

# THE RESIDENTIAL LANDSCAPES OF THE CITY OF WESTMOUNT



**Pierre Gauthier | Radhwane Boukelouha | Yuxiang Wang**

Department of Geography, Planning and Environment

Concordia University

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## INTRODUCTION

This study draws a portrait of the built environment of the city of Westmount, in order to help the municipal authorities improve their regulatory tools as well as their planning and heritage preservation practices. Based on a morphological analysis approach, it documents empirically the material and spatial conditions that characterize the city as a whole, as well as the local conditions that mark its different residential environments. The exercise aims in particular to identify and map the landscape units, which display a homogeneous composition that distinguishes them from the surrounding areas, and to identify the spatial properties that contribute the most to their internal coherence and their specific architectural identity. The scientific knowledge thus produced constitutes an empirical foundation aimed at supporting decision making, with particular regard to the control of transformations and protection of the built heritage.



**Figure 1.** Mount Stephen Avenue in 1909 (BAnQ)

## Theoretical and methodological orientations

### *The morphology of built environments*

The research work is based on a morphological approach. The term morphology refers to the study of forms as they appear in the material and spatial composition of the city. This approach, which builds on the work carried out in many countries over the past fifty years, hence explores the system of the built environment (Kropf, 2017; Moudon, 1997; Gerosa, 1992). It demonstrates, among other things, that the relationships between objects are not contingent, but instead governed by sets of rules that can be unveiled by analysis. The investigation of the elements that go into the composition of humanized landscapes, therefore, seeks to understand the logic behind their spatial distribution and to describe and explain their reciprocal relationships. Those sets of rules, which can be challenging to grasp because of their complexity, ensure the consistency and resilience of built landscapes over time (Lévy, 1992). Specifically, the analysis of the relationships between objects reveals recurring spatial articulations and recognizable patterns that denote culturally significant modes of spatial symbolization (Malfroy 1986; Castex et al., 1980; Gauthier, 2005). The morphological approach also points to the need to conceive the built environment as a dynamic system, in which the inherited artifacts and spatial forms represent only the temporary result of an otherwise continuous process (Caniggia and Maffei, 2017). The term "morphogenesis" is used in reference to the process of formation and transformation of the built environment. The morphogenetic analysis thus highlights what new architectural and urban forms owe to the general conditions of the system as well as to the constraints and potential for transformation prevailing in the urban and geographical contexts from which they stem

(Kropf, 2017; Lévy 1992; Malfroy 1986). At a deeper level, such analysis sheds light on the structural qualities and the immanent character of the built landscape that result from the accumulation of daily deeds and actions of the population in the historical Longue-durée. In short, morphology studies the built environment as a system granted with relative autonomy, that is governed by rules of spatial syntax and rules of transformation (Caniggia and Maffei 2017; Kropf 2017).

As a way of illustration, the sedentary occupation of the territory gradually sees a network of primitive roads, village settlements, and a division of agricultural land extending in relation to local topographic, hydrographic and bio-topic conditions. The spaces anthropized for agricultural purposes, in turn, condition the subsequent phases of occupation by offering a spatial framework that will inform the layout of the streets, the delineation of parish boundaries and the location of an institutional core and local commercial services. Such processes, in a nutshell, mark the genesis of a spatial form that supports community and social life in general while producing a geographically and culturally situated way of inhabiting the city.



**Figure 2.** Victoria Avenue in 1909 (BANQ)

### *Reading the built environment*

The morphological analysis consists of "reading" artifacts and spatial forms in order to unveil the system of the built environment. The analysis is conducted mainly at four levels of spatial resolution, which correspond to as many nested objects and scales: buildings, urban tissues, urban organisms (hamlet, village, of the city), and territories (Caniggia and Maffei, 2017).

The primary sources used are cartographic and iconographic documents (see bibliography for the full list of sources used in this study). The necessary analytical procedures consist of: diachronic and analogical reconstruction, characterization and classification. The inquiry relies on quantitative and qualitative methods, but it is, above all, a matter of systemic analysis. It thus relates to material objects and their spatial relationships (centred on combinatory patterns, spatial syntax rules, and relationships of antecedence and derivation). Four families of variables are considered. They refer respectively to the dimensions (metrological analysis), the configuration (morphometric analysis), as well as the relative position in space (spatial syntax) and time (generative grammar). While taking into account some of their material qualities per se, the morphological analysis focuses mainly on the spatial properties of the objects considered, including their geometric, and in particular, their topological properties. It also delves on the part-to-part (configuration and spatial syntax) and part-to-whole relationships (mereology).

This study focuses on the scale of the urban tissue and centers more specifically on residential ensembles. As per the standard morphological research methods, however, the analysis of the urban tissues takes into account the structures of higher spatial resolution that inform the spatial expansion of tissues and their evolution (such as former agricultural land subdivisions), as well as lower-scale objects (such as the residential buildings), though by focusing primarily on

the characters and properties of the buildings that impact on urban tissues and the street landscape.

### *Some key concepts*

Before moving on to the presentation of the results, it is useful to define some essential notions and concepts about the urban tissue and its components, before shedding light on a theoretical model of the genesis of residential tissues.

### *The type of tissue, or urban tissue*

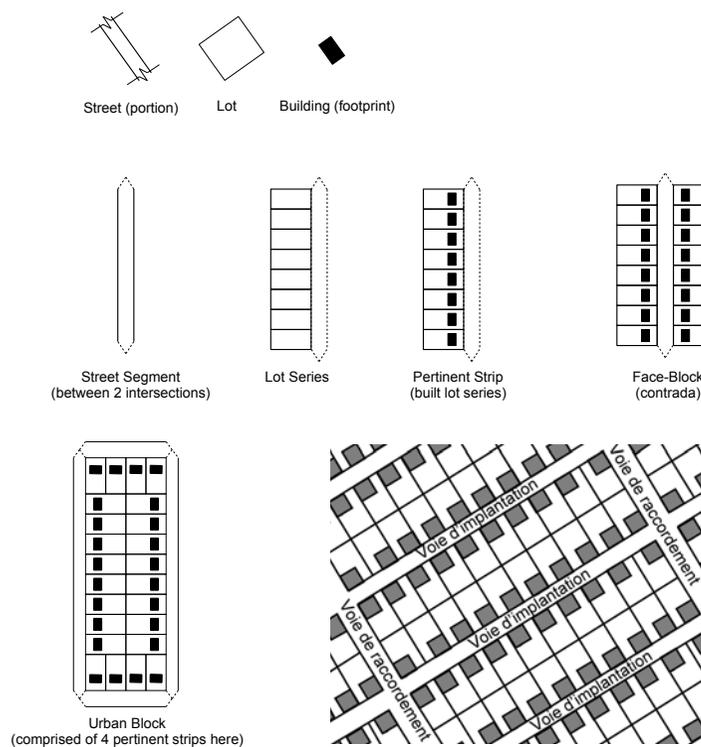
The concept of type of urban tissue, or "urban tissue" for short, is defined as the set of syntactic rules that govern the mutual arrangement of buildings, lots and streets while ensuring the spatial coherence of the whole. This set of rules is associated with a cultural model that is generally carried unconsciously by the individuals that build or use such urban environments, while being manifested in their building and dwelling practices and concretized, or reified, in the artifacts and spatial forms. Those rules are revealed in hindsight by analysis. (from Caniggia and Maffei, 2017; Gauthier, 2003).

The theory of morphology distinguishes two categories of tissue: basic tissue, or residential tissue, and specialized tissue. The basic tissue is mainly composed of residential built lots, and the streets that serve them. A basic tissue can also include several lots that serve non-residential complementary functions (such as schools, temples, local shops, public squares). For this study, only aggregates with an area of 2.5 hectares or more are considered as the residential tissue. Conversely, a specialized tissue is mainly composed of built lots carrying non-residential functions (such as substantial commercial or industrial activities, and leisure activities in sports facilities and large parks) and the streets that serve them. For this study, only aggregates with an area of 1.5 hectares or more are considered specialized tissue.

Figure 3 illustrates what the components of the urban tissue are and how they are assembled. The basic components are the street segment, the lot, and the building (represented by its footprint). Each component corresponds to a subsystem of the tissue: the street segment is part of the street system; the lot is the basic unit of the allotment system, and the building is part of the built coverage. Each subsystem can be the subject of specific morphological analyses, pertaining for example, to the geometry of the street network and its topological properties. The street network is the most resilient of the tissue subsystems. It is rather rare that streets disappear once created, though new routes are sometimes introduced in existing tissues as break-through routes. The allotment system in place at the inception of the tissue, a period known as the institutive phase, generally acts as a spatial matrix for subsequent periods of tissue development. Under normal circumstances, the underlying geometry of the allotment resists over time. While later subdivision or merging of lots is not uncommon, such operations rarely entail a tabula rasa type of development. The building subsystem is the most susceptible to transformation since operations aim at the construction, demolition, replacement or enlargement of buildings that occur daily in a city.

The analysis of the tissue focuses on the combinatory patterns of the components. An aggregate of lots having their addresses on a street segment between two intersections is referred to as a lot series. A series of built lots is called a pertinent strip. A street segment and its pertinent strips are called a face-block. Caniggia and Maffei (2017) consider the face-block (or Contrada in Italian), rather than the block, to be the basic unit of the urban tissue.

To identify a type of urban tissue, morphological analysis, therefore, aims to unveil the spatial syntactic rules that govern the customary relationships between the street, the allotment and the buildings in an urban morphological region.



**Figure 3.** Urban tissue and its components

Caniggia and Maffei (2017) have developed a theoretical model of the genesis of residential tissues, which has enabled them in particular to define four categories of routes and to highlight what could be deemed their respective morphological signatures. These are the matrix route, the settling route, the connecting route and the break-through route. These categories highlight the syntactic properties of each class of route, as well as the sequence that marks their appearance in the urbanization process when development takes place spontaneously.

Figure four illustrates this model. The matrix route of the tissue is a route created before the urbanization of the sector, such as a path or an old agricultural road, for instance, which will eventually become a vector of urbanization (Figure 4a). Since it was initially deployed in the countryside, where it would tend to adapt to natural conditions, the

matrix route often retains a curvilinear configuration. The spatial syntax of the matrix route entails that it is bordered on both sides by buildings that generally all present their noble facades to it.

The settling route is created in order to accommodate urban lots that will have their addresses on it. In a context of spontaneous development, the settling routes extend from the matrix route, perpendicularly to the latter (Figure 4b). The spatial syntax of the settling route thus entails that it is bordered by the lateral facades of buildings on the corner lots of the matrix routes permanent strips, and then by the noble façades of buildings situated on its pertinent strips.

The connecting route appears in order to connect two settling routes. In general, a connecting route does not carry lots that have their address at the origin (Figure 4c). The spatial syntax of a connecting route at its inception entails that it is bordered by the lateral facades of buildings on the corner lots of pertinent strips of the settling routes that are perpendicular to it. However, later transformations will often entail the creation of lots and buildings that have their addresses on a connecting route.

A break-through route is created after the initial construction period of the tissue, by opening a breach through an urbanized area or by widening an existing route in order to facilitate traffic flows, while generally aiming to link two urban poles more efficiently (Figure 4d).

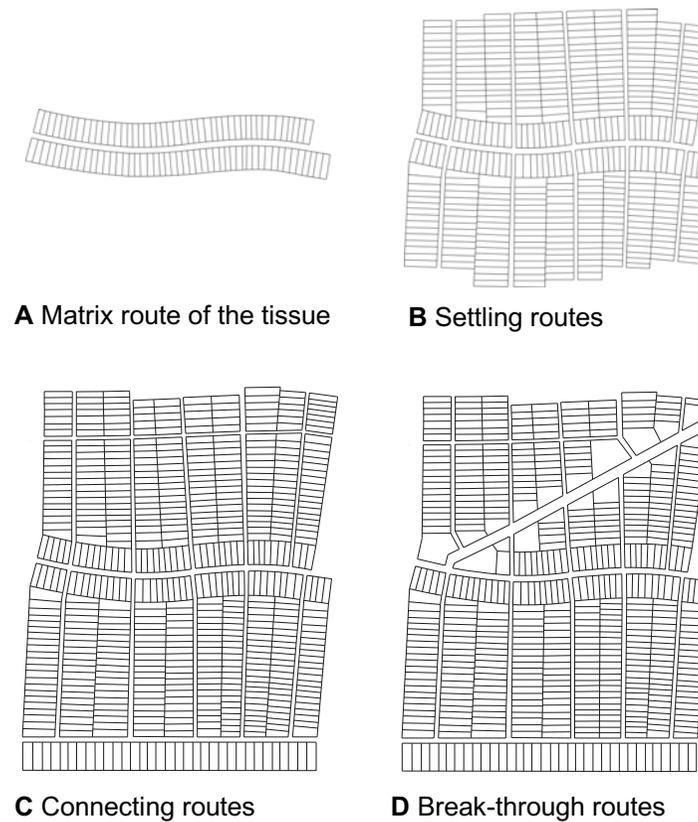
Although the categories of routes developed by Caniggia and Maffei (2017) were the result of empirical analyses of the genesis of spontaneous tissues, the latter classes remain eminently relevant to analyze tissues resulting from planned subdivisions and development operations. In such circumstances, however, settling routes may have different morphological signatures depending on whether or not they are at the head of the block. A distinction should be made between what might be

called the first tier and second tier settling routes, respectively.

A settling route bordered on both sides by buildings that all present their noble facades to it, namely by pertinent strips that act as heads of the blocks, can be deemed a first-tier settling route. The latter reproduces the spatial syntax of a matrix route, though on a route whose existence does not predate the urbanization of the zone. A second-tier settling route displays a spatial syntax typical for this type of route. Specifically, it is framed by the lateral façades of the buildings located in the corner lots of the head of the block, in addition to the noble façades of the buildings on its pertinent strips. Such a spatial syntax connotes a lower status compared to the first tier settling routes in a context where such a hierarchy prevails.

*Presentation of the results*

The following chapters are divided into two parts, which respectively present the results of research carried out in two stages. The first stage analyzed the morphological conditions of the Westmount territory as a whole. The natural and anthropic structures deployed at the territorial and the whole city scales were identified and mapped, and their spatial relationships analyzed. The street, lot and building coverage systems were then analyzed in order to delimit and map relatively homogeneous tissue areas, or landscape units. The second part presents the results of a more detailed analysis of the material and spatial properties of each of the said units in order, in particular, to highlight the main morphological characters and properties that inform their specific architectural identity.



**Figure 4.** Theoretical model of the genesis of the tissues (according to Caniggia et Maffei, 2017)

## FIRST PART

### Overall morphological conditions

#### 1.1 Natural geography

##### *Location*

The city of Westmount is located on the island of Montreal, which is bordered by the St. Lawrence and Prairies rivers. The city is laid out on the foothills of Mont-Royal hill and incorporates the smallest summit of the Mont-Royal three peaks. Landlocked in the city of Montreal, it is bordered by three boroughs of the latter: Ville-Marie, Le Sud-Ouest and Côte-des-Neiges-Notre-Dame-de-Grâce. Located about 3 kilometres from the city's original settlement site, today, Westmount is several hundred meters from the Montreal business center to which it is connected by three major arteries.

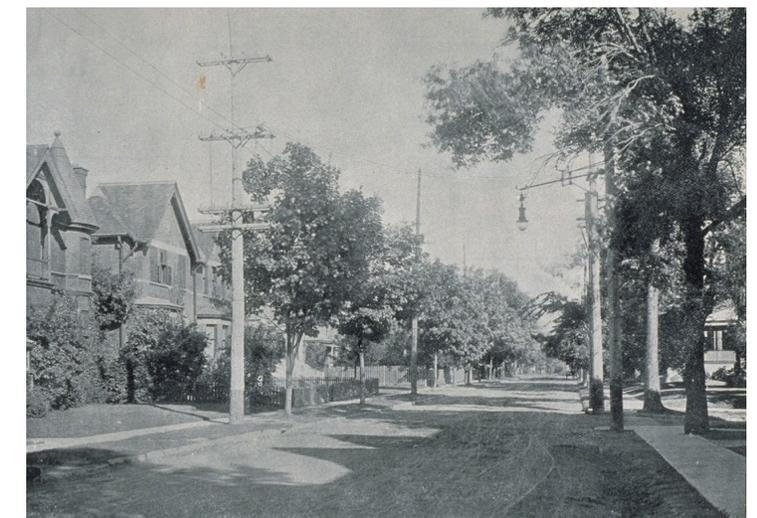
##### *Geological context*

Mont-Royal is one of ten hills in the Montérégie region that extends into the plain of Montreal (Poitras and Burgess, 2005). These hills were formed some 125 million years ago during the Cretaceous period when molten rocks were pushed about two kilometres from the earth's surface. Gradually erosion would do its work to bring out the rock masses (Ville de Montréal, n.d.). The glaciation cycle, which marked the Quarternaire era over approximately 2 million years, then helped shape the topography of Montreal. After the last glaciation, the Champlain Sea submerged the entire region between 13,100 and 10,600 years ago, to the exception of Mount Royal summits (the City of Montreal, n.d.). The withdrawal from the sea has left rich sediments, which will contribute to the exceptional fertility of the Montreal plain. Mont-Royal culminates today at an altitude of 232 meters, at the peak of the eponymous summit, while the summits of

Outremont and Westmount have elevation differences of 215 and 201 meters, respectively (Poitras and Burgess, 2005).

##### *Climatic and biogeographic contexts (biome)*

The Montreal archipelago is located in a warm summer continental climate zone, known as the Dfb category, in the Köppen and Geiger classification. It is part of the St. Lawrence lowland ecoregion, a plain that stretches between the Appalachian and Laurentian mountains. The sector falls within the Haut-Saint-Laurent portion of the Great Lakes and St. Lawrence forest region (Poitras and Burgess, 2005; Stanton and Bouchier, 2006). Mount Royal has natural forest vegetation dominated by the sugar maple, notably composed of hickory maple trees at its base and red oak maple stands at its summit (Brisson et al. 2008).



**Figure 5.** Metcalfe Avenue in 1909 (BAnQ)

## 1.2 Cultural geography

This section delves into the origins of the sedentary occupation of the territory to offer an overview of the main phases of the territory's occupation before urbanization.

### *Aboriginal presence and occupation*

The indigenous presence in the Montreal archipelago is attested for approximately 6000 years, which is to say from the archaic and silvicultural periods, which preceded the phase of contacts with European explorers and colonizers (Desjardins and Duguay, 1992; Poitras and Burgess, 2005). Recent research is beginning to paint a more precise picture of the agricultural and forestry practices of indigenous peoples. Loewen (2009) relies in particular on stories and cartographic representations from the 16th to the 19th century to detect traces of the territorial occupation left in the wooded landscape of the island of Montreal. He distinguishes three main zones.

According to Loewen, the presence of an immense mature cedar forest in the north of the island, as indicated on the 1702 map by François Vachon de Belmont, testifies to the absence of significant anthropogenic disturbance during previous centuries. The situation is different in the other two zones, which bear the traces of agricultural and forestry activities by the aboriginal populations. The latter populations practiced two types of burnings for agricultural and forest management purposes, for the last 1,000 years at least (Patterson and Sassaman, 1988, referenced by Loewen, 2009). The first method involves the undergrowth and consists of burning the latter while maintaining the trees, in order to promote circulation and clear the view for hunting. The growth of herbaceous plants following burning also attracts grazing game. The second burning practice, known as slash-and-burn, consists of clearing glades for the cultivation of corn and other plants (Byers, 1946, referenced by Loewen, 2009).

Jacques Cartier's description of his 1.5-mile walk (8.3 km) towards the native village of Hochelaga through oak groves and glades in 1535 is congruent with a landscape shaped by such practices (Loewen, 2009). The same is true of Champlain's descriptions of the southern portion of the island between Pointe-aux-Trembles and the Lachine Rapids following his visits in 1603 and 1611 (Loewen, 2009). The landscape of the southeast of the island of Montreal testified to intensive practice of the territory by the aboriginal populations in the centuries preceding the arrival of the first Europeans. Loewen (2009) sees a third area in what corresponds to the western third of the island. The latter is marked by the presence of forests, mainly hardwood, interspersed with meadows, as illustrated by the map of Vachon de Belmont. Loewen sees it as a landscape that indicates the presence of indigenous populations practicing slash-and-burn agriculture requiring periodic displacement of crops in cycles lasting 20 to 30 years (Loewen, 2009).

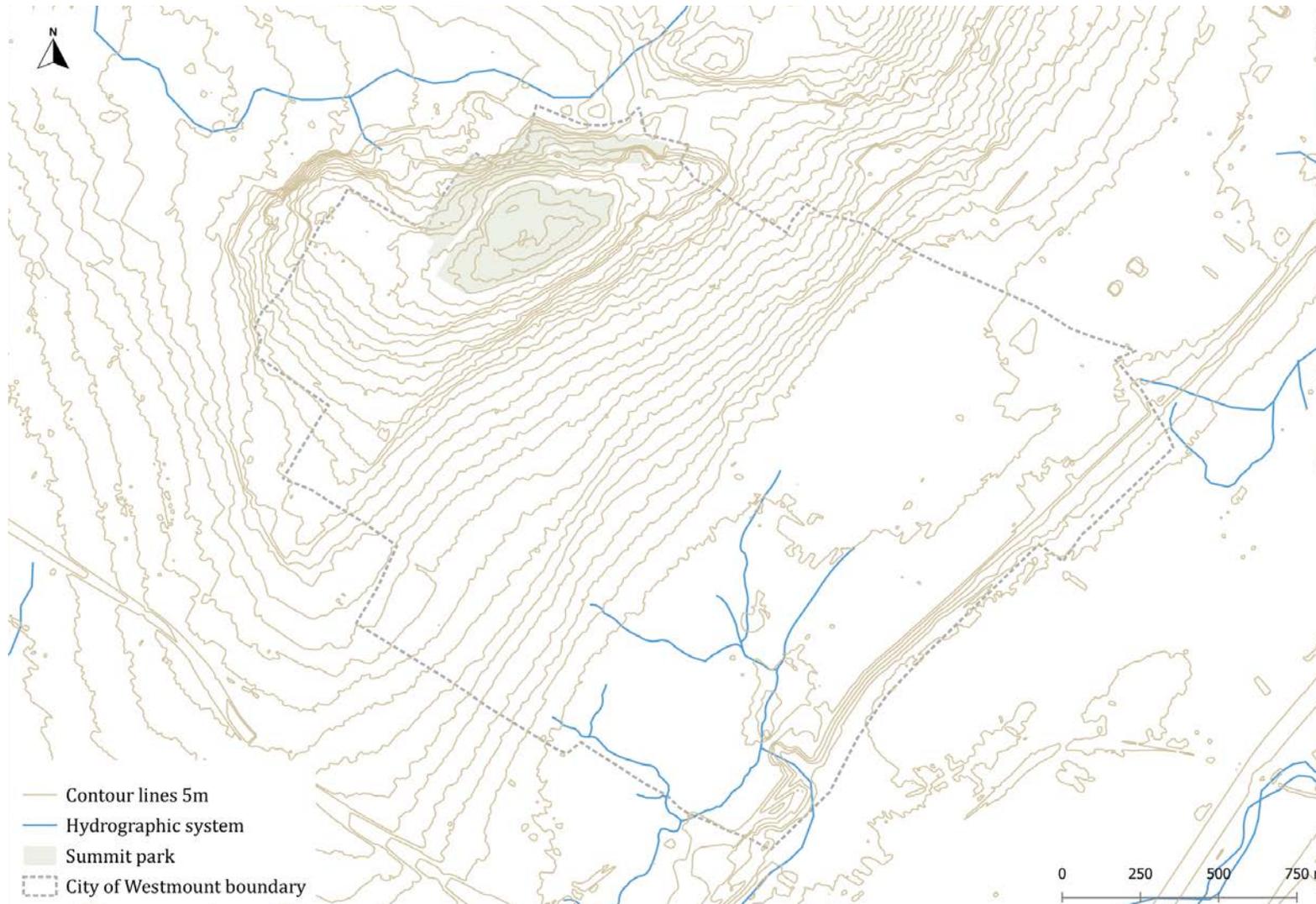
The exact location of Hochelaga is not known to us, but many indications point to the southeastern slope of Mount Royal, probably in the sector extending from Pointe-à-Callière to the sector covering the current Downtown Montreal area inclusively (Tremblay, 2006). A recent archaeological discovery also testifies to the presence of an Iroquoian village in the sector of the intersection of Peel and Sherbrooke streets around the 1400s (La Presse, July 20, 2018 [Pierre-André Normandin]). The location of the city of Westmount places it in the southeastern landscape described by Loewen (2009), at a short distance from both Hochelaga and the early-15th-century Iroquoian village.

### *Occupation of European origin (rural period)*

Westmount is laid out southwest of the eponymous summit. The lands on the southern flank of Westmount Summit were said to be very fertile. In addition to the composition of the soils which benefit from the sedimentary layer left during the

withdrawal from the Champlain Sea, the foothill takes advantage of favourable microclimatic conditions linked to its exposure to the south and the protection offered by the surrounding topography against cold winds. MacKinnon (2004) reports that in the 19th century, orchards of fruit trees growing on the slopes of Westmount, were to be found nowhere else in the St. Lawrence Valley. These favourable conditions can suggest that native groups were already farming in the area long before the Europeans arrived, as they did more generally in the southeastern part of the island. Though there was no permanent aboriginal settlement on the Island when Montreal was founded in 1642, in the last third of the 17th century, a group of native people settled near the present municipal boundaries of Westmount to the northeast side of the latter, in an area where they practiced agriculture. They were quickly joined by the Sulpicians, lords of Montreal since 1663, who established a mission there, which became the Fort de la Montagne, where the Grand Séminaire de Montréal is located today (Tremblay, 2016). This era also marks the first concessions made to French settlers in what will become the Côte-Sainte-Antoine, deployed on the current territory of Westmount and up to Boulevard Décarie, in the Côte-des-Neiges Notre-Dame-de-Grâce borough. Under the aegis of the Sulpicians, the "côte" became the central device supporting the European occupation of the land for agricultural purposes, from its inception at the end of the 17th century, and until the development peak, around the 1830s (Marsan, 2016; Beauregard, 1984). Spatially speaking, a "côte" includes a path and a series of adjoining agricultural lots, which generally have their address on it. The "côte" acts as an agricultural spatial unit for settlement, as well as a neighbourhood unit. (Beauregard, 1984).

Janet MacKinnon (2004) provides a detailed analysis of the genesis of Côte-Sainte-Antoine between 1675 and 1874, during the rural period. Her work details, in particular, the initial phase of the division of agricultural land between 1675 and 1713. The following section takes a closer look at



**Figure 6.** The natural substratum of Westmount

the spatial structure of the Côte-Sainte-Antoine, which is unique in the Montreal context, and, more broadly, at the morphological framework inherited from Westmount's rural period. Such a framework is part of what can be deemed the pre-urbanization morphological substratum.

### 1.3 Westmount morphological substratum

This section sheds light on the inherited natural and anthropogenic structures, namely the oro-hydrographic system (topography, hydrography),

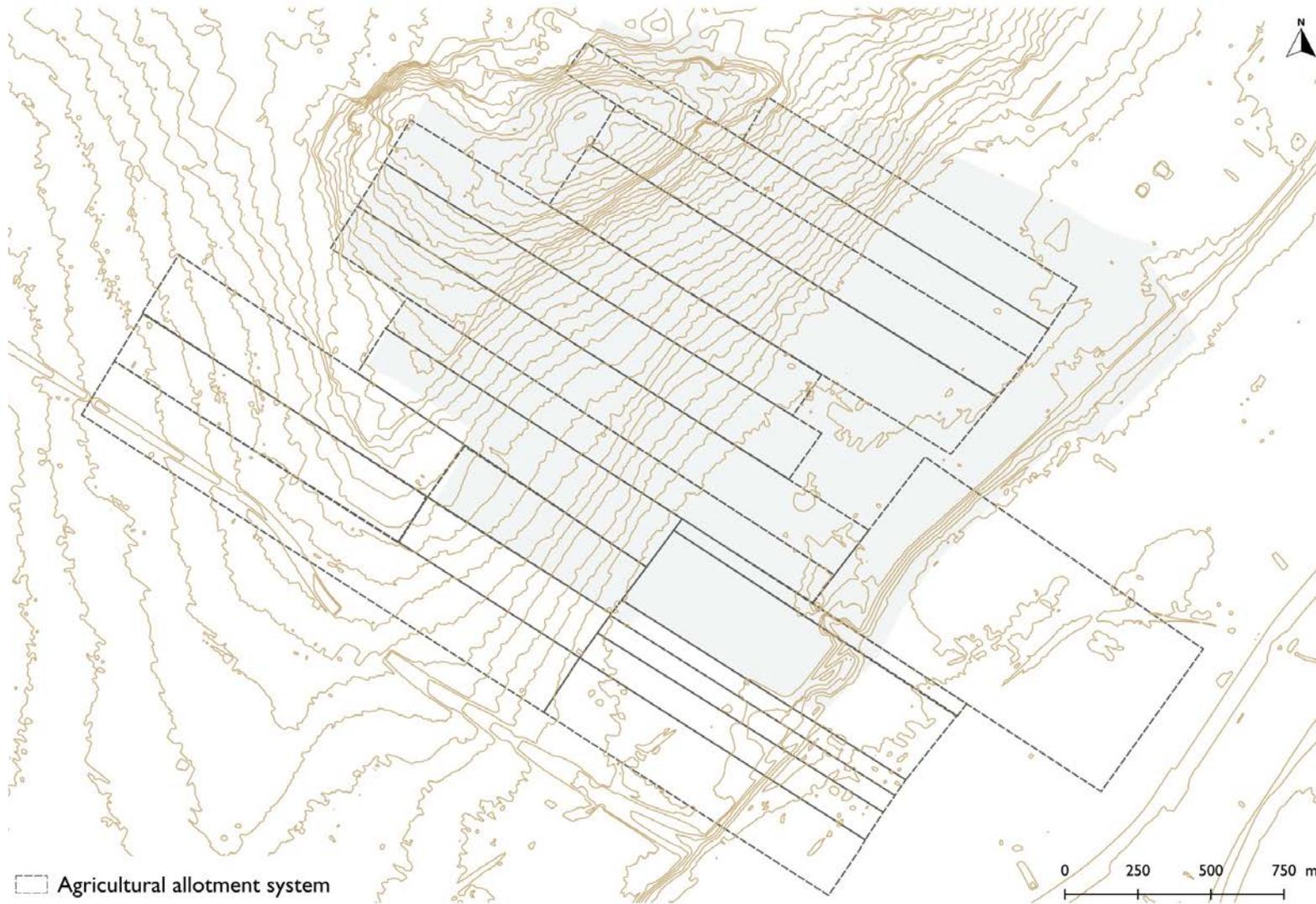
the agricultural allotment system and the network of primitive paths and roads that constitute the morphological framework on which urbanization will gradually unfold.

#### *Natural substratum (inherited natural landscape)*

Figure 6 presents a map that synthesizes the inherited natural substratum of Westmount and its surroundings. The exercise consisted in identifying the current or previous landscape conditions that have conditioned the urban form of Westmount,

starting with the oro-hydrographic system. The topography of the sector is represented by the level lines at a resolution of five meters. Westmount's topography has undergone only occasional and minor anthropogenic transformations, such as earthworks on the scale of residential lots or of short street segments. Mapping the current state, therefore, offers a relatively faithful portrait of the conditions prevailing over the entire period of sedentary occupation of the territory. The only notable exception, visible in Figure 6, is the presence of the sunken highway (A-15), which is outside the limits of Westmount on the southwest side. It is quite different from the hydrographic conditions, which showed significant transformations. The city's territory included several streams, which have now disappeared. Figure 6 illustrates the said streams as they appeared at the turn of the 19th century, based on the work of historical reconstruction led by the team of the researcher Valérie Mahaut (2016).

The natural landscape is marked by the presence of the Westmount Summit, which presents very steep slopes on its southeastern hillside (15 to 25 °). Those adjoin slopes whose inclination varies from 4 to 15 ° that end-up in a generally flat area, itself bordered to the southeast by an escarpment, commonly known as the Saint-Jacques escarpment (and formerly, as the Saint-Pierre escarpment). A system of streams with fairly complex ramifications extend in the southern part of the Westmount plain. The said streams converged at the present site of Glen Road, where a natural crevice in the escarpment allowed the water to flow into Lac à la Loutre (also known as lac aux Loutres or lac Saint-Pierre - MacKinnon 2004: 28), a marshy lake located at the foot of the cliff. The Westmount Summit still houses a red oak maple grove today. Due to its location and topographical conditions, this forest seems to have been minimally altered by the human hand (Brisson et al. 2008), which would make it a rare example of primitive forest in the Montreal region.



**Figure 7.** Map of the matrix properties of the tissue (adapted from MacKinnon, 2004)

*Anthropogenic substratum (first cultural landscapes)*

It is established that aboriginal populations practiced the territory of Westmount for thousands of years, for travelling, for gathering food and supplies, and, in all likelihood, to cultivate the land there. Mount Royal notably supplied the native populations, already 5,000 years ago, with corneal rock, which they used for the manufacture of tools and projectile points that were later retrieved throughout a vast territory of the northeast of the

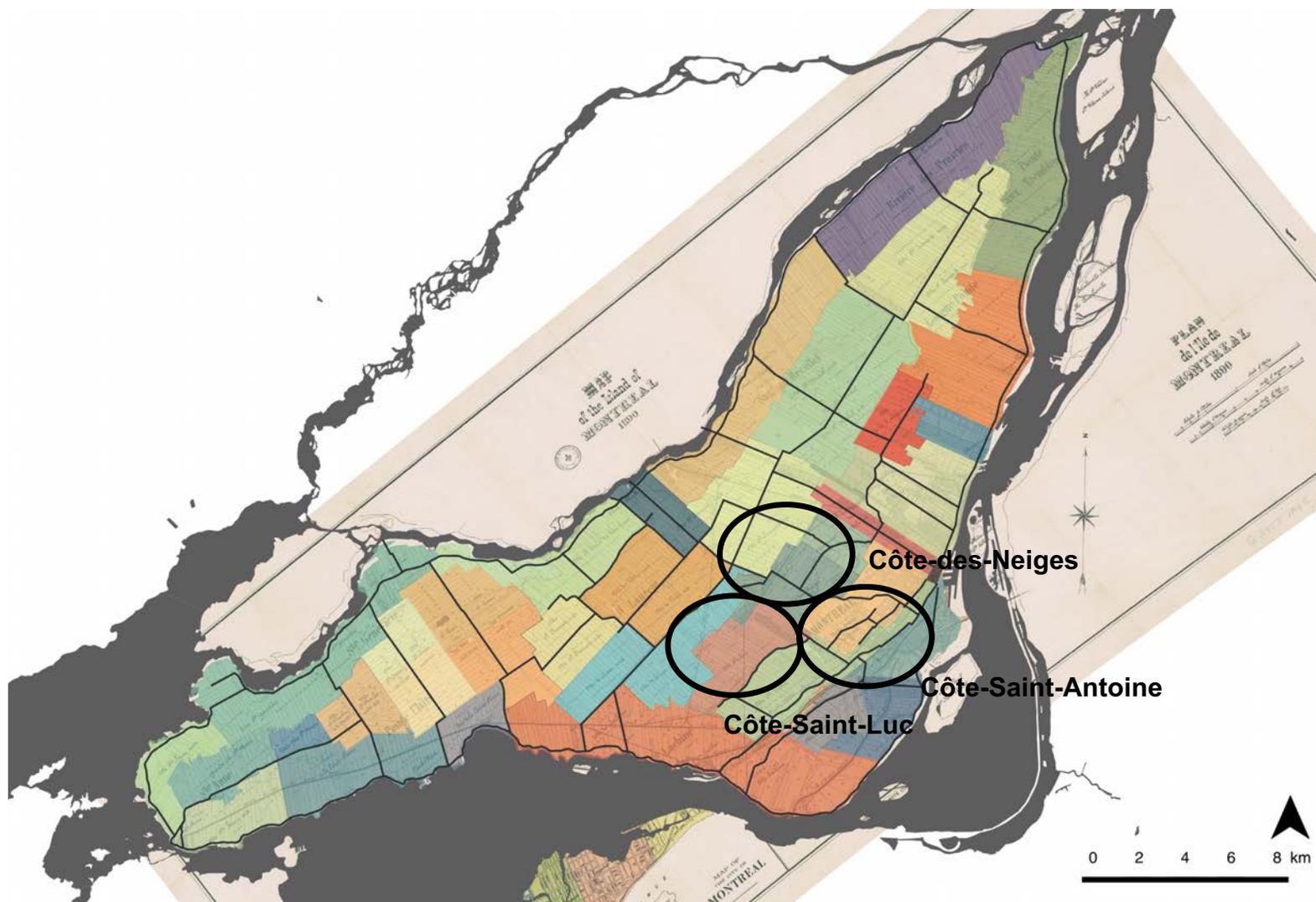
continent (MCC, 2018). The archaeological traces of the presence of the aboriginal populations on the territory of Westmount are tangible, although fairly discreet and sparse. A possible exception to that rule might be the layout of the Côte-Sainte-Antoine Road itself. The "Côte-Sainte-Antoine Road sector" entry of the Grand repertoire du patrimoine bâti de Montréal, mentions, without referencing them, some sources, which suggest that this road follows the path of an old Amerindian trail (City of Montreal, n.d.c). Although we are not in a position to test such a hypothesis in the

context of this study, we will discuss several morphological conditions that point in the direction of such a posit. Paradoxically, some critical clues might stem from the analysis of a later period, namely the inception of the sedentary occupation of the sector by settlers of French origin.

Figure 7 illustrates the composition of the agricultural allotment of 1713. The cartographic representation was produced by carrying over the old agricultural lot dimensions depicted by MacKinnon (2004) into the current allotment plan, using GIS tools. The exercise entails finding tangible traces of the 18th-century subdivision in the current allotment system. The resulting map hence constitutes an analogical reconstruction of the allotment at the end of the initial construction phase of the "European" period, based on a regressive analysis.

The fact that the current urban allotment still bears traces of the previous agricultural subdivision testifies to the conditioning effect of the latter on the morphogenetic process marking the urbanization of the territory of Westmount. The agricultural parcels of origin are deemed the "matrix estates" of the tissue.

A survey of Montreal territory at the end of the 1860s illustrates the state of development of Westmount at the height of its rural period, just before the beginning of the urbanization of the municipality (Sitwell, 1870). Figure 9 shows a composite map made up of the six sheets covering Westmount's territory and its surroundings. In this document, which is remarkable by its level of details, one can read, in particular, the presence of streams, the agricultural allotment, the road network, the forested areas, and even the presence of numerous orchards. The two most important roads, based on the number of buildings that they serve, are the Petite-Côte-Sainte-Antoine Road, which is laid out a short distance from the Saint-Jacques escarpment, where Dorchester Boulevard is nowadays, and the Côte-Sainte-Antoine. The latter appears in the center of the



**Figure 8.** The *Côtes* and *Montées* of the Island of Montréal in 1890 (source Buzzetti, 2017)

figure, where it acts as a bisecting route, deployed in a northwest-southeast axis, in the landscape.

The "côte" system was established on the island of Montreal by the Sulpicians at the turn of the 18th century. It was inspired by the "Rang," or "Row" system developed by the Compagnie des Cent-Associés from the 1630s onward, to ensure the colonization of the St. Lawrence Valley (Courville, 1981). The term "côte," specific to the island of Montreal, is generally synonymous with Rang, and indicates, like this last term, a territorial unit of development, composed by a road and the

agricultural lot series that it serves. The meaning of the term will, however, evolve to more specifically designate the country roads themselves. The toponymy of Montreal still testifies eloquently to this change in use. The names of many boulevards and thoroughfares still include the "côte" designation today. The term "montée" is used to designate routes that connect *Côtes* with each other. During the agricultural period, unlike the "côte," the "montée" did not carry lots that had their address on it. Some Montreal *Côtes* are deemed "single," and others are said to be "double." The single *Côte* consists of a single row of agricultural

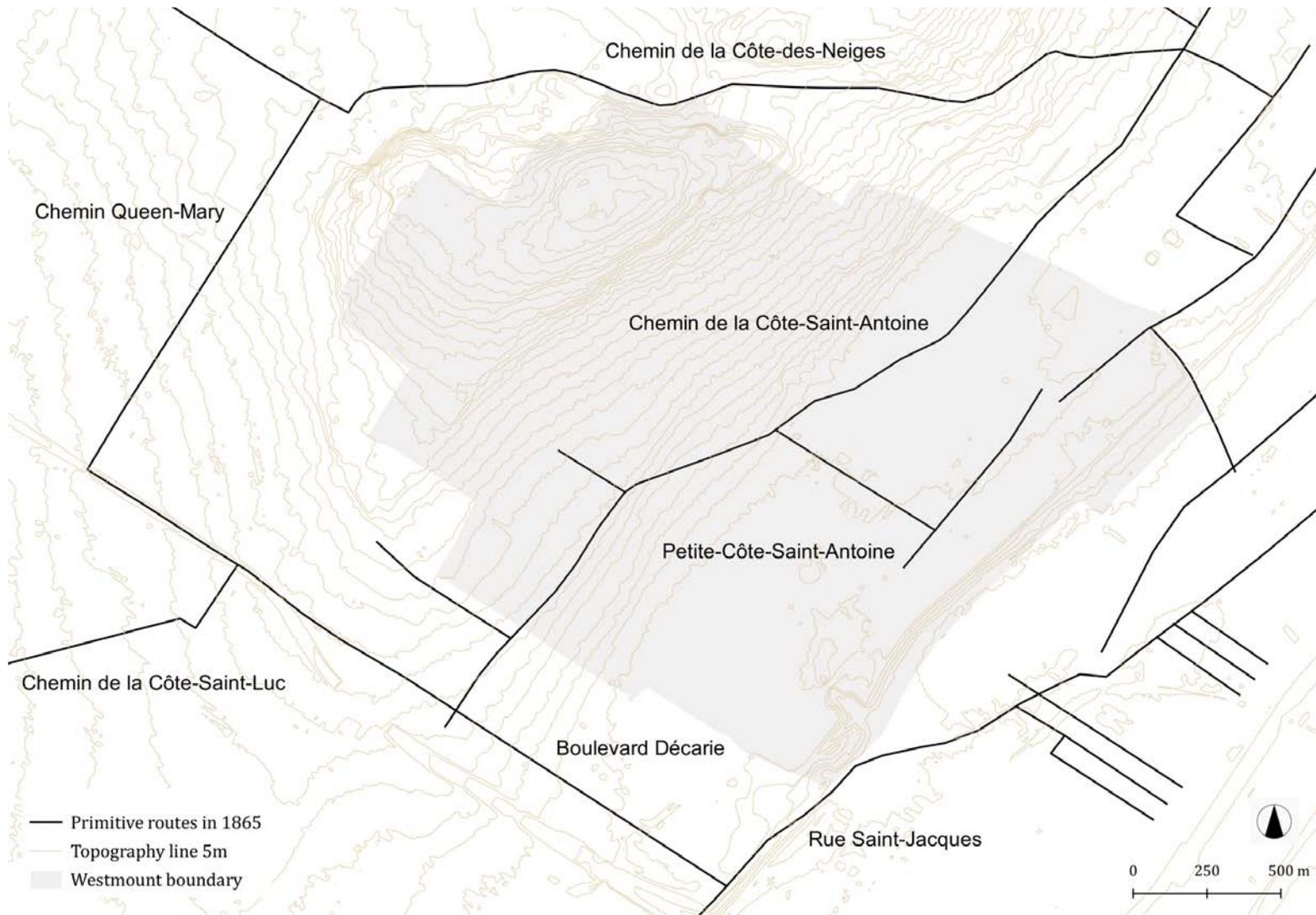
lots served by a road, whereas The double *Côte* is composed of two series of parcels respectively deployed on either side of an access road. Figure 8 illustrates the *Côtes* of the Island of Montreal in 1890 as well as the eponym roads and the *Montées*.

In some of the oldest *Côtes*, the agricultural parcels were initially bordered by waterways that gave them access, such as the St. Lawrence River itself or its tributaries. In such cases, alternative land routes were quickly created a short distance from the riverbank to replace the waterway as an access road. The *Côte-des-Neiges*, for instance, is a double "côte" initially deployed on both sides of the Raimbeault stream (Marsan, 2016). According to the recreation of the Montreal hydrographic network by Mahaut (2016), the location and configuration of the *Côte Saint-Luc*, a single *côte*, could also have been conditioned by the presence of a river.

The *Côte Saint-Antoine*, a single *côte*, is unique in the Montreal context, in that the road that serves it runs in the middle of the parcels of origin - the matrix estates - which it bisects. No other Montreal *côte* displays such a spatial configuration. Such a condition gives ground to the thesis of an ancient aboriginal path there, which had morphed into a countryside route, before accommodating the development village core. The eastern section of *Côte-Sainte-Antoine Road* is also perfectly aligned with the *Côte Saint-Luc Road*, and hence the old waterway that initially laid there (see Figure 9). It is difficult to see such conditions as a pure coincidence. It is tempting to hypothesize that the original aboriginal path led to the *Côte Saint-Luc* river, a waterway that extended to the head of the Lac à la Loutre, a short distance from the shore of the St. Lawrence upstream from the Lachine Rapids, where the natives "passed their canoes on the ground" according to the legend of the map established by Champlain in 1611. That being said, the layout of *Côte-Sainte-Antoine Road* and the fact that it divides the matrix properties that it serves almost in their midst might also be informed by the hydrographic conditions of the Westmount



Figure 9. Composite map of Westmount in 1870, at the height of the rural period (BAnQ)



**Figure 10.** Map of the primitive routes at the height of the rural period

plain. The density of streams in Westmount lower grounds certainly made travelling the area difficult, especially in the spring. As positioned, Côte-Sainte-Antoine Road made it possible to bypass these wetlands.

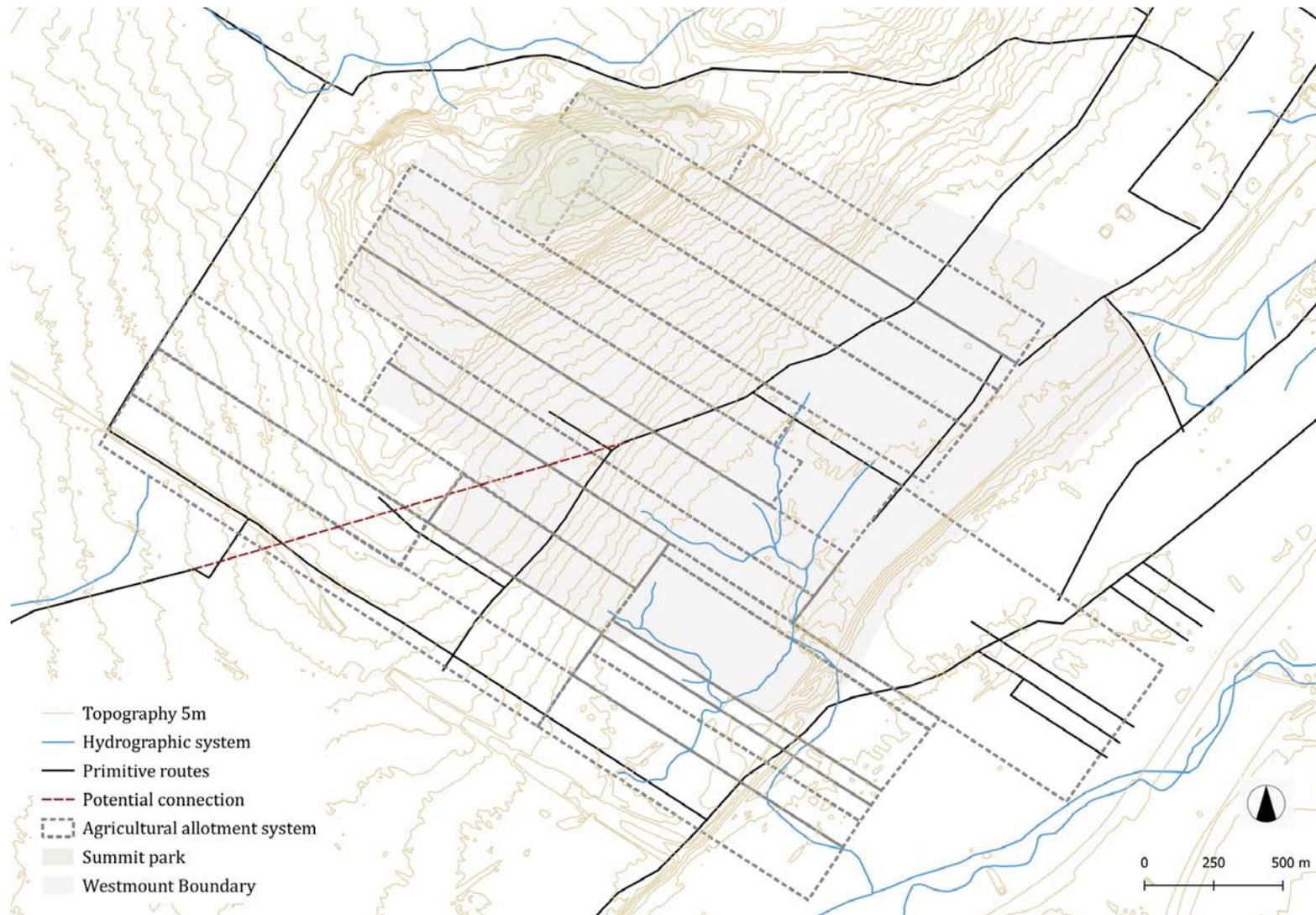
Figure 10 shows the roads of Westmount and the surrounding area in 1870, which is at the height of the rural period and the dawn of the urbanization process in the area. As can be seen, Côte-des-Neiges and Côte-Sainte-Antoine roads surround the Westmount Summit on the north and the south respectively, whereas the routes extending along

the axis of current Queen Mary road and Décarie Street act as connecting routes between the latter côtes as well as Côte-Saint-Luc Road. These country roads, which will later serve as vectors for the urbanization, are deemed "matrix route" of the tissue.

*Morphological substratum: synthesis and mapping*

Lévy and Spigai (1989) define the notion of permanence structure as "the set of traces and historical layouts of the urban form that subsist as a testimony of its past and the collective memory."

In addition to denoting the identity of the place as evoked in this definition, the said notion refers to tangible components of the natural and anthropogenic landscape that act as a morphological framework, or matrix, that informs the historical evolution of the territory. Figure 9 presents a synthesis showing the historical stratification of natural and anthropogenic landscape components that make up the permanent structure of Westmount. More specifically, the composite map illustrates the orographic and hydrographic conditions prevailing just before the rural period; the matrix estates at the inception of European settlement in the area; the primitive routes at the height of the country period (c. 1870), and the Westmount Summit forest. The detailed analysis of urban tissues, carried out below, will illustrate in particular how these spatial structures informed the urbanization of Westmount.



**Figure 11.** Synthesis map of the spatial components forming the permanence structure of Westmount

#### 1.4 The urbanization process

This study is not intended to document the Westmount urbanization process exhaustively. It focuses instead on the current material and spatial conditions of the city's residential tissues while taking into consideration how such conditions are the product of historical stratification. Figures 12 and 13 summarily illustrate the Westmount urbanization process.

The first figure shows the evolution of the street

system. In so doing, it draws up a general outline of the development of the territory. The urbanization proceeds overall from east to west, first on the plateau that borders on the Saint-Jacques escarpment before reaching the foot of the hill and gradually climbing the slopes culminating around the Westmount Summit (Figure 12). The urbanization of the plateau, already well underway in 1890, continued at a good pace in 1912. The vignette of 1932 indicates that, on that date, the urbanization had reached the steep sectors. The entire territory of Westmount had

already been opened for development on this date. Only some minor developments would take place between 1932 and 1969 when the urbanization of the territory appears to be complete.

Figure 13 presents a synthetic portrait of the urbanization process that stems from a cross-analysis of cartographic documents and a database providing the date of construction of the buildings. For the sake of simplicity, the territory is divided into zones that are colour-coded according to six periods of construction, respectively. The time ranges refer to the initial period of construction of the urban tissue in each zone - what the geographer M.R.G. Conzen (1981) calls institutive phase -, namely the phase during which the majority of the lots subdivided for urbanization purpose accommodates the buildings of the first generation there.

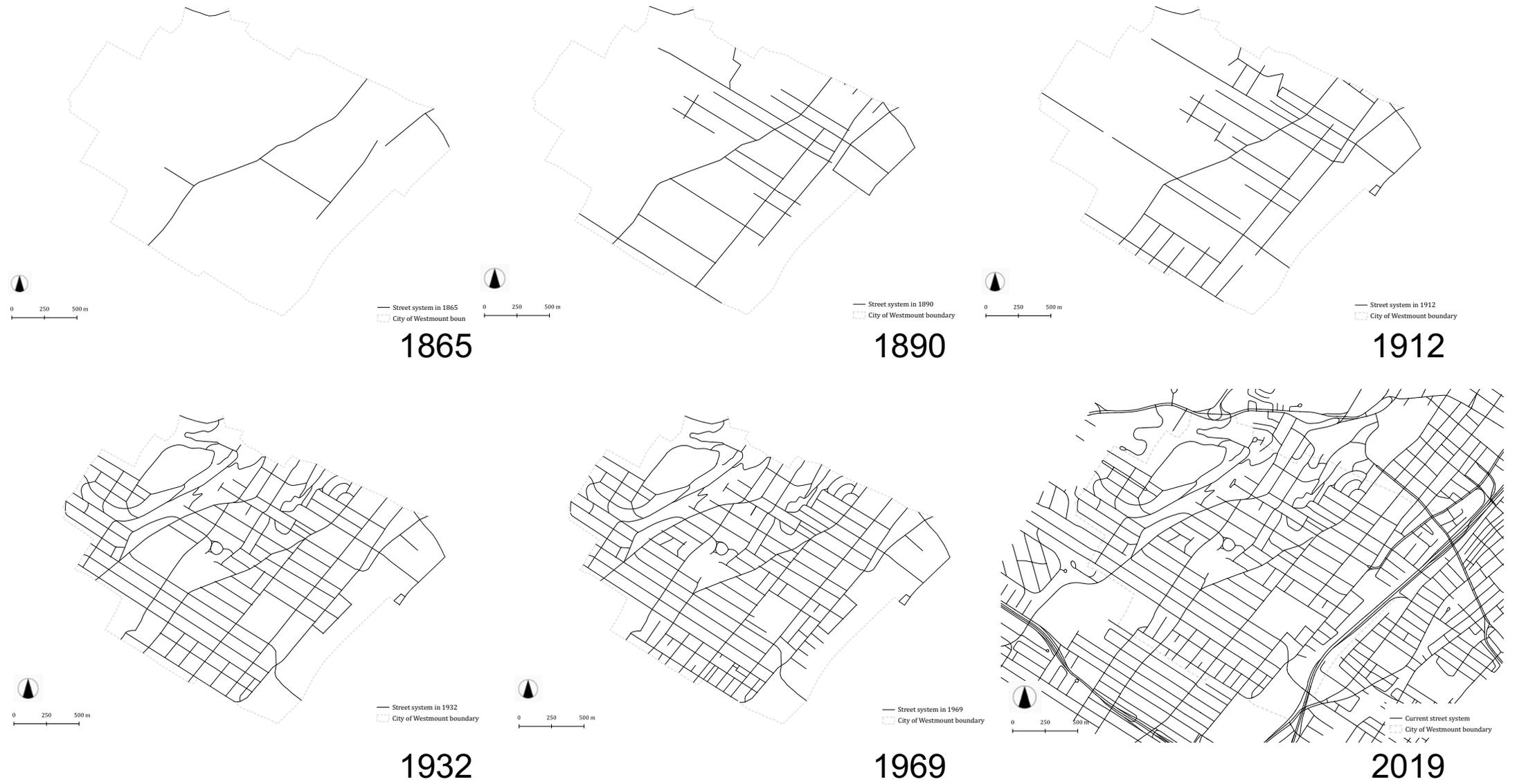


Figure 12. Polyphase maps of the route system



**Figure 13.** Dating and mapping of the initial urbanization process

### 1.5 Contemporary urban forms

This section focuses on the overall urban form of Westmount in its current state. It deals first with the presence and impact of natural or anthropogenic structures on urbanization patterns; secondly, it identifies specific rules governing the overall composition of the space in order to; identify and map, in a third step, the residential tissue types of Westmount and their corresponding landscape units. The residential tissue, also called basic tissue, occupies the major part of the urban space. It carries housing as well as some complementary

functions to domestic life, such as convenience retail. The residential tissue constitutes the main physical and spatial matrix of domestic and community life at the local level.

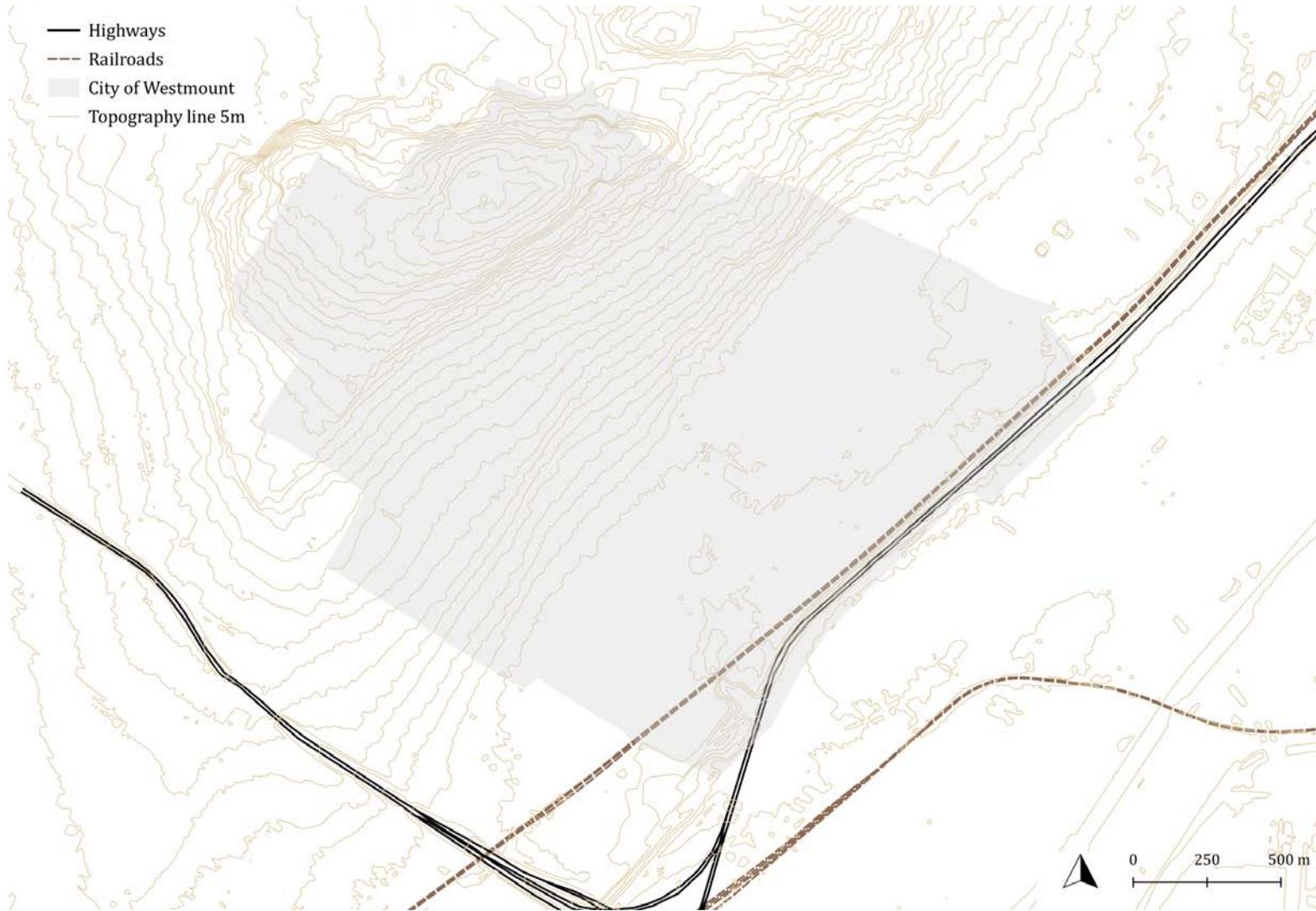
A basic operation of morphological analysis consists in distinguishing residential tissues and specialized tissues. Specialized tissues carry all non-residential urban functions (such as employment areas, industrial zones, extensive recreational facilities). Specialized tissues, terrestrial infrastructures (for instance, railways, highways, canals) and non-building natural spaces

(such as cliffs, rivers and bodies of water), conjointly constitutes interstitial space between the predominantly residential areas. For this study, any specialized aggregate (consisting of lots and streets serving the latter) with an area of 1.5 ha or more is considered a specialized tissue. Likewise, any residential aggregate of 2.5 ha or more is considered a residential tissue. The next paragraphs aim in particular to illustrate how the residential urban forms of Westmount fit into the overall spatial composition of the municipality.

#### *Infrastructures and other urban barriers*

Westmount and its immediate surroundings contain important infrastructures, that divide up its residential tissue. The city is bounded on the southeast side, near the Saint-Jacques escarpment, by the A-720 highway and a railroad track, with the notable exception of a small and narrow strip of land belonging to the municipality that is located at the foot of the escarpment. Cut off from the rest of Westmount by these natural and artificial barriers; the latter urban aggregate belongs to the morphological area of the Saint-Henri district, located in the Southwest borough of the city of Montreal.

The A-15 sunken highway, for its part, is located a short distance from the municipality on the southwest side, just a few meters from the historical limit between the Saint-Antoine and Saint-Jacques côtes. Similarly, further up on the northwest side (beyond Queen-Mary Road), the said highway extends at a short distance from the allotment parting line of the old agricultural parcel of the northwestern half of the Côte des-Neiges. The reification and perpetuation of old land boundaries resulting from the creation of an urban highway is an excellent illustration of the notion of structural permanence (Figure 14).



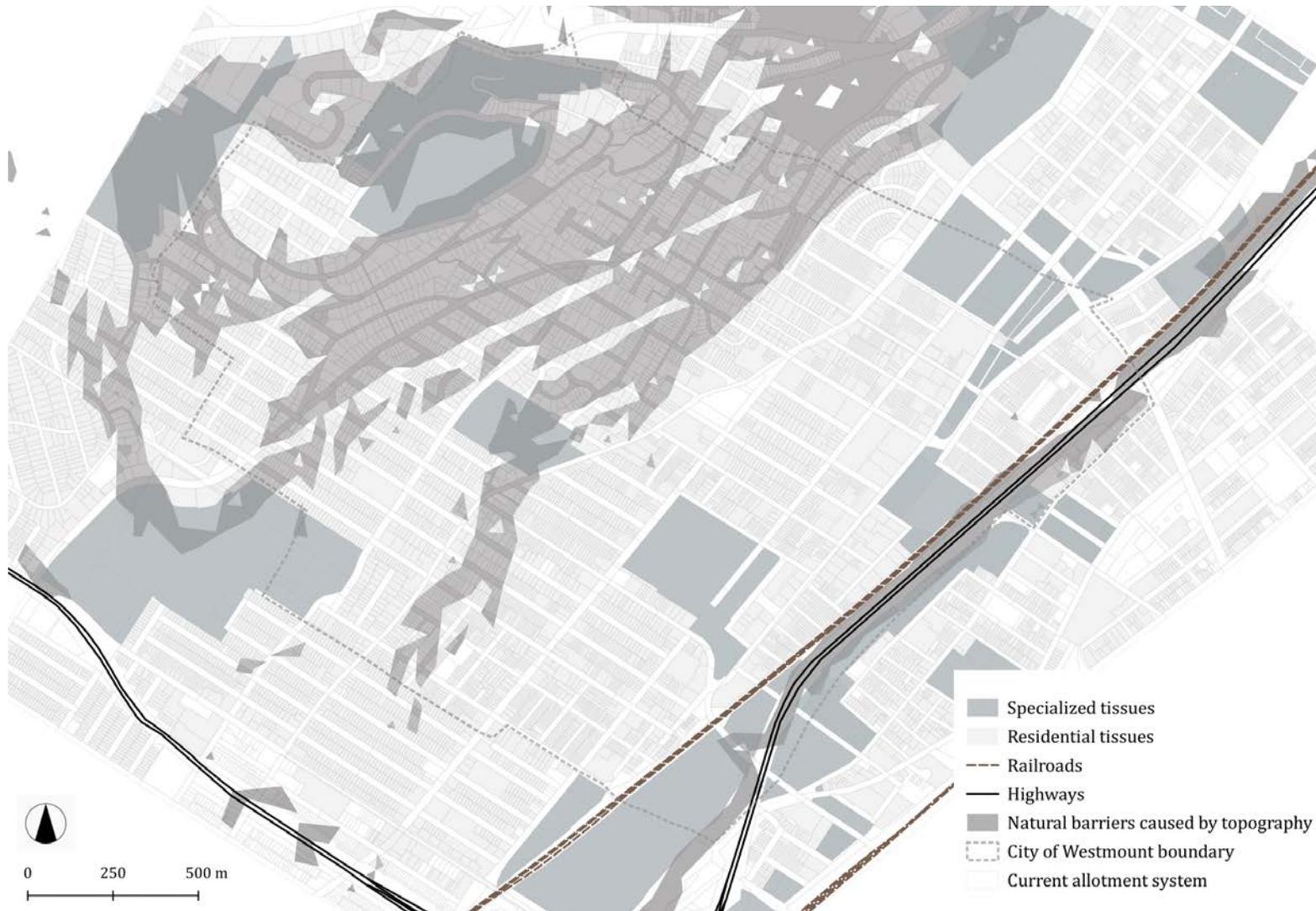
**Figure 14.** Contemporary territorial scale structures (railroads, highways)

Figure 15 maps the main barriers and urban boundaries of Westmount and its immediate surroundings. Urban barriers are to be understood here as extensive zones (areas equal or larger than 2.5 hectares) affected by linear or areal spatial discontinuities induced by natural elements or human works, where crossing on foot is tiring, difficult or impossible, dangerous or prohibited (Spigai, 1995; Larochelle and Gauthier, 2002). Urban barriers can thus take the form of a railway, a controlled-access highway or an escarpment, a steep slope, or be the product of non-residential

areas, such as a rail yard, an industrial sector, or even a large urban park (since crossing a park can be problematic at night, or during winter for example). For this study, any such non-residential area of 1.5 ha or larger is considered restrictive regarding everyday pedestrian movements and is therefore considered to be a barrier. In general, non-residential areas with size below this threshold do not imply the street network patterns and configurations that differ from surrounding street conditions, so that they do not constitute spatial discontinuities as far as movements are

concerned. The slopes of 6° or more are also considered barriers. After such a threshold, beyond the physiological discomfort that pedestrians can feel, the geometry of the street network is generally affected, ensuing in spatial discontinuities. As per the illustration of figure 15, in addition to the A-720 highway and the railroad, the rugged topography of Westmount and its specialized tissues create barriers that delineate residential tissues and break them up, or that create gaps within them.

The southwest portion of Westmount is marked by a combination of natural and artificial barriers. In addition to the Saint-Jacques escarpment, the railway and the A-720 highway, there is a significant amount of specialized tissues, including the McGill University Health Center (MUHC), located on a site that had hosted a brickyard and a rail marshalling yard successively, before becoming a hospital site. On the northern side of the municipality, the Westmount Summit is surrounded by steep slopes, the urbanization of which will lead to the creation of an adapted street network, though hardly accessible for pedestrians. The western limit of the city is framed by the large institutional properties of the Marianopolis and Villa-Maria colleges. Finally, to the east of the municipality, there is a mixed institutional and commercial sector around Atwater Avenue. A significant institutional nucleus is composed, on either side of this street, of Dawson College (formerly the head office of the Congrégation de Notre-Dame de Montréal), a building of the said Congregation and of course, the Grand Séminaire and the Collège de Montréal, on the site of the old de la Montagne Fort. The commercial tissue includes, in particular, the commercial components of the Westmount complex, the Alexis-Nihon Center, as well as the former Montreal Forum, an amphitheatre now converted into a shopping and leisure center. Embedded within an otherwise residential area, nearby the geographical center of Westmount, is the eponymous park, adjoining a school and the Westmount recreation center. The location of the park can be explained by the



**Figure 15.** Map of the urban barriers

presence of a nexus of old streams, around which it would initially be laid out (see Figure 16). The recreation center is located where the main stream had flown toward the crevice now crossed by the Glen Road.

Figure 15 illustrates how the infrastructures, specialized tissues, the Saint-Jacques escarpment and the Westmount Summit jointly form an "interstitial tissue," which delimits patches of residential tissues. For the most part, Westmount residential tissues form a sizeable continuous

patch, which extends beyond the city limits. It is framed by Avenue Atwater and its specialized bordering tissues on the northeastern side, the Décarie Expressway (A-15) on the southwestern side, then, from the Saint-Jacques escarpment and its adjacent specialized tissues on the southeastern side to the Westmount Summit, and beyond the latter, the specialized institutional tissues on Queen-Mary Road, and finally, the institutional tissues surrounding The Boulevard on the northwestern side. Only two small residential areas are left out from the main area: the

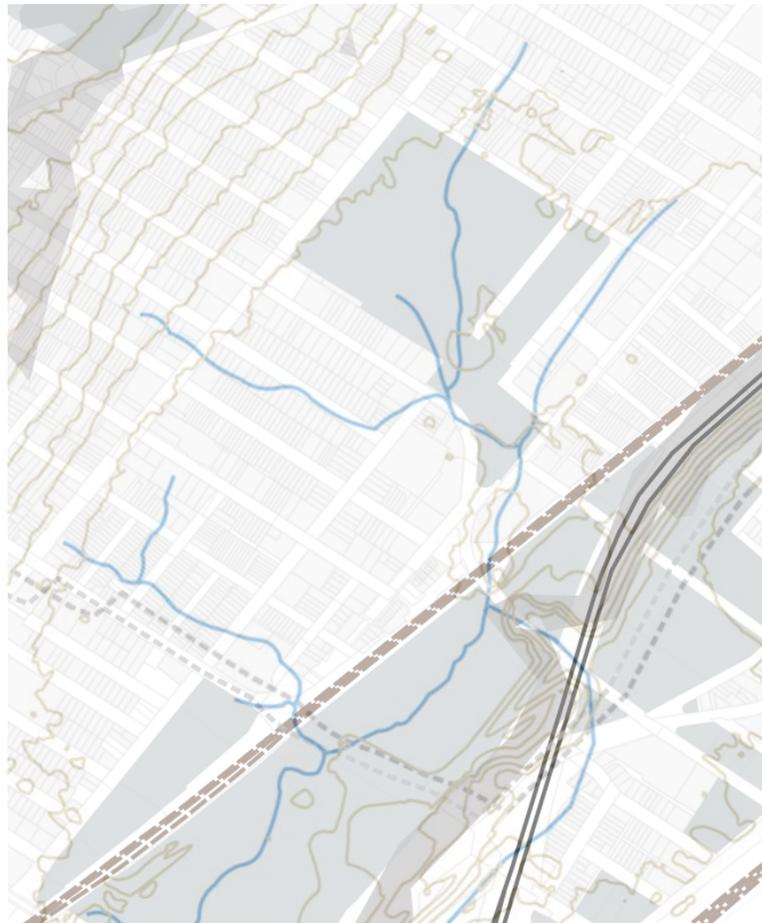


**Figure 16.** Westmount Park at the turn of the 20th century (BAnQ)

aggregate deployed along Rue Saint-Antoine below the Saint-Jacques cliff, which belongs, morphologically speaking, to the residential tissue of the Saint-Henri district, and a small enclave located near Avenue Atwater, between the escarpment and Dorchester Boulevard. In addition to the former, one can notice two "quasi-patches" in the form of small plateaus located west and southwest of the Summit that are encircled by hilly areas.

Another remarkable aspect pertains precisely to the steep topography around the said Westmount Summit. Though the topography does not entirely prohibit residential development, the tissues are significantly affected by it, in their configuration. On most of Westmount territory, the tissues conform to the general geometry dictated by the first agricultural division, which results, in particular, in an orthogonal street grid. The latter configuration is the norm on the Westmount plateau. The grid also extends towards the Summit on parts of the latter's foothill. However, on the foothill, or piedmont, one can observe deformations of the grid due to adaptation to localized topographic conditions. In the steeper yet still buildable sectors surrounding the Westmount Summit, the street grid dissolves and assumes curvilinear configurations that espouse the topography to allow the ascent toward the said Summit.

Finally, it is interesting to note the influence of the old streams on the current urban form of Westmount. In addition to the presence of Westmount Park itself, the nexus of streams has translated in what can be described as a "coulée verte," or "green funnel" spanning from the Westmount Park to the escarpment and Glen Road, including the grounds of Westmount Recreation Center and part of the current MUHC site. The presence of the streams that had restricted the residential development has enabled the introduction of specialized functions later on in the process. Another manifestation of adaptation to the presence of a former stream appears to be the change in orientation of the blocks and street structure on the southwestern side of Prince Albert Avenue (see Figures 15 and 17).



**Figure 17.** Hydrography and urban tissues

### *Specialized routes*

Caniggia and Maffei (2017) identify two categories of specialized routes: the local commercial street, or high street, and the major thoroughfare. The latter are distinct from the regular routes, both by their function and by their relative position in the urban system. The local commercial street carries local convenience retail, predominantly. A typical configuration in the general Montreal context comprises retail spaces on the ground floor, which are topped with residential units on the upper floors. The general rule sees the local commercial street located in a central position within the residential urban region that it serves. Where an orthogonal grid flourishes in the Montreal, the high street extends along the short side of the blocks, a position that maximizes access to the commercial function from perpendicular streets.

As its name suggests, the function of the major thoroughfare is to accommodate large vehicular flows, in particular, to facilitate inter-neighbourhood movements. Buzzetti, Gauthier and MacDougall (forthcoming) propose an operational definition of major thoroughfares that is based on strictly morphological criteria (rather than functional, or administrative considerations, for instance). A major thoroughfare (MT) is a specialized route granted with a high level of arteriability (Marshall, 2005) – i.e. connected to streets or road infrastructures of similar or superior topological status, such as or controlled-access highways –; which spans over the length of more than one landscape unit, to which it provides access; that often allows for the crossing of urban barriers, and; that tend to be located on, or nearby, the boundaries of landscape units (adapted from Buzzetti, Gauthier and MacDougall, forthcoming). We can add this definition, that it is not uncommon for an MT to be deployed along a natural (river, escarpment, etc.) or artificial barrier, or at a short distance from such a barrier. By its nature, the said obstacle is crossed by a limited number of streets only, which translates into tangible functional benefits, in the case of an infrastructure aimed at

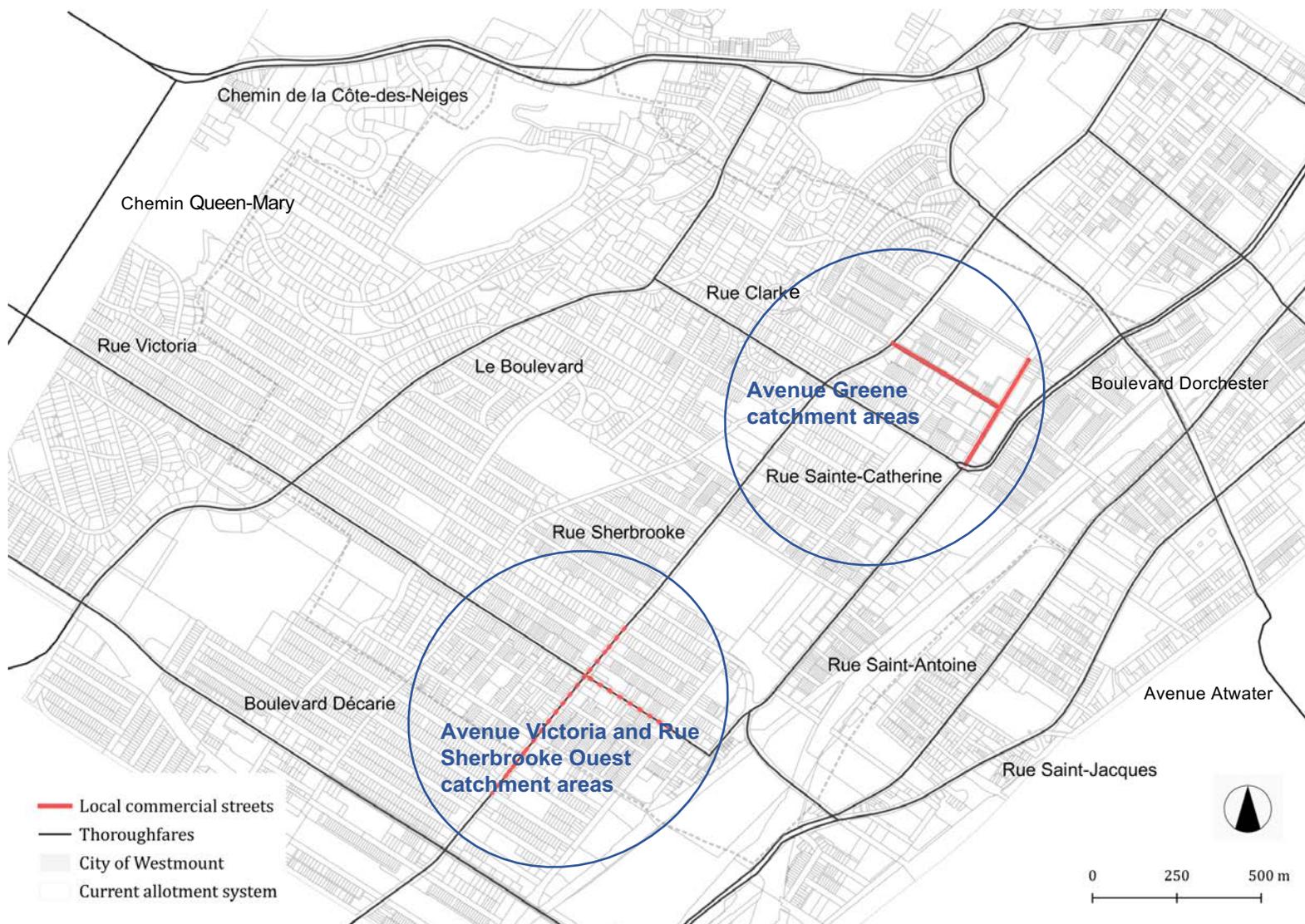
facilitating vehicular flows. Dorchester Boulevard and Sainte-Catherine West Street are located in such a favourable position at a short distance from the escarpment.

Figure 18 illustrates the presence of specialized routes in Westmount and its immediate surroundings. In those, one can recognize several old paths, an aspect to which we will return in the coming paragraphs.

There are four local commercial streets in the municipality. They have the particularity of being grouped two-by-two, perpendicularly, thereby representing "T" figures.

A first "T" is formed by a segment of Greene Avenue, between Sherbrooke Street West and Sainte-Catherine Street West, as well as a segment of the latter street, deployed between Wood and Clarke avenues. The Greene Avenue segment is the dominant one here. The convenience stores located there mainly serve the residential region that stretches between Wood Avenue and Westmount park in the northeast-southwest axis, and between Sainte-Catherine Street West and its adjacent specialized tissue on the southeast side on the one hand, and by the piedmont of the Westmount Summit on the northwestern side on the other hand, namely, where the slope forms a natural barrier, along the parting lot line at the back of the pertinent strip of Holton Avenue.

The Greene Avenue catchment area (in other words, the area that gives access to the latter within walking distance) is thus bordered by well-defined natural and artificial barriers (see Figures 15 and 18). Greene Avenue is slightly offset from the center of the area it serves. The geographic centre of the fabric is instead marked by the presence of the Saint-Léon-de-Westmount school and by the eponymous church and the Ascension of our Lord Church. Such specialized buildings usually call for such a position in the spatial system.



**Figure 18.** Specialized routes carrying local retail and inter-district movements

The second "T" is formed by a segment of Sherbrooke Street West, between Roslyn and Marlowe avenues, on the one hand, and by a segment of Victoria Avenue, between Sherbrooke Street West and de Maisonneuve Boulevard West, on the other hand. The residential fabric corresponding to the catchment area is, here again, delimited by well-defined natural and human-made barriers (see Figures 15 and 18). These are: on the northeastern side, Westmount Park, then, clockwise, the Canadian Pacific Railway, and beyond it, the MUHC campus on the

southeastern side, from there, the Décarie Expressway (A-15) on the southwestern side, then, on the northwestern side, the steep slope located near Côte-Sainte-Antoine Road, southwest of the latter. The commercial segment of Sherbrooke Street West is, in this instance, perfectly centred in relation to the residential fabric that it serves, in addition to being deployed in parallel to the shorter sides of the residential blocks, as per the Montreal norm. One can also note the presence of a church (Trinity Memorial) in a polar position, nearby the geographical centre of the area that the temple

serves.

The two commercial complexes are each composed of local convenience stores, which is their primary function, as well as of more specialized shops. It is worth noting that the convenience retail establishments tend to be located in a more central position, namely: the intersection of Greene Avenue and de Maisonneuve Boulevard West, and the intersection of Sherbrooke Street West and Victoria Avenue, respectively. Conversely, more specialized businesses tend to be located in more peripheral positions in their respective commercial streets.

Figure 18 maps the major thoroughfares (MT) of Westmount and its surroundings. One could recognize, in particular, some old routes that are now assuming such a function. The meshing of the thoroughfare network is very regular. Côte-des-Neiges Road, Queen Mary Road and Décarie Boulevard form outer limits of the area. These are all old countryside roads dating from the French Regime. The same goes for Saint-Jacques Street, which extends at the foot of the eponymous escarpment, where it connects with Saint-Antoine Street. These two routes together form an MT, respectively serving traffic flowing in opposite directions in the southwest-northeast axis. Atwater Avenue is one of the MT that allows the crossing of the obstacle that the cliff represents.

Five MTs traverse the Westmount territory. In the southwest-northeast direction, these are Dorchester Boulevard and its extension in Sainte-Catherine Street West, Sherbrooke Street West, and The Boulevard. Dorchester Boulevard and Sainte-Catherine Street West overlap in part with the former Petite-Côte-Sainte-Antoine Road. Within Westmount, Sherbrooke Street West is primarily a break-through route, which was created with the explicit intention of facilitating inter-district travel. The Boulevard was traced at the foot of the steep slope adjoining the Westmount Summit, where it runs in parallel to the contour lines. Its curvilinear configuration derives



**Figure 19.** Hierarchy of the route network

from the said natural conditions. In the northwest-southeast axis, two MTs cut across the territory of Westmount. These are Victoria and Clarke avenues. Clarke Avenue acts as an extension of Dorchester Boulevard in the northwest-southeast axis, thereby connecting Sherbrooke Street and The Boulevard to the former. Victoria Avenue is similarly leading to Glen Road, which acts as an extension of Victoria while rallying the pair made up of Saint-Jacques and Saint-Antoine Streets, as well as Sainte-Catherine Street West, Sherbrooke Street West, The Boulevard, Queen-Mary Road,

and beyond Queen-Mary Road, several MTs all the way to Jean-Talon Street West. This long depiction is meant to stress the consistency and regularity in the meshing of those important arterial roads.

Victoria Avenue and Sherbrooke Street West have in common that they each have a segment on which the major arterial route is also assuming the role of a local commercial street. Such conditions are in contradiction with the theoretical model of Caniggia and Maffei (2017), which state that under normal circumstances, a local commercial street

calls for a central position, whereas an MT is usually found near the edges of the neighbourhoods that it serves. This apparent incongruity can be explained by atypical local morphological conditions. As previously discussed, Sherbrooke Street West and Victoria Avenue are centrally located in the residential fabric that they serve. Their relative position is consistent with what is expected from a route supporting local retail establishments. They deviate from the norm with respect to their relative position in the arterial system as thoroughfares.

The explanation for this has to do with the nexus of natural and anthropogenic barriers in the area. In the northeast-southwest axis, the crossing of the Westmount plateau has been constrained by the presence of Westmount Park and the specialized tissues adjoining what is now known as the Canadian Pacific railroad. As mentioned earlier, the presence of these specialized tissues is itself informed by the presence of streams, that have since disappeared. The extension of de Maisonneuve Boulevard West and Sainte-Catherine Street West, two major routes, in the southwest direction was impeded by these natural and human-made obstacles, hence disqualifying these routes to become important urban boulevards in the sector (despite such a designation in the case of de Maisonneuve West!). These circumstances explain the decision to extend the old Sherbrooke Street West toward the southwest on the Westmount Plateau, turning the said break-through route into a vital northeast-southwest urban boulevard. The opening of Sherbrooke Street in the area also offered a more efficient alternative route to the Côte-Sainte-Antoine Road, which was already available for travelling in such direction, though at the cost of climbing the foothill. An additional argument in favour of the creation of a break-through route could be that a widening of the Côte-Sainte-Antoine Road to accommodate an increase of traffic, would have entailed the destruction of part of the core of the village of Notre-Dame-de-Grâce. Similar reasoning can be developed to explain the



**Figure 20.** Face-block (*Contrada*) structure

dual function assumed by Victoria Avenue. The latter, which was developed before 1890, was already assuming an embryonic commercial function by 1909 (see Figures 2 and 12). With regard to vehicular movements in the area, Victoria Avenue is essential. In addition to giving access to Saint-Henri through nearby Glen Road, heading toward the northwest, it wraps around the Westmount Summit on its southwestern side in the same way that Côte-des-Neiges Road circumvents the Summit on its northeastern side. Furthermore, due to the presence of the institutional properties of Villa-Maria and Marianopolis colleges, Victoria

Avenue, which runs alongside these properties, is the only major street extending in the northeast-southwest direction in the area.

#### *Hierarchy of routes*

The concept of route hierarchy refers to the belonging of each route to one of the four following categories: the matrix route, the settling route, the connecting route and the break-through route. Figure 19 shows the hierarchy of the routes that compose Westmount's (and its immediate surroundings) street network. In addition to the

Côte-des-Neiges Road and Décarie Street (cf. Figure 19), there are five matrix routes within the territory of Westmount, namely: 1. Côte-Sainte-Antoine Road; 2. Atwater Avenue; 3. Dorchester Boulevard up to Greene Avenue; 3. the extension of Dorchester on Sainte-Catherine Street West, up to Glen Road; 4. Greene Avenue between Dorchester Boulevard and Sherbrooke Street West; 5. Metcalfe Avenue, between Sainte-Catherine Street West and Côte-Sainte-Antoine Road. As mentioned earlier, it seems reasonable to infer that Côte-Sainte-Antoine Road was an ancient path practiced by the natives before its transformation into a rural road at the end of the 17th century.

The route composed of Dorchester Boulevard and Sainte-Catherine Street West corresponds to the Petite-Côte-Saint-Antoine, on which several original matrix estates, deployed between Avenue Wood and the surroundings of Avenue Metcalfe, had their addresses. Greene and Metcalfe avenues were initially crossroads connecting the little côte and its big sister. All these old roads served as vectors for the initial urbanization of Westmount (see Figure 13), in particular from the last quarter of the 19th century. As expected, the vast majority of the municipality's streets are settling routes. In Westmount, the creation of the latter is generally the product of planned subdivision operations. Most of these routes have an orthogonal configuration as they conform to the geometry of the matrix estates. In the early development phases, the general practice consists in deploying the settling routes parallel to the longitudinal direction of the agricultural lots, and perpendicularly to the côtes, from which the settling routes stem.

A noteworthy exception is the geometric pattern observed on the Westmount Summit and in its immediate surroundings. There, the settling routes have a curvilinear configuration, which is a direct response to topographic conditions. In these sectors, the routes form a reticulated network, some routes of which follow the contour lines,

while others climb the slope along the paths of least resistance.

There is a surprisingly small number of connecting routes in the Westmount tissue. Almost absent from the curvilinear network, most of these are deployed in the northwest sector. This handful of routes are Westmount Avenue; a short segment of The Boulevard; the southwestern portion of the Sunnyside Avenue; the southwestern portion of Shorncliffe, and Devon avenues. Westmount has four break-through routes. The most important in terms of length and role in the street system is Sherbrooke Street West, which extends over the edge of the Westmount plateau at the limits of the Summit piedmont. The conditions of which led to the creation of the said break-through route have already been discussed.

Two other restructuring routes assume the same function in the system, namely, allowing the crossing of the natural barrier formed by the Saint-Jacques escarpment. These routes are Glen Road and the portion of Greene Avenue that runs southeast of Boulevard Dorchester, from the latter. The fourth restructuring route is the section of Atwater Avenue that runs between Sherbrooke Street West and Côte-des-Neiges Road.

#### *Structure of the face-blocks*

Figure 20 illustrates the structure of Westmount's face-blocks. The expression refers to a segment of a route between two intersections and its pertinent strips. In general, these pertinent strips come in pairs. However, there are cases where a street segment serves only one pertinent strip or none. At the time of their initial construction, the connecting routes generally have no pertinent strips, since adjacent lots have their addresses on perpendicular settling routes. Such conditions may change when such lots are subdivided or reoriented afterwards, in order to create new addresses on the connecting route. Such examples shed light on the analytical procedure performed to produce the face-block structure,

which associates each of the current lots with the segment of the street on which it has its address.

Figure 20 shows the results of this exercise. The face-blocks are colour-coded based on their belonging to the route hierarchy categories. The graphic rendering makes it possible to grasp the "morphological signature" of the segments belonging to the different categories of routes while highlighting the different syntactic patterns which characterize different tissues present in the municipality, such as the contrast between orthogonal and curvilinear configurations.

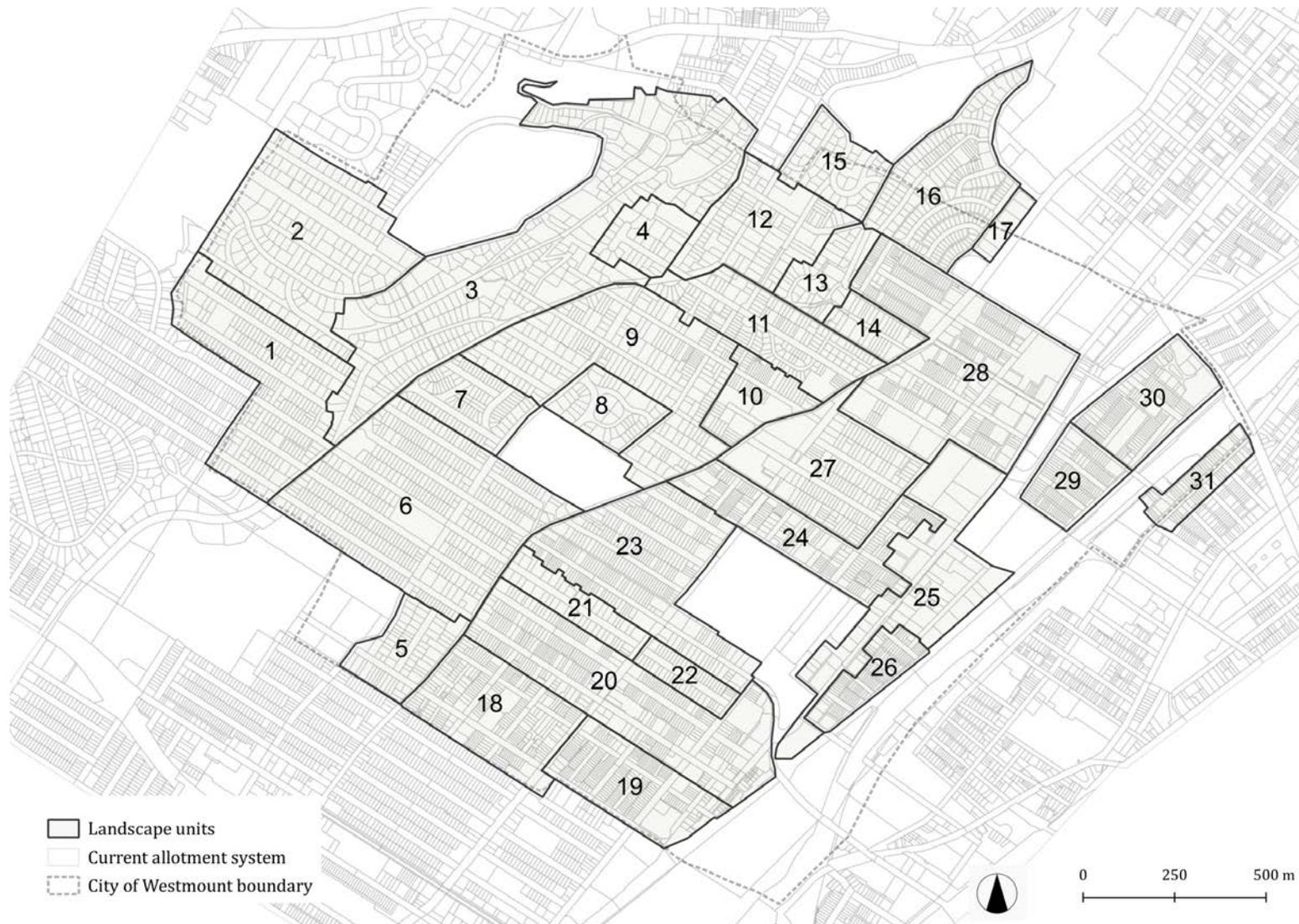
It should be noted that the matrix routes of the tissue display a very irregular pattern, which is partly attributable to the fact that their urbanization spanned over an extended period. The côtes, in particular, first carried large agricultural parcels on which stood a house. The initial urbanization led to the creation of residential lots by subdividing the original parcel, giving rise to linear development along the old roads. The intensification of the urbanization process would later foster densification of the pertinent strips; a process that implies further subdividing of the lots, in conformity with then new urban lot standards. The process of metamorphosis of the allotment, which results from these multiple operations, produces an irregular pattern, which Conzen (1981) designates by the term metamorphic plot pattern.

