandson of the founder of the Price Brothers Company. The Price family held this residence until 1937. It was then used by the Club Renaissance de l'Union nationale from 1945 to 1972, and in the 1980s was converted to a commercial establishment. In 1993-94, new commercial offices were built in front of the house on the ground floor.

**Ornamental stone:** the yellow-buff ornamental stone of the portal on the ground floor, of the large window on the overlying floor decorated with columns and arcades, and the semicircular balcony including a balustrade and columns, as well as all the window frames are made of Ohio sandstone quarried near Cleveland (see p.5), whereas the base of the commercial portion is mantled in Indiana limestone.

**Weathering:** the delicate sculptures carved in this sandstone are remarkably well preserved.



Ohio sandstone ornaments on the Maison Price.

## STOP 11: 641, GRANDE ALLÉE EST

**History:** this house, built in 1877-78 by an unknown owner, is one of the oldest houses built on the south side of Grande Allée, shortly after the land was sold by the government of Canada in 1876. The principal feature of this house is the reddish colour of its stone facing.

**Building stone:** the façade consists of bossaged white and reddish pink sandstone blocks set as coursed ashlar, whereas the window and door frames, and the stringcourse that separates the ground floor from the overlying floor, as well as the building's footing are entirely composed of red sandstone. The white, reddish pink and red sandstone comes from the Trois-Pistoles area, more specifically from a quarry near Lac Saint-Mathieu further east, that was in operation during the last quarter of the 19<sup>th</sup> century following the arrival of the Intercolonial railway.

**Weathering:** the white and pink sandstone is well preserved, but the red sandstone at the footing is fairly disintegrated.



Building in white, pink and red sandstone from the Robitaille Formation, Lac Saint-Mathieu.



**STOP 12: MONUMENTS ON PLACE  
 GEORGE V; SHORT-WALLICK, ROYAL  
 22<sup>e</sup> RÉGIMENT, VOLTIGEURS DE QUÉBEC  
 805, Grande Allée Est**

**History:** Place George V is a square located in front of the Manège militaire, where three commemorative monuments were erected to honour the history of soldiers from Québec City. The **Voltigeurs de Québec Monument** was unveiled on September 4, 1990 to honour this battalion created in 1862. The bronze figure is the work of sculptor Raoul Hunter.



Voltigeurs de Québec Monument with pedestal in Stanstead granite

The **Royal 22<sup>e</sup> Régiment Monument** was unveiled on November 11, 1989 to celebrate the 75<sup>th</sup> anniversary of this military corps, and to commemorate the regiment soldiers who died during the world wars of 1914-18, 1939-45, and the Korean war of 1950-53. The names of these soldiers are engraved on the grey granite walls on each side of the monument. The bronze bas-relief was sculpted by André D. Gauthier, who was inspired by the painting entitled “L’Avance” by artist A.T.C. Bastien, exposed at the Canadian War Museum in Ottawa.



Royal 22<sup>e</sup> Regiment Monument with low-relief frame in Stanstead granite.

The **Short-Wallick Monument** was demolished in 1999; it was dedicated to the memory of Major Charles John Short and Sergeant George Wallick, two military officers who sacrificed their lives to fight the fire that destroyed over 400 homes in the Saint-Sauveur district on May 15 and 16, 1889. The garrison’s mission was to tear down a few houses to stop the advancing fire, and the two courageous officers

were killed while checking a fuse that they believed had been put out and which caused a powder cask to explode. The monument was unveiled on November 12, 1891, in the square used for military exercises. It shows the free-standing busts of the two military heroes and a woman in high relief representing Québec City, holding in her left hand a shield decorated with the first emblem of Québec City drawn by painter Joseph Légaré in 1833, her right hand holds a flagpole carrying a flag in which the two military officers are draped, with this gesture she offers the citizen’s tribute to the two heroes. The bronze figures were designed by Montréal sculptor Louis-Philippe Hébert, and it is regrettable that they were removed from the public place.

**Monument stone:** the grey granite used for the three monument pedestals comes from quarries in Stanstead and Beebe in the Estrie region (see p.5). The granite of the oldest monument, the Short-Wallick erected in 1891, is coarser-grained than the other two. The Royal 22<sup>e</sup> Régiment Monument is a good illustration of the marked contrast between the polished and bush-hammered surfaces of the Beebe grey granite.

**Weathering:** the Short-Wallick Monument, more than a century old, displays slightly bleached feldspars on bush-hammered surfaces, as well as bronze-coloured biotite, however the polished plaque facing the Grande Allée has preserved its original polish. The corners of the second course have been affected by frost-induced fracturing. The granite of the two more recent monuments, Royal 22<sup>e</sup> Régiment and Voltigeurs de Québec, does not yet show any sign of weathering. However, a slightly greenish tinge is due to bronze corrosion products leaching onto the granite.



Short-Wallick Monument with pedestal in Stanstead granite.

### STOP 13: MANÈGE MILITAIRE 805, Grande Allée Est

**History:** the Manège Militaire (drill-hall) on Grande Allée, with its pitched gable roof, its conical towers, its fanciful designs and its French “château”-style, was designed by architect Eugène-Étienne Taché. The original construction took place between 1884 and 1887, and it was later expanded in 1913.

**Building stone:** the walls consist of Beauport limestone blocks of the Trenton Group (see p.3) set as coursed ashlar, whereas the buttresses, quoins, embrasures of windows and doors, false loopholes and the dormer window gables are made of Deschambault Formation limestone quarried in Saint-Marc-des-Carrières (see p.3).

**Weathering:** The Beauport limestone is coated by a grey weathering rind, and several blocks are cracked, particularly in the stone facing of towers. The limestone from Saint-Marc-des-Carrières appears to be much more resistant despite the fact it was used in more vulnerable locations on the building; on the other hand, it is stained by green corrosion products running off the copper roofing.



Manège Militaire on Grande Allée, built in Beauport limestone, Trenton Group, with limestone ornaments from the Deschambault Formation in Saint-Marc-des-Carrières.

### STOP 14: MONUMENT DUPLESSIS Parliament Hill, Grande Allée Est

**History:** Maurice Duplessis (1890-1959) was the Prime Minister of Québec from 1936 to 1939 and from 1944 to 1959. Sculptor Émile Brunet completed this statue in 1960, but it was installed on the Grande Allée only 17 years later, in 1977, because the former Prime Minister was criticized for his open dislike of labour unions and his sympathy for political patronage. Maurice Duplessis was however recognized as a fierce advocate of Québec autonomy, as illustrated in an excerpt from one of his speeches delivered in Trois-Rivières in 1944, engraved in the brown granite slab:

*« Nous ne voulons pas que la législature de Québec soit à la remorque d’Ottawa. Elle doit être menée par les citoyens du Québec ».* (translation: “We do not want the Québec legislature to trail behind Ottawa. It must be governed by the citizens of Québec”.)

**Monument stone:** the statue is fixed on a black granite die, “Noir Taillon” anorthosite to be exact, from Saint-Henri-de-Taillon, in the Lac-Saint-Jean region (see p.6). The large flagstone composed of rectangular tiles surrounding the base of the monument is made of “Nara Brown” granite, one of the principal varieties of grey-brown granite from the Rivière-à-Pierre area, located 100 km northwest of Québec City (see p.6).

**Weathering:** the colour of plagioclase grains in “Noir Taillon” anorthosite is beginning to fade in certain areas, whereas the “Nara Brown” granite’s colour and lustre have not been altered.



Duplessis Monument with pedestal in “Noir Taillon” anorthosite and flagstone in “Nara Brown” granite.

## STOP 15: HÔTEL DU PARLEMENT

**History:** the construction of the Hôtel du Parlement (Parliament Building) began in 1877, but it was only in 1886 that the central tower dedicated to Jacques-Cartier was finally erected. The design and plans of this majestic building are the work of architect Eugène-Étienne Taché, assisted by architects Jean-Baptiste Derome and Pierre Gauvreau. It is a Second Empire style building, largely inspired by the Old Louvre. The building's rough masonry work is entirely covered with bush-hammered dimensional limestone. The ground floor has a rusticated bossage dressing whereas the two upper stories are mantled in smooth-faced stone. The building is richly decorated with relief limestone sculptures. The entrance of the façade on Grande Allée and on rue des Parlementaires are adorned with a portico with Ionic pilasters, the frieze of the entablature shows a lion advancing between two "fleur-de-lys". Window piers contain cartouches showing the coat of arms of the first lieutenant governors of the Province. Atop the angle pavilions, delicate limestone sculptures frame the circular opening, and at the apex is an escutcheon with the Province's coat of arms topped by the royal crown, and held by two upright beavers.

**Building stone:** demolition stone from the former Collège des Jésuites, which occupied the parcel of land now hosting City Hall and which was torn down between 1877 and 1879, and Château-Richer limestone were used for the foundations and rough masonry work. The footing was initially covered in green sandstone extracted from quarries in Lauzon or Saint-David, i.e. Sillery sandstone from the Nappe de la Chaudière (see p.4). The advanced state of decay of the sandstone required its replacement in the early 1980s by flamed "Caledonia" granite from Rivière-à-Pierre (see p.6). All the façades are covered in dimensional limestone from Saint-Marc-des-Carrières (see p.3), with the exception of the walls in the inner courtyard, covered in La Malbaie sandstone of the Cap-à-l'Aigle Formation (see p. 4), and Château-Richer limestone of the Trenton Group (see p.3). All the sculptures decorating the façades were carved in Saint-Marc-des-Carrières limestone. During the construction, the *Skating Rink* was transformed into a workshop where about 60 stonecutters and master sculptors worked over a period of three years. Soot deposits on the stone facing and the sculptures made of Saint-Marc-des-Carrières limestone were removed twice, once using steel brushes in 1912, and more recently in 1977-1979 by sandblasting. The low wall delineating the land parcel around the Hôtel du Parlement is made of Stanstead grey granite (see p.5).

**Weathering:** Sillery sandstone covering the footing of the building had to be replaced due to its crumbled state; the replacing flamed "Caledonia" granite has developed a brownish hue due to oxidation. Deschambault limestone façades were freed of their soot deposits on two occasions: once in 1912 with steel brushes, and a second time in 1977-1979 by sandblasting



Hôtel du Parlement main facade in Deschambault limestone from Saint-Marc-des-Carrières. Basement is in "Caledonia" granite from Rivière-à-Pierre.

## STOP 16: ÉDIFICE ANDRÉ- LAURENDEAU, ÉDIFICE "D" 1050 et 1020, rue des Parlementaires

**History:** these two buildings have a Beaux Arts style architecture. Construction of the Édifice André-Laurendeau began in 1934 and ended in 1937. The plans were drawn by architects Lacroix, Drouin and Bergeron. The Édifice "D" was erected in 1931, following the plans of architects Auger, Beulé and Morissette. The two buildings are clad in rusticated stone and the main entrance is decorated with a portico including columns, capitals and an entablature.

**Building stone:** the rusticated ashlar of the first two stories of the Édifice André-Laurendeau consists of Saint-Sébastien grey granite (see p.5). The same stone was used for the columns, capitals, the entablature and the overlying balustrade. The rusticated stone facing of the seven upper stories consists of Deschambault Formation limestone from Saint-Marc-des-Carrières (see p.3). For the Édifice "D", Scotstown grey granite (see p.5) was used for the rusticated ashlar of the first two stories and for the four columns, capitals, entablature and the parapet decorated with a central cartouche and two transition vases. The five upper stories are mantled with long limestone blocks from Saint-Marc-des-Carrières set in rusticated ashlar.

## STOP 17: ÉDIFICE HONORÉ-MERCIER 1025, rue des Parlementaires

**History:** this four-story building crowned with a balustrade was built in 1922 based on the plans of architect Raoul Chênevert in a modern style. The Ministère des Finances occupied this building until it moved into the former Court House on rue Saint-Louis.

**Building stone:** the footing is clad in red gneissic granite whose origin could not be determined. The ground floor is in rusticated dimensional grey-blue granite from Rivière-à-Pierre, a homogeneous stone composed of white feldspar, clear quartz and small aggregates of biotite accompanied by apatite and zircon (see p.6). The three overlying stories are covered in smooth-faced dimensional Deschambault Formation limestone from Saint-Marc-des-Carières (see p.3). The interior decoration of this building is exceptional; it comprises a patchwork of marbles of various origins. Among the types of marble used, one can recognize light pink Tennessee marble (see p.7) used mainly for the flooring; Botticino marble from the Brescia area in Italy visible in the balustrade and the pilasters of the central hall, panels of white Italian marble in the passageways, black Missisquoi marble from the Philipsburg area in Québec (see p.7) forming the skirting boards at the base of the panels, pilasters and balustrade. The walls of the stairway and the vestibule are panelled with travertine from France. Stanstead grey granite and “Cambrian Black” anorthosite were used for the exterior stone facing on boulevard René-Lévesque; these stones may also be observed in the staircases and the retaining walls bordering the Promenade des Premiers Ministres.

**Weathering:** the stone facing is in very good condition.



Honoré-Mercier Building: base in red gneissic granite, ground floor in grey-blue granite from Rivière-à-Pierre and upper floor in Deschambault limestone from Saint-Marc-des-Carières.