Somewhat similar observations can be made about the break-through routes, and of Sherbrooke Street West in particular. The street is the product of a purposeful restructuring, aimed at creating an important arterial route, by cutting through existing subdivisions still in their institutive phase of development. The operation, which did not entail significant demolitions of existing buildings, resulted in the splitting of urban blocks in order to create pertinent strips bordering the new boulevard. The latter heads of blocks vary significantly in size, configuration and composition, due to case-by-case adjustments to the geometry of the pre-existing subdivisions while taking into

consideration the requirements of future buildings. The creation of a wide boulevard-type artery, intended to be prestigious, has brought its share of specialized buildings of various sizes (such as churches, public library, banks), as well as new apartment building types, including some with retail establishments at the street level. Such an assortment of buildings evidently called for lots of varying dimensions.

The settling routes pertinent strips generally display a more regular allotment pattern, since the street and the lot series are created as a coextensive structure. Further, these lots are created with a residential building type in mind that is specific to the period and place. Figure 20 clearly shows differentiated tissue areas. Some morphological differences are associated with differing urbanization periods, whereas others speak of adaptations to specific spatial or geographical circumstances. Some morphological regions present non-orthogonal configurations. They are located in sloping areas, where the street network and its conjoined allotment display various modalities of adaptation to the topographic conditions: sometimes bending to the sinuosity of the contour lines, sometimes by climbing the slope according to paths of least resistance, as previously mentioned. On flat and gently sloping ground, the routes and allotment layout conform to the orthogonal geometry of the matrix estates. As a general rule, settling routes face-blocks extend lengthwise in the longitudinal direction of the original agricultural parcels.

A notable exception to this last rule is observable in the southwestern portion of the municipality, between Victoria and Claremont avenues. It is reasonable to infer that the presence of a stream along the current municipal limits on the southwest side, persuaded the developers to orient the blocks in a northeast-southwest direction in order to minimize the inconvenience caused by the latter. Another no less plausible hypothesis would be that the width of the land to be subdivided, which goes from the parting allotment line behind the



**Figure 21.** The landscape units of Westmount (key plan)

properties located on the southwestern side of Victoria Avenue, to Bulmer Street and the extension of that street along the municipality's limits to the southwest, did not allow the creation of blocks of standard dimensions if deployed longitudinally. As a matter of fact, width of the space spanning between Bulmer Street and the back of Victoria Street pertinent strip, as described, corresponds to the transversal dimensions of two and a half blocks, including the streets that would serve those blocks.

### 1.6 The landscape units of Westmount

One of the main objectives of the first stage of the research consisted in identifying the types of residential tissues by unveiling the specific properties that distinguish them from the surrounding tissues in order to partition the territory into landscape units. The partitioning procedure is twofold. It entails entropy-based analyses that seek to unveil coherent internal properties of the tissue as well as a probing of spatial discontinuities induced by barriers and boundaries. The term

"boundaries" refers more specifically to disconnects in the street network. To this end, several components and characters of the form have been considered. These are in particular: the original agricultural allotment, which forms the basic framework which then informs subsequent subdivision operations; the geometric properties of the street network (its configuration, its orientation and the hierarchy of its routes); the residential allotment (its geometry, configuration and composition), and finally; the types of building (considered in terms of the mode of aggregation, number of floors and number of dwellings per building). The exercise delivered 31 landscape units, which are illustrated in Figure 21. The second step of the research consists in characterizing each of these units by probing their physical and spatial properties qualitatively, quantitatively and in systemic terms in order to determine the morphological traits that define their architectural and urban identity.

## SECOND PART

### Morphology of the landscape units

#### *Summary*

The second step of the research aims for a refined analysis of each of the tissue areas in order to identify the spatial properties that build their specific architectural identity. These properties are what the regulatory tools such as the zoning and the PIIA will generally aim at protecting to maintain the quality of the ensemble of the considered area. The results of the exercise are delivered in standardized analytical fact sheets.

#### *Organization and content of the analytical fact sheets*

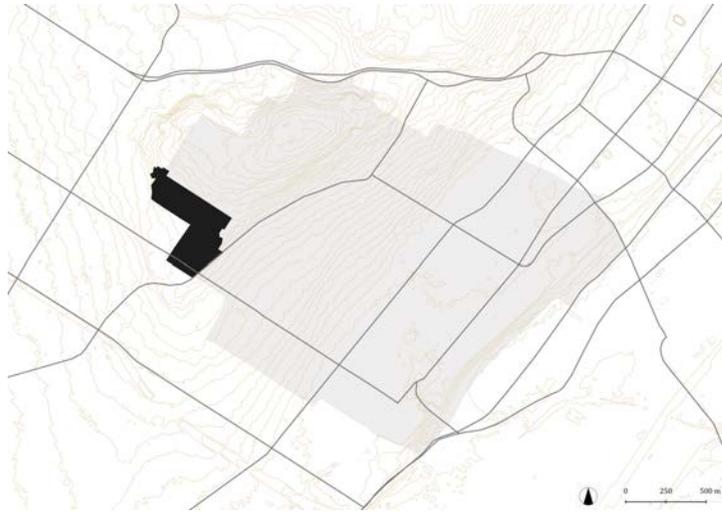
The analytical fact sheets are organized in sections respectively centred on the specific aspects as described hereafter.

The section *location* indicates the relative position of the landscape unit in Westmount and defines its precise geographical boundaries. The *brief description* pertains to the area of the zone, the number of dwelling units it contains, the dominant architectural types observed there, as well as the gross and net residential densities it produces. The *subsystems of the tissue*, namely: the topography, the street network, the allotment and the building coverage, are analyzed briefly. The *hierarchy of the routes* is established by classifying the latter according to their belonging to the following categories: matrix route, settling route, connecting route, and restructuring route. The overall composition and configuration of the street network are analyzed in relation, in particular, to the topographic conditions. If applicable, the presence of the *specialized routes* is indicated.

The *syntax of the tissue* is the subject of detailed

analysis in particular concerning the composition of the residential building stock; the conformation to the inherited agricultural allotment geometry; the influence of the topography; the face-block structure; the allotment module; the building-lot relationships, and lastly; the position of driveways and parking spaces.

The *streetscape* is the subject of particular attention. The term streetscape refers here to the physical make-up and the spatial arrangement of the public-collective space per se, as well as to the framing of the latter by the adjacent architectural and natural features. The dedicated section thus focused on the physical and spatial devices ensuring the mediation and transitioning between the *public-collective space* and the *private-domestic space*. The last section of the fact sheets presents an analysis of the *composition of the residential building stock* and the spatial distribution of buildings of the various types.



# Landscape unit 1

## Analytical fact sheet

### Location

The landscape unit 1 is situated west of the Westmount summit. It is bordered by The Boulevard on the southeast side, thence clockwise, by the lot parting line located behind the properties on the southwest side of Rue Victoria, then by the municipal limits on the northeast side, the lot parting line behind the properties on the southwest side of Avenue Upper-Lansdowne, the back of the properties situated on the west side of the Lansdowne-Ridge Street, then those situated on the northeast side of Avenue Upper-Belmont, and lastly, the lot parting line behind the properties situated on the west side of Edgehill Street.

### Brief description

With a total area of 15.6 ha, this landscape unit contains 213 housing units as well as a park (Devon Park) and a school (Villa Sainte-Marcelline). The residential housing stock is made up of 99% of single-family units, producing a gross occupancy density of 13.7 dwellings per hectare and a net residential density of 19.2 dwellings/ha.

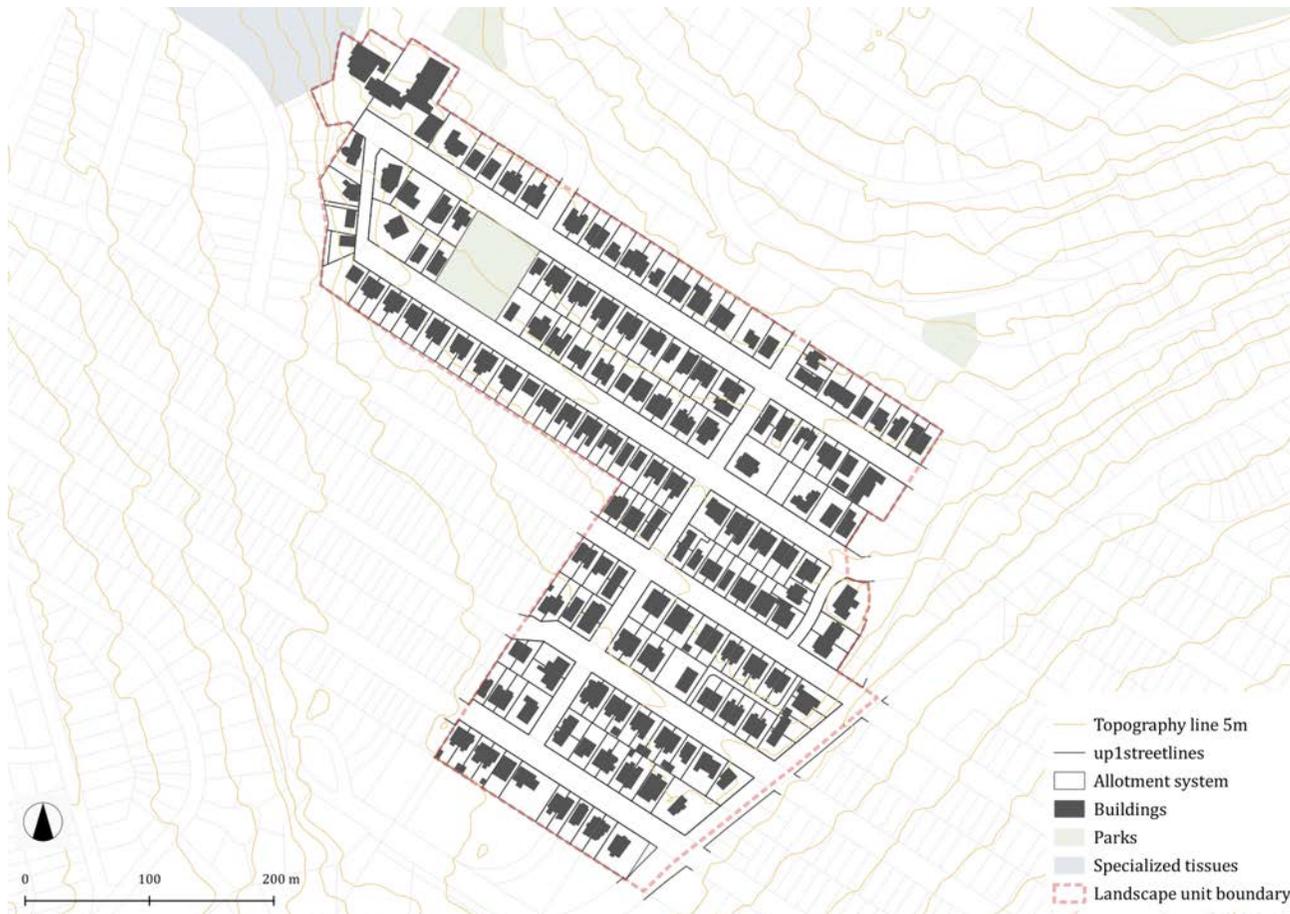
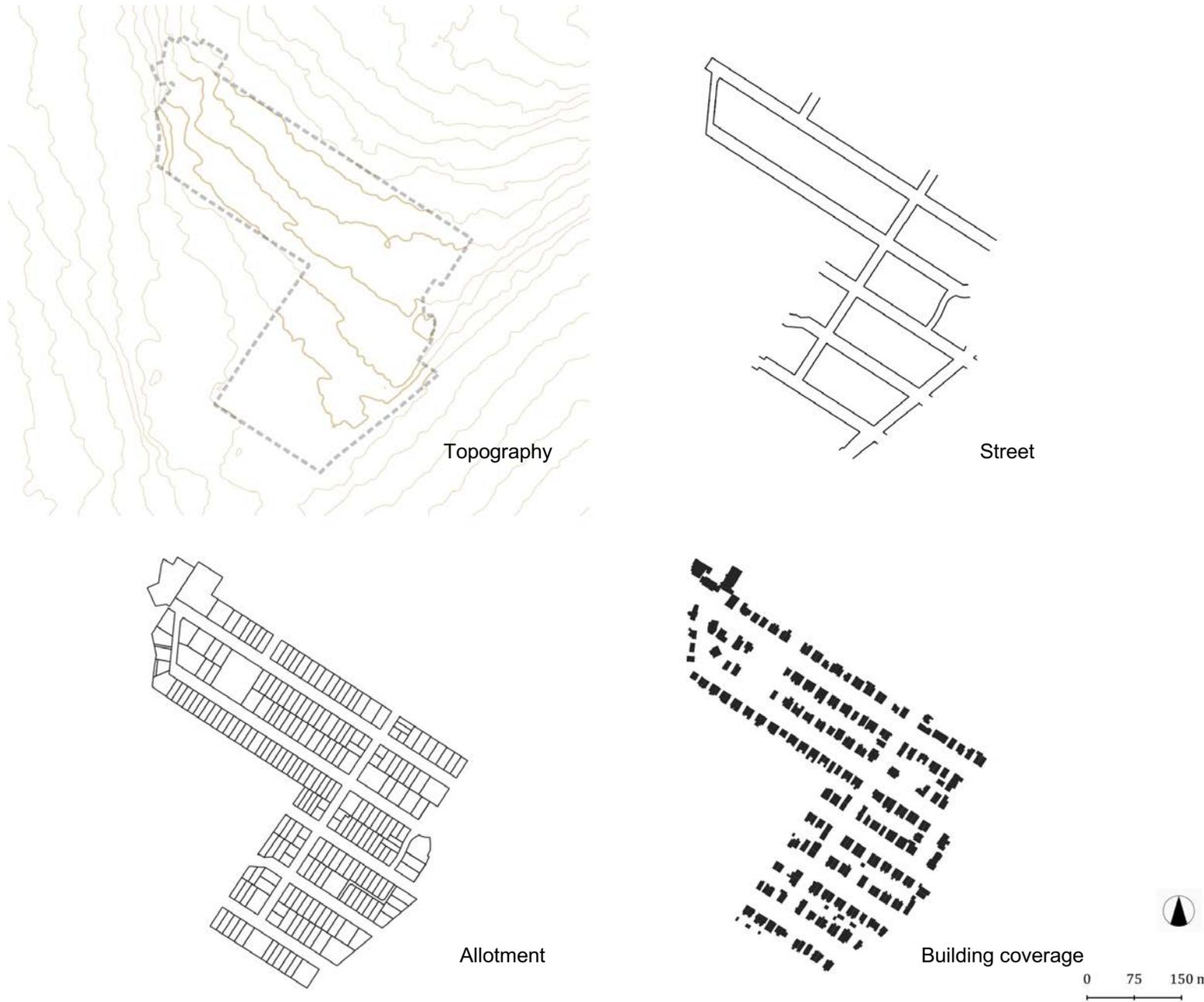


Figure 1. Landscape unit 1



**Figure 2.** Subsystems of the tissue

**Subsystems of the tissue**

Unit 1 has a slight downward slope to the southwest (3.18 ° on average). The street network is generally orthogonal, delineating blocks of variable length, oriented northwest-southeast in their longitudinal axis. The blocks are generally

composed of two pertinent strips. Only one block located between Avenue Grosvenor and Avenue Upper-Roslyn has an alley in its southeast portion. The residential building coverage is made up of 70% semi-detached buildings and 30% detached buildings. Some 96% of residential buildings have two floors above ground.

**Hierarchy of the routes**

Figure 3 illustrates the categories of routes present in the landscape unit. The routes oriented in the northwest-southeast axis, which corresponds to the longitudinal orientation of the blocks, are all settling routes carrying lots that had their address on them from the inception. The cross routes, oriented southwest northwest, are all connecting routes.

*Specialized routes*

The landscape unit is served by two major arterial routes: The Boulevard, which spans the Westmount Summit foothills, and Avenue Victoria (Figure 5). The tissue properties of the street segment of Avenue Victoria do not distinguish the latter from the rest of the landscape unit. The street segments of The Boulevard display heteroclitite tissue conditions and properties that are expected along a connecting route. For a more in-depth discussion of the general spatial syntax rules prevailing on the northwest side of The Boulevard, see the analytical fact sheet of the landscape unit 3.

**Spatial syntax of the tissue**

The landscape unit is characterized by a vast majority of single-family residential buildings (99%) composed of two aboveground floors (see Figures 9 and 10). The unit lays on a slight slope descending to the southwest. The settling routes are generally laid out parallel to the contour lines. The face-block map (Figure 4) highlights the allotment pattern that stems from the composition and configuration of the street network. As a general rule, the settling routes serve lots with a shorter front onto the street than their depth. The dominant lot module dimensions are around 11 m (35 ft) at the street front by 40 m (125 ft) deep. The connecting routes display an assemblage of more heterogeneous lots. The lots which have their address on the latter present configurations that are the product of alterations of modular lots by



Figure 3. Route hierarchy



Figure 5. Specialized routes

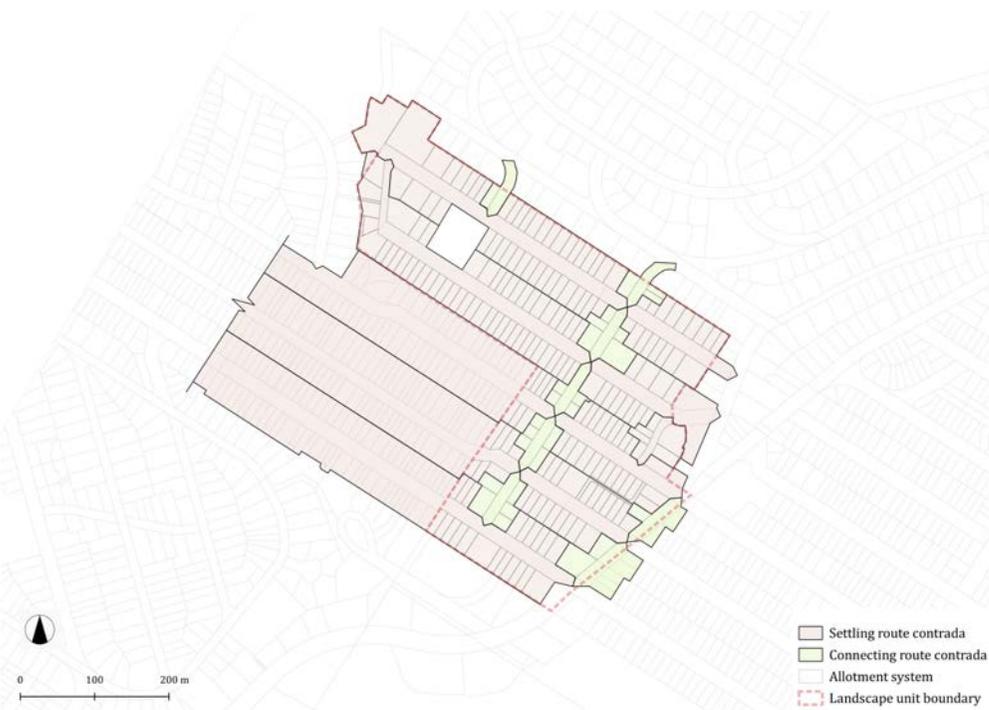
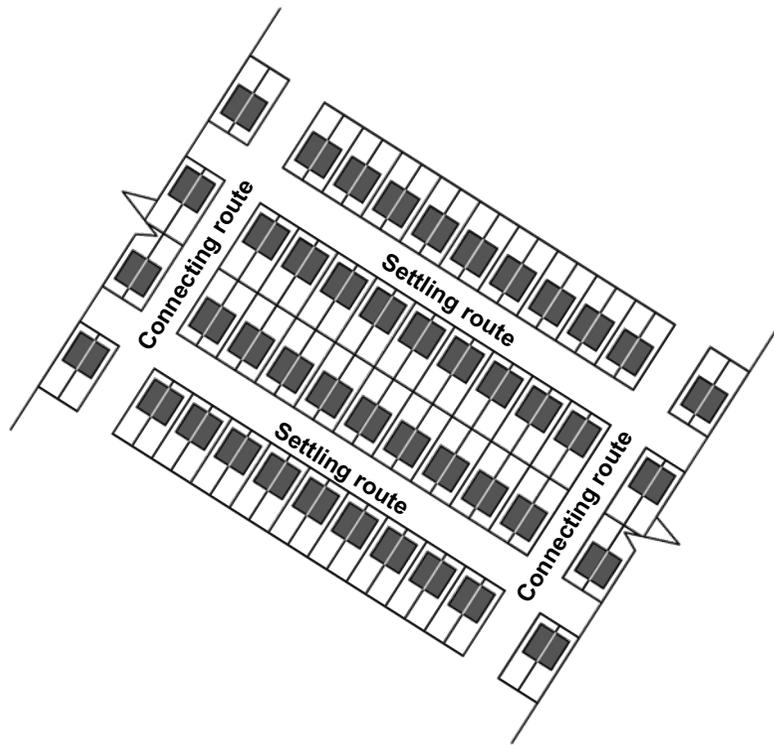


Figure 4. Face-block structure

way of subdivision or merging of the said lots. It should be noted that the face-blocks of Avenue Victoria, Avenue Grosvenor and Avenue Roslyn, located northwest of Avenue Sunnyside, extend from the latter to Queen-Mary Street in the Côte-des-Neiges-Notre-Dame-de-Grâce borough, thus ignoring the municipal boundaries.

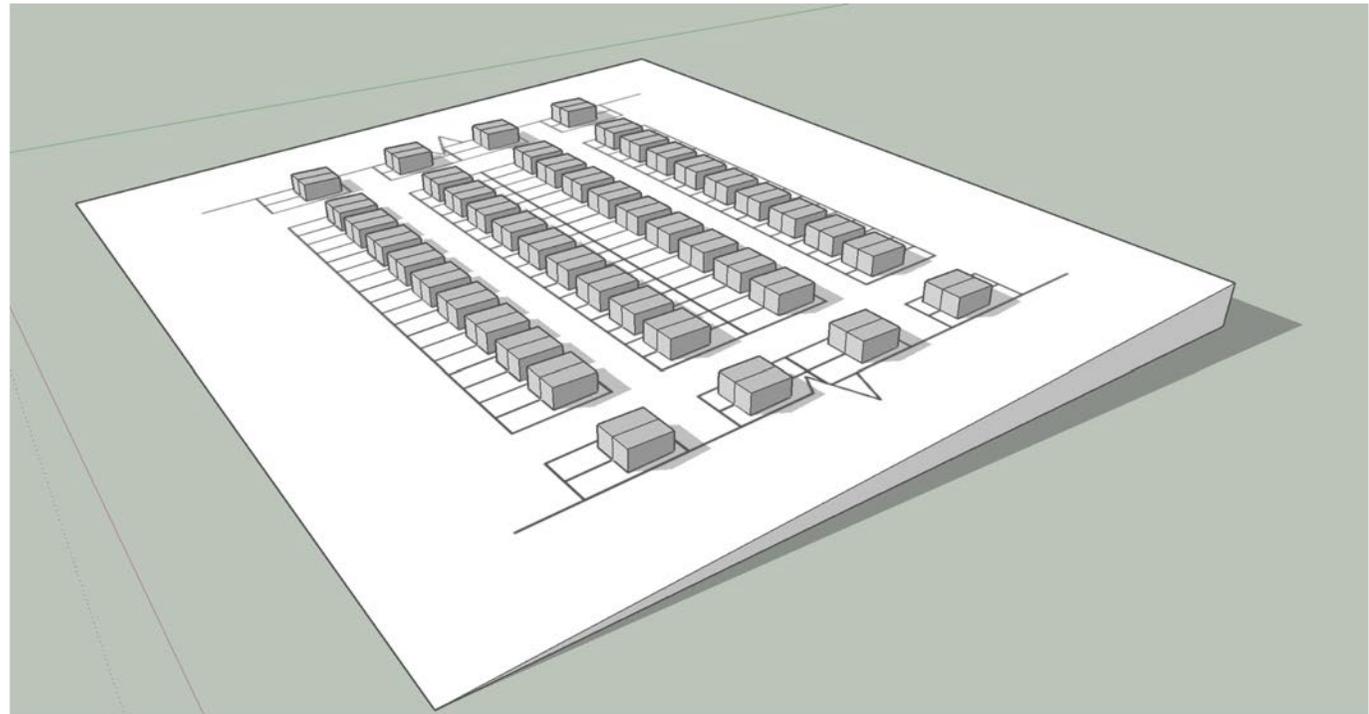
The buildings all have a front setback (4 to 6 meters approximately). Along the settling routes, the trend is to position the buildings towards the upper part of their respective lots, so that the buildings facing northeast have a smaller front setback and a more generous backyard than the buildings facing southwest, which have a more generous front setback and consequently, more modest backyards (Figures 6 and 7).

The average lot coverage ratio of the unit is 0.38. The mode of aggregation of a majority of buildings is semi-detached (70%), which implies that they share a party wall with a neighbouring building and



**Figure 6.** Spatial syntax of the tissue

have a modest lateral setback on the opposite side. The said lateral setback adjoins an equivalent margin on the neighbouring property. Many of these margins are combined to form a shared driveway giving access to outdoor parking spaces in the backyard, or more commonly to garages located in a semi-basement, accessible at grade on the garden level (*en rez-de-jardin*), or in separate annex buildings located in the backyard. Such a configuration implies a mutually agreed right of way. In other circumstances, when the front setback allows and in the absence of an easement, parking spaces are located on the front, although always on the side of the lot where the open lateral façade is located. The general rule is that access from a shared driveway entrance to a garage located in the semi-basement or at the garden level takes advantage of the natural slope of the land. Thus, the norm is to avoid substantial excavation and earthwork. When access to an indoor garage is made directly on the main façade - a rare occurrence in this landscape unit - the rule



**Figure 7.** Three-dimensional theoretical model

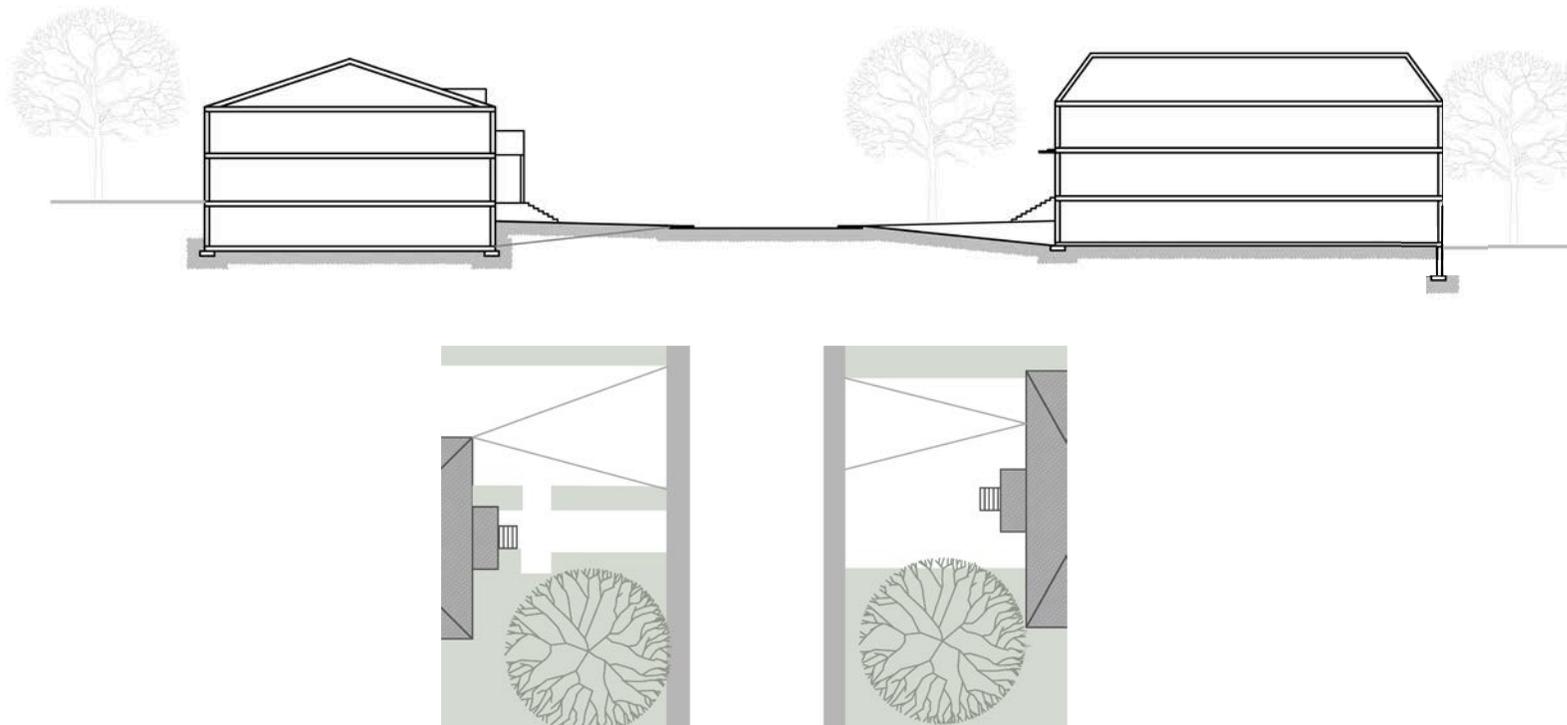
is that this applies to a building high up on a lot with a steep slope descending towards the street on which it has its address.

### The streetscape

The streetscape of this landscape unit is characterized by the prevalence of orthogonal streets producing strong visual perspectives (occasionally open to the distant landscape on the southeast side due to the topographic and altimetric conditions of the unit, located near the Westmount Summit). The streets have sidewalks and are lined with trees on both sides.

The public-collective space is framed by a relatively tight semi-detached building series, consisting of buildings with two floors above ground on the street, in addition to a partially aboveground foundation wall, and topped by sloping roofs, often adorned with gables and dormers.

In addition to the aligned street trees, as the rule, front yards are landscaped, which entails, in particular, the creation of floral and shrubby beds in front of the aboveground portion of the foundation wall, which is thus partially hidden from sight. It should be noted that residential buildings sited high-up on their lot and that are located at a greater distance from the street, are generally marked by proportionately more extensive and intensive landscaping, sometimes including retaining walls, so that the vertical projection of the façade compared to street level is visually attenuated. Figure 8 shows typical section and siting layout views of settling streets in the landscape unit. They consist more specifically of schematic representations of conditions observable on Avenue Victoria, a settling route extending on a northwest-southeast axis generally parallel to the contour lines in the sector. The diagrammatic cross-section shows a view towards the southeast. As mentioned earlier, the two sides of the street present asymmetry in terms of front



which sometimes makes dual use as a balcony upstairs. One particularity of the landscape unit is that the front setbacks and the elevation of the ground floors are asymmetrical on both sides of the settling routes, as per the strategies of adaptation to the topographic conditions described above.

**Figure 8.** Typical section and siting layout views on a settling route (view towards the southeast)

setbacks (and consequently back yards), with the buildings tending to settle towards the highest portion of their respective lots. The front façade of the buildings on the northeast side (on the higher side) is therefore located closer to the street than the façade of the buildings facing them (on the lower side). The natural slope of the terrain also influences the elevation of the ground floor from the street. As a rule, the ground floor extends above the natural level of the ground on which the building stands, which generally translates into a higher elevation of the ground floor of the buildings on the higher side, compared to the buildings located on the lower side of the street (not illustrated here). Access to the ground floor of high-up buildings, therefore, requires a significant ascent from the street, but this level gives full access to the backyard at grade. Access to the

ground floor of buildings located on the side of the downward slope requires a minimum ascent, whilst a lower garden level is accessible at grade on the backyard side (en rez-de-jardin).

#### **Public-collective / private-domestic spaces**

The street landscape strongly conditions the experience of users, while denoting the architectural identity of the place as a consequence. The material and spatial conditions ensuring the mediation between the public-collective space and the private-domestic space in the landscape unit relate in particular to the presence of front setbacks and the raising of the ground floor, which is accessed by an alleyway and an external staircase leading to an external space more often than not protected by a projecting roof,



Figure 9. Spatial distribution of the dwelling units per building

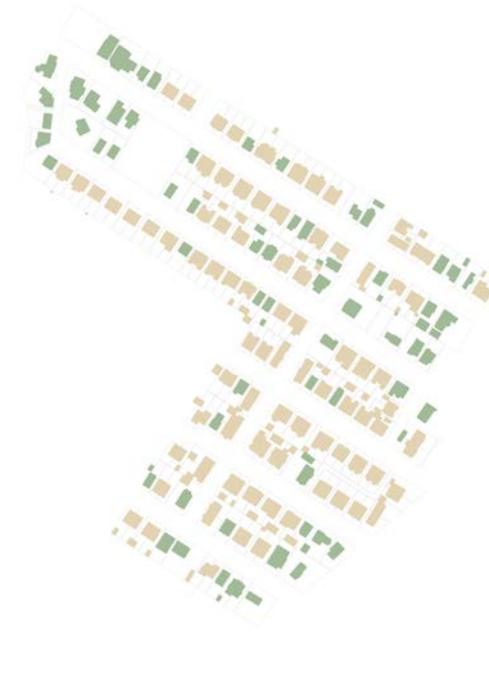


Figure 11. Spatial distribution of buildings according to their mode of aggregation

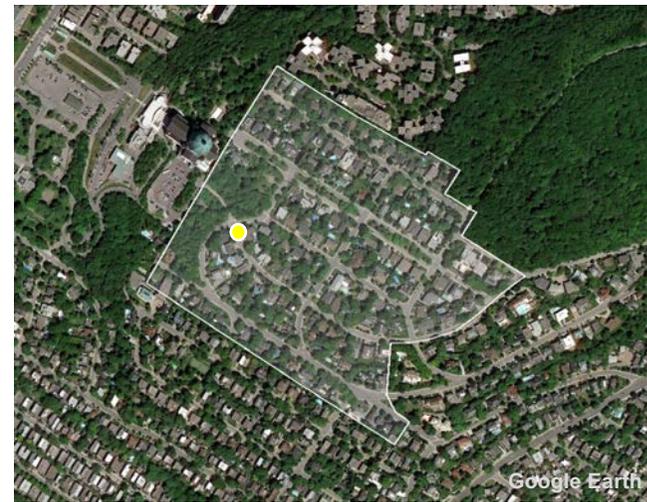


Figure 10. Spatial distribution of buildings according to their number of floors

### Composition of the residential building stock

Figures 9, 10 and 11 illustrate the spatial distribution of residential buildings according to the number of dwellings per building, the number of floors of the latter buildings, as well as their mode of aggregation, namely their belonging to the detached or semi-detached categories respectively. The landscape unit is characterized by a very strong preponderance of single-family buildings (99%) comprising two aboveground floors (96%), and a majority of semi-detached (70%) buildings, accompanied by detached buildings (30%).

The unit does not show any particular spatial trend as far as the mode of aggregation of buildings is concerned.



## Landscape unit 2

Analytical fact sheet

### Location

Landscape unit 2 is located west of the Westmount Summit. It is bordered to the southwest by the allotment parting line lying behind the properties located on the southwestern side of Avenue Lexington, then, clockwise, by the municipal limits on the northwestern side, and onwards, by the Saint Joseph's Oratory property, from there, by the allotment parting line behind the properties located on the northeastern side of Avenue Oakland as well as the Summit Park, then by a portion of Summit Crescent Street on the southeastern side and finally by the western line of the property located at 21 Gordon Crescent Street.

### Brief description

Spanning 19.85 ha, this landscape unit is composed of 133 housing units. The residential building stock is almost entirely made up of detached (100% of the buildings) single-family houses (99%), producing a gross residential density of 6.7 dwellings per hectare and a net density of 10.4 dwellings/ha.

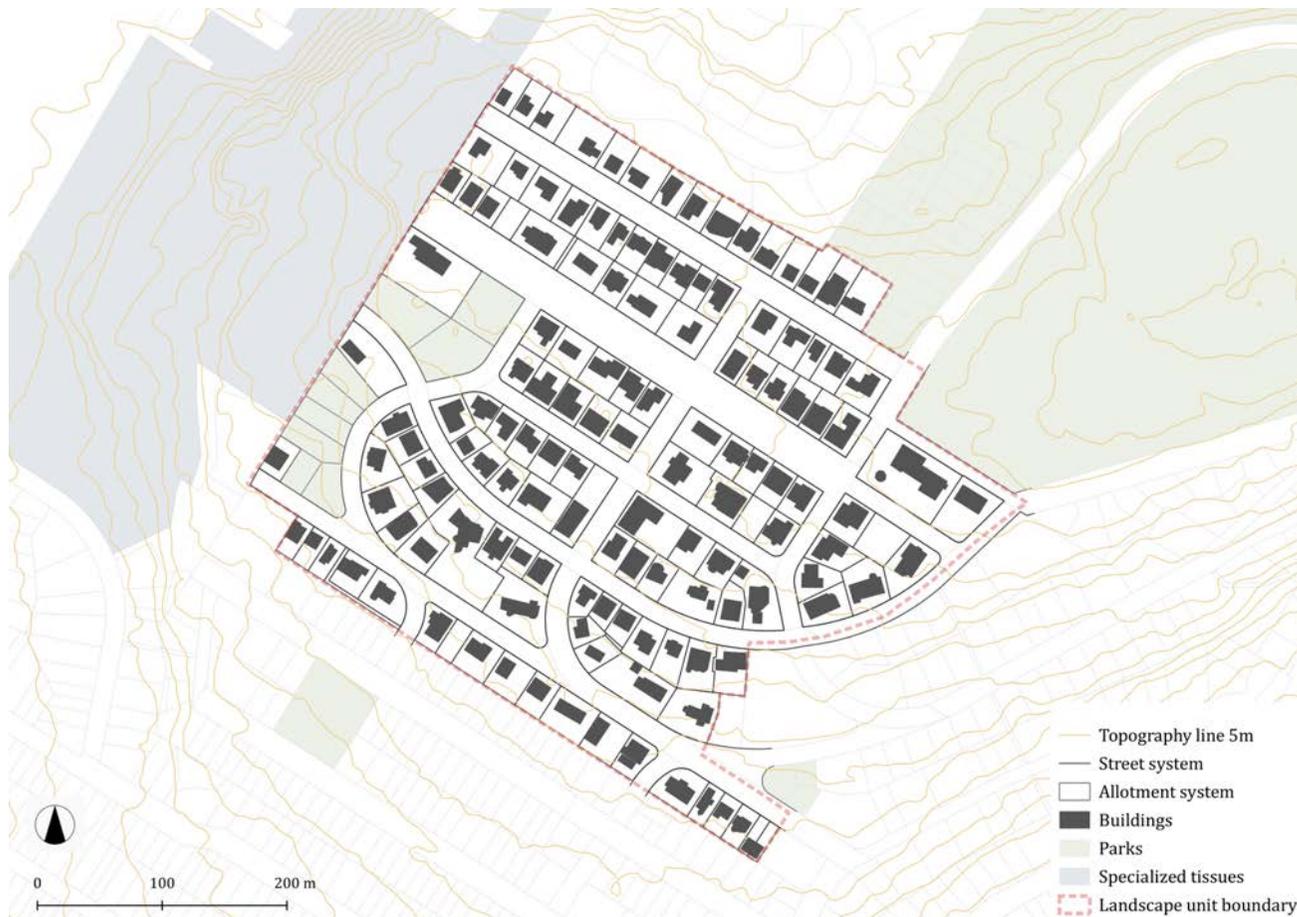
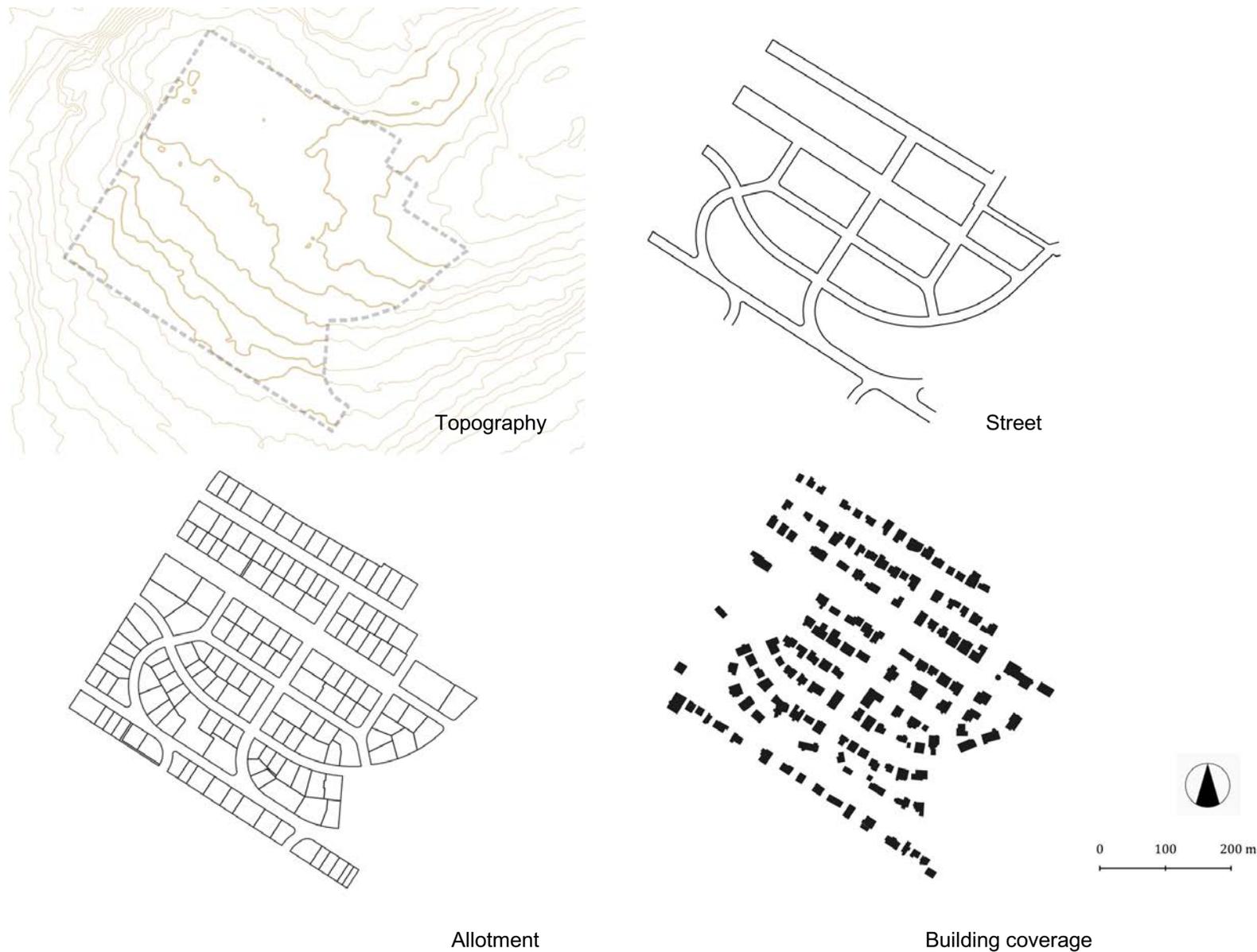


Figure 1. Landscape unit 2



**Figure 2.** Subsystems of the tissue

**Subsystems of the tissue**

Unit 2 encompasses a plane area on the northern side, and a medium to sharp grade slope on the southwestern side (producing an average slope of 5.24 ° in the said sector) and descending towards this direction. The street network is orthogonal in the flat part and bends to adopt a curvilinear form

that espouses the contour lines in the sloping portion. Such street geometries produce urban blocks of variable lengths, oriented northwest-southeast lengthwise, sometimes orthogonal, on the northern side, sometimes bean-shaped, in the steep areas. The urban blocks are generally composed of pertinent strips. The residential building coverage is made up of detached

buildings.

**Routes hierarchy**

Figure 3 illustrates the categories of routes present in the landscape unit. The routes are oriented northwest-southeast, which corresponds to the longitudinal direction of the urban blocks, are all settling routes carrying lots that have had their address on these from the inception. The transverse routes, oriented southwest northwest, are all connecting routes.

**Spatial syntax of the tissue**

The landscape unit is made up of detached single-family residential buildings with one or two aboveground floors (24% and 76%, respectively). The street network presents a slightly deformed orthogonal grid in the sloping part of the landscape unit. As its name suggests, Summit Crescent Street, therefore, extends in a curve parallel to the contour lines of this sector.

The map of face-blocks (Figure 4) shows the allotment pattern that results from the composition and configuration of the street network. The settling routes with orthogonal configurations are bordered by orthogonal lots that generally have a greater depth than their front dimension onto the street. As a general rule, the said lots have a front onto the street of approximately 75 feet (22.9 m). A variant, which displays twice that width on the façade, is also observable in the sector. The curvilinear settling routes are bordered by lots of various dimensions, sometimes orthogonal in their configuration, but more often trapezoidal.

The layout of the buildings on their lots echoes the topographic conditions. The natural slope of the land entails an adjustment of the elevation of the ground floor relative to the street. In the sloping section, the buildings thus tend to settle in the upper portion of their respective lots, so that the front setbacks are generally more generous on the northwestern side than on the southwestern side of

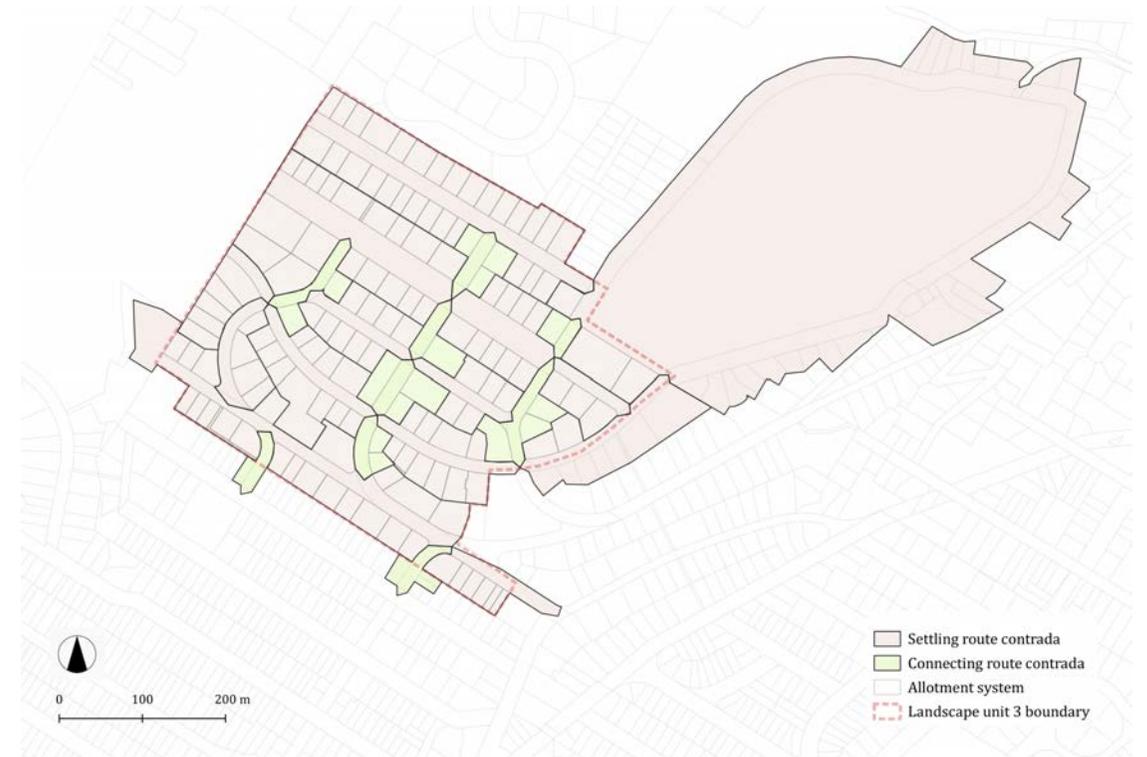


**Figure 3.** Route hierarchy

the streets.

A general rule dictates that the ground floor be entirely built above the ground level. Consequently, on a lot whose slope rises from the street towards the back, the elevation of the ground floor relative to the street level increases proportionally to the grade of the slope. Conversely, on a lot whose slope descends from the street towards the back, the elevation of the ground floor relative to the backyard level increases.

Access to the ground floor of the buildings sited high up on their lot requires a significant ascent from the street, in return for which this level gives full access to the backyard. Access to the ground floor of the building on the opposite side of the street requires only a minimal ascent, but the level of the ground floor is significantly higher than the natural level of the land on the courtyard side. In the flat portion of the landscape unit, on the north and northeastern sides, the setbacks are



**Figure 4.** Face-block structure

symmetrical on either side of the streets.

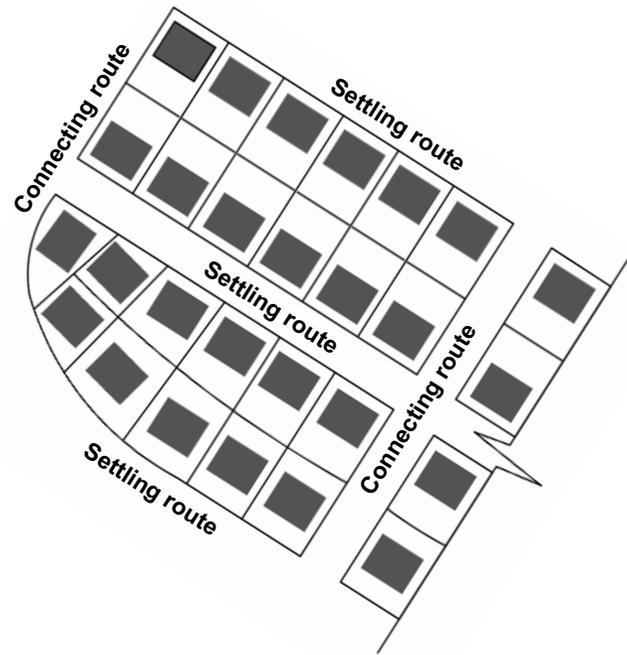
The entire unit is characterized by the prevalence of buildings with a reasonably large footprint compared to the size of the lots (producing a lot coverage ratio of 0.41). The front setbacks are quite generous (around 4 to 8.5 meters depending on the sector). This configuration results in minimal lateral setbacks and rather modest backyards compared to the footprint of the buildings. As a general rule, indoor garages are located on the ground floor, where they are directly accessed from the front façade. There is a notable exception to this rule. The buildings sited high up on lots presenting steep slopes ascending from the street, take advantage of said topographic conditions by accommodating a garage located in the basement, yet accessed at grade from the street.

**The streetscape**

The streetscape of this unit is characterized by the

prevalence of orthogonal streets producing strongly framed visual perspectives. The front setbacks accommodate small gardens with neat landscaping, alternating between lawns and flower beds. The canopy is of varying intensity with no trees in alignment. Surrey Gardens Street is unique in Westmount, having a central median hosting a double row of aligned trees. The framing of the public-collective space is characterized by one- or two-storey buildings with a prevalence of flat or gently sloping roofs, creating a strong horizontality, often explicitly assumed and expressed by an architectural language inspired by the Prairie style popularized by the architect Frank Lloyd Wright. Stone or brick masonry is ubiquitous and dominates the façades.

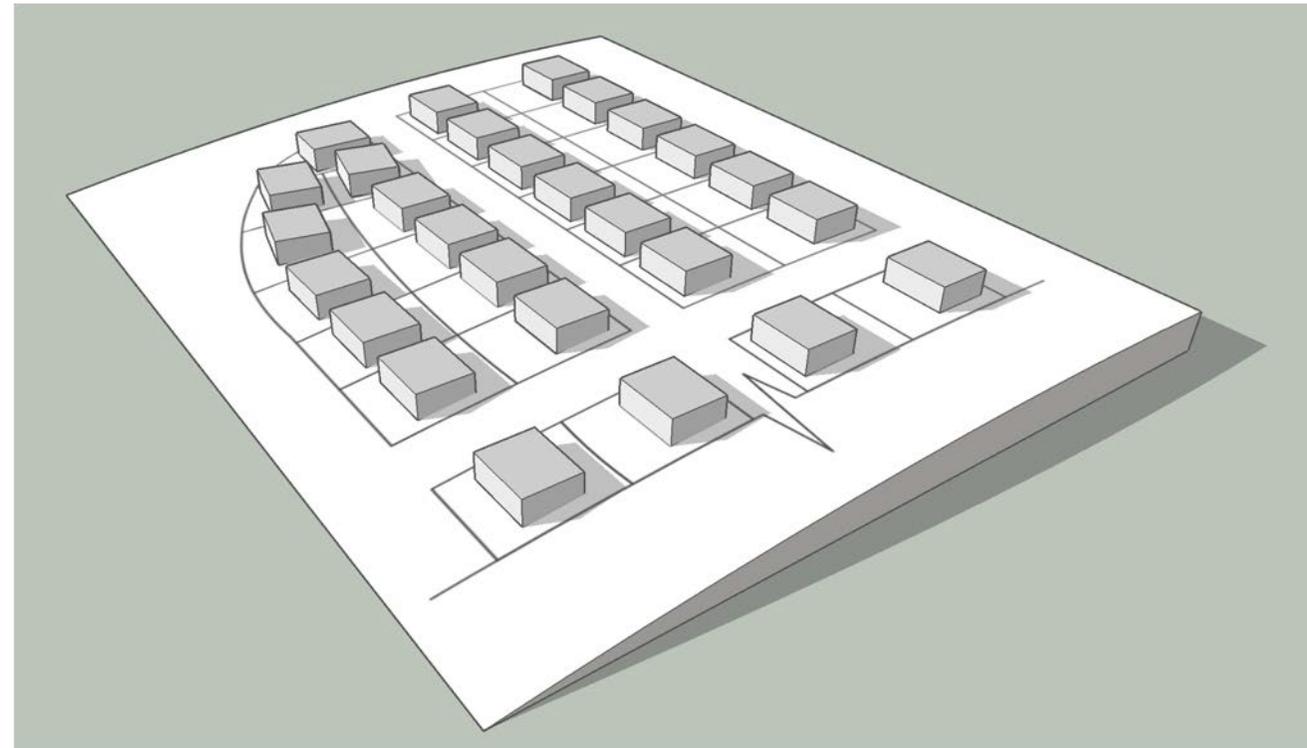
In the sloping part of the unit, the streetscape of Lexington Avenue and Summit Crescent Street stands out due to its asymmetrical configuration. As previously mentioned, the buildings there are generally located in the higher part of their



**Figure 5.** Spatial syntax of the tissue

respective lots, which leads to asymmetric front setbacks. Residential buildings located further away from the street, and thus sited high up on their lot, are generally graced with proportionately more extensive and intensive landscaping, sometimes incorporating extensive retaining walls.

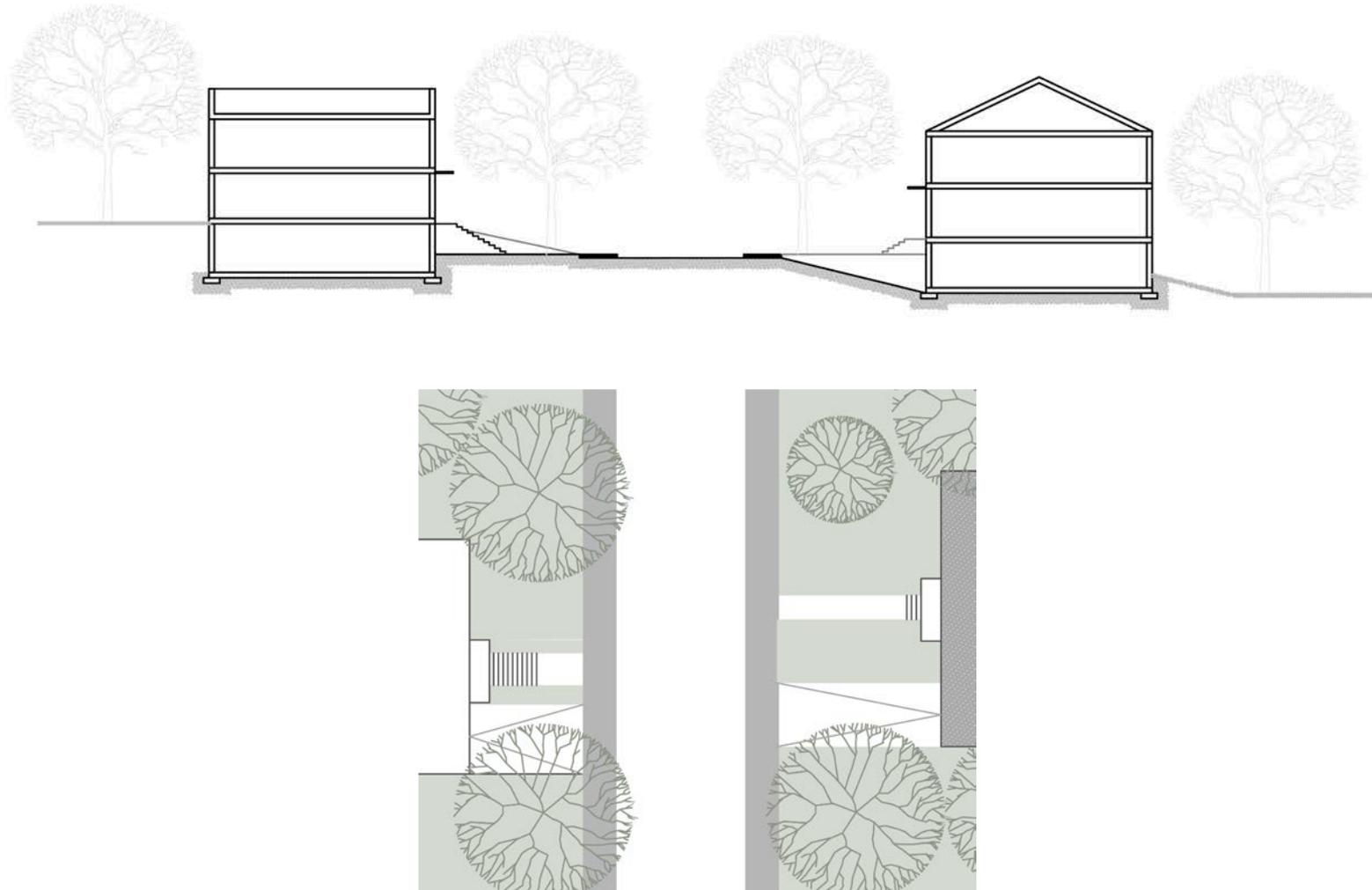
Figure 7 shows section and siting layout views representative of the streetscape in the sloping portion of the unit. These are schematic representations of conditions observable on Summit Crescent Street, a settling route that is oriented northwest-southeast. The schematic cross-section presents a view towards the southeast.



**Figure 6.** Three-dimensional theoretical model

### Public-collective / private-domestic spaces

The streetscape strongly conditions the experience of users, while denoting the architectural identity of a place. Several physical and spatial features of the streetscape (such as setbacks, the elevation of the ground floor, height and positioning of the windows, projections and recesses in the façade) also assume an essential function of architecture, namely the mediation between the public-collective space and the private-domestic space. In this landscape unit, the front setback is the main device ensuring the mediation between public space and private-domestic space. As a general rule, access to residences is at grade or via a minimal ascent (with the notable exception of buildings sited high up on their lot, which there are few in this unit). Curiously, buildings with an entrance shielded by protruding architectural elements or by a recess in the façade are the exception in the area.



### Composition of the residential building stock

Figures 8, 9 and 10 illustrate the spatial distribution of residential buildings according to the number of dwellings per building, their number of floors as well as their mode of aggregation, i.e. their belonging to the detached or semi-detached categories in this unit. The landscape unit is characterized by a residential stock almost entirely composed of single-family buildings. The mode of aggregation is detached. The stock is made up of a majority of buildings with two aboveground floors (76%), in addition to single-storey buildings (24%).

The unit does not exhibit any particular spatial trend as far as the distribution of one- or two-storey buildings is concerned.

**Figure 7.** Typical section and siting layout views on a settling route (view towards the southeast)



Figure 8. Spatial distribution of the dwelling units per building

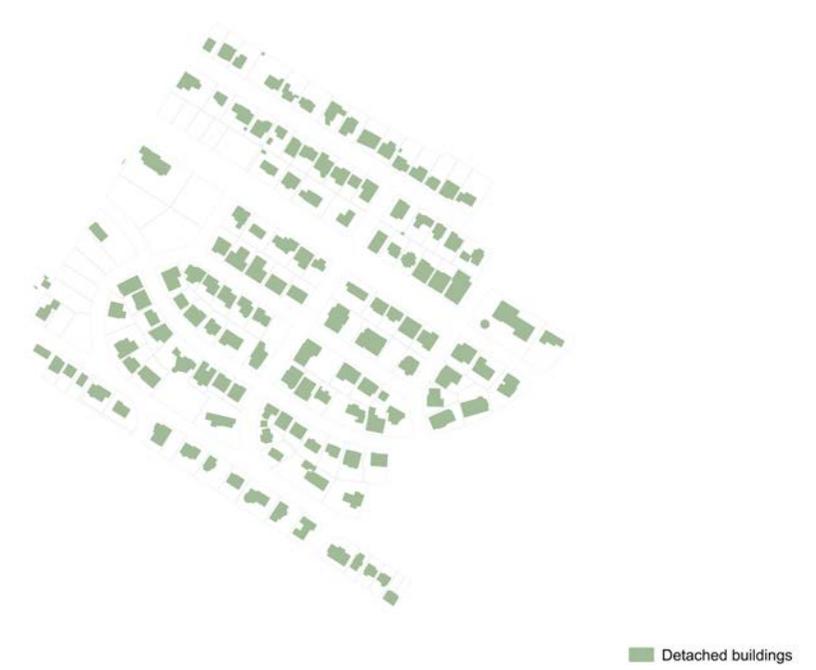
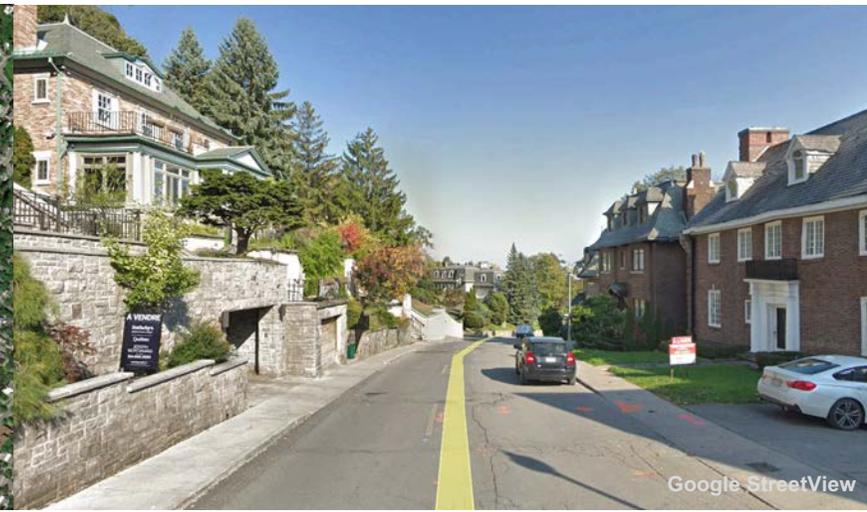
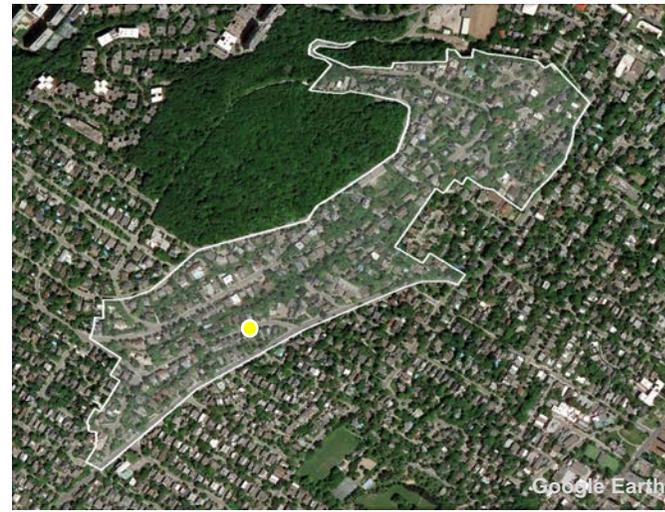


Figure 10. Spatial distribution of buildings according to their mode of aggregation



Figure 9. Spatial distribution of buildings according to their number of floors



## Landscape unit 3

Analytical fact sheet

### Location

Landscape unit 3 is located next to Summit Park, southeast of the latter, on the heights of Westmount. It is bordered on the southeastern side by The Boulevard and from there, clockwise, by the allotment parting line located behind the properties located on the northwestern side of Edgehill Road in the western portion of the latter, then by Summit Crescent and Summit Circle streets, and finally, on the northern side, by the municipal limits beyond the allotment parting line behind the properties located on said side of Belvedere Road. The unit is laid out around a partially enclosed area grouped around Clarke Avenue, a sector identified as landscape unit 4 (see the dedicated descriptive sheet for details).

### Brief description

Spanning 35.62 ha, this landscape unit is composed of 253 housing units as well as a park (Sunnyside Park). Some 98% of the residential housing stock is made up of single-family houses, in addition to a handful of buildings composed of two dwellings, producing a total gross residential density of 7.1 dwelling units per hectare and a net

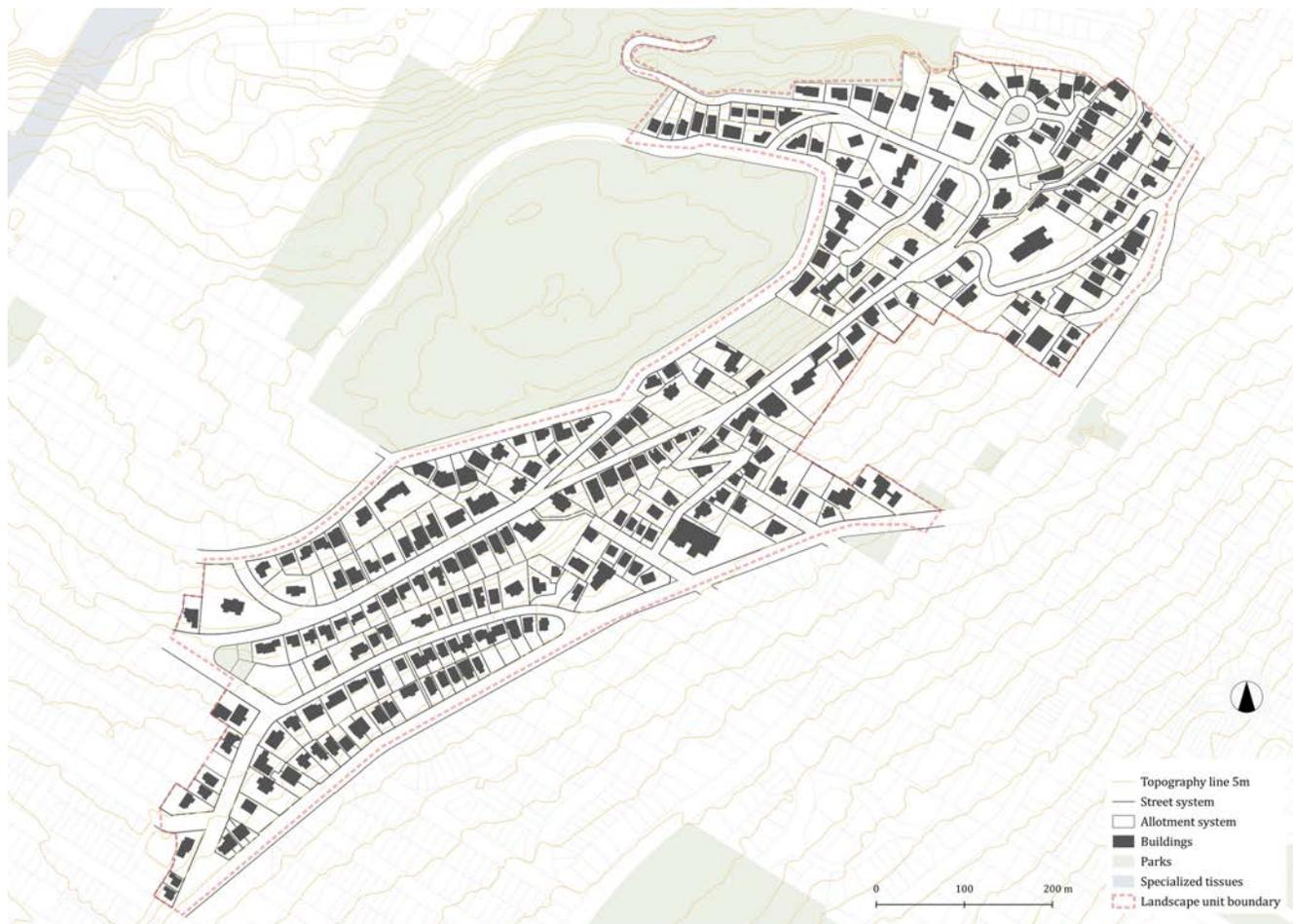
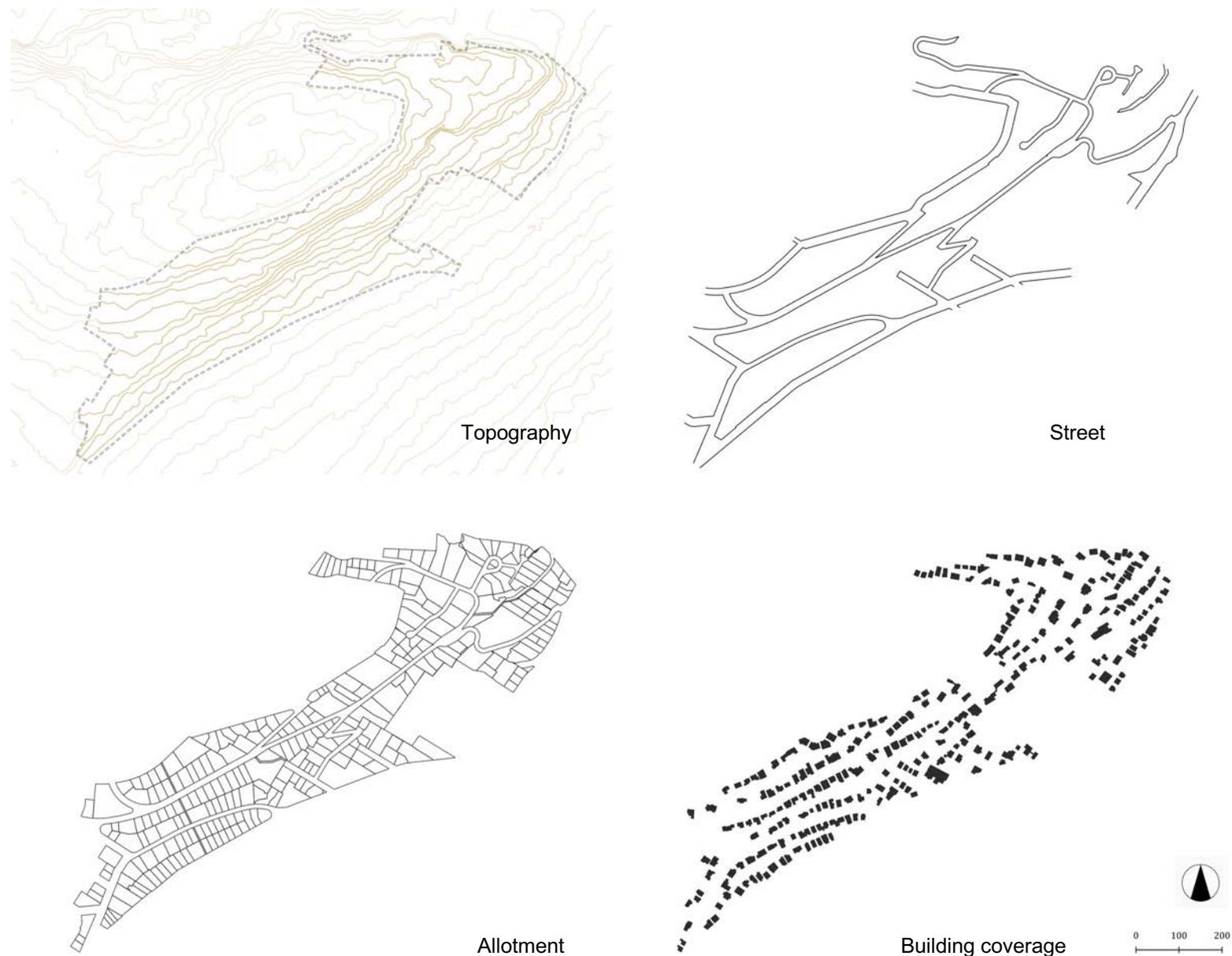


Figure 1. Landscape unit 3



**Figure 2.** Subsystems of the tissue

density of 9.5 dwellings/ha.

**Subsystems of the tissue**

Unit 3 is characterized by a steep slope that descends towards the southeast and produces an average inclination of 14.03 °. Consequently, the street network is curvilinear. Said network is composed of streets, which conform to the general orientation of the contour lines, and streets that

meander on the steep slope to climb it up perpendicularly in the northwest-southeast direction. Such conditions produce urban blocks that are highly irregular in size and configuration. The result is an irregular allotment with an assortment of lots, sometimes orthogonal, sometimes trapezoidal, or irregularly shaped. The residential building coverage is mostly made up of detached single-family buildings (94.4%) and semi-detached buildings (5.6%), which are laid out in tight rows in the southwestern portion of the landscape unit and that are more distended rows in the northeastern portion of the latter. The average lot coverage ratio in the unit is 0.35%.

**Routes hierarchy**

Figure 4 illustrates the categories of routes present in the landscape unit. Except for three short segments (namely a portion of Gordon Crescent Street, Summit Street, and a portion of Belvedere Road), the entire network is made up of settling routes.

*Specialized routes*

The landscape unit is bordered on the southeastern side by The Boulevard, a major thoroughfare that spans along the piedmont of the Westmount Summit (Figure 5). The properties of the tissue on the northwestern side of The Boulevard differ significantly from those prevailing on the opposite side of this route. This contrast justifies the creation of different landscape units on either side of the route.

*Other routes*

The challenging topographic conditions of the landscape unit led to the construction of public staircases. A series of three staircases take off from Boulevard at the intersection of Renfrew Avenue and climb up the slope to give access to Edgehill Road, Sunnyside Avenue and from there, to Summit Crescent. A fourth public staircase extends along the axis of Aberdeen Avenue from the latter to Sunnyside Avenue. On the



Figure 3. Route hierarchy



Figure 5. Specialized route

northeastern side of Westmount Summit, a fifth staircase links Trafalgar Road to Malcolm Street.

**Spatial syntax of the tissue**

Almost all of the residential stock is made up of single-family buildings. The vast majority of buildings have two floors above ground (87.4%), while some of these have three storeys (6.5%), and some have one (6.1%).

In Westmount, as a general rule, the layout of the streets conforms to the geometry inherited from the original agricultural allotment. The latter is the basis of the orthogonal street grid, which is deployed in lower Westmount and on the piedmont of the eponymous Summit. On the said foothills, the grid would deform slightly when encountering a steeper slope. However, in landscape unit 3, the street grid dissolves frankly. Figure 2 illustrates how the configuration and positioning of the majority of the area's streets are directly conditioned by the contour lines they follow.

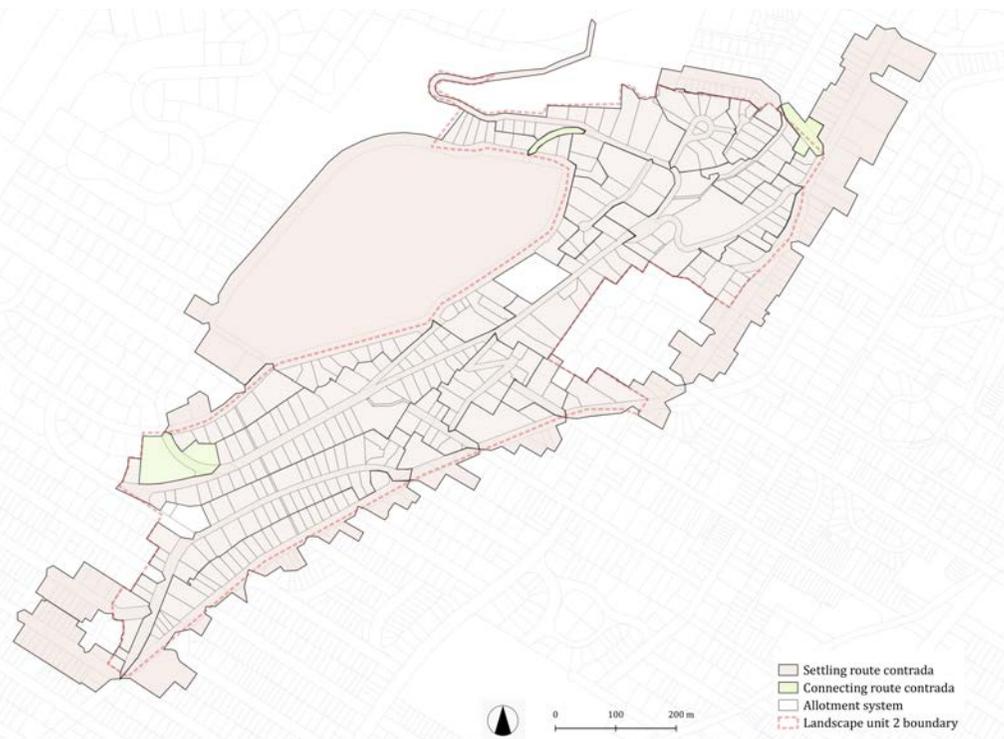
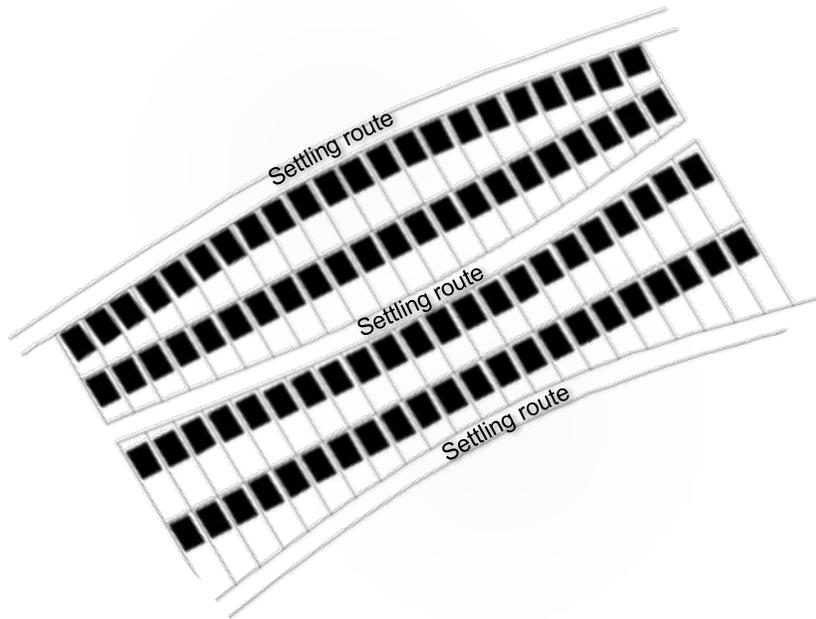


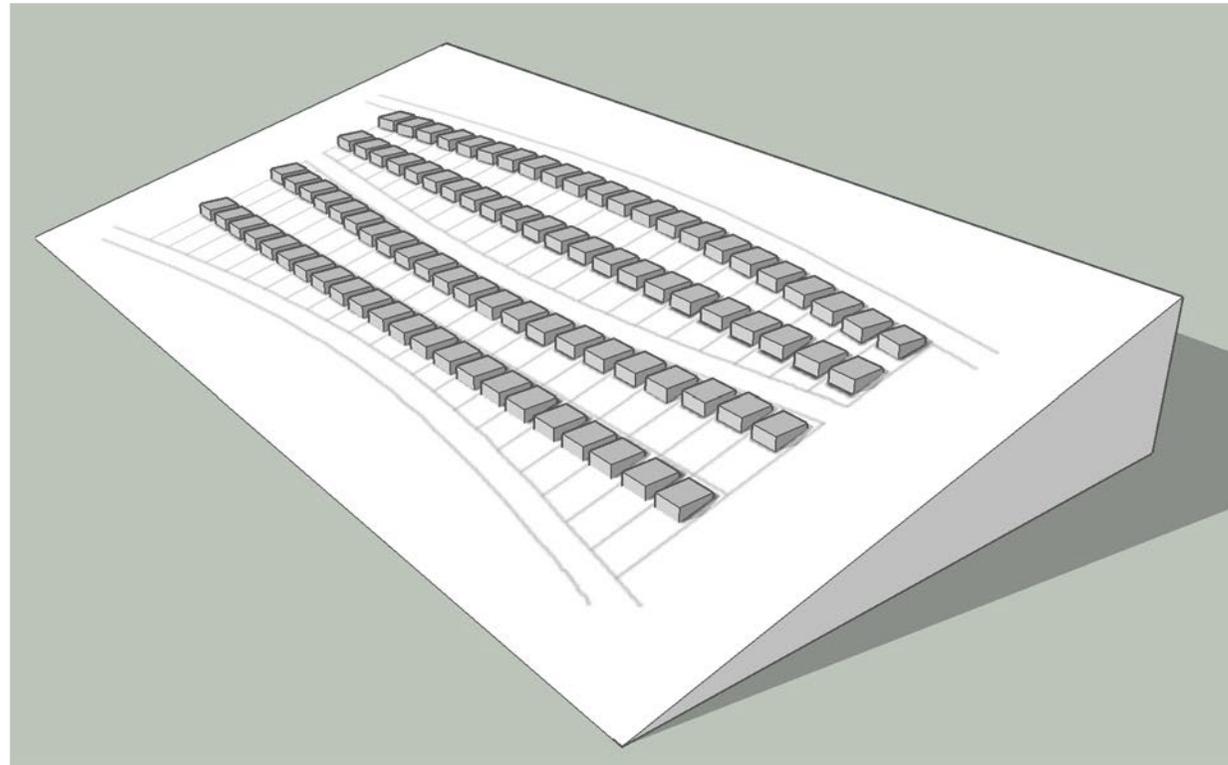
Figure 4. Face-block (Contrada) Structure



**Figure 6** Spatial syntax of the tissue

Figure 6 shows a diagrammatic representation of the syntax of the tissue. Several urban blocks display an ovoid planimetric configuration created by a succession of curves and counter-curves deployed perpendicular to the slope. The said slope also informs the siting of the buildings on their lots. Buildings tend to settle on the upper portion of the lot, which results in different setbacks on either side of the street, as illustrated in Figure 6. More specifically, the buildings located on the summit side are more distant from the street than their opposite neighbours on the street.

A general rule dictates that the ground floor be entirely built above the ground level. Consequently, on a lot whose slope rises from the street towards the back, the elevation of the ground floor relative to the street level increases proportionally to the grade of the slope. Conversely, on a lot whose slope descends from the street towards the back, the elevation of the ground floor relative to the backyard level increases, sometimes creating an



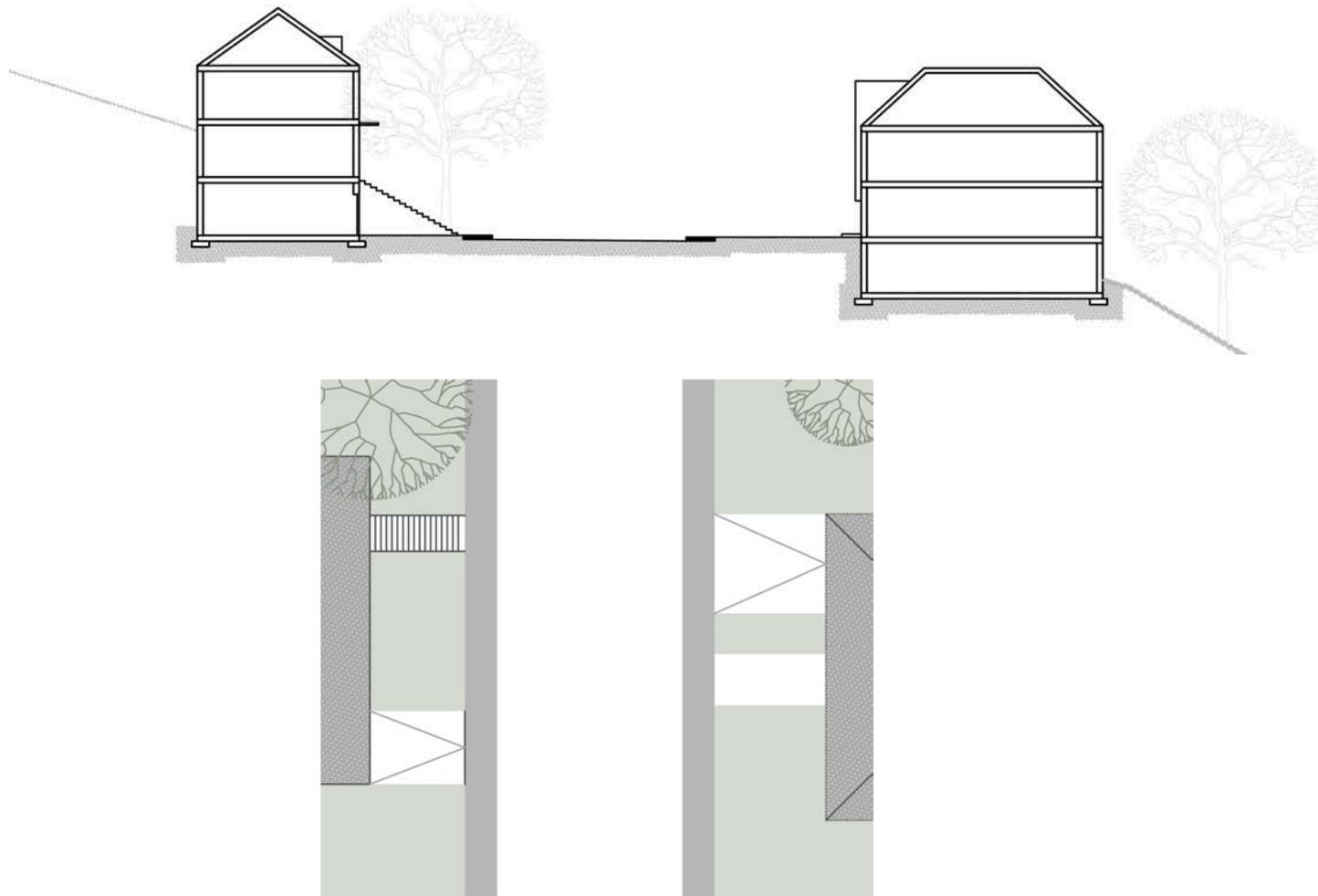
**Figure 7.** Three-dimensional theoretical model

above ground garden level, or rez-de-jardin. One of the beneficial consequences of this siting strategy is the unobstructed views on the surrounding landscape of the city, which spreads out below. Following this layout, access to the ground floor of buildings situated high up on their lot relative to the street level requires a significant ascent from the street. Various exterior steps and landing are deployed for this purpose in the front yard while adapting to the natural terrain and trying to minimize the construction of significant retaining walls as well as earthworks. By contrast, the buildings located on the opposite side of the street, constructed closer to the latter, are generally accessible at grade or by a minimal ascending step and, in a few rare cases, by a descending step from the street.

These topographic conditions and building siting modalities also impact the access to indoor garages, which are the norm in this landscape unit. In buildings situated high above the street, the

practice is to take advantage of the drop, mainly by one or the other of the two following modes. The first mode is to build a garage located in the basement of the residence, although accessible at grade or almost at grade from the street. A driveway entrance leads to the garage, which is accessed generally on the front façade, and in fewer cases, from a lateral façade. The latter scenario generally involves more substantial earthworks and the building of retaining walls, which implies significantly altering the natural topography of the terrain. The second mode involves the construction of a garage in a dedicated annex building, connected to the main building by an interior passage if necessary. Such garages are usually located a short distance from the street.

Buildings located on lots sloping downward from the street display different spatial syntactic rules. As the norm, these buildings have garages. Two approaches prevail for the positioning of garages



**Figure 8.** Typical section and siting layout views on a settling route

and driveways. The first mode generally affects older buildings and takes advantage of the natural slope of the land, by locating the garages on the garden level (rez-de-jardin) at the back, where they are accessible at grade either through the back or a lateral façade. In these cases, the garage doors are either very discrete or invisible from the street. The second scenario, which seems to be generalized in the case of recently constructed or recently enlarged buildings, sees the construction of a garage on the ground floor, which is accessed directly from the front façade through a visible garage door.

The layout of the buildings and, in particular, the location of the garages and the driveways associated with them have significant impacts on the streetscape of Unit 3. This question will be discussed further in the following paragraphs.

### The streetscape

The streetscape of this landscape unit is characterized by the prevalence of non-orthogonal streets often producing visual perspectives that can be described as picturesque, and that Frederick Law Olmsted the landscape architect of nearby Mount-Royal Park would not have disdained. The picturesque character of the streetscape is due in part to the remarkable experiential diversity induced by the rugged topography. The opening of the streets often required extensive earthworks, including the construction of stone retaining walls on the ascending side of the natural slope of the land. As noted above, most streets display differentiated spatial syntax rules on either side, so the streetscape is asymmetrical. The buildings situated high up on lots sloping upward from the street have significant front setbacks that give off densely landscaped front yards.

As a general rule, the more accentuated the front yard slope, the denser the canopy and the shrubbery, generally assorted with often very elaborate sets of stairs and landings made of masonry. On some street segments, large stone retaining walls line the street. These are punctuated by notches giving access to exterior staircases leading to the main door or accommodating garage doors.

The buildings located on the opposite side of the street, on the lots sloping down from the street, are generally located near the street for reasons mentioned above. The latter buildings offer a tight framing of the street, which is dominated by their masonry façades. The front yards are generally displaying discreet landscaping. In a few cases, the buildings are constructed below the street level and are made accessible by stairs and driveways leading down to them.

The architecture is highly eclectic in the landscape unit. The architectural expression of buildings relates to a multiplicity of aesthetic schools that

have been popular from the last third of the 19th century to the present day, including recent buildings intended to blend into the landscape by emulating the architectural language of older neighbouring buildings. The only persistent architectural feature in the unit is the systematic use of masonry as the primary exterior material.

Figure 8 shows section and siting layout views representative of the streetscape in the landscape unit. In this case, these are schematic representations of conditions observable on Sunnyside Avenue, a settling route extending parallel to the contour lines, and oriented northwest-southeast. The schematic cross-section presents a view to the northeast.

### **Public-collective / private-domestic spaces**

The streetscape strongly conditions the experience of users, while denoting the architectural identity of a place. Many physical and spatial features of the streetscape (such as setbacks, the elevation of the ground floor, height and positioning of windows, projections and recesses on the façade) contribute to an essential function of architecture, namely the mediation between public-collective space and private-domestic space.

The asymmetry of the streetscape that characterizes the unit is reflected in differentiated rules concerning the mediation between public space and private-domestic space. Access to the buildings sited high up on their lot, on sloping lots ascending from the street, is by ascending imposing external staircases. The relatively large vertical and horizontal distances guarantee great privacy for the domestic spaces. In the case of buildings located on sloping lots descending from the street, access to the main building is almost always at grade by crossing a short distance (generally around 4 to 6 m) from the street to the main façade. In the latter case, the number, arrangement and dimensions of the front openings, even the window coverings, are the architectural features that are mustered to protect the privacy of

the domestic space.

The great diversity of the architectural language of the façades does not allow us to identify clear and uniform syntactic rules in the landscape unit in this respect.

### **Composition of the residential building stock**

Figures 9, 10, and 11 show the spatial distribution of the residential buildings in the landscape unit according to the number of dwellings per building, their number of floors as well as their mode of aggregation, i.e. their belonging to the detached or semi-detached categories in this case. The landscape unit is characterized by a very high preponderance of single-family buildings (97.6%). The mode of aggregation of the buildings is detached (94.4%). These include one, two or three floors above ground (6.1%, 87.4% and 6.5% respectively). The unit does not show a particular spatial trend concerning said architectural properties.



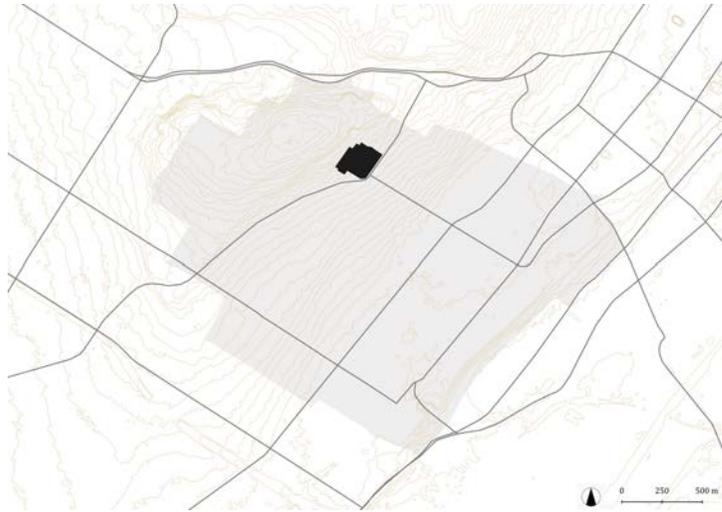
Figure 9. Spatial distribution of the dwelling units per building



Figure 10. Spatial distribution of buildings according to their number of floors



Figure 11. Spatial distribution of buildings according to their mode of aggregation



## Landscape unit 4

Analytical fact sheet

### Location

Landscape unit 4 is located a short distance from the Westmount Summit to the southeast. It is almost entirely enclosed in landscape unit 3 (cf. descriptive sheet of the latter) while presenting distinctive tissue configurations relative to the latter. Unit 4 is bordered on the southeastern side by The Boulevard, thence, clockwise, by the allotment parting line behind the properties on the southwestern side of Clarke Avenue, by the back of the properties located on the northwestern side of this same avenue, then on the allotment parting line behind the properties bordering the northeastern side of Braeside Place, including the property of the school The Study.

### Brief description

Spanning 3.91 ha, this landscape unit is composed of 28 housing units and the said school. The residential housing stock is made up of single-family buildings producing a gross residential density of 7.2 dwellings per hectare and a net density of 8.4 dwellings/ha.

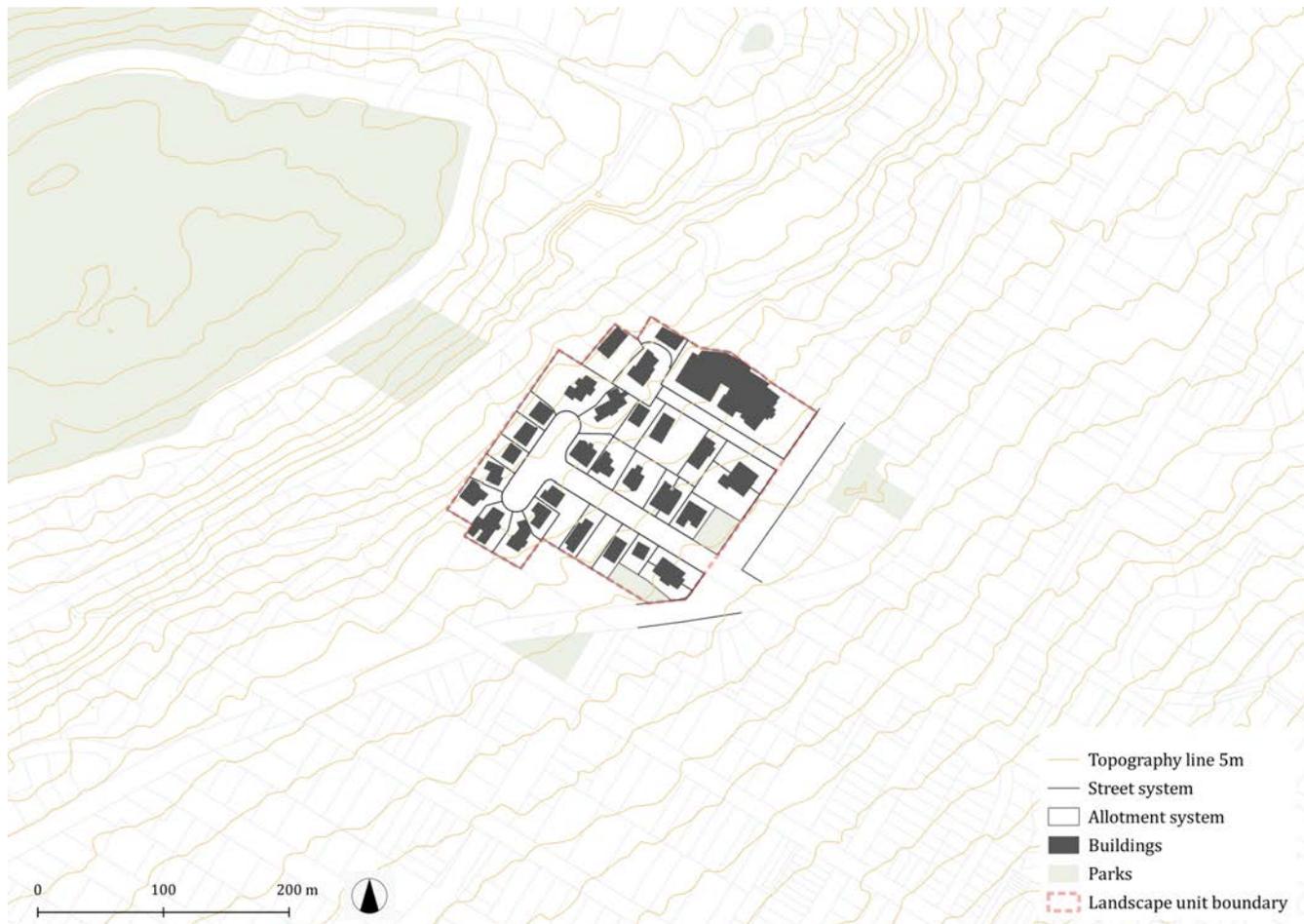
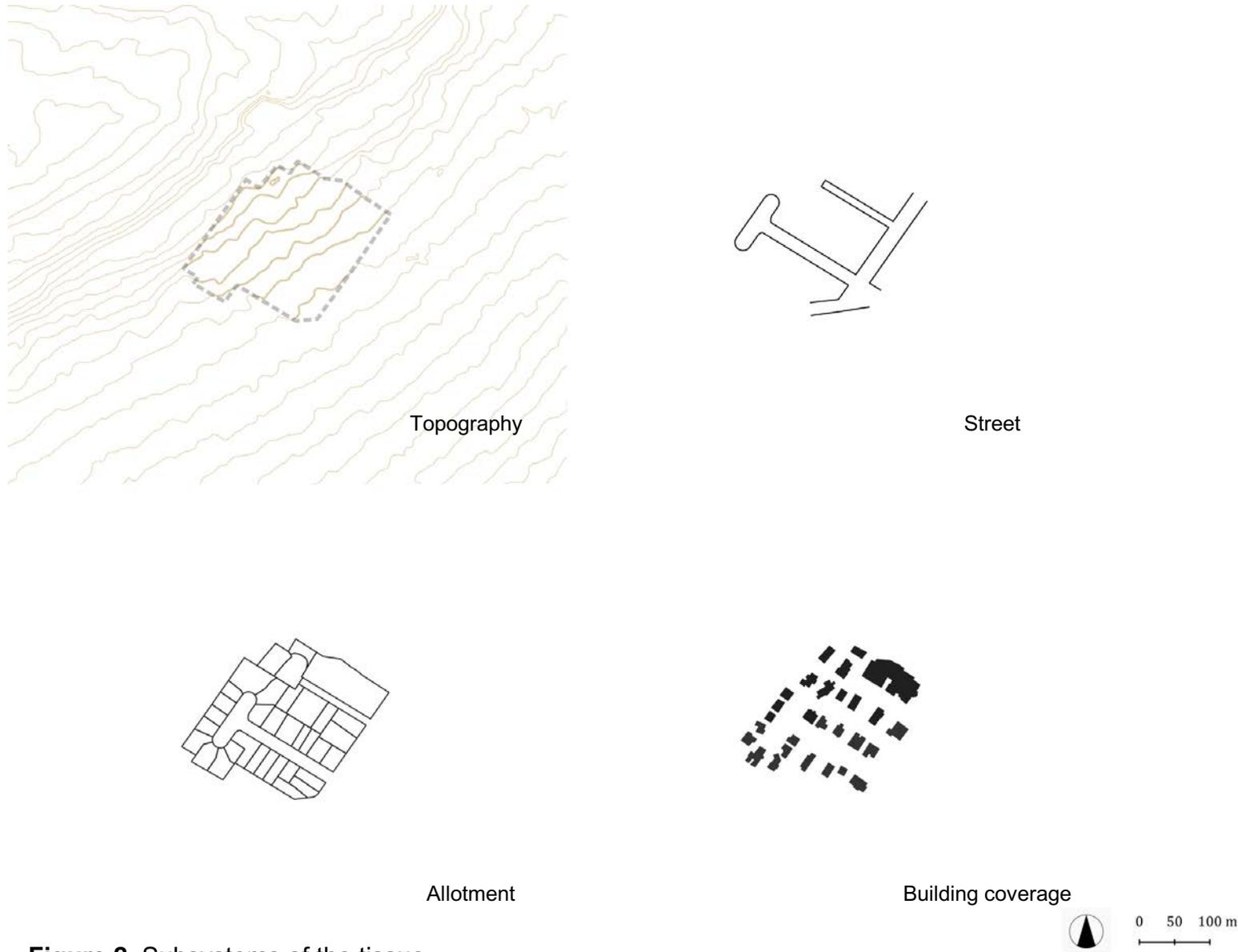


Figure 1. Landscape unit 4



**Figure 2.** Subsystems of the tissue

**Subsystems of the tissue**

The unit is marked by a steep slope descending towards the southwest, producing an average inclination of 8.77 °. As a general rule, the layout of the streets in Westmount conforms to the orthogonal geometry inherited from the original agricultural allotment. The latter informs the

orthogonal street grid deployed in lower Westmount and on the piedmont of the eponymous Summit. On the foothills, the grid would be slightly deformed when it meets a slope that suddenly becomes more abrupt. In landscape unit 4, the orthogonal street grid gets interrupted as Clarke Avenue and Braeside Square respectively end in cul-de-sacs. As a matter of

course, in neighbouring landscape unit 3, as the slope gets steeper, the orthogonal street dissolves entirely to then assume a curvilinear configuration.

The rudimentary street network of unit 4 remains orthogonal. Clarke Avenue forms a "T" with a crossbar serving as a cul-de-sac. The allotment is therefore made up of mostly orthogonal lots, except for the corner lots of the so-called cul-de-sac, which display trapezoidal or irregular shapes. The residential building coverage consists of single-family detached buildings, with only two exceptions.

**Routes hierarchy**

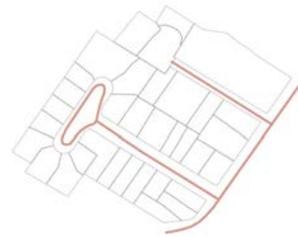
The unit's three streets, Clarke Avenue, Braeside Square and The Boulevard, are all settling routes created to carry lots and buildings with their addresses there (Figure 3).

*Specialized route*

The landscape unit is delimited and served by a major thoroughfare, The Boulevard, which extends on the piedmont of the Westmount Summit, more precisely along the boundary where the steep slope gives way to a slope of more moderate inclination. Clarke Avenue assumes the function of a thoroughfare outside the unit, on the southeastern side of The Boulevard from which it extends perpendicularly (Figure 5).

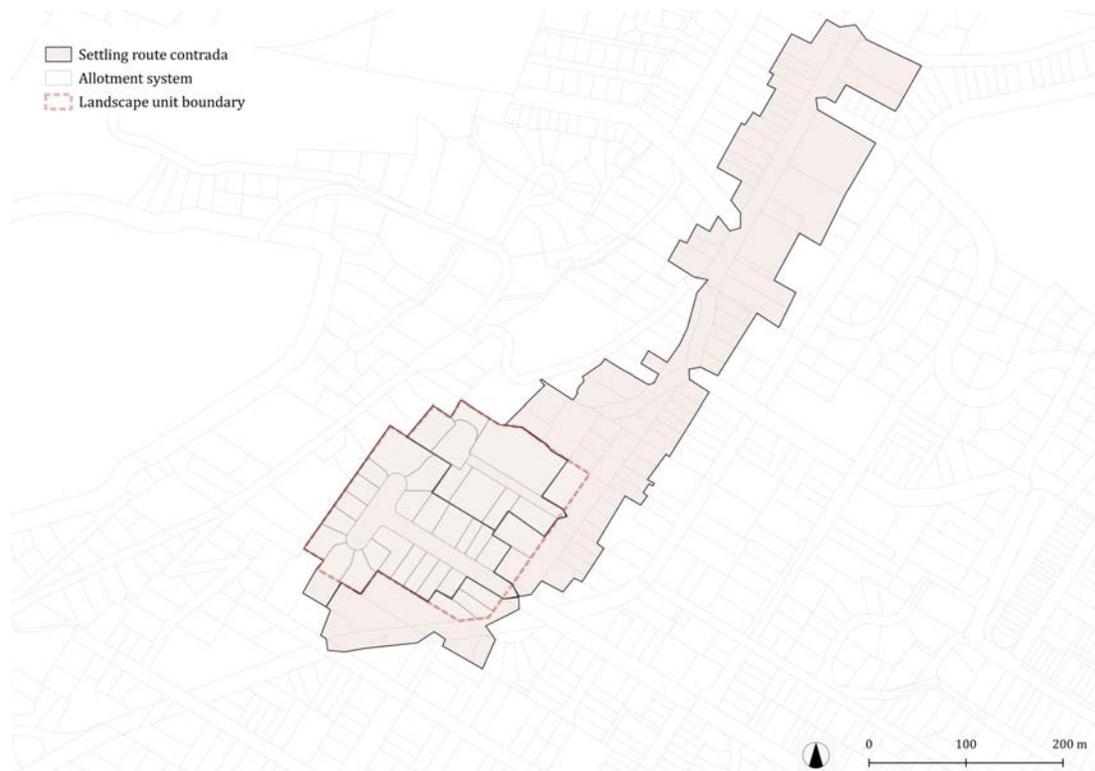
**Spatial syntax of the tissue**

The landscape unit is made up entirely of single-family residential buildings, which are almost all detached (93%) and composed of two aboveground floors (93%). In this sector of Westmount, the Boulevard acts as a first-tier settling route, since all the bordering buildings present their noble façades to it. Clarke Avenue and Braeside Square extend perpendicular to The Boulevard. They are second-tier settling routes, which means that they are bordered by buildings from their pertinent strips, which present their



— Settling route  
□ Allotment system

**Figure 3. Route hierarchy**

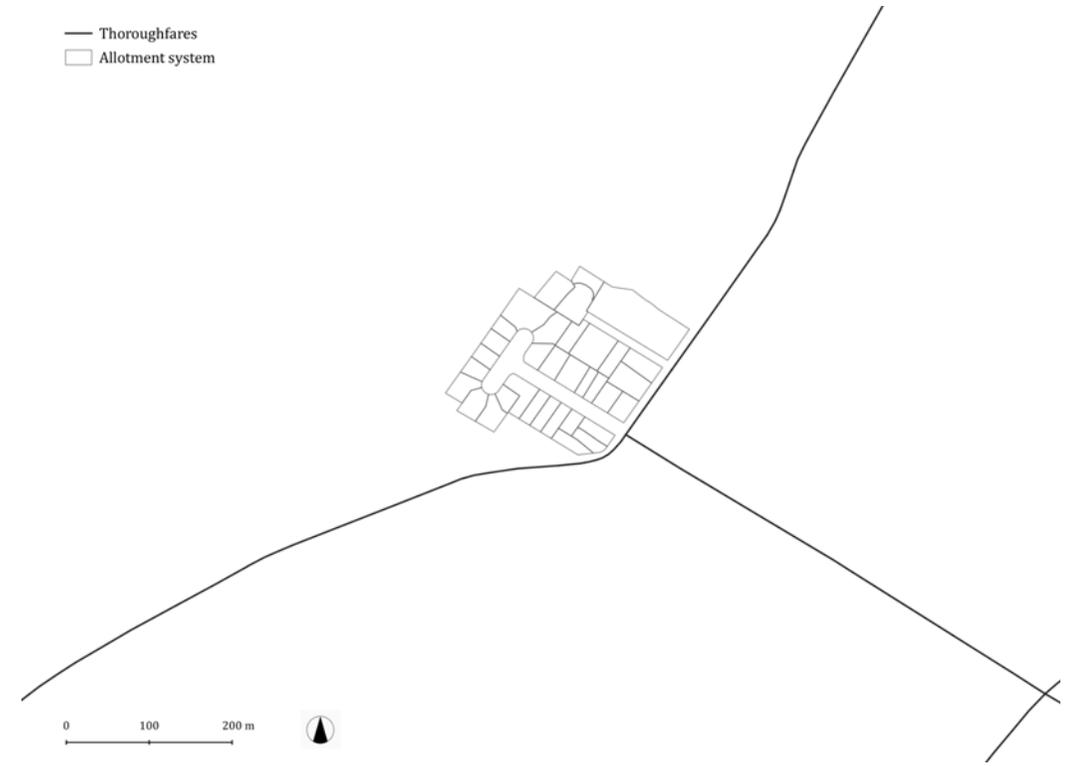


□ Settling route contrada  
□ Allotment system  
□ Landscape unit boundary



**Figure 4. Face-block (Contrada) Structure**

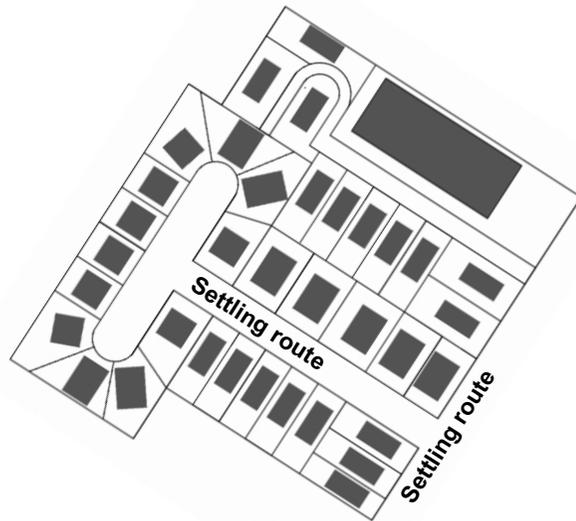
— Thoroughfares  
□ Allotment system



**Figure 5. Specialized routes**

noble façades to these, as well as by some lateral façades and courtyards. In this case, these streets are bordered by the lateral façades of buildings with their address on The Boulevard on three of the four corner lots, as illustrated in Figure 4, which traces the structure of the face-blocks.

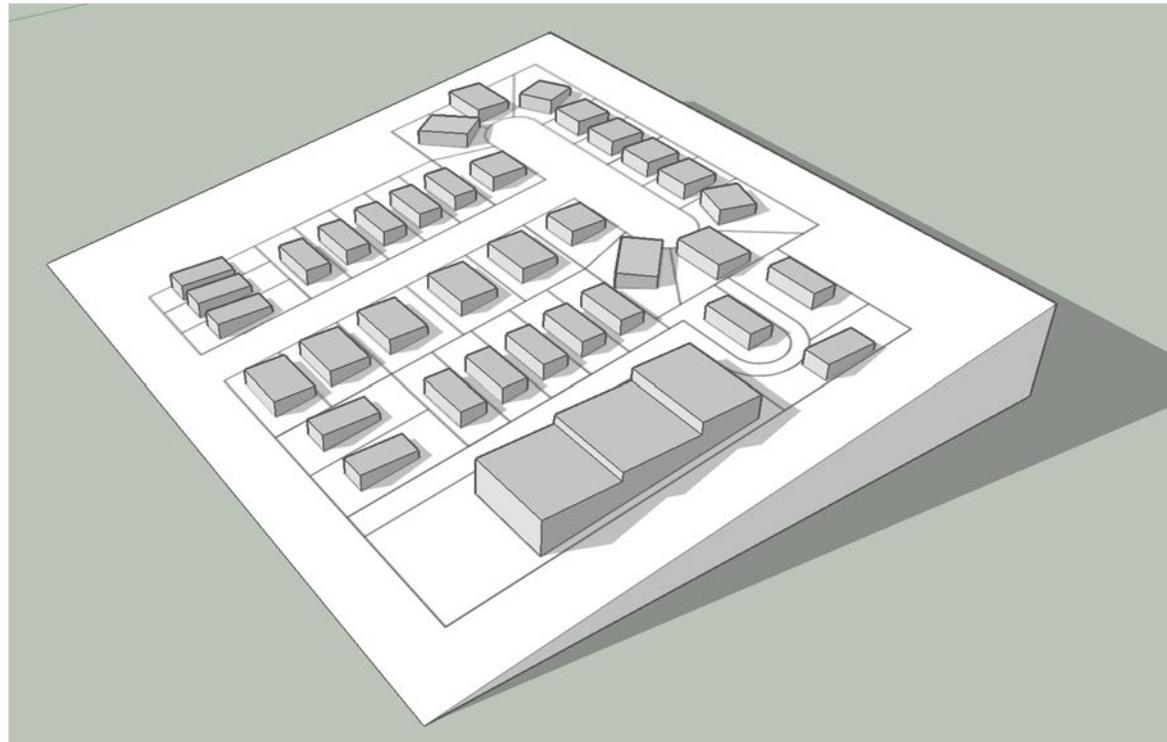
The buildings conform to the "detached" mode of aggregation. They, therefore, have front, side and rear setbacks, the latter creating a courtyard of modest dimensions in relation to the footprint of buildings. The front setback varies depending on the street segment considered, or even depending on the side of the said street segment (from 5 to 7.5 and 9 meters, respectively). The general configuration produces an average lot coverage of 0.47. Along The Boulevard, the buildings are deeper than they are wide. The same is true along Braeside Square as well as on the northwest-southeast segment of Clarke Avenue. These street segments climb up the slope towards the northwest; hence the building configuration



**Figure 6.** Spatial syntax of the tissue

ensures that these extend longitudinally parallel to the contour lines in the area.

Interestingly, on the Clarke Avenue street segment that forms the bar of the "T", the buildings present a wider front onto the street than they are deep (similarly, the lots are proportionally shallower). The bar of the "T" extends parallel to the contour lines, where the slope inclination increases sharply. The longitudinal direction of the buildings runs parallel to the contour lines, which minimizes the need to adapt their architectural form to the topography. The norm in the sector is the presence of garages integrated into the main body of the building. The trend on the northwest-southeast oriented street segments is to provide access to the said garage from the lowest side of the lot, which gives access at grade to garages located in the basement. On the other hand, on the perpendicular segment formed by the bar of the "T" on Clarke Avenue, the strategy is to raise the level of the ground floor in order to create underground garages accessible at grade from the



**Figure 7.** Three-dimensional theoretical model

street.

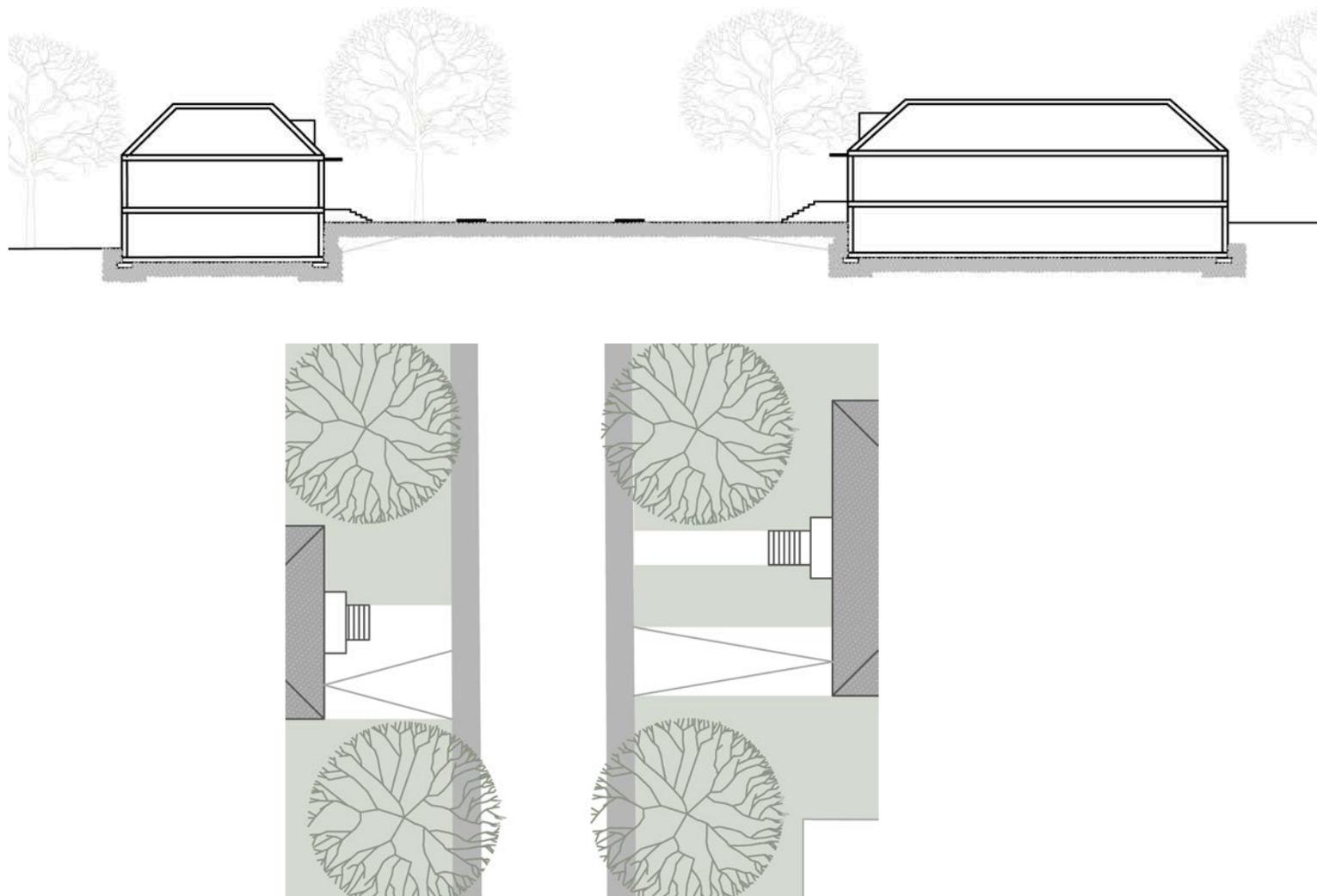
### The streetscape

The landscape unit is characterized by generous front setbacks, which vary from 5 to 7.5 and 9 meters depending on the street segment considered. These setbacks make room for small well-maintained gardens whose canopy and landscaping vary in intensity (from intermediate to intensive). The landscaping consists of low ground cover in which shrubs and flower beds alternate with lawns.

The significant distance between the opposing façades on either side of the streets does not translate perceptually into low-intensity framing of the public-collective space since the surrounding trees and vegetation partially compensate such conditions.

### Public-collective / private-domestic spaces

The streetscape strongly conditions the experience of users, while denoting the architectural identity of a place. Several physical and spatial features of the streetscape, such as the setbacks, the elevation of the ground floor, the height and positioning of the windows, projections and recesses in the façade, also assume an essential function of architecture, namely the mediation between public-collective space and private-domestic space. As mentioned, on the street segments oriented northwest-southeast that climb up the slope perpendicular to the contour lines, the driveway entrances giving access to the garages are generally located on the lower side of the lots. On the contrary, the main pedestrian walkways tend to be located on the higher side of the lot in order to minimize the ascent towards the house's main door, which are either located in an off-centre position on the façade or in the center of the latter. Access to the door is at grade, or by crossing a few steps. This rule does not apply for access to



**Figure 8.** Typical section and siting layout views on a settling route

the buildings situated high up on their lot, located on the northwestern side of the Clarke Avenue segment, which extends parallel to the contour lines on very steep lots. In this case, an ascent equivalent to the height of a storey is required to access the entrance doors. Given the relatively modest setbacks in comparison with the vertical distance to reach the ground floors, this pertinent strip is characterized by the presence on the façade of imposing masonry retaining walls, topped with landscaping in terraces.

Figure 8 presents section and siting layout views representative of the streetscape in landscape unit 4. These are schematic representations of conditions observable on Clarke Street, on the segment of the settling route oriented perpendicularly to the contour lines.

#### **Composition of the residential building stock**

Figures 9, 10 and 11, show the spatial distribution of residential buildings according to the number of dwellings per building, their number of floors, as well as their mode of aggregation. All of the unit's residential buildings are single-family. Almost all have two floors above ground and display a detached mode of aggregation.



■ 1 dwelling

**Figure 9. Spatial distribution of the dwelling units per building**



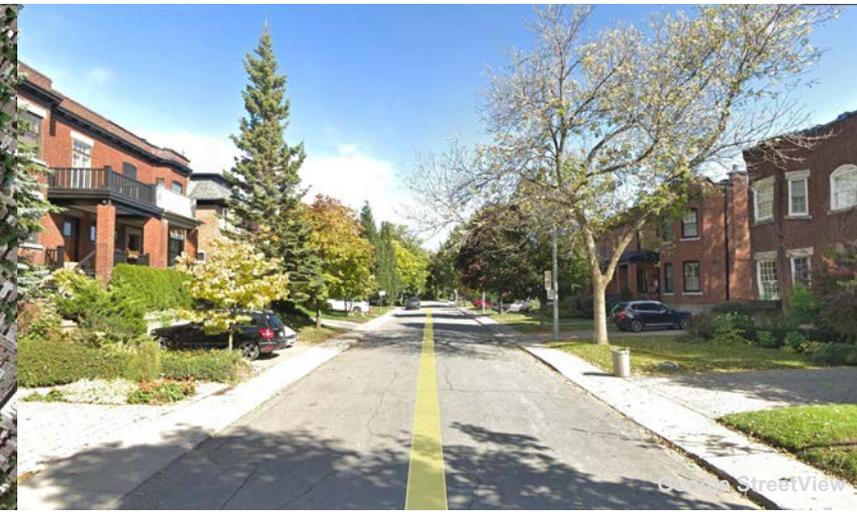
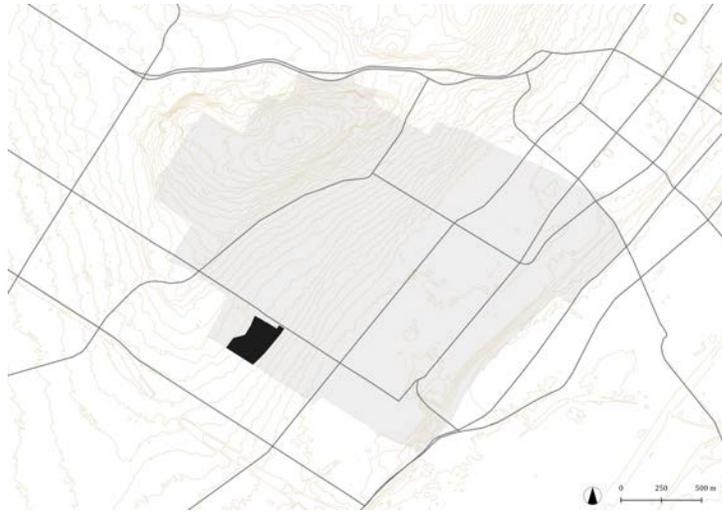
■ Detached buildings  
■ Semi-detached buildings

**Figure 11. Spatial distribution of buildings according to their mode of aggregation**



■ 2 stories  
■ 1 story

**Figure 10. Spatial distribution of buildings according to their number of floors**



## Landscape unit 5

Analytical fact sheet

### Location

Landscape unit 5 is located in the western part of the city of Westmount, on what constitutes the piedmont of the eponymous Summit. It is bordered on the southeastern side by Côte-Sainte-Antoine Road, and from there, clockwise, by the allotment parting line located behind the properties located on the northwestern side of the Claremont Avenue, then by Westmount Avenue (and beyond this line by the property of Marianopolis College), and finally, on the northeastern side, by the allotment parting line behind the properties located to the southwest of Victoria Avenue.

### Brief description

Spanning 5.16 ha, this landscape unit is composed of 62 housing units. The residential building stock is made up entirely of single-family buildings, producing a gross residential density of 12 dwellings per hectare and a net density of 17 dwellings/ha.

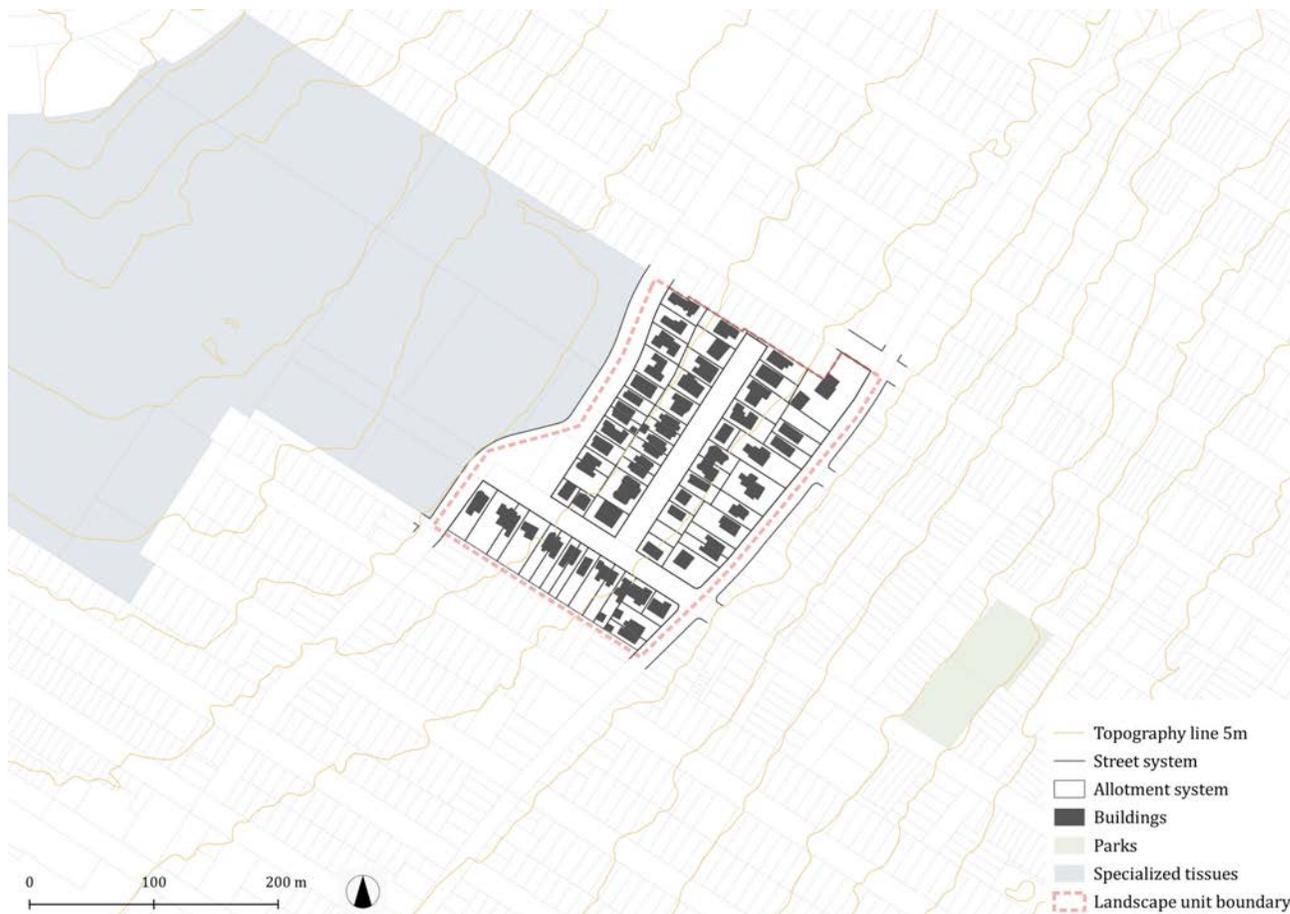
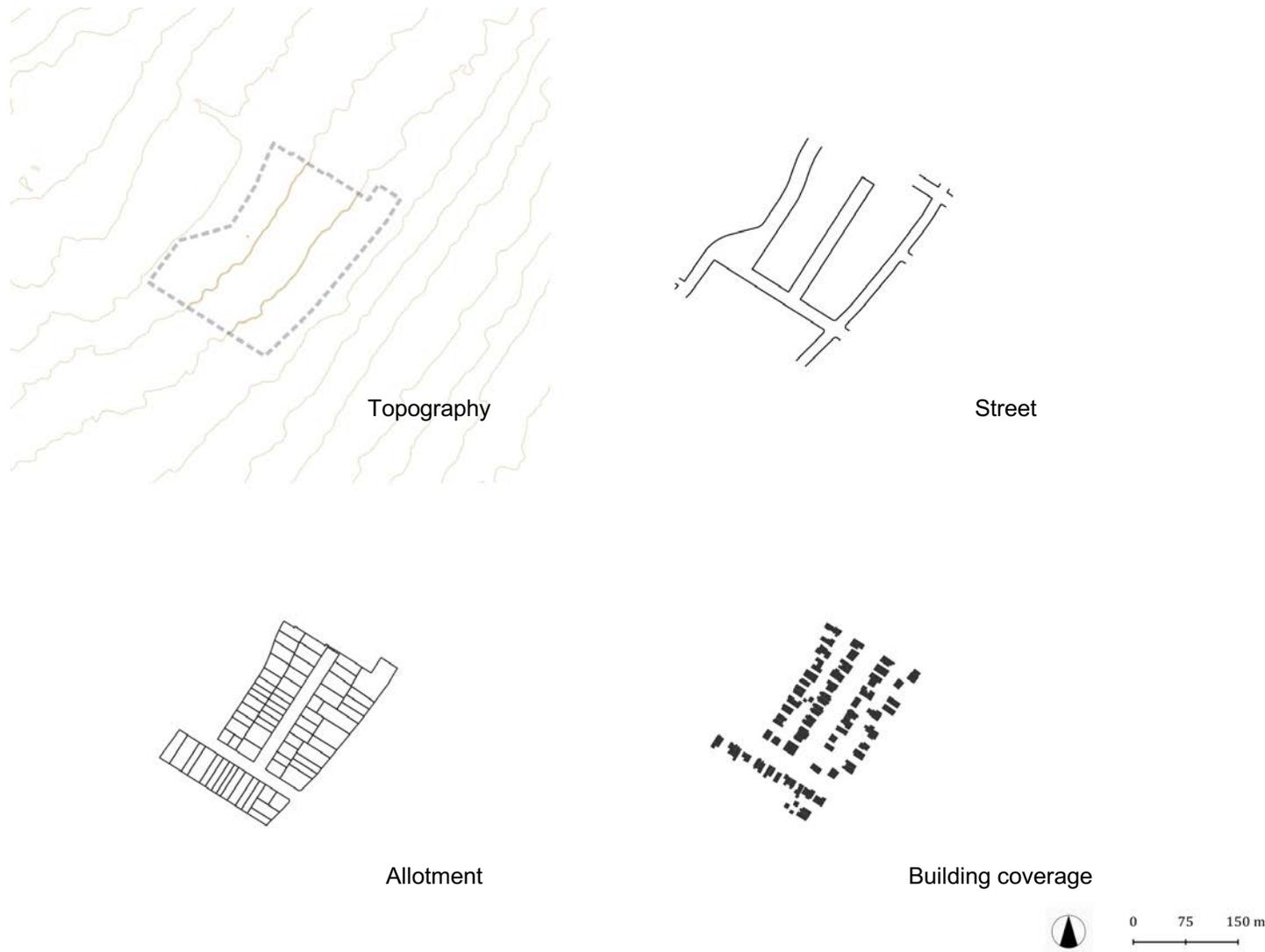


Figure 1. Landscape unit 5



**Figure 2.** Subsystems of the tissue

**Subsystems of the tissue**

The unit presents a slight downward slope towards the southeast, producing an inclination of 3.4 °. The street network is mostly orthogonal, delimiting only two urban blocks oriented northeast-southwest lengthwise, in addition to serving a

pertinent strip oriented perpendicularly to the latter along Claremont Avenue to the southwest. The residential building coverage consists of single-family, detached or semi-detached buildings.

**Routes hierarchy**

The unit spreads northwest of Côte-Sainte-Antoine Road; a matrix route whose presence has been attested since the French Regime in the 18th century, but that could draw its origins from a path practiced by aboriginal populations for centuries (see Part 1). Claremont Avenue, a settling route, runs perpendicularly to the matrix route and the contour lines of the area. Two other settling routes extend parallel to the matrix route and the contour lines. These are Willow Avenue, a cul-de-sac street that ends up on the allotment parting line behind the properties located on the northwestern side of Claremont Avenue, as well as Westmount Avenue. The allotment pattern is characterized by lots of orthogonal configuration, albeit of varied dimensions, which carry a majority of detached buildings, and a good number of semi-detached buildings.

*Specialized routes*

The landscape unit extends a short distance from a major thoroughfare, Victoria Avenue, albeit without being directly affected by the latter in its form (Figure 5).

**Spatial syntax of the tissue**

The unit's buildings are all of the single-family category. The latter are predominantly detached (67.7%) and semi-detached (32.3%).

The structure of the face-blocks (Figure 4) reveals the specific "morphological signature" of this segment of Côte-Sainte-Antoine. The variety of lot dimensions along the matrix route points to its old age. The lots bear buildings from different eras, some of which are from the rural period (as evidenced in particular by the presence of a barn in the property located at the corner of Côte-Sainte-Antoine Road and Victoria Avenue). The layout of the buildings is no less variable. The latter, all detached houses, although of different dimensions, and have generous front setbacks also varying in

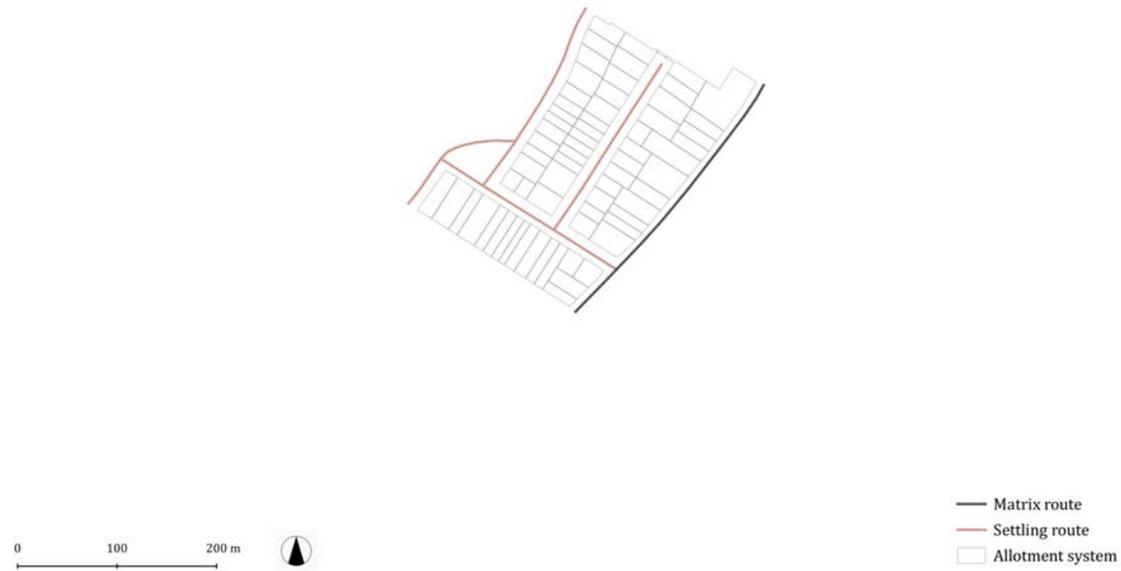


Figure 3. Route hierarchy

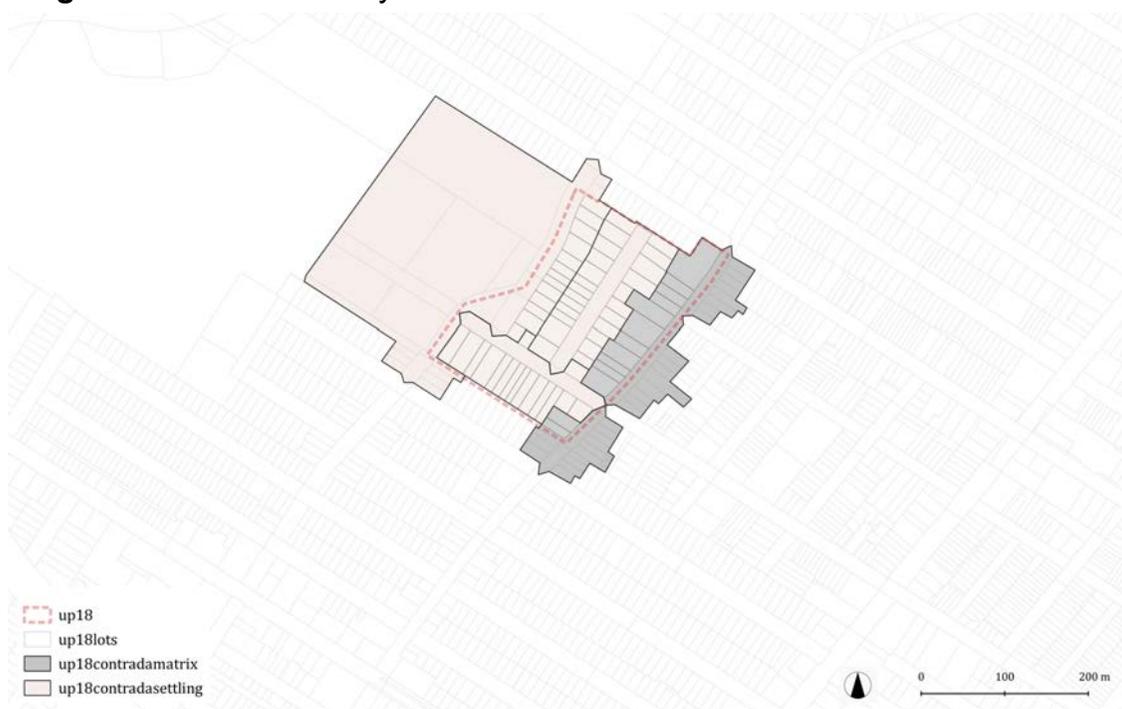


Figure 4. Face-block (Contrada) Structure

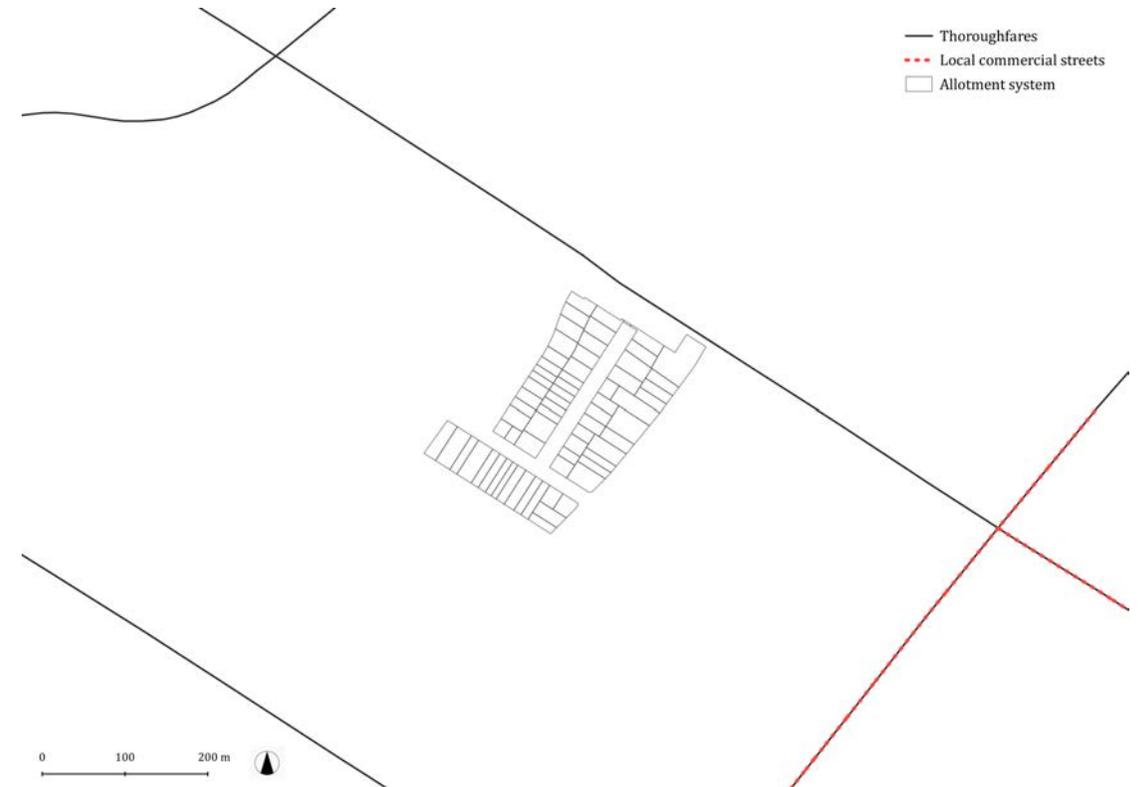
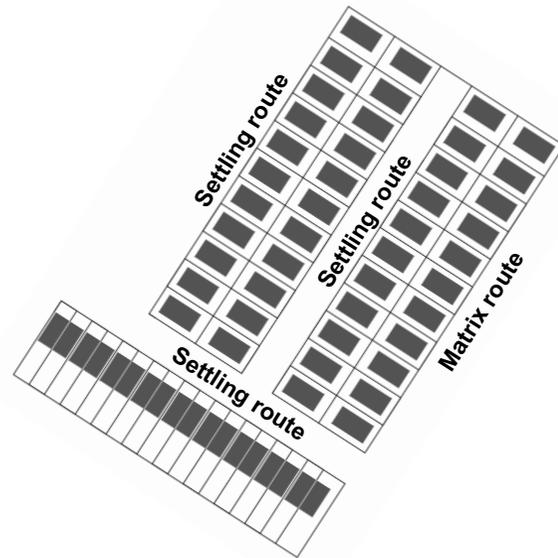


Figure 5. Specialized route

depth. Along the settling routes, the alternation of detached and semi-detached buildings is accompanied by the variation in the width of the lots. The lots accommodating the semi-detached houses are generally half the width of those accommodating the detached ones. The lots extend perpendicular to the street lengthwise. A rule applying to a clear majority of the buildings of the unit entails that these are deeper than they are wide along the street.

This composition and overall configuration produce an average lot coverage ratio of 0.3. Two face-blocks have a highly asymmetrical character. The Claremont Avenue segment has a continuous pertinent strip on the northwestern side, but the opposite strip only counts two lots that have their address on that street. The segment of Avenue Westmount in the unit sees its residential pertinent strip to the southeast face Marianopolis College, a sizeable institutional property on the opposite



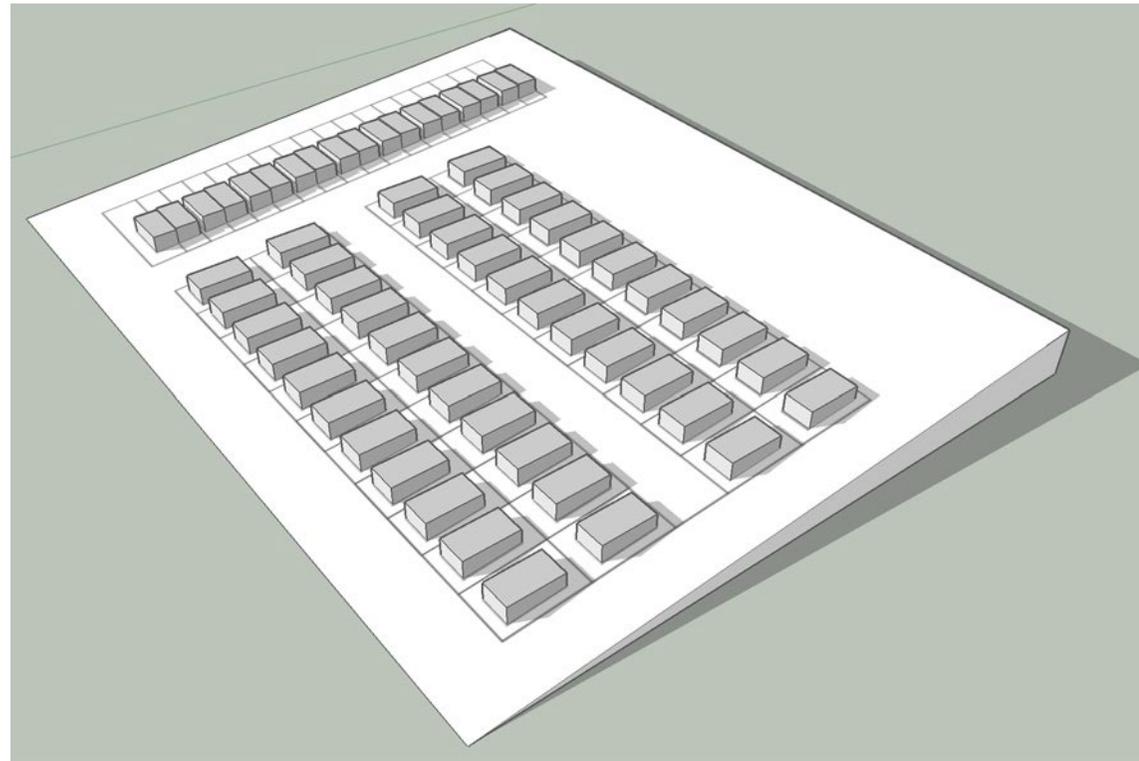
**Figure 6.** Spatial syntax of the tissue

(Figure 6).

**The streetscape**

The siting and layout of the buildings echo the topographic conditions, as the natural slope of the land informs the elevation of the ground floor from the street. A general rule dictates that the ground floor be entirely built above the ground level. Consequently, on a lot whose slope rises from the street towards the back, the elevation of the ground floor relative to the street level increases proportionally to the grade of the slope. Conversely, on a lot whose slope descends from the street towards the back, the elevation of the ground floor relative to the backyard level increases.

In the settling route deployed parallel to the contour lines, this leads to an elevation of the ground floor of the buildings located on the higher side of the street compared to their opponents.



**Figure 7.** Three-dimensional theoretical model

Access to the ground floor of the buildings sited high up on their lot, thus requires an ascent from the street. Access to the ground floor of the building on the opposite side of the street is at grade or requires only a minimal ascent (Figure 8).

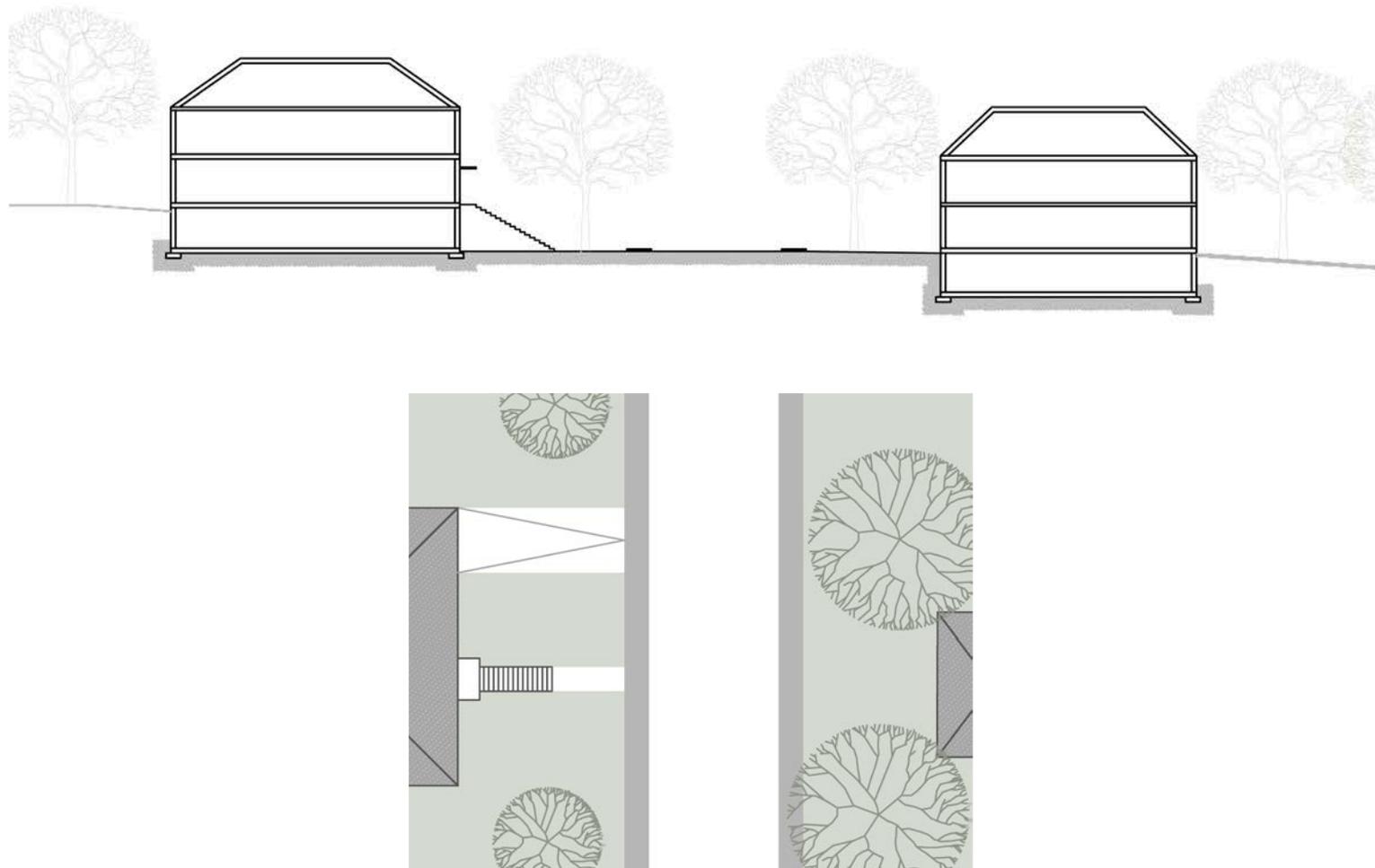
The norm in this unit, as in most of Westmount's territory, is the presence of garages. Although a majority of two-storey buildings have a garage, there is no clear rule regarding their siting in the area. Some garages are secondary buildings built at the back of the lot. In other cases, taking advantage of a slope rising from the street, the garage is located in the basement or half basement.

For their part, one-storey residences typically have a garage integrated into the body of the building, which is accessed most often at grade, or in the semi-basement, in the split-level type of houses.

**Public-collective / private-domestic spaces**

The streetscape strongly conditions the experience of the users and therefore denotes the architectural identity of a place. Several physical and spatial features of the streetscape, such as the setback, the elevation of the ground floor, the height and positioning of the windows, or projections and recesses in the façade, also assume an essential function of architecture, namely the mediation between public-collective space and private-domestic space.

The streetscape of this landscape unit is heterogeneous. This trait stems in part from the variety of architectural types and siting modalities observed along the matrix route. The same goes for the asymmetrical character of both Claremont and Westmount avenues. On one of its sides, Claremont Avenue is framed by a series of pertinent strips in which all the buildings present their noble façade to the street. The opposite side



**Figure 8.** Typical section and siting layout views on a settling route (view towards the northeast)

alternates lateral façades and noble façades. Westmount Avenue benefits from more favourable conditions. Its residential pertinent strips face the monumental neoclassical façade of an institutional building. This composition creates a significant contrast of the scale between both sides of the street that is attenuated the generous lawn and a tree alignment in front of the Marianopolis College.

Another feature contributes to the heterogeneity of the unit's streetscape. Buildings with two aboveground floors rub shoulders with many single-storey Prairie House-inspired buildings. Despite a reasonably tight-grained building coverage, the significant proportion of low buildings compromises the architectural framing of public-collective space, a condition that is only partially attenuated by the presence of trees in the front yards.

As it is very usually the case in Westmount, the front setbacks offer the opportunity to create small landscaped gardens. The front margins range from 4 to 7 meters in the area. Access to the residences is provided by a footpath leading to the main entrance door located on the front façade. There is a significant difference between two-storey buildings on the one hand and one-storey buildings that are generally of more recent construction, on the other hand. The formers have ground floors raised above the sidewalk level by approximately 1.5 meters. The access to the building entails climbing an external staircase. The one-storey buildings, on the other hand, are generally accessed from the street at grade level.

Figure 8 presents section and siting layout views representative of the streetscape in landscape unit 5. These are schematic representations of conditions observable on Willow Avenue, which is oriented northeast-southwest in parallel to the contour lines. The schematic cross-section presents a view to the northeast.



Figure 9. Spatial distribution of the dwelling units per building



Figure 10. Spatial distribution of buildings according to their number of floors

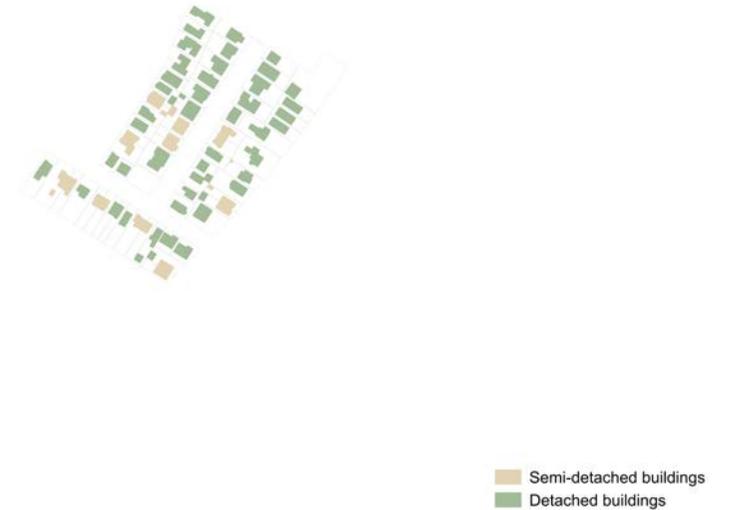
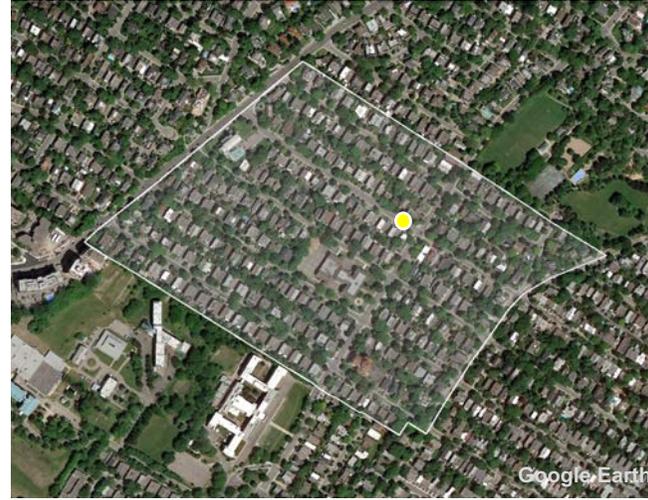
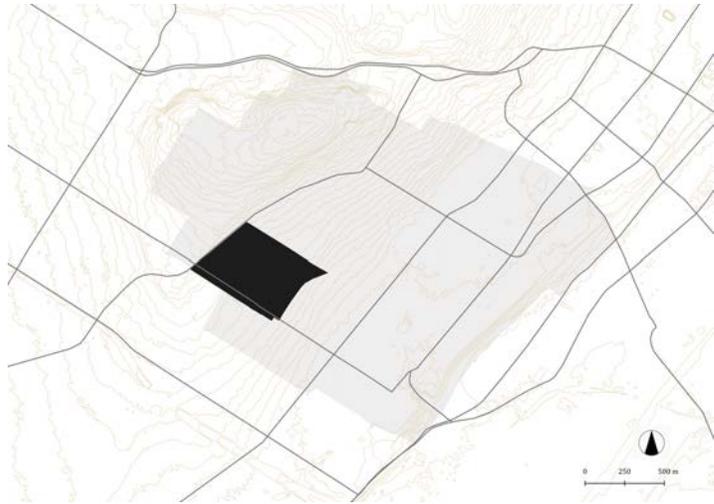


Figure 11. Spatial distribution of buildings according to their mode of aggregation

### Composition of the residential building stock

Figures 9, 10 and 11 illustrate the spatial distribution of residential buildings according to the number of dwellings per building, their number of floors, and their mode of aggregation, namely their belonging to the detached or semi-detached categories in this unit. The landscape unit is characterized by the omnipresence of single-family buildings comprising either two floors or a single floor aboveground (74.2% and 24.2%, respectively), and a majority of detached buildings (67, 7%) in addition to semi-detached buildings (32.3%).

The unit does not show any particular spatial trend as far as the distribution of one- or two-storey buildings or the mode of aggregation is concerned.



## Landscape unit 6

Analytical fact sheet

### Location

Landscape unit 6 is located to the southwest of the Westmount Summit, on the latter's foothills. It is bordered to the southeast by Côte-Sainte-Antoine Road, thence, clockwise, by the allotment parting line located behind the properties located on the southwestern side of Victoria Avenue, then by The Boulevard to the northwest, then by the allotment parting line behind the properties located on the southeastern side of Belmont Avenue, and by King George Park beyond the said parting line.

### Brief description

Spanning 26.24 ha, this landscape unit is composed of 395 housing units as well as a school (Roslyn) and a worship temple (Mountainside United Church). The residential housing stock is made up of single-family buildings at 98.7%, producing a gross residential density of 15.1 dwellings per hectare and a net density of 20.9 dwellings/ha.

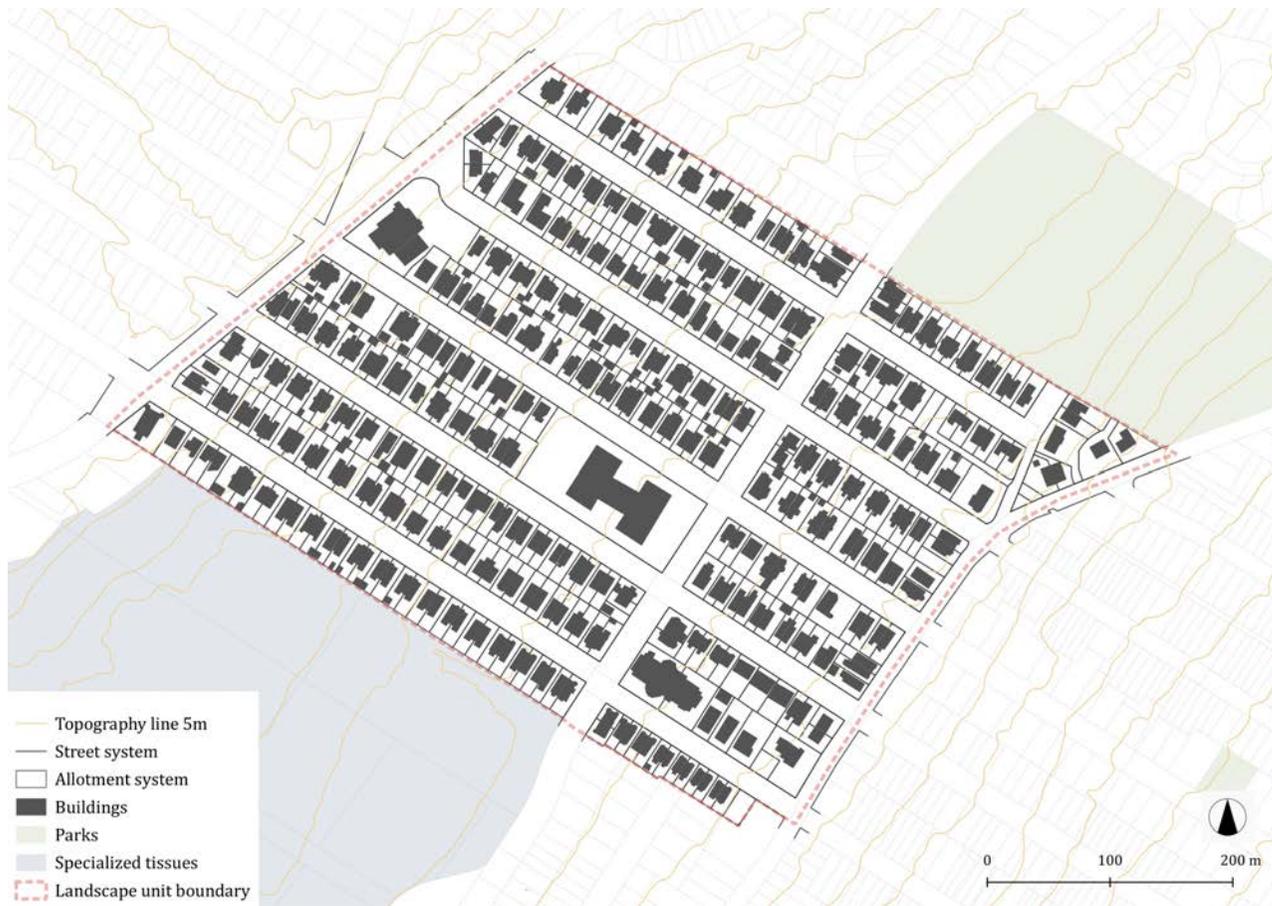


Figure 1. Landscape unit 6

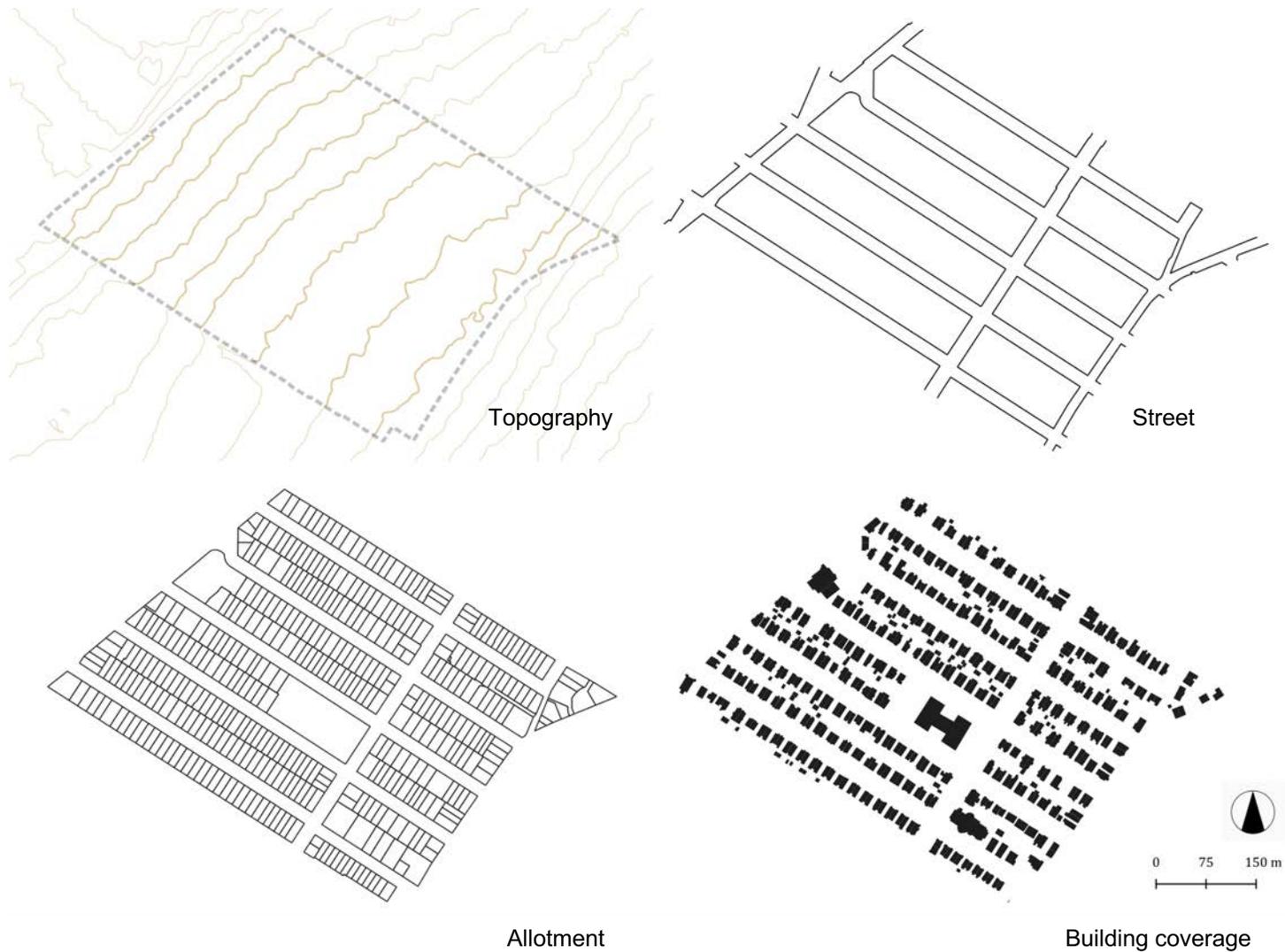


Figure 2. Subsystems of the tissue

### Subsystems of the tissue

The unit presents a slope that descends towards the southeast, whose moderate drop produces an average inclination of  $4.04^\circ$ . The street network is orthogonal essentially, delimiting urban blocks of variable lengths that climb the slope lengthwise on

a northwest-southeast direction. The urban blocks are generally made up of two pertinent strips, between The Boulevard and Westmount Avenue, and of three pertinent strips between Côte-Sainte-Antoine Road and Westmount Avenue. The residential building coverage is primarily composed of semi-detached buildings (82%), in addition to

detached buildings (18%).

### Routes hierarchy

Figure 3 illustrates the categories of routes represented in the landscape unit. Côte-Sainte-Antoine Road is a matrix route for the tissue. Its presence has been attested since the very beginning of the 18th century, but the road may have originated from a path practiced by aboriginal populations for hundreds of years (see Part 1 of this report). The routes that are oriented northwest-southeast, which corresponds to the longitudinal direction of the urban blocks, are all settling routes, therefore carrying lots that had their address on them since inception. Besides the said road, the transversal routes, oriented southwest-northeast, are either a connecting route (Westmount Avenue) or a mixed route (The Boulevard). The latter is a settling route for a half (on its southwestern side), and a connecting route the other half (on the northwestern side).

### Specialized routes

Two major thoroughfares serve the landscape unit. The first one is The Boulevard, which extends at the limit between Westmount Summit and its piedmont. The other thoroughfare is Victoria Avenue (Figure 5). Despite the route's specialized function, the properties of the tissue along Victoria Avenue do not distinguish it from the rest of the landscape unit. The Boulevard's street segments, which assume the role of a connecting route in that part of Westmount, display more significant variability in the properties of the tissue. Such conditions are expected. They are the outcome of restructurings or the allotment over time.

### Spatial syntax of the tissue

Almost all of the unit's residential stock is made up of single-family buildings (98.7%) with two floors above ground (97.4%). The vast majority of buildings comply with the semi-detached mode of aggregation (82%), the rest of the stock is made



Figure 3. Route hierarchy

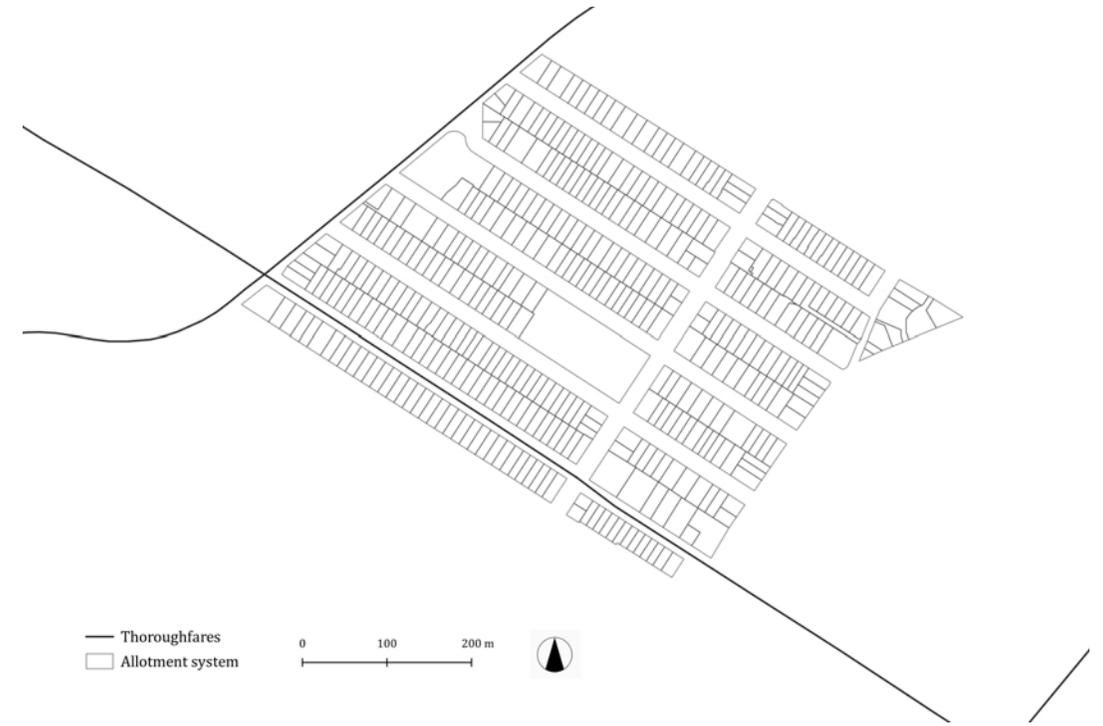


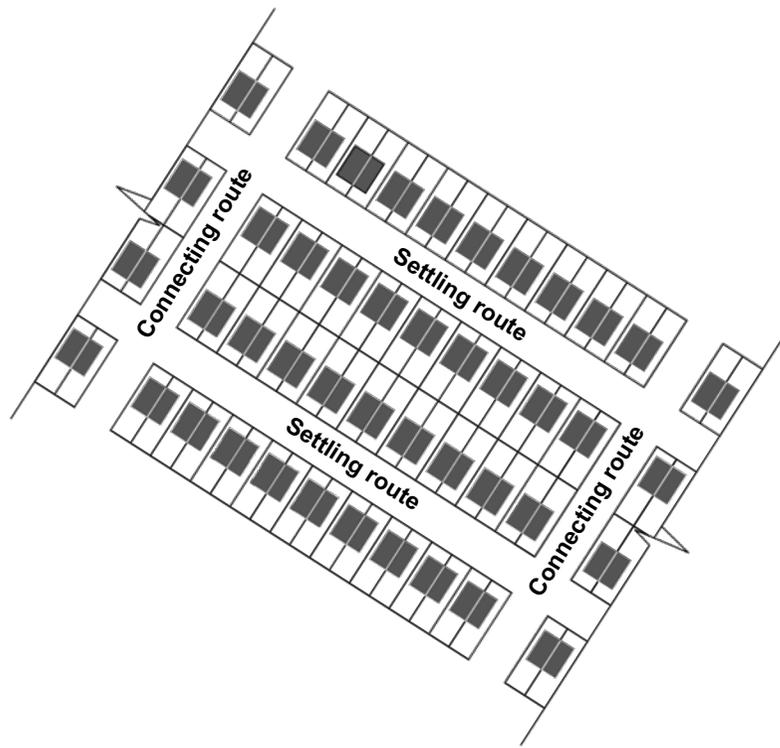
Figure 5. Specialized route



Figure 4. Face-block (Contrada) Structure

up of detached buildings.

Côte-Sainte-Antoine Road, which gently climbs the foothills of the Westmount Summit diagonally, extends in this landscape unit parallel to the contour lines, just overlooking a more sloping area descending towards Sherbrooke Street. For their part, the settling routes extend perpendicular to this matrix route towards the northwest and, thus, perpendicularly to the contour lines. The map of face-blocks (Figure 4) presents the tissue pattern that results from this composition and overall configurations. The matrix route for the tissue carries lots of various dimensions, which testify to the metamorphoses of the allotment system. Former agricultural tracks of land have been modified over the previous three centuries, to accommodate a highly diversified residential building fabric. As a general rule, the settling routes display lots that are deeper than they are wide on the street. The dominant modular lot dimensions are 10.7 m (35 ft) on the street front by

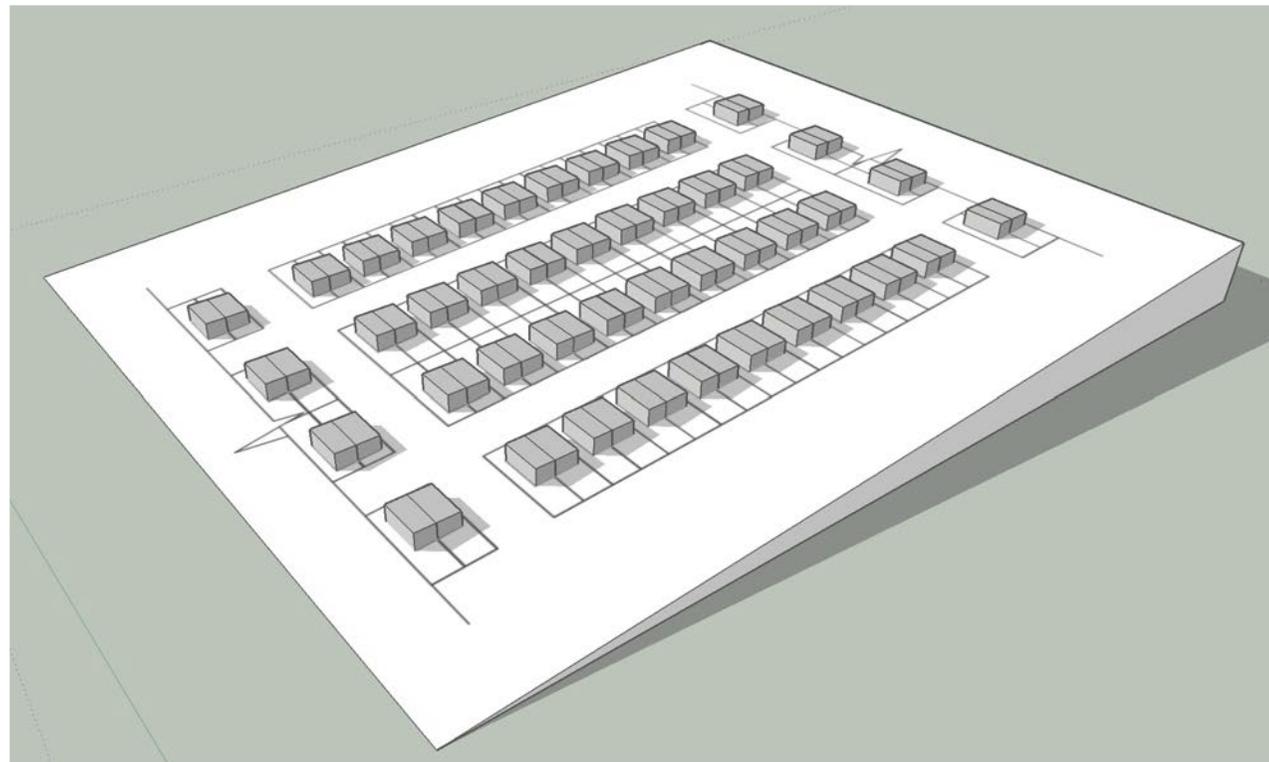


**Figure 6.** Spatial syntax of the tissue

38 m (125 ft) deep.

The buildings are also deeper than the width of their façade. They tend to extend deep along the longitudinal axis of their respective lots. This configuration results in an average lot coverage ratio of 0.3 in the unit. As expected, the connecting routes display more significant variability in lot configurations. Their geometry is the outcome of restructurings or the allotment over time since those that have their addresses on them are the product of alterations of the modular lot by way of subdivision or merger.

Along the settling routes, the semi-detached buildings are coupled in pairs. Buildings thus share a party wall with an adjoining building, while having a modest lateral setback on the opposite side. Said lateral setback adjoins an equivalent setback on the neighbouring property. Many of these margins are combined to form a shared driveway entrance giving access to garages built in the backyard. In



**Figure 7.** Three-dimensional theoretical model

practice, such a configuration implies the creation of a mutual right of way. The presence of garages in the backyard is the norm in the sector. In rarer cases, the topographic conditions allow the construction of garages located in the basement, although accessible at grade from the lateral façade. In even rarer cases, the underground garages are accessible directly from the main façade. These cases touch buildings recently built, or older ones recently altered for this purpose. The common aspect in these two cases in point concerns the significant alteration of the natural topography required to provide access to the garage on the street façade. Such building practices depart from the norm that prevailed prior in this unit and Westmount more broadly.

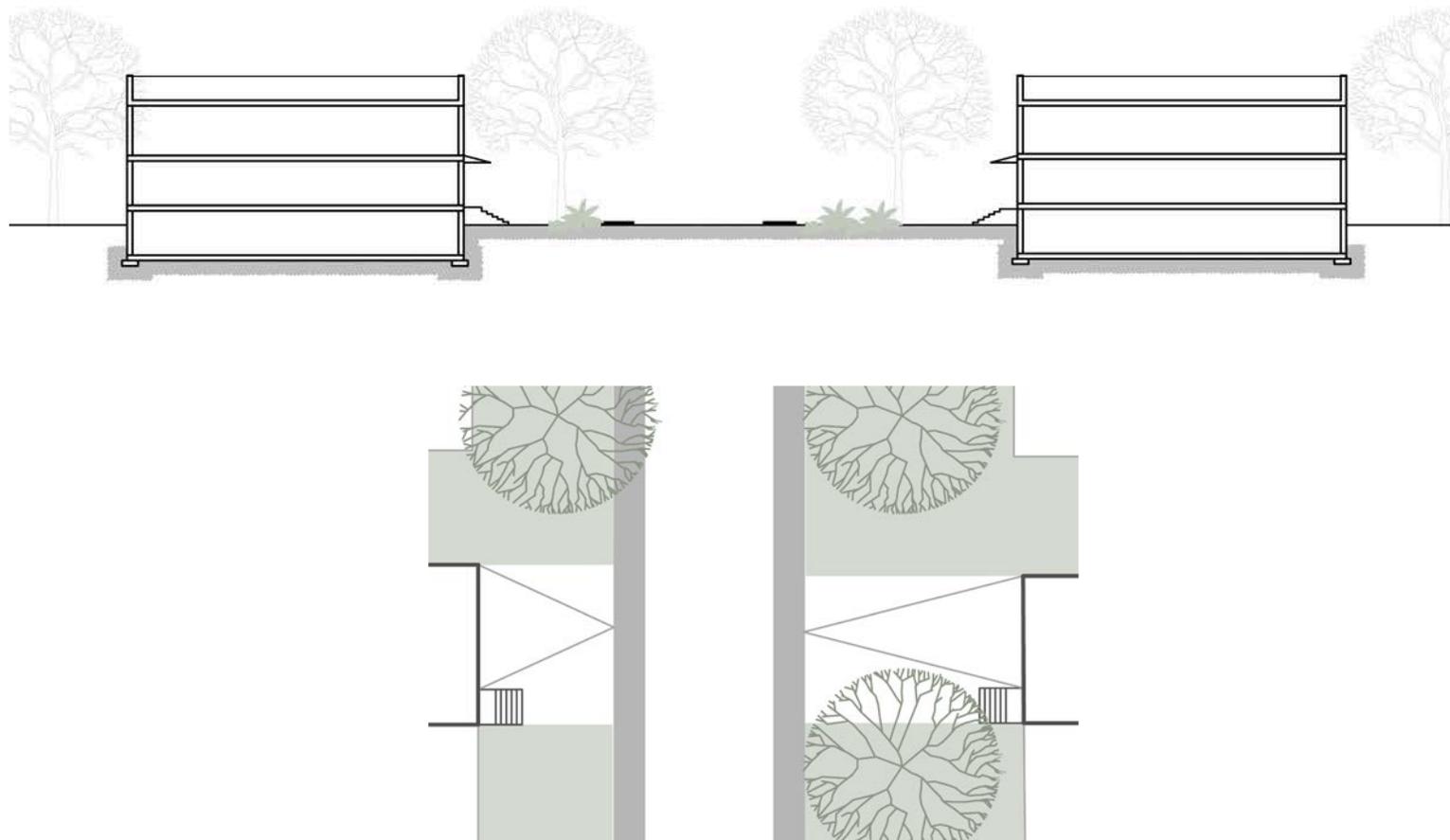
A spatial syntax rule prevails regarding the access to the semi-detached residential units. It requires that the front doors be located to the side opposite to the party wall on the façade, rather than being paired at the center of the composition.

The buildings all have a front setback (about 6 m), as well as backyards of rather modest dimensions compared to the area of the dwellings, especially once the space devoted to outdoor garages is deducted from the count.

#### *Adaptation to the slope*

The settling routes climb a slope whose inclination goes from low to moderate.

The intensity of the inclination affects the elevation and roofline of the bordering built aggregates. In areas that display a gentle slope, located near the matrix route, in particular, the elevation of the ground floors of adjoining semi-detached buildings is the same on both sides of the party wall. On steeper street segments, such as those located to the northwest in particular, as a general rule, the floor levels adjust to the upward slope so that the ground floor of the unit located below will have a lower elevation than that of its adjoining neighbour.



**Figure 8.** Typical section and siting layout views on a settling route (view towards the northwest)

Besides this strategy of adaptation to the topography, the rule that dictates that the entrance doors should be located on the side of the front façade opposite to the party wall minimizes the ascension required to reach the ground floor from the street level. As a consequence, the height of the main entrance to relative to the street level tends to be consistent in these areas. There are exceptions to this rule in the area affecting a few adjoining buildings, which present the same elevation of their ground floors on both sides of the party wall despite the slope. Such a composition

results in a higher ascent to access the ground floor of the building situated high up on their lot from the street than what is required to access the building below.

### The streetscape

The streetscape of this unit is characterized by the prevalence of orthogonal streets producing tightly framed visual perspectives. The streets have sidewalks and trees in rows on either side, though the said rows are sporadically interrupted. The framing of the public-collective space is ensured by fairly tight semi-detached built fabric, consisting of buildings with two floors above ground. Front setbacks of approximately six meters accommodate small gardens with neat landscaping, where flower beds and lawns alternate. The norm is brick cladding on the façade. The latter are often embellished with porches, balconies and architectural features inspired by the Arts and Crafts movement. The roofs are mostly flat, though the façades are often adorned with a false mansard on the upper floor. Figure 8 shows section and siting layout views representative of the streetscape in the unit. These are schematic representations of conditions observable on Victoria Avenue. Following the adaptation to the topographic conditions previously described, on the settling routes, the building elevations profile "climbs" the steep slope in steps.

### Public-collective / private-domestic spaces

The streetscape strongly conditions the experience of users, while denoting the architectural identity of a place. Several physical and spatial features of the streetscape also assume an essential function of the architecture; the mediation between public-collective space and private-domestic space. The physical and spatial features ensuring the mediation between these spaces relate in this unit to the presence of setbacks and the raising of the ground floor. The houses are accessed by a walkway and an external staircase leading to a landing, typically protected by a projecting roof, which sometimes makes dual use as the balcony upstairs.