## STOP 18: MONUMENT RENÉ-LÉVESQUE Parliament Hill, boulevard René-Lévesque Est

**History:** the monument dedicated to the memory of René Lévesque was unveiled on June 3, 1999; it is located on the lawn in front of Parliament Hill, on boulevard René-Lévesque Est, a few steps west of avenue Honoré-Mercier. The bronze statue is the work of sculptor Fabien Pagé and it is a fullscale replica of the former Prime Minister, at 1.63 metres (5 feet 4 inches). It rests on a grey granite slab in

an area delineated by a low wall composed of rectangular blocks of the same grey granite. The statue was offered to the Commission de la Capitale Nationale by the Fonds du dixième anniversaire du décès de René Lévesque en 1987. At the entrance of the enclosure one can read on the inclined face of a small granite block an inscribed quote from René Lévesque:

*« Il est temps où le courage et l'audace tranquilles deviennent pour un peuple aux moments de son existence la seule forme de prudence convenable. S'il n'accepte pas alors le risque calculé des grandes étapes. Il peut manquer sa carrière à tout jamais, exactement comme l'homme qui a peur de la vie. »*

RENÉ LÉVESQUE 1922-1987  
premier ministre du Québec de 1976-1985

(translation: “There comes a time when peaceful courage and boldness become for a nation at moments in its history the only acceptable form of wisdom. If it does not accept the calculated risk of major turning points, it may completely miss its calling, much like a man fearful of life itself”. René Lévesque, 1922-1987, Prime Minister of Québec from 1976-1985)

**Monument stone:** the slab on which the bronze statue rests, the blocks of the low wall and the bevelled block bearing the inscription are made of Stanstead grey granite (see p.5).



Monument René-Lévesque with Stanstead grey granite slab and wall.

**STOP 19: PORTAL OF THE GATE OF HONOUR OF THE HÔTEL DU PARLEMENT, AND MONUMENTS ENTITLED HALTE EN FORÊT AND PÊCHEUR À LA NIGOG**

Hôtel du Parlement

**History:** The construction of the central fore-building of the Hôtel du Parlement (Parliament Building), called the Jacques-Cartier tower, which stands at 172 feet (55.8 metres) tall, was completed in 1886, and the fountain at its base the following year. At the foot of this tower is the portal of the gate of honour which comprises two pilasters and four columns of the Ionic order terminated by capitals, a twisted flute, a semicircular vault, a tympanum with plant designs and a cornice decorated with dentils; the coat of arms of Québec is carved in a cartouche at the centre of this cornice, along with a ribbon at its base bearing the motto “JE ME SOUVIENS” (translation: “I shall remember”). A stone ramp around the fountain provides access to the gate of honour. Two bronze sculptures adorn the main entrance, the *Halte en forêt* (*Resting in the woods*) and the *Pêcheur à la nigog* (*Fisherman with a spear*), designed by Louis-Philippe Hébert. The *Halte en forêt* was installed facing the gate of honour in 1890 after a presentation at the Universal Fair in Paris in 1889, and the underlying niche received the statue of the *Pêcheur à la nigog* in 1891. These two sculptures are dedicated to the Amerindian nations of Québec. The central figure of the *Halte en forêt* represents the father of a native family, resting on his bow, watching his young son hunting, one knee on the ground and holding a taut bow, whereas on his left, the crouching mother, her head turned towards the young archer, absent-mindedly stokes the camp fire, and the younger son worms his way between the father and mother. On the ground are piled moose antlers, ferns, an arrow case and a war hatchet. At the base of this monument, the *Pêcheur à la nigog* stands atop a small waterfall ready to harpoon passing fish.



Portal of the honor entrance of the Parlement Building with columns in Quincy granite, capitals, vault, tympanum, cable moulding and walls in Terrebonne limestone, entablature in Deschambault limestone, and on the right the *Halte en forêt* Monument.

**Stone on the portal and the ramp:** the four columns and two pilasters consist of dark grey granite from Quincy, Massachusetts. This is a medium-grained peralkaline granite, composed of over 50% grey alkali feldspar, generally perthitic, 33% quartz, along with mafic minerals aegirine and riebeckite. The capitals, semicircular vault, tympanum, twisted flute and portal walls are made of grey limestone from Terrebonne, Chazy Group (see p.3). It consists of fragmented fossils and includes yellow dolomitic nodules. The cornice, the Québec coat of arms and the ribbon with the motto “JE ME SOUVIENS” are made of Deschambault Formation limestone from Saint-Marc-des-Carières (see p.3). Inside the building, the portal is panelled and decorated with delicate sculptures of grey Ohio sandstone (see p.5). The base of the monument entitled *Halte en forêt* and the parapets of the ramp are in Stanstead grey granite. The two recently added amortization balls at the top of the exterior ramp are made of “Acajou” granite from Saint-Thomas Didyme and their pedestals are in “Tadoussac” gneiss from Les Bergeronnes, whereas the four amortization balls at the bottom of the ramp are in red granite from St. George, New Brunswick (see p.6). The stair run is made of “Tadoussac” gneiss from Les Bergeronnes whereas the nosing is made of “Péribonka Black” anorthosite (see p.6). The wall enclosing the fountain is in bossaged Stanstead granite (see p.5). A lintel of St. George red granite overlies the recessed niche carved in Saint-Marc-des-Carières limestone which hosts the statue of the *Pêcheur à la nigog*. The skirting boards



Ball and pedestal in red granite from St. George, New Brunswick. Parapet in Stanstead grey granite, baseboard in “Vieil Or” granite, stair run in “Tadoussac” gneiss and nosing in “Péribonka Black” anorthosite.

at the base of the parapets and the small dark red blocks of the flagstone are made of “Vieil Or de Saint-Alban” granite, whereas the small black blocks are in “Péribonka Black” anorthosite. The dark green stone die supporting the information panel on the façade of the Hôtel du Parlement is made of “Prairie Green” granite, a mangerite from Rivière-à-Pierre (see p.6).

**Weathering:** the Stanstead granite is healthy, but the surfaces of Quincy granite columns are pitted with small cavities due to loosened black mineral grains, whereas the pilasters are even more affected by this honeycomb alteration. Ernest Gagnon described in 1897, in his book on the Palais Législatif de Québec, the granite forming the columns and pilasters as green. Due to prolonged exposure to light, the original colour of the Quincy granite has changed to a dark grey. The bush-hammered surface of St. George red granite has faded slightly; it is locally soiled with rust probably derived from former wrought iron ornaments. Saint-Marc-des-Carières limestone is still in very good condition, but the Terrebonne limestone exhibits scaled dolomitic nodules altered to yellow, it is also fractured along bedding planes or stylolites, and it is considerably corroded in the lower part of the portal walls.



Niche of “Pêcheur à la Nigog” sculpture in moulded limestone blocks from the Deschambault Formation in Saint-Marc-des-Carières, overlain by a lintel of red granite from St. George, New Brunswick.

## STOP 20: MONUMENT HONORÉ-MERCIER Facing the Hôtel du Parlement

**History:** this monument was erected in memory of the Honourable Honoré Mercier (1840-1894), a remarkable statesman, who was Prime Minister of Québec from 1887 to 1892. The monument was unveiled on June 25, 1912; it is the work of French sculptor Paul Chevré. The artist wanted to highlight Mercier’s eloquence in a tall bronze statue, representing the man delivering a speech, with his right arm extended towards the crowd. The monument is adorned with two high relief carvings: a woman holding a flag, the expression of Patriotism, and harvesters symbolizing Abundance. A famous quote from Mercier is engraved on the main façade:

« *CESSONS NOS LUTTES FRATRICIDES,  
UNISSONS-NOUS* »

(translation: “*Let us put an end to our fratricidal battles and unite*”). Cartouches on the south and north faces show speech excerpts from Mercier, one on Patriotism and the other on Justice.

**Monument stone:** the column on which the bronze statue stands, and the pedestal at the base adorned with mouldings and volutes made of Stanstead grey granite (see p.5) Black mica (biotite) nodules, often with green apatite, are characteristic of this granite.

**Weathering:** feldspar crystal surfaces are slightly dulled. The concave faces of the pedestal underneath the bronze high reliefs are stained orange and greenish yellow and show dark green streaks, caused by the run-off of bronze corrosion products from the high reliefs, absorbed by milky feldspar grains. The biotite in the nodules has taken on a bronze-like colour.



Honoré Mercier Monument with column and pedestal in Stanstead granite.

**STOP 21: LA CROIX DU SACRIFICE**  
rue Saint-Louis

**History:** the Croix du Sacrifice (Cross of Sacrifice) stands on rue Saint-Louis, at the entrance of the National Battlefields Park. The monument was unveiled on July 1<sup>st</sup>, 1924, almost six years after the Armistice of November 11, 1918, in order to commemorate the soldiers who died during the First World War of 1914-1918. Later on, the dates 1939-1945 were added in memory of those who were killed in action during the Second World War, and 1950-1953 for those who died during the Korean War. The crosspiece bears a bronze sword and the following epigraph appears on the pedestal:

À  
NOS  
GLORIEUX  
MORTS  
JE ME SOUVIENS

(translation: “To our glorious war dead, I shall remember”). The Croix du Sacrifice rests on a granite base composed of four octagonal steps. The program for the unveiling ceremony on July 1<sup>st</sup>, 1924, a copy of Québec newspapers published on that day and coins in use at the time were deposited in the base of the monument.

**Monument stone:** the cross, made of a single stone, and the four octagonal steps at the base are made of Stanstead grey granite (see p.5).

**Weathering:** the granite of this monument is very well preserved. Only a few darker shadows appear on certain blocks at the base.



Croix du Sacrifice in Stanstead granite.

**STOP 22: MONUMENT F.X. GARNEAU**  
rue Saint-Louis

**History:** this monument to François-Xavier Garneau (1809-1866), historian, was offered to the Provincial Government by the Honourable G.E. Amyot, and was unveiled on October 10, 1912. Garneau’s main opus is his “Histoire du Canada” (History of Canada), published in three volumes in 1845, 1846 and 1848 respectively. The bronze statue of Garneau was realized by French sculptor Paul Chevré. It represents the national historian sitting in a large armchair, his left hand resting on his left knee and his right hand about to dip his goose feather in an inkbottle. François-Xavier Garneau is the person who gave the name “Laurentides” to the mountain range of the Canadian Shield. The following words are engraved in the stone façade of the monument:

GARNEAU  
FRANÇOIS-XAVIER  
HISTORIEN  
1809-1866

and below the donator G.E. Amyot is identified.

**Monument stone:** the bronze statue rests on a stylish pedestal of bright red granite, adorned with a cornice, dentils, a die with projecting elements and a moulded base. Engraved inscriptions show an excellent contrast between polished and bush-hammered surfaces. This bright red granite comes from a quarry in the St. George area, Charlotte County, New Brunswick (see p.6)



F.X. Garneau Monument with pedestal in bright red granite from St. George, New-Brunswick.

## STOP 23: MONUMENT TO THE CONFERENCES OF 1943 AND 1944

East of Porte Saint-Louis

**History:** this monument unveiled on May 7, 1998 consists of three parts, two of which are parabolic granite structures recalling the alliance and cooperation among the Allies, consecrated in the Capital; two bronze busts resting on pedestals commemorate the attendance of President Roosevelt and Prime Minister Churchill to the conferences. The central drum-shaped granite segment recalls the events and shows an admirable quote from Prime Minister King: “*Ne serait-ce pas magnifique si l’histoire pouvait raconter que c’est à Québec que l’on a assuré la libération de la France ?*” (translation: “Would it not be magnificent if History could state that it was in Québec City that the liberation of France was assured?”) The bust of Roosevelt is the work of Jo Davidson, and was donated by the Franklin Foundation and Eleanor Roosevelt; the bust of Churchill is the work of Oscar Nemon and was offered by Rolls-Royce.

**Monument stone:** the monument is made of Stanstead grey granite (see p.5). The pedestal holding the bust of Roosevelt is in “African Black” granite.



Monument of the Québec Conferences of 1943 and 1944 in Stanstead grey granite

## STOP 24: MONUMENT TO THE WAR HEROES OF THE BOER WAR

OF 1899 TO 1902  
Parc de l’Esplanade

**History:** this monument was erected in memory of Québec soldiers who participated in the English/Boer war in South Africa from 1899 to 1902. Twelve soldiers from Québec were killed in action during this war waged by the British Empire. The monument was unveiled on August 15, 1905; it is the work of Toronto artist Hamilton McCarthy. The bronze statue represents a Canadian soldier in uniform, in stand-at-ease position, holding in his right hand a flagpole with a Union Jack fully unfurled. On the first step of the monument, four howitzers stand at each corner. A cartouche

in the pedestal facing rue Saint-Louis bears the following inscription:

TO  
THE SONS OF  
QUEBEC  
WHO GAVE THEIR LIVES IN  
SOUTH AFRICA WHILE FIGHTING FOR THE  
EMPIRE  
A.D. 1899-1902

In the back, the same inscription is repeated in French:

À  
CES FILS DE QUÉBEC  
QUI ONT DONNÉ LEUR VIE DANS  
L’AFRIQUE DU SUD  
EN COMBATTANT POUR L’EMPIRE  
A.D. 1899-1902

**Monument stone:** the pedestal column supporting the soldier’s statue is formed of Stanstead grey granite (see p.5), and the steps at the base of the pedestal consist of four courses of bossaged Sillery sandstone blocks (see p.4).



Monument to the war heroes of the Boer War with pedestal in Stanstead granite and base in Sillery sandstone.



**STOP 25: MAISON SEWELL**  
87, rue Saint-Louis

**History:** this house facing the Esplanade, an example of late 19<sup>th</sup> century British classicism, was built in 1803-1804 for the Chief Justice of Lower Canada, Jonathan Sewell (1766-1839), who lived here for 30 years. The Government of United Canada purchased this house in 1854. It was occupied by the Department of Postal Services, and successively accommodated Governor General Monk, Lieutenant Governor Narcisse-Fortunat Belleau and Prime Minister Pierre-Joseph-Olivier Chauveau. Since 1894, it has become the property of the Department of National Defence who converted it to house its offices.

**Building stone:** the façade is composed of L'Ange-Gardien sandstone blocks set as coursed ashlar. This is a red, ochre brown or green, calcareous, lithic sandstone extracted from a turbidite sequence intercalated in shales of the Lorraine Group along the Côte de Beaupré; it sometimes contains brachiopods (see p.4). This sandstone, reportedly discovered by military engineer Chaussegros de Léry, was abundantly used as building stone from about 1730 to about 1830. The window and door frames of the façade are made of dimensional limestone from Pointe-aux-Trembles.