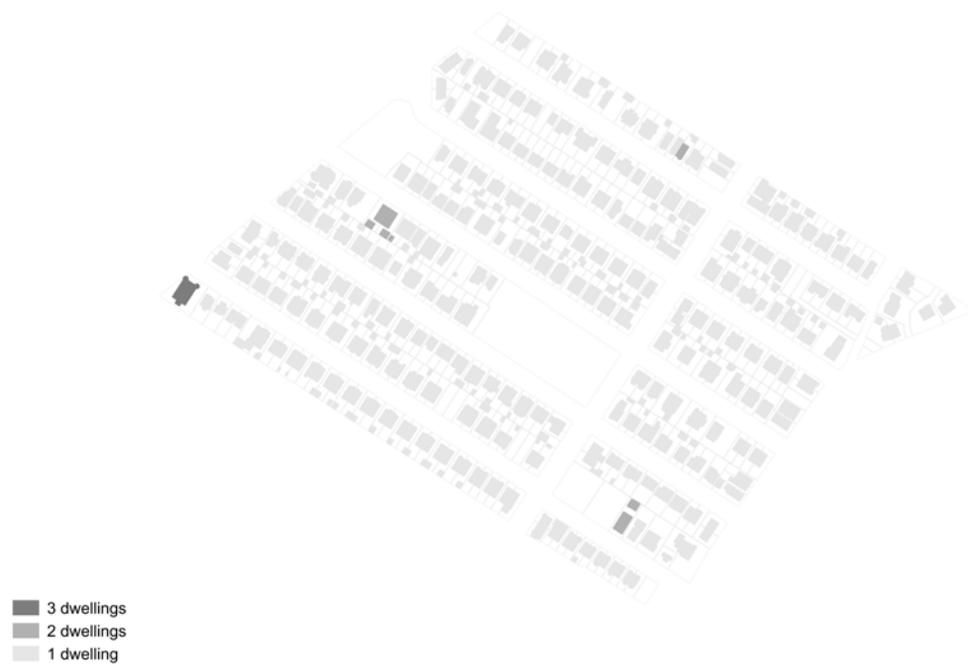


Figure 9. Spatial distribution of the dwelling units per building

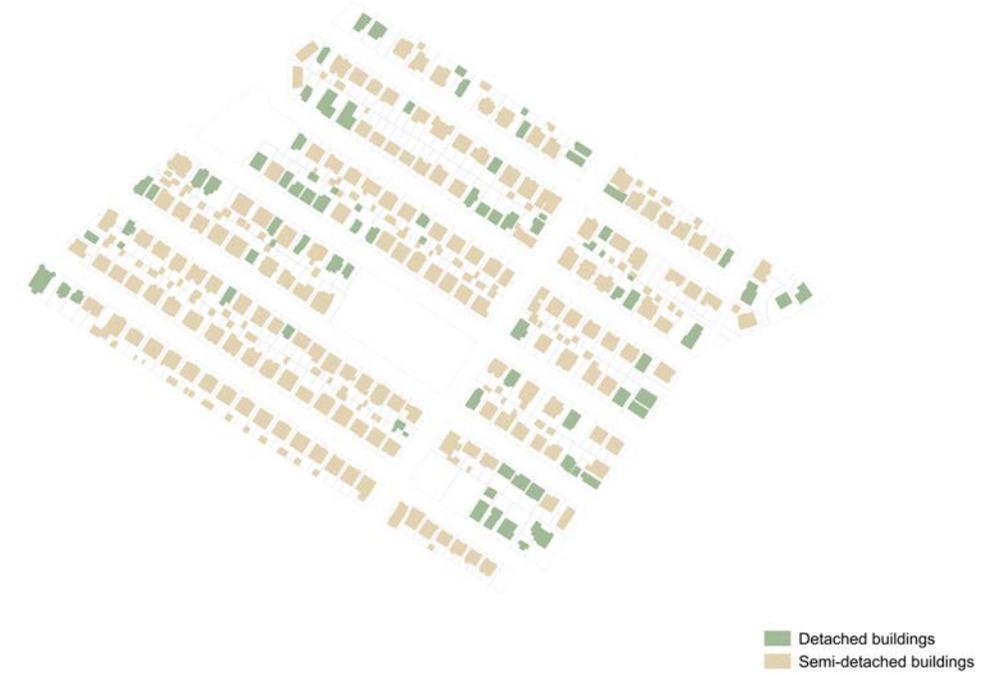


Figure 11. Spatial distribution of buildings according to their mode of aggregation

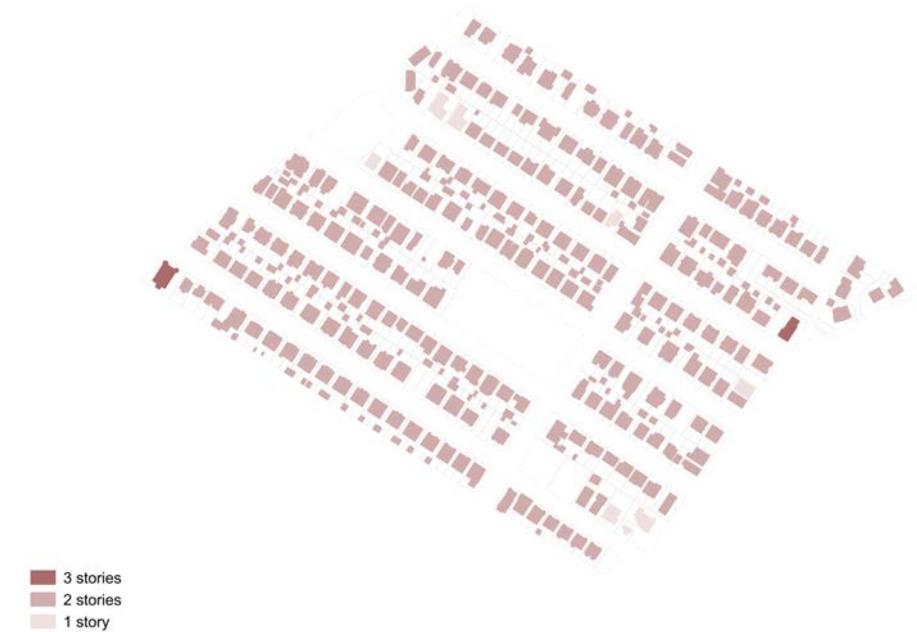
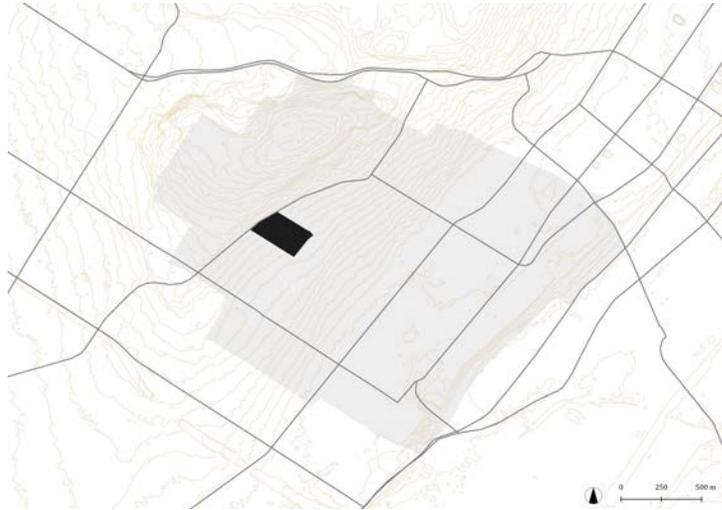


Figure 10. Spatial distribution of buildings according to their number of floors

### Composition of the residential building stock

Figures 9, 10, and 11 illustrate the spatial distribution of residential buildings according to the number of dwellings per building, their number of floors, as well as their mode of aggregation, namely their belonging to the detached or semi-detached categories in this unit. The built landscape is characterized by a strong preponderance of semi-detached single-family buildings with two aboveground floors. It does not show any particular spatial trend concerning the distribution of buildings according to their mode of aggregation.



## Landscape unit 7

Analytical fact sheet

### Location

Landscape unit 7 is located southwest of the Westmount Summit, on the foothills of the latter. It is bordered to the southeast by Westmount Avenue and beyond the latter in that direction by King George Park, then, clockwise, by the allotment parting line located behind the properties located on the southwestern side of Murray Hill Street, then by The Boulevard to the northwest, and finally, by the allotment parting line behind the properties located on the northeastern side of Renfrew Avenue.

### Brief description

Spanning 5.43 ha, this landscape unit is composed of 95 housing units. The residential housing stock is made up exclusively of single-family buildings, producing a gross residential density of 17.5 dwellings per hectare and a net density of 26.5 dwellings/ha.

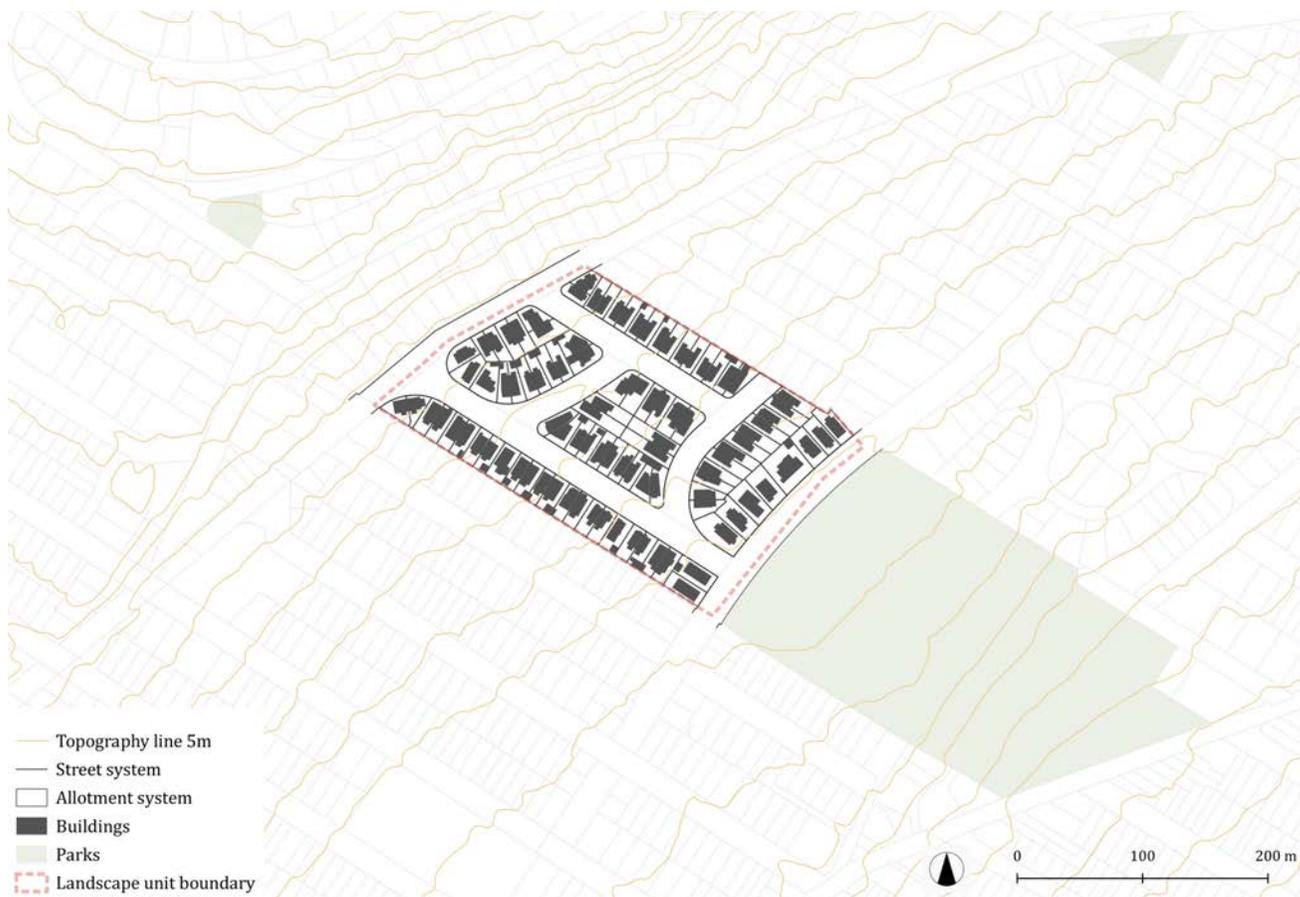
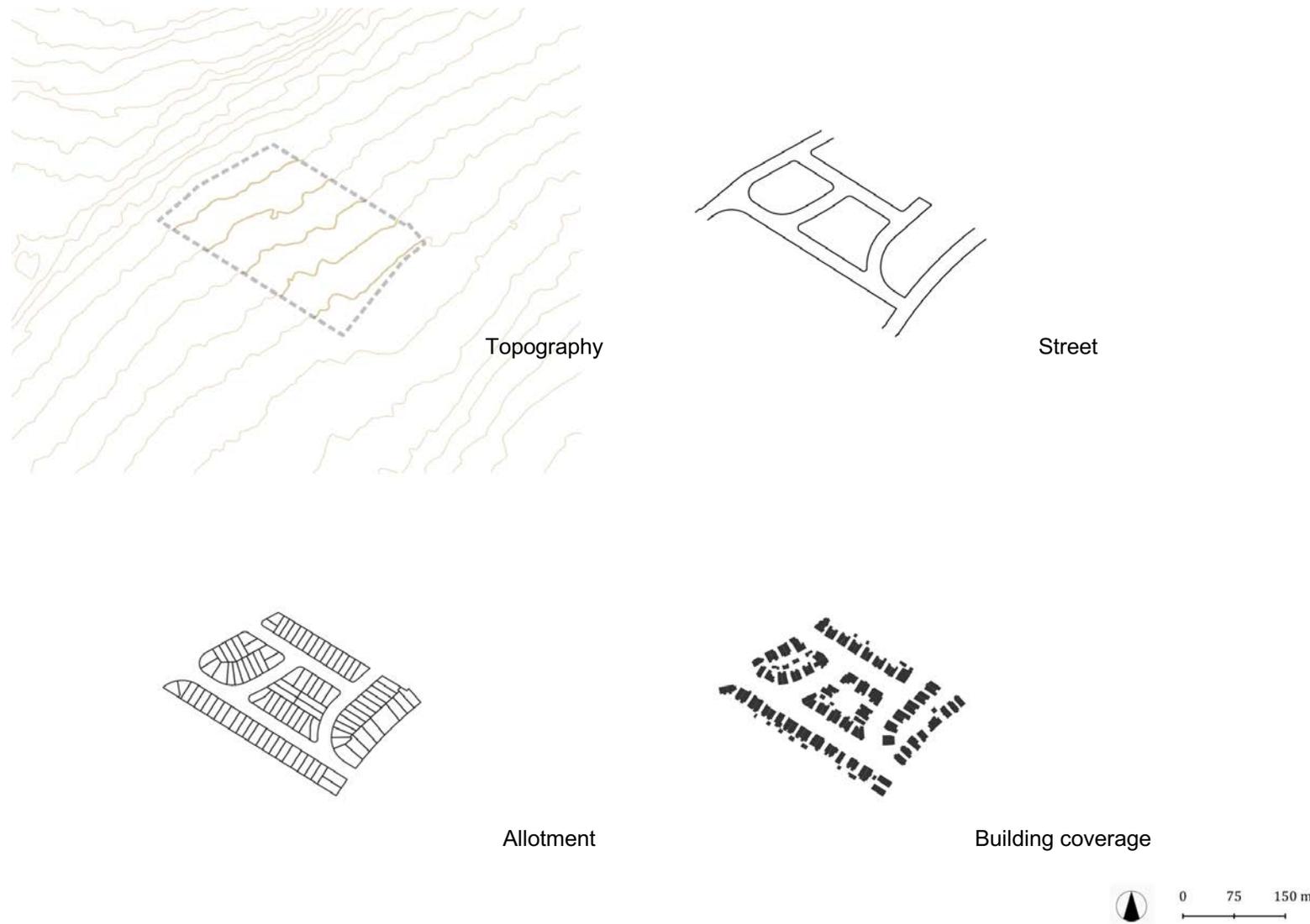


Figure 1. Landscape unit 7



**Figure 2.** Subsystems of the tissue

**Subsystems of the tissue**

The unit presents a moderate downward slope towards the southeast, producing an average inclination of 4.97 °. The geometry of the street network is mixed. The routes extending on a northwest-southeast direction are orthogonal,

whereas the routes that extend perpendicularly, northeast-southwest, are generally curvilinear. The urban blocks thus delimited are irregular in shape, except for the block that includes the pertinent strip on the southwestern side of Murray Hill Street. The residential building coverage consists exclusively of single-family buildings. Except for the pertinent

strip of Westmount Avenue, which is entirely made up of detached buildings, the vast majority of other buildings conform to a semi-detached mode of aggregation.

**Routes hierarchy**

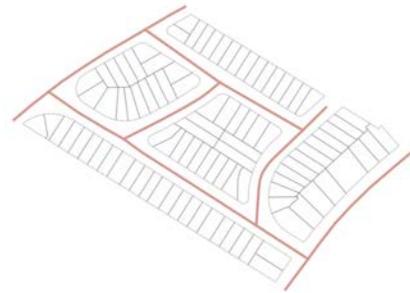
All the routes of the landscape unit are settling routes opened to serve residential lots that have their addresses on them since their inception.

*Specialized routes*

The landscape unit is bordered and served by a major thoroughfare, The Boulevard, which extends at the limit between Westmount Summit and its piedmont. (Figure 5).

**Spatial syntax of the tissue**

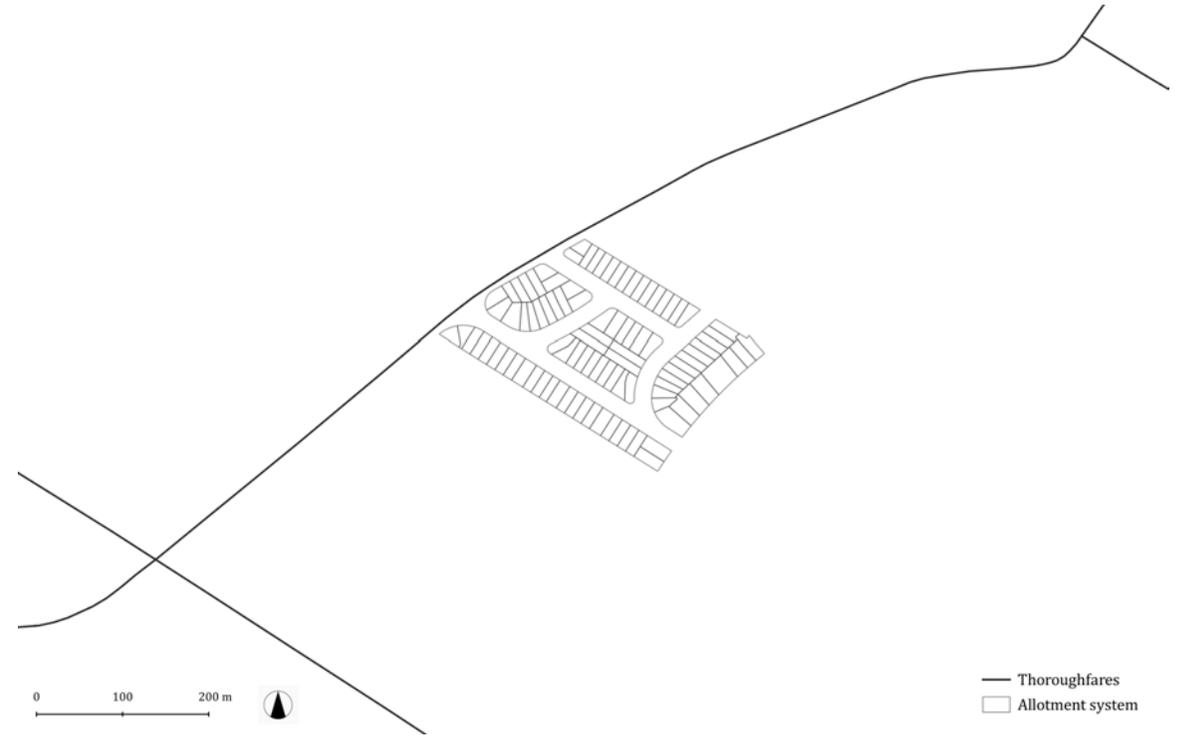
The landscape unit is characterized by a vast majority of semi-detached single-family residential buildings (82.1%) with two aboveground floors (98.9%). Its dual geometry characterizes the unit. The orthogonality marks its general configuration, and the pertinent strips on its perimeter, while its core is composed of curvilinear streets. Despite these conditions, the vast majority of lots present an orthogonal configuration in the main. Non-orthogonal lots are generally relegated to the corners of the urban block, which are rounded. The lots are narrower at the street front than they are deep. The dominant modular lot dimensions are approximately 9 m (32 ft) by 33 m (110 ft). The buildings display a similar configuration and extend lengthwise in the longitudinal direction of their respective lots. This arrangement produces an average lot coverage ratio of 0.43. The curvilinear configuration of the routes located at the heart of the unit entails a radial disposition of buildings; so that very few buildings have one of their lateral façades facing a street. The topographic conditions created by the moderate slope in the unit do not in themselves justify the use of a curvilinear geometry. The purposeful desire to create a picturesque streetscape may be at play here.



— Settling route  
□ Allotment system



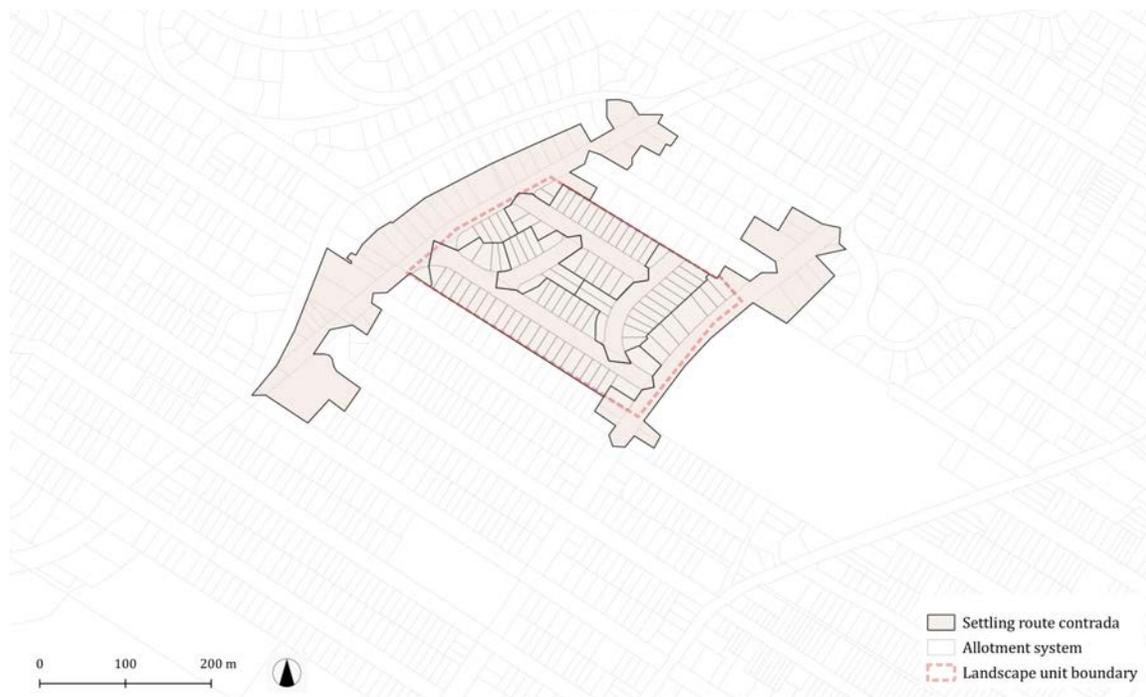
**Figure 3. Route hierarchy**



— Thoroughfares  
□ Allotment system



**Figure 5. Specialized route**



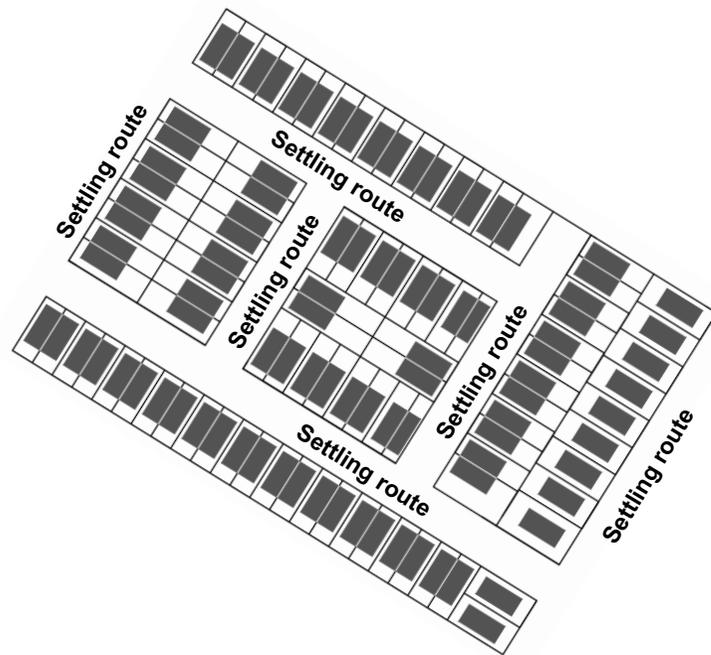
□ Settling route contrada  
□ Allotment system  
- - - Landscape unit boundary



**Figure 4. Face-block (Contrada) Structure**

However, such a geometry, according to which the curvilinear streets generally deployed parallel to the contour lines, has the consequence of minimizing the effect of the slope on the profile of the street. The impact of a layout on the streetscape will be discussed further below.

The semi-detached type of mode of aggregation implies the presence of two coplanar buildings sharing a party wall. In this case, the buildings share a front setback that accommodates a small garden, and they have a modest lateral setback on the side of the lot opposite that of the party wall. A setback and the rear of the lot allows for the creation of courtyards. Typically, the lateral margin adjoins an equivalent margin on the neighbouring property. These margins carry driveways giving access to garages located in the backyard. Because of their narrowness, some of the said lateral setbacks are paired two by two, a composition which implies the creation of a mutual right of way between the owners.



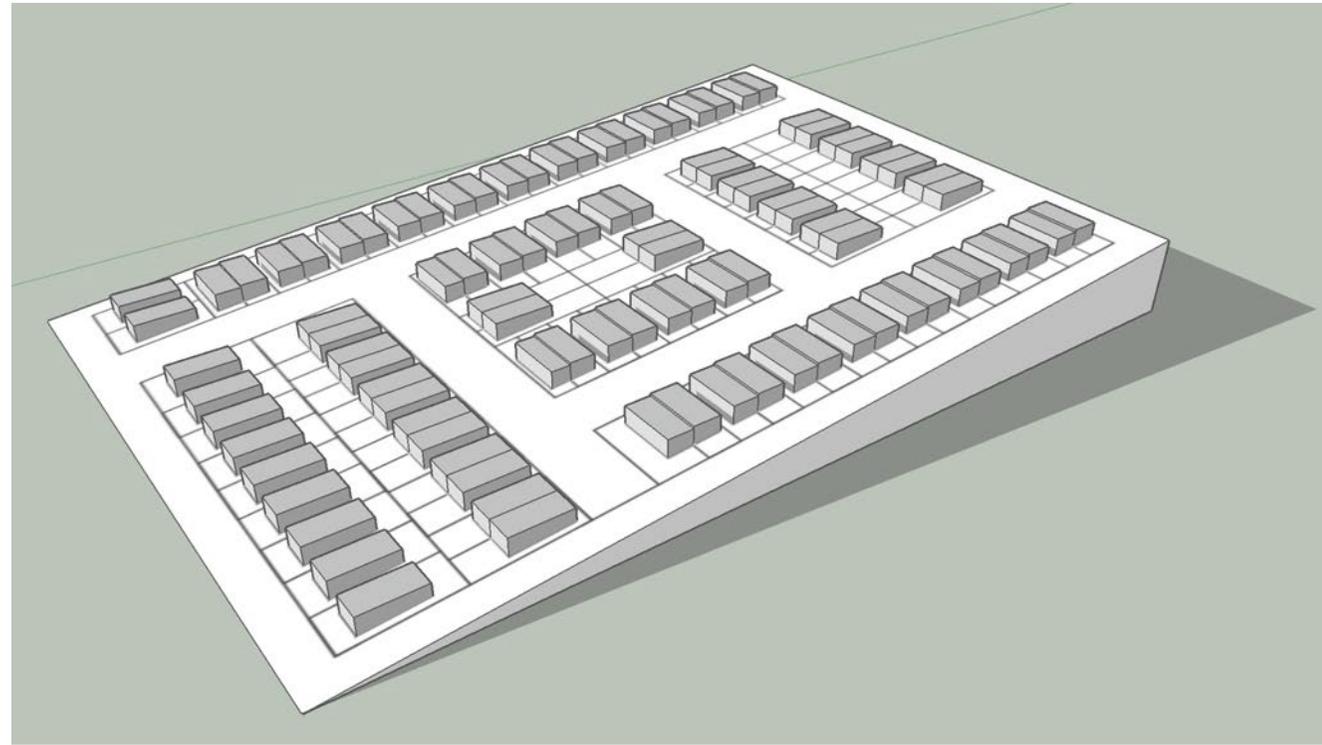
**Figure 6.** Spatial syntax of the tissue

A rule dictates that the ground floor be built entirely above ground. Due to the natural slope of the land in the area, the buildings are raised relative to the elevation of the street, and they sit on semi-basements.

### The streetscape

The streets have sidewalks and are lined up with trees on both sides. The front setbacks are adorned with small landscaped gardens in which lawns, shrubs and flower beds alternate. Dense shrub beds generally hide the partially aboveground foundation wall. The framing of the public-collective space is ensured by a tight semi-detached built fabric, composed of buildings presenting a partially aboveground foundation wall and two aboveground storeys onto the street.

The access to the ground floor is achieved by a pathway leading to a flight of stairs and an external landing. A variant of this rule sees the access to



**Figure 7.** Three-dimensional theoretical model

one of the two adjoining buildings by the main door located on its lateral façade. When the entrance doors of semi-detached buildings are both located on the main façade, they are sometimes paired two-by-two, however. The general tendency is instead to the positioning of doors on the ends of the façade opposite to the party wall. When one of the two units has its main entrance door on the lateral wall, as a rule, the front door of the other housing unit is located near the party wall and, therefore, near the center of the composition of the twin street-facing façades.

Figure 8 shows section and siting layout views representative of the streetscape on Westmount Avenue, namely a settling route oriented northeast-southwest, generally parallel to the contour lines in the sector. The schematic cross-section presents a view towards the northeast.

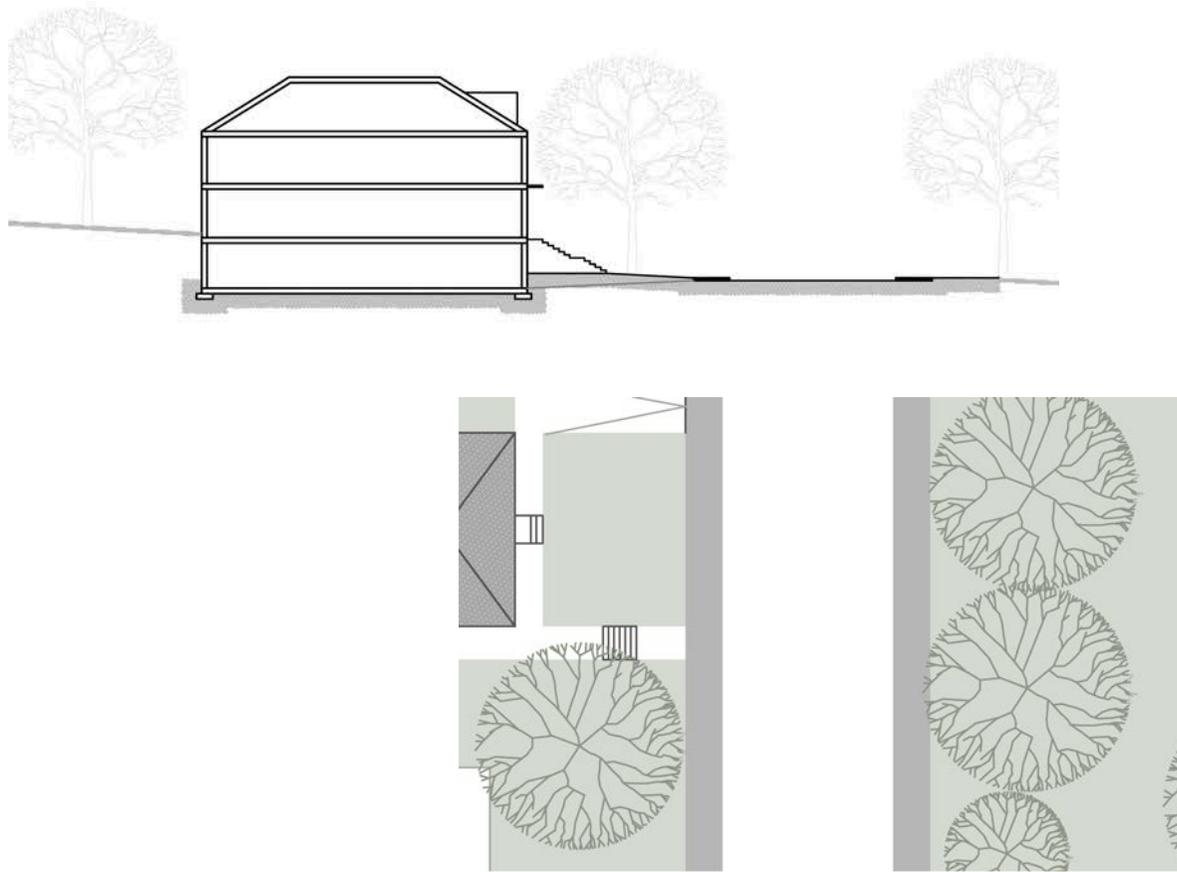
### Public-collective / private-domestic spaces

The streetscape strongly conditions the experience of users, while denoting the architectural identity of a place. Several physical and spatial features of the streetscape such as the setbacks, the elevation of the ground floor, height and positioning of the windows, projections and recesses in the façade, also assume an essential function of architecture, namely the mediation between public-collective space and private-domestic space.

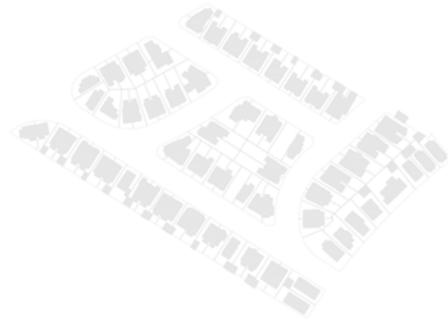
The physical and spatial features ensuring the mediation between said spaces in the landscape unit pertain to the presence of setbacks and the raising of the ground floor relative to the street elevation. The dwelling is therefore accessed by a pathway and an external staircase leading to an exterior landing, generally protected by a projecting roof, or more rarely by a concavity on the façade.

### Composition of the residential building stock

Figures 9, 10 and 11 illustrate the spatial distribution of residential buildings according to the number of dwellings per building, their number of floors, as well as their mode of aggregation, namely their belonging to the semi-detached or detached categories respectively. The landscape unit is entirely composed of single-family buildings, almost all of which have two storeys above ground (98.9%). A clear majority of buildings conform to semi-detached (82.1%) and detached modes of aggregation (17.9% detached). The latter group is mainly concentrated on Westmount Avenue.

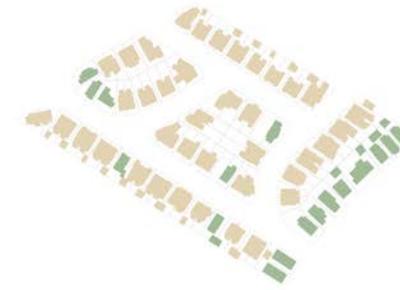


**Figure 8.** Typical section and siting layout views on a settling route (Westmount Avenue, view towards the northeast)



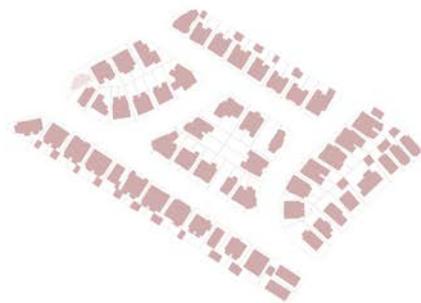
1 dwelling

Figure 9. Spatial distribution of the dwelling units per building



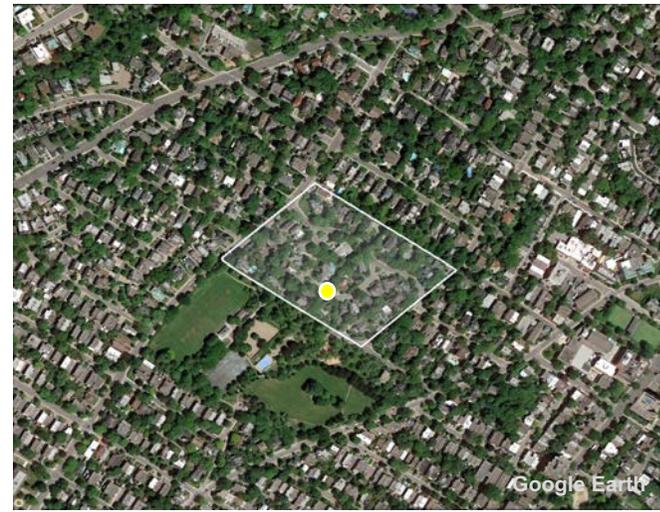
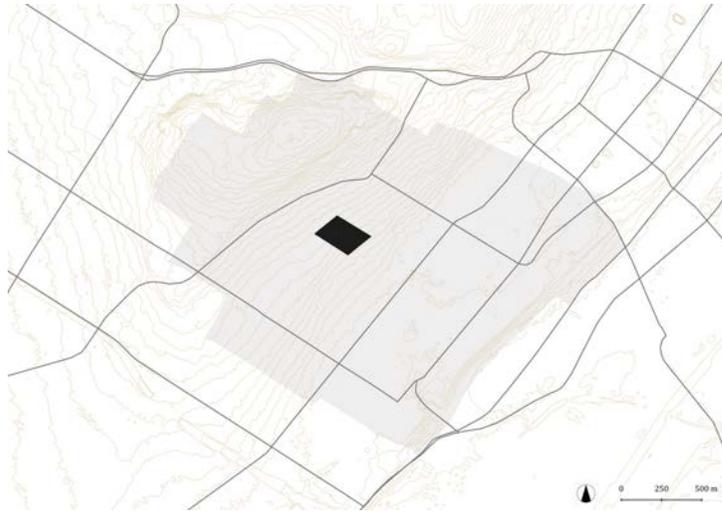
Detached buildings  
Semi-detached buildings

Figure 11. Spatial distribution of buildings according to their mode of aggregation



2 stories  
1 story

Figure 10. Spatial distribution of buildings according to their number of floors



## Landscape unit 8

Analytical fact sheet

### Location

Landscape unit 8 is located southwest of the Westmount Summit on the foothills of the latter. It is bordered to the southeast by Montrose Avenue, thence clockwise, by King George Park, then, on the northwestern side, by Westmount Avenue and finally, to the northeast, by the allotment parting line behind the properties on the said side of Forden Avenue.

### Brief description

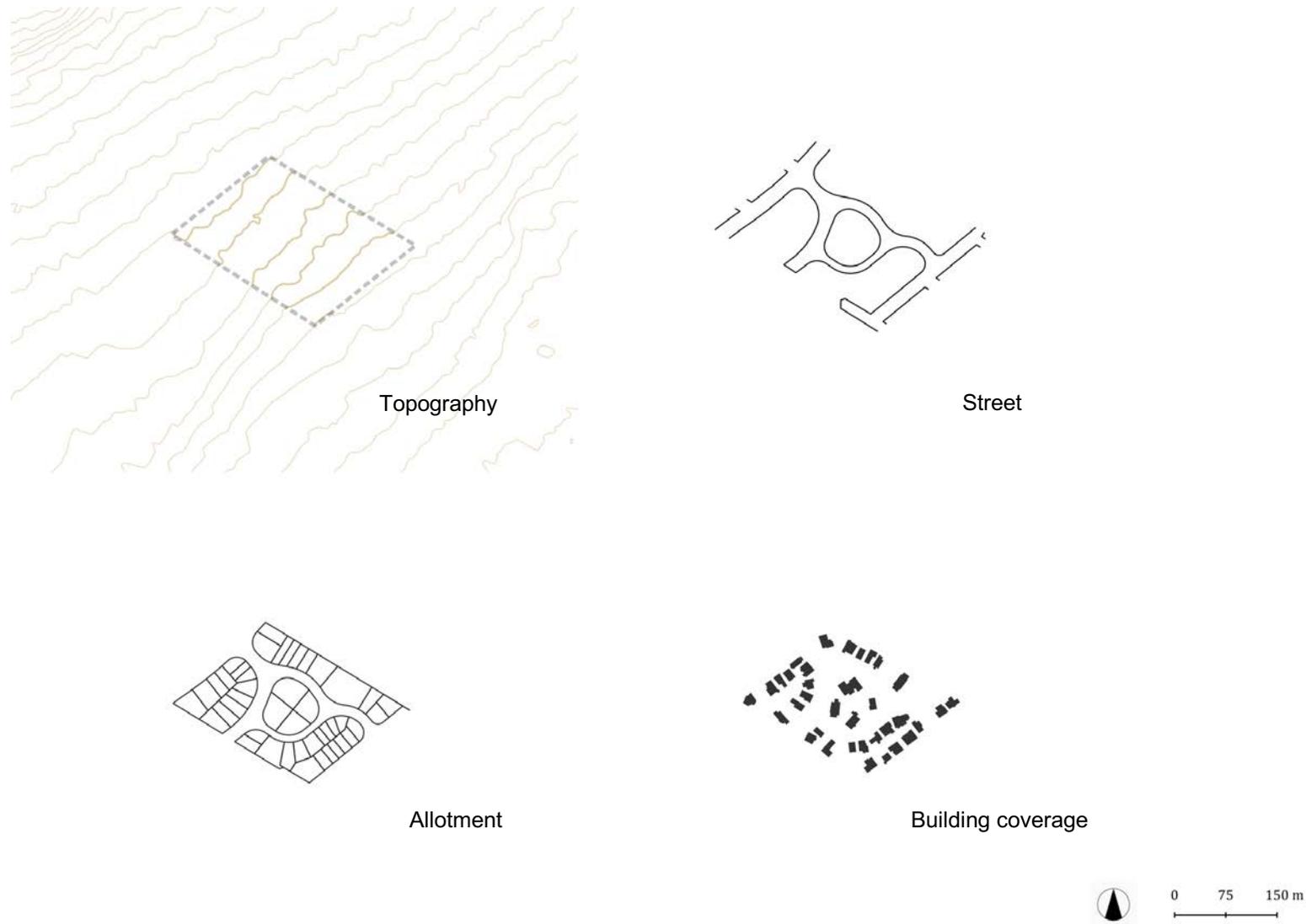
Spanning 4.39 ha, this landscape unit is composed of 37 housing units. The residential housing stock is made up, with one exception, of single-family buildings, producing a gross residential density of 8.4 dwellings per hectare and a net density of 12 dwellings/ha.

### Subsystems of the tissue

Unit 8 presents a slope descending towards the southeast, which varies from medium to steep, producing an average inclination of 5.73°. The street network is curvilinear, delimiting non-orthogonal urban blocks of variable dimensions



Figure 1. Landscape unit 8



**Figure 2.** Subsystems of the tissue

and orientation. The highly irregular allotment consists of lots of various sizes and configurations, though often trapezoidal. The residential building coverage is made up mostly of detached buildings and a few semi-detached buildings.

**Routes hierarchy**

All routes of the landscape unit are of the settling route type, intended from their inception to carry lots that have their address on them.

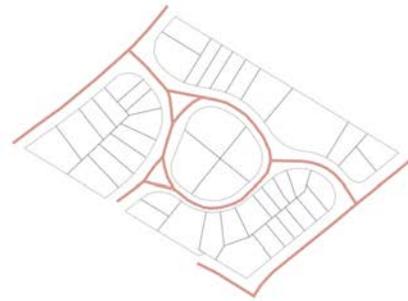
**Spatial syntax of the tissue**

The landscape unit is characterized by a majority of single-family residential buildings (97.2%) with two aboveground floors (97.2%), whose mode of aggregation is detached (91.7%) or semi-detached (8.3%) (see Figures 8, 9 and 10).

The unit extends on a slope of varying intensity descending towards the southeast. Aside from the pertinent strip located on the northeastern side of Forden Avenue, the settling routes are generally deployed in parallel to the contour lines. Such a configuration lessens the impact of the slope while facilitating the siting of the buildings. Though the average intensity of the slope does not call in itself for a curvilinear street network, such a layout can be seen as an adaptation strategy that facilitates the development of the sector. The lots vary significantly in size and configuration but are generally deeper than they are wide onto the street. As a rule, the buildings are deployed lengthwise along the longitudinal direction of their lots (Figures 5 and 6).

Along the settling routes that extend parallel to the contour lines, the trend is to position the buildings towards the upper part of their respective lots. As a general rule, the ground floors should be built entirely above ground. It ensures that on lots whose slope descends towards the street, the level of the ground floors is significantly raised compared to the elevation of the street. Conversely, on lots whose slope descends towards the courtyard, the ground floors are generally at grade relative to the street level, while resting on basements that are partially or totally exposed on the back, thus creating a rez-de-jardin.

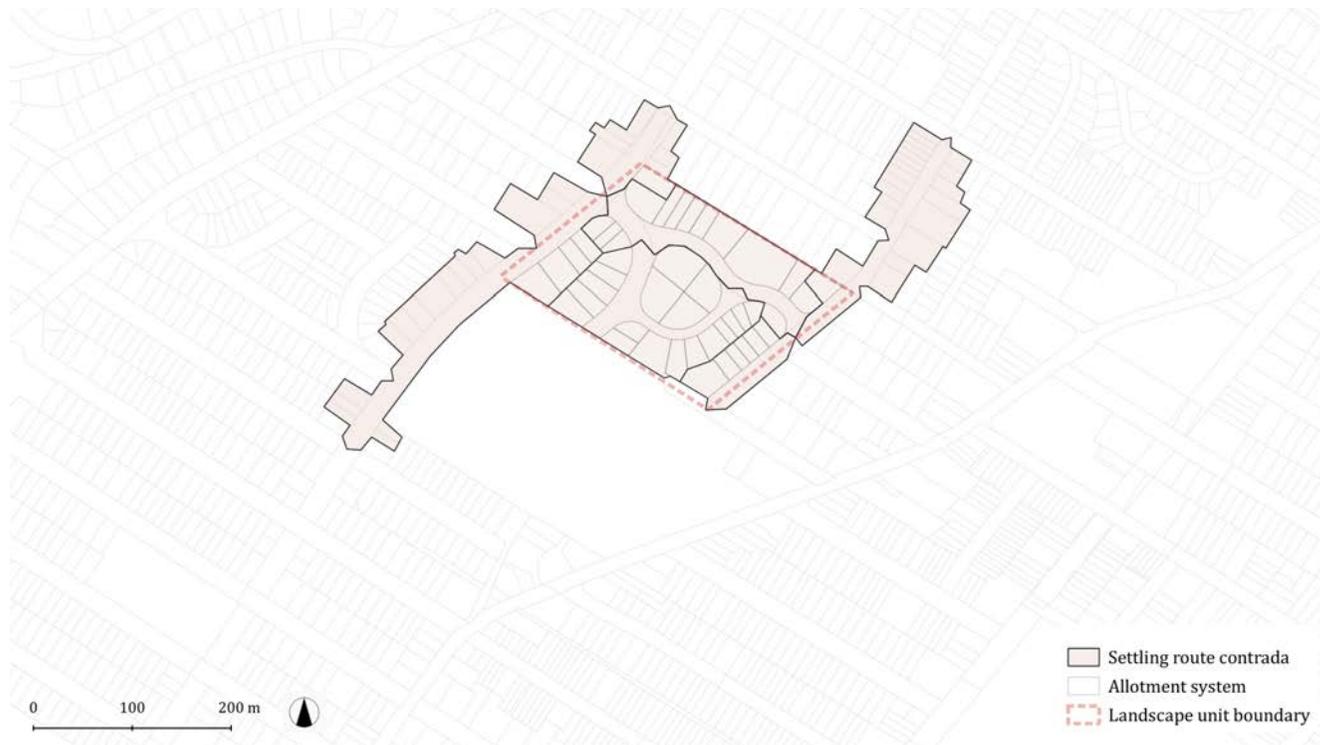
On the street, such conditions are associated with an asymmetry of the front setbacks on either side of these streets, so that units facing the northwest generally have a smaller front yard than buildings oriented towards the southeast. Regarding the lateral setbacks, two cases can be observed, on narrow and wider lots, respectively. A majority of



— Settling route  
 □ Allotment system



**Figure 3. Route hierarchy**



■ Settling route contrada  
 □ Allotment system  
 - - - Landscape unit boundary

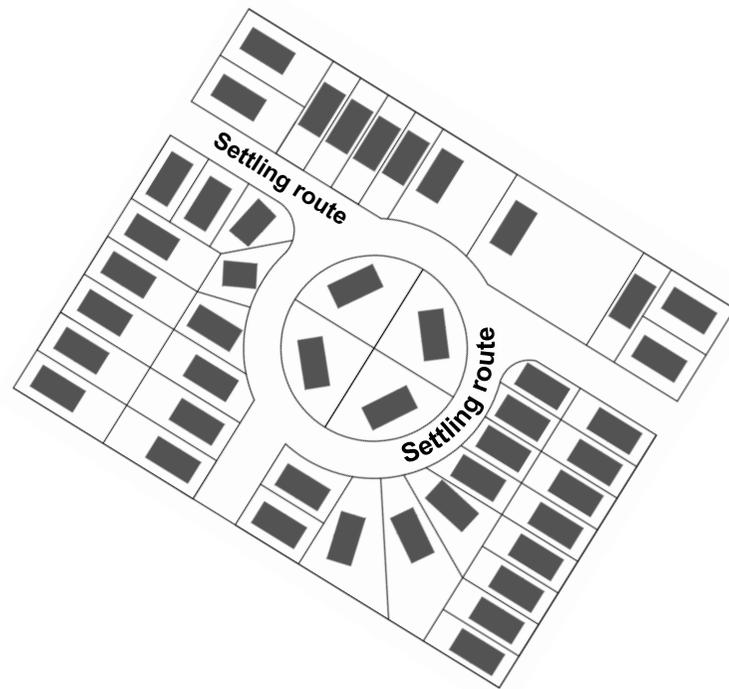
**Figure 4. Face-block (Contrada) Structure**

the buildings of the unit are deployed on narrow lots. Among these are semi-detached buildings that share a party wall with an adjoining building and a small lateral setback with the adjacent building on the opposite side. Some narrow lots accommodate detached buildings that have minimal lateral setbacks of around 3 to 5 meters as a consequence.

The second case pertains to lots that are wider onto the street than they are deep. The latter can display a width onto the street that is two or three times the width of the narrow lots, and sometimes more. In such cases, the buildings, which are all in the detached single-family category, generally are wider onto the street than they are deep. Despite such a configuration, the latter buildings still have generous lateral setbacks.

Three buildings located on large lots stand out for their atypical siting arrangement. They all present one of their lateral façades to the street so that their noble façade is laid out perpendicular to the latter, thus facing a lateral property line. The main entrance is on the noble façade and accessed at the heart of the lot. The different conditions observed in this unit produce a low average lot coverage ratio of 0.26.

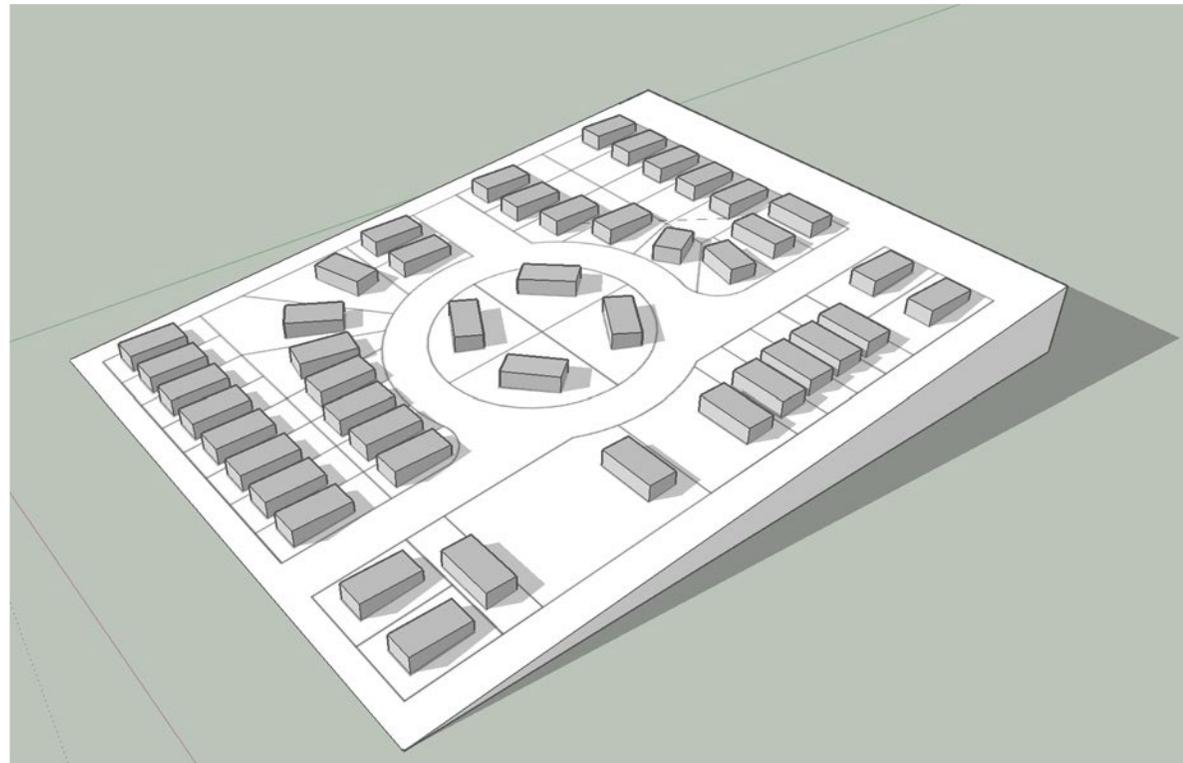
The norm is to the presence of interior garages located inside the main body of the building, in partially aboveground basements. The trend is to take advantage of the topography. In the case of buildings located on lots whose slope descends towards the street, access to the garage is generally at grade on a lateral or the front façade near the street. In the case of buildings located on lots whose slope descends towards the backyard, access to the garage is at grade from a lateral or the rear façade on the rez-de-jardin).



**Figure 5.** Spatial syntax of the tissue

**The streetscape**

The streets have sidewalks. The front setbacks, of very variable dimensions (5 to 15 m), are adorned with small landscaped gardens. There are two typical sets of conditions in this respect. On the narrow lots, the small gardens have lawn adorned with low shrub and flower beds, as well as mature trees. In the case of larger lots, there is generally a very dense shrub cover onto the street, which is masking the presence of the building from the street. Consequently, the framing of the public-collective space is ensured either, in the case of narrow lots, by a tight built fabric composed of buildings of the detached or semi-detached types, presenting two floors above ground onto the street, in addition to the partially aboveground foundation wall, or by a densely wooded garden on most spacious lots. As mentioned earlier, the tendency to locate buildings on the highest side of their lot produces an asymmetrical streetscape in sectors where the street segments extend parallel to the



**Figure 6.** Three-dimensional theoretical model

contour lines.

Figure 7 shows section and siting layout views representative of the streetscape in the unit. In this case, these are schematic representations of conditions observable on Forden Avenue, a settling route that generally extends parallel to the contour lines in the sector.

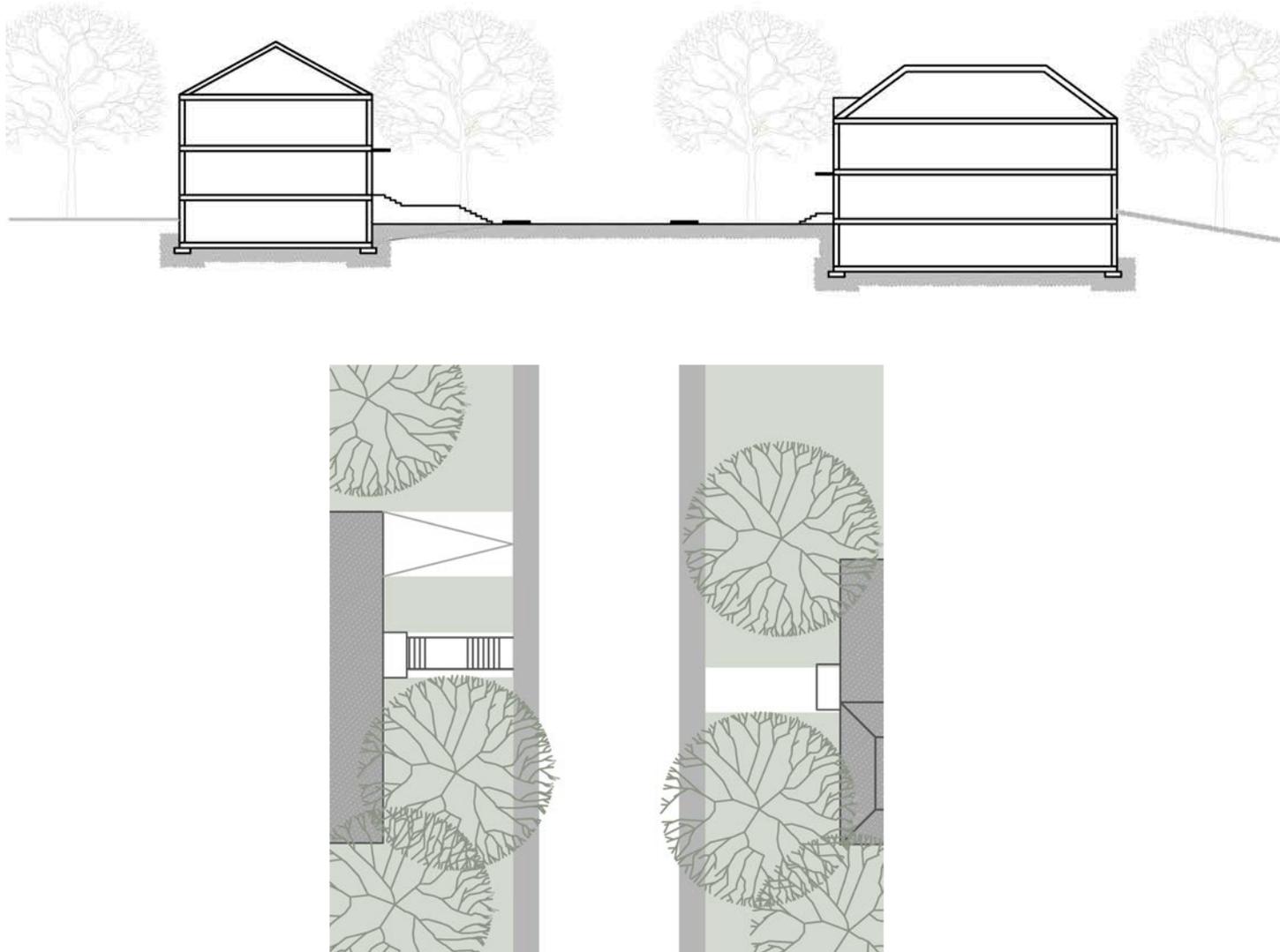
**Public-collective / private-domestic spaces**

The streetscape strongly conditions the experience of users, while denoting the architectural identity of a place. Several physical and spatial features of the streetscape, including the setbacks, the elevation of the ground floor, the height and positioning of the windows, projections and recesses in the façade, and the vegetation also assume an essential function of architecture, namely the mediation between public-collective space and private-domestic space.

The physical and spatial features ensuring the mediation between the public-collective space and the private-domestic space in the landscape unit are sharply contrasted. They pertain to the presence of setbacks, to the raising of the ground floor, as well as to the presence of vegetation.

To the exception of the rare cases of buildings whose noble façade is deployed perpendicular to the street, the front setbacks are a pretext for small landscaped gardens. The unit is no exception to this rule, access to the residences is via an alleyway leading to the main entrance door generally located on the front façade, although there are several cases of buildings which are accessed from the lateral façade.

However, there is a significant difference on both sides of the segments deployed parallel to the contour lines. Buildings located on lots whose slope descends towards the street generally have more generous setbacks and a higher elevation of



their ground floor compared to street level. They are therefore accessed by an alleyway and an external staircase leading to an external landing. As for the buildings located on lots with the slope descending towards the backyard, these are built at a shorter distance from the street than their opponents. The rule also requires that their ground floor level be almost the same as the elevation of the street so that they are accessed from the street at grade or by minimal steps. Buildings sited high, and further back on their lot generally have denser and more elaborate landscaping, including retaining walls and terraces when the topography obliges.

### Composition of the residential building stock

Figure 8, 9 and 10 show the spatial distribution of the residential building according to the number of dwellings per building, their number of floors, and their mode of aggregation, namely their belonging to the detached or semi-detached categories in this unit. The landscape unit is characterized by a very strong preponderance of single-family buildings (97.2%) with two aboveground floors (97.2%), and a vast majority of detached buildings (91.7%) and a few semi-detached buildings (8.3%).

The unit does not show any particular spatial trend concerning the distribution of buildings relative to their architectural characteristics.

Figure 7. Typical section and siting layout views on a settling route



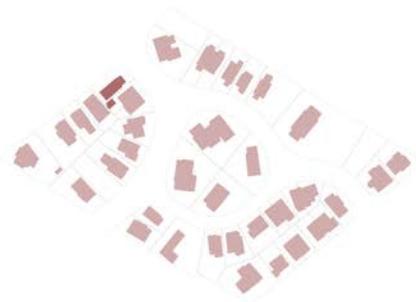
■ 2 dwellings  
■ 1 dwelling

**Figure 8. Spatial distribution of the dwelling units per building**



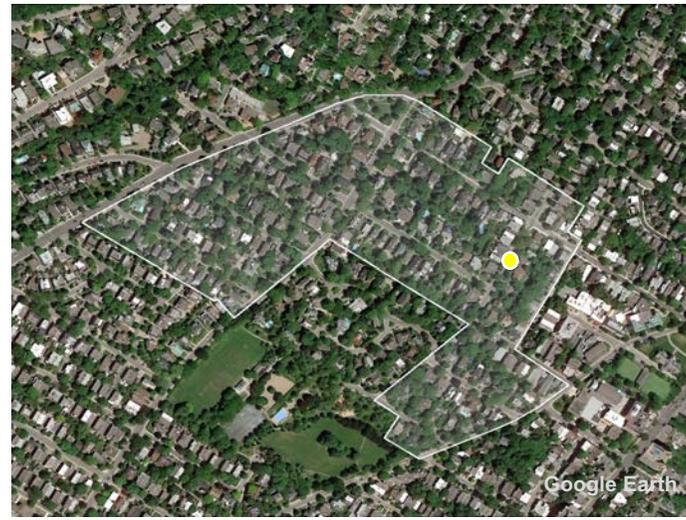
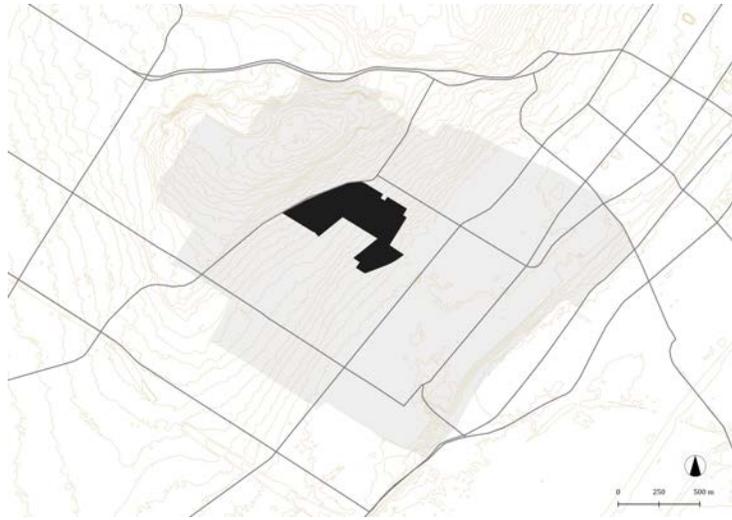
■ Detached buildings  
■ Semi-detached buildings

**Figure 10. Spatial distribution of buildings according to their mode of aggregation**



■ 3 stories  
■ 2 stories

**Figure 9. Spatial distribution of buildings according to their number of floors**



## Landscape unit 9

Analytical fact sheet

### Location

Landscape unit 9 is located southwest of the Westmount Summit. It is bordered to the southeast by Côte-Sainte-Antoine Road, thence, clockwise, by the allotment parting line located behind the properties on the southwestern side of Murray Avenue and part of King George Park, then by Montrose Avenue to the northwest, thence by the allotment parting line behind the properties on the southwestern side of Aberdeen Avenue, then by Westmount Avenue along the latter in a western direction, then by the allotment parting line behind the properties located on the southwestern side of Carleton Avenue, then to the northwest by The Boulevard, on the northeastern side by the allotment parting line behind the properties located on the said side of Argyle Avenue, and finally, by Thornhill Avenue on the southeastern side, and Church Hill Avenue up to Côte-Sainte-Antoine Road.

### Brief description

Spanning 19.31 ha, this landscape unit is composed of 210 housing units as well as a park (Argyle) and a worship temple (St Matthias)

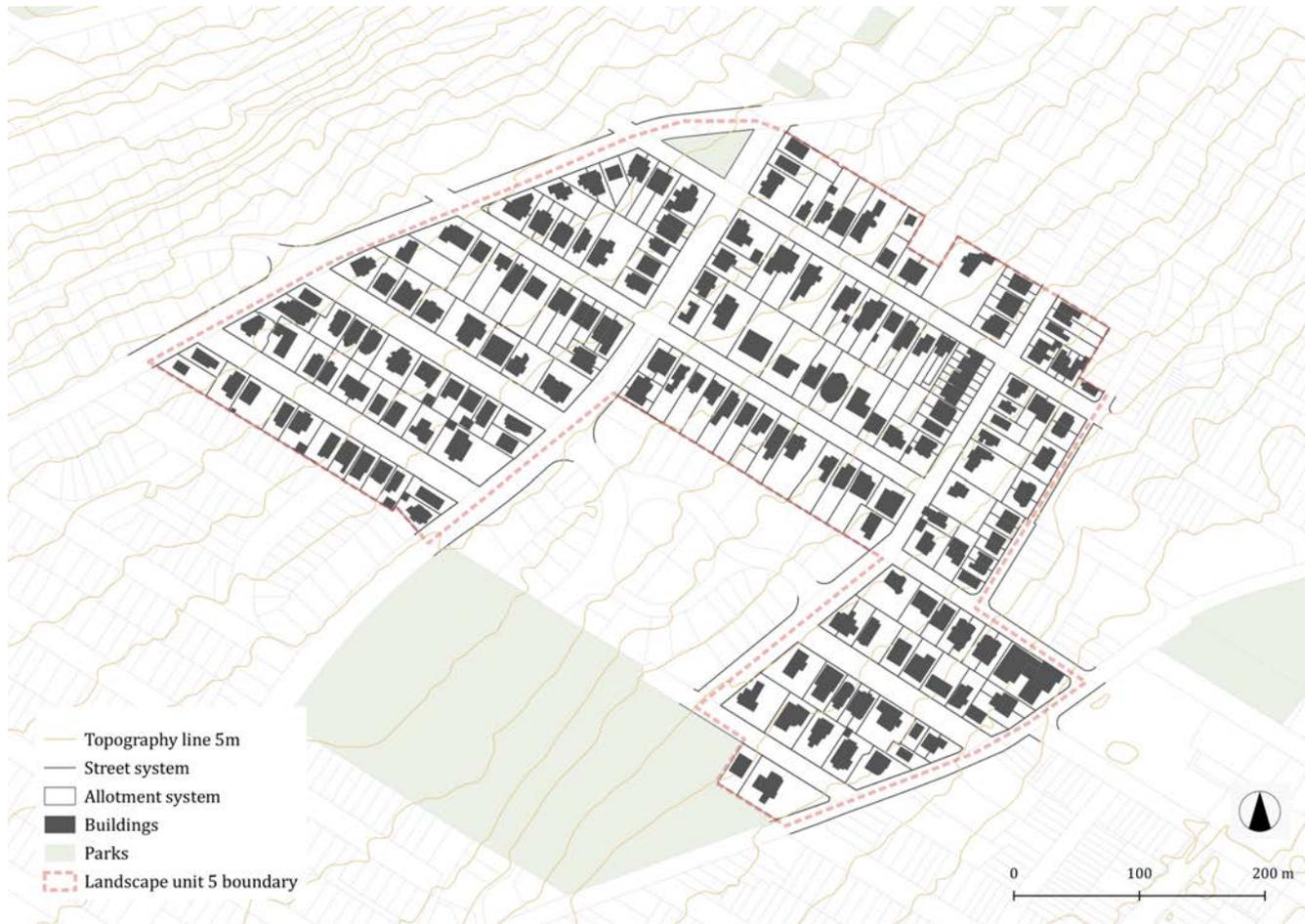
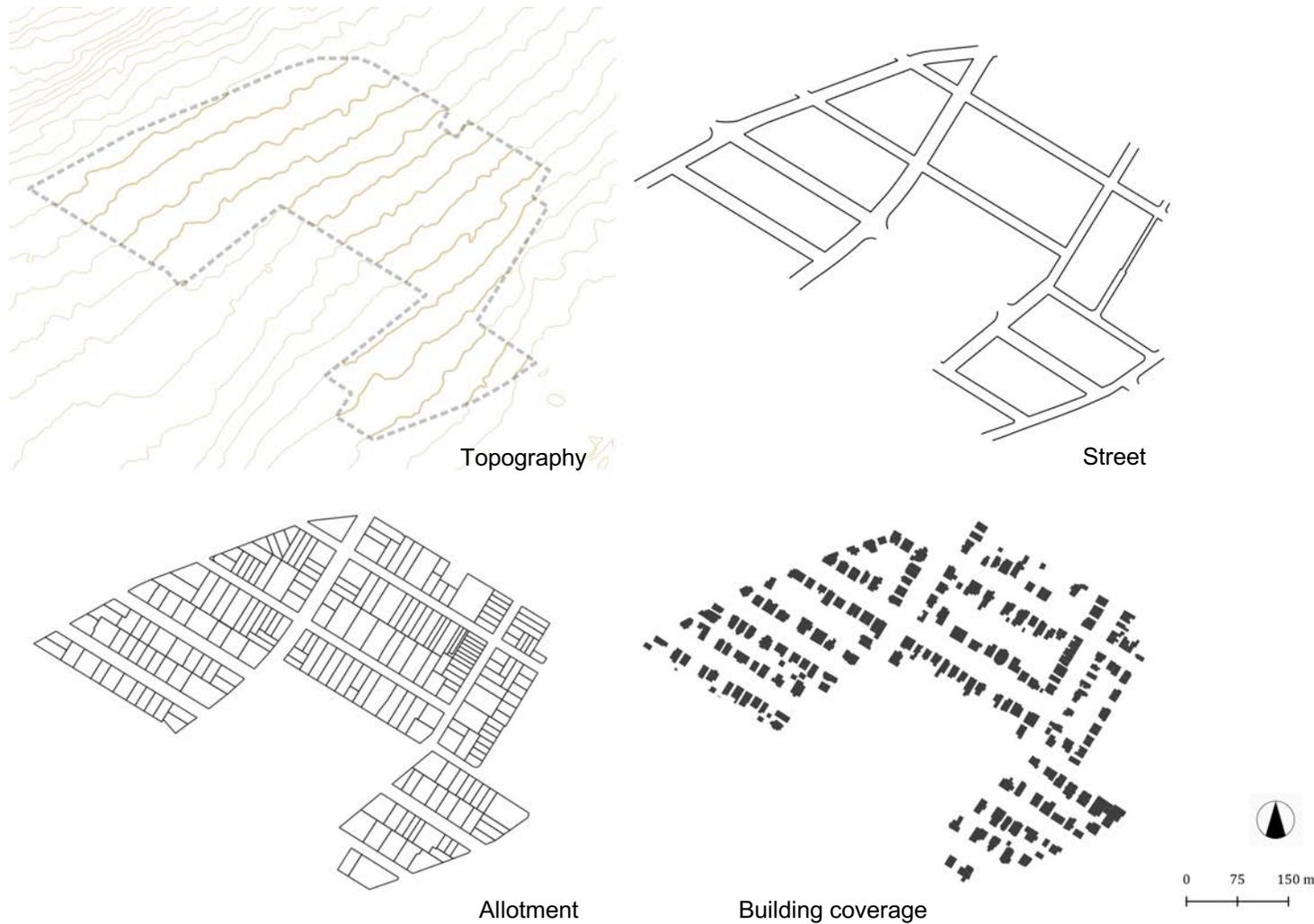


Figure 1. Landscape unit 9



**Figure 2.** Subsystems of the tissue

Anglican Church). The residential building stock is almost exclusively made up of single-family buildings (99%), most of which are detached (59.6%), producing a gross residential density of 10.9 dwellings per hectare and a net density of 14.3 dwellings/ha.

**Subsystems of the tissue**

Unit 9 presents a slope of moderate intensity, descending to the southeast and producing an average inclination of 5.23 °. The street network is mostly orthogonal, delimiting urban blocks of variable length and size, oriented

northwest-southeast longitudinally, except for an urban block extending perpendicularly to this direction, between Thornhill Avenue and Montrose Avenue. The urban blocks are generally made up of four pertinent strips and composed of orthogonal lots of highly variable dimensions. Such variability is very unusual. The lots are all deeper than they are wide onto the street. Residential building coverage is almost exclusively made up of single-family buildings. A plurality of buildings is detached (59.6%). The rest is semi-detached (35.1%) or attached (5.3%). The buildings belonging to the latter two categories are concentrated in the eastern part of the unit, along Thornhill Avenue and Argyle Avenue.

**Routes hierarchy**

Figure 3 illustrates the categories of routes present in the landscape unit. Côte-Sainte-Antoine Road serves as a matrix route for the tissue. All other route segments are settling routes. They are oriented either northwest-southeast, which corresponds to the longitudinal direction of most urban blocks or perpendicular to said general orientation. The Boulevard, like the matrix route, is an exception to the overall geometry. The Boulevard derives its position and configuration from topographic conditions. It runs at an almost constant altitude at the foot of a steep slope, which constitutes the upper limit of what should be called the foothills of the Westmount Summit. Côte-Sainte-Antoine Road, for its part, gently climbs the foothills, heading west.

*Specialized routes*

The landscape unit is served by a major thoroughfare, The Boulevard and Clarke Avenue, which connects the former to Dorchester Boulevard.

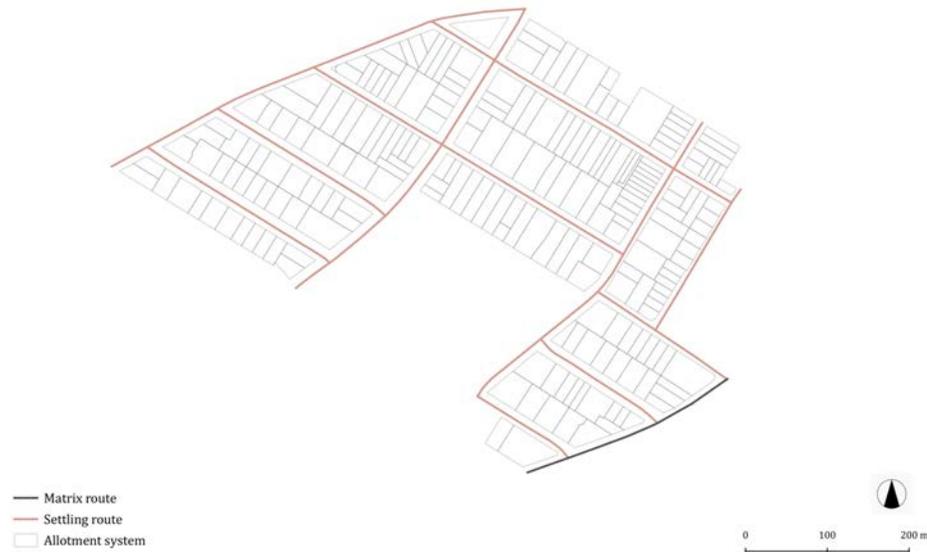


Figure 3. Route hierarchy

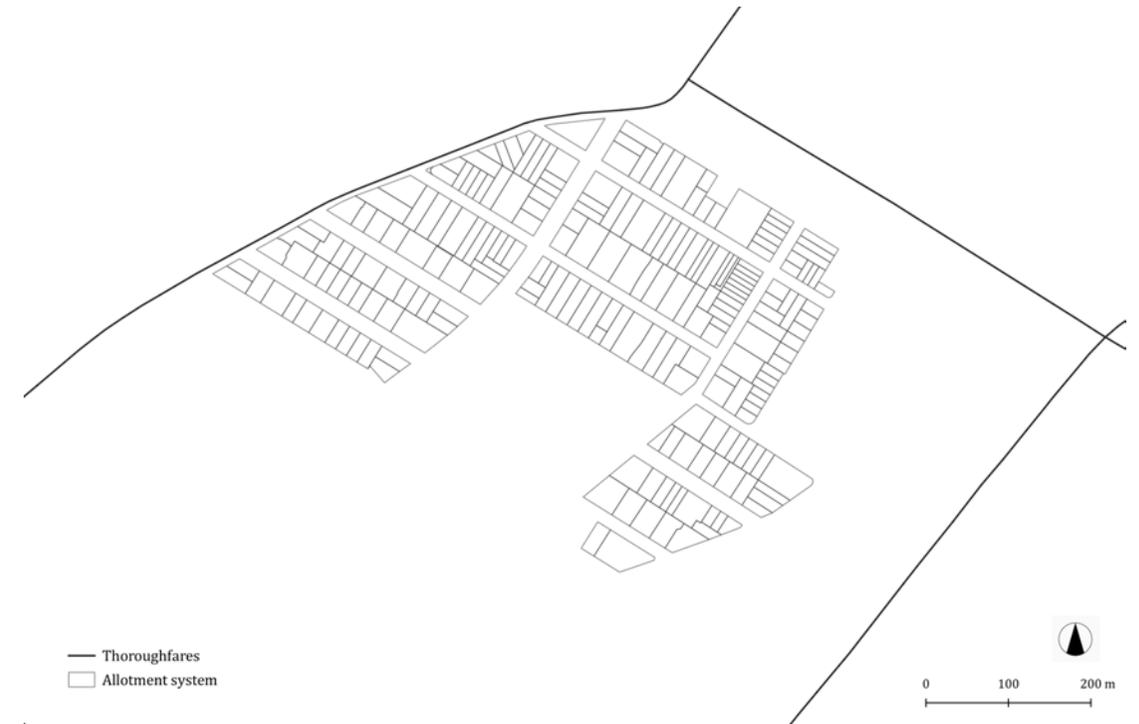


Figure 5. Specialized route

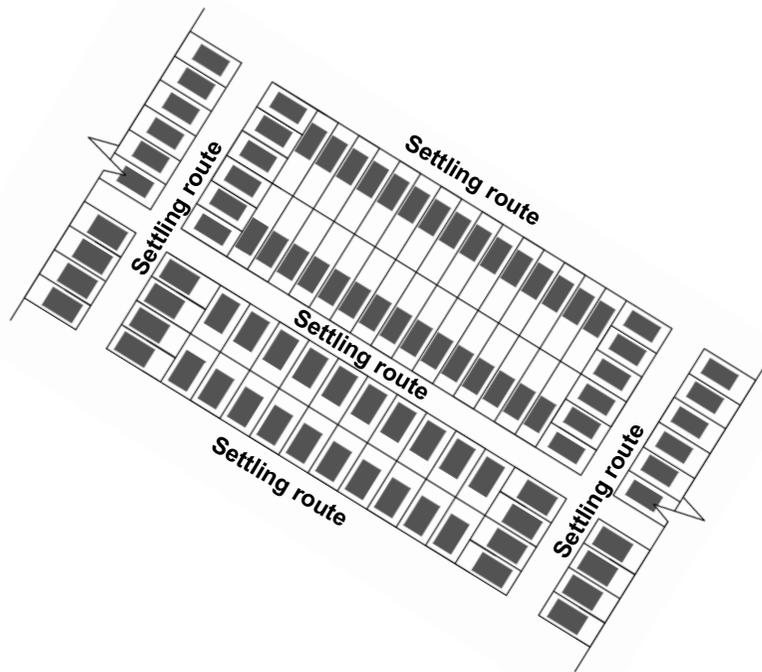


Figure 4. Face-block (Contrada) Structure

### Spatial syntax of the tissue

The building coverage is made up almost exclusively of single-family buildings (99%) with two storeys above ground (92.8%). The predominant modes of aggregation are detached (59.6%) and semi-detached (35.1%).

The map of the structure of the face-blocks (Figure 4) shows the tissue pattern associated with the composition and overall configuration of the street system. Despite lots of widely varying dimensions, the landscape unit derives its general character from the orthogonal geometry of its street network and the presence of well-constituted and symmetrical face-blocks both in the longitudinal and transverse directions of the urban blocks. In its general configuration, the unit conforms to the geometry inherited from the first agricultural division, oriented northwest-southeast, which gives the blocks their longitudinal direction. The heads of the blocks (têtes d'îlot), along the short side of the

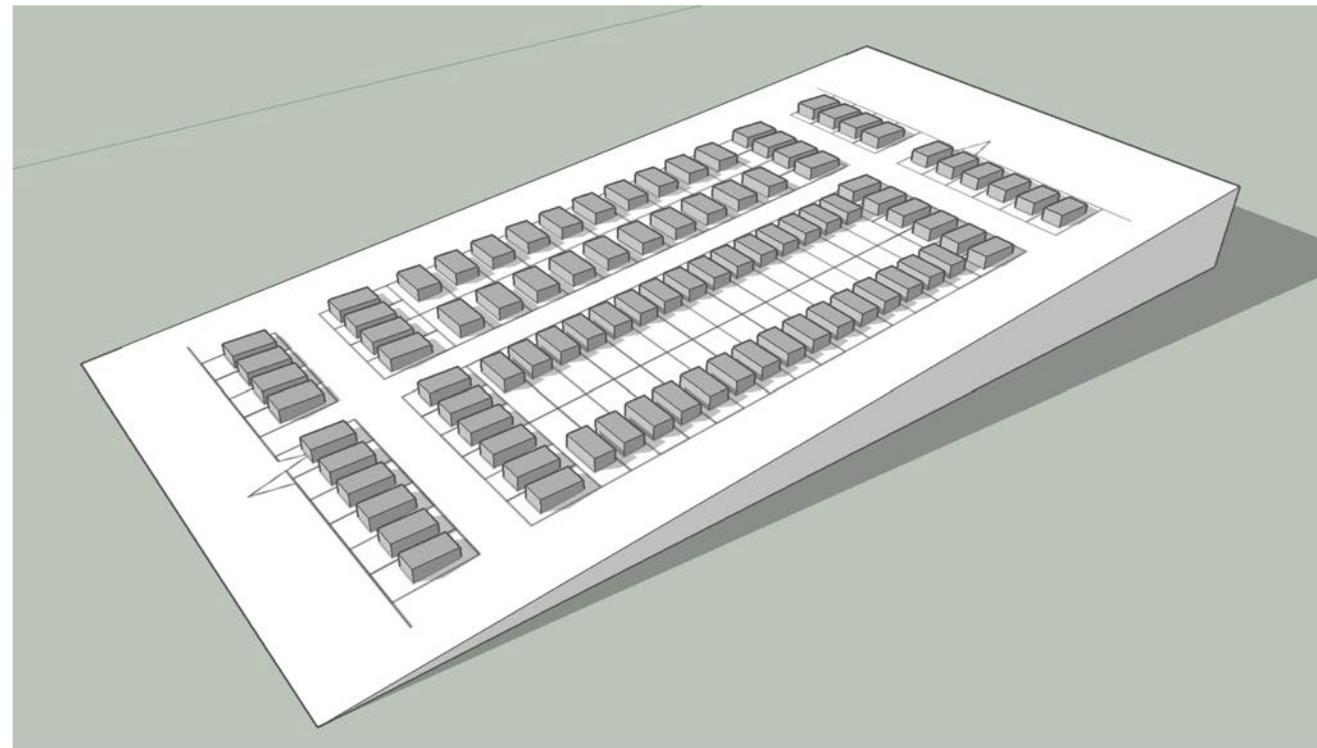


**Figure 6.** Spatial syntax of the tissue

latter, are therefore oriented northeast-southwest, parallel to the contour lines. The settling routes extending in the longitudinal direction of the urban blocks, therefore, climb the slope in a straight line.

A specific topographical condition could explain the atypical orientation of the urban block extending between Avenue Thornhill and Montrose Avenue. There is a steep incline on the southeastern side of this avenue. Stanton Street ends up in front of a retaining wall adjoining a public staircase leading to Thornhill Avenue. This slope could explain the orientation of the block framed by the latter avenue.

The architectural diversity observable in the landscape unit testifies to its prolonged initial construction phase. In addition to several buildings on Côte-Sainte-Antoine Road, the tight-grained urban tissue composed of attached buildings on the northwestern side of Montrose Avenue, as well as the one consisting of semi-detached buildings



**Figure 7.** Three-dimensional theoretical model

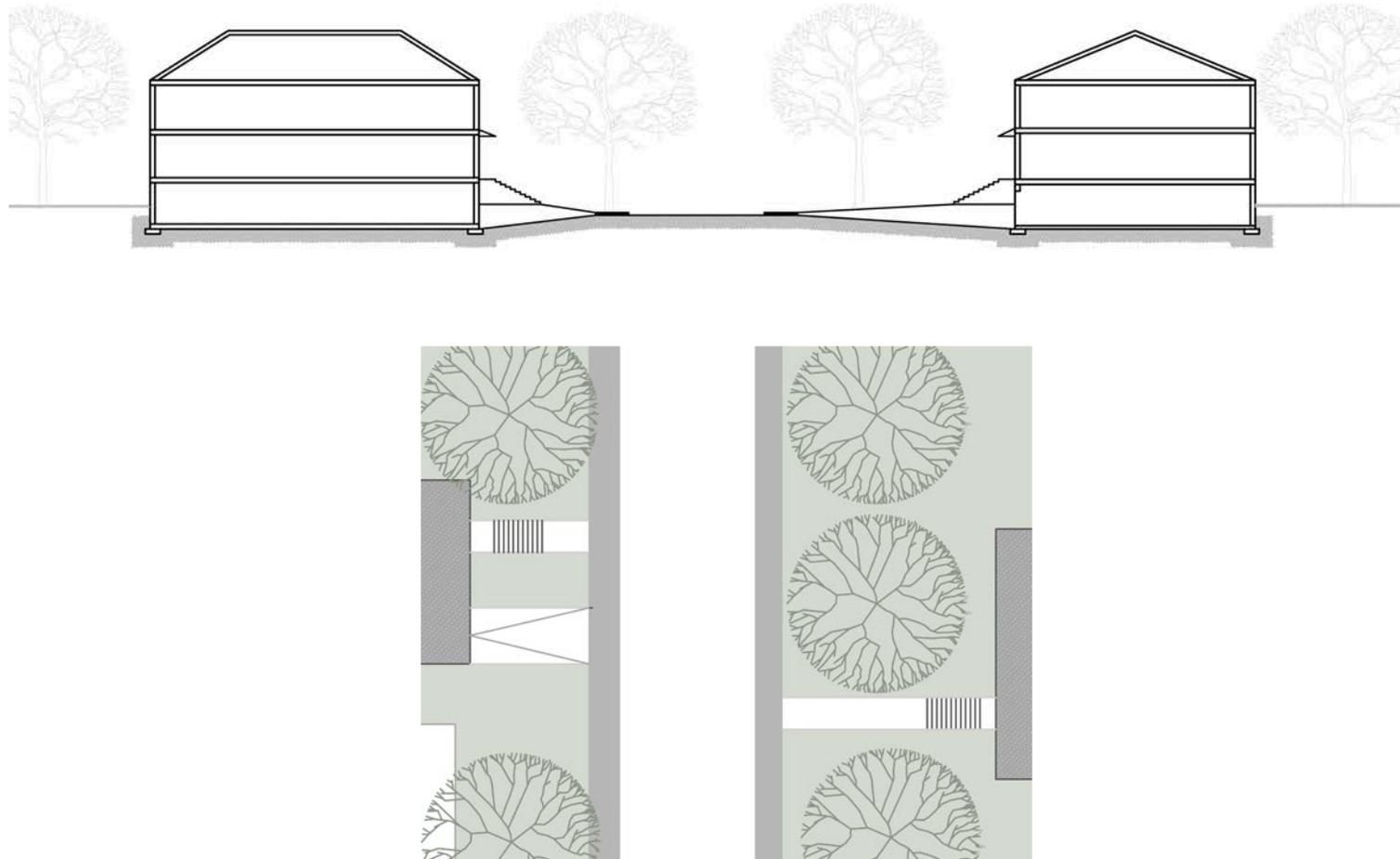
on the northwestern side of Thornhill Avenue, represents the oldest buildings. Though significant in size, these old and cohesive built aggregates are the exception rather than the rule in the unit.

Elsewhere, the building stock is varied. Buildings erected at different periods coexist in the same pertinent strips, which testifies to a long institutive phase. Such architectural eclecticism makes the task of identifying the syntactic rules of the tissue more challenging. The following rules can still be observed.

The urban blocks of orthogonal configuration carry lots that are narrower fronting the street than they are deep. The buildings reproduce a similar pattern. They are deployed lengthwise along the longitudinal direction of their respective lots. Narrow lots that carry semi-detached or detached buildings vary in depth but conform to street widths of either 35, 45 or 50 feet (10.6, 13.7 or 15.2 m, respectively), depending on the sector. A

dimensional variant consists of lots presenting twice such widths. All buildings conform to a front setback, which allows for the creation of small gardens neatly landscaped. These setbacks vary according to the sector (from approximately 3.5 to 5 and 8 m, respectively). Buildings housed on narrow lots have modest lateral setbacks on one side in the case of semi-detached buildings, or on both sides. Lots of lesser depth characterize the southwestern half of the landscape unit, at about 38 m (125 feet) than the lots on the northwestern half, that span up to some 53 m deep (175 ft). These varying conditions produce an average lot coverage ratio of 0.3 for the unit.

The vast majority of buildings have two floors above ground (92.8%). As a general rule, access is from the main façade, although a significant number of buildings have their primary access from a lateral façade. As a rule, the ground floor is built entirely aboveground relative to the natural slope of the land. Along the settling route, which



**Figure 8.** Typical section and siting layout views on a route (view towards the northwest)

climbs the slope perpendicular to the contour lines, the ground floor elevations raise accordingly, above the elevation of the street. In general, access to the main door requires an ascent of about one and a half to two meters. Curiously, there is no particular rule regarding the positioning of the entrance on the façade that would aim in particular to minimize the ascent. Thus, the doors are either located on the right side or the left side of the façade, regardless of the direction of the

slope.

The norm in the unit entails the presence of a garage, either in the form of a secondary building, or built directly within the body of the house. In the case of detached houses, the tendency is to position the driveway on the lower side of the lot, where a more generous lateral setback prevails, in order to take advantage of the slope to ensure level access to a garage located in the basement

from the side or rear façade. In rarer cases, underground garages are accessible directly from the main façade. These last cases affect buildings recently built or older buildings altered for this purpose. Both circumstances entail a significant alteration of the natural topography of the land, in order to provide access to the garage located in the basement. Such recent practices depart from the traditional approach, which seeks to adapt to the natural landscape and to minimize its transformation.

### The streetscape

The streetscape of this landscape unit is characterized by the prevalence of orthogonal streets producing well-framed visual perspectives. The streets are endowed with sidewalks and small gardens in which lawn, shrubs and flower beds alternate. Although there are some mature trees on the front, most of the dense canopy is relegated to the backyard. The framing of the public-collective space is ensured by semi-detached or detached type building fabric that is relatively tight, given the dominance of narrow lots accommodating buildings with two floors above ground onto the street in addition to the partially aboveground foundation wall. Figure 8 shows section and siting layout views representative of the streetscape in the landscape unit. These are schematic representations of conditions observable on Aberdeen Avenue. The schematic cross-section presents a view towards the northwest.

### Public-collective / private-domestic spaces

The physical and spatial features ensuring the mediation between the public-collective space and the private-domestic space in the landscape unit, pertain principally to the presence of setbacks and the elevation of the ground floor. The latter is accessed by an alley and an external staircase leading to an external landing.



Figure 9. Spatial distribution of the dwelling units per building



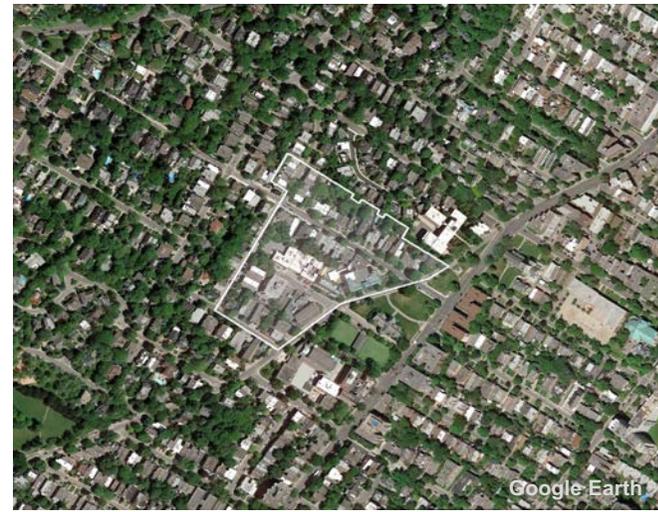
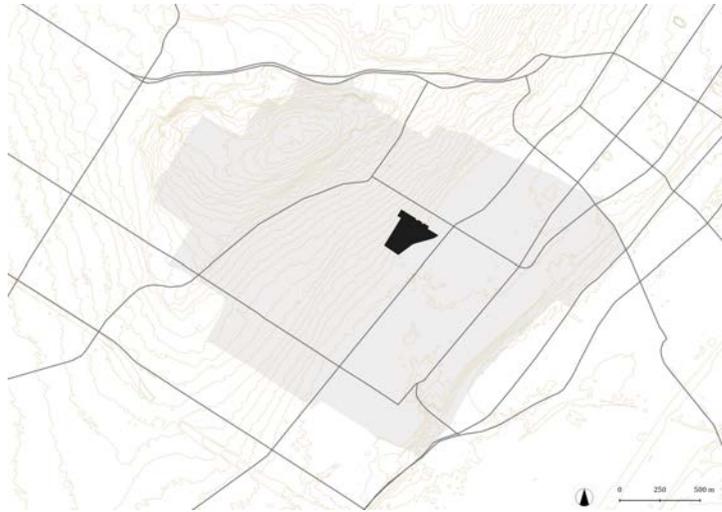
Figure 11. Spatial distribution of buildings according to their mode of aggregation



Figure 10. Spatial distribution of buildings according to their number of floors

### Composition of the residential building stock

Figures 9, 10 and 11 illustrate the spatial distribution of residential buildings according to the number of dwellings per building, their number of floors as well as their mode of aggregation, namely their belonging to the detached, semi-detached and attached categories respectively. The landscape unit is characterized by a very high preponderance of single-family buildings, that generally present two aboveground floors (92.8%). The rest of the stock is dividing equally between one and three-storey buildings, respectively. Semi-detached and attached buildings are concentrated in the northeast portion of the unit.