**Weathering:** L'Ange-Gardien sandstone contains a sufficient amount of iron oxides to keep its original red or ochre brown colour permanently. It is remarkably resistant to freeze/thaw cycles.



Maison Sewell in sandstone from Ange-Gardien, a turbidite sequence in Lorraine.

**STOP 26: MAISON CUREUX**  
86, rue Saint-Louis

**History:** this house, built in 1729 by innkeeper Michel Cureux, is the oldest dwelling on rue Saint-Louis after the maison Jacquet, located further east, at the corner of rue des Jardins, which dates back to 1675. In 1890, the pitched roof was replaced by a mansard roof. The façade masonry was protected with roughcast, which was removed in 1968 when the house was restored to accommodate business offices.

**Building stone:** the façade displays rough blocks of “Pierre noire du Cap” set as random coursed ashlar. This is the black calcareous shale belonging to the middle Ordovician Québec City Formation, from the Québec Promontory Nappe (see p.1). This shale forms the major portion of the Québec Promontory, and the maison Cureux was built directly on this rock formation. The stone was taken on the construction site itself, or from one of several quarries located namely in the Basse-Ville district near the Champlain Fountain, in the Côte d’Abraham, and in the Haute-Ville at the corner of rue Saint-Patrice, Berthelot and Prévost, and in front of the Parc des Gouverneurs on rue des Carrières.

**Weathering:** this “Pierre noire du Cap” is a poor choice for exterior masonry, as it is particularly fissile when exposed to air and water, especially when blocks are set on edge, and to ensure a lasting structure, stone-filled walls were built, or else the exterior walls were panelled with wood planks or coated in roughcast.



Maison Cureux in calcareous black shale of Ville de Québec Formation, Promontoire de Québec nappe.

## STOP 27: TERRACED HOUSES FORMING THE MANOIR DE L'ESPLANADE

77-83, rue d'Auteuil

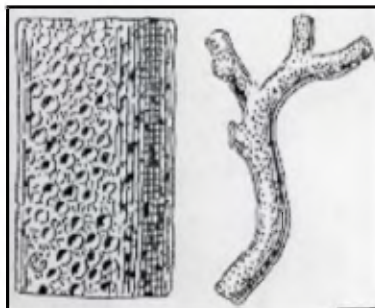
**History:** these four terrace-type row houses were built in 1845-1846 by the Ursulines whose intention was to collect rental fees. The plans were drawn by architect Michel Patry. The nuns remained the owners until 1965; but the building is now occupied by the Hôtel Manoir de l'Esplanade.

**Building stone:** the stone facing, the stringcourses and the frames of openings are made of finely bush-hammered dimensional limestone from Pointe-aux-Trembles (see p.3). This limestone is characterized by a dark grey matrix rich in organic matter, coated by a pale beige weathering rind, the presence of branching bryozoan fossils (*Hallopora*) and frequent stylolites. Historical accounts reveal that Pointe-aux-Trembles limestone was used as early as 1714, and up until 1860, when the quarries were abandoned at the profit of limestone from Saint-Marc-des-Carrières.

**Weathering:** in the lower part of the building, the bush-hammered limestone surface has a tendency to scale off, and beneath the pale beige weathering rind appears the dark grey limestone rich in organic matter, including branching bryozoans and white crinoids.



Manoir de l'Esplanade in Deschambault Formation limestone from Pointe-aux-Trembles.



Bryozoans:  
*Hallopora*

## STOP 28: MAISON MCGREEVY

69, rue d'Auteuil

**History:** this house, which several observers claim to be the most beautiful house in Québec City, was built in 1867 for Thomas McGreevy, member of the federal parliament, legal counsellor, general contractor for the Parliament Buildings in Ottawa and the Québec-Ottawa railway. The plans were drawn by architect Thomas Fuller, who participated in the plans for the construction of the first Parliament Building in Ottawa, which burnt down in 1916. The stone facing consists of yellow sandstone. This house is richly decorated with architectural elements borrowed from the Italian Neo-Renaissance style, including large windows with moulded semicircular arches, keystones, cable moulding running along the windows, decorative panels, columns, plant motifs, and a parapet with balustrade. From 1892 to 1971, it was the residence of the Anglican bishop of Québec City, and it contains a chapel.

**Building stone:** the sandstone used for the façade of this house comes from a quarry in Nepean Township, about 20 km west of Ottawa. It belongs to the Nepean Formation of the Cambrian Potsdam Group. The fine-grained sandstone essentially consists of quartz, and its creamy yellow colour is due to a small quantity of iron oxide. It displays crossbedded structures. This stone allows for delicate and durable sculptures. The base of the house is made of Saint-Marc-des-Carrières limestone (see p.3). The house contains a total of 15 marble fireplaces.

**Weathering:** the yellow colour of the sandstone has been preserved, and the delicate sculptures have resisted remarkably well to harsh weather conditions.



Maison McGreevy in Nepean Formation sandstone, Potsdam Group, Cambrian

## STOP 29: HOUSE AT 51, RUE D'AUTEUIL

**History:** this house was built in 1832 for Ann Blake, and the original pitched roof was replaced in 1887 by a mansard roof. The façade is formed of Beauport limestone of the Trenton Group (see p.3) set in coursed ashlar.



51, rue d'Auteuil, built with Beauport limestone, Trenton Group.

## STOP 30: MAISON SEWELL-PAQUET 49, rue d'Auteuil

**History:** William Smith Sewell, Sheriff of Québec City and son of the Head Justice of Lower Canada Jonathan Sewell, commissioned this Neo-Classical house in 1835. The plans were drawn by architect Frederick Hacker. The façade wall contains tooled Sillery sandstone from a Cap-Rouge quarry set as coursed ashlar. The portico was rebuilt in 1912 in Deschambault Formation limestone from Saint-Marc-des-Carières. This house now hosts the Manoir d'Auteuil.

**Building stone:** the Sillery sandstone, also known as Cap-Rouge sandstone or Saint-Nicolas sandstone, outcrops in the Nappe de la Chaudière (see p.4). It is a green quartz-rich sandstone with a minor feldspathic component, and a chloritic or glauconitic matrix.

**Weathering:** this dark green to greyish green sandstone tends to become yellowish green after several years of exposure to harsh weather conditions. It is well cemented, with a low porosity and consequently resists well to the adverse effects of freezing.



Maison Sewell-Paquet in Cap-Rouge (or Sillery) sandstone, Chaudière nappe.

## STOP 31: HOUSE AT 43, RUE D'AUTEUIL

**History:** this house was built in 1834-35 for Henry Atkinson, a wealthy merchant, according to the plans of architect Frederick Hacker. From 1836 to 1841 it housed the Hôtel Payne. The stone facing is made of Sillery sandstone quarried in Cap-Rouge (see p.4)



43, rue d'Auteuil, built in Sillery sandstone from Cap-Rouge.

**STOP 32: PLACE D'YOUVILLE  
(PALAIS MONTCALM;  
LE CAPITOLE; PORTE SAINT-  
JEAN; MONUMENT LES MUSES)**

Place d'Youville is bounded to the south by the Palais Montcalm, to the west by the Laurentian Bank and Trust building, to the north by rue Saint-Jean and the sumptuous Théâtre Le Capitole, and to the east by the Fortification walls and the Porte Saint-Jean.

The **Palais Montcalm** (32a) is a concert hall and theatre. It was built in 1932 after the marché Montcalm (market), which occupied the site from 1877 to 1931, was torn down. It is an Art Deco style building, clad in dimensional limestone from the Deschambault Formation in Saint-Marc-des-Carières (see p.3).

The first two stories and panels on the upper stories of the façade of the **Laurentian Bank and Trust** building (32b), built in 1931, are in dimensional Indiana limestone, whereas the **Royal Bank** building erected in 1970 is made of pink concrete.

In the centre of **Place d'Youville**, a skating rink was set up in 1988, and the ground was covered in "Royal Canadian Red" granite tiles from Manitoba, with the exception of a plaque and a few aligned stones made of "Cambrian Black" anorthosite in the staircase leading to the Palais Montcalm (see p.6). This alignment of black stones marks the location of a former counterscarp wall which stood here between 1749 and 1875, and which was built by military engineer Gaspard Chaussegros de Lery to support the glacis of the defence system of the fortified city.

West of the skating rink stands the magnificent monument **Les Muses** (32c). This beautiful sculpture by Alfred Laliberté (1878-1953) was donated by the Government of Québec to Québec City to commemorate its 375<sup>th</sup> anniversary in 1983.



Les Muses Monument with a pedestal in Royal Canadian Red granite from Manitoba.

Les Muses represent the Greek-Roman literary and artistic divinities. The two standing goddesses represent eloquence and music, those in a sitting position symbolize, from left to right, architecture, sculpture, painting, and lyrical poetry. Les Muses rest on an oval pedestal formed of "Royal Canadian Red" granite from Whitemouth, Manitoba (see p.6). The lustre and colour of the granite are well preserved. On the left side of the pedestal, small shatterings and two fractures with bleached feldspars appear at the margins.

The **Théâtre Le Capitole** (32d), with its impressive quarter-round façade, perfectly adapted to its narrow setting, was designed by American architect Walter Scott Painter, who gave it a style directly influenced by the French Eclectic style characteristic of the Third Republic. This building formerly housed the Académie de Musique, which was burnt down in 1900. It was then rebuilt in 1903-1904 to become the Auditorium de Québec, but it was only in 1927 that the interior was considerably modified by architect Thomas W. Lamb to become a prestigious movie theatre. The latest restoration was carried out in 1991-1992 according to the plans of architects Denis St-Louis et Associés. The façade is decorated with imposing columns, entablature, stringcourse and ornaments made of Deschambault Formation limestone from Saint-Marc-des-Carières (see p.3). The mansard roof is covered in red slate probably originating from the Granville area in New York State.

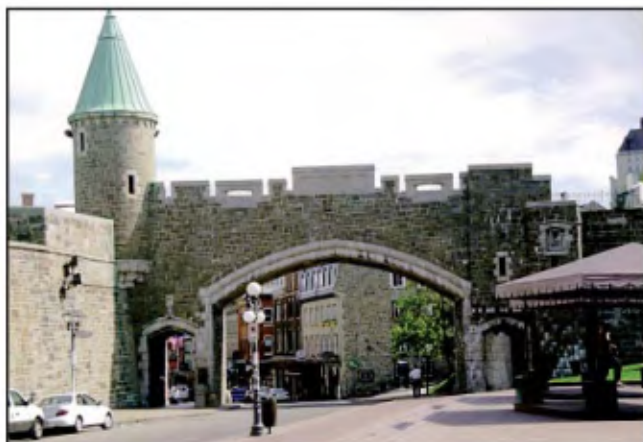


Théâtre Le Capitole: façade in bricks with Saint-Marc-des-Carières limestone trimmings and original slate roof.

The first **Porte Saint-Jean** (32°) was erected in 1693, a bit further west of rue Saint-Stanislas, where the city's first fortification walls stood. Following the westward displacement of the fortification walls in 1720, it was torn down and rebuilt in 1745 and again in 1867 on the site where it is now. The 1867 gate was erected in chamfered dimensional limestone from Saint-Marc-des-Carières; it included two principal arcades for travelling carts and horse drawn tramways, and two wickets for pedestrians. An inscription reading "ST. JOHN'S GATE" appeared on the lintel in the centre of the entablature. The arrival of electricity in Québec City allowed the use of electric tramways, first in 1892 on rue Saint-Joseph, and in 1897 on rue Saint-Jean, which brought on the demolition of the Porte Saint-Jean in the same year, as it hindered traffic. Dimensional limestone blocks from the former gate built in 1867 were used for the supporting wall on the south side of the current gate. It was only in 1938-39 that the current medieval-style gate was rebuilt, in compliance with Lord Dufferin's wishes; the latter is made of Sillery sandstone (see p.4) with borders made of Deschambault Formation limestone from Saint-Marc-des-Carières (see p.3).



St. John's Gate built in 1867 with cut stones of Deschambault Formation limestone, when tramways were pulled by horses (Notman archives).



St. John's Gate built in 1938-39 in Sillery sandstone trimmed with Deschambault limestone from Saint-Marc-des-Carières.

### STOP 33: MAISON OWEN MURPHY 30, rue Sainte-Ursule

**History:** Owen Murphy, former mayor of Québec City from 1874 to 1878, had this three-story house built in 1873 with a façade of beige and brownish grey sandstone. The plans were drawn by architect Joseph-Ferdinand Peachy. From 1910 to 1920, the building housed the Hôpital Saint-Luc, and was later transformed into an apartment building.

**Building stone:** the façade displays bossaged blocks of beige grey calcareous sandstone from La Malbaie, more specifically from Cap-à-l'Aigle (see p.4), set as coursed ashlar. The windowsills and consoles, the arched lintels decorated with scrolled sculptures, the cable window and door jambs, as well as the rustic stones at both edges of the façade, are all made of Ohio sandstone (see p.5). La Malbaie calcareous sandstone is formed of rounded frosty quartz grains about 1 mm in diameter, embedded in calcite cement. The base of the building is made of Saint-Marc-des-Carières limestone (see p.3).

**Weathering:** both sandstones (La Malbaie and Ohio) used for the stone facing of this house proved to be very durable stones; the lintel sculptures and cable window and door mouldings have preserved their delicate details.



Maison Owen Murphy: front wall in La Malbaie sandstone, window and doorway frames in Ohio sandstone. Base in Deschambault limestone.

**STOP 34: CHALMERS-WESLEY  
UNITED CHURCH**  
78, rue Sainte-Ursule

**History:** the construction of the Chalmers-Wesley United Church began in 1851, and the inauguration took place in 1853. The plans were prepared by architect John Wells, who was inspired by the Neo-Gothic style with walls shored up by powerful buttresses capped by pinnacles, and a fore-central tower topped with a spire reaching 49.2 metres (162 feet) in height.

**Building stone:** the building is entirely clad in dimensional limestone with a roughly tooled dressing and bush-hammered ornaments. It probably consists of Deschambault Formation limestone, from Pointe-aux-Trembles (see p.3).

**Weathering:** prior to the important restoration work carried out in 1999 on the masonry, several stones at the base of the buttresses supporting the central tower were intensely fractured, and the façade was covered in soot and numerous efflorescence stains.



Chalmers-Wesley Church in Deschambault limestone from Pointe-aux-Trembles.

**STOP 35: HOUSES ON RUE DE LA PORTE  
AND RUE DES GRISONS**  
Numbers 2 to 16, rue de la Porte;  
1 and 15, rue des Grisons

**History:** these Victorian-style terrace-type houses were built in 1899 and 1900 by the widow of general contractor Simon Peters. The walls are in olive green sandstone imported from quarries in the Bouctouche area, New Brunswick, set as coursed ashlar.

**Building stone:** Bouctouche sandstone (see p.5) is olive green; it contains detrital grains composed of variably coloured quartz fragments, decomposed pink and white feldspars and volcanic rock clasts. Part of the original dark grey slate roofing was preserved. The base is made of Deschambault Formation limestone, from Saint-Marc-des-Carières (see p.3).

**Weathering:** the high iron oxide content (2 to 3%) ensures a permanent olive green colour. However, the high porosity, which varies from 15 to 20%, favours the absorption of soot (see 16, rue de la Porte) and the disintegration of the stone due to the freeze/thaw cycle (see 1 and 15, rue des Grisons).



16, rue de la Porte, built in sandstone from Bouctouche area in New-Brunswick, with base in Deschambault Formation limestone.



Disintegration of Bouctouche sandstone, 1, rue des Grisons.

**STOP 36: MONUMENT  
WOLFE-MONTCALM**  
Jardin des Gouverneurs

**History:** this is the first commemorative monument erected in Québec City. It pays tribute to two enemy heroes who died on the field of honour on September 13, 1759. Wolfe was only 32 years old, whereas Montcalm was 47. The monument, meant to represent the cordial relations in Canada, was initially executed according to the plans of Captain Young of the 79<sup>th</sup> Highlander Regiment, and was inaugurated on September 8, 1828. However, 41 years later, the obelisk was taken down and rebuilt according to the plans and specifications of J.F. Rickson; this second version was inaugurated on September 8, 1869. The current monument is an obelisk totalling 20.1 metres in height, with a pedestal including a cenotaph. On the left side appears the name of WOLFE in large characters, and on the right side the name of MONTCALM also in large characters. On the cenotaph facing the river, appears a first inscription in Latin:

MORTEM VIRTUS COMMUNEM  
FAMAN HISTORIA  
MONUMENTUM POSTERITAS DEDIT

(translation: “*Their courage brought them death; history, renown; posterity, monument*”.) Below appears a second longer inscription in Latin, composed by the troop’s chaplain, Dr. Mills.

**Monument stone:** the monument includes the column of the obelisk, the pedestal and the cenotaph, made of squared blocks of bush-hammered Deschambault Formation limestone from Pointe-aux-Trembles (see p.3). Two white marble plaques hold the inscriptions.

**Weathering:** the obelisk was rebuilt in 1869 because a large vertical fracture threatened its collapse. The limestone blocks forming the pedestal and the lower part of the column, i.e. the cenotaph, are considerably darkened due to the absorption of soot, and the presence of stylolites has favoured the development of numerous fractures.



Wolfe-Montcalm Monument in Deschambault limestone from Pointe-aux-Trembles.



Fracturing along stylolites in Pointe-aux-Trembles limestone on the Wolfe-Montcalm Monument.

## STOP 37: HÔTEL CHÂTEAU FRONTENAC

**History:** the construction of the Château Frontenac by Canadian Pacific began in 1892, with expansions in 1897 and 1908, and the erection of the central 18-story tower in 1924. New York architect Bruce Price is the man behind this château-style structure.

**Building stone:** the building is dominantly covered in brick, but the ground floor and numerous ornaments are made of dimensional limestone from the Deschambault Formation in Saint-Marc-des-Carières, except on the side facing the Jardin des Gouverneurs, where dolomitic limestone of the Chazy Group, from a quarry located in Saint-François-de-Sales on Île Jésus, was used (see p.3). Chazy limestone may be recognized due to the brown weathering of dolomitic nodules producing a honeycombed surface, and by characteristic fossils including large gastropods. The interior walls of the ground floor of the hotel are clad in Tyndall limestone from Manitoba.

**Weathering:** Dolomitic nodules in Chazy limestone display a yellowish brown weathering that creates a honeycombed microrelief.



Gastropods in Chazy limestone, Château Frontenac.



Château Frontenac built in part in Deschambault limestone from Saint-Marc-des-Carières and also in Chazy limestone.



## STOP 38: MONUMENT CHAMPLAIN Terrasse Dufferin

**History:** the monument to Samuel de Champlain (ca. 1570-1635) stands on the Terrasse Dufferin, next to the Château Frontenac. It is dedicated to the memory of the founder of Québec, Governor of Nouvelle-France and discoverer of the Great Lakes. Its realization is the result of an initiative by the Société Saint-Jean-Baptiste de Québec and of contributions by Québec City and its citizens, and the governors of Canada, Québec and Ontario. It was unveiled on September 21, 1898. The monument stands 16 metres tall. The bronze statue of Champlain, 4.25 metres in height and perched atop the monument, as well as the bronze high relief fixed to the pedestal are the work of sculptor Paul Chevré, whereas the design of the pedestal was done by architect Paul Le Cardonnell, both from Paris. The statue shows Champlain saluting Canadian soil, holding in his right hand a feathered hat, and in his left hand his rolled-up credentials. The bronze high relief includes a woman symbolizing Québec City, who is noting in a book the highlights of History; to the right, a child symbolizing the spirit of navigation, and at the top, an angel with outstretched wings and bugle in mouth trumpeting the glory of this tireless explorer. The monument also displays various coats of arms, namely of Canada, Québec and Brouage (Champlain's native city) as well as several other epigraphs.

**Monument stone:** the steps are made of red granite from the French Vosges Massif. It is a medium-grained granite with coral pink feldspars, similar to granites quarried today in Selones, about 40 km northwest of Strasbourg. The 10.4 metre high pedestal, richly decorated with sculptures, mouldings, consoles and volutes, is made of Château-Landon limestone, quarried in the Bassin de Paris, 100 km south of Paris. It is one of the most renowned stones in France, where it was used for numerous monuments such as the Arc de Triomphe and the Montmartre Basilica in Paris. The lacustrine limestone from the Ludian sub-stage in the upper Eocene (37 Ma), has a creamy white colour with a porcelain aspect; it is fossiliferous, and contains calcite re-crystallizations. It is characterized by *Lymnea* and *Planorbis* fossil prints (pulmonate gastropods).

**Weathering:** the limestone pedestal is porous and very vulnerable to our harsh weather conditions. Lesions in the stone are numerous, the corners are particularly fractured, and projecting elements tend to disintegrate. The monument was completely restored in 1983, and new fill-in repairs were made in 1998.



Samuel de Champlain Monument with pedestal in Château-Landon limestone and base steps in Vosges granite, France.

## STOP 39: MONUMENT DE LA FOI

Place d'Armes

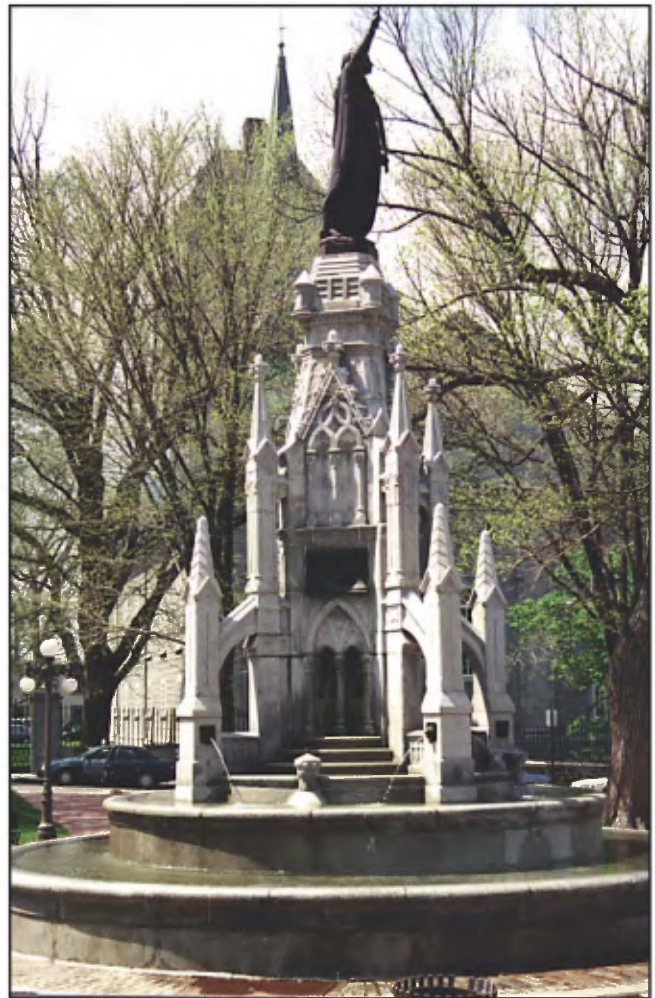
**History:** this Gothic-style monument-fountain was erected to commemorate the tri-centennial introduction of Faith in Canada (1615-1915) with the arrival of the Recollect Fathers. It was unveiled on October 16, 1916. The plans of this 12 metre high monument and of the fountain basin, nearly 10 metres in diameter, were prepared from a sketch by abbot Adolphe Garneau by the Maison Gaston Vennat et Cie from Montréal and architect David Ouellet. The statue and the three bronze bas-reliefs were cast in France at the Institut catholique de Vaucouleurs. The monument, delicately sculpted in granite, comprises four buttresses adorned with small gargoyles, and four pilasters, each capped by a pyramid and a finial where the flying buttresses join up. The statue symbolizes Faith in a woman holding a cross in her right hand and a palm in her left hand. Three sides of the monument are adorned with bas-reliefs: the first represents the arrival of Father Jean Dolbeau on June 2<sup>nd</sup>, 1615; a second recalls the first mass celebrated by the Recollects on the Île de Montréal in Rivière-des-Prairies; the third shows Father Joseph LeCaron in Huron country. The fourth side bears a metallic plaque with the inscription:

1615  
NOS PREMIERS MISSIONNAIRES  
LES RÉCOLLETS  
DENYS JAMMET  
JOSEPH LECARON  
JEAN DOLBEAU  
PACIFIQUE DUPLESSIS  
LES CANADIENS RECONNAISSANTS

(translation: "1615, to our first missionaries, the Recollects Denys Jammet, Joseph LeCaron, Jean Dolbeau, Pacifique Duplessis, from the grateful Canadians"). A copper and pewter chest containing period coins and documents was inserted in the monument during its construction.

**Monument stone:** this delicately sculpted monument and the wall of the fountain basin are made of Stanstead grey granite (see p.5). It includes four buttresses adorned with small gargoyles and four pilasters each capped by a pyramid and a finial where it comes in contact with the flying buttress.

**Weathering:** the granite monument is in excellent condition. A few run-off stains appear underneath the bronze bas-reliefs and plaques. The basin's stringcourse was completely repaired in 1967.



De la Foi Monument with pedestal and fountain in Stanstead granite.

**STOP 40: FORMER COURT  
HOUSE OF QUÉBEC CITY**  
12, rue Saint-Louis,  
Édifice Gérard D.-Lévesque

**History:** the construction of the former Court House of Québec City took place between 1883 and 1887. The plans were drawn by architect Eugène-Étienne Taché. Initially, the building consisted of two wings, one facing rue du Trésor, in front of Place d'Armes, and the other on rue Saint-Louis. An annex was added between 1922 and 1927. The building has a style reminiscent of castles built during the French Renaissance. The portico of the central fore-building comprises three semicircular arcades, the central one is decorated with a tympanum with stemmed maple leaves, above this appear the coat of arms and motto of Québec, whereas the top of the left arcade shows the coats of arms of Jacques Cartier and Limoilou, and the right arcade is topped with the coats of arms of Champlain and Brouage. On each side of the openings of the central fore-building portico, stand pilasters adorned with fleur-de-lys and capitals.

**Building stone:** stones of different colours were used for the façades. The base is formed of green roughly tooled sandstone from the Sillery Group, quarried in Saint-David, Lévis County (see p.4); a few of these sandstone blocks were replaced by “Caledonia” granite from Rivière-à-

Pierre (see p.6), including those at the base of the central fore-building. The piers and pilasters of the wings are made of grey Deschambault Formation limestone from Saint-Marc-des-Carières (see p.3). Stone row segments located below the windows are made of greenish La Malbaie sandstone from the Cap-à-l'Aigle Formation (see p.4), set on edge, whereas segments below the piers are made of grey La Malbaie sandstone altered to a brown colour and laid out parallel to bedding. La Malbaie sandstone blocks are embedded in the pier limestone blocks. The pilasters of the central fore-building portico are made of Stanstead grey granite. The semicircular arcades, the tympanum, the coat of arms of Québec in the centre, the coat of arms of Jacques Cartier to the left and of Champlain to the right, and the capitals are made of Deschambault Formation limestone from Saint-Marc-des-Carières. The curb bordering the sidewalk along rue du Trésor is capped with Migwick granite, from Portneuf County. The ground floor of the annex built between 1922 and 1927, which may be observed on rue des Jardins near Place Donnacona, is clad in grey-blue granite from Rivière-à-Pierre, and the walls and stringcourses of the overlying floors are entirely made of Deschambault Formation limestone from Saint-Marc-des-Carières. The principal stone ornament inside the building consists of a spiral-shaped honour staircase, covered in Tennessee marble (see p.7), which was built during a phase of interior restoration between 1927 and 1934.