## Landscape unit 10

Analytical fact sheet

### Location

Landscape unit 10 is located southwest of the Westmount Summit on the foothills of the latter. It is bordered to the southeast by Côte-Sainte-Antoine Road, thence, clockwise, by Church Hill Avenue on the southwestern side, then on the northwestern side by Thornhill Avenue and finally, to the northeast, by the allotment parting line located behind the properties on the said side of Argyle Avenue.

### Brief description

Spanning 4.39 ha, this landscape unit is composed of 98 housing units, a school campus (Selwyn House) distributed in two main buildings, and an administrative building hosting a police station and barracks of the Montréal fire safety service. The residential housing stock is made up of single-family buildings (72.9%), duplexes (18.8%), triplexes (6.3), in addition to a multi-unit building. Such composition produces a gross residential density of 22.3 dwellings per hectare and a net density of 27.6 dwellings/ha.



Figure 1. Landscape unit 10



**Figure 2.** Subsystems of the tissue

**Subsystems of the tissue**

Unit 10 presents a slope that varies from moderate to steep. It descends in the southeast direction and produces an average inclination of 5.23 °. The street network is mostly orthogonal, delimiting urban blocks that are oriented northwest-southeast

longitudinally. A remarkable feature of the tissue is observable on Stanton Street. This cul-de-sac faces an impressive retaining wall to the northwest. These earthworks have altered the very steep natural topography of the sector. The structure incorporates a public staircase that climbs some 10 meters to give access to Thornhill Avenue. This

landscape unit is notable due to the relative importance of its specialized tissues. Those are centred on Stanton Street, a route that also hosts a six-story multi-unit residential building. This apartment building is an exception in the unit, which is characterized instead by a tight built fabric composed of attached (47.1%) or semi-detached (45.1%) single-family and two-family buildings.

**Routes hierarchy**

Figure 3 illustrates the categories of routes present in the landscape unit. Côte-Sainte-Antoine Road is a matrix route for the tissue. The other routes are all settling routes. Argyle and Church Hill avenues are oriented perpendicular to the matrix route and extend from the latter in the northwest-southeast direction. Stanton Street, which is of more recent creation, is similarly oriented. Thornhill Avenue runs perpendicular to the previous settling routes. It overlooks Stanton Street from some 10 meters above that street's elevation.

*Specialized routes*

The landscape unit is located nearby Sherbrooke Street West, a major thoroughfare deployed in the northeast-southwest direction.

**Spatial syntax of the tissue**

The topography strongly marks the tissue of the unit. Côte-Sainte-Antoine Road, which is the extension of the older part of current Sherbrooke Street West, runs at the foot of the slope at first before starting its slow ascent of the foothills towards the west. As expected from a matrix route, a majority of lots and buildings have their address on it. Such is the case on the northwestern side of Sherbrooke Street. For its part, the opposite side presents triangular urban blocks accommodating parks and hosting Westmount City Hall, respectively. The City Hall's main façade is positioned in order to close off the perspective of Sherbrooke Street West when seen from the southeast.

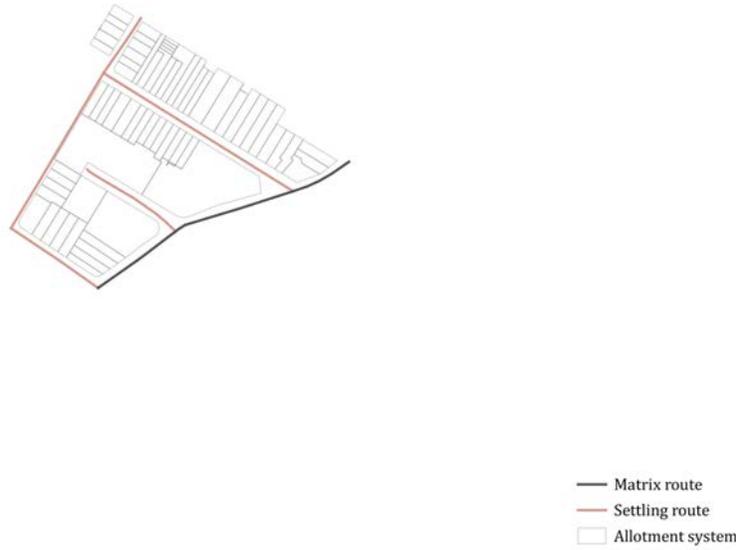


Figure 3. Route hierarchy

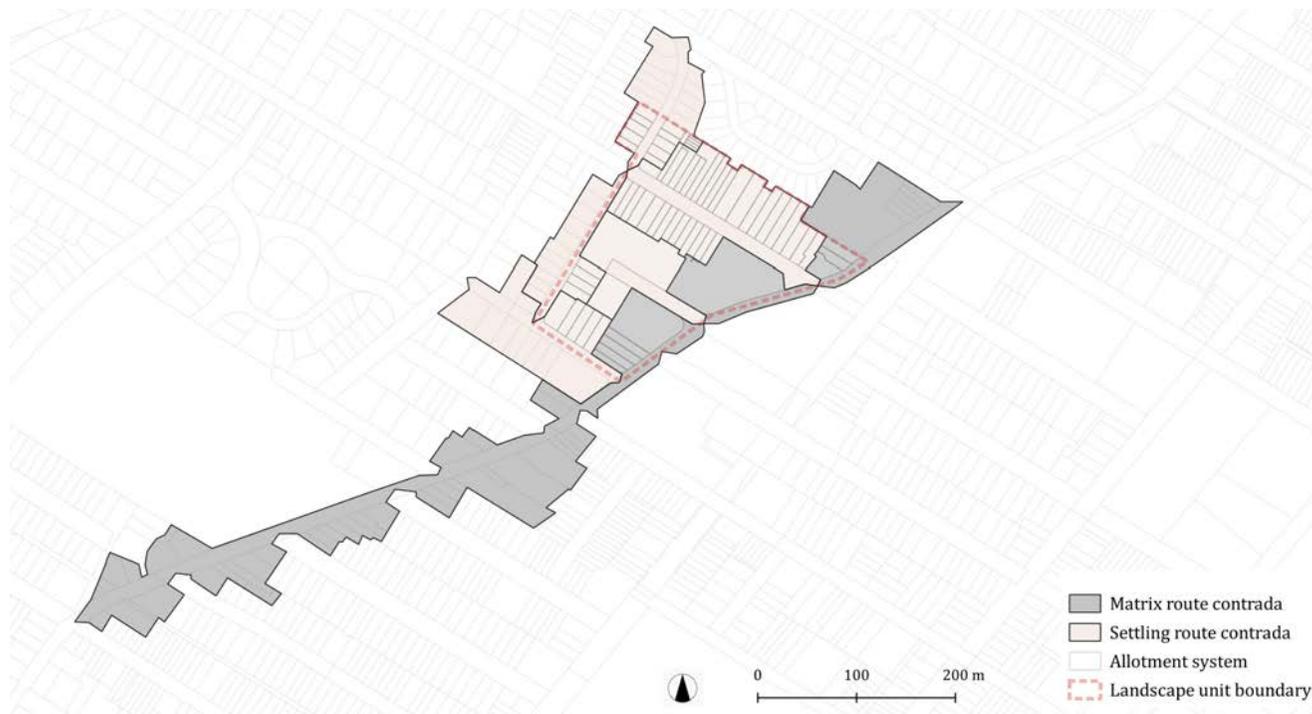


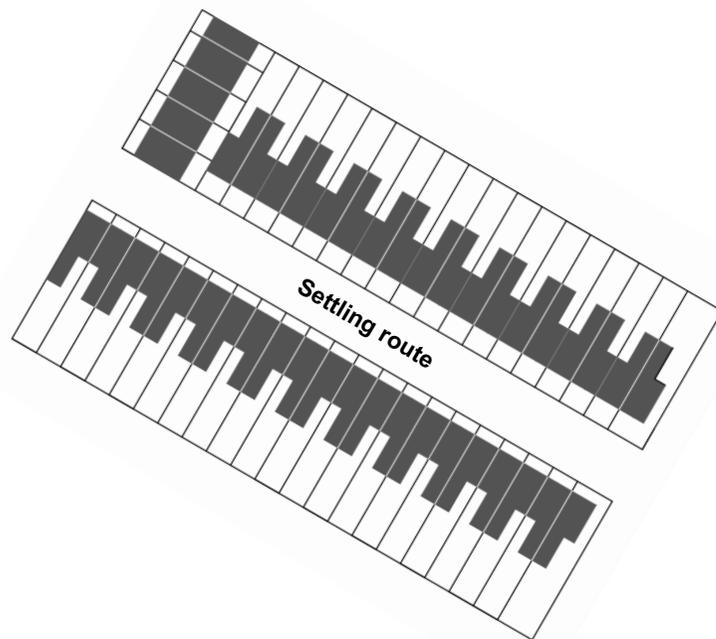
Figure 4. Face-block (Contrada) Structure

The Argyle and Church Hill settling routes are deployed perpendicular to Côte-Sainte-Antoine Road, the matrix route. They serve buildings and lots of their own beyond the allotment parting line of Côte-Sainte-Antoine Road pertinent strips. Argyle and Church Hill climb the slope of the foothills. Orthogonal lots, narrow onto the street, are deployed perpendicular to the routes lengthwise. Buildings generally have two floors above ground. The buildings, deeper than they are wide, present "L"-shaped or rectangular configurations. They are laid out in-depth along the longitudinal axis of their respective lots while producing a tight-grain tissue. Thornhill Avenue, a settling route, is deployed perpendicular to the former. It displays similar architectural characteristics. Such general conditions produce a high average lot coverage ratio of 0.45.

### The streetscape

The streetscape of this landscape unit is characterized by the prevalence of orthogonal streets granted with sidewalks and framed, albeit discontinuously, by aligned trees. The framing of the public-collective space is ensured by a tight built fabric, made up of buildings presenting their two storeys and a partially aboveground foundation wall of variable heights onto the street. The front setbacks, of modest dimensions (typically 3 or 5 m), are adorned by small landscaped gardens in which lawn, as well as flower and shrub beds, adjoin driveways. The front yards present different configurations on lots serving semi-detached and attached buildings, respectively.

Semi-detached buildings share a party wall with an adjoining building and have a modest lateral setback on the opposite side. Said lateral margin adjoins an equivalent margin on the neighbouring property. Many of these margins are combined to accommodate a shared driveway giving access to outdoor parking spaces in the backyard, or garages. Such a configuration often implies the creation of a mutual right of way. The garages are located either in annex buildings or in the basement of the main building where they are



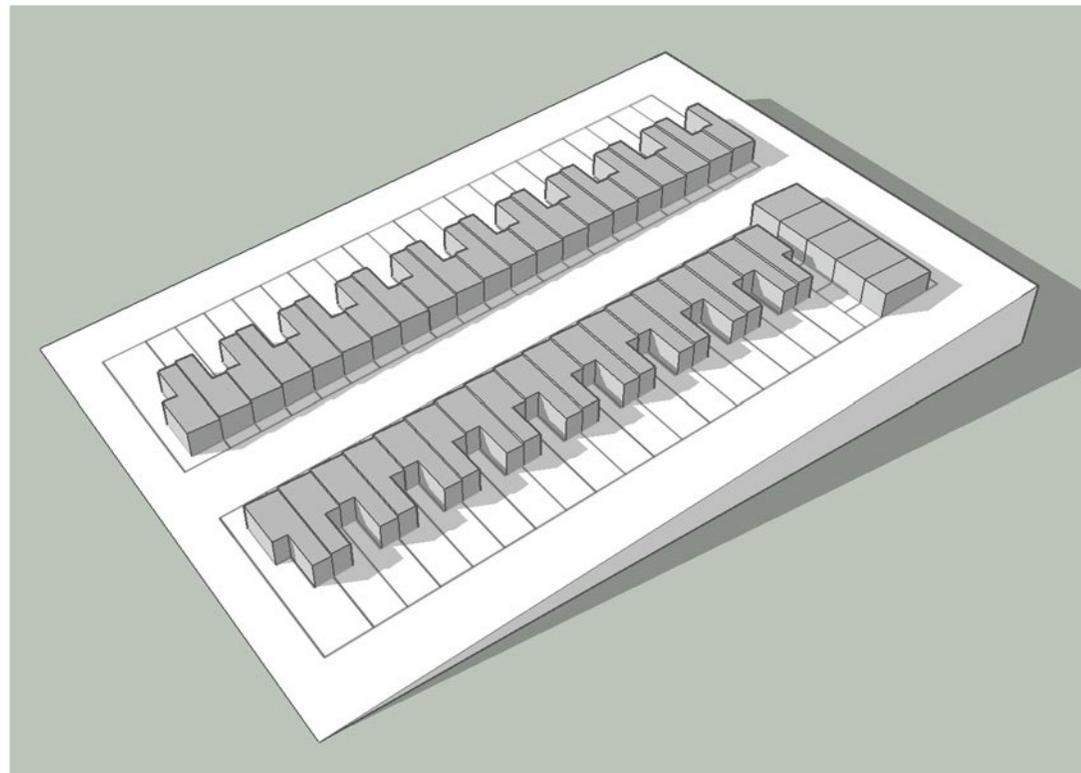
**Figure 5.** Spatial syntax of the tissues: theoretical model

made accessible at grade from the garden level or rez-de-jardin.

Attached buildings do not present such opportunities, so the norm is to create parking spaces in the front setback when the depth of the latter allows.

Curiously, on Avenue Argyle and Avenue Church Hill, the front setbacks of the pertinent strips facing southeast are more generous (about 5 meters) than those on the opposite side, facing northwest (about 3 meters).

Figure 8 shows section and siting layout views representative of the streetscape in the unit. These are schematic representations of the conditions observable on Argyle Street.



**Figure 6.** Three-dimensional theoretical model

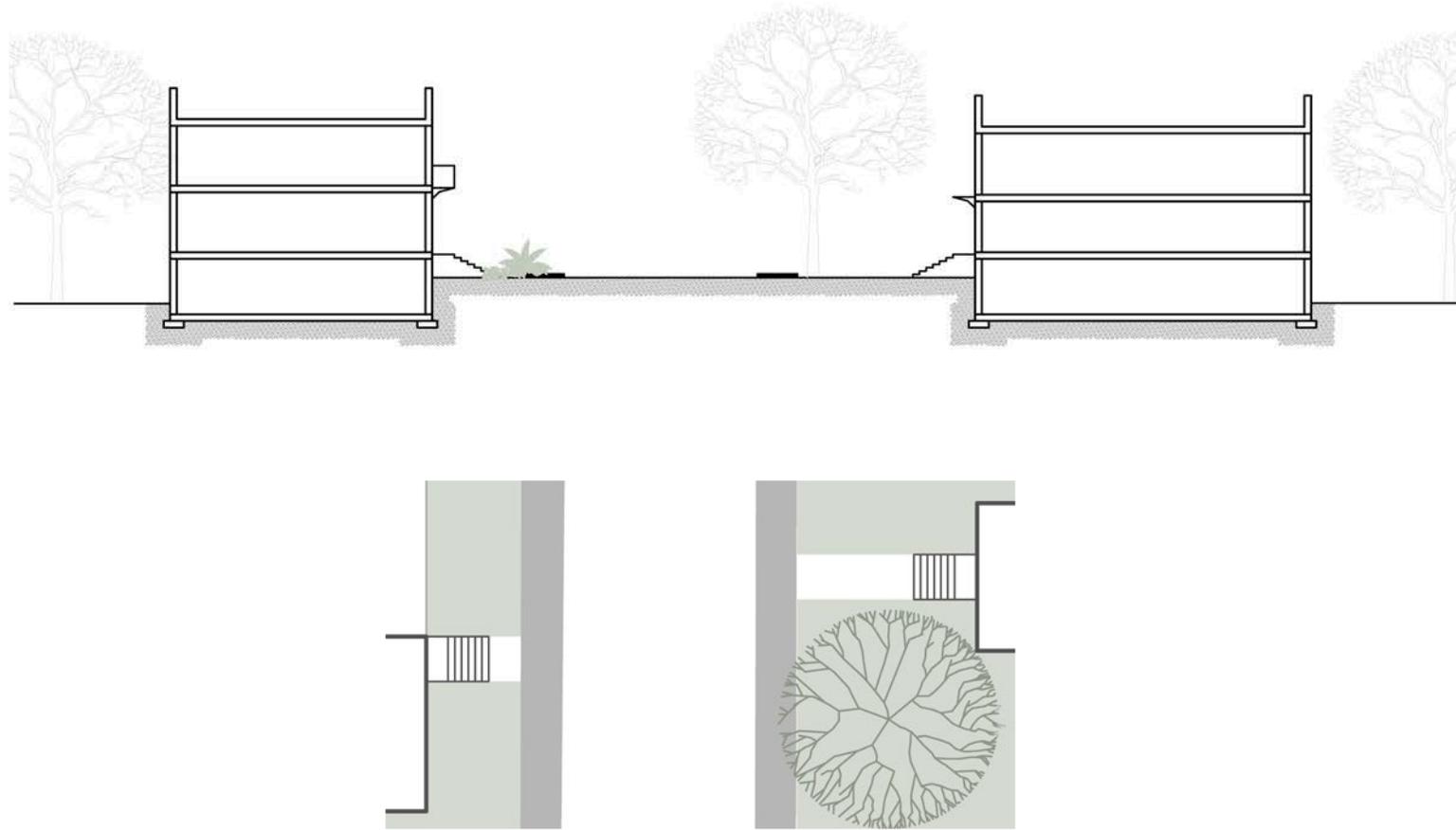
### Public-collective / private-domestic spaces

The streetscape strongly conditions the experience of users, while denoting the architectural identity of a place. Several physical and spatial features of the streetscape also assume an essential function of architecture, namely the mediation between public-collective space and private-domestic space.

The physical and spatial features ensuring the mediation between the public-collective space and the private-domestic space in the landscape unit 10 pertain predominantly to the presence of setbacks and the raising of the ground floors. As the front setbacks are relatively modest, the elevation of the ground floor, as well as the height of the windowsills on this floor, are key features guaranteeing domestic privacy.

Two cases can be observed in this regard. In the lower part of Avenue Argyle, which displays flat

ground, access to the building is at grade on the front. The same is observed on the southeastern side of Thornhill Avenue. In this last pertinent strip, the buildings are located near the street, on the higher grounds of lots with slopes descending towards the back. Everywhere else, the norm is to ascend an external flight of steps towards a landing giving access to ground floors that are raised above street level. No rule emerges as to the lateral positioning of front entrance doors in the case of detached or semi-detached buildings. In the case of the latter, doors are sometimes grouped in pairs nearby the party wall or otherwise relegated to opposite sides of the adjoining façades, independent from the orientation of the slope on street segments that present such profiles.



### Composition of the residential building stock

Figures 8, 9 and 10 illustrate the spatial distribution of residential buildings according to the number of dwellings per building, their number of floors as well as their mode of aggregation, namely their belonging to the detached, semi-detached and attached categories respectively. The landscape unit is characterized by a preponderance of single-family buildings (72.9%) with two aboveground floors (87.5%), and a plurality of attached buildings (47.1%), followed by buildings in the semi-detached category (45.1%). The attached buildings are highly concentrated on Argyle Avenue.

**Figure 7.** Typical section and siting layout views on a settling route (view towards the northwest)

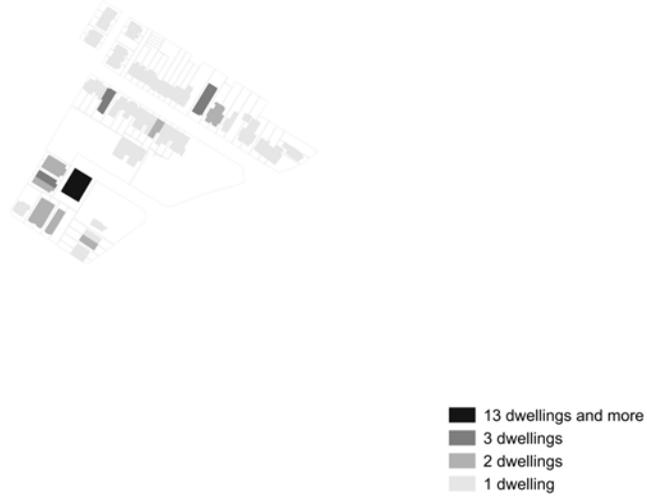


Figure 8. Spatial distribution of the dwelling units per building



Figure 10. Spatial distribution of buildings according to their mode of aggregation

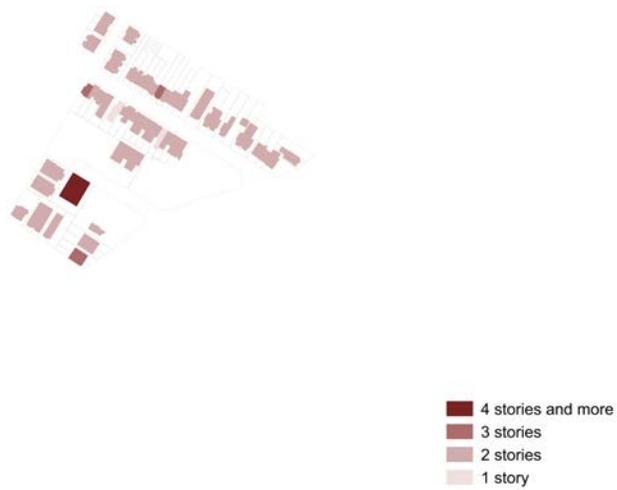
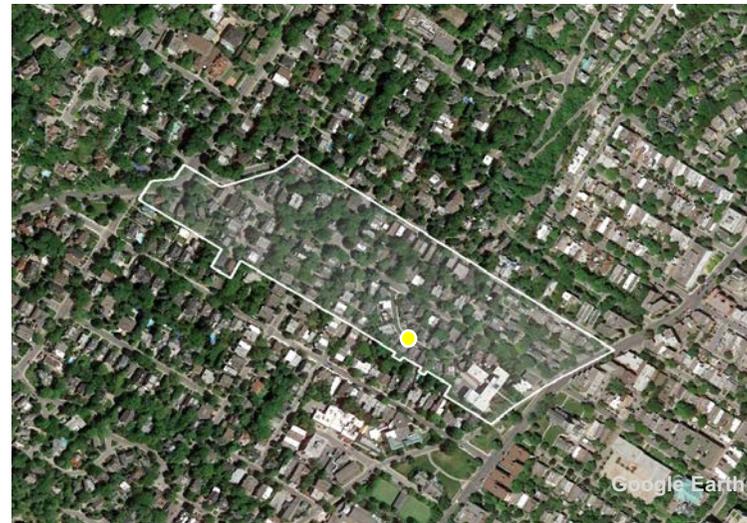
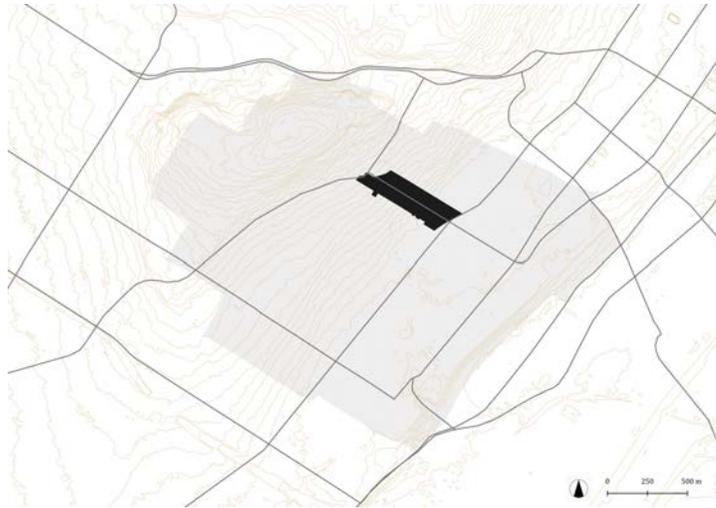


Figure 9. Spatial distribution of buildings according to their number of floors



## Landscape unit 11

Analytical fact sheet

### Location

Landscape unit 11 is located southeast of the Westmount Summit. It is bordered to the southeast by Sherbrooke Street West and Côte-Sainte-Antoine Road, thence, clockwise, by the allotment parting line behind the properties on the southwestern side of Clarke Avenue and the extension of the said line to The Boulevard, then on the northern side by this street, then, on the northeastern side by Mountain Avenue.

### Brief description

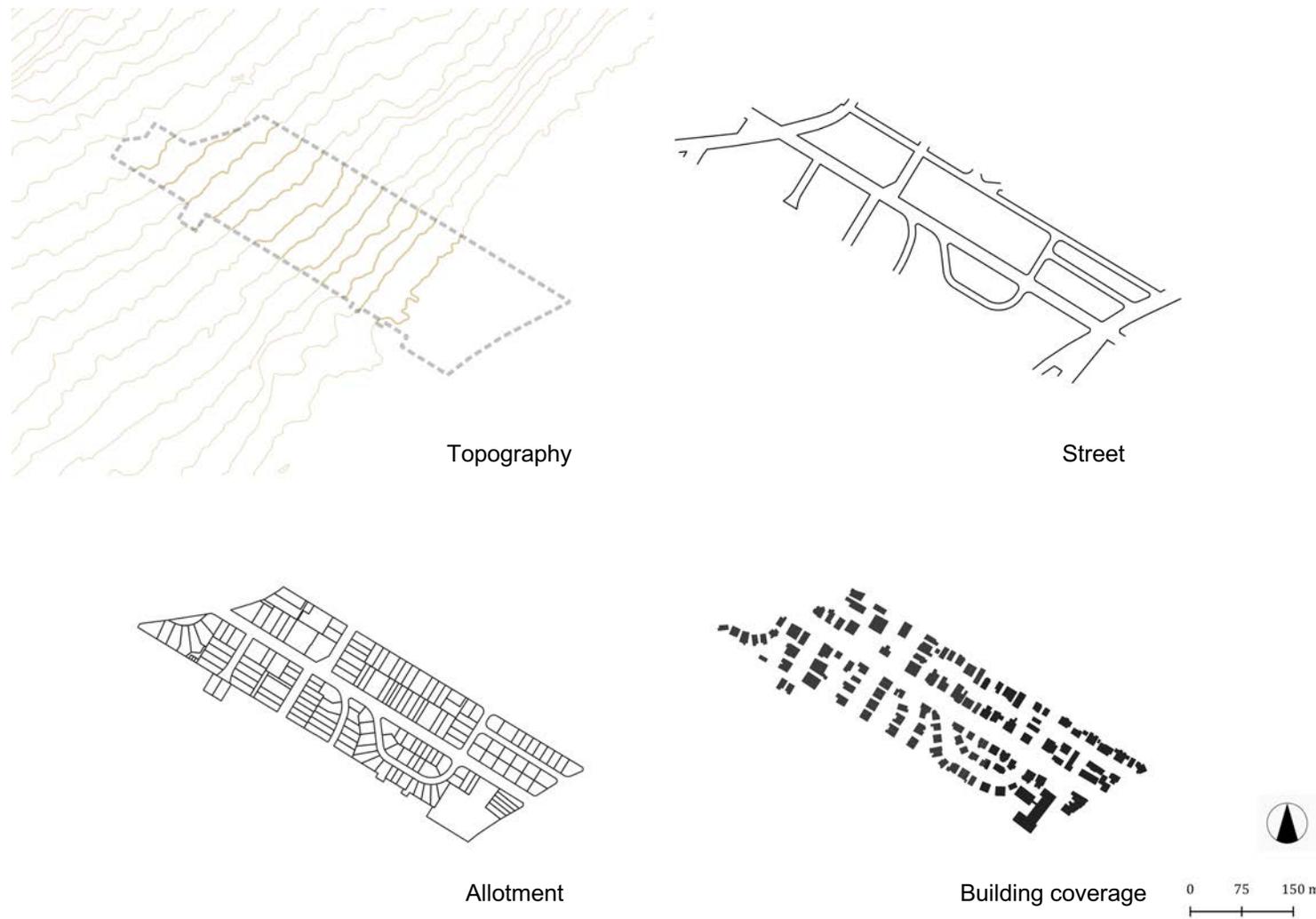
Spanning 9.49 ha, this landscape unit is composed of 155 housing units as well as a school (École Internationale de Montréal). The residential housing stock is made up of single-family buildings at 98%, producing a gross residential density of 16.3 dwellings per hectare and a net density of 21.8 dwellings/ha.

### Subsystems of the tissue

The unit has a downward slope towards the southeast whose inclination varies from zero on the said orientation to rather steep towards the



Figure 1. Landscape unit 11



**Figure 2.** Subsystems of the tissue

northwest. The whole produces an average inclination of 5.96 °. The street network is mostly orthogonal but includes curvilinear street segments, notably Anwoth Road. The said network delimits urban blocks of variable lengths that are sometimes orthogonal, sometimes in the shape of beans, which climb the slope perpendicularly to the

contour lines lengthwise. These different conditions produce urban blocks composed of two, three or four pertinent strips, respectively.

The residential building coverage consists of a plurality of semi-detached buildings (49.3%), in addition to detached (42.8%) and attached

buildings (7.9%).

### Routes hierarchy

Figure 3 illustrates the categories of routes present in the landscape unit. Côte-Sainte-Antoine Road, which is an extension of the older section of Sherbrooke Street West, borders the unit to the southeast. It is a matrix route for the tissue, whose presence as a road is attested since the very beginning of the 18th century. It replaced a path that has seemingly been practiced by aboriginal populations for hundreds of years (see part 1 of this report). All other routes in the unit are settling routes, except for Mountain Avenue, which is a connecting route deployed along an old agricultural boundary.

### Specialized routes

The landscape unit is crossed in its longitudinal direction by Clarke Avenue, which is a major thoroughfare. The latter extends from Dorchester Boulevard almost at a right angle. Functionally speaking, Clarke Avenue extends Dorchester Boulevard towards the northwest. It intersects with Sherbrooke Street West and runs up to The Boulevard (Clarke Avenue extends a little beyond the latter, though as a regular street). These three routes are all major thoroughfares, which positions the unit at the crossroads of the inter-district thoroughfare network.

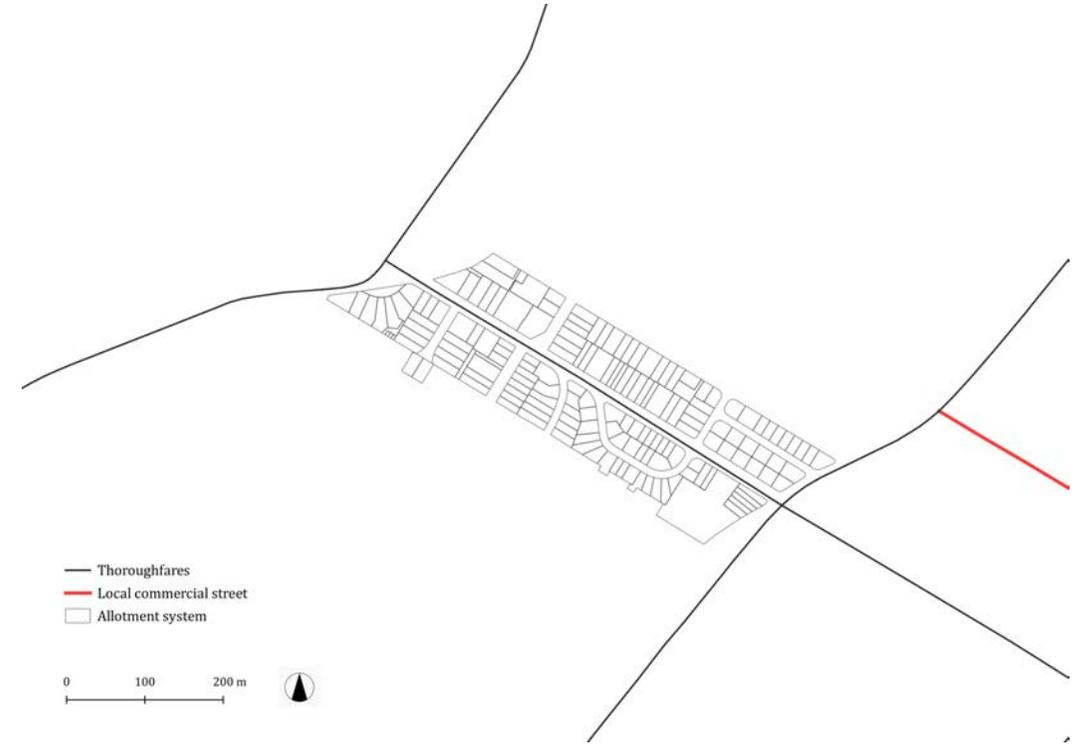
### Spatial syntax of the tissue

Almost all of the unit's residential stock is made up of single-family buildings (98%) with two floors above ground (98.7%). The buildings mainly conform to the semi-detached and detached modes of aggregation.

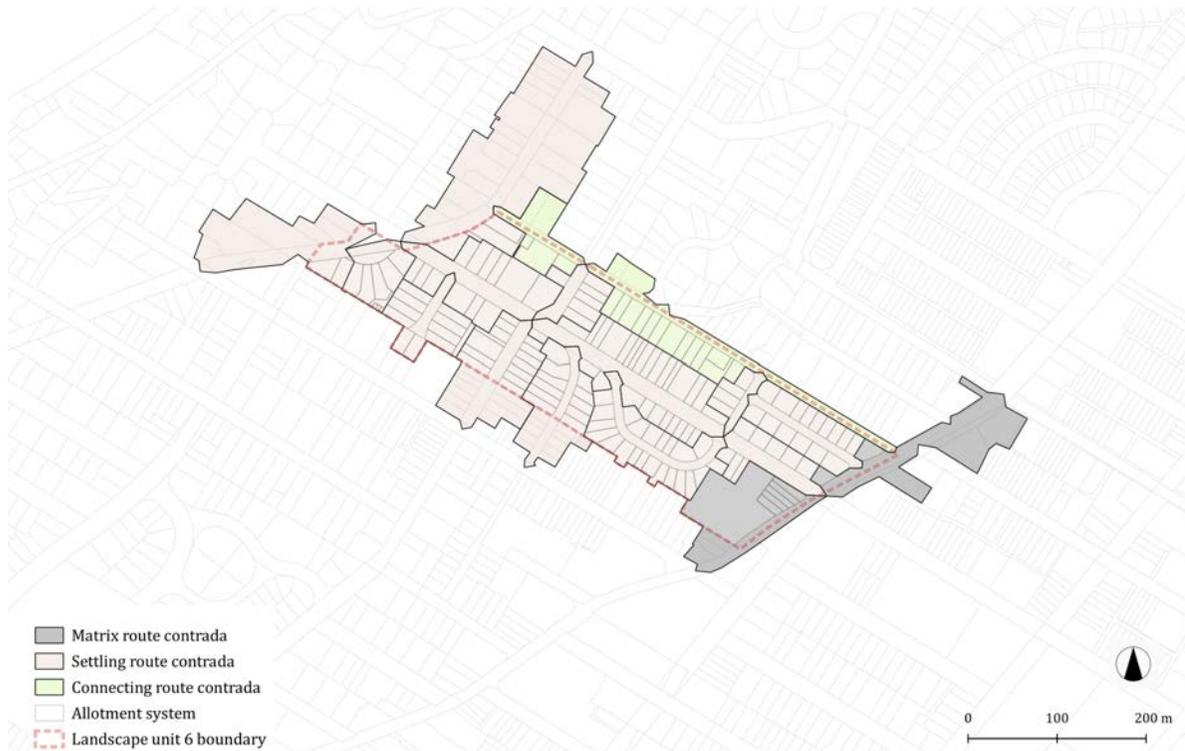
Côte-Sainte-Antoine Road starts in the southeastern portion of the unit, which is flat, before gently climbing the foothills of the Westmount Summit diagonally towards the west. The main settling routes extend perpendicular to



**Figure 3.** Route hierarchy



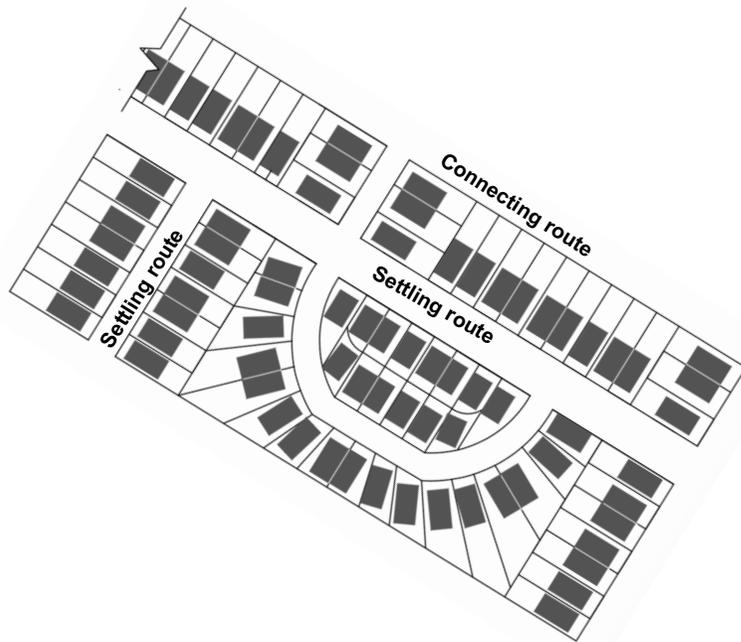
**Figure 5.** Specialized route



**Figure 4.** Face-block (Contrada) Structure

this matrix route towards the northwest and, thus, perpendicular to the contour lines. For their part, shorter settling routes extend perpendicular to Clarke Avenue on either side of it. Finally, Mountain Avenue is an exception in this unit and this area of Westmount, more generally. It is a connecting route with only one pertinent strip on its southwestern side. This configuration is explained by the fact that this route borders an old agricultural property line, which now acts as a boundary.

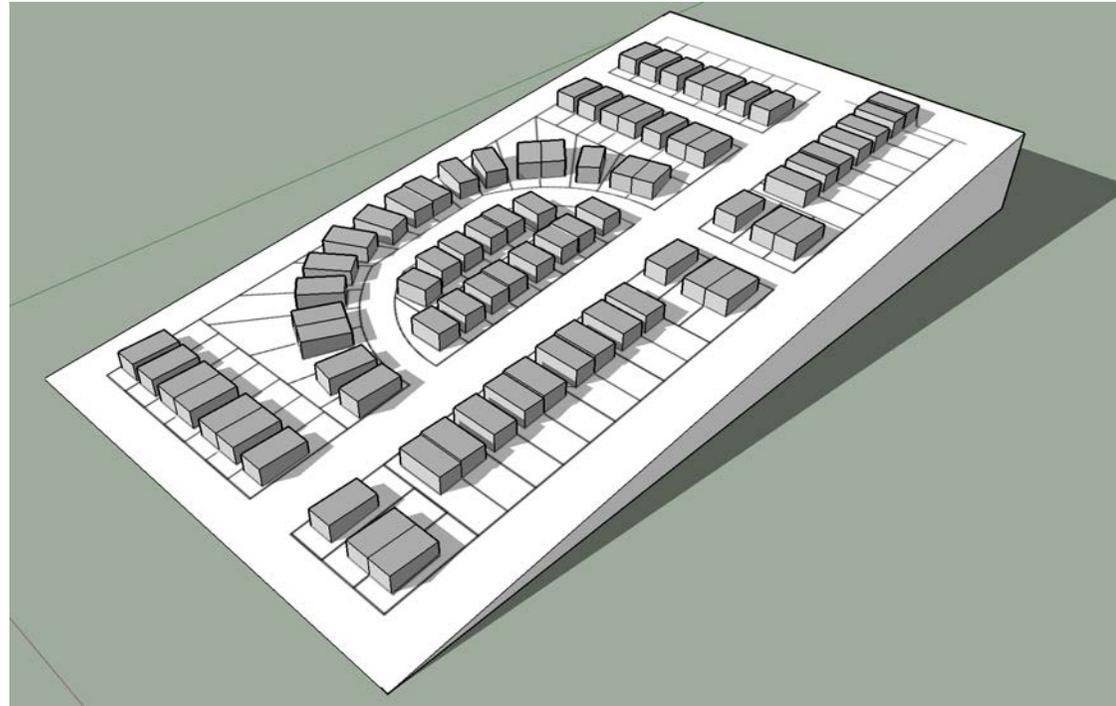
The said agricultural parcel is a matrix estate for the area. The spatial relationships between its geometrical properties and the topographic conditions of the sector heavily inform the composition and overall configuration of the tissue. Mountain and Clarke avenues owe their orthogonal configuration to the overall geometry of the agricultural land, which was elongated lengthwise and narrow in the transversal direction. It entails from such conditions that these routes climb a



**Figure 6.** Spatial syntax of the tissue

fairly steep slope perpendicularly to the contour lines. In this context, the curvilinear configuration of Chemin Anwoth can be read as an attempt to adapt to topographic conditions, in order to facilitate the setting of buildings on steeper grounds. For their part, the settling routes perpendicular to Clarke Avenue are deployed parallel to the contour lines, which facilitates the siting and construction of the buildings on their lots.

The map of the face-block (Figure 4) highlights the tissue pattern that results from said conditions. The matrix route for the tissue carries lots of various sizes that have their addresses on it. Such a spatial arrangement testifies to the age of the route and its long process of urbanization, as the lot dimensions obey to evolving historical standards. The low, flat portion of the unit, around Clarke, Mountain and Groove Park avenues, also carries the hallmark of early urbanization. The lots there are larger onto the street than they are deep. Such



**Figure 7.** Three-dimensional theoretical model

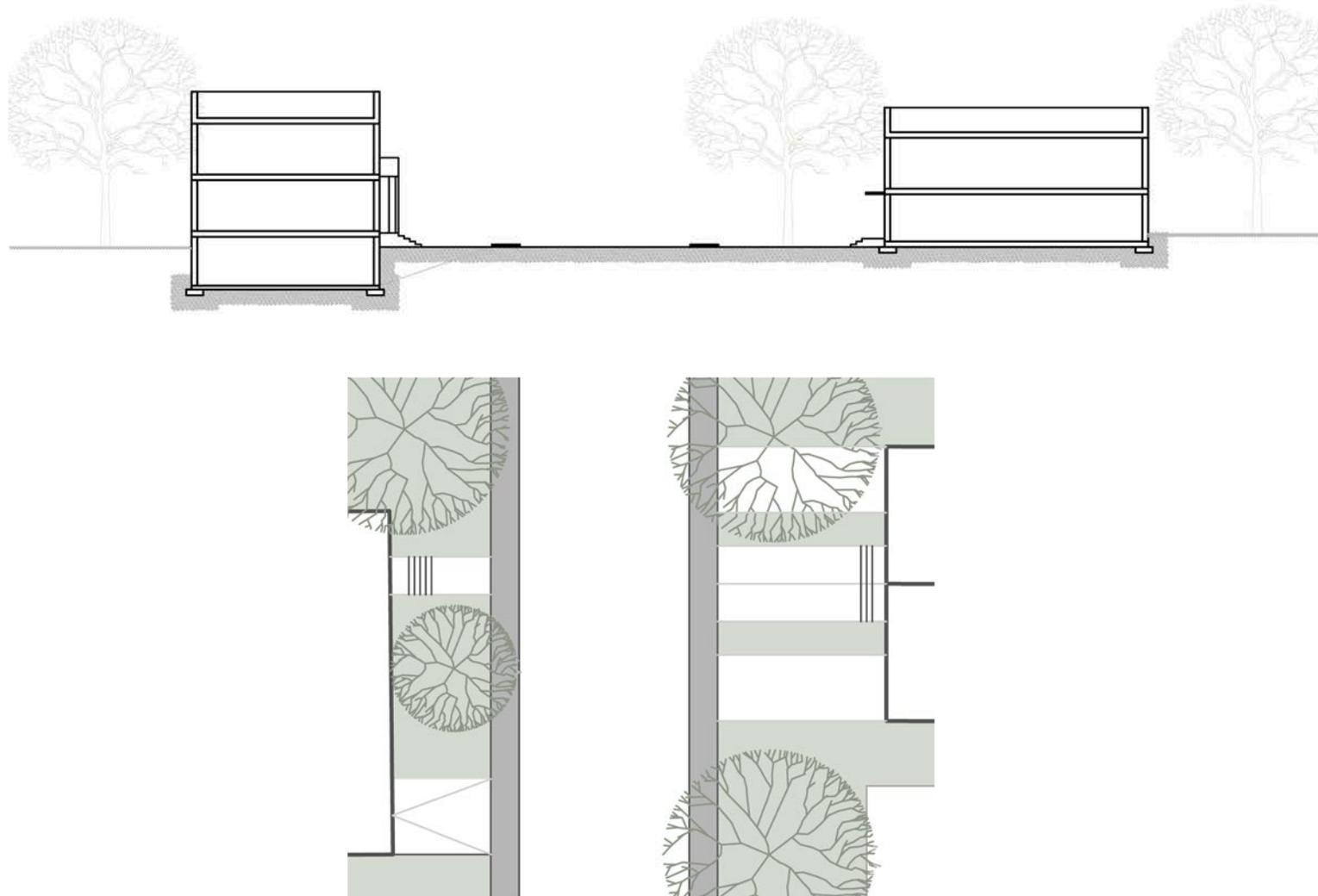
is the exception to the general rule in the unit, where the settling routes carry lots that are deeper than the width of their street front. Sharply contrasted dimensional and configurational conditions make it impossible to distinguish a modular lot in the unit. However, the most common conditions observed in the tissue, point to buildings that are deeper than they are wide onto the street and that extend deep into the longitudinal axis of their respective lots. The ratio of buildings' footprint to total lot area is relatively high, resulting in an average lot coverage ratio of 0.49 in the unit.

The fact that a plurality of buildings is of the semi-detached type contributes to said land coverage density levels. Such buildings are coupled in pairs. They share a party wall with an adjoining building and have a modest side setback on the opposite side, which usually adjoins an equivalent setback on the neighbouring property. In most cases, the side setbacks have two-to-two paired driveways, some of which are shared, although this is instead

the exception.

On the southeast northwest-oriented streets, which climb the slope, there is a tendency of positioning the detached buildings towards the higher side of their lot, so that the lateral setback on the southeastern side is more generous than the one to the northwest.

The layout of the buildings located on the streets oriented parallel to the contour lines, in a southwest-northeast orientation, also echoes the topographic conditions. The natural slope of the land influences the elevation of the ground floors relative to the street elevation. As a rule, the ground floors are built entirely above the natural level of the land on which the building stands. Achieving this implies that the front and rear façades present different elevations relative to the adjacent natural ground level. In this sector, the rule also implies that the elevation of the ground floor of the buildings located on the up-hill side of



**Figure 8.** Typical section and siting layout views on a settling route (view towards the northwest)

the street is significantly high than the elevation of the buildings that face them on the other side of the street. Access to the ground floor of the buildings situated high up requires a significant ascent from the street. In return for this, this level gives full access to the backyard. Access to the ground floor of the building on the opposite side of the street is at grade or requires only a minimal ascent, but the level of the ground floor ends up significantly higher than the natural level of the land on the courtyard side.

The norm in the unit is that a garage accompanies each dwelling. In the flat portion of the unit, garages tend to be positioned at the back of the lot, especially in the case of semi-detached buildings. A significant proportion of the garages are built in the lateral setback, where they are contiguous to the main building body. In the steepest part of the unit, in addition to the previous configurations, one can note the presence of garages located in the basement of the main building but accessible at grade from the main

façade, thus taking advantage of the topographic conditions. This latter configuration goes hand in hand with a significant rise in the elevation of the ground floor compared to that of the street.

### The streetscape

The streetscape of this unit is marked by the prevalence of orthogonal streets producing well-framed visual perspectives in particular in streets oriented northwest-southeast. This orientation occasionally produces also open perspectives on the distant landscape towards the southeast due to the topographic and altimetric conditions of the unit. The streets are bordered by sidewalks and framed by rows of trees on both sides. The said series is sporadically interrupted, in particular in the upper portion of the unit to the northwest. The framing of the public-collective space is ensured by a relatively tightly knit building fabric composed of semi-detached and detached types of buildings presenting two floors sitting on a partially aboveground foundation wall to the street. In the steepest sections of the street network, located to the northwest in particular, as a general rule, the floor levels of semi-detached buildings adjust to the upward slope so that the ground floor of the unit below has a lower elevation than that of its adjoining neighbour. Curiously, there is no rule governing the positioning of the entrances on the façade, in order, for instance, to minimize the ascension to reach the entrance doors. Front setbacks, typically around three or 4.5 meters, allow the creation of small, carefully landscaped gardens, in which lawns and flower beds are alternating.

Figure 8 shows section and siting layout views representative of the streetscape in the unit. In this case, these are schematic representations of conditions observable on Clarke Avenue, which shows asymmetry of the front setbacks on either side of the street.



■ 2 dwellings  
■ 1 dwelling

**Figure 9. Spatial distribution of the dwelling units per building**



■ Detached buildings  
■ Semi-detached buildings  
■ Attached buildings

**Figure 11. Spatial distribution of buildings according to their mode of aggregation**



■ 2 stories  
■ 1 story

**Figure 10. Spatial distribution of buildings according to their number of floors**

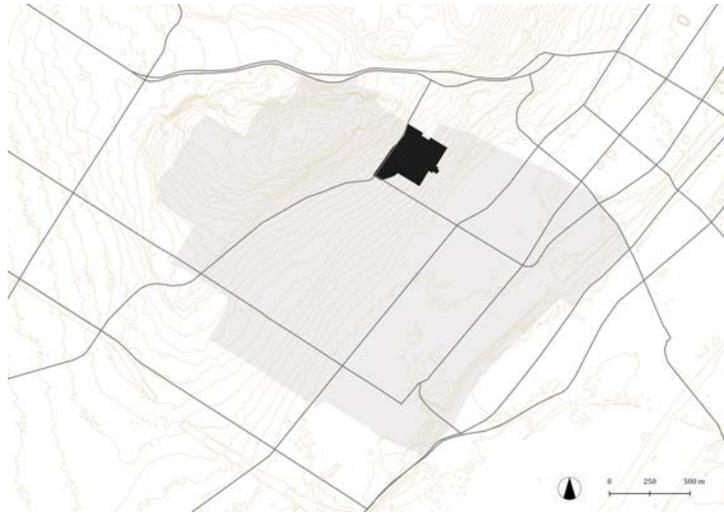
### Public-collective / private-domestic spaces

The physical and spatial features ensuring the mediation between the public-collective space and the private-domestic space in the landscape unit pertain to the presence of setbacks and the elevation of the ground floor. The said floor is accessed by a pathway and an external staircase leading to an external landing protected, more often than not, by a projecting roof, which sometimes makes dual use as a balcony for the floor.

### Composition of the residential building stock

Figures 9, 10 and 11 illustrate the spatial distribution of residential buildings according to the number of dwellings per building, their number of floors, as well as their mode of aggregation, namely their belonging to the detached or semi-detached categories respectively.

The landscape unit does not show any particular spatial trend concerning the distribution of the buildings, except for those that correspond to the attached mode of aggregation. The latter are concentrated to the southeast near Côte-Sainte-Antoine Road.



## Landscape unit 12

Analytical fact sheet

### Location

Landscape unit 12 is located east of the Westmount Summit. It is bordered to the southwest by Mountain Avenue and by a segment of Cedar Avenue until Clarke Avenue, thence, clockwise, by The Boulevard on the northwestern side, then by the allotment parting line located in the extension of Wood Avenue, which marks the municipal limits of Westmount.

### Brief description

Spanning 8.98 ha, this landscape unit is composed of 78 housing units as well as a school (Miss Edgars and Miss Cramps). The residential housing stock is made up of 98.7% of single-family buildings, producing a gross residential density of 8.7 dwellings per hectare and a net density of 11.7 dwellings/ha.

### Subsystems of the tissue

The unit has a relatively steep slope descending towards the southwest, producing an average inclination of 7.06°. The street network is mostly orthogonal. It defines urban blocks of varying

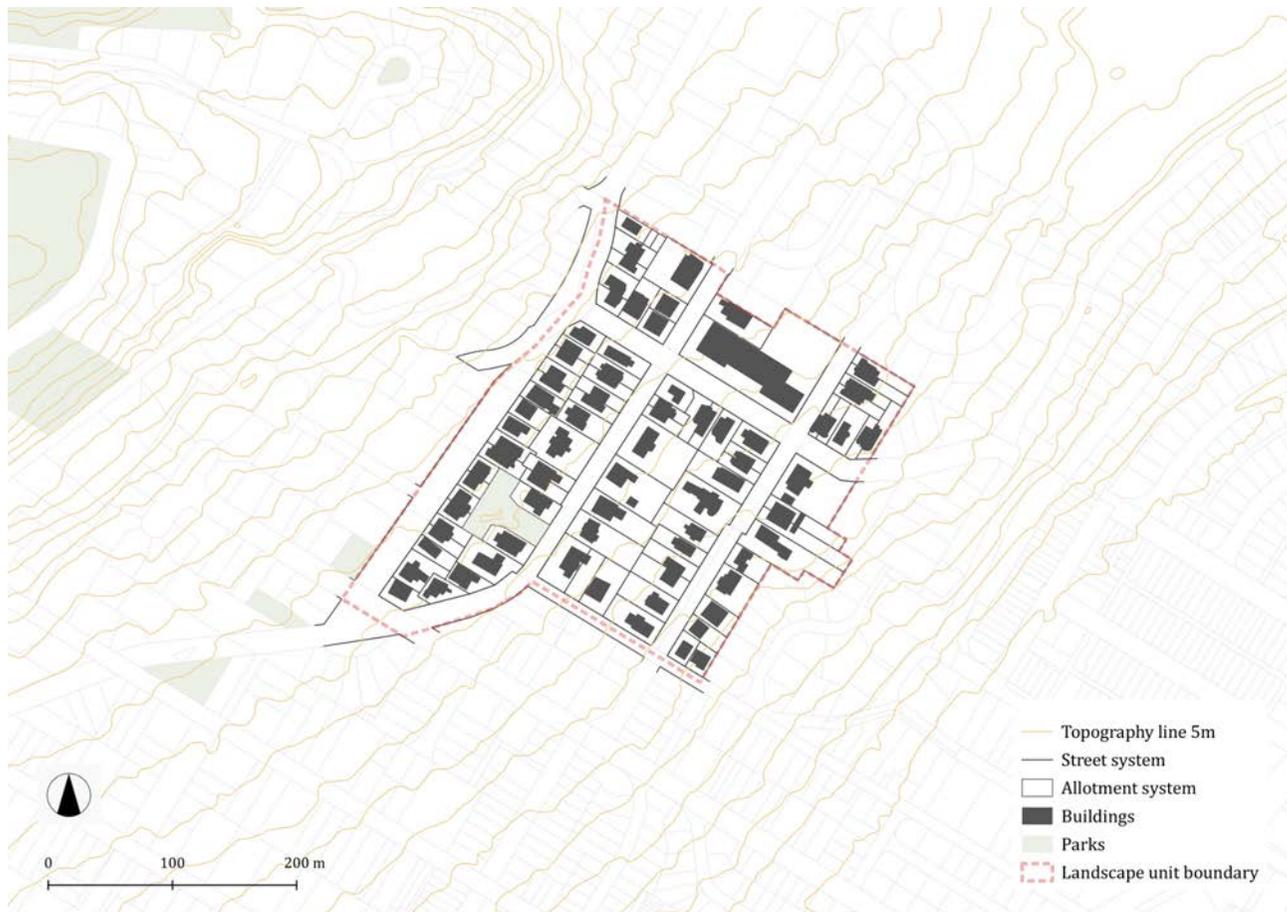
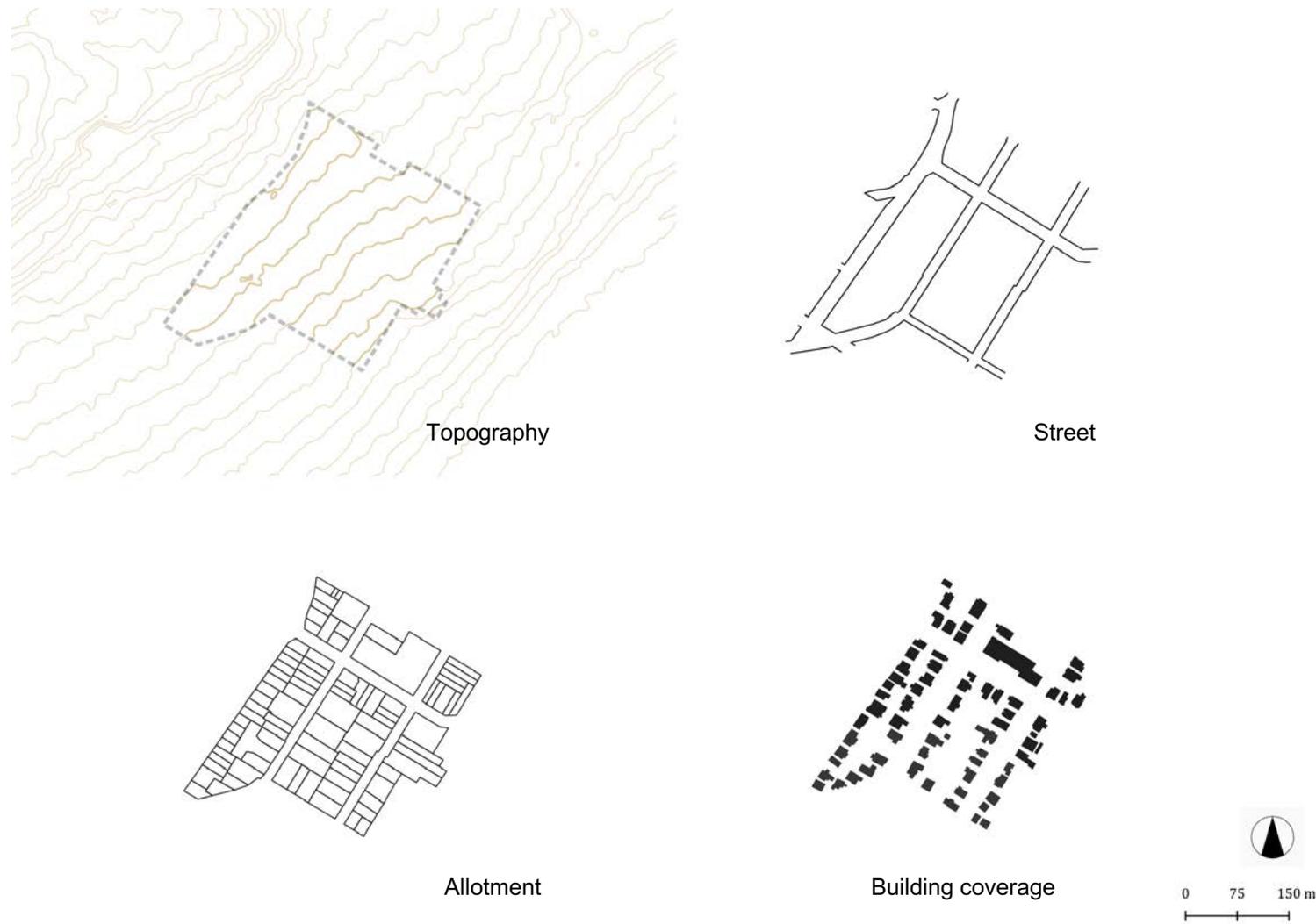


Figure 1. Landscape unit 12



**Figure 2.** Subsystems of the tissue

lengths, oriented northeast-southwest longitudinally. Those are formed of two pertinent strips. It is worth noting that the orientation of the urban blocks does not conform to the dominant block orientation on Westmount's piedmont. Somewhat capricious local topographic conditions impact the unit blocks' orientation and composition.

The blocks are deployed parallel to the contour lines, in order to facilitate the siting of the buildings. The residential building coverage consists of single-family buildings with a sole exception. The mode of aggregation is evenly split between the detached and semi-detached configurations.

### Routes hierarchy

Figure 3 illustrates the spatial distribution of routes by category in the landscape unit. The latter is composed of settling routes, except for a short segment of Mountain Avenue, a connecting route that also constitutes the southern boundary of the unit.

### Specialized routes

The landscape unit is bordered by a major thoroughfare, The Boulevard, which extends at the intersection of Westmount Summit and its piedmont. The unit is located at a short distance from Clarke Avenue, which is also a major thoroughfare (Figure 5).

### Spatial syntax of the tissue

The unit's building coverage consists of single-family buildings (98.7%) with two floors above ground (98.7%). The majority of buildings comply with the detached mode of aggregation (61%). The rest is made up of semi-detached buildings (39%).

The apparent regularity of the orthogonal street network masks a somewhat irregular allotment with regard to lot dimensions in particular. The only explicit rule pertains to the lot configuration, which presents shorter dimensions onto the street than in depth. A majority of buildings display similar proportions. They extend lengthwise in the longitudinal direction of their respective lots. There are several exceptions to this general rule, notably on Cedar Avenue, on which large lots receive buildings that are deployed parallel to the street longitudinally.

The unit presents two sub-sectors, which display fairly distinctive syntactic properties. In its northwest portion, smaller lots receive a large proportion of semi-detached buildings. On the southeastern side, more spacious lots carry a majority of large buildings laid out in a detached arrangement.

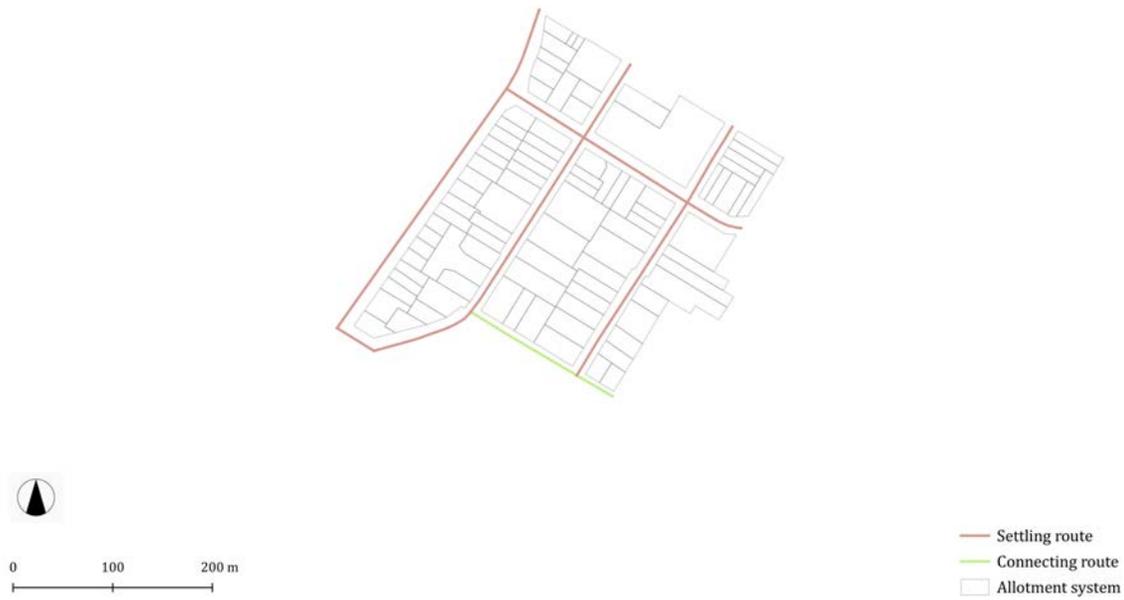


Figure 3. Route hierarchy



Figure 4. Face-block (Contrada) Structure

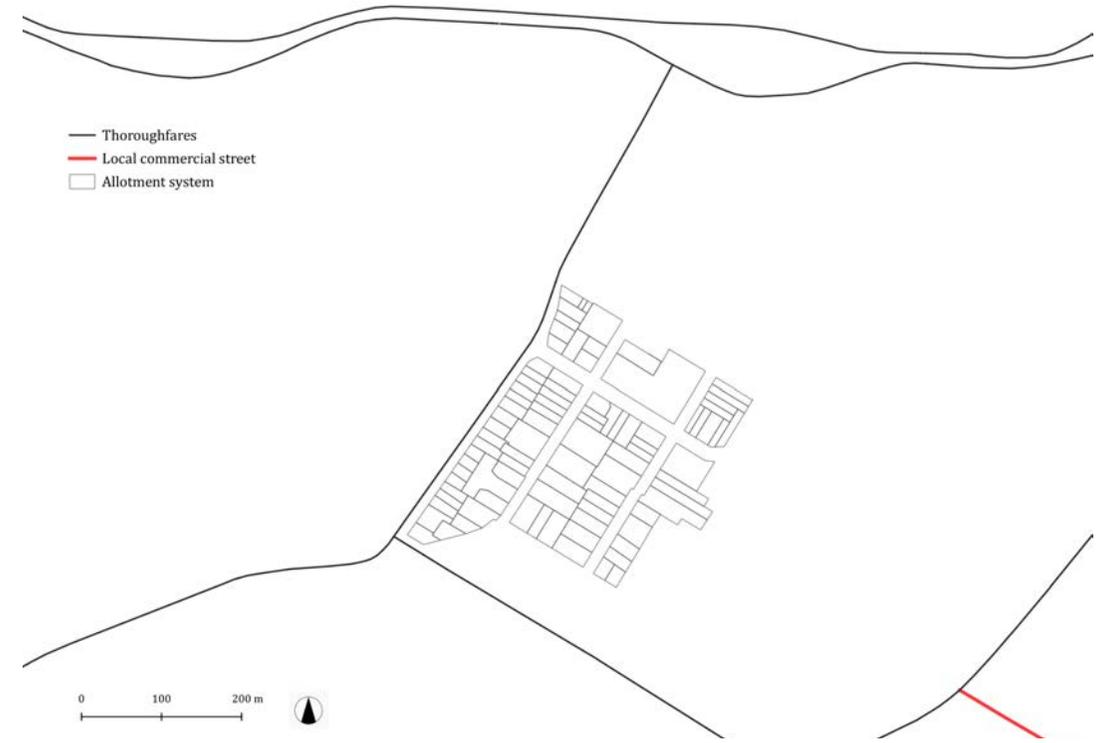
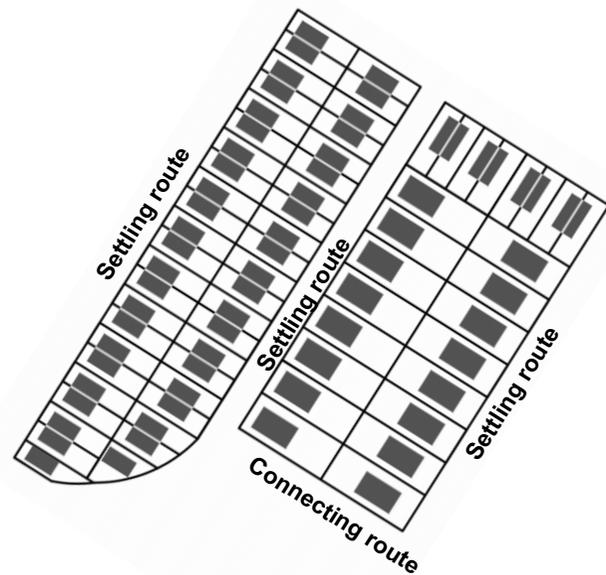


Figure 5. Specialized route

Although generating a modest net density of 11.7 dwellings per hectare, the unit produces a lot coverage ratio of 0.55, which is quite high in the Westmount context. This value is explained by the large surface area of the dwellings, including those that are arranged in a tight series on The Boulevard. The size of the dwellings generally leaves only relatively modest lateral setbacks in particular when considering the dimensions of the building footprint.

Another salient feature of the spatial syntax of the tissue relates to the layout of buildings in relation to the topographic conditions. For the most part, the settling routes extend parallel to the contour lines. The trend is to position the buildings towards the higher part of their respective lots so that buildings with their noble façade to the southeast have more generous front setback than their counterpart facing northwest.

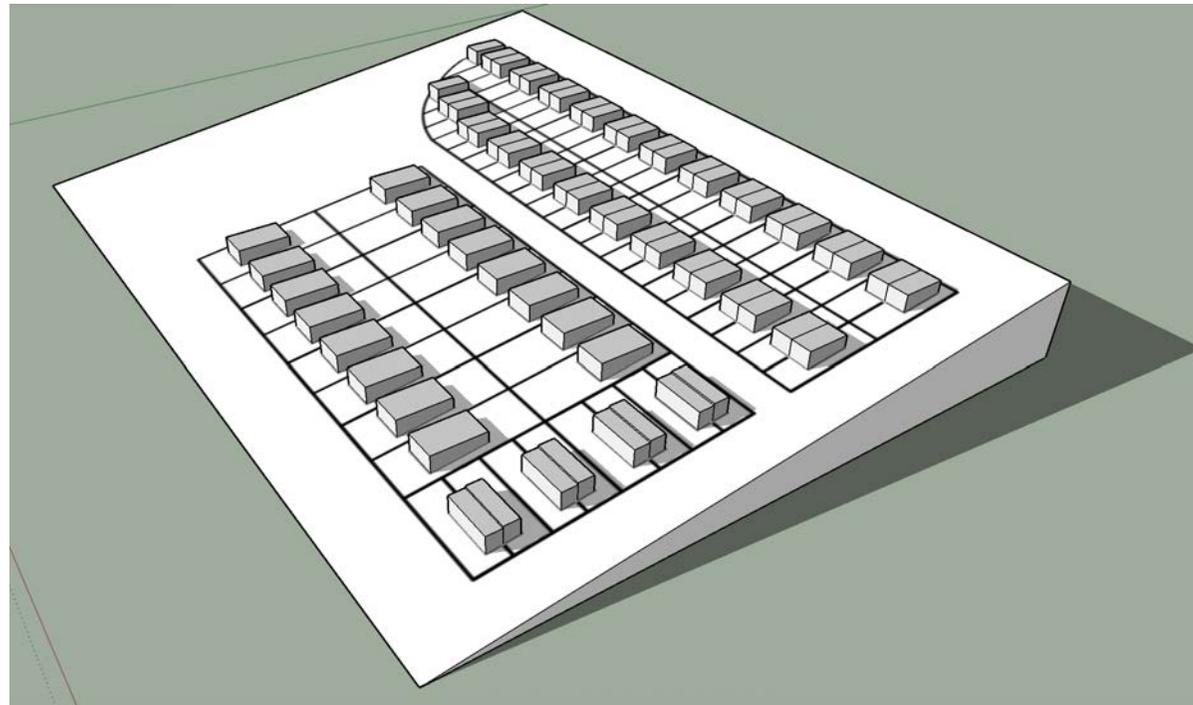
The norm in Upper Westmount and on the



**Figure 6.** Spatial syntax of the tissue

Summit's piedmont is that each dwelling unit has a garage. This unit is no exception. There are two scenarios. The first entails the presence of a secondary building dedicated to this function at the back of the courtyard. The second case sees a garage built in the basement of the main building. Different rules apply regarding the positioning and access to the garage, depending on whether the lot slopes down towards the street or from the latter towards the backyard. The general tendency is to take advantage of topographic conditions. Therefore, when the lot descends to the backyard, access to a garage located in the basement will be at grade, at ground level at the back of the building, or if applicable, on the lateral façade.

Conversely, when the slope of the lot goes up towards the rear of the lot, access to the underground garage is generally at grade, at street level, on the front façade. Such a configuration implies that the level of the building's ground floor is considerably higher than the elevation of the



**Figure 7.** Three-dimensional theoretical model

street. This aspect is discussed further below.

### The streetscape

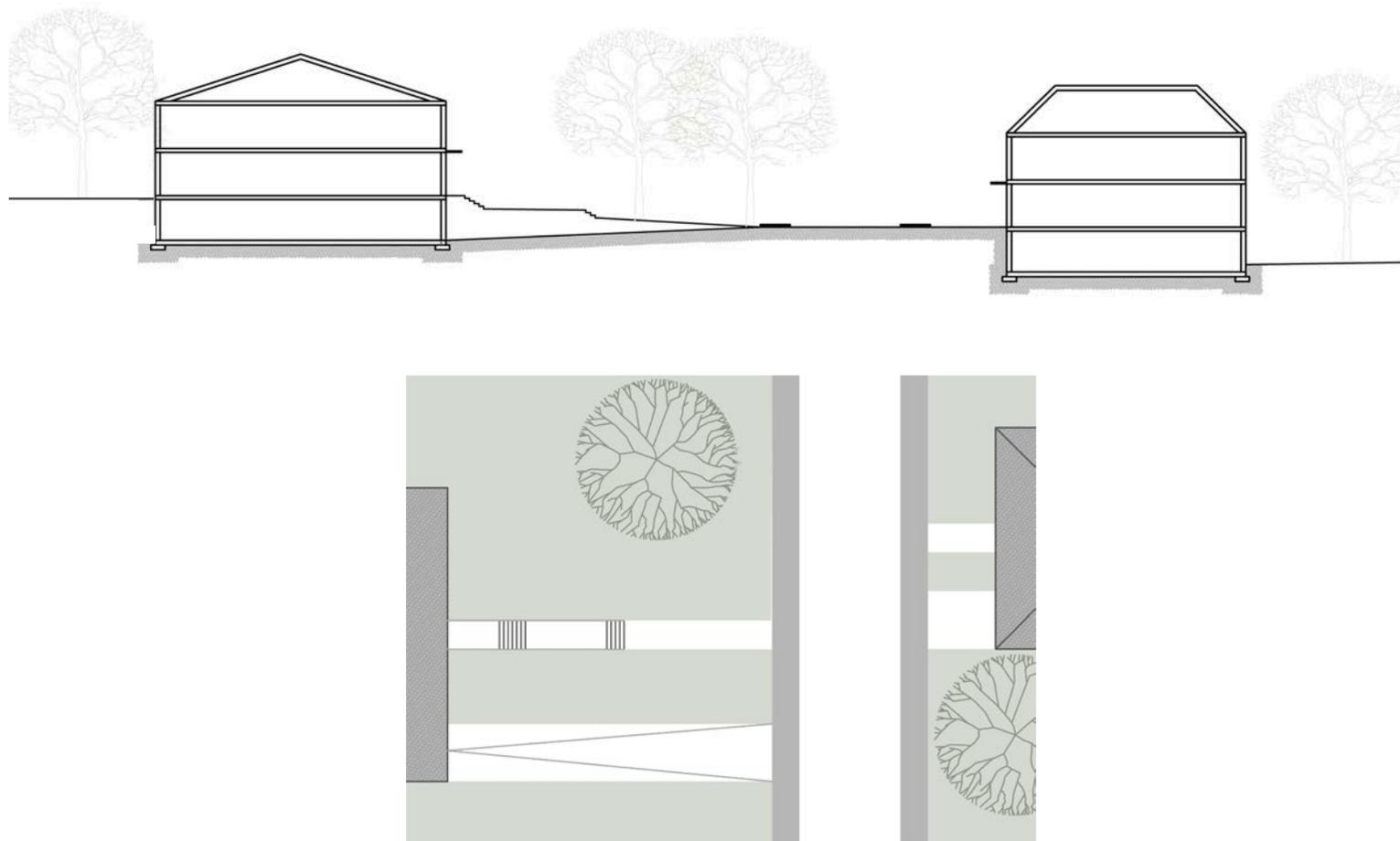
The streets are all bordered by sidewalks and framed by trees lining up on either side of the public street. The architectural framing of the public-collective space is ensured by detached or semi-detached that composes a surprisingly tight built fabric, given the low density of dwellings per hectare. The bordering buildings have two aboveground storeys onto the street, to which must be added an elevated base on the lots whose slope descends towards the street.

The natural slope of the land hence influences the elevation of the ground floor from the street. As a rule, the ground floor extends entirely above the natural level of the land on which the building stands, which implies that the said floor takes its elevation from the highest point of the portion of the lot on which it sits. At the scale of the tissue,

this results in an asymmetry of the pertinent strips located on either side of the streets that extend parallel to the contour lines. Buildings tend to settle towards the highest portion of their respective lots. Said rule leads to an increased setback and elevation of the ground floor of buildings located on land with a high elevation towards the back of the lot. On the opposite side of the street, where lots present a slope descending towards the backyard, buildings are built closer to the street, and their elevation is minimal relative to the street level.

In the former case, access to the building is made at the cost of a significant ascent. In the latter case, the elevation of their ground floors being close to that of the street so that they are accessible at grade or at the cost of a very modest ascent.

In addition to the aligned trees, as a rule, the front setbacks are adorned by landscaping. The small gardens are generally made up of flower beds and



**Figure 8.** Typical section and siting layout views on a settling route (view towards the northeast)

shrubs, including, when necessary, terraced arrangements making use of retaining stone walls for houses built high above the street.

Brick and stone dominate for exterior cladding. The preferred architectural vocabulary can be described as picturesque and inspired by the Arts and Crafts movement, as evidenced by the prevalence of architectural details such as projections, oriels and dormers. The roofs generally have sloping profiles, either with two slopes, in the rump, or are of a false mansard type.

Figure 8 shows section and siting layout views

representative of the streetscape in the unit. In this case, these are schematic representations of conditions observable on Cedar Avenue, which is a settling route extending along a northeast-southwest axis, generally parallel to the contour lines in the sector. The cross-section presents a view towards the northeast.

#### **Public-collective / private-domestic spaces**

The streetscape strongly conditions the experience of users, while denoting the architectural identity of a place. Several physical and spatial features of the streetscape, such as the setbacks, the

elevation of the ground floor, the height and positioning of the windows, projections and recesses in the façade, also assume an essential function of architecture, namely the mediation between public-collective space and private-domestic space.

The material and spatial features ensuring the mediation between said spaces in the landscape unit relate primarily to the presence of setbacks (5 or 11 meters) and the raising of the ground floor, in particular concerning buildings situated high up on lots presenting an ascending slope from the street. The latter is accessed by an alleyway and an external staircase leading to a landing, which is often protected by a projecting roof. Access to the building is generally on the main façade, but there are several exceptions, in particular on Montrose Avenue, where the access is located on a lateral façade. Access to buildings located on lots with slope descending towards the backward is generally at grade relative to the street level, or by minimal climbing of several steps.

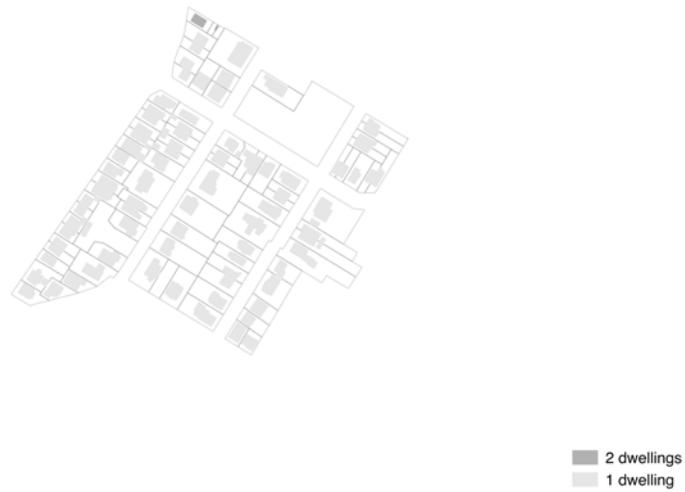


Figure 9. Spatial distribution of the dwelling units per building



Figure 11. Spatial distribution of buildings according to their mode of aggregation

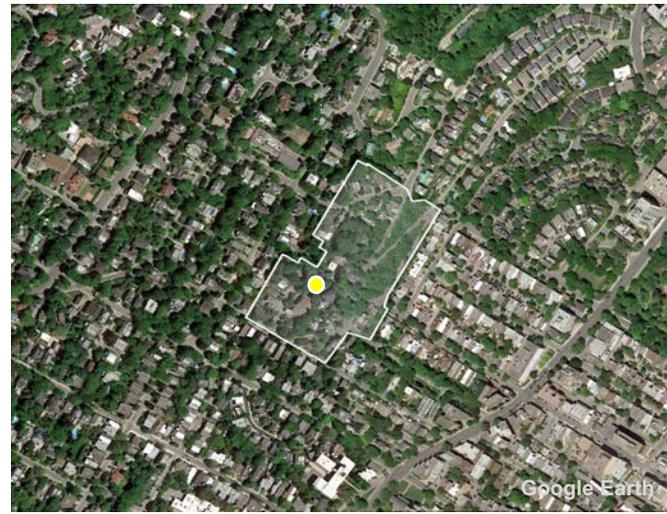
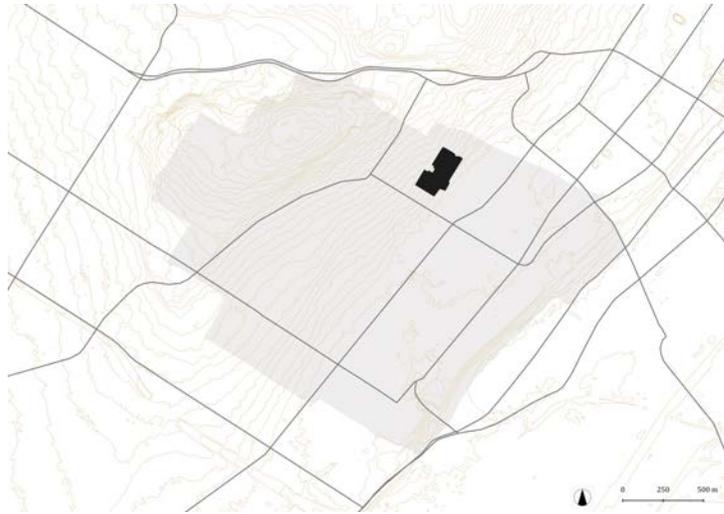


Figure 10. Spatial distribution of buildings according to their number of floors

### Composition of the residential building stock

Figures 9, 10 and 11 illustrate the spatial distribution of residential buildings according to the number of dwellings per building, their number of floors as well as their mode of aggregation.

The landscape unit is almost all composed of single-family buildings with two floors above ground. While characterized by more diversity regarding the mode of aggregation, the unit does not show any particular spatial trend concerning, detached or semi-detached categories, respectively.



## Landscape unit 13

Analytical fact sheet

### Location

Landscape unit 13 is located east of the Westmount Summit on the piedmont of the latter. It is bordered to the southeast, along Mount-Pleasant Avenue, by the allotment parting line behind the properties located on the northwestern side of Holton Avenue, then clockwise by Mountain Avenue, thence, via the allotment parting line behind the properties located on the northwestern side of Severn Avenue, and finally, to the northeast, by the allotment parting line located in the extension of Avenue Wood, and corresponding to the boundaries of an old agricultural property.

### Brief description

Spanning 4.28 ha, this landscape unit is composed of 32 housing units. The residential housing stock is made up of single-family buildings, producing a gross residential density of 7.5 dwellings per hectare and a net density of 8.1 dwellings/ha.

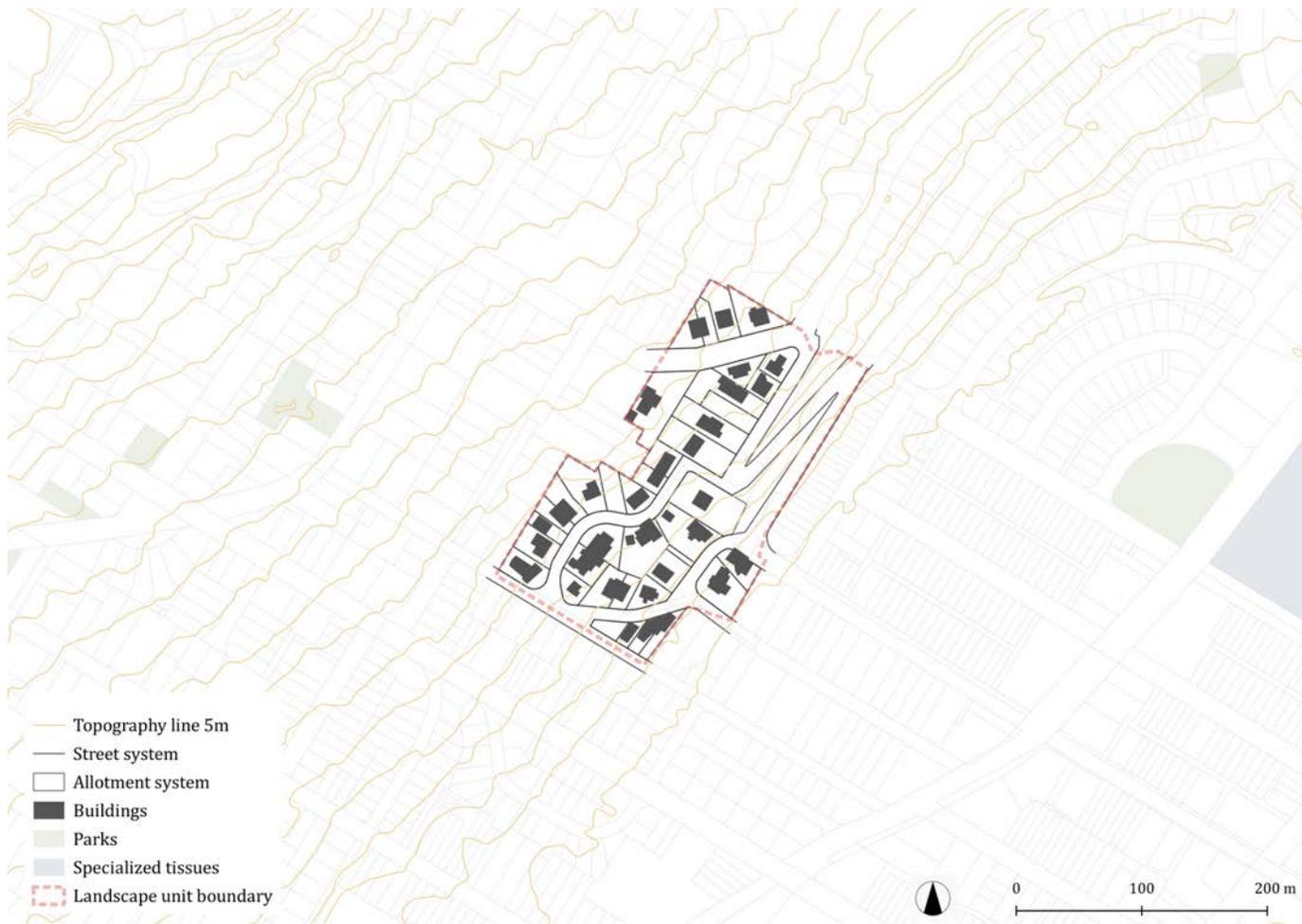
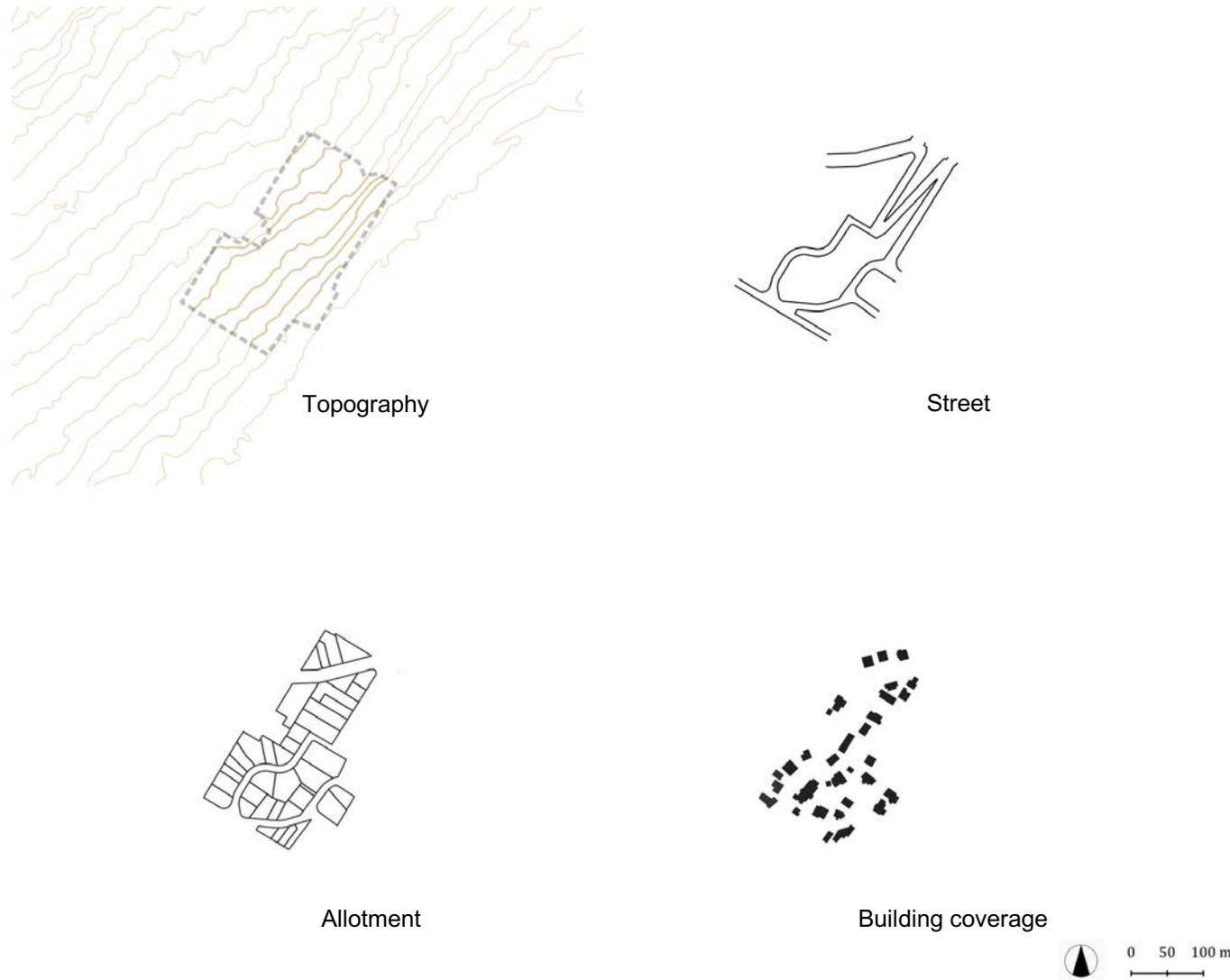


Figure 1. Landscape unit 13



**Figure 2.** Subsystems of the tissue

**Subsystems of the tissue**

The unit presents a very steep slope descending towards the southeast. These conditions produce an average inclination of 13.24 °, the second-highest average value observed in Westmount. As expected, the street network geometry is strongly

conditioned by the topography. The streets meander to climb up the elevation where amenable or practicable. In the southeastern portion of Mount-Pleasant Avenue, the slope is too steep to receive buildings. The configuration of the urban blocks is in keeping. The latter are of variable shapes and sizes and carry lots with various

geometry. The residential building coverage consists of detached or semi-detached single-family buildings.

**Routes hierarchy**

Leaving aside a short segment of Mountain Avenue, a connecting route that borders the unit on the southwestern side, the unit only has settling routes, purposefully created to carry lots that have their addresses on these. Figure 3 illustrates the categories of routes present in the landscape unit.

**Spatial syntax of the tissue**

As expected, the spatial syntax of the landscape unit is strongly conditioned by topographic conditions. The geometry of the streets, made of curves and counter-curves, delineates urban blocks with irregular shapes, carrying lots sometimes trapezoidal, sometimes triangular or, more rarely, rectangular.

Leaving aside the non-constructible section on the southeastern side, the pertinent strips generally extend parallel to the contour lines in order to minimize the impact of the topography on the siting and layout of the buildings. Those buildings are all of the single-family type, and generally have two floors above ground (90.6%). The dominant modes of aggregation are detached (78.8%) and semi-detached (21.2%), respectively. The unit does not present precise rules about the configuration of buildings. The architecture of the latter instead adapts opportunistically to the capricious geometry of their lots. These different conditions produce an average lot coverage ratio of 0.34.

*Adaptation to the slope*

Some of the unit's most significant morphological characteristics are associated with the physical and spatial strategies deployed to deal with the steep slope. In this regard, as a rule, the ground floors are entirely off the ground level, which results in a strong tendency to position the



**Figure 3.** Route hierarchy



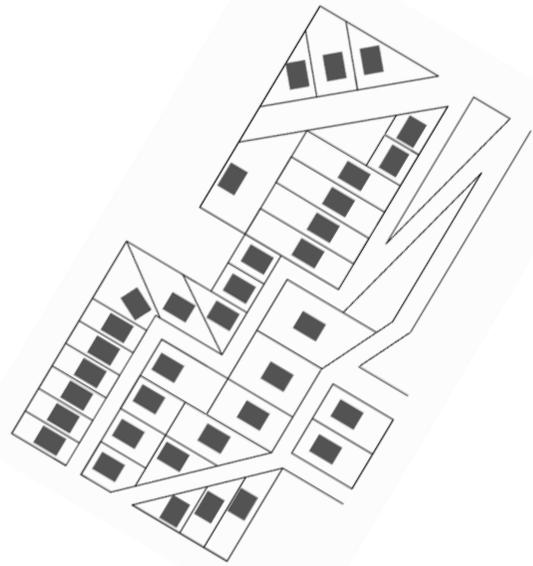
**Figure 4.** Face-block (Contrada) Structure

buildings on the higher side of their lot.