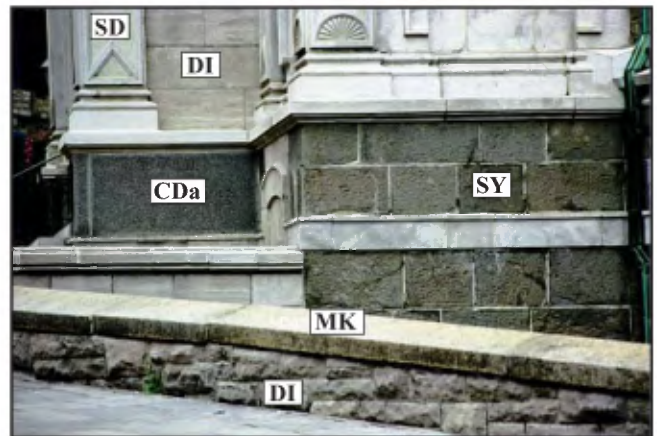
Quebec Old Court House in grey and green sandstones of Cap-à-l'Aigle Formation from La Malbaie, limestone of Deschambault Formation from Saint-Marc-des-Carières, Sillery sandstone of the Chaudière nappe, and Stanstead granite.

## ARRÊT 40: SUITE...



Portico of the former Court House of Québec City: pilasters in Stanstead grey granite; arcades, tympanum, coats of arms and capitals in Deschambault Formation limestone from Saint-Marc-des-Carières; footing in “Caledonia” granite from Rivière-à-Pierre replacing green Sillery sandstone.

**Weathering:** the grey-coloured La Malbaie sandstone with carbonate cement makes a durable building stone, which alters to a yellowish brown due to oxidation. However, the green-coloured La Malbaie sandstone with an argillaceous matrix is more vulnerable and has a tendency to exfoliate when set on edge. The former Court House required important restoration work to its façade as early as 1906-1907, i.e. barely 30 years after its construction, because of the decaying green La Malbaie sandstone. All the sandstone originally used for the pilasters and capitals was replaced by Deschambault limestone. Blocks of this sandstone that had been used around the windows and dormer windows were also replaced. Sculptures carved in Deschambault limestone on the capitals, and the coats of arms were restored and solidified with resins. The Stanstead granite pilasters of the central portico contain sufficient pyrite in biotite nodules to develop numerous rust stains, and jutting borders are partially disintegrated due to the freeze/thaw cycle.



Former Court House of Québec City, rue du Trésor: Stanstead granite (SD); Deschambault Formation limestone from Saint-Marc-des-Carières (DI); “Caledonia” granite from Rivière-à-Pierre (CDa); Sillery sandstone from a quarry in Saint-David de Lévis (SY); Migwick granite (MK).

**STOP 41: MONUMENT PAYING  
TRIBUTE TO THE WOMEN WHO HAVE  
DEVOTED THEIR LIVES SINCE 1639 TO  
INSTRUCTION AND EDUCATION**

rue des Jardins

**History:** this monument was erected to celebrate the 325<sup>th</sup> anniversary of the death of Marie de l’Incarnation, founder of the Ursulines de Québec and of the first school for girls in North America. It was unveiled on August 1<sup>st</sup>, 1997, and pays tribute to all women educators and teachers who, in total devotion, have dedicated their lives since 1639 to the instruction and education of Québec’s youth. The bronze sculpture is the work of artist Jules LaSalle; he described it in these words: *“Une main de femme déposée en porte-à-faux sur le socle s’élève et suggère ainsi un geste de don. Cette main symbolise l’apport des communautés religieuses féminines à la construction de la colonie par l’action d’enseignement qu’elles ont su prolonger jusqu’à nos jours. La plume, elle devient tour à tour écriture, pureté, enfance, connaissance... Projetée vers le haut, elle signifie aussi la projection d’une action vers le futur”* (translation: *“A woman’s hand deposited in cantilever on the pedestal rises, suggesting a gesture of donation. This hand symbolizes the contribution of feminine religious orders to the construction of the colony through their teachings, which they have continued until the present day. The quill pen represents all at once writing, purity, childhood, knowledge... Projected upwards, it also illustrates an action driven towards the future”*.) On the pedestal faces the names of 56 religious orders and their date of arrival in Québec, as well as a message of gratitude, appear in golden letters.

**Monument stone:** the pedestal had originally served in Place Royale to hold a bust of Louis XIV erected in 1948. It consists of Stanstead grey granite (see p.5). It is a quadratic block, and one of the faces still displays the royal coat of



Monument dedicated to teaching nuns with pedestal in Stanstead granite and cartouches in Prairie Green granite.

arms carved in the granite. Each corner is adorned with a small fluted column. The inscriptions are engraved on honed “Prairie Green” granite plaques from Rivière-à-Pierre (see p.6). The circular step of Stanstead grey granite is adorned with four small conical light posts made of “Péribonka Black” anorthosite, from the Lac-Saint-Jean region (see p.7).

**Weathering:** the base course of the monument is slightly stained by greenish corrosion products of the former bronze of Louis XIV.

**STOP 42: MONUMENT TO  
MARIE DE L’INCARNATION**

rue du Parloir

**History:** a grant was awarded in 1939 by the Prime Minister, Maurice Duplessis, to erect this monument to commemorate the tri-centennial anniversary of the arrival in Nouvelle-France, in 1639, of Mother Marie de l’Incarnation, founder of the Ursulines order. The monument was unveiled on August 20, 1942. The bronze was created by sculptor Émile Brunet. It is a triptych with Marie de l’Incarnation in the centre. She is surrounded by two young girls, a French girl to her right holding an open book, and to her left a Huron girl holding a cross in her right hand. In the stone pedestal of the monument, two bas-reliefs carvings appear: to the left an image of the sailing ship Saint-Joseph on which she crossed the ocean in 1639, and to the right a reminder of the first fire at the monastery in 1650. In the right central part of the pedestal, a bronze bas-relief illustrates the nun bidding her son farewell at the Ursulines monastery in Tours, before her departure for New France.

**Monument stone:** the pedestal is made of grey granite extracted from a quarry in the Stanstead area.



Monument to Marie de l’Incarnation with Stanstead grey granite base.

### STOP 43: PRICE BUILDING

65, rue Sainte-Anne

**History:** this 16-story office building, a Beaux Arts style structure with an Art Deco influence, was built in 1929-30 for the pulp and paper company Price Brothers. The plans were drawn by Montréal architects Ross and MacDonald. It was the first skyscraper to be built inside the walls of Old Québec, the second and last was the Hôpital de l' Hôtel-Dieu, since a municipal regulation voted in 1937 now forbids any construction exceeding 65 feet (~ 20 metres) above ground in Old Québec. The building consists of a metallic structure mantled in smooth-faced dimension stone. The façade is decorated with Amerindian heads, and floral and animal motifs carved in stone.

**Building stone:** the building's stone facing is partly composed of the Ordovician Deschambault Formation limestone, from Saint-Marc-des-Carières, and partly made of Queenston limestone of the Silurian Lockport Formation from the Niagara Escarpment (see p.3). The Queenston is a dense magnesian limestone, with a pearly grey colour on fresh surface, characterized by crinoid stems made of pink calcite.

**Weathering:** the Deschambault Formation limestone has developed a pale beige patina, whereas the magnesian Queenston limestone alters to a brownish buff colour.



Price Building, faced in part with Deschambault limestone from Saint-Marc-des-Carières, in part with Queenston limestone from Ontario.

### STOP 44: 73-81, RUE SAINTE-ANNE

These houses built between 1875 and 1885 according to plans by architect Joseph-Ferdinand Peachy are clad in coursed ashlar of bossaged Deschambault Formation limestone from Pointe-aux-Trembles, with ornaments made in limestone from Saint-Marc-des-Carières (see p.3).

### STOP 45a: FORMER COMMERCE PAVILION (ÉDIFICE JEAN-BAPTISTE-DE-LA-SALLE)

20, rue Pierre-Olivier-Chauveau

**History:** this Beaux Arts style structure is the former commerce pavilion of the Académie commerciale de Québec, built in 1927. It was renamed in 2000 the Édifice Jean-Baptiste-de-La-Salle, to honour the founder of the religious order Frères des Écoles Chrétiennes. The corner façade is adorned with eight monolithic columns, a semicircular arch, a tympanum entirely decorated with bas-relief maple leaves carved in the stone entablature with dentils and of broken and rounded pediments. The Ministère des Affaires municipales currently uses the building.

**Building stone:** The façades, arch, tympanum, entablature and pediments are made of Deschambault Formation limestone from Saint-Marc-des-Carières (see p.3), whereas the eight columns are made of polished Stanstead grey granite (see p.5).

**Weathering:** the columns of Stanstead grey granite are fairly affected by peeling and disintegration at the base of surfaces exposed to harsh weather conditions and sun exposure.



Corner front of 20 Pierre-Olivier-Chauveau street in Deschambault limestone and columns in Stanstead granite.

## STOP 45b: MONUMENT TO TEACHING BROTHERS ENTITLED “L’ENVOL”

corner of rue Pierre-Olivier-Chauveau  
and rue Sainte-Anne

**History:** this monument pays tribute to the contribution of the 11 religious orders of brothers who have devoted their lives to education. The work of art entitled “L’ENVOL” (Taking flight) was created by artist Jules LaSalle and was unveiled on June 20, 2000. The bronze flame combined with the one carved in stone symbolizes the transfer of knowledge from teacher to student. The bronze face at the top of one of the stones represents the younger generations who were inspired to surpass themselves and seek fulfilment of their goals. The following text was inscribed on the two faces of one of the granite steles:

*“On the occasion of the canonization, on August 18, 1999, of Marcellin Champagne, French priest and founder of the Frères Maristes order, and of the centennial of the canonization of Saint Jean-Baptiste de La Salle, founder of the order Frères des Écoles Chrétiennes, and of the fiftieth anniversary of his proclamation as Patron Saint of all master Christians”  
“Inaugurated on June 20, 2000” This work entitled “L’Envol” by artist Jules*

*LaSalle pays tribute to all the religious men who devoted their lives to education. The work is outlined on the ground by two granite squares creating an internal link, in the image of a teaching house.” “The educator/student role is highlighted by the use of granite, an immutable material, and another shaped material, bronze.”  
“The use of a cast and its replica reinforces the image of the transfer of knowledge. A wing carved in stone and repeated in bronze, creates an arch symbolizing the passage to science, the uplift of mind, taking flight.”  
“Set back, two blocks form an open book and display a bronze flame relief, responding to another carved in stone.”  
“Two poles are present: stone/bronze, negative/ positive relief, teacher/student, suggesting the transfer of knowledge and illumination.” “At the top, a face represents the younger generations who, through their education, received the desire to surpass themselves and seek fulfilment.”*

**Monument stone:** the four steles are made of “Atlantic Green” granite from Rivière-à-Pierre(see p.6) with different finished surfaces: shattered, honed and polished.



Monument entitled “L’ENVOL” to honour teaching brothers, made in “Atlantic Green” granite from Rivière-à-Pierre.

**STOP 46: MONUMENT LIVERNOIS**  
corner of rue Saint-Jean, de la Fabrique  
and Couillard

**History:** this monument was inaugurated in August 1985, in honour of three generations of the Livernois family, who contributed through their exceptional photographs in making Québec City known throughout the world. The monument is composed of a green granite commemorative stele with a rounded summit; one face is adorned with a bronze bas-relief by sculptor Raoul Hunter representing three generations of the illustrious family of artist photographers, whereas the opposite face is decorated with the ship of Champlain, *Don de Dieu* (Gift of God) and a small fountain. The base is decorated with a small garden encircled by a pink porphyry curb.

**Monument stone:** the stele consists of “Laurentide Green” granite, a mangerite quarried in the Mont Apica area in the Parc des Laurentides (see p.6). The polished border displays blue quartz grains in a dark green groundmass, whereas the interior brown surface has a thermal finish. The base of the semi-cylindrical fountain and the curb around the garden are made of Kershaw porphyry granite, from South Carolina.

**Weathering:** the flamed “Laurentide Green” granite has developed a brownish tinge due to the oxidation of iron-bearing minerals.



Livernois Monument in Laurentide Green granite from Mount Apica and in Kershaw porphyry granite from South Carolina.

**STOP 47: MEMORIAL TO THE FORMER  
COLLÈGE DES JÉSUITES**  
Place de l’Hôtel de Ville de Québec

**History:** this memorial is composed of three stones taken from the pediment of the doorway to the former Collège des Jésuites which was erected in 1725 on the site currently occupied by City Hall. The Collège des Jésuites was the principal cultural centre of Nouvelle-France. These three limestone blocks, which were reclaimed when the College was torn down in 1877-79, were offered to Québec City in 1978 to serve as a memorial. On each of these stones appears a letter in bas-relief; the central stone also bears a cross. The three letters form JHS for *Jesus Hominum Salvator*. The demolition stones of the former Collège des Jésuites were used for the rough masonry work of the Hôtel du Parlement.

**Memorial stone:** the three stones from the portal of the former Collège des Jésuites, built in 1725, consist of Deschambault Formation limestone from the Trenton Group, extracted from a quarry in Pointe-aux-Trembles (see p.3).

**Weathering:** apart from a few fractures appearing on the left stone and a small scratch on the letter S, these old dimension stones are well preserved.



Memorial stones of the Old Jesuit Collège in limestone of the Deschambault Formation from Pointe-aux-Trembles.

NOTE: City Hall was built in 1895-96 in Deschambault Formation limestone, however these stones were quarried from Saint-Marc-des-Carrières (see p.3).



## STOP 48: MONUMENT TO CARDINAL ELZÉAR ALEXANDRE TASCHEREAU

Place de l'Hôtel-de-Ville

**History:** this monument was erected where the rue de Buade, des Jardins and Côte de la Fabrique meet in front of City Hall and the Basilica Notre-Dame de Québec. It was built in memory of the first Canadian cardinal, his Eminence Elzéar-Alexandre Taschereau (1820-1898), and was inaugurated on June 9, 1923. The bronze statue of the cardinal, the four cherub statuettes and the three bas-reliefs are the work of French statuary André Vermare, whereas the granite pedestal and balustrade were drawn by French architect Maxime Roisin. The statue shows the standing prelate, wearing the ratchet, the cappa magna (cardinal's coat of apparel), his left hand on his chest and right hand raised. The bronze bas-reliefs illustrate three episodes in the life of the cardinal: the one facing the Basilica shows his Eminence in adoration before the Holy Eucharist exposed in the choir of the Basilica; the bas-relief facing City Hall shows his Eminence in the garden of the Séminaire, with seminarists and scholars, reflecting his career as superior at the Séminaire and rector of the Université Laval; the side facing rue de Buade illustrates a sailboat, Irish refugees along the shores of the St. Lawrence River at Grosse-Île and a young abbot Taschereau, bringing the relief of religion to Irish typhus victims in 1847, at the risk of his own life: the front of the pedestal displays the prelate's coat of arms along with the following inscription engraved in stone:

AU PREMIER  
CARDINAL CANADIEN  
L'ÉMINENTISSIME  
ELZÉAR-ALEXANDRE  
TASCHEREAU  
ARCHEVÊQUE  
DE QUÉBEC

(translation: "To the first Canadian cardinal, the Most Eminent Elzéar-Alexandre Taschereau, Archbishop of Québec").

**Monument stone:** the pedestal, balustrade, handrail and steps are made of light red granite from St. George, New Brunswick (see p.6). The landing defined by the balustrade contains blue granite tiles from Rivière-à-Pierre. The base of the pedestal, the balusters, the handrail, the fringe of the upturned consoles supporting the four cherubs, the oval frames containing the bas-reliefs, and the cornice are polished, whereas the remaining surfaces are finely bush-hammered.

**Weathering:** polished surfaces have maintained their lustre and the brick coloured feldspars are well preserved, despite the pollution caused by heavy traffic at this busy crossroad and the use of de-icing salt. However, bush-hammered surfaces are stained with green corrosion products leaching from the bronze, and also exhibit zones where feldspars are leached to a pale pink colour.



Cardinal Taschereau Monument with pedestal and balustrade in red granite from St. George, New Brunswick.

## STOP 49: MUSÉE DE L'AMÉRIQUE FRANÇAISE 2, Côte de la Fabrique

**History:** the Séminaire de Québec had this Neo-Classical house with a rounded façade built in 1838, according to the plans of architect Thomas Baillairgé.

**Building stone:** the building is clad in squared blocks of Sillery sandstone from the Nappe de la Chaudière (see p.4) set in coursed ashlar, however a rusticated design was used for the portal. The window frames, moulding and modillions are also made of Sillery sandstone. The two columns of the wrought iron gate at the entrance of the Séminaire to the right of the museum are formed of piled blocks of Deschambault Formation limestone from Saint-Marc-des-Carrières.



Musée de l'Amérique Française in Sillery sandstone from the Nappe de la Chaudière. The columns supporting the wrought iron gate are made of Deschambault Formation limestone from Saint-Marc-des-Carrières (see p.3).

## STOP 50: DAILY TELEGRAPH BUILDING 21-27, rue De Buade

**History:** Frank Carrell, editor of the Daily Telegraph newspaper called for the construction of this building in 1907 at the corner of rue de Buade and rue du Trésor. The plans were drawn by architect Georges-Émile Tanguay. This brick building is decorated with brushed olive green stone that forms the stringcourse, the lintels and on the corner facing, the circular pediment on the ground floor and the triangular pediment on the first story, as well as the pendantlike keystones at the apex of each pediment and their consoles.

**Building stone:** all the ornaments of the brick façade are made of olive green Carboniferous sandstone from Miramichi, New Brunswick (see p.5).

**Weathering:** Miramichi sandstone is a highly porous rock (15 to 20% porosity) that does not resist well to the freeze/thaw cycles, causing it to disintegrate. Certain stones were replaced by pale beige Indiana limestone, which unfortunately makes a strong contrast with the olive green sandstone.



Corner facade of Daily Telegraph Building dresses with olive-green Miramichi sandstone.

**STOP 51: MONUMENT  
MONSEIGNEUR DE LAVAL**  
Facing the Louis-S.-St-Laurent building

**History:** the monument to Monseigneur de Montmorency-Laval (1623-1708), first bishop of the Québec diocese and founder of the Petit Séminaire, stands in front of the former post office, now called the Louis-S.-St-Laurent building. To install this impressive monument of about 13 metres in height and the ramps and foundations, an entire block of about 10 houses and offices had to be torn down, including the Hôtel du Chien d'Or (Gilded Dog Inn). The monument was unveiled on June 25, 1908, on the tri-centennial anniversary of the founding of Québec by Champlain and the bi-centennial of the death of Mgr de Laval. It is the work of Montréal sculptor Louis-Philippe Hébert. The bronze statue shows the bishop in standing position, wearing the mitre, holding his crosier in his left hand and his right hand in a gesture of greeting. He is looking at the figures portrayed in high relief carvings fixed to the pedestal: a seated woman personifying Religion, at her feet a collegeman recalling the founding of the Séminaire; standing behind them an Indian listening; and an angel handing the palms of Glory to the bishop. The pedestal comprises four faces: the first bears an epigraph and the three others display bronze bas-reliefs illustrating: to the right, a hearing with Louis XIV; to the left, the Baptism of Garakontié; and on the side facing rue de Buade, the Episcopate of Mgr de Laval.

**Monument stone:** the pedestal, richly decorated with stone sculptures, is entirely formed of Stanstead grey granite (see p.5). The bronze statue of Mgr de Laval rests directly on a stone adorned with cartouches carved in this granite where the name LAVAL is engraved. Beneath the moulded cornice appears a bas-relief representing a chapel carved in the granite column. The granite pedestal comprises, in addition to the moulding, four buttresses and consoles between the plaque and the three bronze bas-reliefs. The double ramp and supporting walls are made of bossaged dimensional greypink granite from Rivière-à-Pierre (see p.5).

**Weathering:** the Stanstead grey granite is remarkably well preserved, only a few rust stains appear in the bronzecoloured biotite nodules caused by the presence of pyrite, and the concave surfaces of the pedestal are slightly greenish underneath the bronzes. Rust stains due to the anchor points of the wrought iron gate appear on the ramp made of Rivière-à-Pierre granite.



Monseigneur de Laval Monument with pedestal in Stanstead granite and ramp in Rivière-à-Pierre granite.



Bas-relief chapel carved in Stanstead granite on monument to Monseigneur de Laval.

## STOP 52: LOUIS-S.-ST-LAURENT BUILDING

3, rue Passage du Chien d'Or

**History:** this building was built in the years 1871 to 1873 to house the central post office of Québec City, according to the plans of architect Pierre Gauvreau. In 1913, the building was expanded and modified on the side facing the river by adding a false façade with columns and a dome, giving it a Neo-Baroque style. The name of the building was changed in 1984 to commemorate Louis S. St-Laurent, Prime Minister of Canada from 1949 to 1958, and a resident of Québec City. The building currently houses a postal counter, and the offices and library of Parks Canada. On this parcel of land previously stood a spacious house built in 1735, which had later housed the Auberge du Chien d'Or (Golden Dog Inn), and subsequently the former post office until 1871. One can still see, above the portico of the building's main

entrance an embedded stone taken from the former Auberge du Chien d'Or, illustrating a dog gnawing at a bone with the inscription "I am a dog gnawing at a bone. By doing so, I am resting. A time will come, which has not yet come, When I shall bite him, who has bitten me.")

**Building stone:** the building is entirely clad in bushhammered dimensional limestone from the Deschambault Formation in Saint-Marc-des-Carières (see p.3). Inside, the walls of the postal counter are panelled in grey-blue marble and garnished with black marble baseboards. These marbles come from quarries near Philipsburg in Québec (see p.7).

**Weathering:** the façades on rue Passage du Chien d'Or and rue du Fort display bush-hammered dimension stones with scaled weathering rinds, particularly at the base of the main entrance portico, where a few stones had to be replaced.



Stone from the former Auberge du Chien d'Or.



Louis-S.-St. Laurent building: facade and dome facing the river, built in 1913 with Deschambault formation limestone, quarried in Saint-Marc-des-Carières.



Louis-S.-St.-Laurent Building in Deschambault Formation limestone from Saint-Marc-des-Carières.

## STOP 53: ARCHEVÊCHÉ DE QUÉBEC 2, rue Port-Dauphin

**History:** This land parcel was occupied from 1728 to 1843 by two large houses. One had been built by doctor Michel Sarrazin, where he died in 1734; in the other, author Philippe Aubert de Gaspé was born in 1786. The construction of the current Archbishop's Palace began in 1844 and was completed only in 1847. The plans and Neo-Classical style, with pediments and bull's-eye windows are the work of architect Thomas Baillairgé. The portal on rue du Parloir is decorated with an entablature supported by four Doric columns made of dark grey limestone. The gate of honour and the pillars were installed in 1895. The building was expanded in 1903, and a trompe-l'oeil façade was added on the side dominating Côte de la Montagne. This new façade includes a large arched window, a balcony, a portico adorned with an entablature supported by six grey granite columns, and an arcade resting on two small red granite columns. The ground floor is covered in chamfered stones with a bushhammered finish, whereas the two other stories are made of smooth-faced dimension stone.

**Building stone:** three varieties of stone were used for the building's stone facing. From the Cour du Parloir, we can see

that the back of the building is made of brown, red or green L'Ange-Gardien sandstone (see p.4), probably reclaimed from the two torn-down houses that occupied this land parcel from 1728 to 1843. The façade and the four-column portico on rue du Parloir, built between 1844 and 1847, are made of bush-hammered dimensional dark grey limestone from Pointe-aux-Trembles (see p.3), selected by Monseigneur Turgeon, who was the Bishop of Québec at the time, and who found the stone from Saint-Marc-des-Carières too light-coloured for an Episcopal palace. However, the trompe-l'oeil façade dominating Côte de la Montagne, renovated in 1903, is made of bush-hammered dimensional brownish grey limestone from Saint-Marc-des-Carières (see p.3). The six grey portico columns are made of Stanstead granite (see p. 5), whereas the two small red columns consist of St. George granite from New Brunswick (see p.6). The pillars of the gate of honour and the vases decorated with garlands and lion heads installed in 1895 are made of Saint-Marc-des-Carières limestone.

**Weathering:** the two types of limestone have developed a beige-grey patina. Bush-hammered surfaces are prone to exfoliation, which makes it possible to observe the dark grey colour of the Pointe-aux-Trembles limestone underneath the weathering rind.



Quebec Archbishop Palace in limestone of Deschambault Formation from Pointe-aux-Trembles and Saint-Marc-des-Carières; columns in grey granite from Stanstead and red granite from St. George, New Brunswick.

**STOP 54: MONUMENT  
GEORGE-ÉTIENNE CARTIER**  
Parc Montmorency

**History:** the monument to Sir George-Étienne Cartier (1814-1873) stands in Parc Montmorency, adjacent to the Porte Prescott, at the top of Côte de la Montagne. The monument occupies a prized location for Cartier, Prime Minister of Canada with J.A. MacDonald from 1857 to 1867, since the site where the lovely Parc Montmorency is now located used to host the former Episcopal palace, which was converted into the Canadian Parliament Building, where elected members would sit alternately with Toronto. It is in this Parliament Building, burnt down in 1854 and rebuilt in 1859, that the project of Confederation took form. The Canadian Parliament Building was again burnt down in 1883. The monument was unveiled on September 6, 1920; it is the work of sculptor G.W. Hill. The 2-metre high bronze statue shows a standing Cartier delivering a speech, his right arm extended and his left hand holding a parchment. The principal face of the pedestal bears a simple inscription: "CARTIER". On the three other faces are engraved excerpts from some of Cartier's speeches.

**Monument stone:** the monument pedestal is made of Stanstead granite (see p.5). It consists of a cornice separated from the monolithic die by a frieze adorned with triglyphs that alternate with metopes and a narrow moulding. The base comprises three steps.

**Weathering:** numerous nodules of bronze-coloured biotite are present, and green stains appear on the concave surfaces at the base of the pedestal and the steps on the left side due to run-off of corrosion products from the bronze statue.



George-Étienne Cartier Monument with pedestal in Stanstead granite.

**STOP 55: MONUMENT LOUIS-HÉBERT**  
Parc Montmorency

**History:** the monument to Louis Hébert (1575-1627) was initially installed on Place de l'Hôtel de Ville, where it was unveiled on September 3, 1918, to commemorate the tri-centennial anniversary of the arrival in 1617 of this French apothecary who became the "first Canadian settler". The monument was dismantled in 1971 and later moved to Parc Montmorency at the top of Côte de la Montagne. Louis Hébert's lands extended where the Basilica Notre-Dame de Québec, the Séminaire, the Hôtel-Dieu, and rue Hébert and rue Couillard now sit. The bronze statue of Louis Hébert atop the monument, and the high-relief bronze figures resting on the pedestals, are the work of Montréal sculptor Alfred Laliberté. The artist represented Louis Hébert raising a handful of wheatears towards the sky, offering his first harvest to the Lord. The high-relief figures are: to the right, Marie Rollet, wife of Louis Hébert, who, seated among her three children, holds a book and teaches to them; to the left, a statue of land-clearer Guillaume Couillard, his son-in-law, resting on a plough. The pedestal is adorned with festoons, escutcheons, and inscriptions including the names of the forty-seven early settlers of Québec.