The buildings placed on lots with slope ascending from the street, which generally presents, in this case, their noble façade to the southeast, sit very high compared to the street and have a more generous front setback. (7.5 or 12 meters). Access to their ground floor hence requires a steep climb.

For their part, the buildings located on lots whose slope descends towards the back of the lot, and whose noble façade generally faces the northwest, are positioned at a shorter distance from the street (typically 4 meters), on the more elevated portion of their lot. Their ground floors have an elevation similar to that of the street so that they are generally accessible at grade.

The norm in Upper Westmount and on the foothills is that each dwelling unit is granted with a garage. This landscape unit is no exception. This requirement is achieved in one of the following three ways. Some garages present themselves as a detached secondary building dedicated to this function. Others take the form of a building wing contiguous to the main building body. Finally, some are built underground, within the main body of the residential building. Different rules apply regarding the positioning and access to the garage, depending on whether the lot slope descends towards the street or ascends from it. In this regard, the trend is almost always to take advantage of topographic conditions. So, when the slope of the lot goes down towards the backyard, access to a garage located in the basement will be granted at grade at the rez-de-jardin level at the back of the building or from a lateral façade. An exception to that rule exists when such a descending slope is too steep. In this case, a detached garage will be built close to the edge of the street, or, in the case of more recent constructions or extensions, on the noble façade of the building itself, on the ground floor. When the slope of the lot goes down to the street, access to the garages built in the basement is generally at grade at the level of the street on the front.

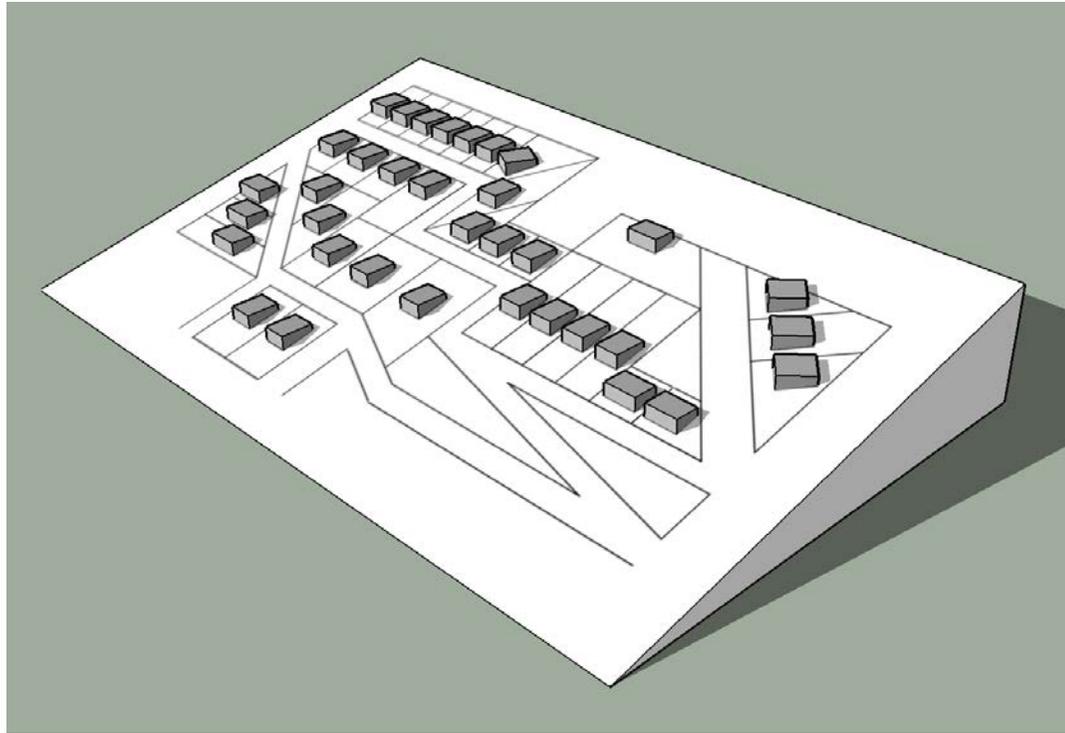


**Figure 5.** Spatial syntax of the tissue

**The streetscape**

The streetscape of this unit is inevitably marked by the topographic conditions prevailing there. The very rugged topography marks both the relationship of the buildings to the street, as mentioned in the previous section, and the landscaping, notably due to the widespread presence of imposing retaining walls.

On lots presenting an ascending slope from the street, the streetscape is informed by either one of the following two spatial layouts. The first case concerns buildings of older construction, which tend to be sited high up on their lots, thus creating significant front setbacks that are densely landscaped. Since steep slopes proscribe lawns, levelled shrub beds supported by imposing masonry supporting walls dominate. Such masonry work generally incorporates staircases whose configuration is often very elaborate. The second case involves recently constructed buildings,



**Figure 6.** Three-dimensional theoretical model

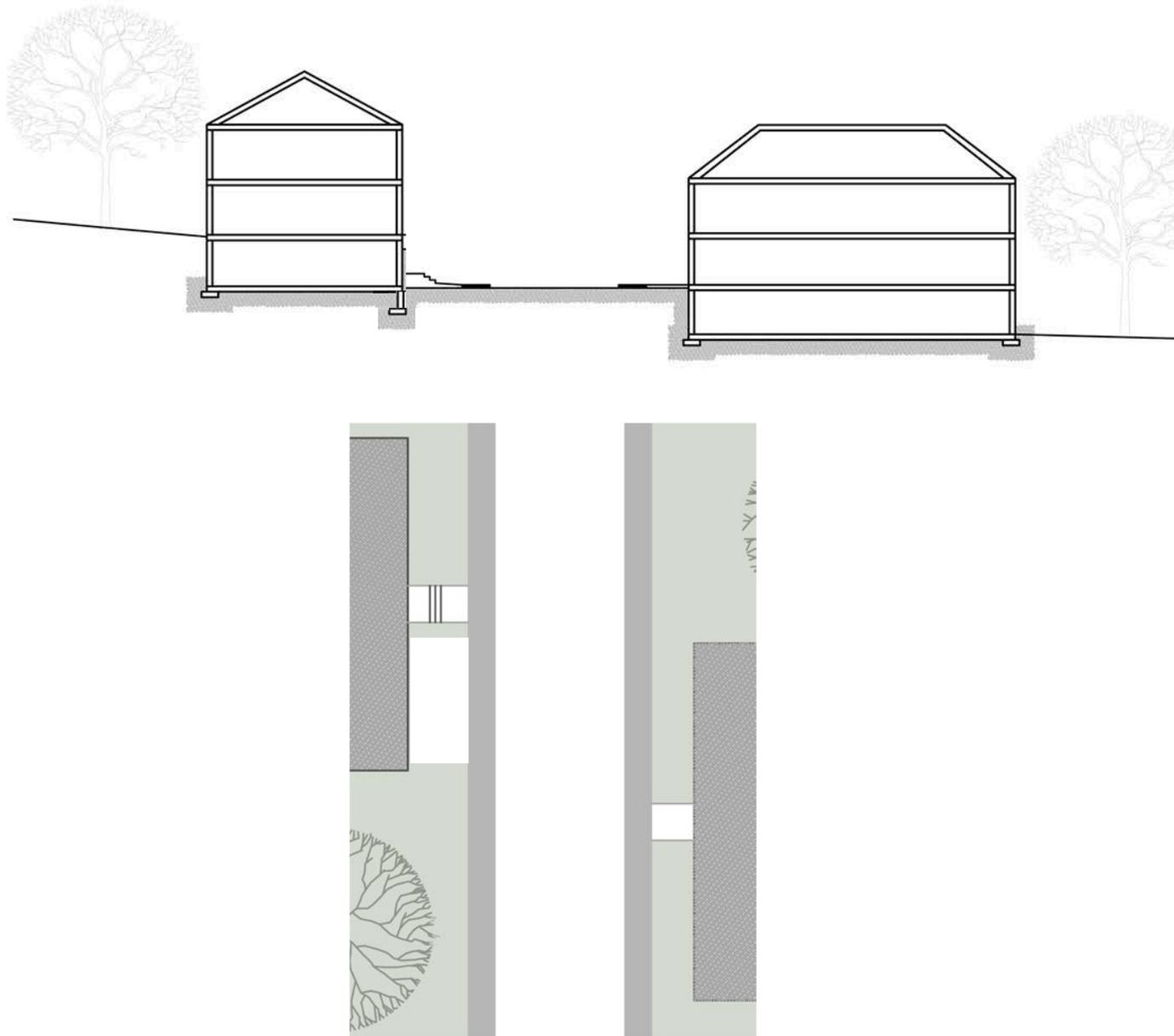
mainly concentrated on the northwestern side of Severn Avenue. The construction of these residences was made possible by extensive earthwork typically carried out on the courtyard side. In this case, the buildings are constructed at a short distance from the street, although their ground floor is built very high above the street-level elevation. The result is imposing basements walls on the noble façade side. The basements are generally hosting garages, access through doors directly onto the street, or at a short distance from it. In most cases, the architectural composition of the façade succeeds in attenuating the presence of the garage. More fundamentally, these new configurations are engaging with and altering the natural topography in ways that are genuinely at odds with the previous customary ways.

The rules of spatial syntax affecting buildings located on lots sloping down towards the courtyard entail that their noble façade is built at a short distance from the street so that the access to their

ground floor is at grade or requires minimal ascension of several steps.

The framing of the public-collective space is ensured jointly by the buildings and by landscaping. The built fabric is typically composed of buildings of two floors above the ground. Houses that are highly perched relative to the street level are sitting atop heavily landscaped stepped gardens, including stone retaining walls, and are typically adorned with sloping roofs of various types. Their highly picturesque character marks such architectural compositions. The curvilinear configuration of the streets accentuates the said character, by generating an ever-changing scenery for the observer.

One needs to note, however, the somewhat discordant nature of some more recent constructions. Several visual perspectives on the street have suffered from emerging building layout and siting modalities, characterized by a wholly



**Figure 7.** Typical section and siting layout views on a settling route (view towards the northeast)

exposed basement wall onto the street, or by massive retaining walls built on the very edge of the latter. In general, the traditional spatial syntax rules have responded much better to the landscape constraints posed by the topography. Figure 7 shows section and siting layout views representative of the streetscape in the unit. In this case, these are schematic representations of conditions observable on Severn Avenue, a settling route extending along a northeast-southwest axis, generally deployed parallel to the contour lines in the sector.

### **Public-collective / private-domestic spaces**

The physical and spatial features ensuring the mediation between the public-collective space and the private-domestic space in the landscape unit pertain to the presence of setbacks and the elevation of the ground floor, which is therefore accessed by an alley and an external staircase leading to an external landing more often than not protected by a projecting roof.

The distinctive feature of the landscape unit is that the front setbacks and the elevation of the ground floors are asymmetrical on both sides of the settling routes as per the strategies of adaptation to the topographic conditions which were previously described. The sharp contrasts induced by these conditions make it impossible to identify general rules concerning the relationship between public-collective space and private-domestic space. One should instead refer to the specific spatial syntactic rules pertaining respectively to the lots presenting an ascending or a descending slope from the street, as depicted in the previous section.



Figure 8. Spatial distribution of the dwelling units per building



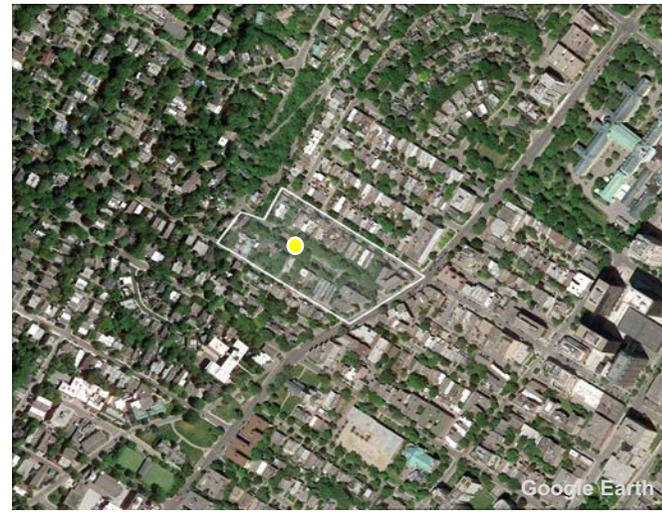
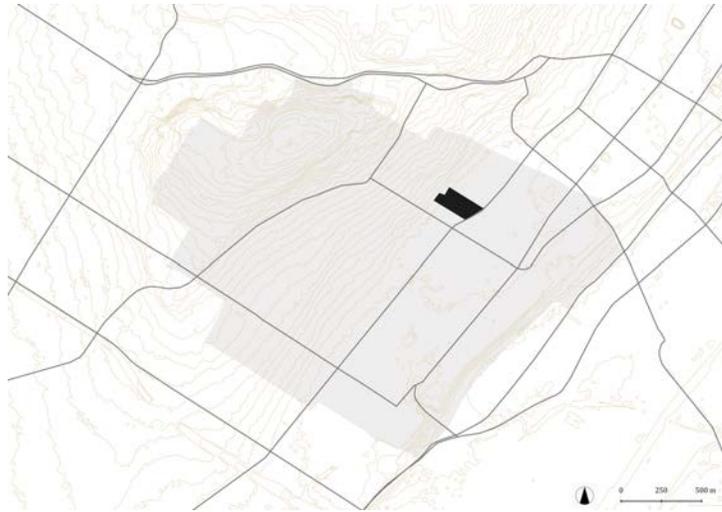
Figure 9. Spatial distribution of buildings according to their number of floors



Figure 10. Spatial distribution of buildings according to their mode of aggregation

### Composition of the residential building stock

Figures 8, 9 and 10 illustrate the spatial distribution of residential buildings according to the number of dwellings per building, their number of floors as well as their mode of aggregation. The exercise does not reveal any specific spatial trend concerning these architectural characteristics, including the modes of aggregation of the detached and semi-detached types.



## Landscape unit 14

Analytical fact sheet

### Location

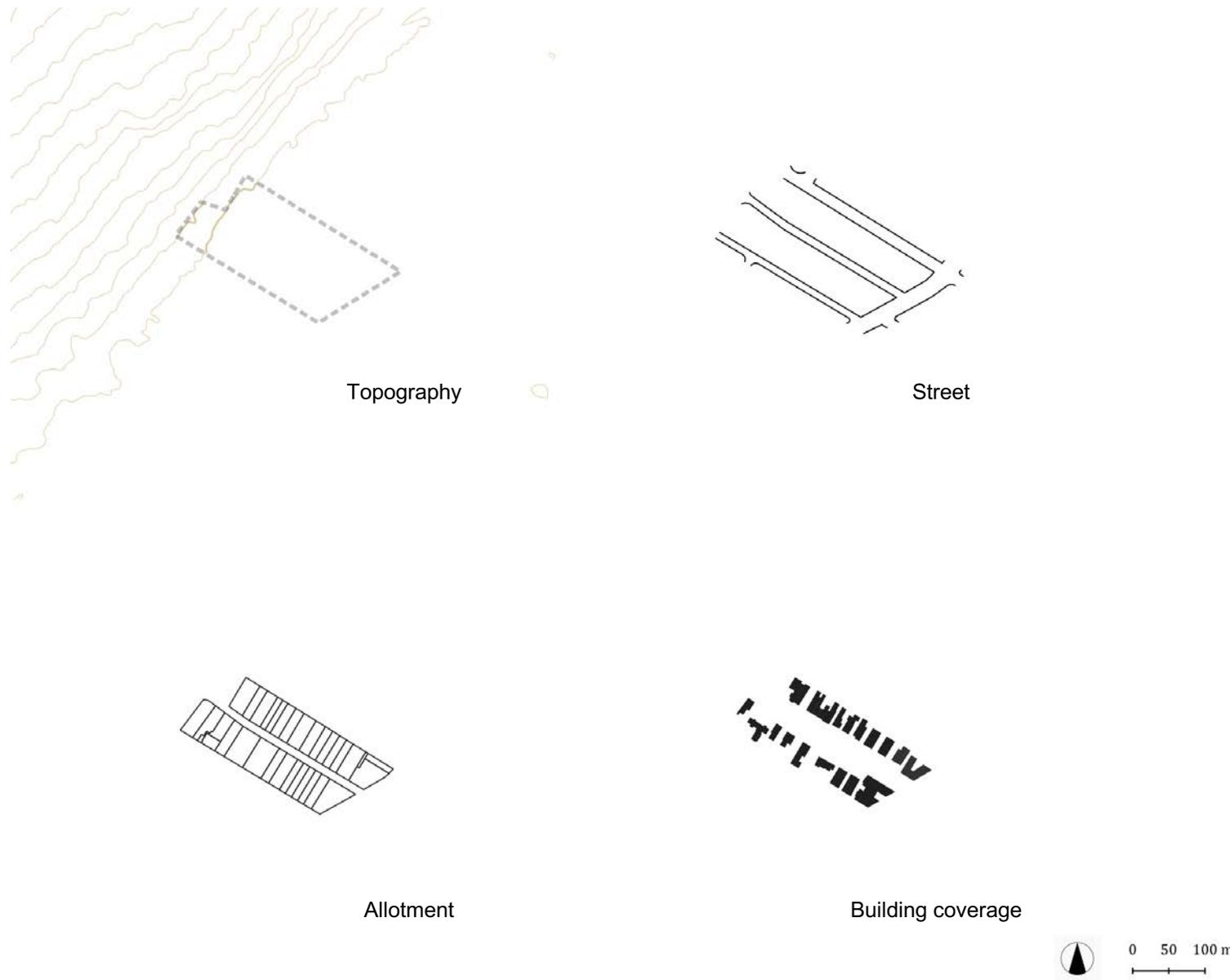
Landscape unit 14 is located on the Westmount Plateau, east of the eponymous Summit and its foothills. It is bordered on the southeastern side by Sherbrooke Street West, thence, clockwise, by Rosemount Avenue, then, on the northwestern side, by the allotment parting line located behind the properties located on the southeastern side of Rosemount Crescent, finally, on the northeastern side, by Mount-Pleasant Avenue.

### Brief description

Spanning 2.91 ha, this landscape unit is composed of 246 housing units. The residential housing stock is made up of 22 single-family buildings, as well as two multi-unit buildings along Sherbrooke Street West, which produces a total gross residential density of 84.5 dwellings per hectare and a net density of 107.7 dwellings/ha.



Figure 1. Landscape unit 14



**Figure 2.** Subsystems of the tissue

**Subsystems of the tissue**

This unit is located on flat ground. Orthogonal in its configuration, it conforms to the general geometry inherited from the agricultural allotment of the old Côte Sainte-Antoine. For the most part, it is deployed on Rosemount Avenue. The latter carries

two pertinent strips which are oriented northwest-southeast longitudinally. Two other streets deployed on the same orientation act as service streets in the unit. The building cover is diversified. It includes attached, semi-detached and detached buildings.

**Routes hierarchy**

Figure 3 illustrates the routes of the landscape unit according to their respective categories. The area is bordered to the southeast by Sherbrooke Street West, which is a matrix route for the tissue in this sector. Two of the routes, oriented northwest, are settling routes carrying lots with their addresses on them: Rosemount and Mount-Pleasant avenues. The third route though similarly oriented, Mountain Avenue, is a connecting route that was not originally intended to serve lots and buildings that had their addresses on it.

*Specialized routes*

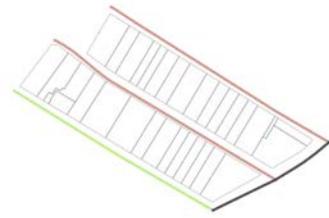
Sherbrooke Street West is a major thoroughfare. Rosemount Avenue, a residential street, is a direct extension of Greene Avenue, a specialized local commercial street.

**Spatial syntax of the tissue**

The landscape unit presents straightforward spatial syntax rules, though its configuration is unique. The matrix route is bordered by two apartment buildings, but surprisingly these multi-unit buildings are both facing Rosemount Avenue, on which they have their addresses. The latter carries two pertinent strips facing each other on this street. To the exception of the irregularly shaped lots at the corner of Sherbrooke Street West, these strips consist of orthogonal lots that present their shorter side onto the avenue.

In this area, Mount-Pleasant and Mountain avenues serve as service streets for the residences located on Rosemount Avenue. They provide access to the garages of the said residences as alleyways would typically do. Mount-Pleasant Avenue is nonetheless designated as a settling route because it has had a pertinent strip of its own from the origin to the northeast.

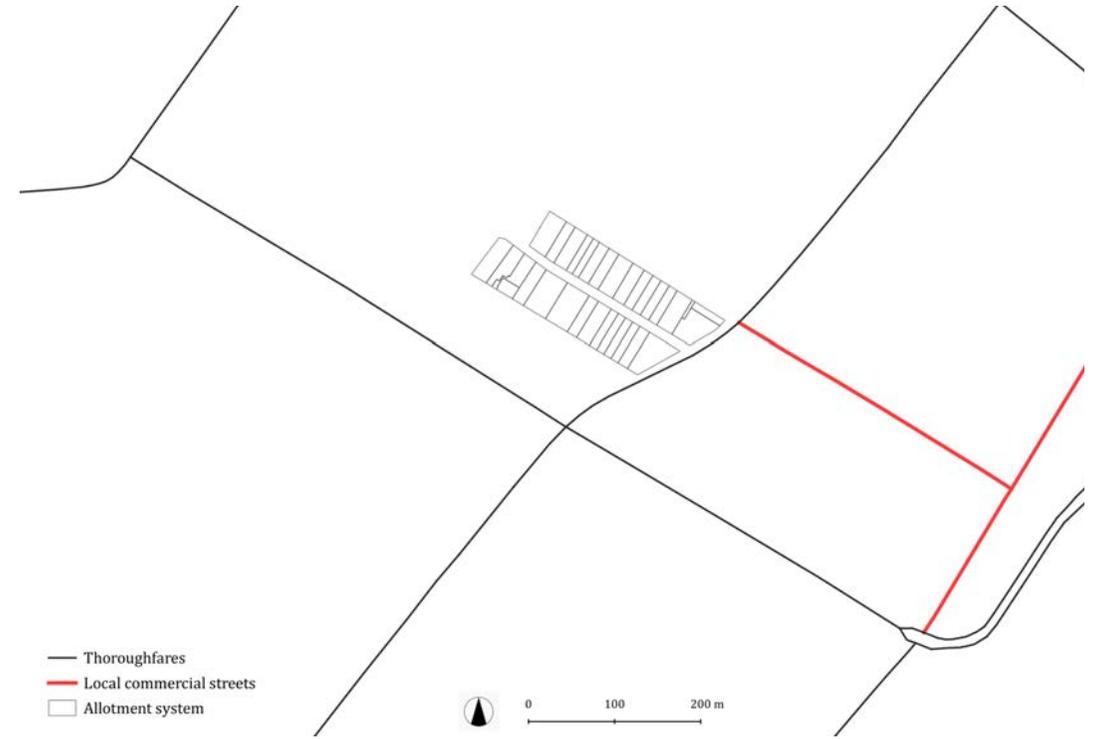
Aside from the apartment buildings, Avenue Rosemount only carries residential buildings with



- Matrix route
- Settling route
- Connecting route
- Allotment system



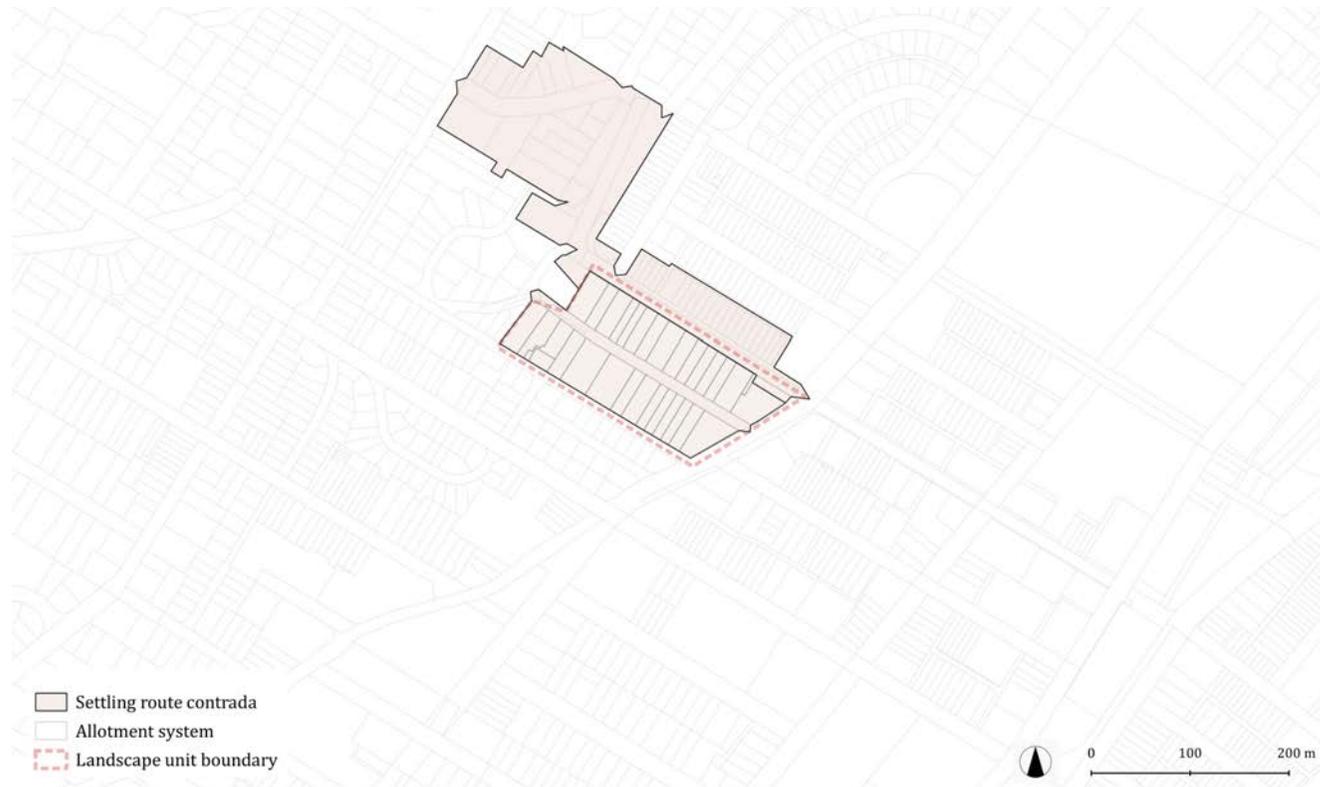
**Figure 3.** Route hierarchy



- Thoroughfares
- Local commercial streets
- Allotment system



**Figure 5.** Specialized route



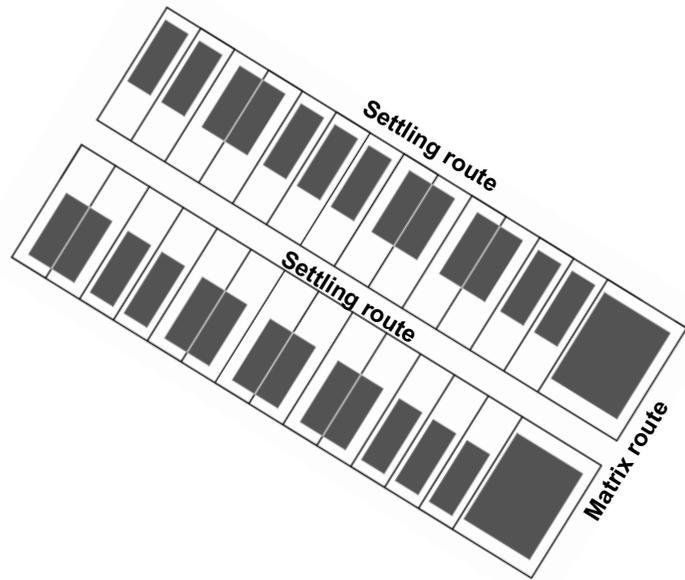
- Settling route contrada
- Allotment system
- Landscape unit boundary



**Figure 4.** Face-block (Contrada) Structure

two storeys above ground. It is in terms of the mode of aggregation that the unit shows diversity since the buildings are, in turn, detached, semi-detached or attached.

Generally, the buildings are deployed in depth along the longitudinal direction of their respective lots. The lots comply with modular dimensions, presenting a lot width of about 14 m onto the street and a depth of 49 m. The building siting is subjected to a very large front setback of around 16 to 20 m. For the most part, the back yards are occupied by garages, above some of which are a handful of mews-type housing units. At 0.63, the ratio of building footprint to total lot area is one of the highest in the municipality. Such conditions testify to the ample surface area of residential buildings, which are sitting on lots of generous dimensions themselves.

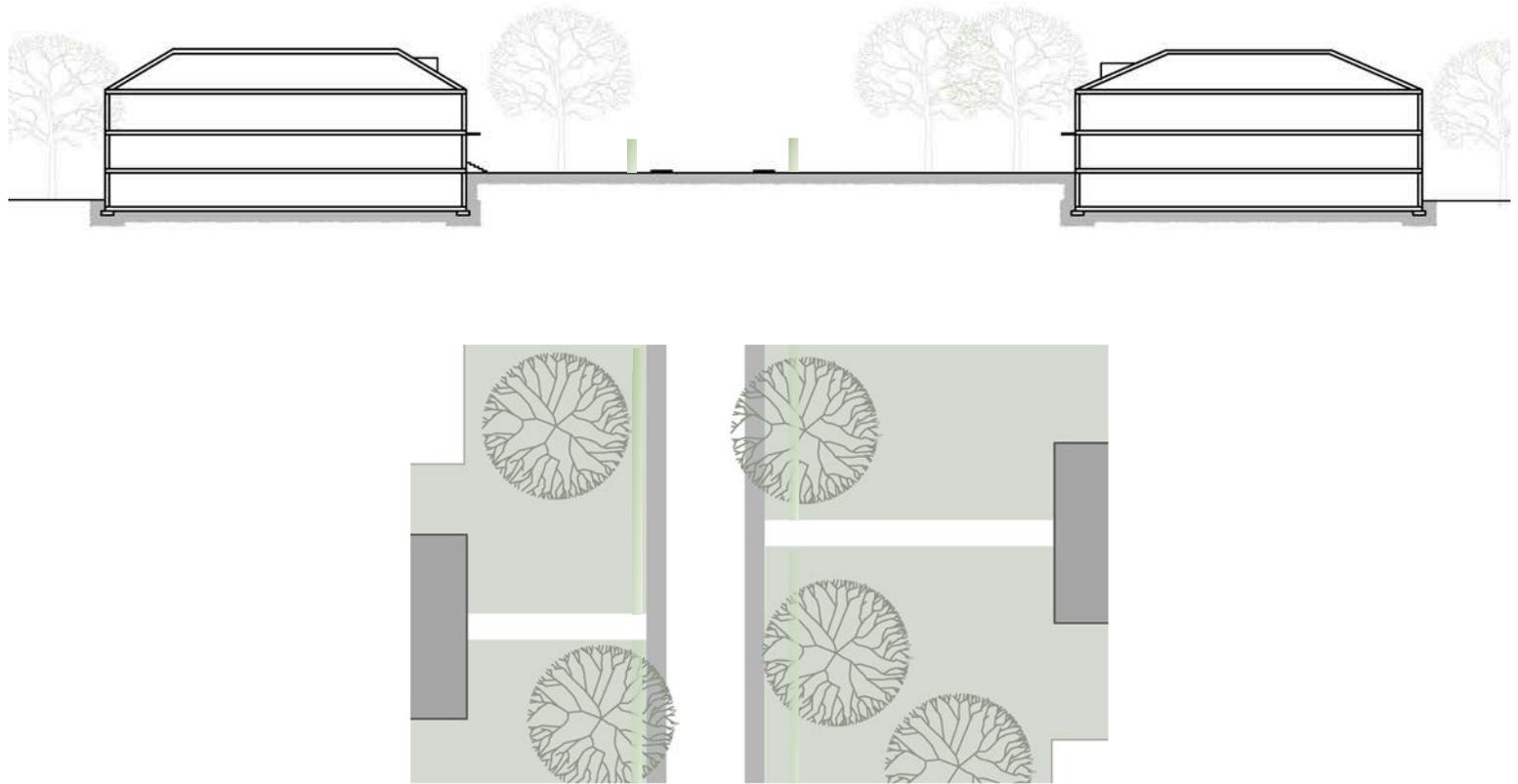


**Figure 6.** Spatial syntax of the tissue

**The streetscape**

Exceptionally deep front setbacks strongly mark the streetscape of this unit. Space thus freed up typically undergoes extensive landscaping. It is not uncommon for the density of plantations, including tall hedges, to hide the building façade from the street altogether. These circumstances are rare in Westmount and denote this unit's distinctive architectural identity. The distance separating the buildings from the street means that the former contributes only modestly to the framing of the latter, despite their two aboveground floors, typically topped by high, sloping roofs.

The architectural eclecticism of the unit reflects its long initial period construction. The dominant architectural vocabulary, inspired by the Arts and Crafts movement, can be described as picturesque. Most façades, though barely visible from the street, are much articulated. They are adorned with projections, oriels and porches and



**Figure 7.** Typical section and siting layout views on a settling route (view towards the northwest)

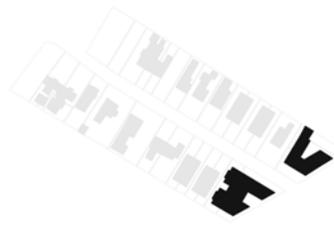
are generally topped by complex roofs adorned with dormers.

Figure 8 shows section and siting layout views representative of the streetscape on Rosemount Avenue.

**Public-collective / private-domestic spaces**

The physical and spatial features ensuring the mediation between the public-collective space and the private-domestic space in the landscape unit pertain to the presence of setbacks and the rising of the ground floor relative to the street level. Buildings are therefore accessed by an external

alleyway and staircase leading to a landing more often than not protected by a projecting roof, which sometimes makes dual use as a balcony upstairs. Most of the buildings are accessed via their noble street façade, but some units have their main access door on a lateral façade. The deep front setbacks adorned by extensive landscaping are the principal features contributing to a very high level of privacy to the domestic space.



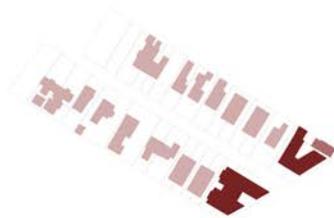
■ 13 dwellings and more  
 ■ 1 dwelling

**Figure 8. Spatial distribution of the dwelling units per building**



■ Detached buildings  
 ■ Semi-detached buildings  
 ■ Attached buildings

**Figure 10. Spatial distribution of buildings according to their mode of aggregation**



■ 4 stories and more  
 ■ 3 stories  
 ■ 2 stories

**Figure 9. Spatial distribution of buildings according to their number of floors**

**Composition of the residential building stock**

Figures 8, 9, and 10 illustrate the spatial distribution of residential buildings according to the number of dwellings per building, their number of floors as well as their mode of aggregation, namely their belonging to the detached, semi-detached or attached categories, respectively. Leaving aside the positioning of multi-unit buildings at the corner of Sherbrooke Street West, at the southeastern boundary of the unit, the latter does not present any specific spatial trend, in particular concerning the varying modes of aggregation.

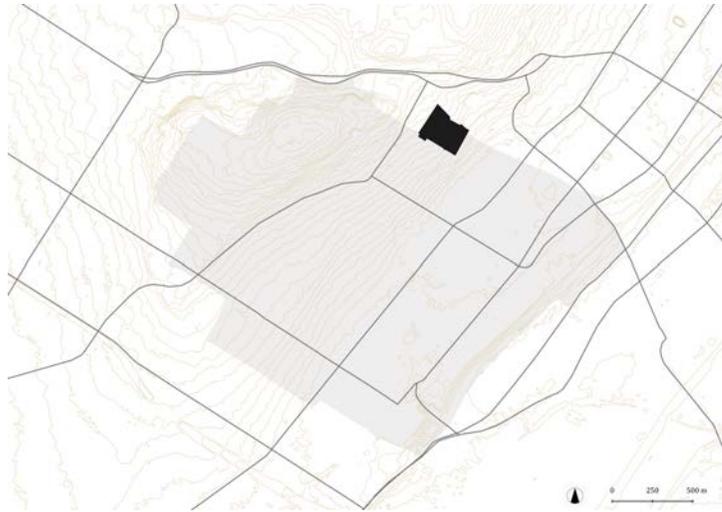


Figure 1. Landscape unit 15

## Landscape unit 15

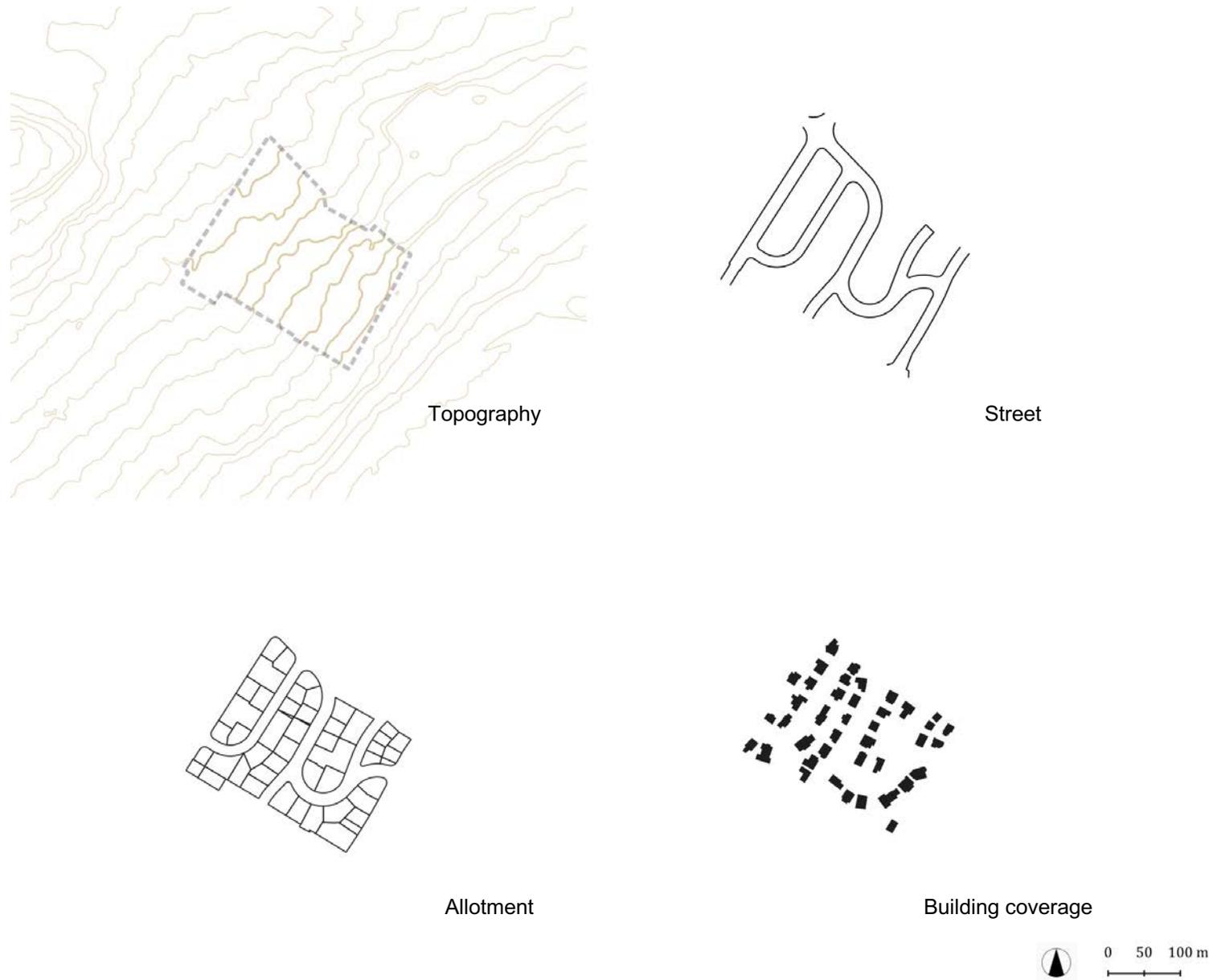
Analytical fact sheet

### Location

Landscape unit 15 is located east of the Westmount Summit on the foothills of the latter. It is bordered to the southeast by Chemin Saint-Sulpice, thence, clockwise, on the southwestern side by the allotment parting line behind the properties located on the said side of Place de Ramezay, by the allotment parting line behind the properties located on the same side of Chemin Daulac, then by Cedar Avenue on the northwestern side and finally, to the northeast, partly by Ramezay Avenue and partly by the old convent property recently converted into a residential complex. It should be noted that only part of this landscape unit falls under the jurisdiction of the City of Westmount. A rigorous morphological analysis nevertheless requires that we consider it in its entirety.

### Brief description

Spanning 5.08 ha, this landscape unit is composed of 41 detached single-family housing units, producing a gross residential density of 8.1 units per hectare and a net density of 11.6 dwellings/ha.



**Figure 2.** Subsystems of the tissue

**Subsystems of the tissue**

The unit presents a slope that descends to the southeast, producing an average inclination of 7.75 °. The topography directly conditions the curvilinear street network. The streets meander to climb the slope along a path of least resistance. The urban

blocks thus defined are elliptical or bean-shaped and consist of two pertinent strips, generally oriented parallel to the contour lines on a northeast-southwest direction. The allotment consequently presents lots of varying shapes and sizes. The building coverage is made up of detached single-family buildings.

**Routes hierarchy**

All the routes in the landscape unit are settling routes serving lots that have had their addresses on them since their inception.

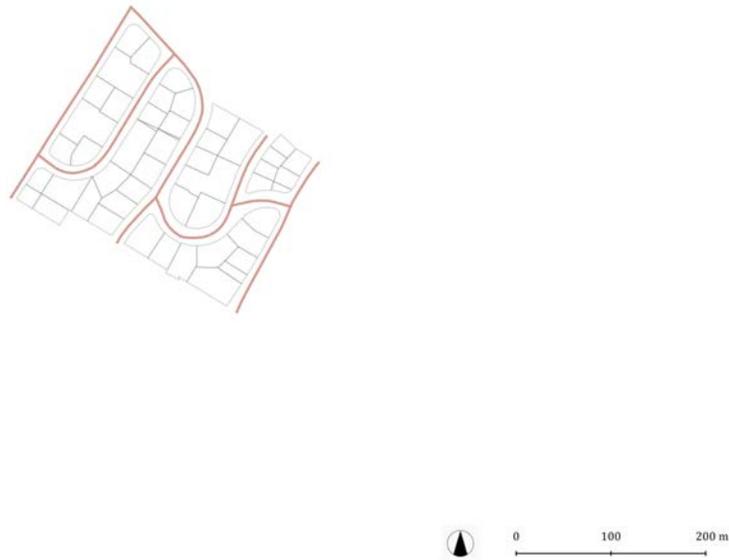
**Spatial syntax of the tissue**

The topographic conditions strongly impact the spatial syntax of the unit. The geometry of the streets, marked by curves and counter-curves, delineates urban blocks with irregular shapes carrying lots that could be either trapezoidal, globally rectangular or even triangular. The pertinent strips generally extend parallel to the contour lines as a way to mitigate the impacts of the topography on the siting and layout of the buildings.

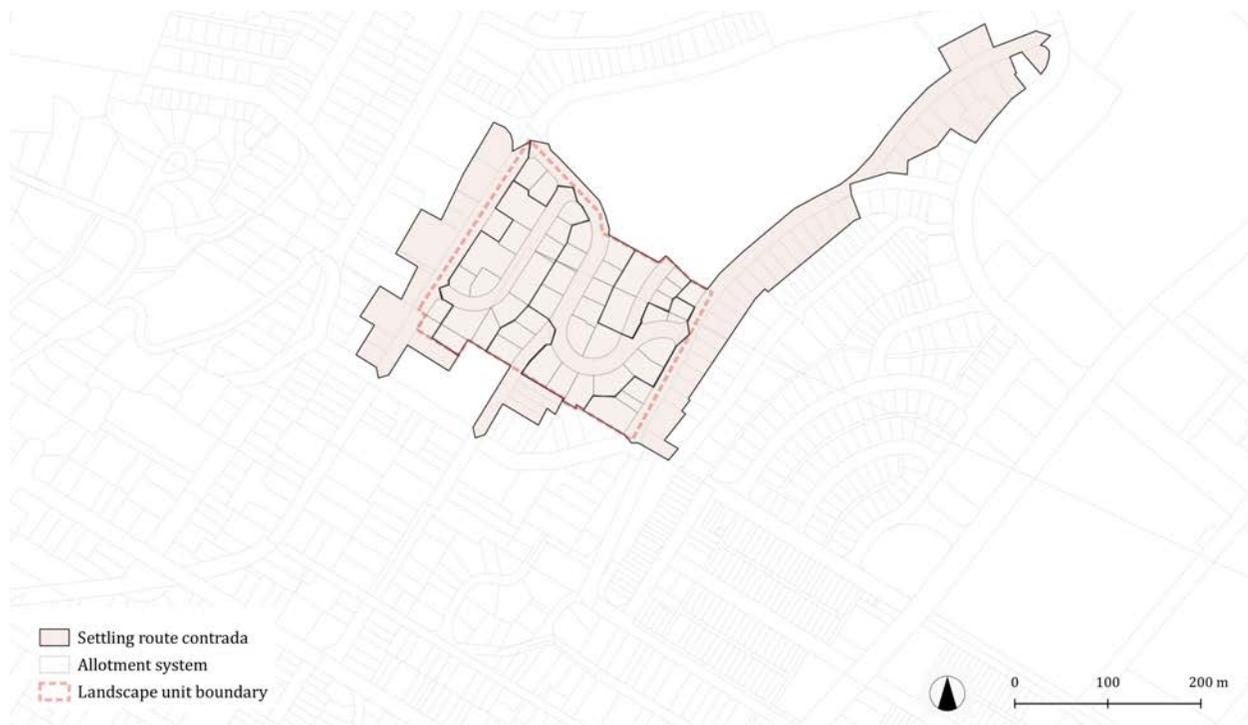
The buildings are all of the detached single-family category, and most have two floors above ground (78%). Some 12.2% of the residential buildings have one floor, and 9.8% have three floors above ground. The lots are generally of fairly compact geometry, which means that the ratio of their width to their depth is close to that of a square. The same applies to the footprint of the buildings sitting on these lots. The capricious topographic conditions resulted in the creation of several through-lots spanning across their block between two streets (Figure 3). These different conditions produce a lot coverage ratio of 0.34.

The topographic conditions impact the siting of buildings on their lots. There is a tendency to position the building high on its lot. The general rule is that the ground floors are built entirely above the ground level so that the elevation of the ground floor is according to the highest level of the portion of the lot on which it sits. Since the deployment of the street segments generally parallels to the contour lines, there is an asymmetry between both sides of the settling routes.

Buildings placed on lots whose slope is ascending



**Figure 3.** Route hierarchy



**Figure 4.** Face-block (Contrada) Structure

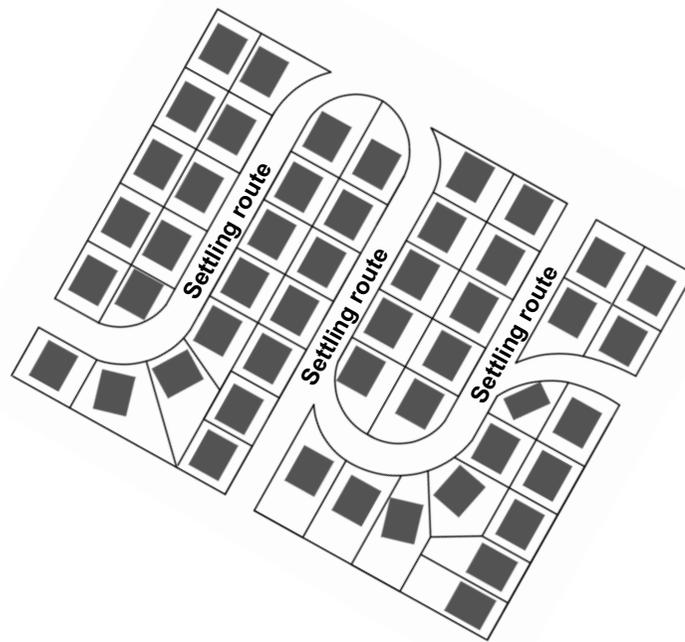
from the street present a ground floor elevation that is high relative to the street level. The siting of the building in such cases also entails a more generous setback at the front (around 6 m). These buildings generally present their noble façade to the southeast. Access to their ground floor requires a steep climb.

For their part, the buildings located on lots whose slope descends towards the back of the lot, and whose noble façade generally faces the northwest, are positioned at a short distance from the street (3.5 meters typically), in the upper part of their lot. Their ground floors have an elevation close to that of the street so that they are generally accessible at grade or by ascending several steps.

The rule in Upper Westmount and on the piedmont is that each dwelling unit is granted with a garage. In this unit, the garages are either built in the basement, directly in the main body of the building, or on the ground floor, then most often in a wing adjoining the said main body.

Different rules apply regarding the positioning and access to the garage, depending on whether the lot slope descends towards the street or ascends from it towards the courtyard. There is a general tendency to take advantage of topographic conditions or else to adapt to the constraints posed by these.

When the slope of the lot descends towards the backyard, access to a garage located in the basement will generally be at grade at the rez-de-jardin level, through the rear or a lateral façade of the building. When the slope is too steep on such lots, the garage will be positioned at the ground floor in a wing contiguous to the main body of the building, accessible at grade from the street, though typically set back from the alignment of the façade. In more recent residential constructions or extensions, the positioning of the access door to the garage on the noble façade of the building is often observed.



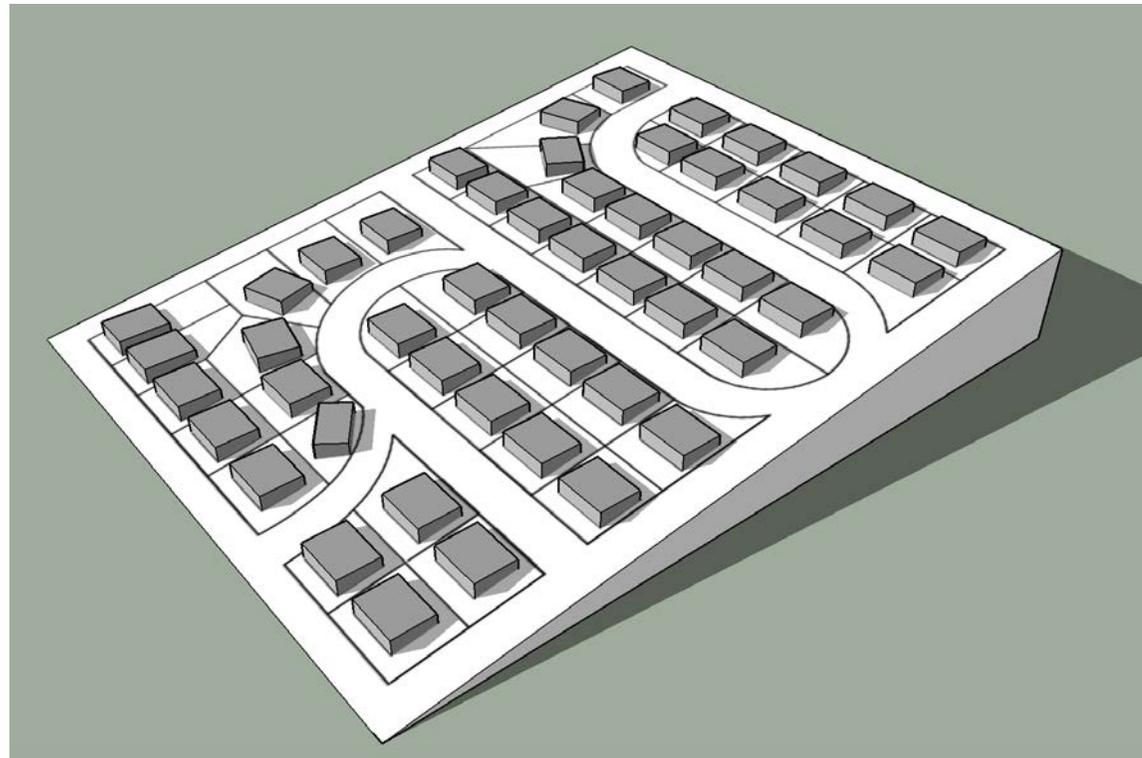
**Figure 5.** Spatial syntax of the tissue

When the slope of the lot descends towards the street, as mentioned earlier, the ground floor is raised relative to the street level. Access to the garages, then built in the basement, is generally at grade from the street level, on the front façade, in order to take advantage of the topography. The front setback is generally marked by sloping or levelled landscaping combined with driveways giving access to garages doors, generally made discreet by design.

**The streetscape**

The streetscape of this unit is marked by the methods of adaptation to the topography described above. The siting of buildings is differentiated according to whether the lot has an upward or downward slope from the street, which produces an asymmetry between each side of the street.

Lots that are ascending from the street have densely landscaped setbacks. Since the slope



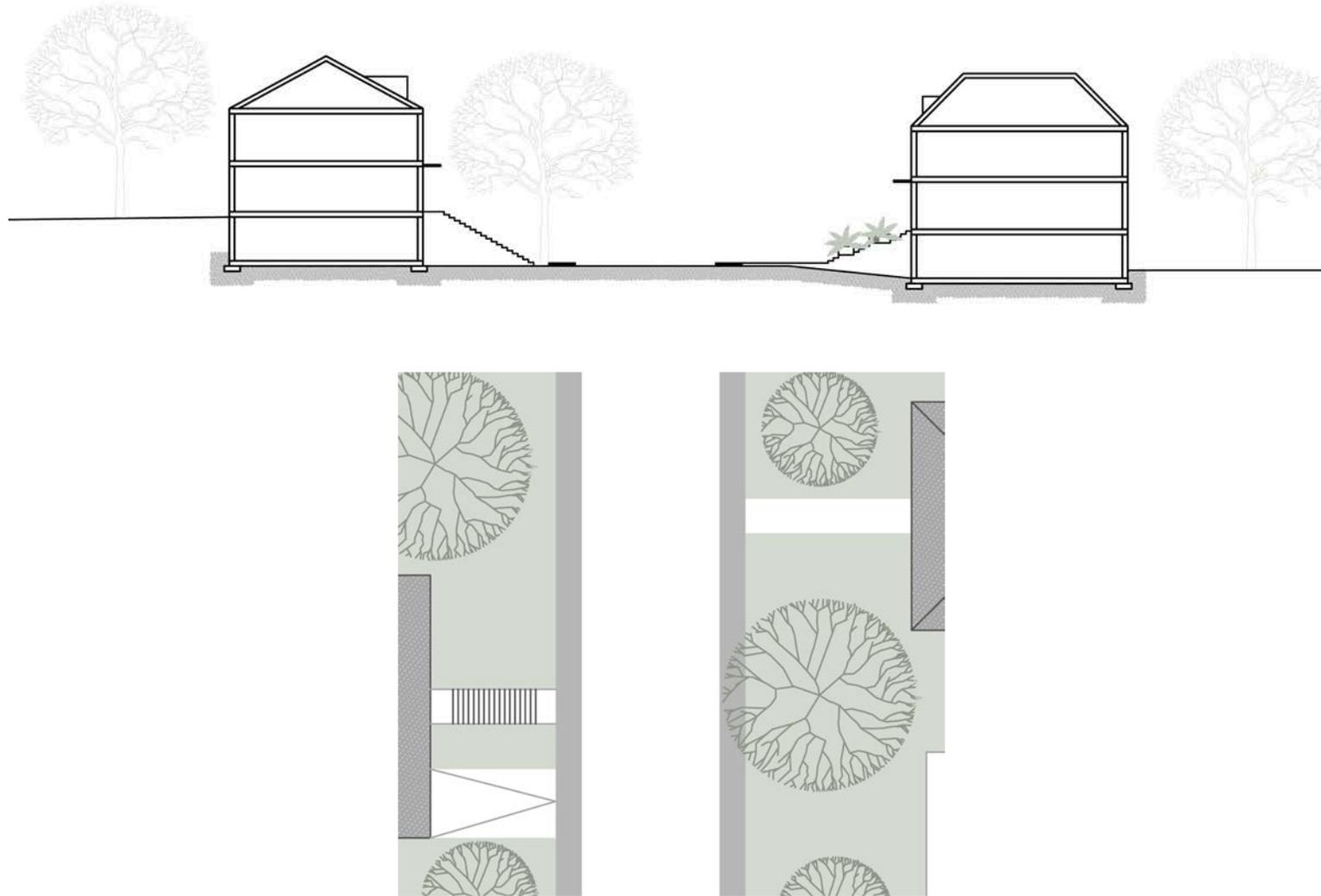
**Figure 6.** Three-dimensional theoretical model

typically precludes lawn, sloping or stepped shrubs arrangements dominate, often integrating stone retaining walls. The buildings located on the lots sloping down towards the courtyard are constructed at a short distance from the public street, and their ground floors are generally accessed at grade or by climbing a modest stairway. The landscaping is generally composed of flower beds and low shrubs, as a rule, to avoid obstructing the façade and hence compromise the supply of natural light to the dwelling.

The asymmetrical framing of the public-collective space is ensured predominantly by the buildings themselves on one side of the street, and by a combination of denser and frequently stepped landscaping and the building façades, on the opposite side. The buildings typically have two aboveground floors, which are generally crowned by sloping roofs of various types, though gable roofs predominate. The relatively modest setbacks relative to the size of the buildings produce a tight

architectural framing for the public-collective space. The predominance of stone as exterior cladding distinguishes this unit. The architectural expression of the façades is generally very restrained and can be described as neoclassical. Porches, projections or other fore bodies are rarely observed on the main façades.

Figure 7 shows section and siting layout views representative of the streetscape in the unit. In this case, these are schematic representations of conditions observable on Ramezay Avenue, a settling route extending along the northeast-southwest direction, generally parallel to the contour lines in the sector.



**Figure 7.** Typical section and siting layout views on a settling route (view towards the northeast)

### Public-collective / private-domestic spaces

The physical and spatial features ensuring the mediation between the public-collective space and the private-domestic space in the landscape unit pertain to the presence of setbacks and, as the case may be, to the raising of the ground floor relative to the street level. In the latter case, access to the dwelling is by a walkway and an external staircase leading in successive stages to the front door, located on the main façade, with rare exceptions. As previously mentioned, the buildings of the unit seldom have porches.

### Composition of the residential building stock

Figures 8, 9 and 10 illustrate the spatial distribution of residential buildings according to the number of dwellings per building, their number of floors as well as their mode of aggregation. The unit is highly cohesive in this regard, but for the number of aboveground floors, which varies from one to three. The exercise does not, however, reveal any specific spatial trend in this regard.



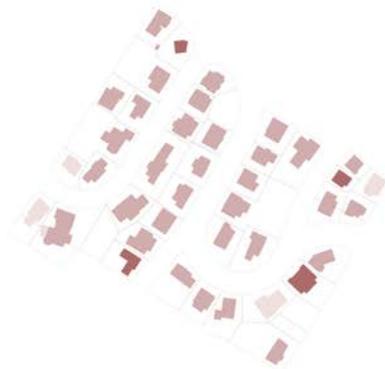
■ 1 dwelling

**Figure 8. Spatial distribution of the dwelling units per building**



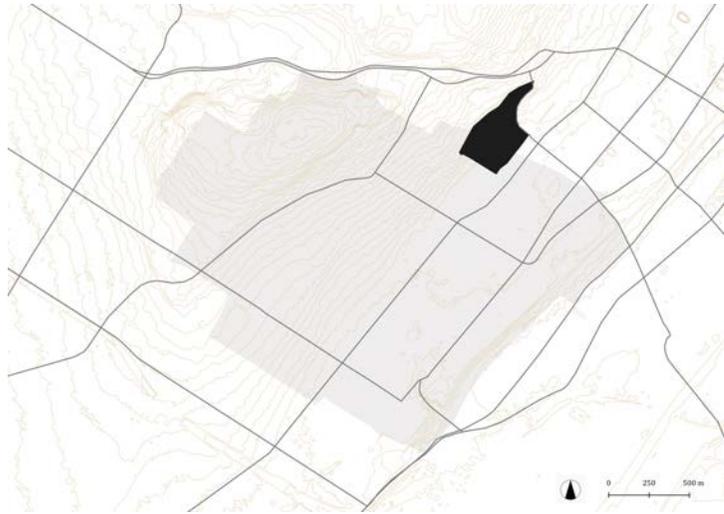
■ Detached buildings

**Figure 10. Spatial distribution of buildings according to their mode of aggregation**



■ 3 stories  
■ 2 stories  
■ 1 story

**Figure 9. Spatial distribution of buildings according to their number of floors**



## Landscape unit 16

Analytical fact sheet

### Location

Landscape unit 16 is located east of the Westmount Summit, partly on the piedmont of the latter and partly on the Westmount plateau. It is bordered to the southeast by Chemin Barat, thence, clockwise, by Wood Avenue on the southwestern side, then to the northwest, by Chemin Saint-Sulpice, and finally, on the eastern side, by Atwater Avenue. It should be noted that only part of this landscape unit falls within the boundary of the city of Westmount. However, a rigorous morphological analysis requires considering the morphological area in its entirety.

### Brief description

Spanning 12.1 ha, this landscape unit includes 186 housing units. The residential housing stock is made up of single-family buildings at 98%, in addition to a multi-unit building located on Atwater Avenue, outside the municipal limits of Westmount. The ensemble produces a gross residential density of 15.4 dwellings per hectare and a net density of 21.6 dwellings/ha. It should be noted that these densities are amplified by the presence of the apartment building on Atwater Avenue.

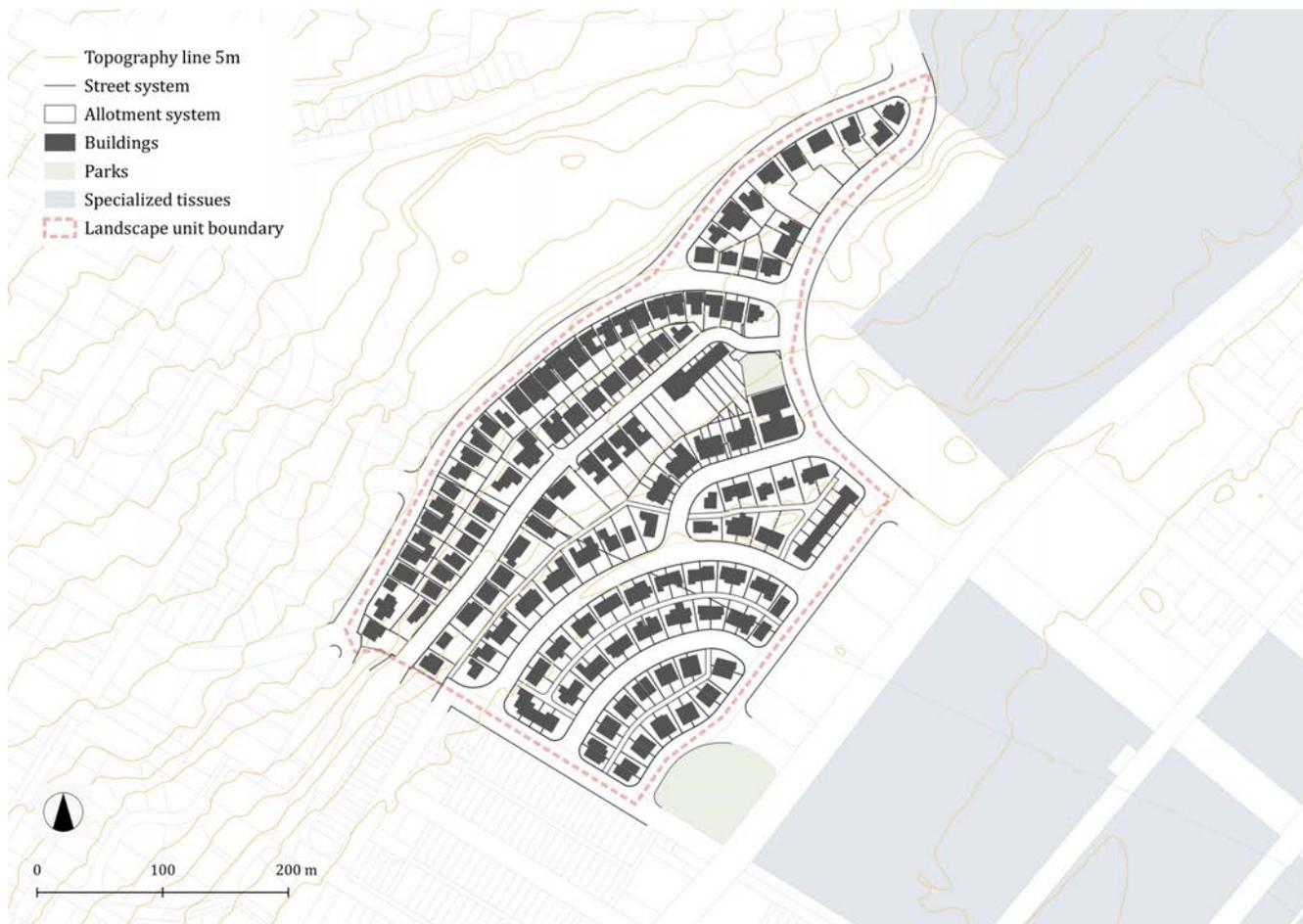
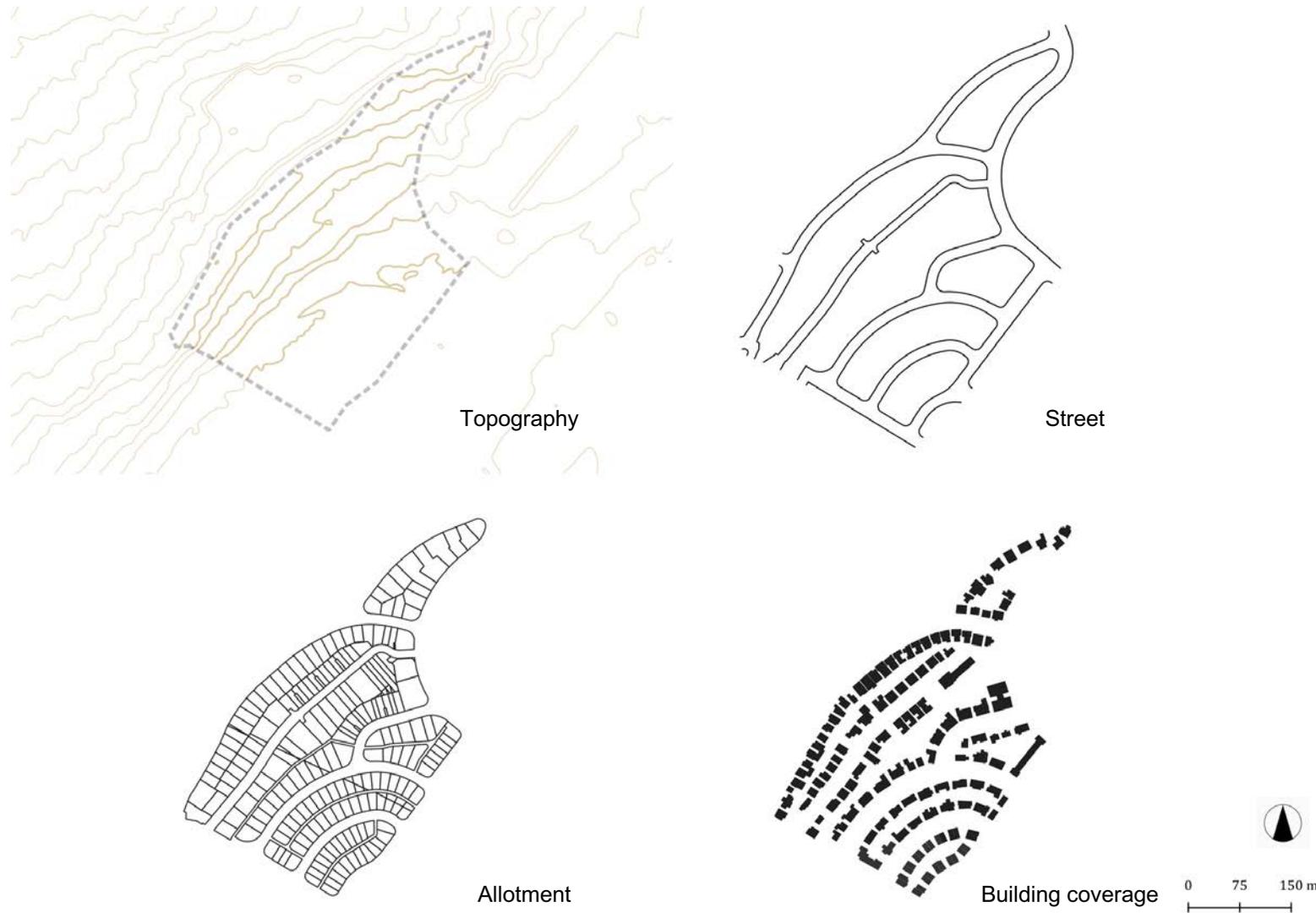


Figure 1. Landscape unit 16



**Figure 2.** Subsystems of the tissue

**Subsystems of the tissue**

The unit presents a slope that descends to the southeast, producing an average inclination of 5.25 ° while excluding the flat area. The street network is curvilinear, both in the sloping part and in the plane portion of the unit. In the sloping portion, the

streets wind to climb the elevation according to a path of least resistance. The urban blocks thus defined are elliptical or bean-shaped and consist of two pertinent strips oriented parallel to the contour lines, following a northeast-southwest orientation. The allotment is composed of lots of varying shapes and sizes, although tending towards a

rectangular or slightly trapezoidal figure. The lower part of the unit presents a spatial syntax similar to that of the sloped area. While it is reasonable to infer that the topography conditions the tissue configuration in the slanted area, it is not the case on the flat section on the unit. In the latter, the curvilinear street pattern is purely by design rather than by the need to adapt to the topography.

The building coverage in the unit is mostly made up of single-family buildings, in detached, semi-detached or attached modes of aggregation. A difference can be observed between the flat and sloping areas. The former has a high prevalence of semi-detached buildings, while the latter is characterized by its diversity regarding the mode of aggregation.

**Routes hierarchy**

Figure 3 illustrates the categories of routes present in the landscape unit. These are all settling routes, serving lots that have their address on them from their inception, except for Atwater Avenue, which is a break-through route in this sector.

As it was, this portion of Atwater Avenue has been built after the institutive phase of the sector in order to ensure better permeability of the street network, in particular, to connect major thoroughfares between themselves. These are, in addition to Atwater Avenue itself, René-Lévesque Boulevard West, Sherbrooke Street West and Docteur-Penfield Avenue, which works in conjunction with Côte-des-Neiges Road in this area of Montréal.

*Specialized routes*

Figure 5 illustrates the position of the unit in relation to the network of major thoroughfares that was just described.

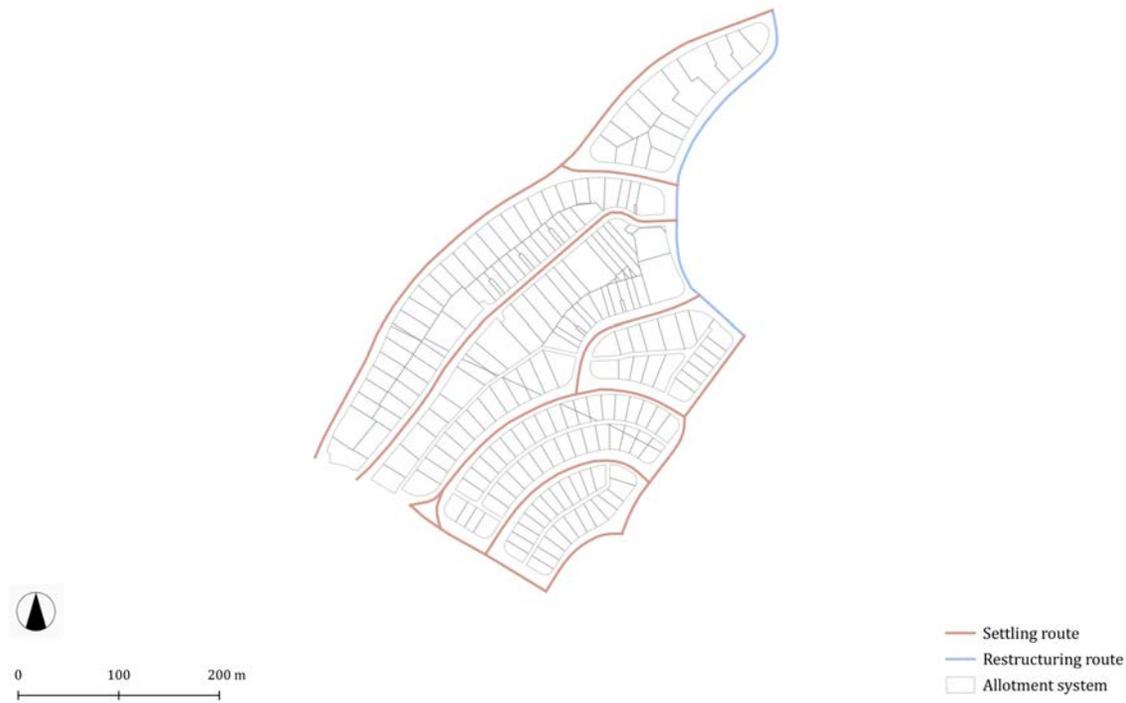


Figure 3. Route hierarchy



Figure 5. Specialized route

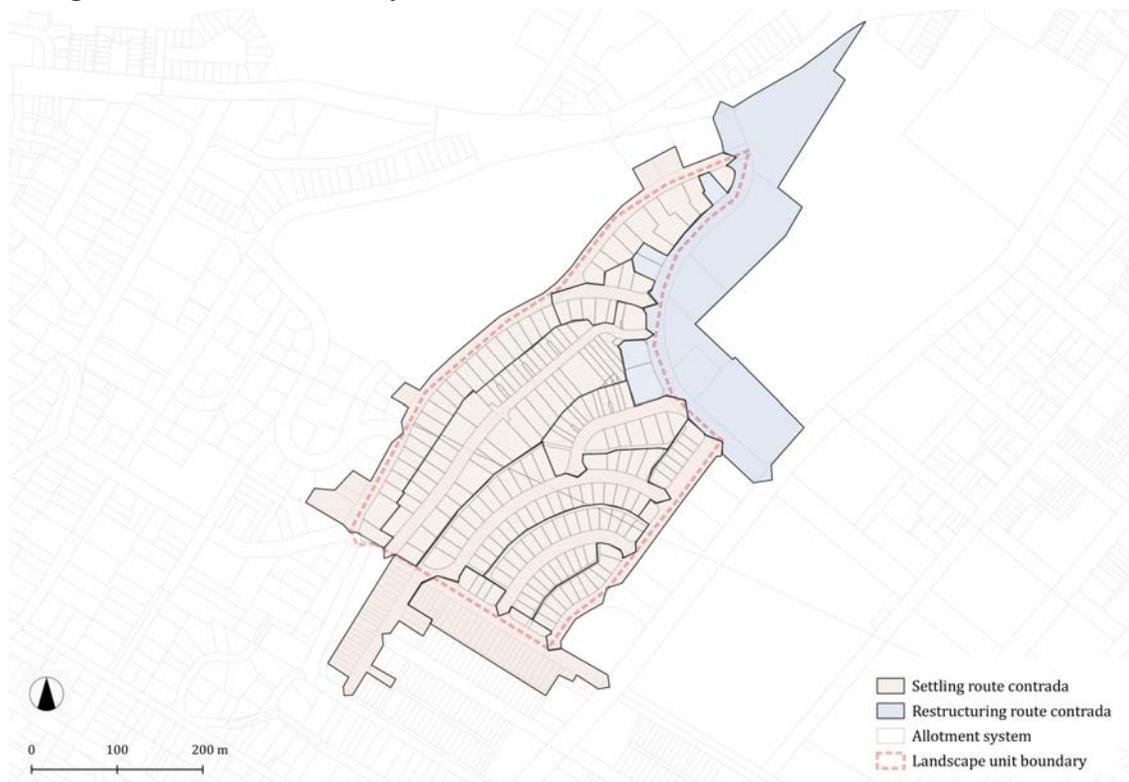
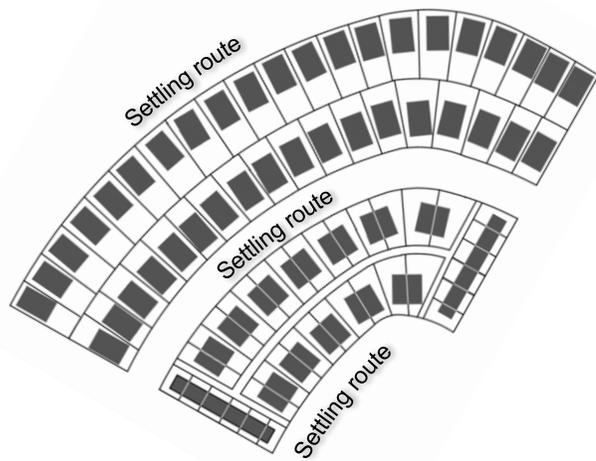


Figure 4. Face-block (Contrada) Structure

### Spatial syntax of the tissue

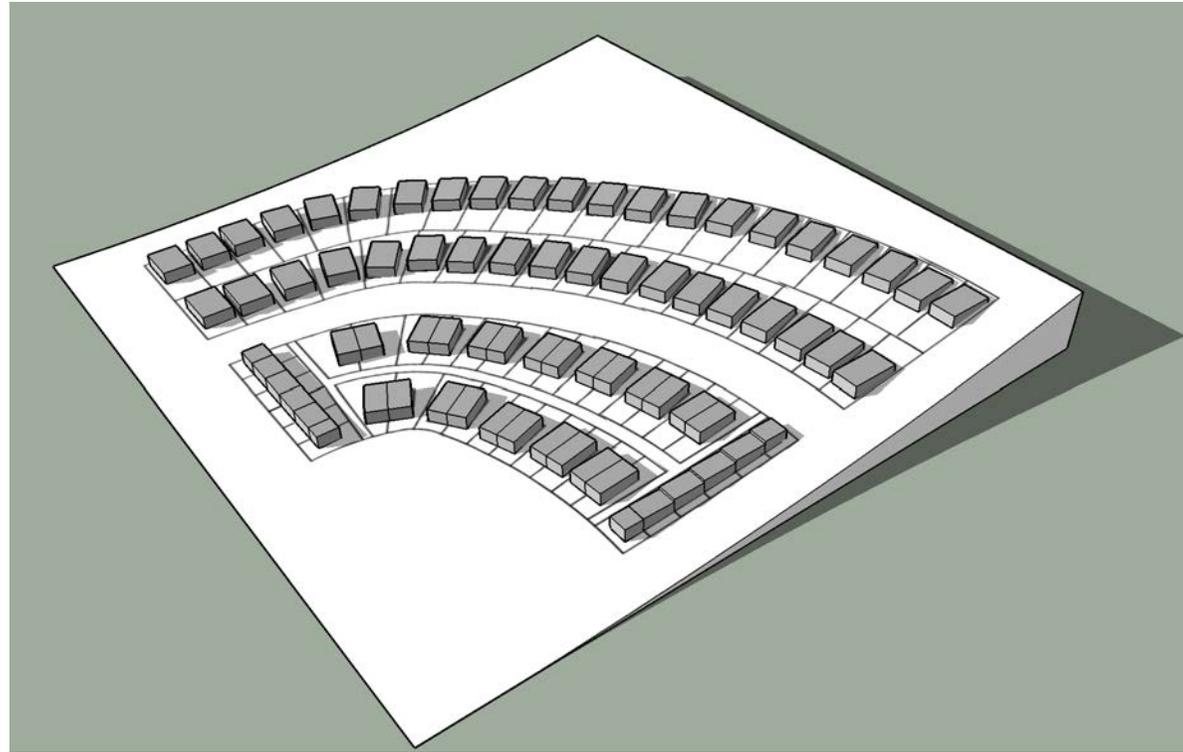
As a previous section suggested, in the sloping section, the spatial syntax of the unit is in response to the topographic conditions. The geometry of the streets, all in curves, delineate elliptical urban blocks, generally carrying slightly trapezoidal lots deployed radially to the street in their longitudinal axis. The urban blocks are composed of two pertinent strips. The latter are generally deployed parallel to the contour lines in order to moderate the impact of the topography on the siting and layout of the buildings. In the flat part, the tissue presents an overall configuration comparable to that of the sloping portion. Since the topography did not play a role, it seems reasonable to infer that the tissue assumes a picturesque character by design. The tissue configuration and the architectural expression of the buildings suggest an influence of the Garden Cities movement and, in particular, of the work of the architects Unwin and Parker in Letchworth, UK. In the flat portion,



**Figure 6.** Spatial syntax of the tissue

the presence of alleyways can be observed. The buildings are of the single-family type, with two aboveground floors. The semi-detached mode of aggregation dominates largely. In the urban block delineated by Chemin Barat and Chemin de Casson, the buildings extend longitudinally on their lots by presenting their narrowest façade to the street. The main doors are located on a lateral façade and are accessed by a walkway on the lateral setback. On the block delimited by the same Chemin de Casson and Holton Avenue, the semi-detached buildings display a more compact footprint, close to the square in its configuration. Access to the main building, in this case, is via the noble façade facing the street. In this sector, the alleyways give access to garages built in semi-basement within the main body of the residential buildings. This composition leaves almost no room for backyards worthy of the name.

The upper part of the unit that is within Westmount's limits displays a plurality of detached



**Figure 7.** Three-dimensional theoretical model

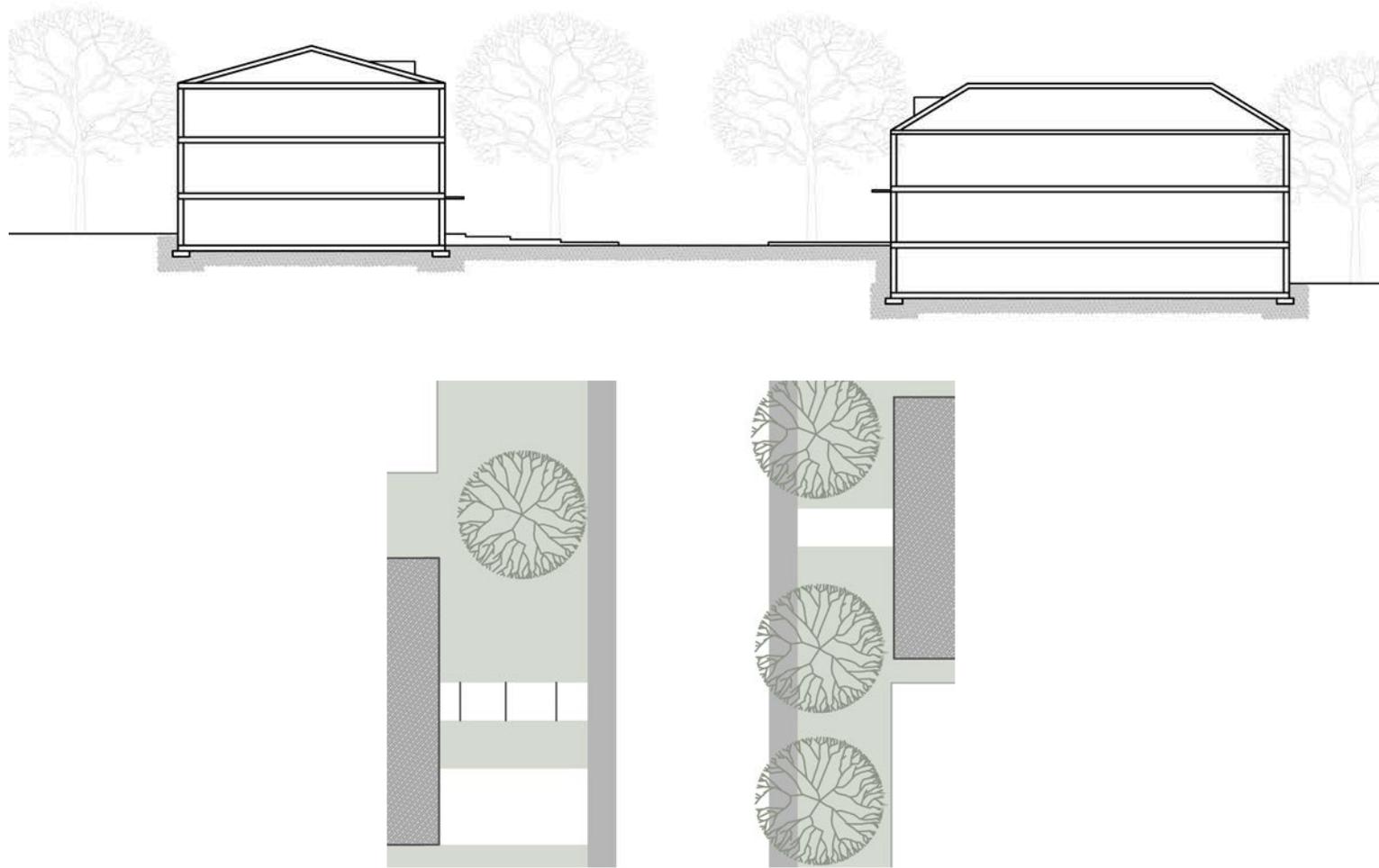
single-family buildings with two aboveground floors. The adjacent area, outside the limits of the municipality, is composed of a good number of similar buildings, though comprising three floors above ground. In the highest part of the unit, whose development is more recent, the buildings are generally deployed in depth on their lots, thus presenting their narrowest façade to the street. As a general rule, each residential lot houses a garage. In this portion of the unit, these are generally accessible at grade directly from the main façade. In their layout, siting, and in particular, their relation to the street, the buildings of the upper sector adapt to the topographic conditions according to modalities that will be discussed further in the next section devoted to the streetscape.

The spatial configurations, as just described, generate a high lot coverage ratio of 0.74.

### The streetscape

The streetscape of this unit presents some general properties, in addition to several more specific formal characters that denote adaptations to more capricious topographic conditions when necessary.

With regards to common properties, one could think of the picturesque character of the street perspectives, induced in particular by the curvilinear shape of the streets. The latter all have sidewalks, as is customary in Westmount. The framing of the public-collective space is ensured by a tight built fabric composed of detached or semi-detached buildings, presenting two floors above ground onto the street, in addition to a partially aboveground foundation wall of variable height, and sloping roofs often adorned with gables and dormers. The relatively small front setbacks (around 3.5 or 6 m) help create tight visual perspectives. The flat part of the unit has aligned trees on both sides of the street. The front



**Figure 8.** Typical section and siting layout views on a settling route (view towards the northeast)

setbacks are adorned with small gardens, composed of lawns as well as low flower beds and shrubs that avoid obstructing the façade and thus compromising the supply of natural light to the dwelling.

In the upper part of the unit, the settling routes are generally deployed in a northeast-southwest orientation, parallel to the contour lines. In addition to the said configuration, the siting of the buildings on their respective lots testifies to an adaptation to topographic conditions. The general rule is to build the ground floors entirely above the natural level of the land on which the buildings stand. As a result,

the ground floor takes its elevation from a high point of its lot, and the building tends to be positioned near the top of its lot. In this case, the buildings placed on the lots whose slope is ascending from the street are situated high up on their lots. The maneuver is accompanied by a more generous front setback (around 6 m). These buildings generally present their noble façade to the southeast. Access to their ground floor requires a steep ascent made possible by a combination of exterior flights of stairs and landings. The setback allows the development of a small garden. Since the inclination proscribes a lawn, the landscaping includes sloping or stepped shrubs arrangements,

including stone retaining walls when necessary. A driveway is integrated that gives access to a garage built in the basement, although generally accessible at grade from the street level.

For their part, the buildings located on lots whose slope descends towards the back of the lot, and whose noble façade generally faces northwest, are positioned at a short distance from the street (typically 3.5 meters), in the upper part of their lot. Their ground floors have an elevation close to that of the street so that they are generally accessible at grade or at the cost of a minimal ascension. The small gardens are made up of lawn and low flower and shrub beds. Two scenarios exist concerning driveways giving access to garages. When the inclination does not prohibit it, an advantage is taken of the slope to give access to garages built in the basement from the rear façade or a lateral façade (this condition is observed, especially on Chemin Saint-Sulpice) at grade at the rez-de-jardin level. When the slope of the lot is too steep, the garages are built on the ground floor level, where they are accessible at grade from the street on the main façade (this case is mainly observed on Chemin Delavigne).

The architectural expression of the buildings in this unit is eclectic, though each of the two sectors of the planned development of the flat portion displays some internal homogeneity. Elsewhere the picturesque architecture inspired by Arts and Crafts gives in it here and there to architecture inspired by the Prairie style and other modernist trends.

Figure 8 shows section and siting layout views representative of the streetscape in the unit. These are schematic representations of the conditions observable on Chemin Delavigne, a settling route located in the sloping portion of the unit.

### **Public-collective / private-domestic spaces**

The streetscape strongly conditions the experience of users, while denoting the architectural identity of

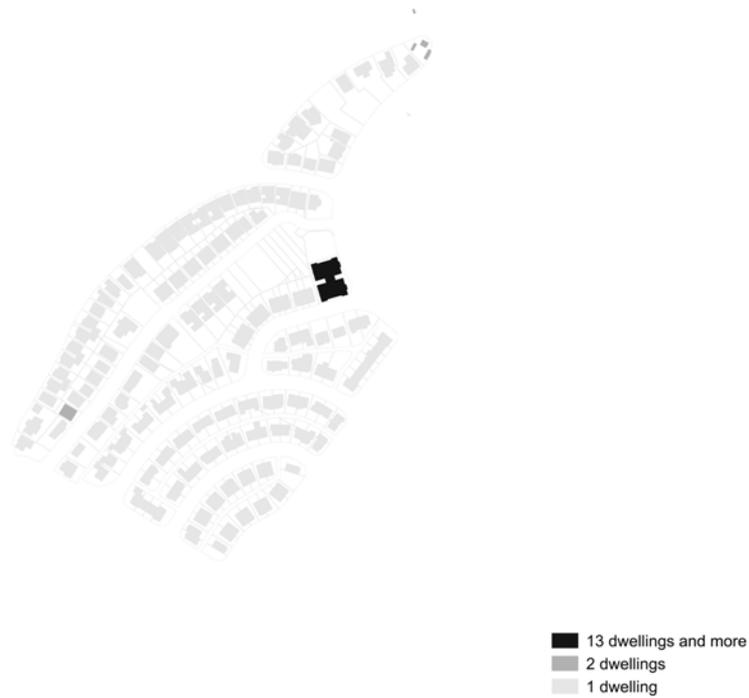


Figure 9. Spatial distribution of the dwelling units per building

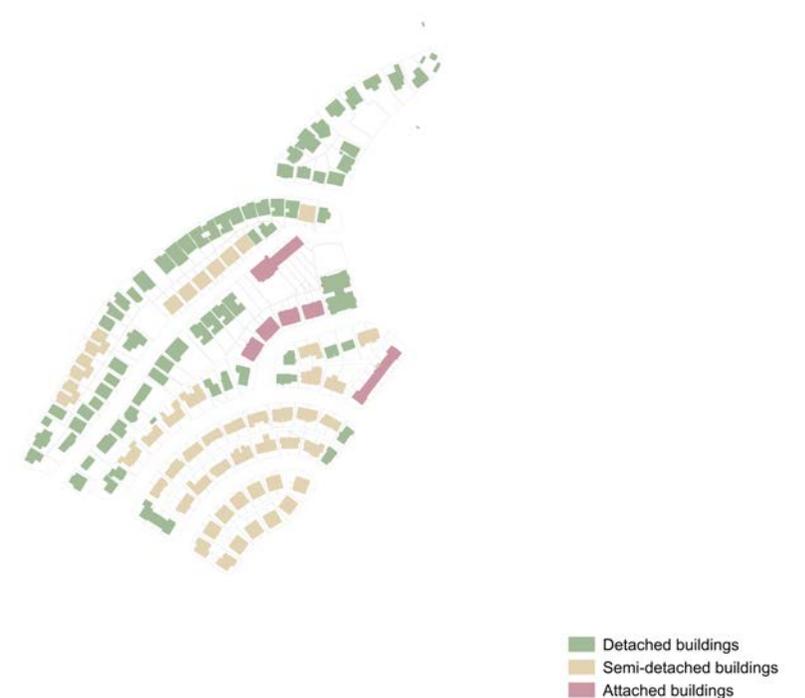


Figure 11. Spatial distribution of buildings according to their mode of aggregation

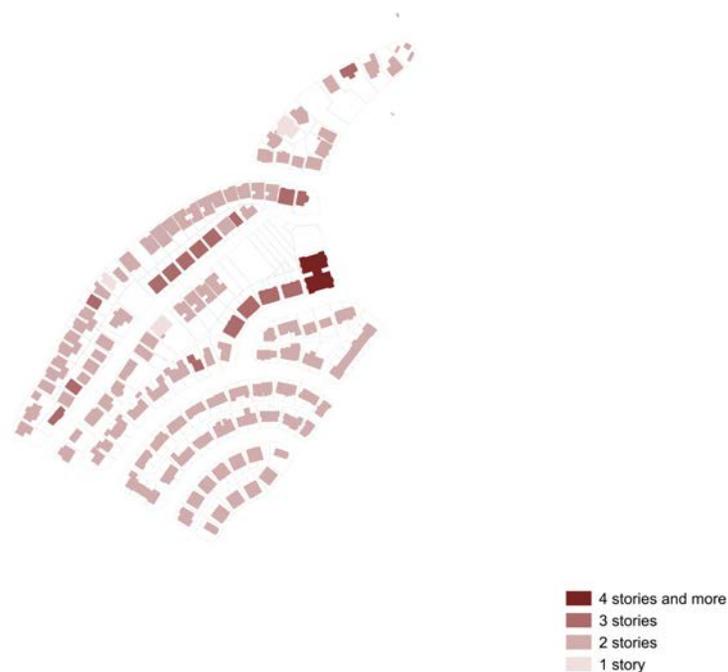
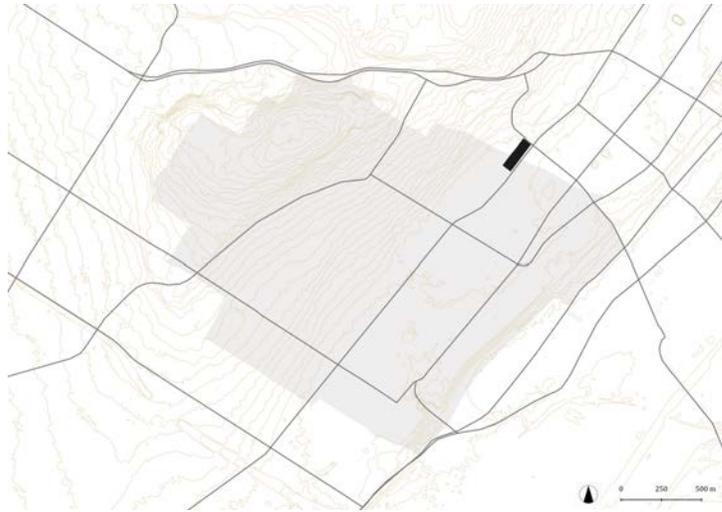


Figure 10. Spatial distribution of buildings according to their number of floors

a place. Several physical and spatial features of the streetscape also assume an essential function of architecture, namely the mediation between public-collective space and private-domestic space. Due to the varying conditions observed, such mediation is reached by a variety of means in the landscape unit. In most cases, these pertain to the presence of setbacks and where applicable to the raising of ground floors, which are accessed by walkways and external staircases according to the modalities previously described.