**Monument stone:** the pedestal consists of blocks cut in Stanstead granite (see p.5).

**Weathering:** the biotite in the black nodules has taken on a bronze-like colour. On the principal face, in the lower right corner of the prismatic column, rust stains have appeared due to the oxidation of an aggregate of small pyrite crystals.



Louis-Hébert Monument with pedestal in Stanstead granite.

## STOP 56: MONUMENT LOUIS XIV

Place Royale

**History:** the bust of Louis XIV (1638-1715), King of France, is exposed in the centre of Place-Royale, in front of the Église Notre-Dame-des-Victoires. An earlier bust of Louis XIV was installed at this location on November 6, 1686, a donation of intendant Champigny, but since this monument hindered business, it was removed circa 1700. The bust was stored at the Palais de l'Intendant; reports indicate it was destroyed by fire when the building was burnt down on January 6, 1713, however it may also have been returned to France. The current bust is the second donated by France. It was installed here in 1931, and was again removed for the same reasons, then reinstalled in 1948 on a pedestal of Stanstead grey granite subsequently replaced by the current pedestal including a red granite shaft. (Note: the former pedestal of Stanstead grey granite is currently used for the monument to the nuns, at the corner of rue Donnacona and rue des Jardins (Stop 41). The bronze of the Roi-Soleil is 1.1 metres tall by 1 metre wide.

**Monument stone:** the white stone on which the bust of Louis XIV is anchored consists of "Frosty Green" granite from Stratford (see p.5), the shaft is made of "Royal Canadian Red" granite from Manitoba (see p.6), and the base of the monument bearing the inscription "Louis XIV" is made of Saint-Sébastien grey granite (see p.5). The steps of the circular base are in Stanstead grey granite and the centre of the upper landing is in "Royal Canadian Red" granite.

**Weathering:** These granites are in excellent condition.



Louis XIV Monument with pedestal in Frosty Green granite from Stratford and trunk in Royal Canadian Red granite from Manitoba.

## STOP 57: MAISON PARENT

11, rue Saint-Pierre

**History:** this house located at the corner of rue Saint-Pierre and rue Sous-le-Fort, according to historical accounts was rebuilt in 1761 after it was destroyed during the siege of Québec by the British army in 1759.

**Building stone:** the stone facing contains various types of stone, several of which were recovered from the former dwelling destroyed in 1759. The coursed ashlar is dominated by the presence of scabbled blocks of ochre brown and red calcareous sandstone from L'Ange-Gardien (see p.4); other stones include Beauport limestone and "pierre noire du Cap" (see p.1). The window and door frames are made of chiselled dimensional limestone from the Deschambault Formation.

**Weathering:** the brown ochre colour of L'Ange-Gardien sandstone is due to the oxidation of iron-bearing minerals. This carbonate-cemented sandstone resists well to the passage of time. The black argillaceous Cape limestone is much more vulnerable.



Maison Parent in Ange-Gardien sandstone, Beauport limestone and Quebec black shaly limestone.

## STOP 58: DIALOGUE AVEC L'HISTOIRE

Place de Paris

**History:** this 6.5-metre high contemporary art structure, entitled *Dialogue avec l'histoire* (dialogue with History), is the work of French artist Jean-Pierre Raynaud. It was donated by the City of Paris to Québec City, and was unveiled on August 31, 1987 in the presence of the mayor of Paris, Mr. Jacques Chirac. It is called *Le Colosse* (the Colossus). This monument is aligned with the bust of Louis XIV and marks the transition to a modern era. The following message is inscribed on a bronze plaque a few steps from the structure:

*DIALOGUE AVEC L'HISTOIRE QUI REND  
HOMMAGE AUX PREMIERS FRANÇAIS QUI  
DÉBARQUÈRENT EN CE LIEU AUTREFOIS BORD  
DE MER, POUR Y BÂTIR UN PAYS OÙ LEUR  
CULTURE N'A CESSÉ DE S'AFFIRMER.*

(translation: “Dialogue with History paying tribute to the first Frenchmen who landed on this site a former seashore, to build a country where their culture has never ceased to assert itself.”)

**Monument stone:** the structure is covered in snowy white marble tiles streaked with small pale grey undulations, from Greece; they are separated by bandelets of South African black granite. The paving around the monument contains Stanstead grey granite, Rivière-à-Pierre grey-pink granite, and “Péribonka Black” anorthosite (see p.6).

**Weathering:** the stones of this monument are in very good condition.



Dialogue avec l'Histoire in Greek white marble and narrow bands of South Africa black granite.

## ARRÊT 59: PRESTIGIOUS BUILDINGS ON RUE SAINT-PIERRE

**History and building stones:** on rue Saint-Pierre, between the corner of Côte de la Montagne and the crossroad of rue Sault-au-Matelot and Saint-Paul, stand several imposing dimensional stone buildings, built between 1850 and 1915, to house banks and important businesses. In the early 20<sup>th</sup> century, this part of the Basse-Ville district (Lower Town) was called “Québec’s Wall Street”. The Musée de la Civilisation, which integrates the maison Estèbe (1752), was added in 1988 to this series of tall buildings. Deschambault Formation limestone from Saint-Marc-des-Carrières (see p.3) is the principal dimension stone used to cover the façade of most of these buildings, whereas Stanstead grey granite was mainly used for the footing.

**STOP 59a:** at number 71 stands the **National Bank** building, erected in 1862 according to the plans of architect Joseph-Ferdinand Peachy. In 1906, a portico was added, and in 1921 five stories were added. The façade is decorated with a portico with pilasters, pediment, arch, and tympanum in Saint-Marc-des-Carrières limestone, and of two columns of brown granite of unknown origin.

**STOP 59b:** number 92 is the **Maison Estèbe** built in 1752; this building was annexed to the Musée de la Civilisation, built in 1988. The major part of the stone facing of the maison Estèbe consists of brown ochre or greenish L’Ange-Gardien sandstone (see p.4), accompanied by blocks of Beauport limestone and a few blocks of “pierre noire du Cap”. Stringcourses, quoins, and windowsills are made of Pointe-aux-Trembles limestone.



Facade of Maison Estèbe in Ange-Gardien sandstone and trimming in Pointe-aux-Trembles limestone.



**STOP 59c:** the **Musée de la Civilisation** was built in 1988; it is covered in lightly droved dimensional limestone from the Deschambault Formation in Saint-Marc-des-Carrières, whereas the floor is covered in Stanstead grey granite (see p.5). The interior flooring is formed of Nordix granite tiles, a pink-brown porphyry quartz monzonite quarried near Saint-Didace, east of Trois-Rivières. The reception desk is made of “Atlantic Black” anorthosite from Saint-Nazaire.

**STOP 59d:** at number 110 was erected in 1863 the former **Banque de Québec**, based on the plans of architect Edward Staveley. The building is entirely mantled with Saint-Marc-des-Carrières limestone. The ground floor is richly decorated with vermiculated pilasters, windows framed with bushhammered stones separated by rusticated joints, and an Ionic portico, whereas the upper stories are adorned with limestone cornices, pilasters, lintels and consoles.



Former Banque de Québec, 110 rue Saint-Pierre, in Saint-Marc-des-Carrières limestone

**STOP 59e:** at number 111, was built in 1906 the former **Bank of Montréal**, entirely clad in Saint-Marc-des-Carrières limestone, with a façade including six impressive Ionic drum columns. At number 116, in front, a very beautiful Amerindian sculpture carved in Saint-Marc-des-Carrières limestone appears at the top of the corner façade of another former Bank of Montreal.



Former Bank of Montréal, 111 rue Saint-Pierre, in Saint-Marc-des-Carrières limestone.

**STOP 59f:** at number 126 stands the nine-story **Dominion Building** that the Dominion Fish & Fruits company commissioned in 1912. The façade shows a ground floor covered in bluish grey limestone (Queenston?), whereas the upper stories are decorated in white glazed ceramic material.

**STOP 59g:** at number 132, the former **Banque d’Hochelaga** was built in 1901-1902 with “pierre grise de Montréal”. The building is decorated with a parapet and balustrade at the summit. The footing is made of Stanstead grey granite, fairly scaled due to the damage sustained by bush-hammered surfaces.

**STOP 59h:** at number 139, the former **Bank of Commerce** was built in 1906. This building stands out thanks to its rounded façade decorated with four large drum columns in Stanstead granite, and the pilasters on the lateral walls made of the same granite; the rest of the building is made of Saint-Marc-des-Carrières limestone.



Former Bank of Commerce at 139, Saint-Pierre, with columns and pilasters in Stanstead granite, the rest in Deschambault limestone from Saint-Marc-des-Carrières.

## STOP 60: MONUMENT DE LA VIVRIÈRE

Place FAO, corner of rue Saint-Pierre, Saint-Paul and Sault-au-Matlot

**History:** this monument commemorates the 50<sup>th</sup> anniversary of the United Nations Food and Agriculture Organization (FAO), founded in Québec City on October 16, 1945. Place FAO was inaugurated on October 10, 1995. The sculpture La Vivrière is the work of Richard Purdy, Carmelo Arnoldin and François Hébert. It is an imaginary tribute to the history of Québec's Old Port in the shape of a figurehead holding in its arms food products from all continents, a symbol of generosity, abundance and fertility. The base from which emerges the figurehead was designed by landscape architect André Plante; it recalls the shores of the St. Lawrence once present at this location. The undulating curve carved in the stone evokes the rising waves, water sprays symbolizing the backwash. Furthermore, a commemorative plaque appears on Place FAO paying tribute to the former Prime Minister of Canada, Lester B. Pearson (1897-1972), who won a Nobel Peace Prize in 1957.

**Monument stone:** the white stone representing the wave crest is made of flamed granite from Mount Airy, North Carolina; this is a medium-grained quartz monzonite formed of 25% quartz, 33% orthoclase, 33% plagioclase and 9% biotite. The black stone prism representing the rising wave is made of honed "Nordic Black" anorthosite (see p.6). The rounded stone holding the commemorative plaque in honour of Lester B. Pearson and the light posts are also made of "Nordic Black" anorthosite, but with a thermal finish.

**Weathering:** none.



La Vivrière Monument with base in Mount Airy white granite and in Black Nordic anorthosite.

## STOP 61: EX MACHINA

103, rue Dalhousie

**History:** this former fire station was built in 1893 according to the plans of architect Georges-Émile Tanguay. The building was modified in 1913, and restored in 1997 based on the plans of architects Jacques Plante and Marc Julien, to house the creative centre for the performing arts EX MACHINA, directed by famous playwright Robert Lepage.

**Building stone:** the stone facing on the ground floor around the large doors, the quoins, and the tower broaches are made of dimensional limestone from the Deschambault Formation in Saint-Marc-des-Carières (see p.3). During the restoration project in 1997, a false façade made of fibreglass imitating almost perfectly the beige grey colour of weathered Deschambault limestone was added on the corner next to the Musée de la Civilisation. Here, the base of the building is covered in Eramosa marble from Ontario, with a roughly bushhammered finish. This marble is in fact a fine-grained brownish grey dolomite from the middle Silurian Eramosa Member of the Amabel Formation, quarried in Wiarton in the Bruce Peninsula, Ontario. The large wall at the back of the building on rue Bell, is mantled with polished "Nordic Black" anorthosite (see p.6), featuring large black crystals of twinned plagioclase, saussurite veinlets, and gleaming aggregates of bronze yellow pyrrhotite and steel grey ilmeneo-magnetite.

**Weathering:** recently laid stones do not show any sign of weathering.



Ex Machina Theater: first floor facade on Dalhousie street in Saint-Marc-des-Carières limestone and imitation limestone fibreglass.

## STOP 62: CUSTOMS BUILDING

2, rue Saint-André

**History:** the construction of the Customs building, which dates back to 1856-1857, was carried out by contractor Thomas McGreevy, according to the plans of architect William Thomas, and was later decorated by architect William Lynn. At the time, the waters of the river reached the base of this building. The building was the site of two fires, one in 1864 that destroyed the interior, the other in 1909, which ravaged the dome. The dome was replaced by a lower one and a third story was added. The imposing Doric portico, with its six drum columns supporting the entablature, the pediment pierced with an oculus, as well as the dome all point to a Neo-Classical style architecture. The vermiculated dressing on the ground floor stone facing, the window frames with jutting stones alternating with recessed stones as well as the masks in arch keystones reveal an Italian influence.

**Building stone:** the entire stone facing and all the exterior ornaments of the building, including the 1.4-m diameter columns of the portico are made of Deschambault Formation limestone, from Saint-Marc-des-Carières (see p.3). The interior walls are decorated with different varieties of Missisquoi grey-blue marbles extracted from quarries in Philipsburg.

**Weathering:** the smooth-faced dimensional limestone blocks have developed a lovely beige grey patina that contrasts with vermiculated blocks.



Customs Building in Deschambault limestone from Saint-Marc-des-Carières.



Customs Building: stone facing, vermiculated dressing and mask in Deschambault Formation limestone from Saint-Marc-des-Carières.



Customs Building: mask, voussoir, jamb, consoles, piers and vermiculated blocks in Saint-Marc-des-Carières limestone.

**Note:** The building located at 6, Saint-André street, on the west side of the Customs Building, is covered with bossaged stones of greyish limestone from the Chazy group. This is a dark greyish crystalline limestone, containing nodes and tracks of dolomitic material of a rust yellow colour resulting from alteration, which tends to chip, thus exposing fractures, dots, or small cavities. This limestone also contains a wide variety of fossils, such as Brachiopods, Gastropods and Bryozoans.