#### Composition of the residential building stock

Figures 9, 10 and 11 illustrate the spatial distribution of residential buildings according to the number of dwellings per building, their number of floors as well as their mode of aggregation. The only spatial trend worthy of note relates to the predominance of semi-detached and detached modes of aggregation in the lower and upper parts, respectively.



## Landscape unit 17

Analytical fact sheet

### Location

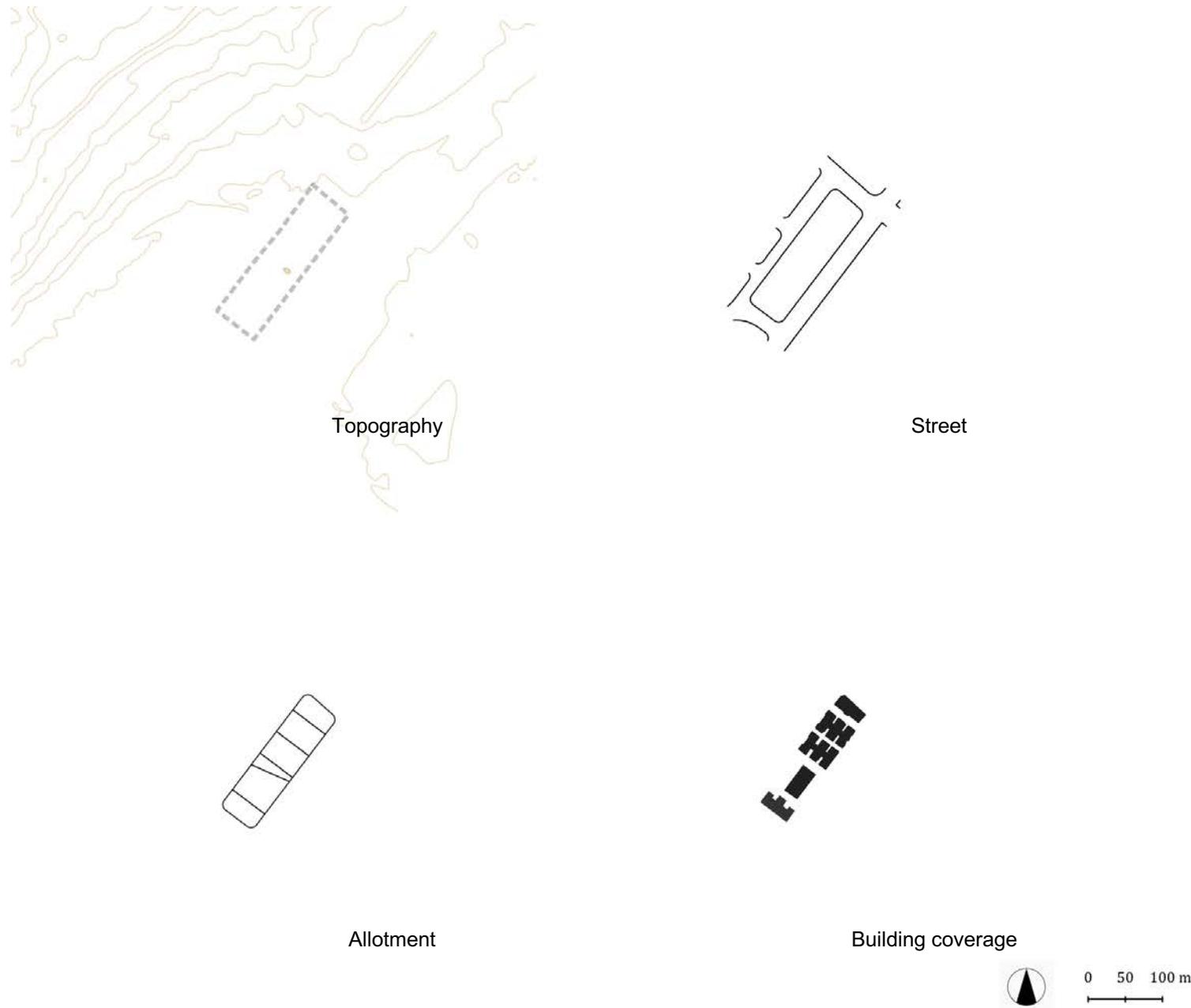
Landscape unit 17 is located on the Westmount Plateau, overlapping the city limits to the northeast. It is bordered to the southeast by Sherbrooke Street West, thence, clockwise by Vignal Street to the southwest, then, to the northwest, by Barat Road and finally, by Atwater Avenue. About half of the landscape area is within the city of Westmount's territory, and the rest is located in the City of Montréal. A meticulous morphological analysis nevertheless requires that we consider the unit in its entirety.

### Brief description

Comprising a single urban block, and spanning 1.32 ha, this landscape unit is composed of 237 housing units, distributed in multi-unit buildings, and producing a gross residential density of 179.5 dwelling units per hectare and an impressive net density of 227.3 dwellings/ha.



Figure 1. Landscape unit 17



**Figure 2.** Subsystems of the tissue

**Subsystems of the tissue**

The unit is located on a plain ground on the Westmount Plateau. Its street network is mostly orthogonal, delimiting a single urban block composed of two pertinent strips. The allotment is also orthogonal, for the most part. The exception to

this rule stems from the fact that the municipal limits intersect the block diagonally, thus creating two irregularly shaped lots. This peculiarity has no impact on the geometry of the sole building that the said double-lot receives. The residential building coverage consists of five multi-unit buildings.

**Routes hierarchy**

Figure 3 illustrates the categories of routes present in the landscape unit. Sherbrooke Street West acts as the matrix route for the tissue in this sector. It has a northeast-southwest orientation. Parallel to this street is Barat Road, a settling route that frames the urban block to the northwest. The routes perpendicular to the former two are Vignal Street, a connecting route located on the southwestern area of Westmount, as well as a segment of Atwater Avenue to the northeast.

The portion of Atwater Avenue that borders the unit is a break-through route opened after the institutive phase of the sector to ensure better permeability of the street network by connecting major thoroughfares between each other. These are, in addition to Atwater Avenue per se, René-Lévesque Boulevard West, Sherbrooke Street West and Docteur-Penfield Avenue, which works as a thoroughfare by pairing with Côte-des-Neiges Road in this sector of the city of Montréal.

*Specialized routes*

Figure 5 illustrates the unit in relation to the nexus of major thoroughfares just described. Greene Avenue, a local commercial street, is also in close vicinity to the unit.

**Spatial syntax of the tissue**

Figure 4 summarizes the general conditions in the unit, which is very simple in its form. The unit has two pertinent strips. The first is located on Sherbrooke Street West. Four of the unit's five buildings have their only or main address there. Said pertinent strip forms a face-block with the institutional property facing it on Sherbrooke Street West (Dawson College). It should be noted that the two buildings located in the center of the series have a second address on Barat Road. The second pertinent strip is located on Vignal Street, on which the fifth building has its main address. The said building has two addresses: one on

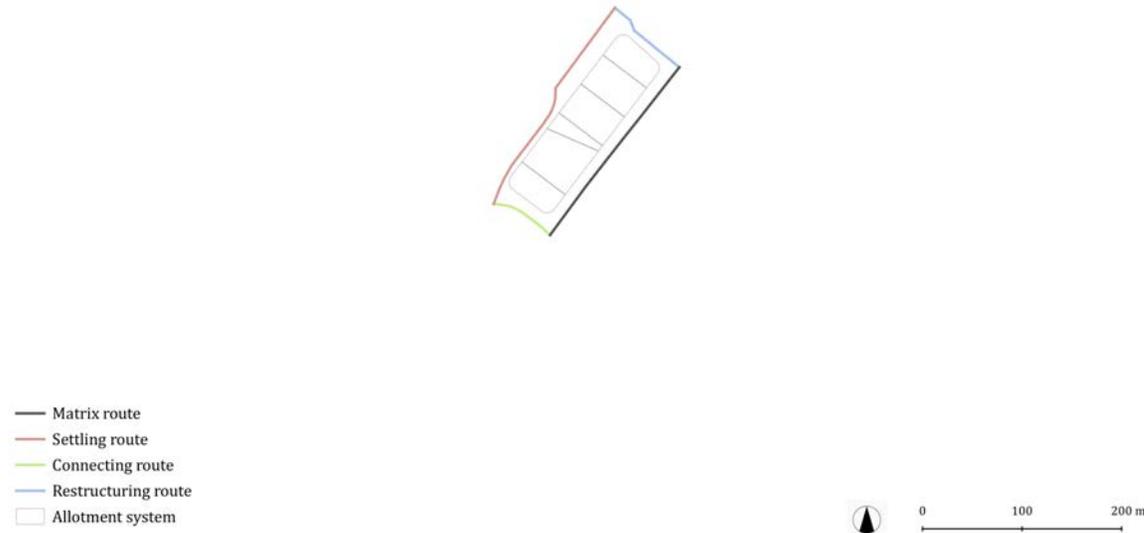


Figure 3. Route hierarchy

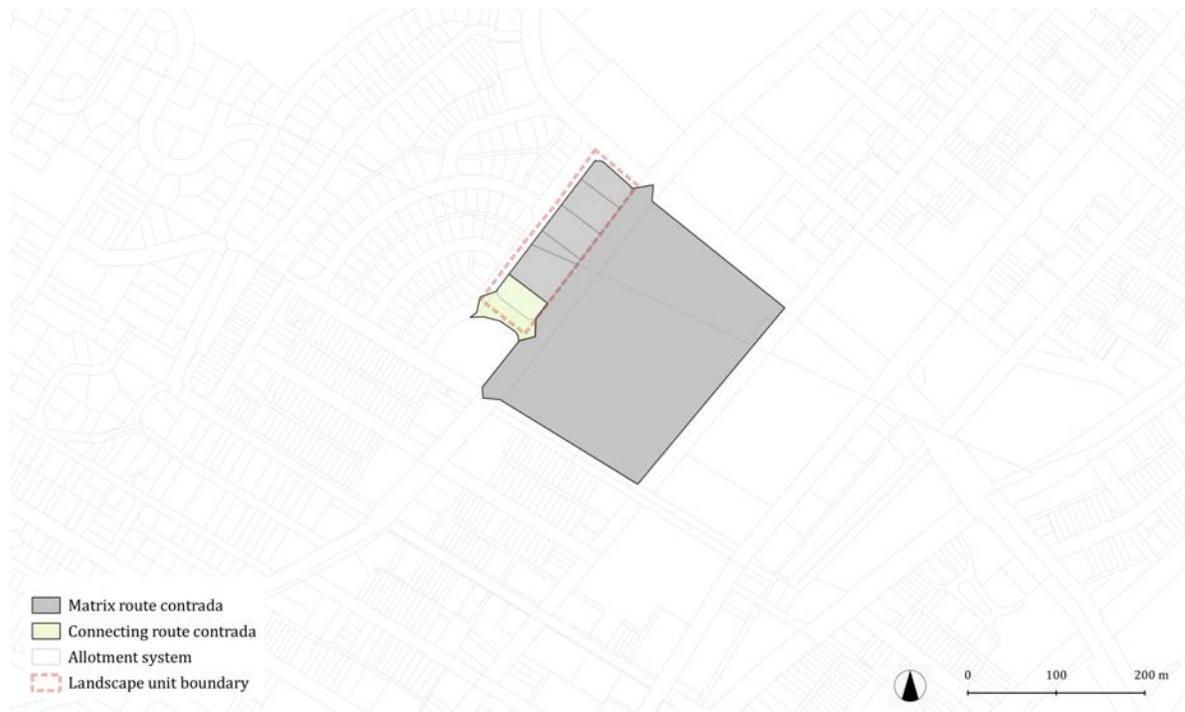


Figure 4. Face-block (Contrada) Structure

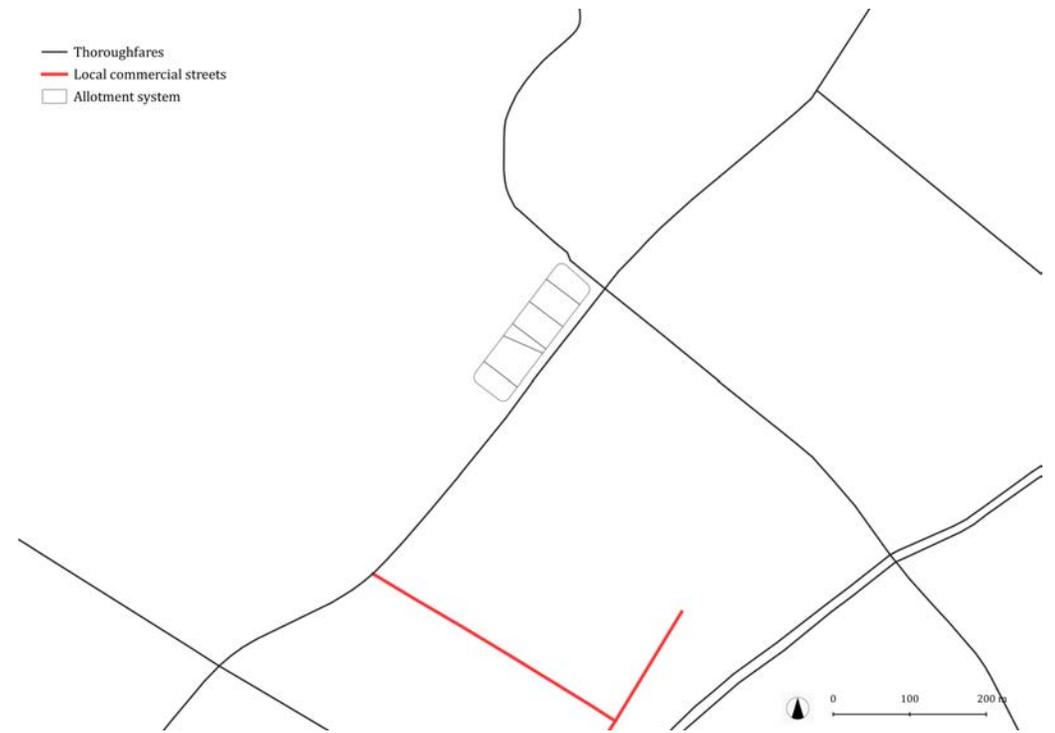
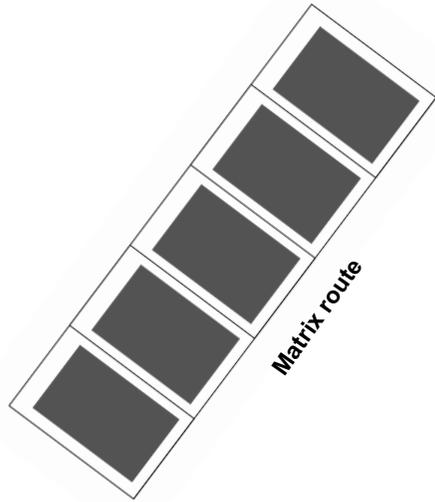


Figure 5. Specialized route

Vignal Street and the other on Sherbrooke Street West. Since the address on the latter street is associated with a door located on a lateral façade, as opposed to a façade facing the street, we deemed appropriate to allocate the building to the Vignal Street face-block. We are also taking into consideration that the building borders a public park (Queen Elisabeth Garden) on this side. The face-block of Vignal Street is therefore composed solely of this built lot and its adjacent street segment. Strictly speaking, Barat Road, only has one pertinent strip to the northwest, which belongs to landscape unit 16 (see the description sheet for the said unit). However, two buildings of this unit, located on the southeast side, present their "second" noble façades to Barat Road (on which they have an address in addition to their address on Sherbrooke Street West). Such a configuration is rare. Usually, buildings only have only one noble façade, plus a façade at the back and one or two lateral façades if they are semi-detached or detached.



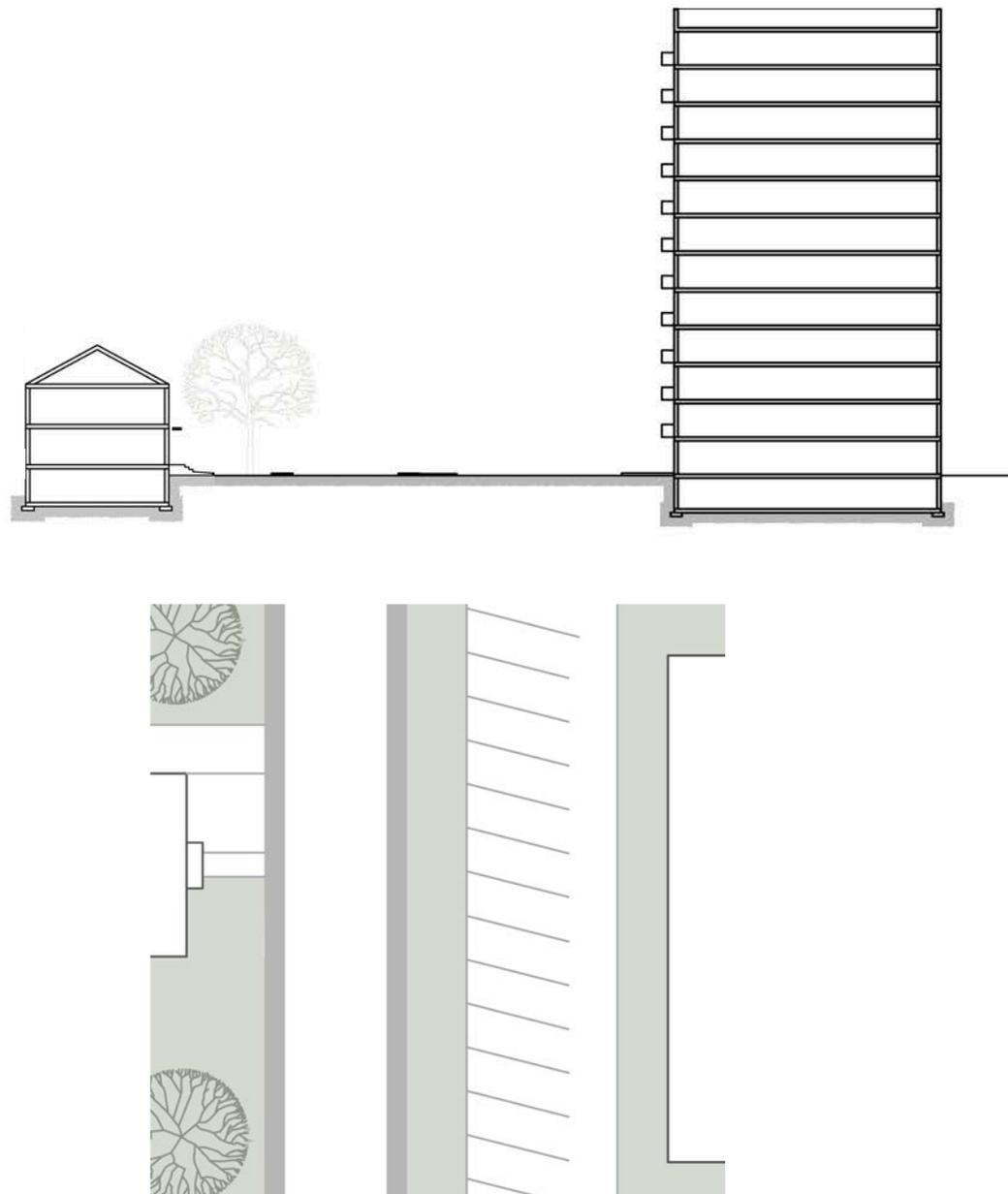
**Figure 6.** Spatial syntax of the tissue

The buildings of the unit present 4 to 12 floors in height. All are complying with the detached mode of aggregation.

**The streetscape**

Despite the simplicity of the unit, the streetscape of this landscape unit is mixed. Sherbrooke Street West has all the attributes of an urban boulevard in this area. Street trees border it on both sides. The architectural framing to the northwest is achieved by buildings whose bulks are adjusted to the width of the boulevard (though their differing heights break the coherence of the series). The imposing façade and the extensive front garden of a former convent now converted into a college fittingly frame the boulevard to the southeast.

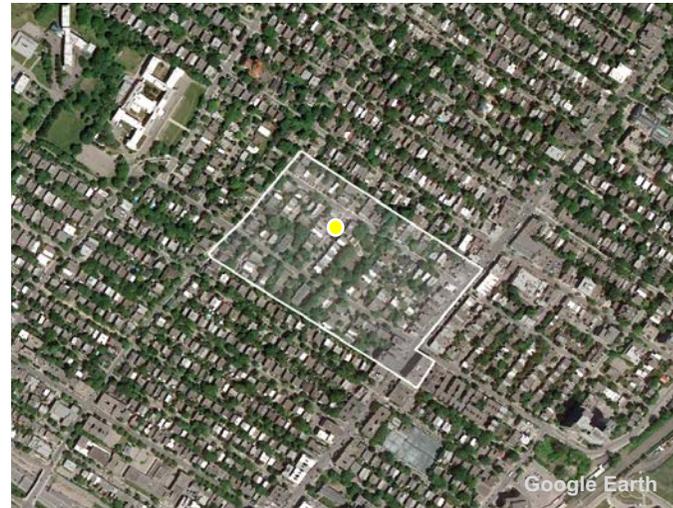
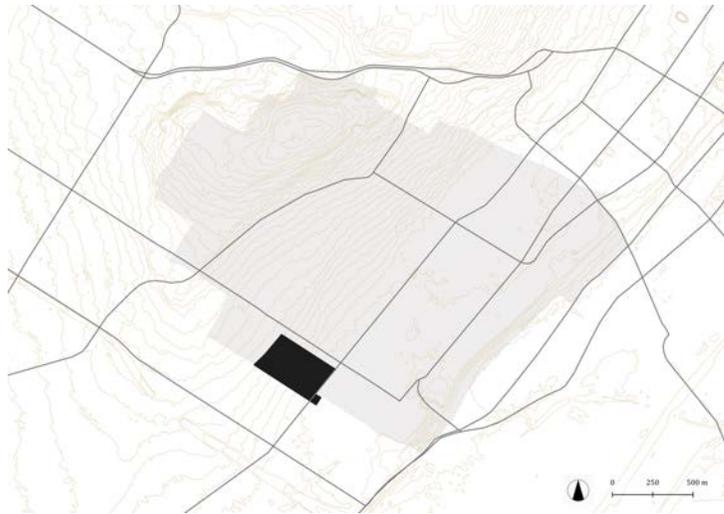
On the Vignal Street side, as previously mentioned, the streetscape is marked by the presence of a four-storey building of fine craftsmanship facing a public garden. The



**Figure 7.** Section and siting layout views illustrating the contrast of scales on Barat Road

streetscape of Barat Road is more contrasted, and unfortunately, more problematic. Whereas the four-storey buildings, and in particular those of these buildings which present a second noble façade to the road, offer an adequate counterpart to the

two-storey residences facing them, the twelve-floor building produces an unfortunate contrast in scale. Figure 7 illustrates this point.



**Figure 1.** Landscape unit 18

## Landscape unit 18

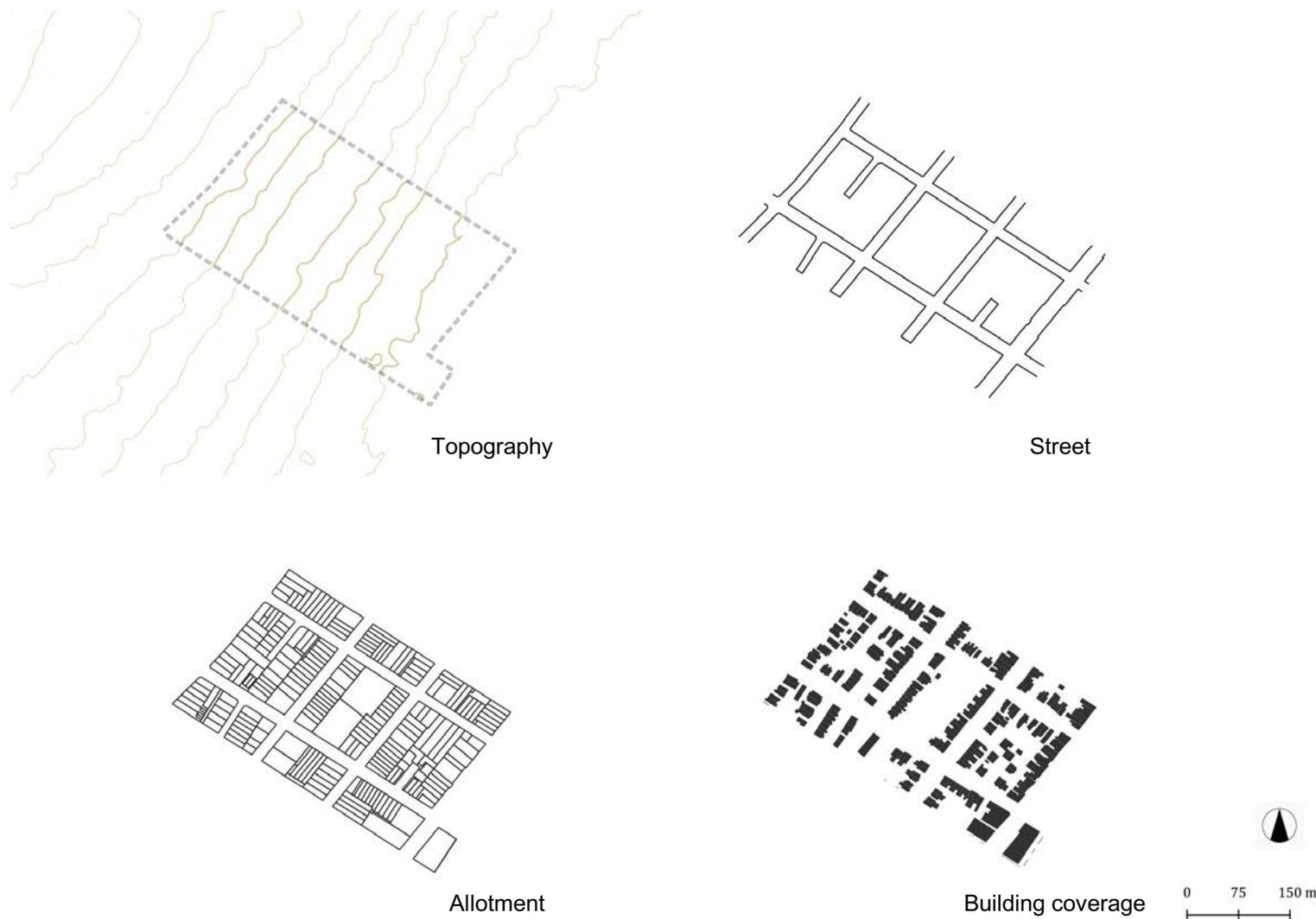
Analytical fact sheet

### Location

Landscape unit 18 is located south of the Westmount Summit, at the edge of the latter's piedmont. It is bordered to the southeast by Sherbrooke Street West and thence, clockwise, by the municipal limits and the allotment parting line at the back of properties located on the northeastern side of Grey Avenue, then to the northwest, by Côte-Sainte-Antoine Road, and finally, to the northeast by the allotment parting line located behind the properties located on the southwestern side of Victoria Avenue.

### Brief description

Spanning 10.75 ha, this landscape unit is composed of 333 residential units as well as a playground (Prince Albert) and a few commercial buildings on Sherbrooke Street West, on the northwestern side of the latter. The residential building stock is made up of single-family buildings at 82.1%, making about half of the dwellings. Just under a third of the dwellings are located in multi-unit buildings. These conditions contribute to generating a gross residential density of 31 dwellings per hectare and a net density of 32.1



**Figure 2.** Subsystems of the tissue

dwellings/ha.

**Subsystems of the tissue**

The unit presents a moderate slope that descends towards the southeast, which produces an average inclination of 4.36 °. The street network is mostly orthogonal, delimiting urban blocks of variable dimensions and internal configurations, deployed northeast-southwest longitudinally, parallel to the contour lines. The spatial syntax of the allotment of

the unit is exceptionally complex and contrasts, as such, with both Westmount and Montréal general contexts. The only geometrical consistency concerns the configuration of the lots. All are rectangular and present their narrower side to the street. The building coverage, very compact, is made up of a small majority of attached buildings (53.9%) in addition to semi-detached buildings (33.2%) and detached buildings (12.9%).

**Routes hierarchy**

Figure 3 illustrates the categories of routes present in the landscape unit. The latter is bordered to the northwestern side by Côte-Sainte-Antoine Road, a matrix route for the tissue, whose presence is attested since the very beginning of the 18th century, but which might have replaced a path practiced by aboriginal for hundreds of years (see part 1 of this report). All the other streets are settling routes, except for a short segment of Sherbrooke Street West, which runs northeast of Prince-Albert Avenue in the unit. For the most part, the section of Sherbrooke Street West, which extends for some 1.2 km between Prince-Albert Avenue and Clarke Avenue, constitutes a breakthrough route, which was traced with the explicit aim of facilitating inter-neighbourhood traffic movements, thru subdivisions still undergoing their institutive development phase.

*Specialized routes*

The landscape unit is bordered on the southeastern side by a major thoroughfare, Sherbrooke Street West, which doubles as a local commercial street in this area (for an explanation concerning said dual-use, see section 1 of the report).

**Spatial syntax of the tissue**

This unit features one of the oldest tissues in Westmount. However, these circumstances do not in themselves fully explain the somewhat variegated nature of the spatial syntax of said tissue.

The street system is orthogonal, as is the norm on the Westmount plateau as well as on most of the foothills. This geometry is conditioned by the old agricultural divisions, which act as a morphological substratum in that regard.

What distinguishes this unit is that, unlike the norm in the surrounding areas, the urban blocks are

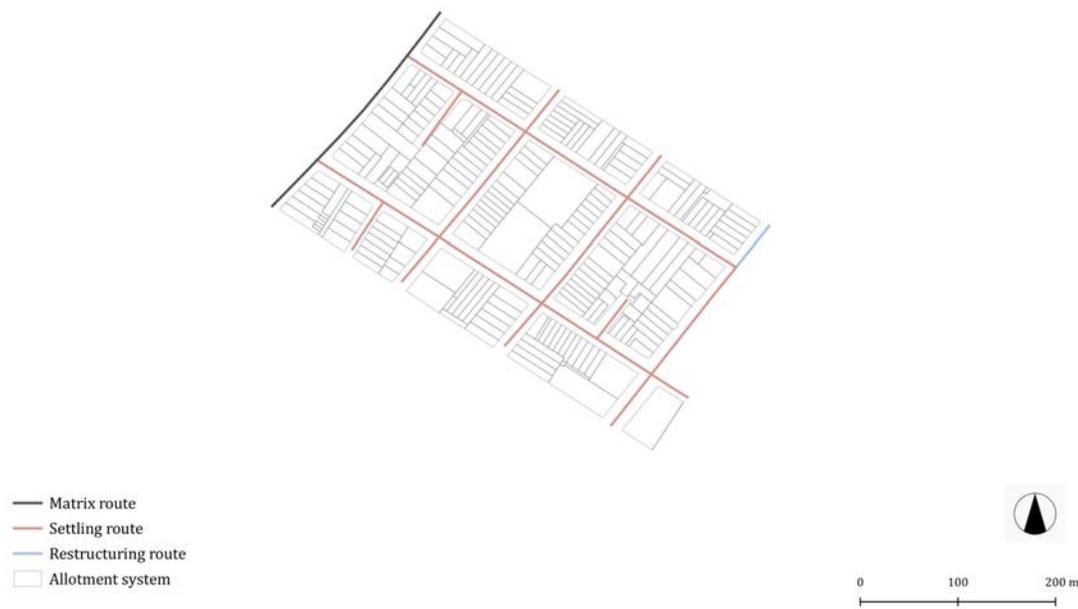


Figure 3. Route hierarchy

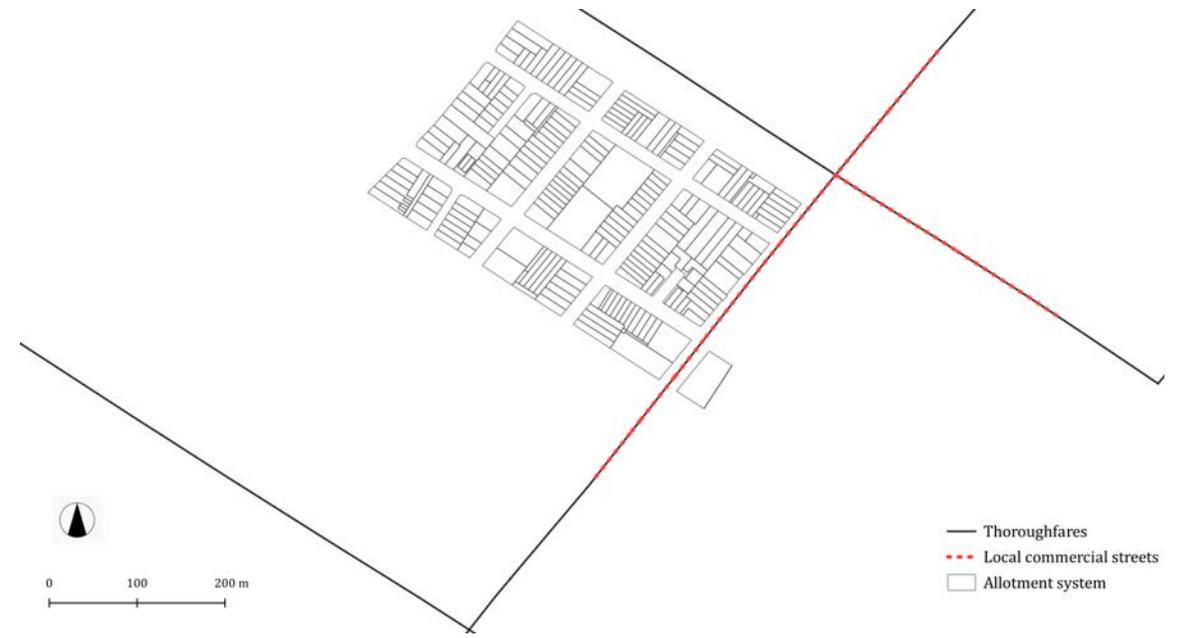


Figure 5. Specialized routes

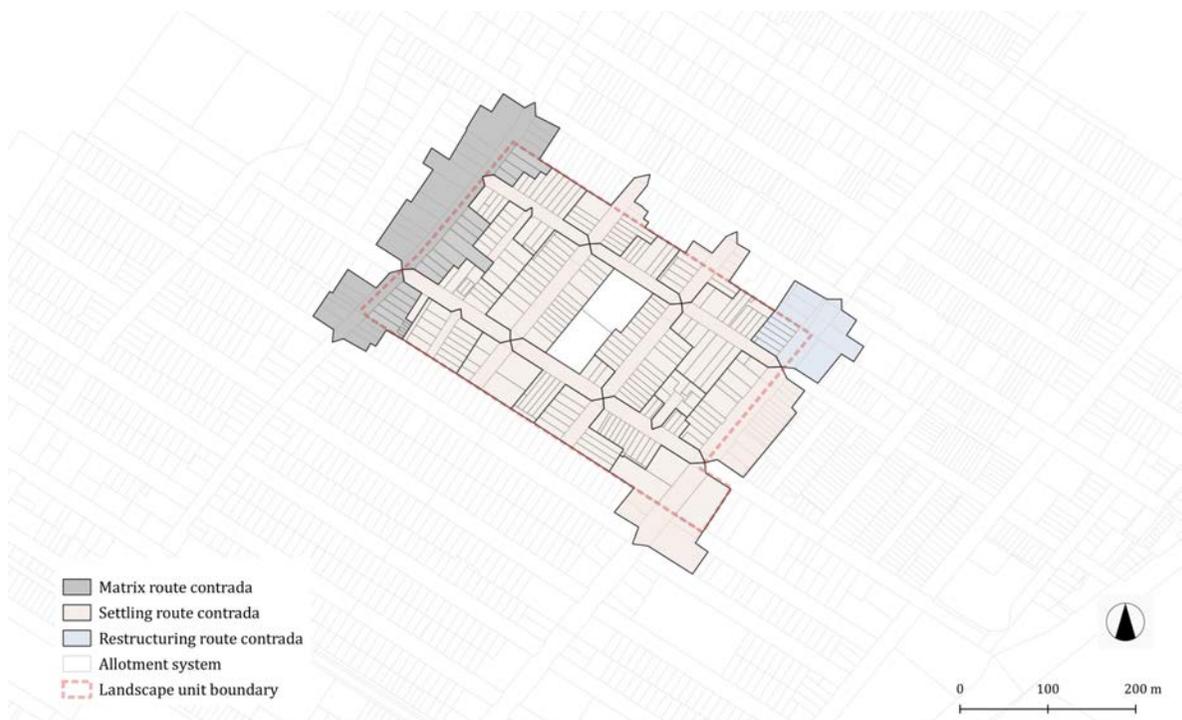
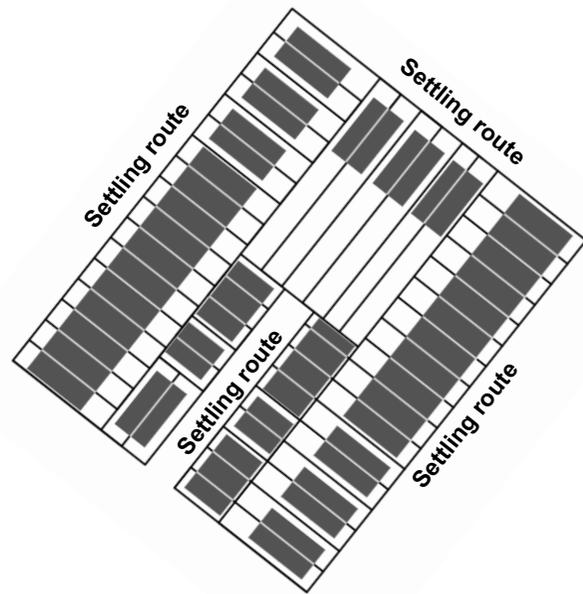


Figure 4. Face-block (Contrada) Structure

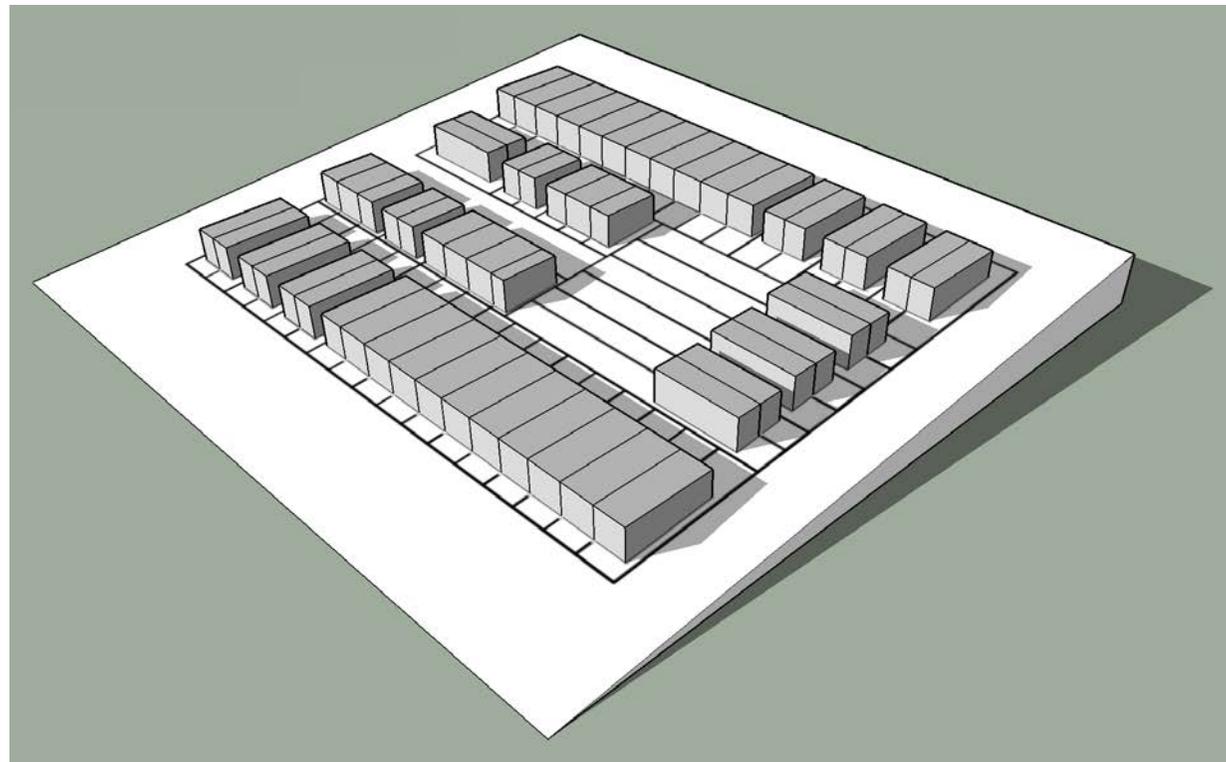
oriented northeast-southwest longitudinally. The most plausible explanation for this atypical orientation could be due to the width of the land available to the developers. The original track of land extends from the allotment parting line behind the properties located on the northeastern side of Grey Avenue to the allotment parting line behind the properties located on the southwest side of Victoria Avenue. The total width is about 260 meters, or 4.5 arpents, as per the old French measurement system. Such a dimension prevented the creation of standard size blocks deployed lengthwise according to the longitudinal orientation of the agricultural matrix estates as per the general rule in this sector of Westmount. The width corresponds more specifically to the standard transverse dimensions, at the time of initial urbanization of the area, of two and a half urban blocks and the streets serving them. The possibility that the presence of several streams in the area has also had an impact cannot be excluded.



**Figure 6.** Spatial syntax of the tissue

The geometry of the current allotment displays the misalignment of a good number of lots compared to the general orientation. Such conditions generally denote the influence of an older allotment substrate related to the partitioning of the land for agricultural purposes.

Notwithstanding the causes, the tissue of the unit includes no less than five dead-end streets, a rare condition in Westmount. On the southwestern side, three of these dead ends meet the allotment parting line behind the properties located on the northeastern side of Grey Avenue. These dead ends each constitute a face-block with two pertinent strips. The other two dead ends, which reproduce the same pattern, come to an end at the heart of urban blocks deployed between Claremont and Prince-Albert avenues. These two produce blocks in the shape of a "U," as illustrated in figure 6. Besides these, a third block is framed by the said streets. The latter consists of two pertinent strips, separated at the heart of the urban block by



**Figure 7.** Three-dimensional theoretical model

a public park (Prince Albert). The pertinent strips deployed on both sides of Claremont and Prince-Albert avenues and those located on Côte-Sainte-Antoine Road and Sherbrooke Street West complete the picture.

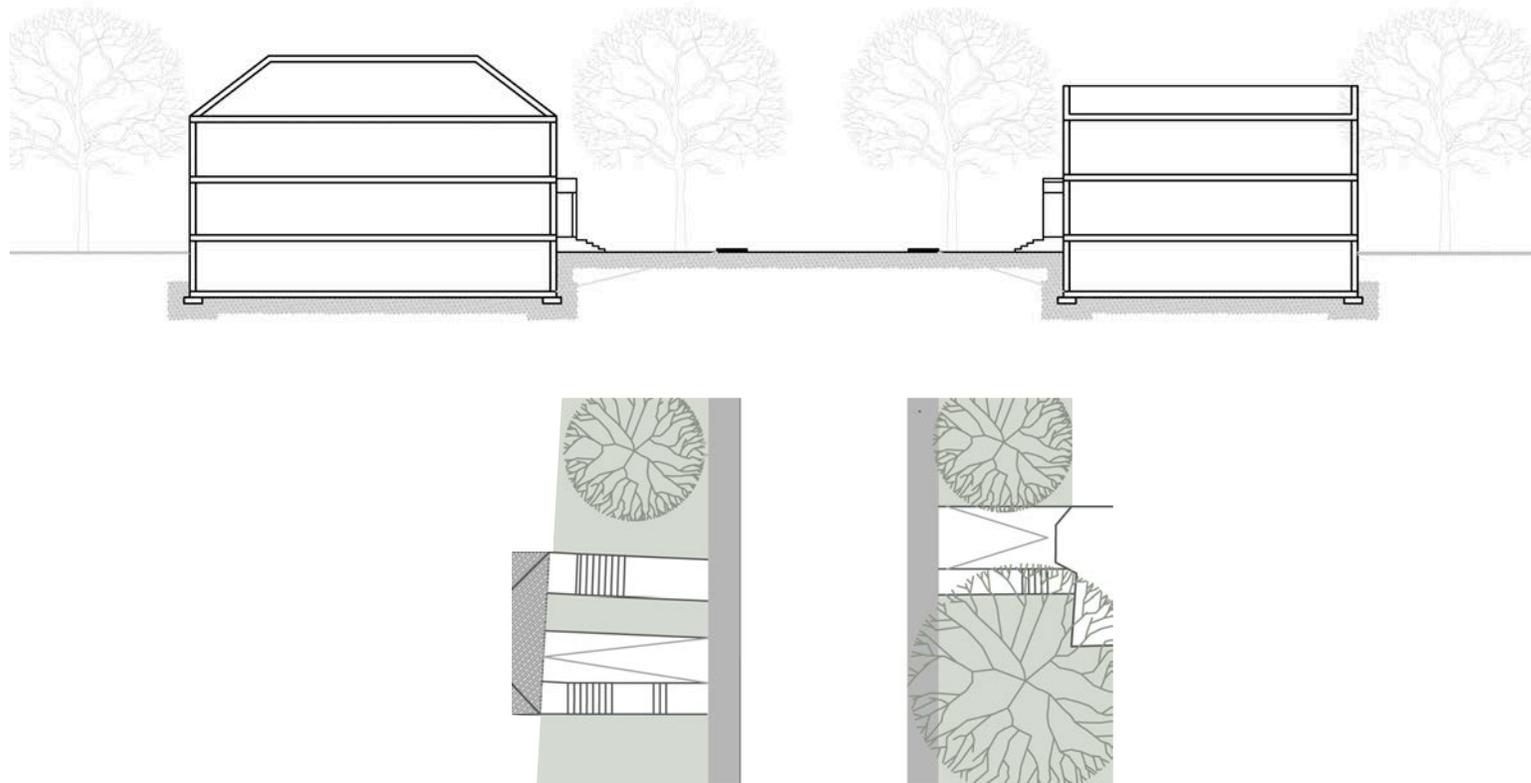
As previously mentioned, the steadiest property of the form pertains to the predominance of lots that present a front onto the street that is shorter than their depth. The most frequently observed widths on the street are 20 ft (about 6 m), 25 ft (about 7.5 m) and 30 ft (about 9 m), respectively. The depth of the lots varies according to localized conditions. These lot dimensions are nevertheless consistent with the type of buildings carried. The lots whose widths are 20 or 25 imperial feet carry attached buildings that share common walls (which make 53.9% of the stock). The 30-foot-wide lots carry semi-detached buildings (33.2%). Only 12.9% of the unit's buildings are detached.

The residential stock consists of single-family

buildings at 82.1%. The norm is to buildings with two floors above ground (87.5% of the total stock).

To the exception of buildings on Sherbrooke Street West, the built fabric conforms to generally modest front setbacks (2, 3.5 or 5 m). In the case of semi-detached buildings, the lateral setbacks are also very modest (around 3 m, that is 6 m in total when summing the two contiguous margins). The backyards vary in depth. These conditions produce a general lot coverage ratio of 0.29.

The tissue conditions on Sherbrooke Street West merit some comments. This street acts both as a major thoroughfare and as a local commercial street. In its composition and its configurations, the built fabric is congruent with this dual function. Most of the buildings are two or three storeys above ground, including a commercial space on the ground floor, crowned by residential units at the origin. Most of these units have since been converted into commercial spaces. The pertinent



**Figure 8.** Typical section and siting layout views on a settling route

strips display a high lot coverage. In addition to the building type just described, there are three large six-floor buildings at the corner of Claremont Avenue, on the southwestern side of the latter, namely two apartment buildings with street-level stores and a specialized commercial building also with stores on the ground floor.

### The streetscape

The streetscape of this unit is characterized by the prevalence of orthogonal streets bounded by sidewalks, as is the norm in Westmount. The streets are framed by buildings with two floors above ground in addition to a partially aboveground basement. The built fabric is tightly woven, considering the high predominance of buildings conforming to the detached and semi-detached modes of aggregation, in this order of

importance. Setbacks of modest dimensions are adorned by small landscaped gardens, in which lawn, flower beds, and low shrubs are interspersed. These plant arrangements share the setback with surface parking.

Semi-detached buildings are coupled in pairs. They share a party wall with an adjoining building and a modest lateral margin with their neighbour on the opposite side. Some of these margins are formally combined to create a shared driveway giving access to garages built in the backyard. Such a configuration implies the creation of a mutual right of way. In rarer cases, the topography allows the development of underground garages, accessible at grade in the front from the street level.

Access to the ground floor of buildings generally

requires a slight ascent (typically around 1.5 m). The "triplex" type buildings, composed of three superimposed dwellings, are furnished with exterior staircases on the front according to the vernacular tradition of Montréal. These buildings are concentrated on Chesterfield Avenue. The exterior cladding is made of brick and stone. The favoured architectural vocabulary is inspired by the Arts and Crafts movement, as evidenced by the prevalence of architectural details such as projections, oriels and porches. The roofs mostly have flat profiles, though the façade are sometimes adorned with false-mansard cornice details.

Figure 8 shows section and siting layout views representative of the streetscape in the unit. These are schematic representations of conditions observable on Windsor Avenue.

### Public-collective / private-domestic spaces

The streetscape strongly conditions the experience of users, while denoting the architectural identity of a place. Several physical and spatial features of the streetscape also assume an essential function of architecture, namely the mediation between public-collective space and private-domestic space.

The physical and spatial features ensuring the mediation between these spaces in the unit pertain to the presence of setbacks and the elevation of the ground floor. The domestic space is therefore accessed by a walkway and an external staircase leading to an external landing, more often than not protected by a projecting roof, which sometimes makes dual use as a balcony upstairs. Since the front setbacks are modest, the elevation of the ground floor, as well as the height of the windowsills on this floor, are the primary guardians of domestic privacy.

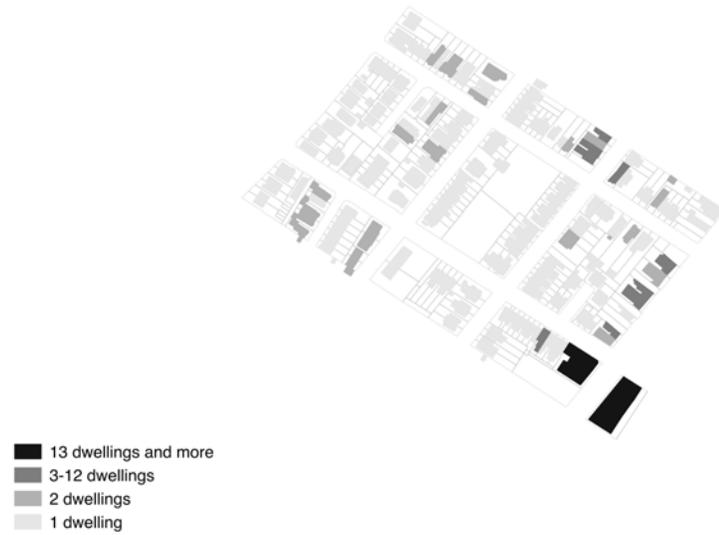


Figure 10. Spatial distribution of the dwelling units per building



Figure 12. Spatial distribution of buildings according to their mode of aggregation

**Composition of the residential building stock**

Figures 10, 11 and 12 illustrate the spatial distribution of residential buildings according to the number of dwellings per building, their number of floors, as well as their mode of aggregation, namely their belonging to the detached or semi-detached categories, respectively. To the exception of a concentration of attached buildings at the heart of the unit and in the southeast portion of Claremont Avenue, there is no clear spatial trend concerning said morphological properties.

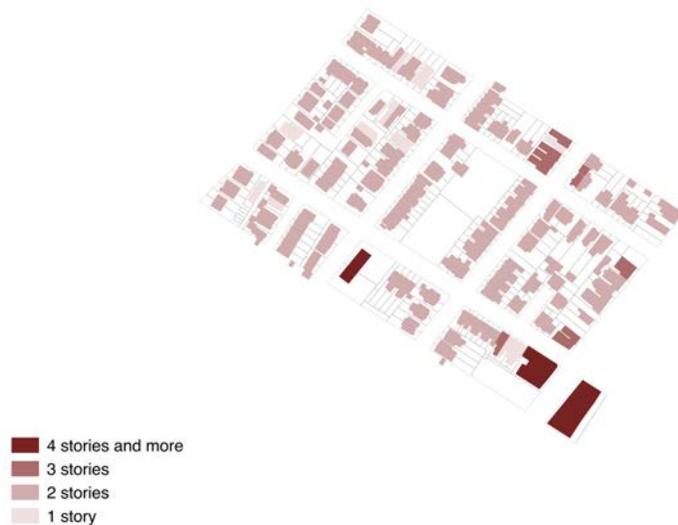
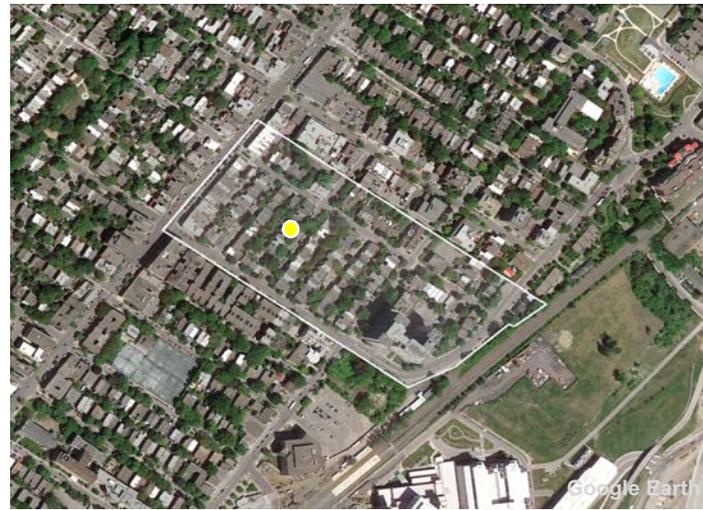
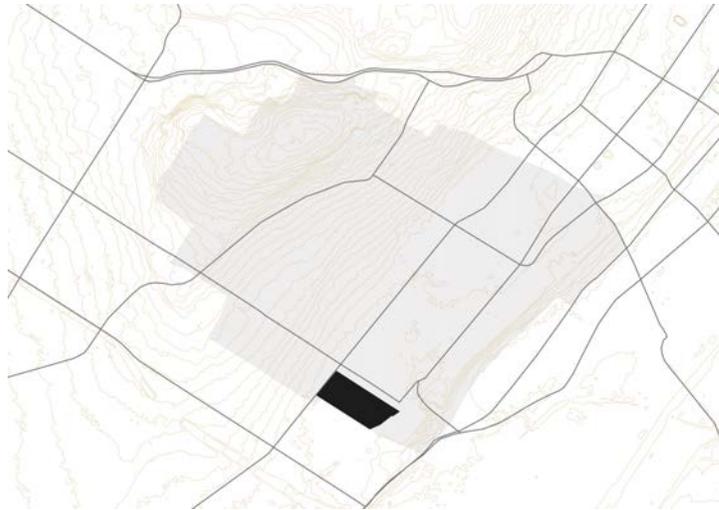


Figure 11. Spatial distribution of buildings according to their number of floors



## Landscape unit 19

Analytical fact sheet

### Location

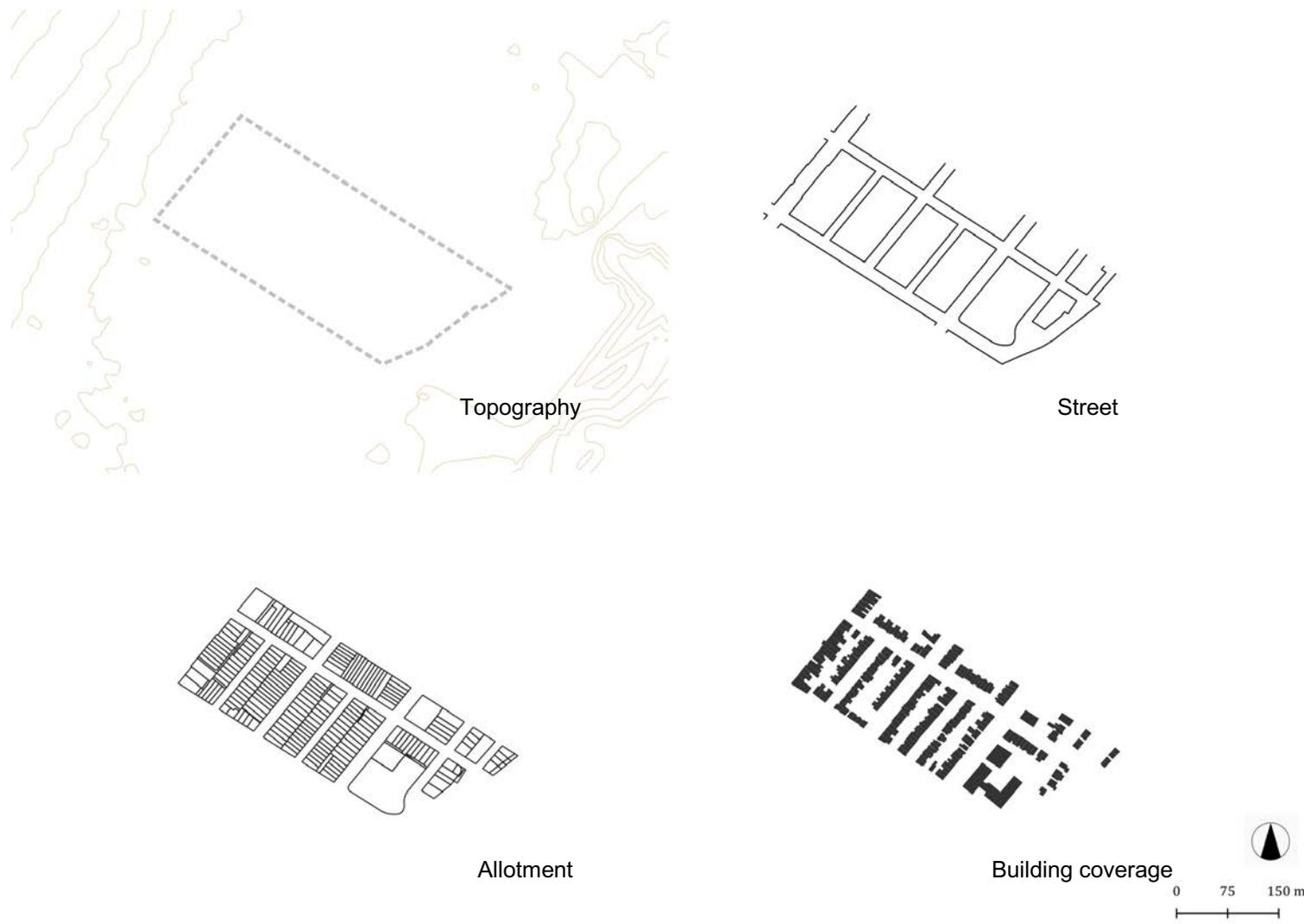
Landscape unit 19 is located on the Westmount Plateau at the southwestern limits of the municipality. It is bordered to the southeast by the Canadian Pacific Railway located at a short distance from the Saint-Jacques escarpment, thence, clockwise, by Claremont Avenue and the municipal limits to the southwest, then by Sherbrooke Street West to the northwest and finally, on the northeastern side, by and the allotment parting line behind the properties located on the southwestern side of Victoria Avenue.

### Brief description

Spanning 8.55 ha, this landscape unit is composed of 449 residential units and a few commercial buildings on Sherbrooke Street West, on the southeastern side of the latter. The residential housing stock consists mainly of single-family buildings (90.2%), in addition to 243 dwellings located in a single apartment building. All of these produce a gross residential density of 52.5 dwellings per hectare and a net density of 81.4 dwellings/ha.



Figure 1. Landscape unit 19



**Figure 2.** Subsystems of the tissue

**Subsystems of the tissue**

The unit is located on even ground. The street network is mostly orthogonal and delimits urban blocks oriented for the most part northeast-southwest longitudinally. The urban blocks are generally formed of two pertinent strips. In addition

to the multi-dwelling building mentioned above, the residential built fabric mainly consists of attached (83.2%) and semi-detached (11.9%) single-family buildings.

**Routes hierarchy**

Figure 3 illustrates the categories of routes represented in the unit. All the streets are settling routes, except for a short arc-shaped segment of Sainte-Catherine Street West. The said segment constitutes a break-through route created to connect Sainte-Catherine Street, itself an extension of the former Petite-Côte-Sainte-Antoine Road, to Claremont Avenue.

*Specialized routes*

The landscape unit is served by two major thoroughfares, Sherbrooke Street West and Victoria Avenue. Both double as local commercial streets (for an explanation on the subject of said dual-use, see section 1 of the report, p. 20- 21). Sherbrooke Street West is part of the unit and borders it to the northwest, whereas Victoria Avenue is located in close vicinity to the northeast.

**Spatial syntax of the tissue**

The street system is orthogonal, as is the norm on the plateau and most of the piedmont of Westmount. This geometry is conditioned by the first agricultural divisions, whose lot configurations serve as a morphological substrate.

Unlike the general conditions observed in the bordering sectors, however, the urban blocks of the unit are oriented longitudinally along a northeast-southwest axis. The most plausible explanation in this regard relates both to the original hydrological conditions and to some singularities of the original agricultural allotment in the area. It is reasonable to think that the presence of a stream along the current municipal limits to the southwest has enticed the developers to orient the blocks in a northeast-southwest axis in order to minimize the inconveniences caused by the local hydrology. (see Part 1, p. 23 and Figure 17, p. 19).

The unit extends from the allotment parting line located behind the properties on the southwestern



Figure 3. Route hierarchy

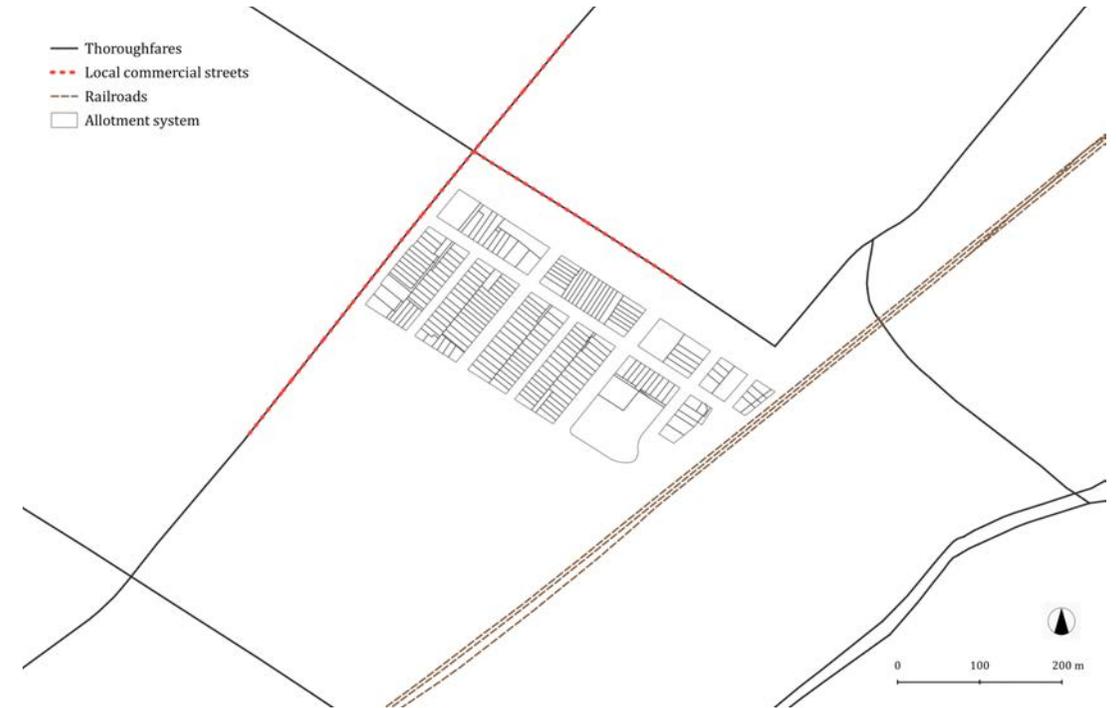


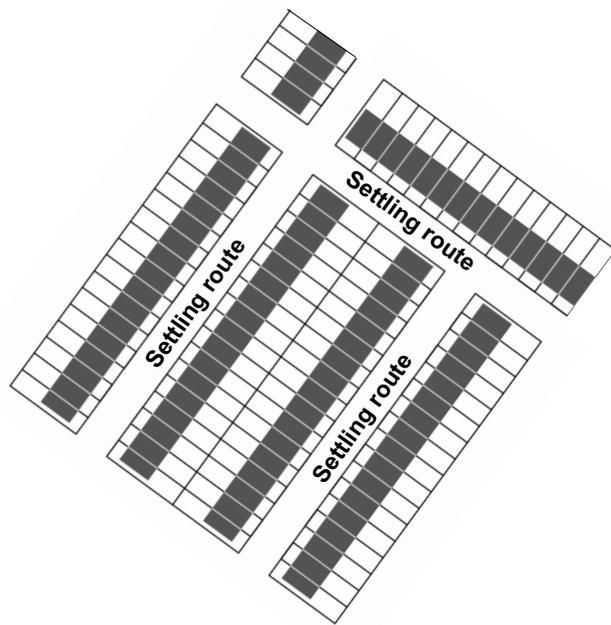
Figure 5. Specialized routes



Figure 4. Face-block (Contrada) Structure

side of Victoria Avenue to Bulmer Street and the extension of the latter within the limits of the municipality on the southwestern side. Across its width, it is about 260 meters (or 4.5 arpents as per the old French measuring system). This distance corresponds to the typical transverse dimensions of two and a half urban blocks, taking into account the streets serving the latter. Such a width, therefore, would not allow the creation of blocks of standard dimensions of the time, if deployed in the longitudinal direction of the unit.

Based on the allotment patterns and the age of the bordering buildings, it is reasonable to infer that Sainte-Catherine Street West and York Street were the first to be subdivided in the area. Prince-Albert Avenue, which runs parallel to Victoria Avenue (already present in 1890), would have followed them closely. The other settling routes, oriented perpendicular to Prince-Albert Avenue and oriented southwest-northeast, were seemingly the last ones to urbanize.



**Figure 6.** Spatial syntax of the tissue

Figure 4 shows the structure of the face-blocks that resulted from these subdivision operations. The urban block bounded by both Sherbrooke Street West and Winchester Avenue includes an alleyway.

Figure 6 illustrates the spatial syntax of the unit schematically. The latter is distinguished by the predominance of oblong rectangular lots that present their short side to the street. The modular is about 6 m (20 feet) wide onto the street and 28 or 30 m (90 or 100 ft) deep. These lot dimensions are coherent with the types of buildings supported, which mostly belong to the attached (83.2% of the stock) and the semi-detached categories (up to 11.9% of the total). The residential stock is composed at 90.2% of single-family buildings, generally exhibiting two floors above ground (87.5% of the total stock).

Except for buildings on Sherbrooke Street West, the residential built fabric all conforms to modest

front setbacks of about 4 meters. The buildings display a rectangular or L-shaped footprint. They are deployed in depth on their respective lots while allowing a space that can serve as a backyard. This configuration produces a general lot coverage ratio of 0.45.

The conditions on Sherbrooke Street West differ from the overall conditions. This street acts as a major thoroughfare and a local commercial street. Most of the buildings were composed of commercial space on the ground floor topped by a residential storey. Most of the latter have since been converted into commercial spaces. Several buildings have been extended towards the back, which translates into a high lot coverage ratio.

### The streetscape

The streetscape of this unit is characterized by the prevalence of orthogonal streets bounded by sidewalks and adorned by discontinuous series of trees. The public space is framed by a built fabric mostly composed of buildings with two aboveground floors sitting atop a partly aboveground basement. The ground floor elevation is generally about 1.75 meters higher than the sidewalk level. Access to the ground floor of the buildings, therefore, requires the ascent of a flight of steps.

The front setbacks of approximately four meters are adorned by small landscaped gardens, composed of lawn and low shrub beds. Contrary to what is observed elsewhere in the municipality, the modest setback prevents the creation of a parking space in the front of houses.

The façades, all made of bricks, often include oriels and are crowned with lightly ornate cornices or by false mansard detailing. The norm is for buildings to have flat roofs.

Figure 8 shows section and siting layout views illustrating the contrast in scale of the streetscape on De Maisonneuve Boulevard West, where the

face-block is framed by two-storey townhouses on one side, facing a sixteen-storey multi-unit building on the other.

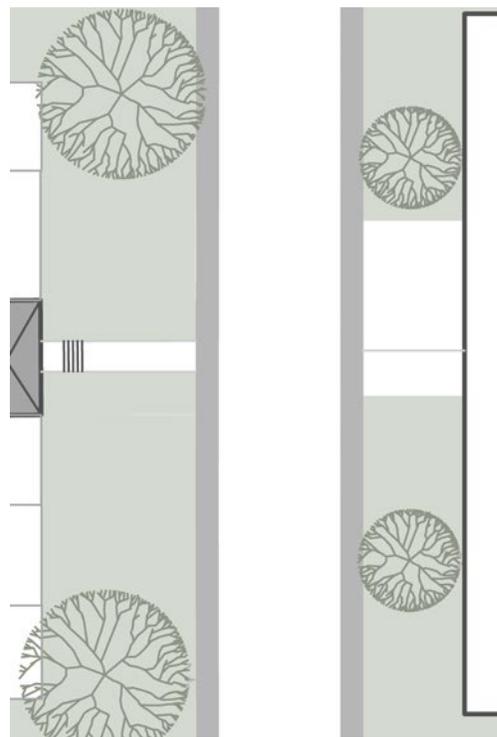
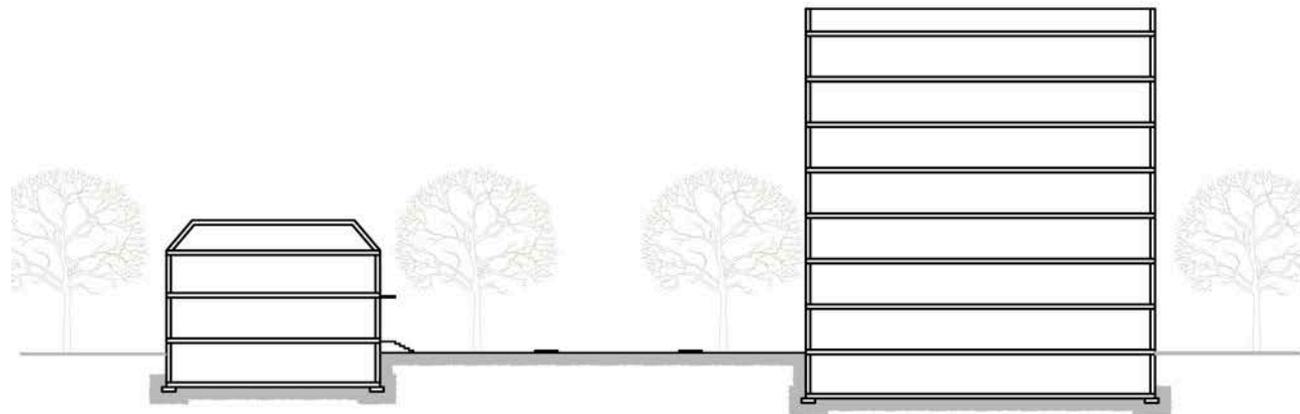
### Public-collective / private-domestic spaces

The streetscape strongly conditions the experience of users, while denoting the architectural identity of a place. Several physical and spatial features of the streetscape also assume an essential function of architecture, namely the mediation between public-collective space and private-domestic space.

The physical and spatial features ensuring the mediation between these spaces in the unit pertain to the presence of setbacks and the raising of the ground floor relative to the street level. Access to the ground floor is therefore achieved by using a pathway and an external staircase that lead to an exterior landing sometimes protected by a projecting roof. The front setbacks being modest, the elevation of the ground floor (about 1.75 meters above the sidewalk level) as well as the height of the windowsills (about 2.5 meters above said level) are the primary guardians of domestic privacy.

### Composition of the residential building stock

Figures 8, 9 and 10 illustrate the spatial distribution of residential buildings according to the number of dwellings per building, the number of floors of the latter as well as their mode of aggregation. The unit is marked by a strong preponderance of single-family buildings (90.2%), the attached mode of aggregation (83.2%) and constructions composed of two aboveground floors (87.5%). The unit does not display any specific spatial trend in relation to the three morphological characters.



**Figure 7.** Typical section and siting layout views on de Maisonneuve Boulevard West (view towards the northeast)



- 13 dwellings and more
- 6 dwellings
- 3 dwellings
- 2 dwellings
- 1 dwelling

Figure 8. Spatial distribution of the dwelling units per building



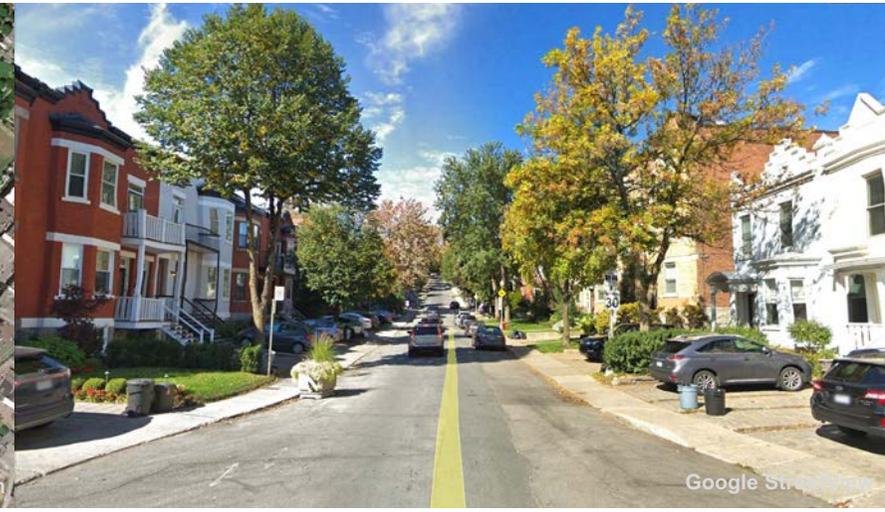
- Detached buildings
- Semi-detached buildings
- Attached buildings

Figure 10. Spatial distribution of buildings according to their mode of aggregation



- 4 stories and more
- 3 stories
- 2 stories
- 1 story

Figure 9. Spatial distribution of buildings according to their number of floors



## Landscape unit 20

Analytical fact sheet

### Location

Landscape unit 20 is located on the Westmount Plateau. It is bordered to the southeast by the Canadian Pacific Railway, at a short distance from the Saint-Jacques escarpment, thence, clockwise, by the allotment parting line located behind the properties located on the southwestern side of Victoria Avenue, then, to the northwest by Côte-Sainte-Antoine Road, then, on the northeastern side, by the allotment parting line behind the properties located on the same side of Roslyn Avenue, then by a portion of de Maisonneuve Boulevard West, and finally, to the northeast by Glen Road.

### Brief description

Spanning 18.54 ha, this landscape unit is composed of 727 housing units and several commercial buildings on Sherbrooke Street West and Victoria Avenue, respectively. The residential housing stock is mixed, producing a gross residential density of 39.2 dwellings per hectare and a net density of 53.4 dwellings/ha.

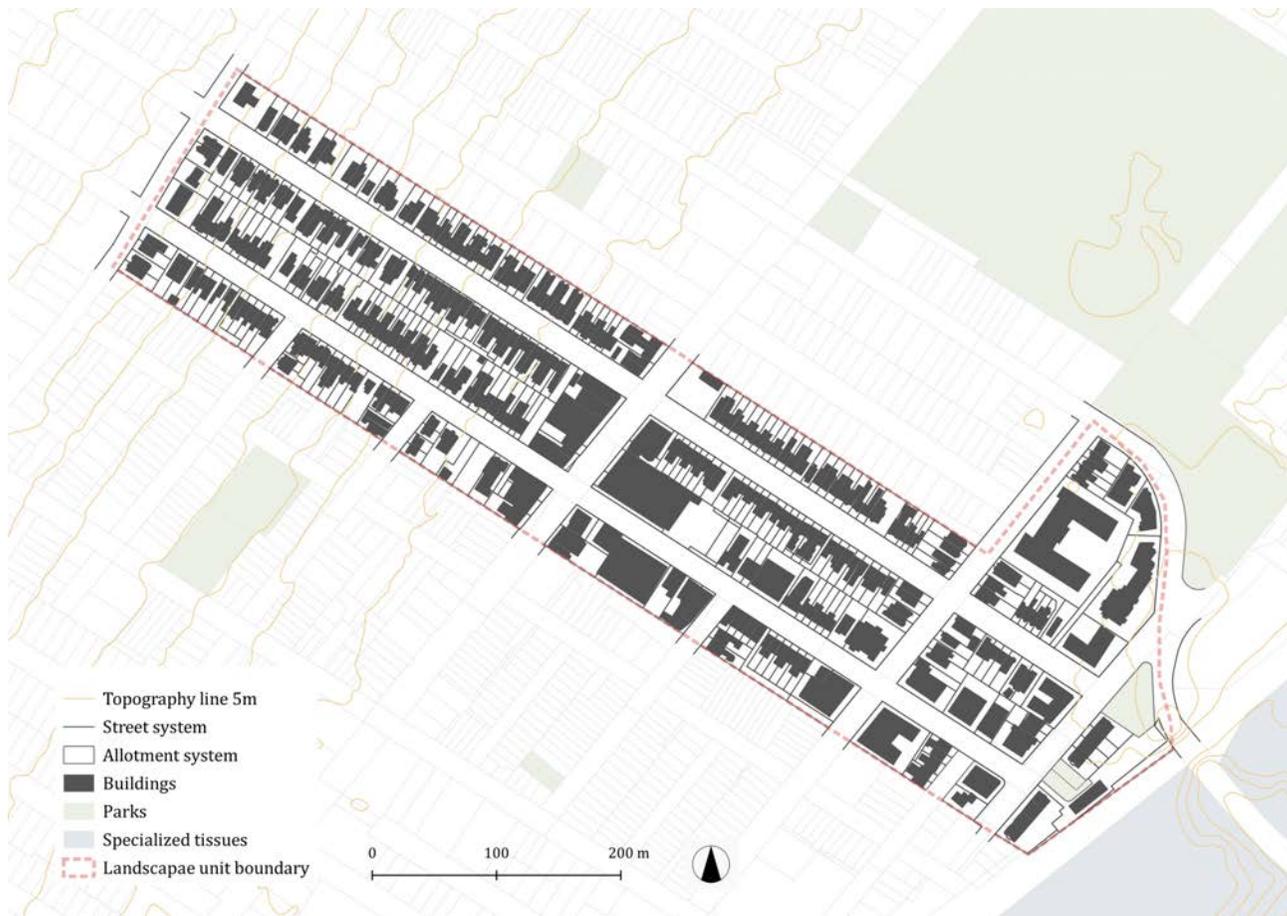
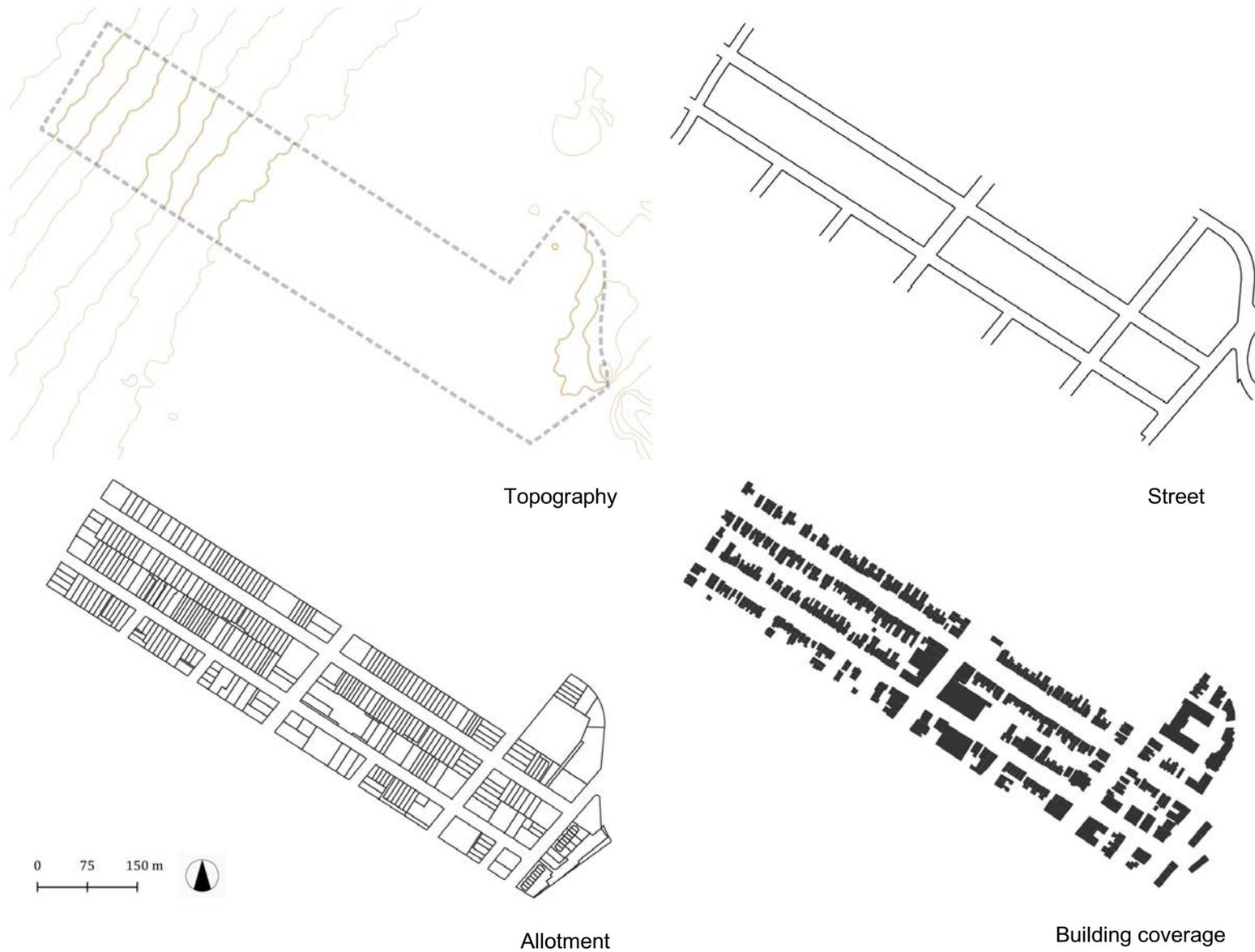


Figure 1. Landscape unit 20



**Figure 2.** Subsystems of the tissue

**Subsystems of the tissue**

The unit's territory lays mainly on even ground of the Westmount plateau, but includes a slightly sloping portion on the Westmount Summit piedmont, presenting an inclination of approximatively 4.0 ° to 4.2 °. The street network is

mostly orthogonal and delimits urban blocks of variable lengths that are oriented northwest-southeast longitudinally. The internal composition and configuration of the allotment appear somewhat eclectic on the whole. However, a more thorough analysis demonstrates that once the conditions pertaining to the specialized routes are

filtered-out, the rest of the allotment displays more regular patterns. The same remarks apply to the residential building coverage, which is mainly composed of single-family or two-unit (duplex) buildings, conforming to attached and semi-detached modes of aggregation.

**Routes hierarchy**

Figure 3 maps the routes of the landscape unit according to their category. The four types are represented in unit 20. Côte-Sainte-Antoine Road, which borders the unit on its northwestern edge, serves as the matrix route for the tissue. Victoria and Grosvenor avenues, oriented northwest-southeast, perpendicularly to the latter, are settling routes. These routes extend to Sainte-Catherine Street West, which constitutes the southeastern limit of Westmount's residential tissue. Beyond that street are the railway tracks and the Saint-Jacques escarpment. This portion of Sainte-Catherine Street West is a connecting route. Parallel to the latter, on its northwestern side, are De Maisonneuve Boulevard West, a settling route, and Sherbrooke Street West, which is a break-through route in this part of Westmount.

*Specialized routes*

Victoria Avenue and Sherbrooke Street West both assume a dual function, as major thoroughfares and local commercial streets (for an explanation of this dual-use, see Section 1, p. 20-21).

**Spatial syntax of the tissue**

The building coverage of the unit is diverse, but the common conditions observed there pertain to the predominance of single-family (72.2%) and duplex (16.9%) buildings, with two floors (79, 9%) or three floors (12%) above ground, in attached (63.9%), semi-detached (21.8%) and detached (14.4%) modes of aggregation, respectively. Both the residential allotment patterns and the building coverage both distinguish this unit from the neighbouring units.



Figure 3. Route hierarchy



Figure 5. Specialized routes

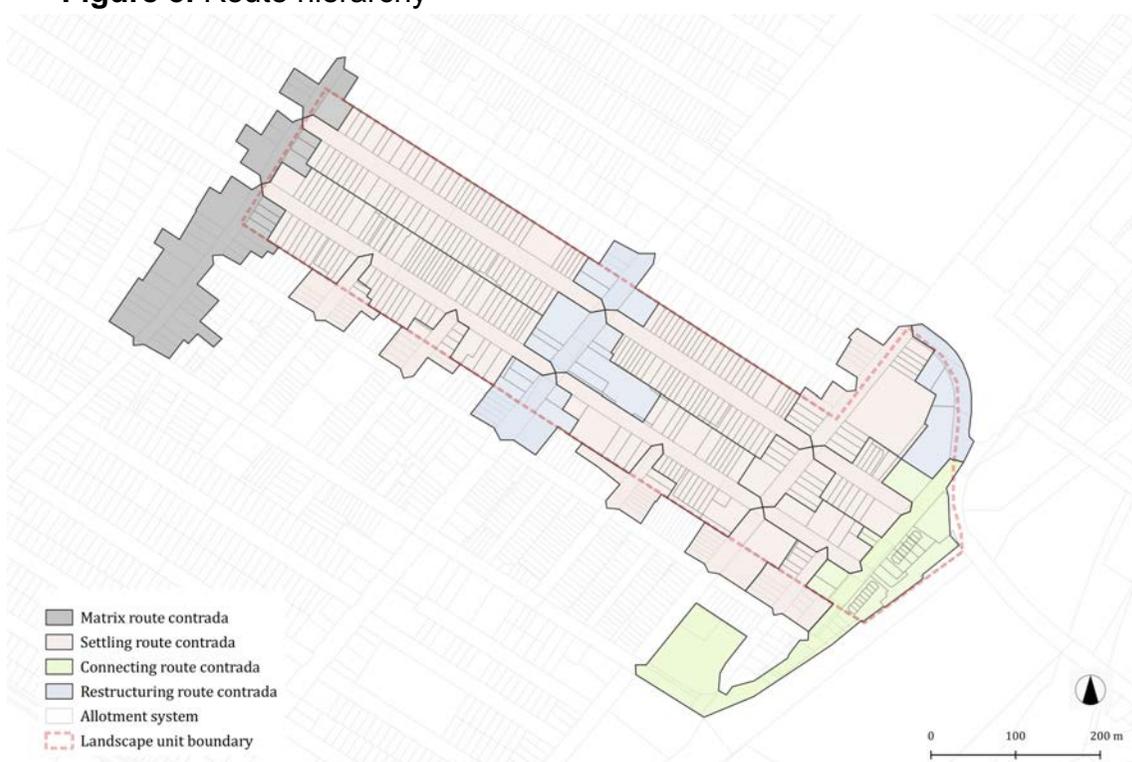
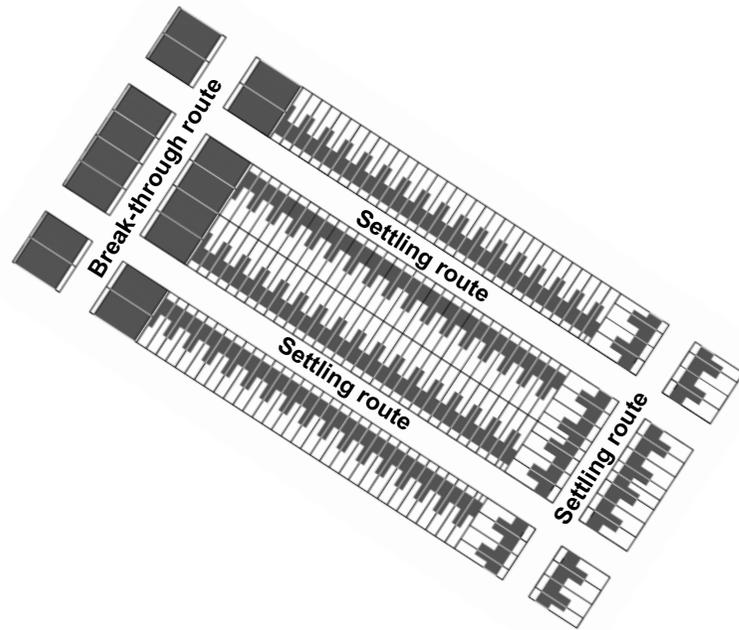


Figure 4. Face-block (Contrada) Structure

The orthogonal street system delineates urban blocks oriented along a northwest-southeast axis, in their longitudinal direction. This geometry is conditioned by the geometry of the previous agricultural allotment. The unit is bordered on the southwestern and northwestern sides by the allotment parting lines of pertinent strips along Victoria and Grosvenor avenues, respectively. With a width of just under 90 meters, its transverse dimension would correspond to that of the original farmland of 1.5 arpents in width.

The current state of the allotment and the built fabric on either side of Victoria Avenue, between Sherbrooke Street West and Somerville Avenue, in particular, testify to the commercial function of this street. Victoria Avenue has existed at least since 1890, and the commercial function was already prevalent there in 1909 (see part 1), as illustrated by pictures from that year. In the course of history, residential-sized lots were merged to receive larger commercial buildings along that street. A similar



**Figure 6.** Spatial syntax of the tissue

pattern can be observed on Sherbrooke Street West, a break-through route. The opening of the latter led to a reorganization of the allotment in order to create lots that had their addresses on this boulevard, which doubles as a local commercial street. Sherbrooke Street West is thus lined with heads of the blocks (*têtes d' îlot*) that receive buildings of two to four floors, including a commercial ground-floor, and that are characterized by their large footprints.

Although the street is old, the pertinent strip of Côte-Sainte-Antoine Road, which borders the unit to the northwest, carries buildings of more recent construction than the average in the unit and does not comply with the general tissue rules of the unit. Incidentally, the strip on the opposite side of the said road carries many much older buildings. This asymmetry of the pertinent strips of the matrix route in this sector informed the decision to establish the limit of the landscape unit in the middle of this road.