**STOP 63: MONUMENT TO  
ABRAHAM MARTIN**  
Bassin Louise

**History:** in 1922, the Canadian Pacific Company donated this monument erected in memory of Abraham Martin, known as the Scotsman. The monument is located on pier Princess Louise, where transatlantic ships making a stop in Québec City used to draw alongside the pier. The inauguration took place on May 12, 1922. This eight-foot tall monument was designed and sculpted by Louis Hébert. The following inscription is engraved in the granite:

CE MONUMENT  
RAPPELLE AU PASSANT  
ABRAHAM MARTIN  
APPELÉ L'ÉCOSSAIS  
PREMIER PILOTE ROYAL  
SUR LE ST-LAURENT  
QUI CULTIVA LE SOL  
DES ILLUSTRES PLAINES  
QUI PORTENT SON NOM

(translation: "This monument recalls the memory of Abraham Martin, known as the Scotsman, first royal pilot on the St. Lawrence, who cultivated the soil of the illustrious plains which now bear his name.")

**Monument stone:** the square-based column, overlain by a terrestrial globe supported by four thistles, emblems of Scotland, and the bas-reliefs in French "fleurs de lys" were all carved from a monolithic block of Stanstead grey granite (see p.5).



Monument to Abraham Martin known as the Scotsman, made of Stanstead grey granite.

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## GLOSSARY

**Abutment:** mass of masonry built as a supporting structure.

**Amortization ball:** smooth or variably decorated ball crowning the end of a ramp, a balustrade, a pedestal, a socle or a pillar.

**Anorthosite:** intrusive igneous rock formed of 80-90% sodicalcic feldspar (plagioclase). It's commercial name is black granite.

**Arcade:** opening in the form of a semi-circular arch including upright and supporting members.

**Arcature:** group of arcades forming a decorative ensemble.

**Arch:** solid vault whose shape is determined by one or more curved surfaces.

**Arched:** in the shape of an arch.

**Architrave:** lower member of the entablature that rests directly on the capitals or the columns or pilasters.

**Ashlar:** pattern in which stones are assembled in a masonry wall. The principal types of ashlar are: **rubble**, rough stones of irregular shapes and sizes, randomly disposed; **random**, hewn or squared stones of variable sizes, laid out parallel to bedding without any particular order; **random coursed**, hewn or squared stones of variable sizes set in courses of more or less the same height; **regular alternating courses**, stones set in courses whose height varies in alternating fashion; **regularly coursed**, cut stones of variable lengths but of similar height; **regular**, stones all having the same length and height, and set in regular courses.

**Baluster:** balustrade ornament in the shape of a post or a stubby and/or moulded pillar.

**Balustrade:** ledge of a roof or balcony formed a row of balusters topped by a railing.

**Bas-relief:** slightly projecting sculpture carved from a flat or curved surface.

**Biotite:** black mica.

**Bossaged:** roughly rounded stone dressing produced by hitting the edges of the stone face with a sharp-edged hammer.

**Brachiopods:** small invertebrates enclosed in a shell formed of two unequal but bilaterally symmetrical valves.

**Broach:** small masonry turret or sentry box, corbelled at the angle of a tower, a building or a bastion.

**Bronze-coloured alteration:** weathering of black biotite, which develops a dark yellow or brownish colour with golden reflections.

**Brushed surface:** stone dressing characterized by long parallel narrow grooves carved on the surface of the stone by a tool with fine, closely-spaced teeth.

**Bryozoans:** group of animals living in colonies, secreting a branching limestone skeleton or in the shape of a small mound, formed of thousands of small fenestrules housing interconnected individuals.

**Bull's eye:** round or oval window in a gable, attic, pediment or dome.

**Bush-hammered surface:** coarse stone dressing composed of numerous small round points of impact forming a grid, obtained with a bush hammer. The bush hammer is a steel tool similar to a percussion hammer equipped with sharp or truncated diamond heads (4.9 or 25 heads per square inch).

**Buttress:** pillar, projection or mass of masonry built against a vertical wall to serve as a support structure and increase its resistance.

**Capital:** ornamental member including various moulded projections, placed atop a column or pilaster.

**Cappa magna:** choir garment worn by cardinals during ceremonies.

**Cartouche:** ornamental element offering in its central portion an empty space bearing either an inscription, a motto, an emblem, a coat of arms or dates.

**Cenotaph:** monument erected in memory of a deceased person, but that does not hold the mortal remains of this person.

**Chamfered:** stone cut with half-bevelled edges.

**Coat of arms:** emblem of distinction representing cities, communities or noble families.

**Console:** projecting architectural trim, most often decorated with inverted scrolls, designed to support a cornice, a balcony or a window sill.

**Coping:** roof-shaped crowning course on an enclosing wall, made of masonry or tiles, designed to shed water.

**Corner pavilion:** end portion of a building, which may be distinguished from the main body.

**Cornice:** moulded projecting stone crowning a building, a portal or a pedestal, designed to protect from the falling rain.

**Counterscarp:** wall or talus bordering the countryside moat outside the fortifications.

**Crinoids:** group of invertebrate animals, formed of a chalice and a stem, composed of numerous small discs, by which the animal is attached to the substrate.

**Cross piece:** horizontal part of a cross.

**Dentil:** tooth-shaped ornamental trim made of alternating recessed and projecting members, generally placed below the drip and overhang.

**Die:** cube-shaped stone that forms part of a pedestal.

**Dimension stone:** stone suitable for cutting purposes.

**Display of weapons:** ornamental element consisting of a set of arms, displayed and laid out on a panel or a wall.

**Doric:** the simplest of the three Greek architectural orders, characterized by fluted columns or pilasters without a base.

**Efflorescence:** whitish powder sometimes found on the surface of masonry stones, caused by the precipitation of salts dissolved in waters impregnated within the rock itself, or derived from the mortar in joints or from de-icing salts.

**Embrasure:** opening made in the thickness of a wall to receive a window or a door.

**Entablature:** portion above a column or pilaster that includes the architrave, the frieze and the cornice.

**Exfoliation:** superficial erosion of a compact stone due to scaling or conchoidal chips breaking off.

**Feldspar:** the most important group of silicate minerals. It includes potassic feldspars (orthoclase, microcline) and sodicalcic feldspars (plagioclase).

**Festoon:** ornament representing a garland of flowers, leaves, and intertwined branches.

**Finial:** carved ornament representing a leaf or a flower.

**Flagstone:** large thin stone used for paving.

**Flamed finish:** coarse finish produced when a flame is directed towards the stone surface, shattering a thin layer of minerals. Also referred to as a thermal finish.

**Flying buttress:** arch-shaped masonry work resting on a buttress, to counteract the pressure exerted by a wall, a vault or an arch.

**Footing:** continuous projecting base surrounding an entire building.

**Fore-building:** part of a building that stands out from the construction as a whole.

**Frieze:** member of the entablature located between the architrave and the cornice.

**Garland:** ornamental trim showing foliage, flowers and fruits, woven together or linked with festoon ribbons or in a crown.

**Gargoyle:** projecting spout through which rain water is channelled away from the walls, or small spout allowing the discharge of water in a monument-fountain.

**Glaive:** two-edged sword.

**Gneiss (or gneissic):** coarse-grained metamorphic rock characterized by a layered texture or by alternating dark and light-coloured beds.

**Granite:** intrusive igneous rock, with a homogeneous granular texture, essentially composed of quartz and feldspar, accompanied by one or more dark silicate minerals. **ALSO:** hard granular rock of an unspecified petrographic nature, but which may be polished and used as decorative stone.

**Granodiorite:** intrusive igneous rock with a granular texture, akin to granites, but containing more plagioclase feldspar than orthoclase feldspar.

**Haloclastia:** fragmentation of a rock due to the pressure effect of salt crystallizing in cracks, cavities or pores.

**Hematite:** steel grey ferric iron oxide producing a red powder.

**High relief:** highly projecting sculpture where figures and patterns are fully detached from the background.

**Honed finish:** satin smooth finish but without lustre.

**Honeycomb alteration:** erosion producing numerous small cavities in the rock.

**Hornblende:** black complex silicate of the amphibole group.

**Howitzer:** short cannon that can fire in a vertical or plunging direction.

**Ilmenite:** greyish black iron-titanium oxide.

**In-the-round:** shape of a stone in relief carving.

**Ionic:** one of the three Greek architectural orders, characterized by a capital adorned with two lateral scrolls.

**Jamb:** vertical upright framing a door or a window.

**Jutting:** projecting member or moulding that interrupts a vertical plane.

**Keystone:** wedge-shaped stone placed in the crown of an arch to stabilize the other stones.

**Limestone:** sedimentary rock composed of over 50% calcium carbonate.

**Lintel:** smooth or decorated horizontal member crowning the upper part of a window or door opening and supporting the masonry.

**Loophole:** opening in the shape of a vertical slit made in the wall of fortified constructions, to fire at assailants.

**Magnetite:** black iron oxide, strongly attracted by a magnet.

**Main body:** central part of a building, as opposed to the wings.

**Mangerite:** intrusive igneous rock, granular, quartz-poor, with potassic feldspar and rich in plagioclase, characterized by the presence of an iron-magnesium pyroxene (hypersthene).

**Monzonite:** intrusive igneous granular rock, containing equal proportions of orthoclase feldspar and plagioclase feldspar.

**Muscovite:** white mica.

**Nodules:** agglomeration of black minerals in a granite or another type of intrusive rock.

**Oculus:** small circular opening in a gable, attic, pediment or dome.

**Olivine:** green variety of magnesium-iron silicate.

**Parapet:** low wall designed to serve as a guard rail.

**Patina:** thin film of superficial weathering, composed of minerals (calcite, clay, oxides, ...).

**Pedestal:** fairly high stone support with a base and cornice holding a statue and/or relief carvings.

**Pediment:** crowning of a building or part of a building, formed of two portions of raking cornice, or of a circular portion, joining up at both ends with the cornice of the entablature.

**Peeling:** erosion of stones through the removal of thin superficial plates.

**Pendant-like keystone:** decorated keystone that extends downward, much like a pendant.

**Pier:** part of a wall between two doors or two windows.

**Pilaster:** pillar or flat column engaged in a wall or a portal support, forming a slight rectangular projection.

**Pinnacle:** small pyramid adorned with finials crowning a buttress.

**Polished finish:** finish with a glossy reflecting surface.

**Porphyry (or porphyritic):** igneous rock characterized by large feldspar crystals scattered in a finer-grained ground-mass.

**Portal:** imposing, sometimes monumental, main entrance of a building, including an architectural design with columns, pilasters, arch, vault, tympanum, impost, etc.

**Pyrite:** widespread golden yellow iron sulphide mineral.

**Pyroxene:** group of silicate minerals with two cleavage planes at right angles.

**Quartz:** most common form of silica.

**Quoin:** series of stones forming the corner of a building where the stones are alternately protruding and recessed in order to be solidly bound to the masonry.

**Ratchet:** narrow sleeved surplice worn by bishops, cardinals and certain dignitaries of the papal court during ceremonies.

**Ring:** rounded moulding decorating a column or a cylindrical pedestal.

**Rock-faced stone:** rough stone, either natural or tooled to give it the appearance of a rough stone.

**Rosette:** circular ornament in the shape of a small rose.

**Rubble stone:** small blocks of stone used in construction, either rough, hewn or squared.

**Rusticated dressing:** horizontal or vertical line carved in the stone facing to mark or simulate the joints of stone courses.

**Sandstone:** sedimentary rock composed of rounded or angular sand-sized grains, that are more or less bounded by a calcium carbonate or silica cement.

**Sarcophagus:** stone tomb containing mortal remains.

**Scroll:** spiral-shaped ornamental carving.

**Semi-circular arch:** also known as a Roman arch.

**Set on edge:** position of sedimentary stones in ashlar, set perpendicular to the bedding plane.

**Shale (or argillaceous schist):** very fine-grained homogeneous sedimentary rock, argillaceous and often calcitic.

**Sill:** flat stone serving as a window ledge, or portion of wall located between the ground and window ledge.

**Slate:** very fine-grained metamorphic rock that is easily split into thin sheets or plates.

**Socle:** base on which rests a building, a column, a statue, or a small pedestal which supports a small statue, a bust, a vase, etc.

**Spire:** very sharp pyramid-shaped steeple.

**Staff:** a long pole used to hold a flag.

**Steps:** set of stairs in a staircase, or of steps at the base of a monument.

**Stringcourse:** horizontal projecting course or moulding on a façade, often separating stories.

**Stylolite:** structure caused by pressure solution, in the shape of rods interpenetrating limestone blocks, outlined by a blackish argillaceous surface.

**Terrace:** grouping of several row houses or contiguous houses into a single construction with a central portico.

**Tooled surface:** stone dressing with large points of impact obtained with a pointed percussion tool.

**Triglyph:** ornamental member of the Doric frieze formed of a slightly projecting portion and carved vertical flutes.

**Trompe-l'œil:** detail dressing creating the illusion that depicted objects are real.

**Twisted flute:** spiral-shaped moulding.

**Tympanum:** triangular space between the horizontal cornice and the two raking cornices of a pediment, or the space lying between the lintel or entablature and the arch of a portal.

**Vault:** arched masonry work, formed of an assemblage of specifically cut stones, forming a ceiling or a roof and resting on walls, pilasters or columns.

**Vermiculated bossage:** worm-shaped ornamental stone dressing describing irregular sinuous curves separated by recessed carvings.

**Weathering rind:** microcrystalline calcite crust or patina covering the surface of dimensional limestone blocks exposed to harsh weather conditions.

**Wicket:** arcade used as a passageway for pedestrians.