Figure 4 shows the structure of the face-blocks. The tissue displays urban blocks that have heads on both Sherbrooke Street West and De Maisonneuve Boulevard West. One can notice the predominance of oblong rectangular lots, presenting their shorter side to the street. Two modular lot dimensions coexist. Some lots have a width of about 6 meters (20 ft), while others, more frequent, are 7.6 meters (25 ft) wide. The typical depth is about 38 meters (125 ft). Lot dimensions are consistent with the types of buildings carried, which are mainly attached buildings (63.9%) and semi-detached buildings (21.8%). The residential stock consists of single-family buildings at 72.2%, and the norm is buildings presenting two floors above the ground (79.9%). The detached buildings, much rarer (14.4% of the stock), are concentrated in the northwestern portion of the unit, which is on a slope.

At the exception of the commercial streets, Sherbrooke Street West and Victoria Avenue, a front setback of about 5 meters is the norm. The buildings display a rectangular or L-shaped footprint. They are deployed in depth on their respective lots while preserving a small space at the back that serves as a backyard. This configuration produces a pretty high general lot coverage ratio of 0.45.

### The streetscape

The streetscape of this unit is characterized by the prevalence of orthogonal streets with sidewalks and aligned trees, except in the sections of the street carrying a commercial function, where the trees are rarer and more scattered. The public space is framed by a tight built fabric predominantly composed of attached buildings with two aboveground floors atop a partially aboveground basement. In the flat part of the unit, the elevation of the ground floor is about 1.75 meters higher than the level of the sidewalks.

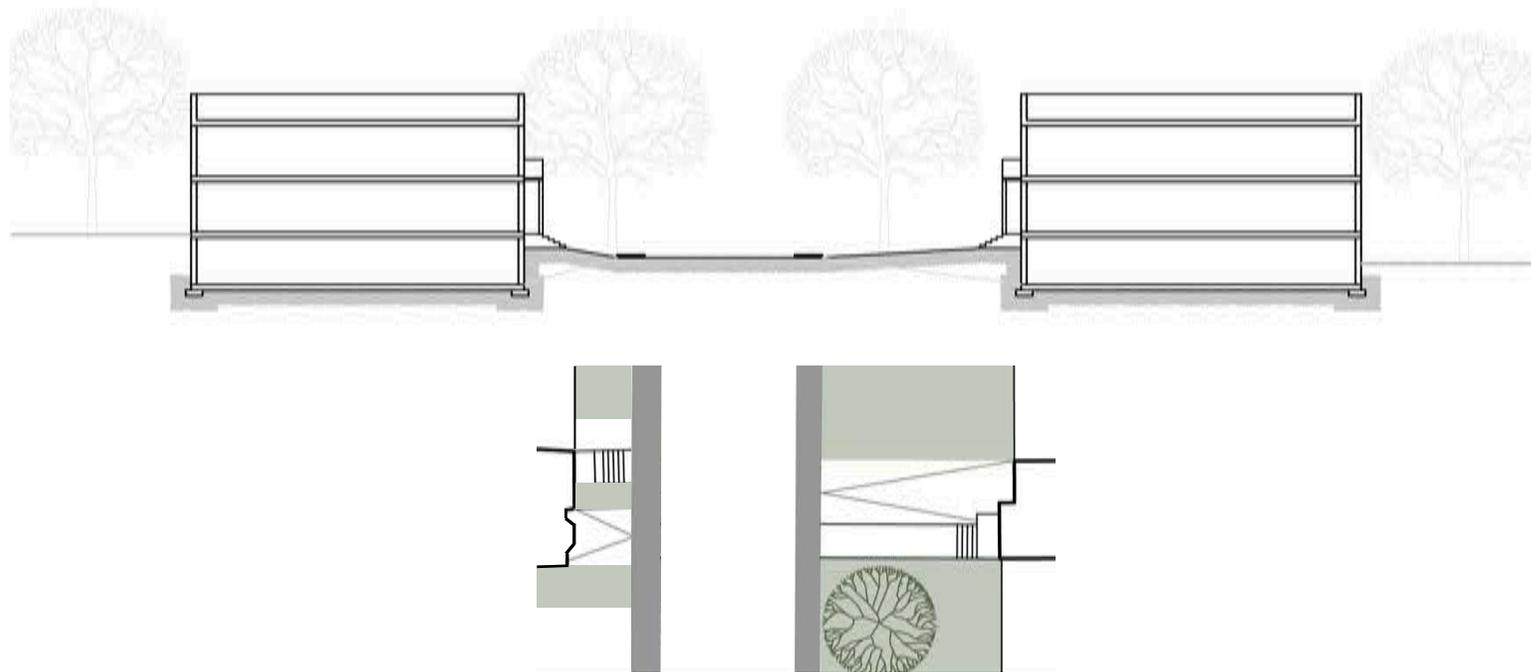
The front setback is partially requisitioned for the creation of parking spaces. In the case of attached

single-family houses, this provision leaves only a small portion for landscaping and the deployment of a pedestrian walkway giving access to the residence. In the case of duplexes and triplexes, space for landscaping can vanish completely.

In the sloping part, on the Westmount Summit piedmont, houses rest on partially aboveground basements. The height of the exposed foundation wall varies to adapt to the slope, which descends from Côte-Sainte-Antoine Road to the immediate surroundings of Sherbrooke Street West. Semi-detached buildings, which are the most common in that area, share a party wall with their contiguous neighbour while benefiting from a modest lateral setback on the opposite side. The lateral setback generally adjoins an equivalent one on the neighbouring property. The parking spaces are generally coupled in pairs along the said margins. Some of these setbacks are combined to accommodate a shared driveway giving access to garages built in the backyard. Such a configuration implies the creation of a mutual right of way. In rarer cases, the topographic conditions allow the construction of garages located in the basement, albeit accessible at grade from the street level. Such circumstances imply that, as a consequence of adjusting to the slope of the land, the ground floor is significantly elevated relative to the street level.

In terms of the architectural expression, the façades, of bricks, or stones more rarely, are often adorned with oriels and are either crowned with a lightly ornamented cornices or by false-mansard detailing. The norm is to flat roofs. The architecture is generally inspired by the Arts and Crafts movement, though by a more sober version of the latter.

Figure 7 shows section and siting layout views representative of the streetscape in the unit. These are schematic representations of conditions observable on Grosvenor Avenue. The latter has asymmetrical setbacks of some five and ten meters, respectively, on either side of the street.



### Public-collective / private-domestic spaces

The streetscape strongly conditions the experience of users, while denoting the architectural identity of a place. Several physical and spatial features of the streetscape also assume an essential function of architecture, namely the mediation between public-collective space and private-domestic space.

The physical and spatial features ensuring the mediation between these spaces in the unit pertain mainly to the presence of setbacks and the elevation of the ground floor, which is, therefore, accessed by an alleyway and an external staircase leading to an external landing sometimes protected by a projecting roof. Since the front setbacks are relatively modest, the elevation of the ground floor (no less than 1.75 m, especially in the flat area), as well as the height of the windowsills (no less than 2.5 m more than the elevation of the sidewalk) on this floor, are the first guardians of domestic privacy in this unit.

**Figure 7.** Typical section and siting layout views (view towards the northwest)

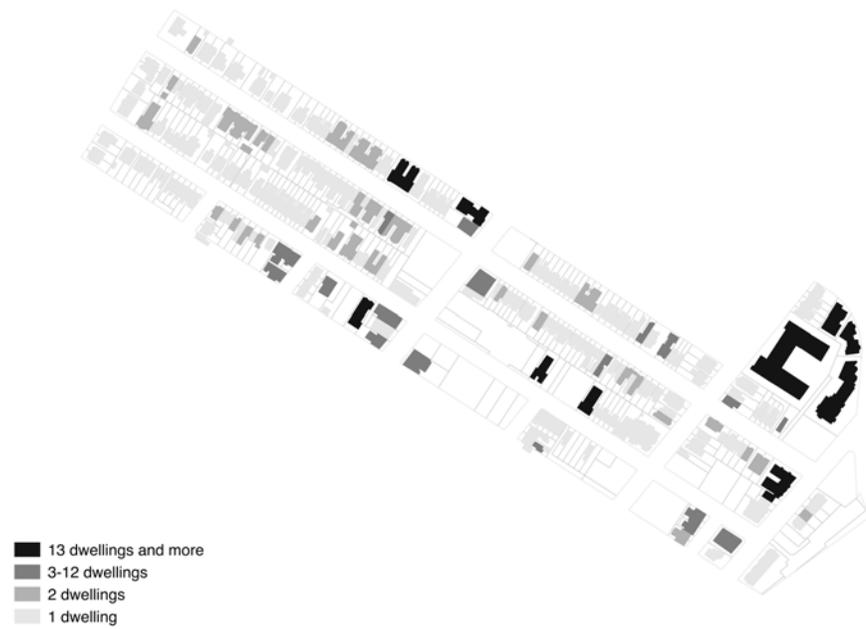


Figure 8. Spatial distribution of the dwelling units per building

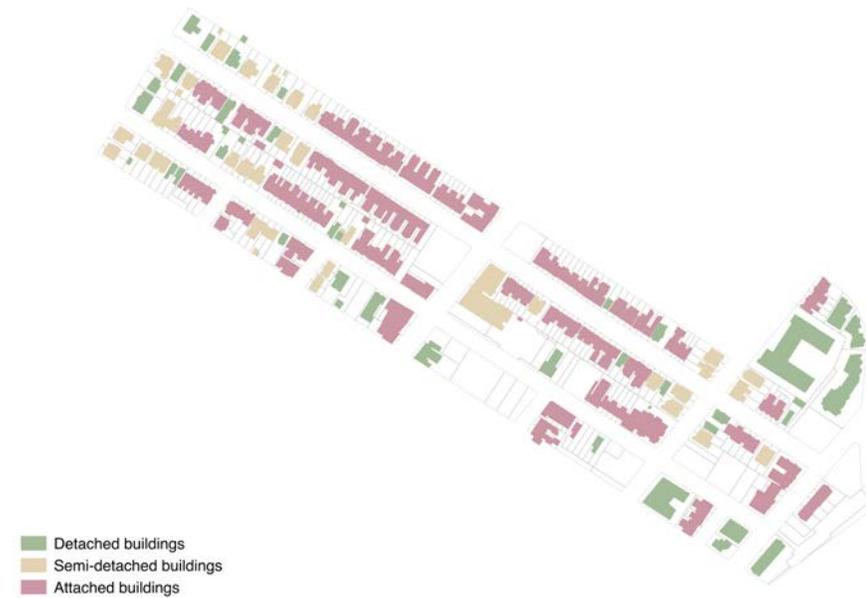


Figure 10. Spatial distribution of buildings according to their mode of aggregation

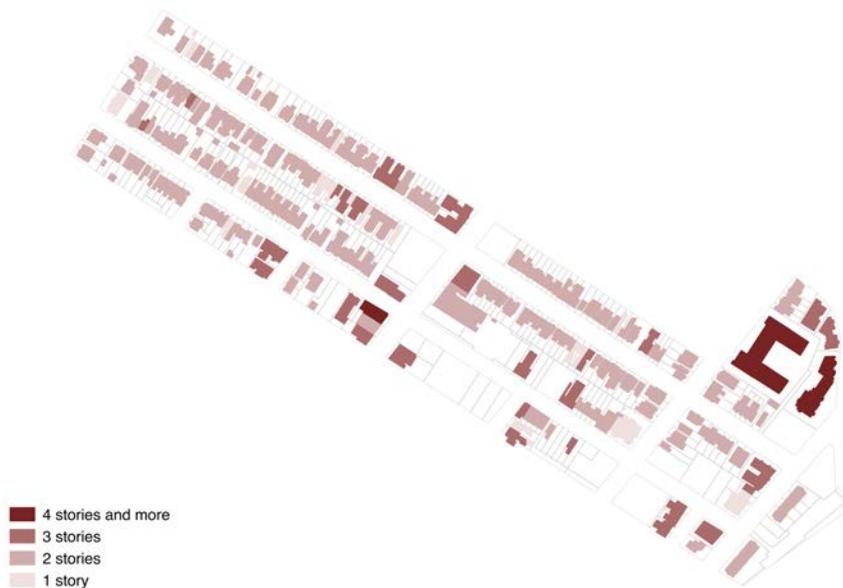
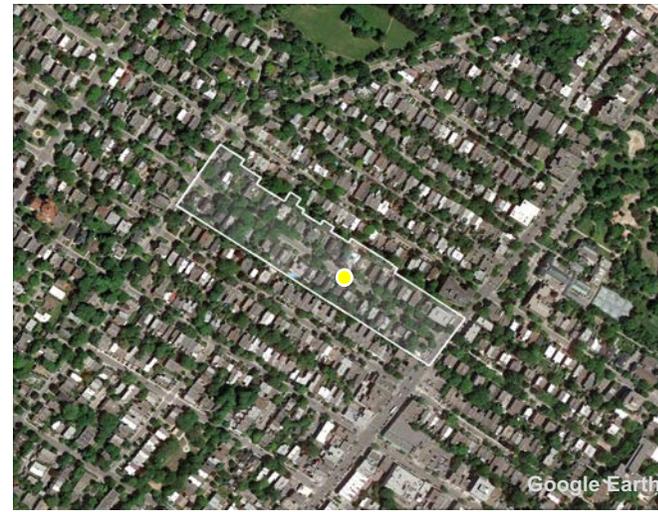
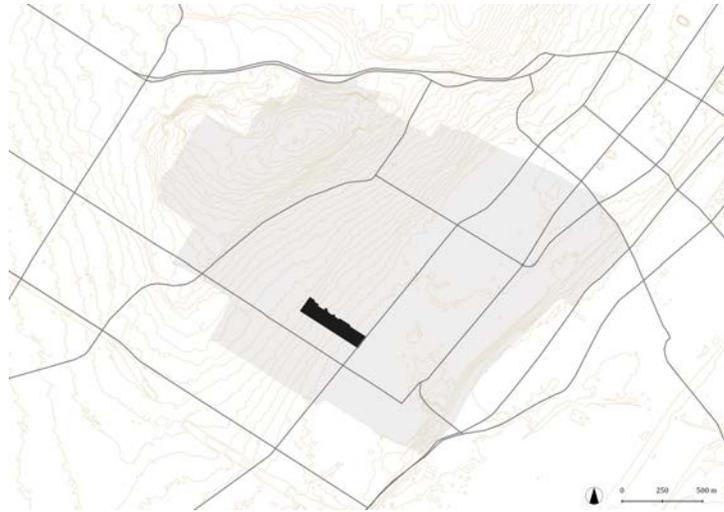


Figure 9. Spatial distribution of buildings according to their number of floors

### Composition of the residential building stock

Figures 8, 9, and 10 illustrate the spatial distribution of residential buildings according to the number of dwellings per building, their number of floors as well as their mode of aggregation. In addition to the punctual multi-unit building, the unit is marked by a strong preponderance of single-family buildings (72.2%). The unit presents a spatial trend according to which the buildings complying to semi-detached and, more rarely, detached modes of aggregation, are concentrated in the sloping sector, to the northwest.



## Landscape unit 21

Analytical fact sheet

### Location

Landscape unit 21 is located on the Westmount Plateau. It consists primarily of a single face-block. It is bordered to the southeast by Sherbrooke Street West, then, on either side of Roslyn Avenue, by the allotment parting lines located behind the properties located respectively on the southwest and northeastern sides of the latter avenue, up to Côte-Sainte-Antoine Road, which frames the unit to the northwest.

### Brief description

Spanning 4.01 ha, this landscape unit is composed of 41 housing units. The residential building stock consists of 29 single-family buildings in addition to six duplexes. The unit has a gross residential density of 10.2 dwellings per hectare and a net density of 13.7 dwellings/ha.

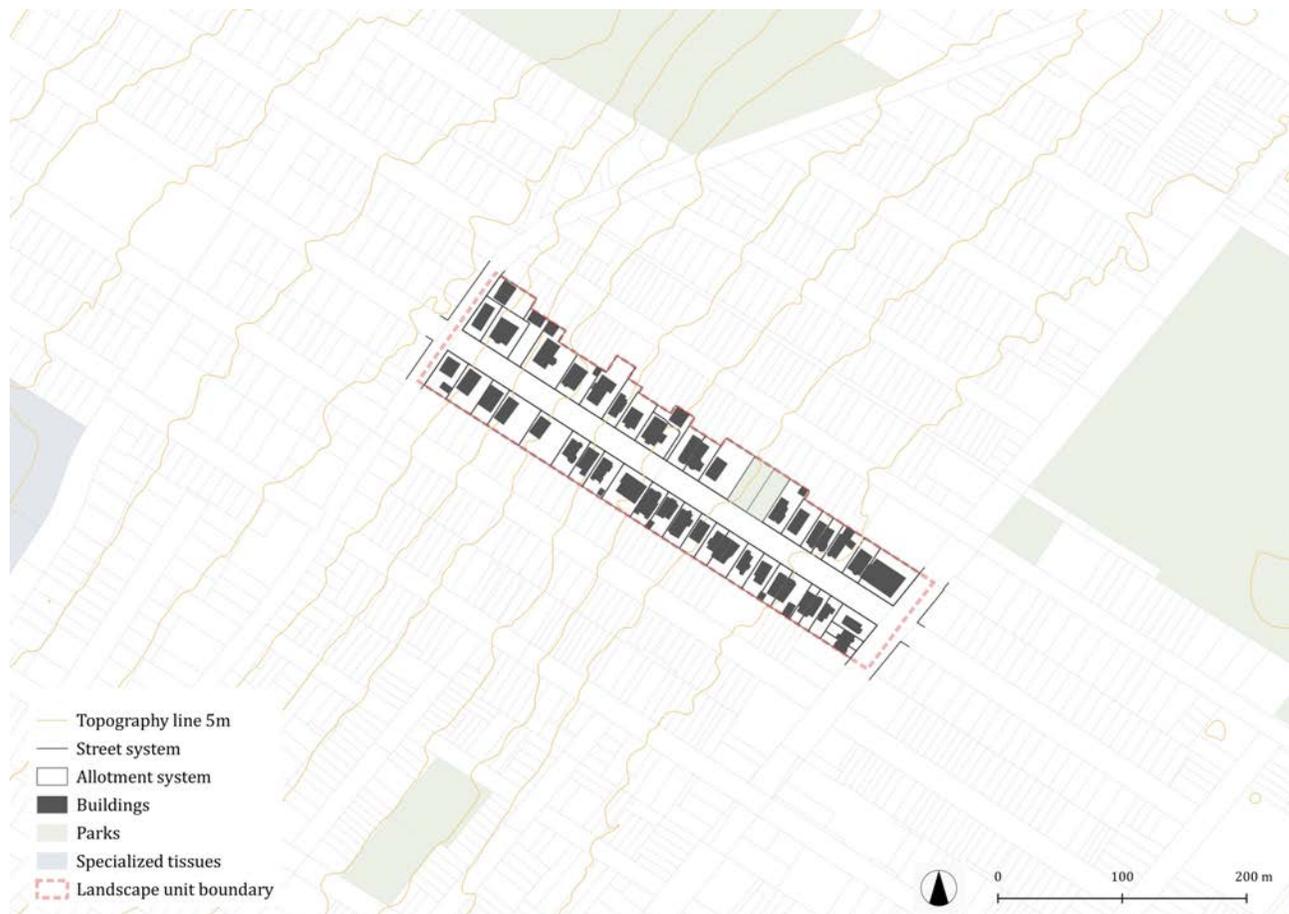
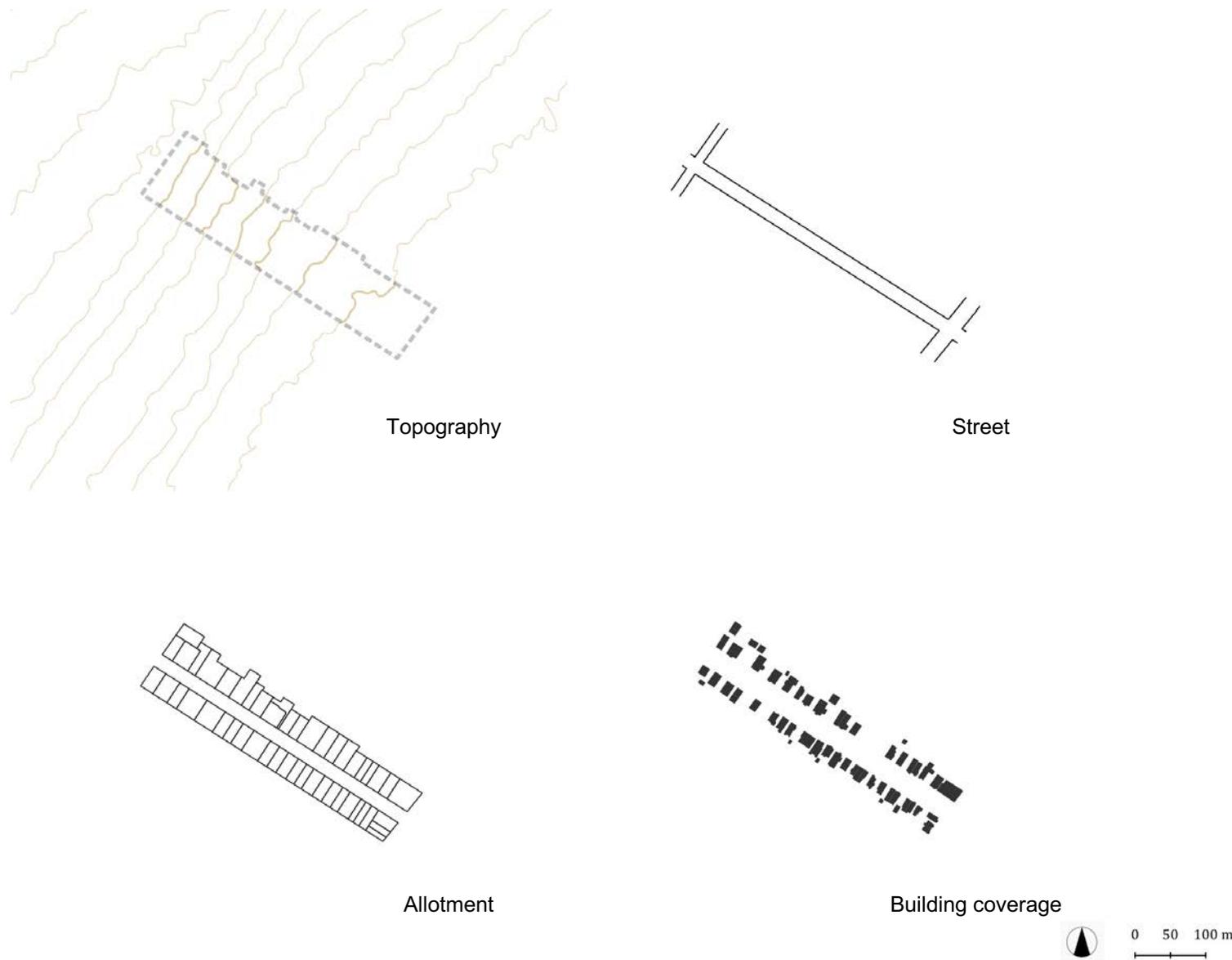


Figure 1. Landscape unit 21



**Figure 2.** Subsystems of the tissue

**Subsystems of the tissue**

The unit is located on the foothills of the Westmount Summit and presents a slope descending towards the southeast, which has an average inclination of 4.69 °. The street network is orthogonal. The main street segment, which is

oriented northwest-southeast, serves two pertinent strips that host residential buildings composed of one or two dwellings, and that are conforming to detached (77.3%) or semi-detached (23.7%) mode of aggregation.

**Routes hierarchy**

The unit is bordered on the northwestern side by Côte-Sainte-Antoine Road, a matrix route for the tissue whose presence is attested since the very beginning of the 18th century, and which could originate from a trail practiced by the natives for hundreds of years (cf. Part 1 of this report). Roslyn Avenue is a settling route. Sherbrooke Street West, which is perpendicular to the latter, is a break-through route in this sector of the municipality.

*Specialized routes*

Sherbrooke Street West is a major thoroughfare that doubles as the local commercial street (for an explanation of these conditions, see Part 1, p. 20-21). The unit is also located a short distance from Victoria Avenue, which plays a dual function, as does Sherbrooke Street West that it crosses.

**Spatial syntax of the tissue**

The building coverage of the unit is mainly made up of single-family buildings, and of the two-storey aboveground variety, in detached (77.3% of the stock) and semi-detached (22.7%) modes of aggregation. The unit has three face-blocks: one on Sherbrooke Street West, one on Côte-Sainte-Antoine Road and the main one, along Roslyn Avenue. It is the latter that defines the general outlines of the unit (Figure 4). The allotment pattern, as well as the composition of the building coverage carried by the two pertinent strips of this avenue, distinguish this small unit from the adjacent sectors. It is not possible to identify a modular lot in the area, although a significant number of these have a width of about fifteen meters (50 ft) onto the street. A majority of the lots are also approximately thirty-eight meters (125 ft) deep. Curiously, several lots on the pertinent strip to the northeast have varying depths for the reason that we have not been able to clarify, but which could pertain to the presence of an old alleyway shared by the neighbouring owners. One constant,

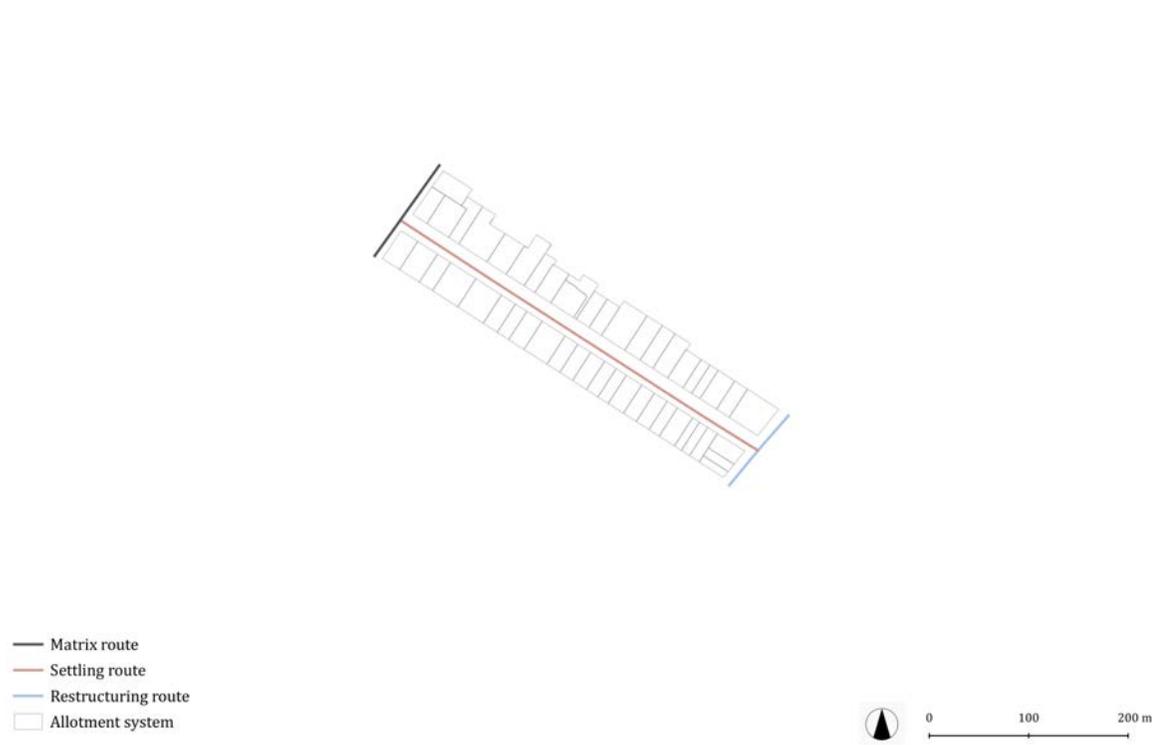


Figure 3. Route hierarchy

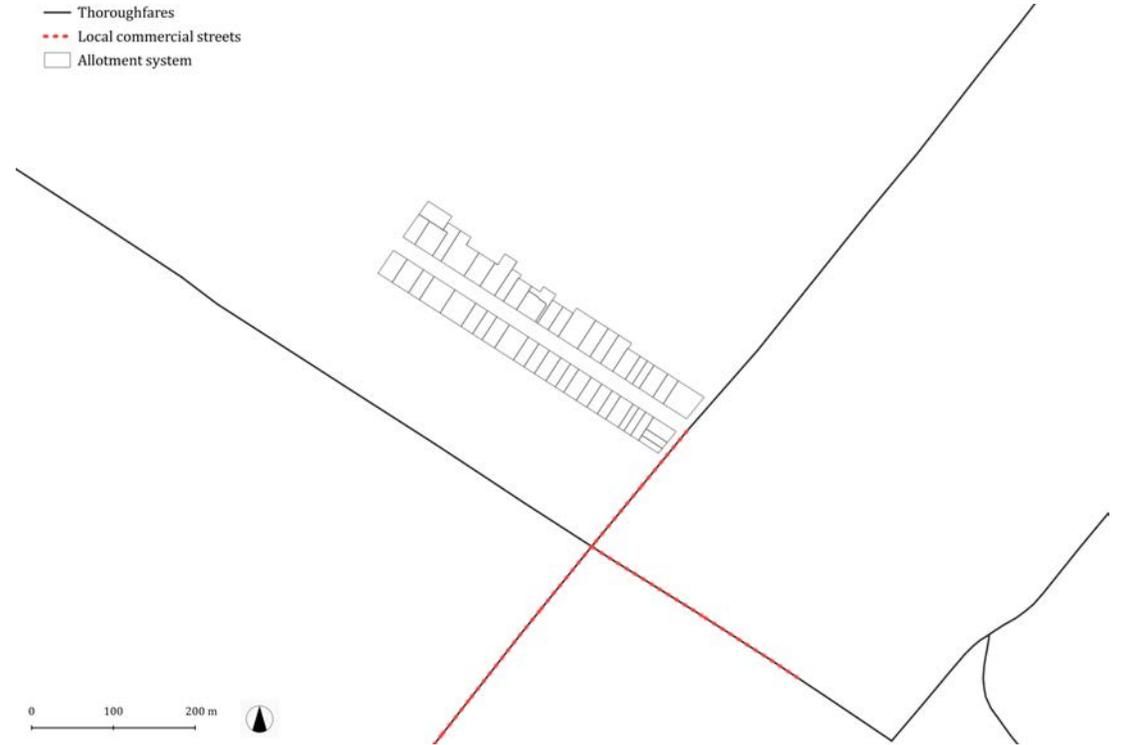


Figure 5. Specialized routes

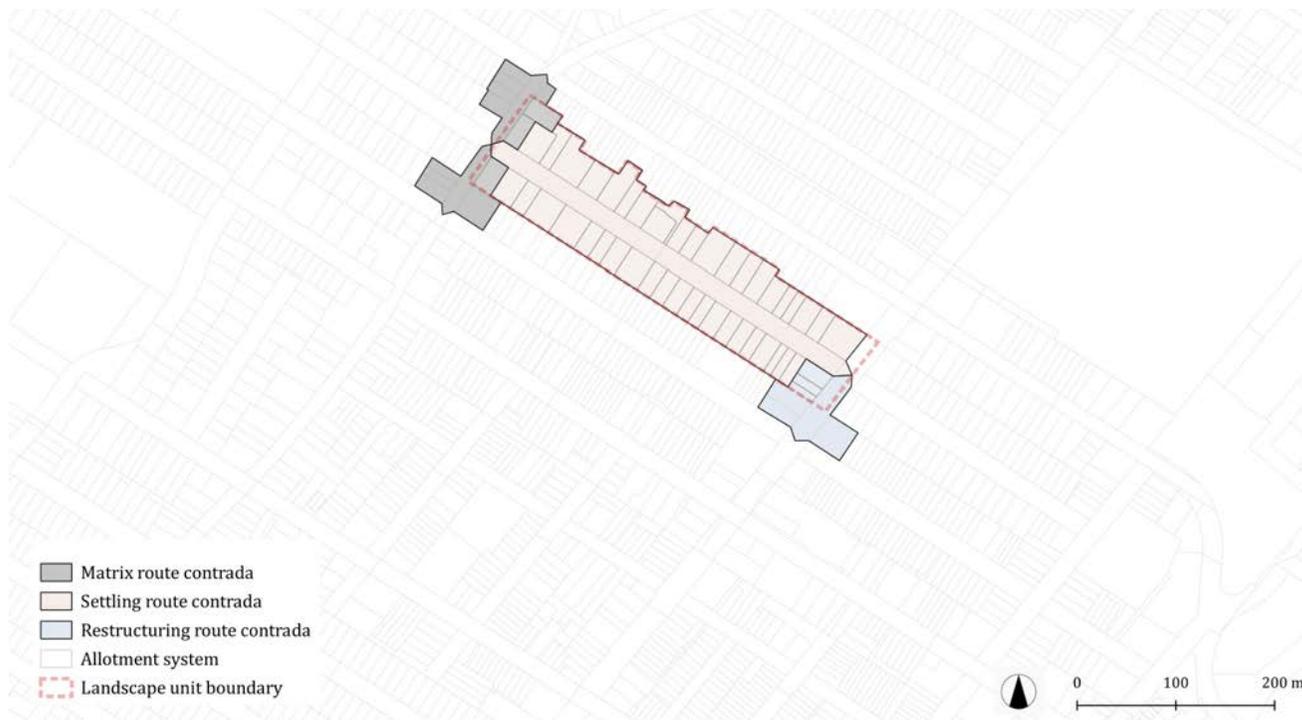
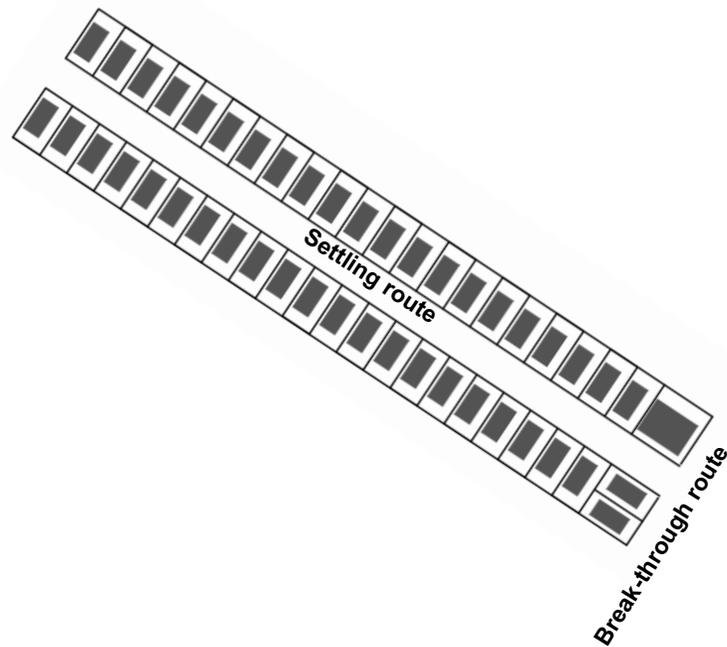


Figure 4. Face-block (Contrada) Structure

however, is that the lots are almost all deeper than they are wide onto the street. The same rule applies to the buildings. They extend lengthwise along the longitudinal direction of their respective lots.

The unit displays front setbacks of about five or about six and a half meters. The lateral setbacks are generally quite modest, relative to the size of the buildings. Detached buildings tend to sit on the higher side of their lot. Since the slope descends towards the southeast, the lateral setbacks are generally more generous in that direction than their counterpart facing northwest. Each lot has a backyard in which there is often a garage that abuts both a lateral and rear property lines. In several buildings, taking advantage of the slope, a garage takes place in the basement that is accessible at grade from the main façade at street level. Where appropriate, the driveway is located on the lower side of the lot, while the pedestrian access is on the highest part, so that the ascent to

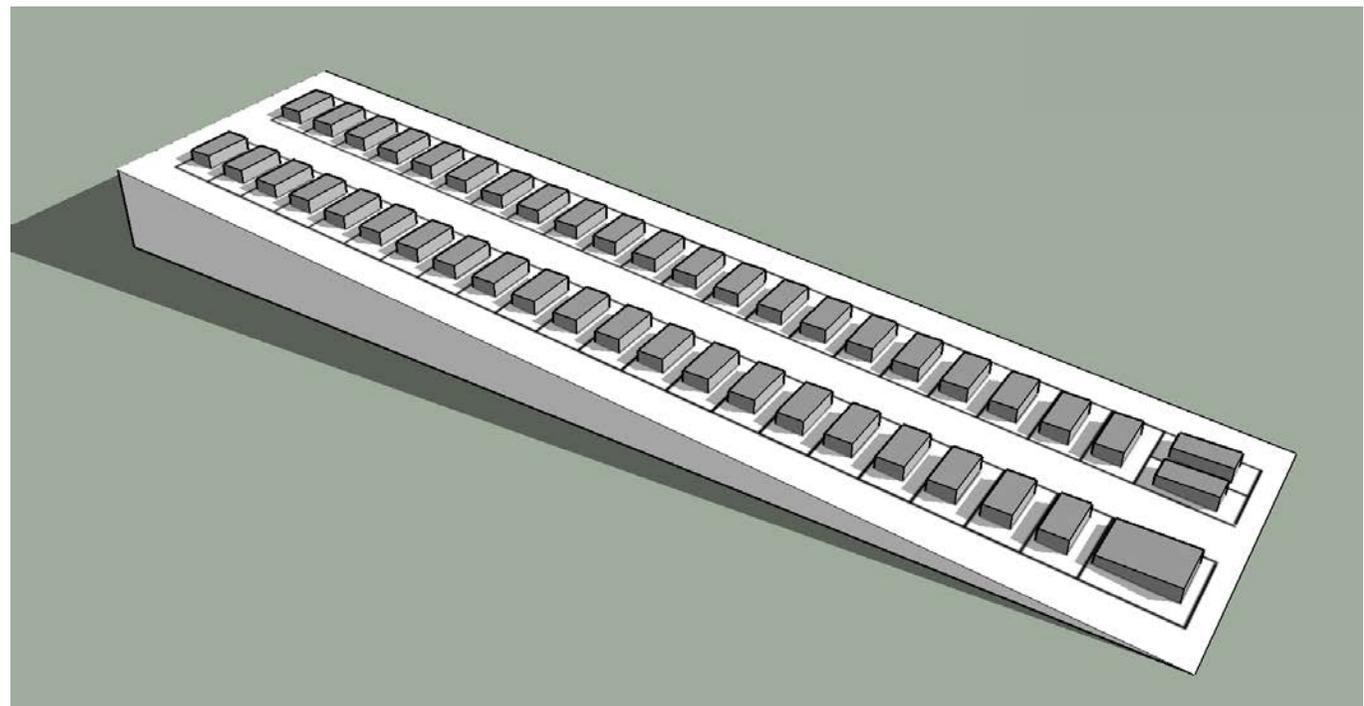


**Figure 6.** Spatial syntax of the tissue

the ground floor from the street by foot is minimized. The various configurations described above produce an average lot coverage ratio of 0.33.

### The streetscape

The streetscape of Roslyn Avenue is marked by the presence of sidewalks and trees lining up on both sides of the public road. The framing of the public-collective space is ensured by tight rows of bordering buildings presenting two aboveground floors sitting atop a partly aboveground basement. The front setbacks are adorned by small, neatly landscaped gardens, where lawn, as well as flower and shrubs beds alternate. The elevation of the ground floors relative to the level of the sidewalk implied the creation of external flights of stairs of about 1.75 meters in height in the flat part of the unit, near Sherbrooke Street West, but of variable height, between 1.75 and 2.5 m, to adjust to the varying topographic conditions in the steeper



**Figure 7.** Three-dimensional theoretical model

sector. Access to the residence is generally made on the main façade, but there are cases where this access is done on the lateral façade.

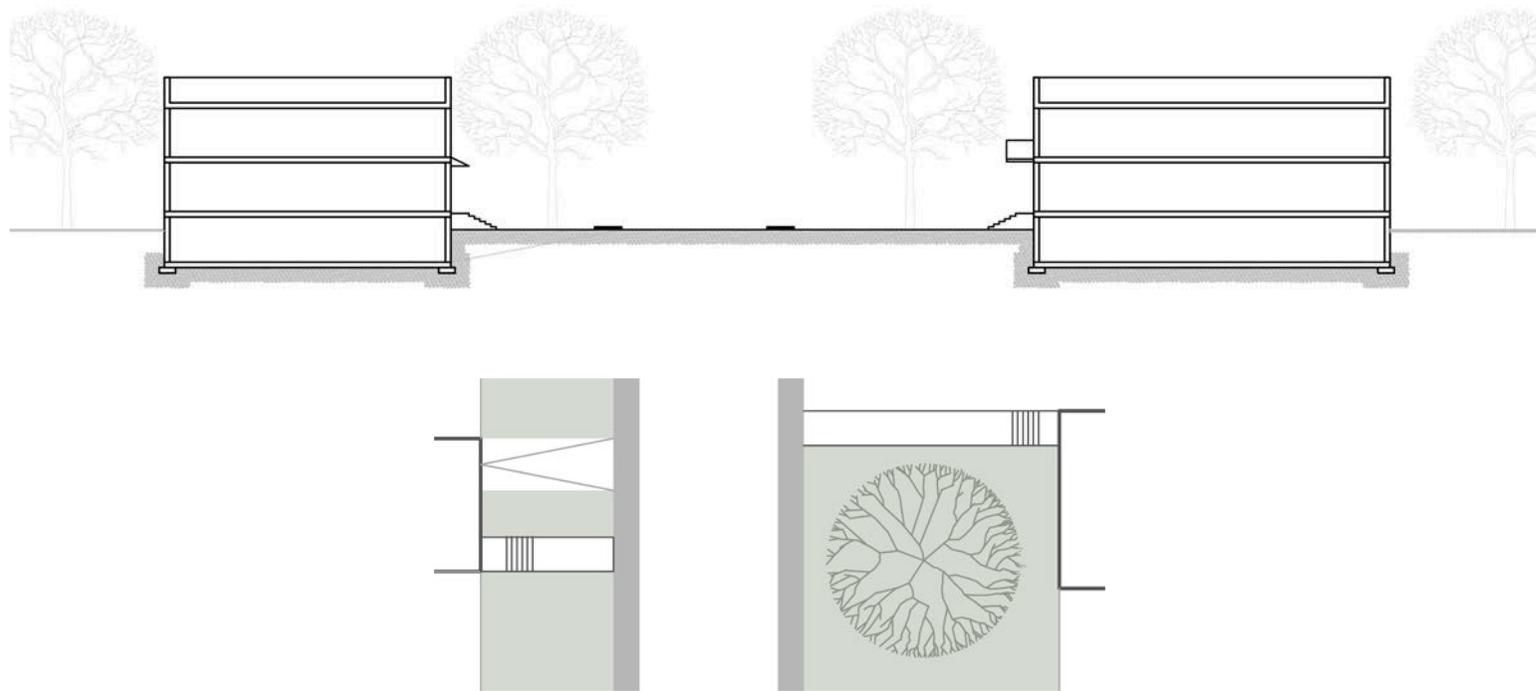
The architecture is somewhat eclectic in the unit, due in particular to the diversity of the periods of construction of the buildings. The architectural expression generally favours articulated façades adorned with great details such as stalls, projections, oriels and porches. The roofs are of various types, sometimes flat, hipped, of the pavilion or false mansard types. The Arts and Crafts architectural movement is a major source of inspiration.

Figure 8 shows section and siting layout views representative of the streetscape on Roslyn Avenue. The latter is characterized by asymmetrical setbacks on each side of the street, among other things.

### Public-collective / private-domestic spaces

The streetscape strongly conditions the experience of users, while denoting the architectural identity of a place. Several physical and spatial features of the streetscape also assume an essential function of architecture, namely the mediation between public-collective space and private-domestic space.

The physical and spatial features ensuring the mediation between these spaces and domestic privacy, more generally, relate mainly to the presence of setbacks and the elevation of the ground floor in the unit. The ground floor is accessed by a walkway and an external staircase, leading to a landing generally protected by a projecting roof or by an alcove carved out in the façade.



### Composition of the residential building stock

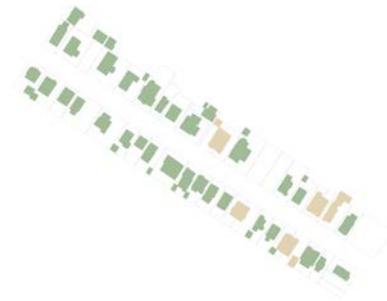
Figures 9, 10, and 11, illustrate the spatial distribution of residential buildings according to the number of dwellings per building, their number of floors, as well as their mode of aggregation. The unit does not display any specific spatial trend in relation to these characteristics and properties of the form.

**Figure 8.** Typical section and siting layout views on a settling route (view towards the northwest)



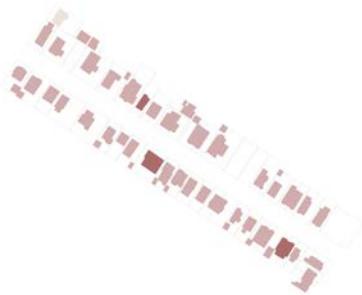
■ 2 dwellings  
■ 1 dwelling

**Figure 10. Spatial distribution of the dwelling units per building**



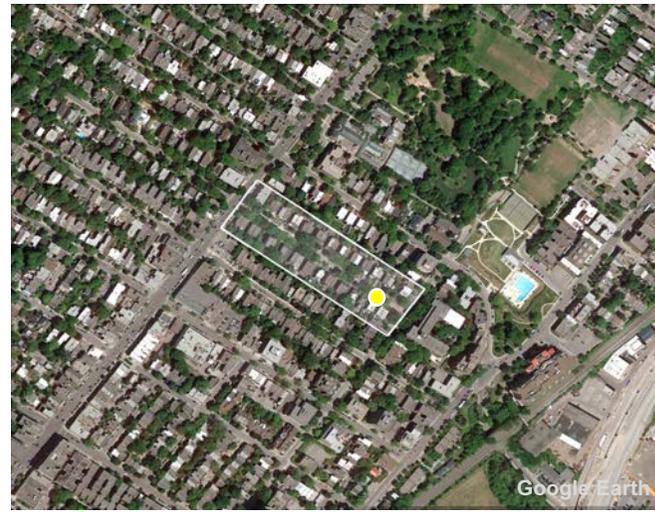
■ Detached buildings  
■ Semi-detached buildings

**Figure 12. Spatial distribution of buildings according to their mode of aggregation**



■ 3 stories  
■ 2 stories  
■ 1 story

**Figure 11. Spatial distribution of buildings according to their number of floors**



## Landscape unit 22

Analytical fact sheet

### Location

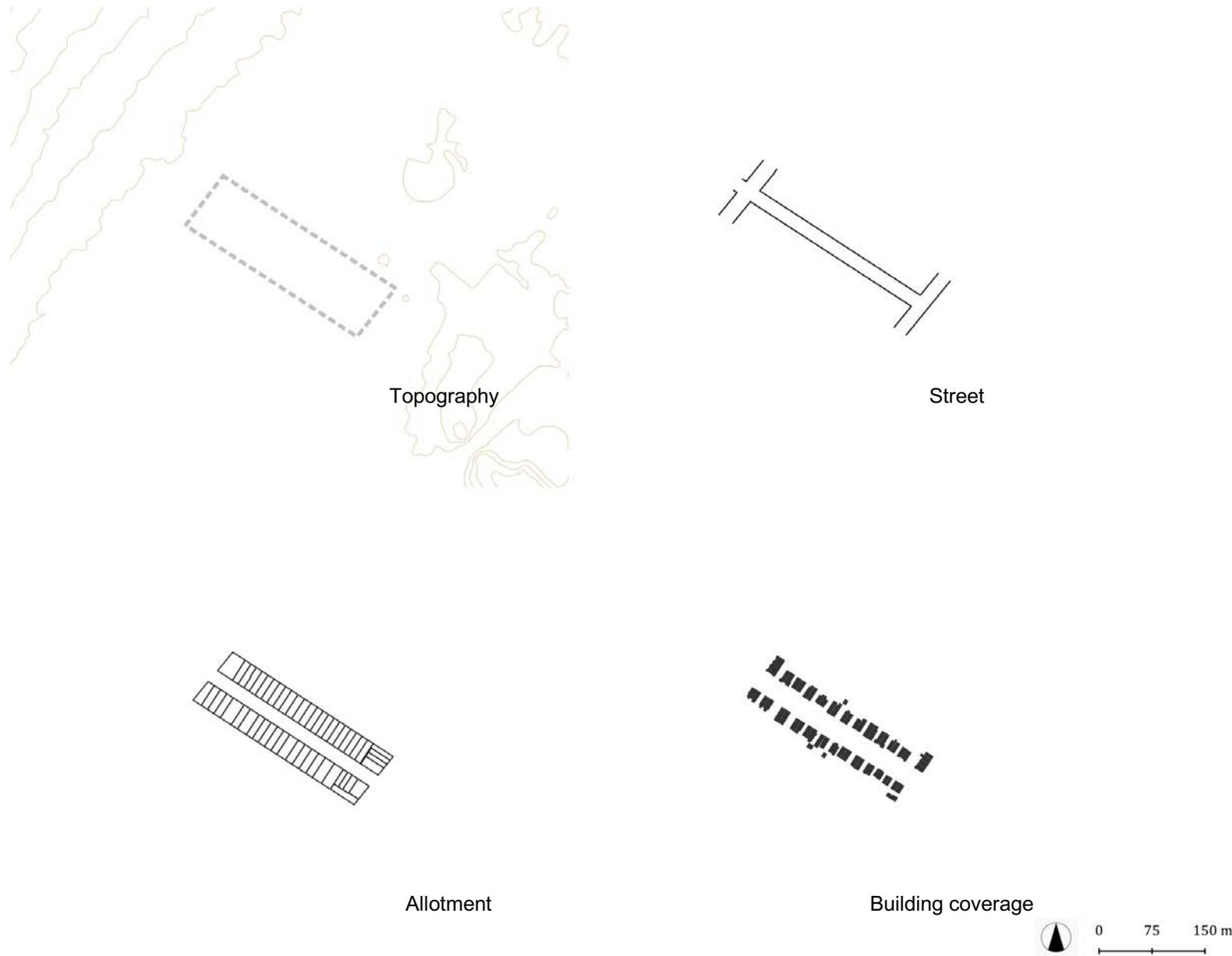
Landscape unit 22 is located on the Westmount Plateau. It mainly consists of a face-block on Roslyn Avenue. It is bordered to the southeast by de Maisonneuve Boulevard West, then, on either side of said Roslyn Avenue, by the allotment parting lines located behind the properties located respectively on the southwest and northeastern sides of the latter, then by Sherbrooke Street West, which constitute the limits of the unit to the northwest.

### Brief description

Spanning 2.55 ha, this landscape unit is composed of 63 housing units. The residential housing stock is made up of single-family buildings at 95.8%. The unit has a gross residential density of 24.7 dwellings per hectare and a net density of 34.3 dwellings/ha.



Figure 1. Landscape unit 22



**Figure 2.** Subsystems of the tissue

**Subsystems of the tissue**

The unit is located on the Westmount plateau on a plane ground. The street network is orthogonal in this sector. The main street segment is oriented northwest-southeast. It serves two pertinent strips that host almost exclusively single-family

residential buildings (95.8%). The building stock largely conforms to the semi-detached mode of aggregation (82, 4%). The rest is detached (9.8%) and attached (7.8%) buildings.

**Routes hierarchy**

As mentioned, the unit is bordered on the northwestern side by Sherbrooke Street West, which in this sector of Westmount is a break-through route. De Maisonneuve Boulevard West, a settling route, frames the landscape unit to the southeast. Roslyn Avenue itself is also a settling route.

*Specialized routes*

Sherbrooke Street West is a major thoroughfare that doubles as a local commercial street (for an explanation of these conditions, see Part 1 of this report, p. 20-21). The unit is also located a short distance from Victoria Avenue, which plays a dual function, as does Sherbrooke Street West, which it crosses.

**Spatial syntax of the tissue**

The building coverage of the unit is mainly made up of two-storey, aboveground single-family buildings, in semi-detached mode. The unit has three face-blocks: one on Sherbrooke Street West, one on De Maisonneuve Boulevard West, and the main one, located on Roslyn Avenue (Figure 4). The allotment pattern, as well as the composition of the building coverage carried by the two pertinent strips of this avenue, distinguish it from the adjoining sectors. These are the considerations that informed the determination of the perimeter of the unit. It is not possible to distinguish a modular lot in the area, although a significant number of lots have a front of about 9.2 meters or 10.7 meters (30 or 35 ft) onto the street, respectively. These lots are approximately thirty-eight meters (125 ft) deep. The buildings extend lengthwise along the longitudinal direction of their lots.

The unit has front setbacks of approximately five meters. Along the settling route Roslyn Avenue, semi-detached buildings, are coupled in pairs. They consequently share a party wall with an adjoining building and conform to a modest lateral

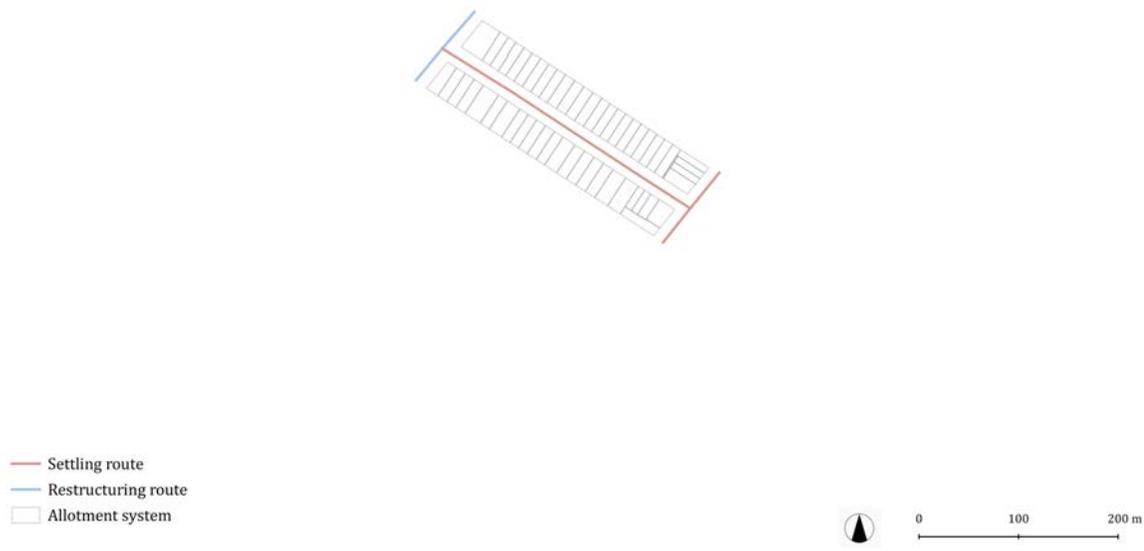


Figure 3. Route hierarchy

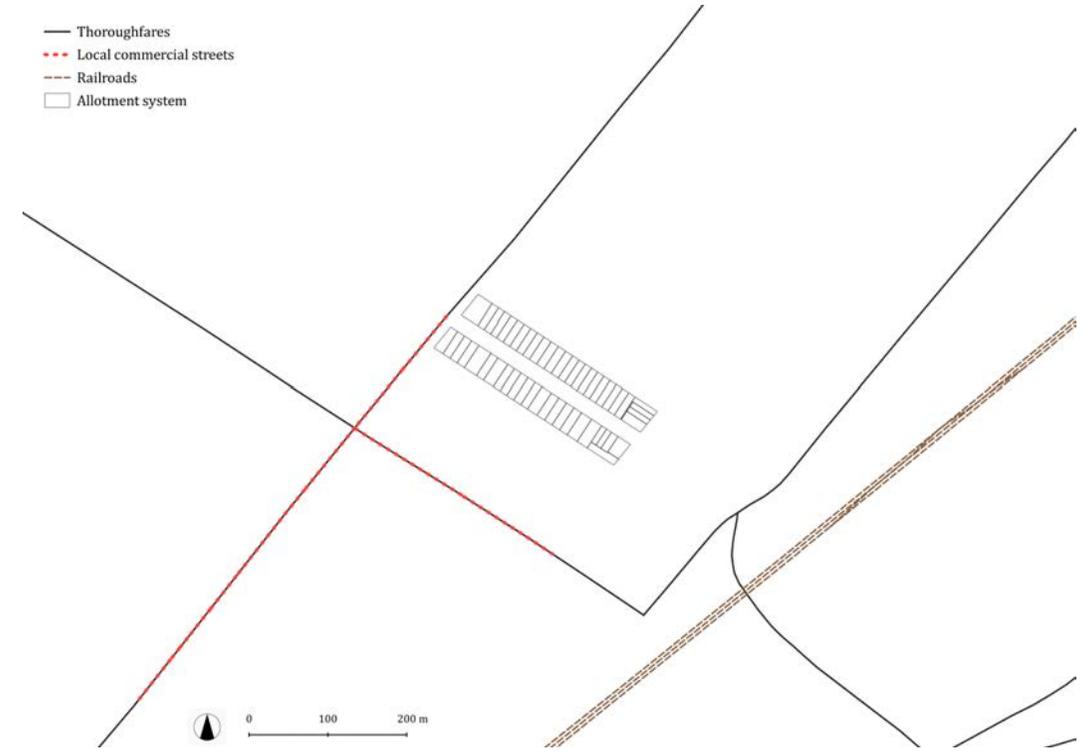


Figure 5. Specialized routes

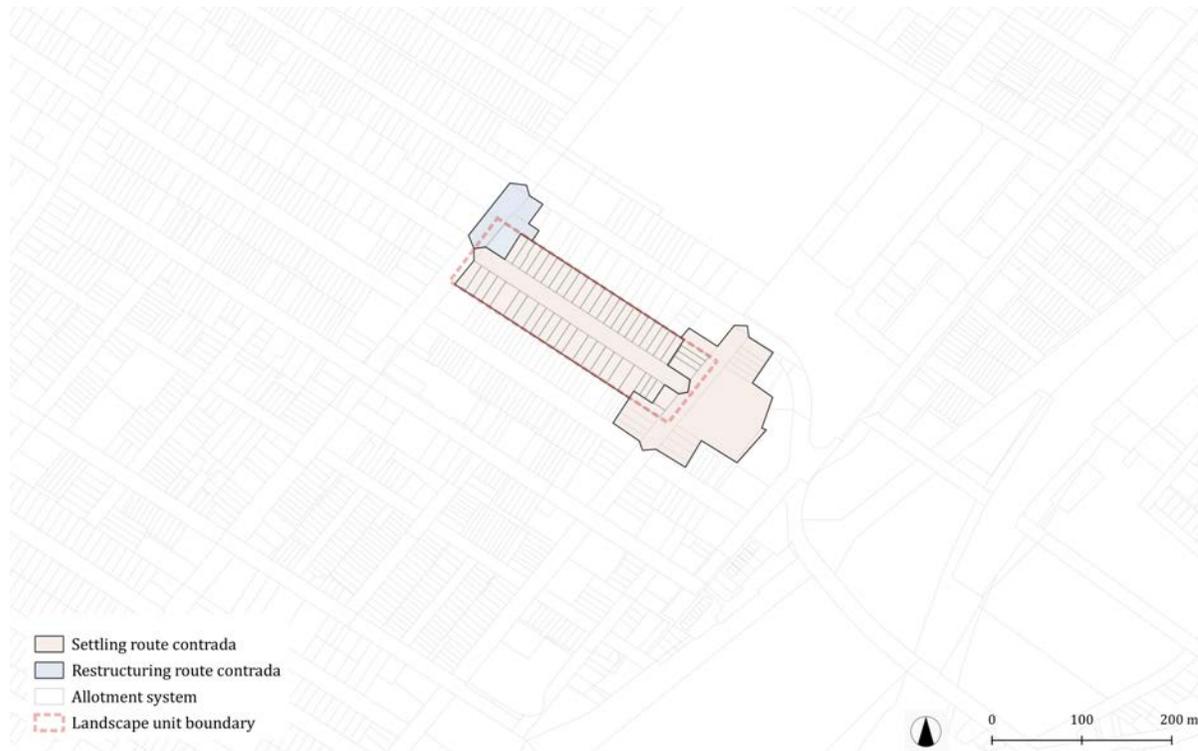
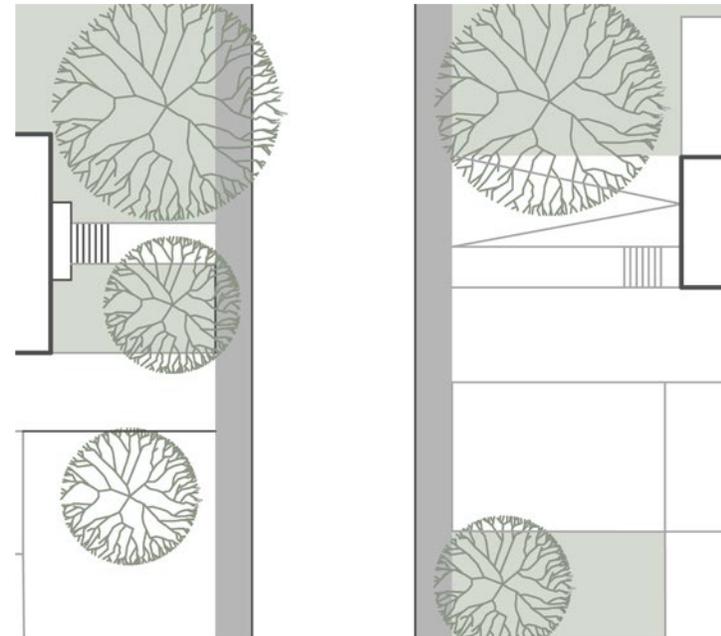
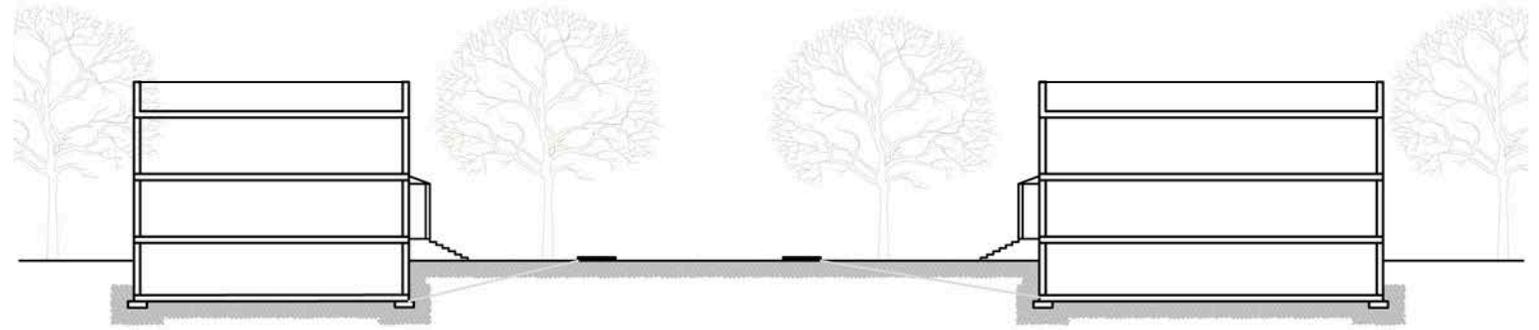
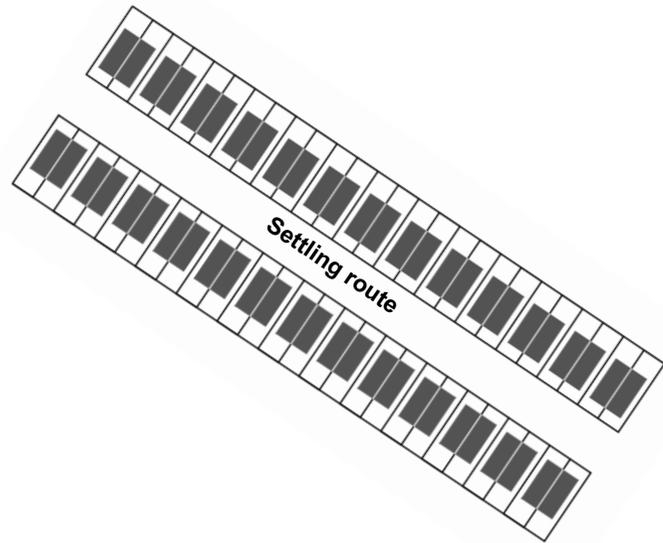


Figure 4. Face-block (Contrada) Structure

setback on the opposite side. Said lateral setback adjoins an equivalent one on the neighbouring property. These setbacks either accommodate adjoining parking spaces, or they are combined to create a shared driveway, which typically gives access to garages built in the backyard at the property line. Such an arrangement generally implies a mutual right of way.

The pertinent strip on Sherbrooke Street West carries an apartment building with four storeys above ground. Two small pertinent strips on the northwestern side of De Maisonneuve Boulevard West and their counterpart to the southeast, together form a face-block. This segment has row buildings on the northwestern side as well as a multi-unit building to the southeast (which belongs to landscape unit 20, see the latter's sheet). These overall conditions produce an average lot coverage ratio of 0.38 in the unit.



**Figure 6.** Spatial syntax of the tissue

**The streetscape**

The streetscape of this landscape unit is characterized by the prevalence of orthogonal streets producing tightly framed visual perspectives. The streets have sidewalks and sporadically interrupted series of trees on either side. The framing of the public-collective space is ensured by fairly tight built fabric, mainly consisting of semi-detached buildings with two floors atop partially aboveground basements. The ground floors are deployed approximately 1.30 meters above the level of the sidewalk. They are accessed by external stairs and landings. The architectural expression is inspired by the Arts and Crafts movement. The façades are generally garnished with oriels as well as porches, which sometimes act as an upstairs balcony. The roofs are all flat but are sometimes expressed as a false mansard on

**Figure 7.** Typical section and siting layout views on a settling route (view towards the northwest)

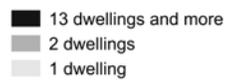
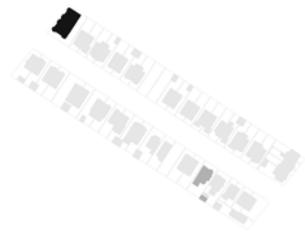
the façade.

The front setbacks are adorned by small gardens in which lawn as well as flower and shrubs beds alternate.

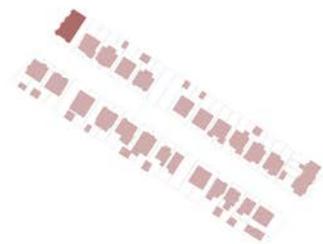
Figure 7 shows section and siting layout views representative of the streetscape on Avenue Roslyn.

**Public-collective / private-domestic spaces**

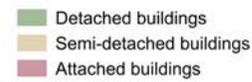
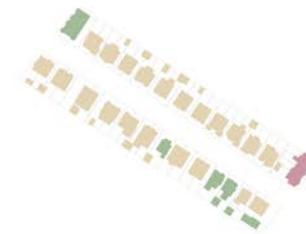
The streetscape strongly conditions the experience of users, while denoting the architectural identity of a place. Several physical and spatial features of the streetscape also assume an essential function of architecture, namely the mediation between public-collective space and private-domestic space. The physical and spatial features ensuring the mediation between these spaces in the unit pertain more explicitly to the presence of setbacks, as well as to the raising of the ground floor, which



**Figure 8. Spatial distribution of the dwelling units per building**



**Figure 9. Spatial distribution of buildings according to their number of floors**

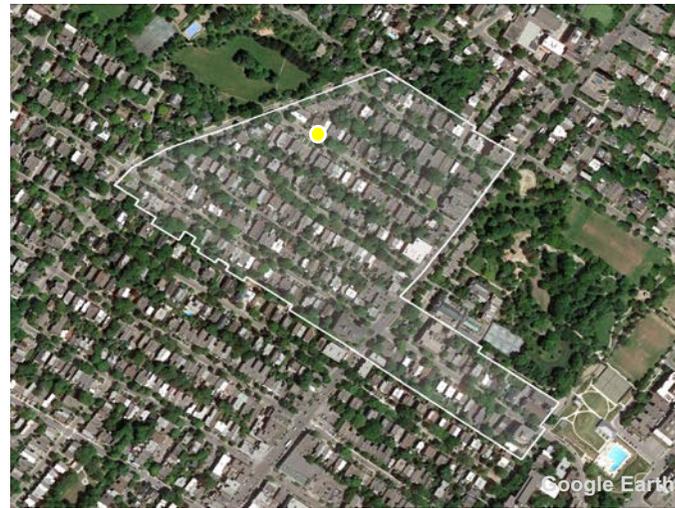
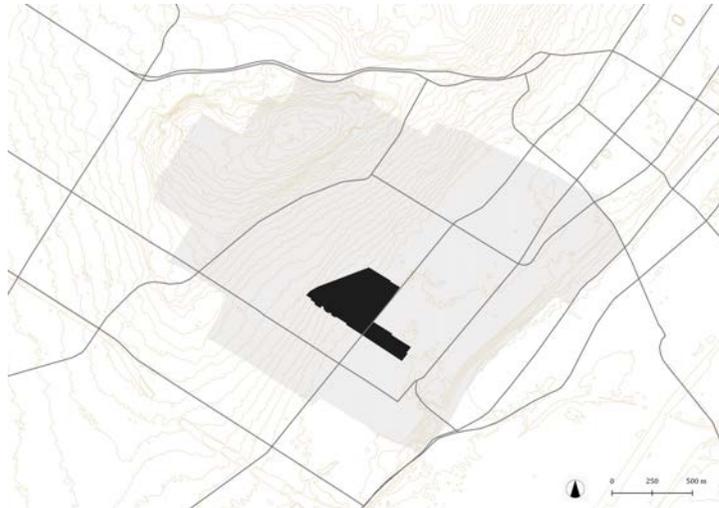


**Figure 10. Spatial distribution of buildings according to their mode of aggregation**

is accessed by an alley and an external staircase, leading to an external landing, itself generally protected by a projecting roof or by an alcove.

**Composition of the residential building stock**

Figures 8, 9, and 10, illustrate the spatial distribution of residential buildings according to the number of dwellings per building, their number of floors, as well as their mode of aggregation. The unit does not display any specific spatial trend concerning these characteristics and properties of the form.



## Landscape unit 23

Analytical fact sheet

### Location

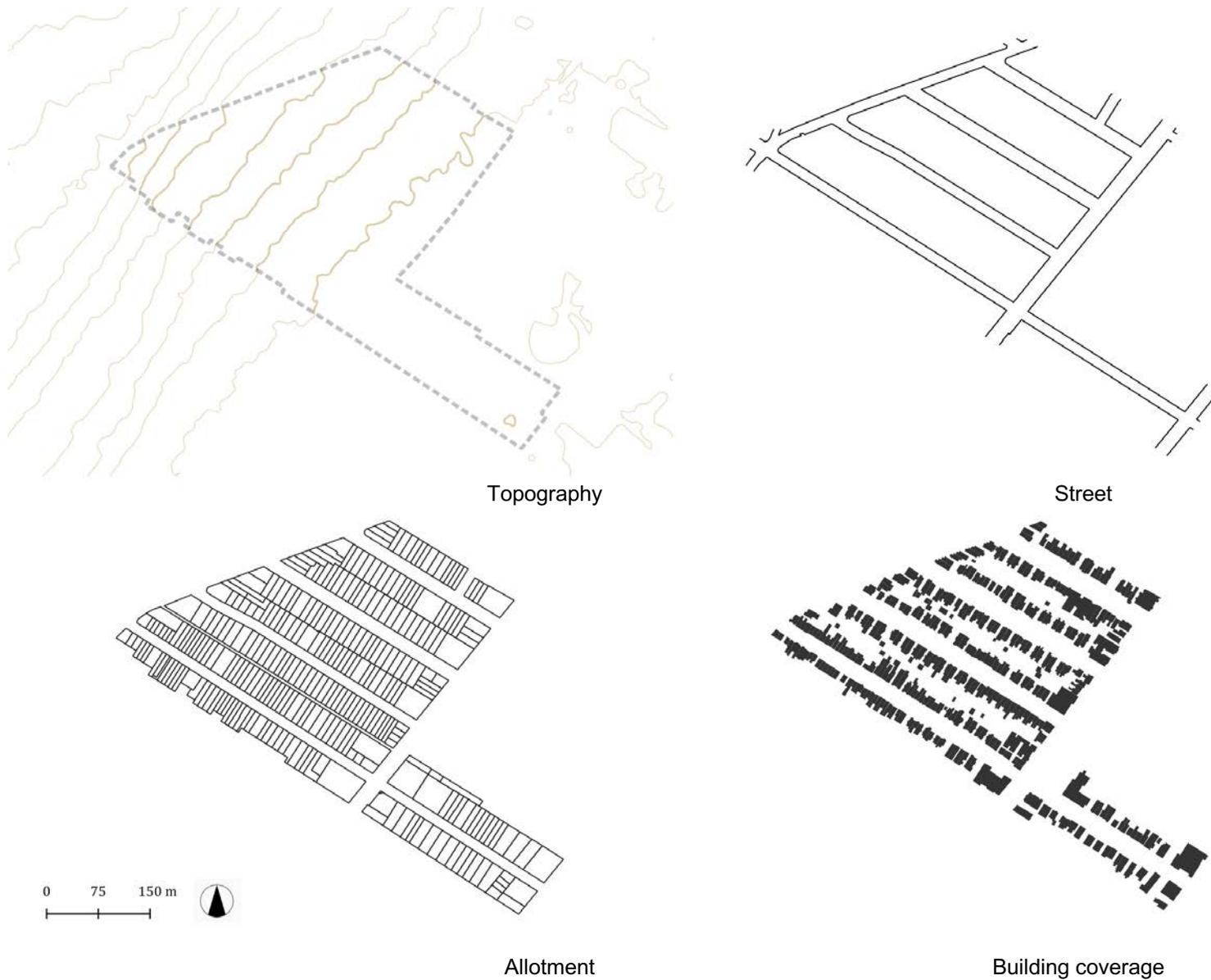
Landscape unit 23 is located southwest of the Westmount Summit on the foothills of the latter. It is bordered to the southeast by de Maisonneuve Boulevard West, thence, clockwise, by the allotment parting line located behind the properties located on the southwestern side of Lansdowne Avenue, then on the northwestern side, by Côte-Sainte-Antoine Road, thence, to the northeast by the allotment parting line located behind the properties located on the said side of Mount Stephen Avenue, then by Sherbrooke Street West, and beyond the latter, by Westmount Park, and finally, by the allotment parting line located behind the properties located on the northeastern side of Lansdowne Avenue and that are adjacent to said park.

### Brief description

Spanning 15.97 ha, this landscape unit is composed of 594 housing units and some specialized buildings. The residential building stock is mainly made up of single-family buildings (83.6%) and multi-unit buildings. The ensemble produces a gross residential density of 37.2



Figure 1. Landscape unit 23



**Figure 2.** Subsystems of the tissue

dwelling per hectare and a net density of 48.8 dwellings/ha.

**Subsystems of the tissue**

The unit is located on the foothills of the Westmount Summit and presents a slope descending towards the southeast, producing an average inclination of 4.26 °. The street network is

mostly orthogonal and delimits urban blocks of varying lengths, oriented northwest-southeast longitudinally. In their current configuration, the blocks are generally composed of four pertinent strips. Only one block, located between Lansdowne and Arlington avenues, has an alleyway (called Arlington Lane). The residential building coverage consists of attached buildings at 44.1% and semi-detached buildings at 42.4%.

**Routes hierarchy**

Figure 3 illustrates the categories of routes represented in the landscape unit. The unit is bordered on the northwestern side by Côte-Sainte-Antoine Road, a matrix route for the tissue whose presence has been attested since the very beginning of the 18th century, and which could originate from a path practiced by aboriginal populations for hundreds of years (cf. Part 1 of this report). The routes, oriented northwest-southeast, as per the longitudinal direction of the blocks, are all settling routes, carrying lots which have their address on these since their inception. Sherbrooke Street West, which is perpendicular to the latter, is a break-through route in this sector of Westmount.

*Specialized routes*

Sherbrooke Street West is a major thoroughfare. In close vicinity, further to the southwest side, at a short distance from the unit. Sherbrooke Street assumes a dual function as both thoroughfare and local commercial street (for an explanation of these conditions, see Part 1, p. 20-21).

**Spatial syntax of the tissue**

The unit's residential stock is mostly composed of single-family buildings (83.6%) and buildings presenting two floors above the ground (89.6%). The buildings conform in equal parts to the attached and semi-detached modes of aggregation, while only 13.5% are detached.

Côte-Sainte-Antoine Road gently climbs the foothills of the Westmount Summit diagonally. The complicated allotment pattern that can be seen along that road testifies both to its age and its slow development over a long period. The road receives the heads of the blocks (têtes d'îlot), which extend perpendicular to the contour lines from in the area. Sherbrooke Street West similarly carries heads of the blocks at the opposite side of the latter. The allotment pattern along Sherbrooke Street West is congruent with its status as a break-through route.

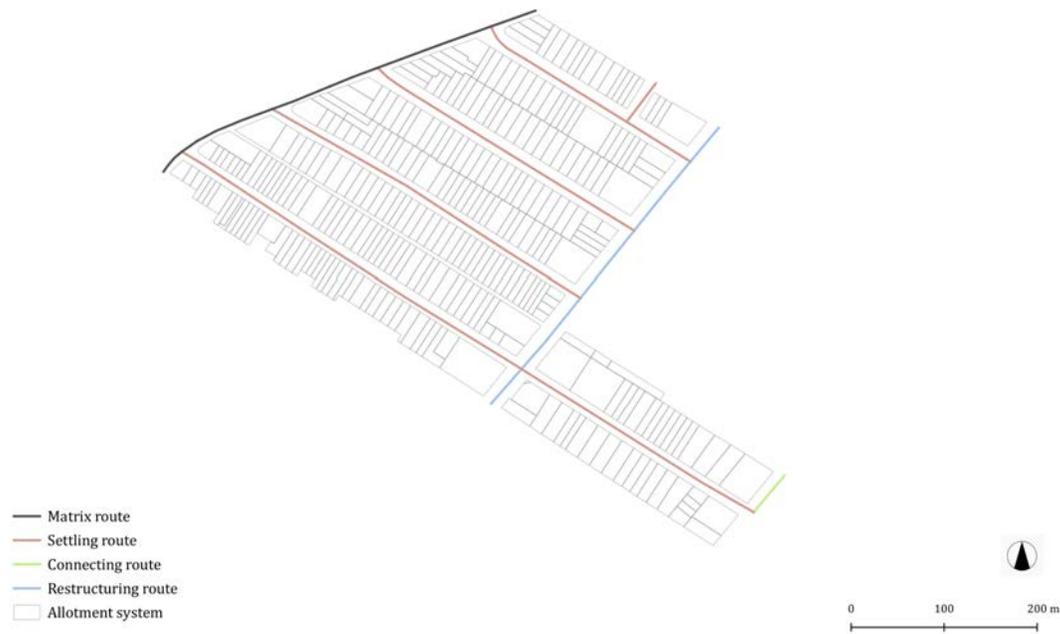


Figure 3. Route hierarchy

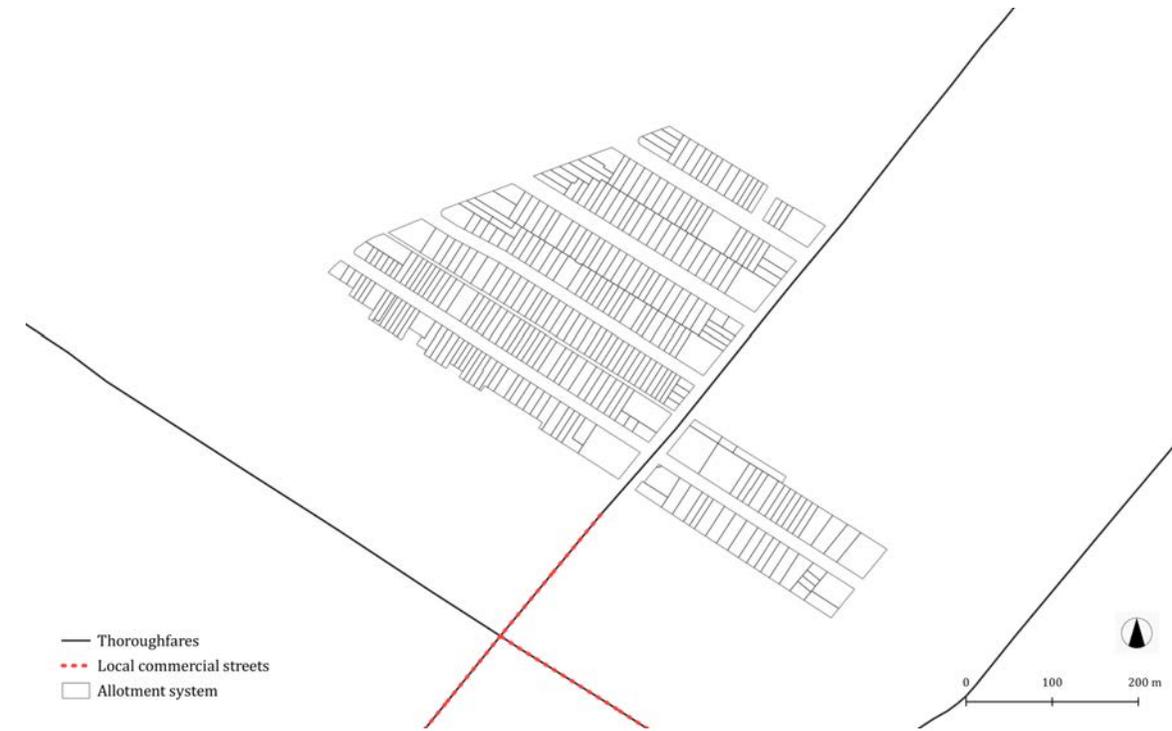


Figure 5. Specialized routes

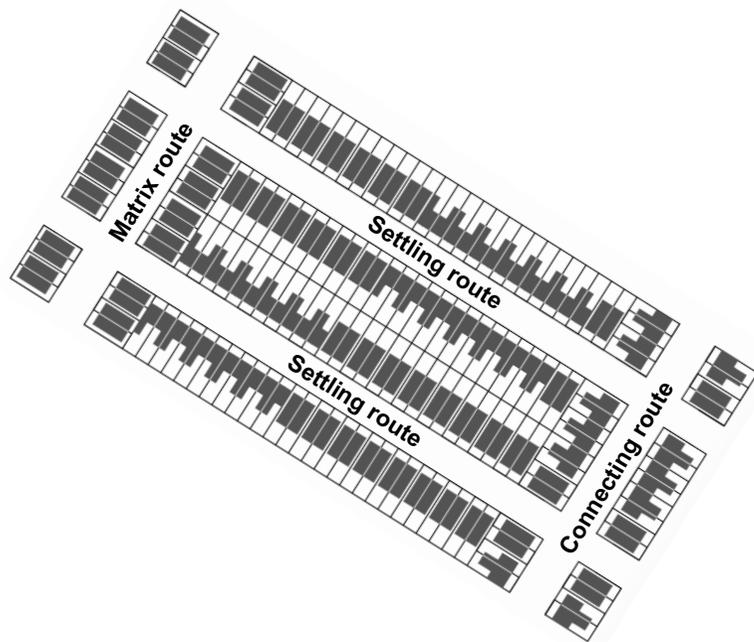


Figure 4. Face-block (Contrada) Structure

The opening of the boulevard came as an afterthought when the institutive phase of development of the sector was already underway. It led to the creation of lots of various dimensions and configurations. These lots were intended to carry residential and specialized buildings that would be well-adjusted to the size and the status of a boulevard, meant to border a prestigious public park in the area.

The face-blocks structure map (Figure 4) unveils the tissue patterns that result from such conditions of development. It is not possible to identify a single modular lot for the unit. It looks as if the carving out of the lots differed from one subdivision operation to the next.

Two consistent spatial arrangements can be observed, however. The buildings subjected to the attached mode of aggregation are all built on lots whose widths onto the street are either 20 or 25 feet, whereas the buildings conforming to the

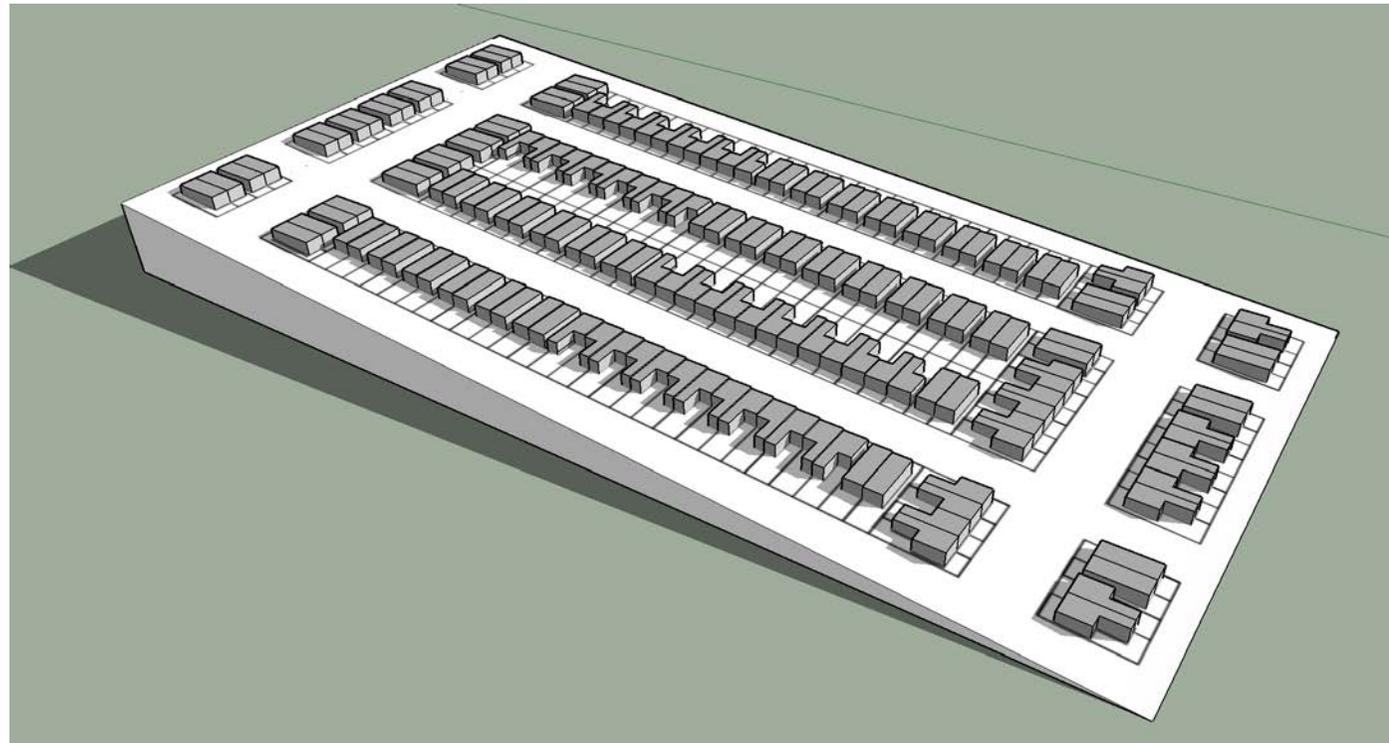


**Figure 6.** Spatial syntax of the tissue

semi-detached mode of aggregation are carried by lots that are 30 feet wide. The depth of the lots varies from one pertinent strip to another, but as a general rule, the strip series carry oblong lots, which are around four to six times deeper than they are wide onto the street.

Generally, buildings similarly deeper than they are wide onto the street. They extend deep along the longitudinal direction of their lots. The unit displays front setbacks of variable dimensions (four, five, or even up to seven meters approximately), depending on the pertinent strips. Where applicable, the lateral setbacks are modest. Each lot comprises a backyard. Such configurations produce an average lot coverage ratio of 0.43 in the unit.

The unit presents different conditions regarding driveways and parking spaces. On blocks that have a back-alley, parking spaces are accessible from the latter. Where semi-attached buildings



**Figure 7.** Three-dimensional theoretical model

prevail, these buildings have a modest lateral setback, which typically adjoins an equivalent setback on the neighbouring property. As a general rule, the said margins accommodate parking spaces. In other circumstances, in particular, when the buildings are in the attached mode, and in the absence of back-alleys, the parking spaces are laid out in the front, if the front setback is generous enough. Another scenario, when the topographic conditions allow it, sees garages built in the basement made accessible at grade at street level on the front. This configuration implies that the ground floor elevation is significantly higher than the said street level.

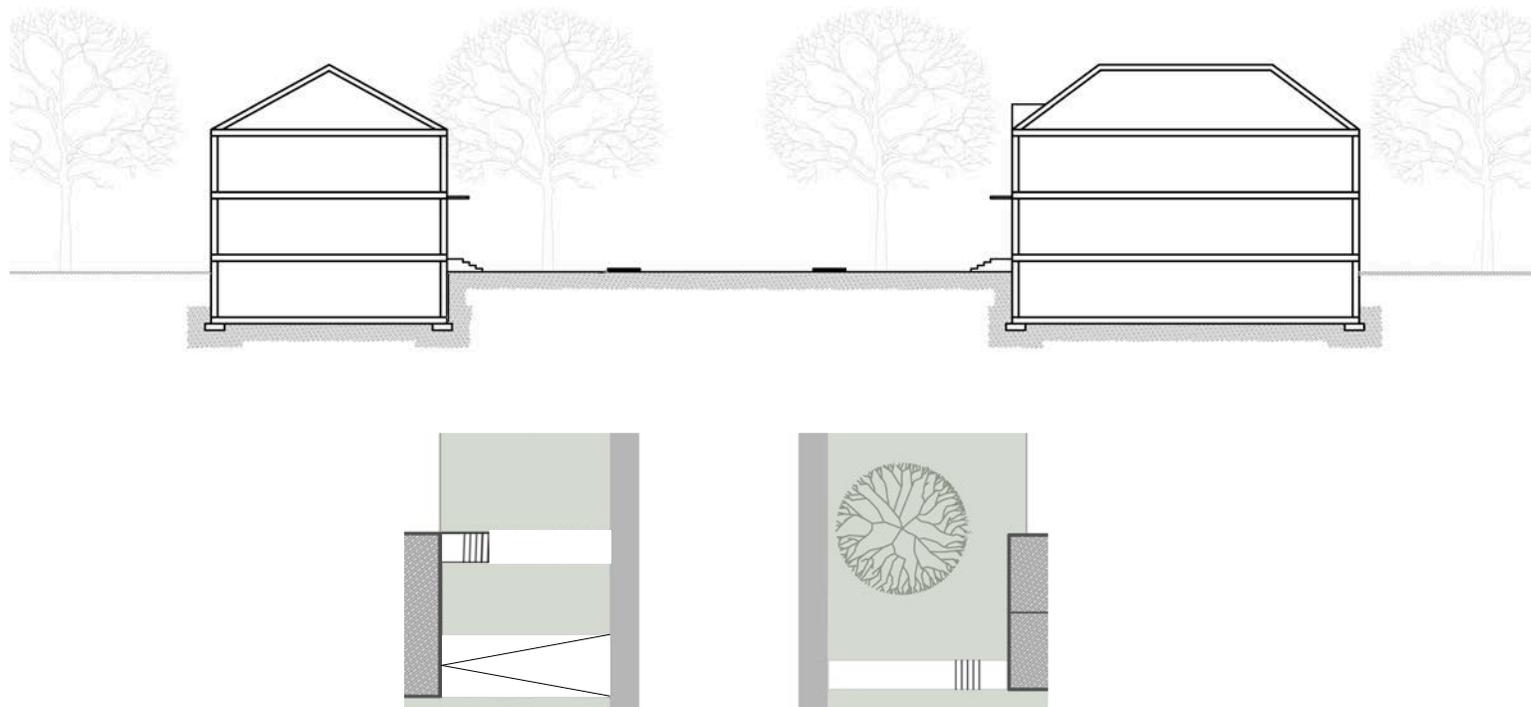
### The streetscape

The streetscape of this landscape unit is characterized by the prevalence of orthogonal streets producing tight visual perspectives. The streets are bordered by sidewalks, as is the norm in Westmount. One can note the presence of

aligned trees on both sides of public streets, though these series are regularly interrupted due to the number of parking spaces in the front that characterizes some street segments. The framing of the public-collective space is ensured by a tightly knit built fabric composed of buildings with two aboveground floors atop a partially aboveground basement.

The front setbacks are enlivened by small gardens, in which lawn as well as flower and shrubs beds alternate. The elevation of the ground floors relative to the sidewalk's level entailed the creation of external flights of stairs, of approximately 1.75 meters in height in the flatter part of the unit, near Sherbrooke Street West, but of varying between 1.75 and 2.5 m to adapt to topography, in the steeper sector. Access to the dwellings is on the main façade.

The norm is brick cladding on the façade. The latter is seldom ornamented, although the



**Figure 8.** Typical section and siting layout views on a settling route (view towards the northwest)

presence of porches, balconies and oriels helps to give texture to the architectural frame that borders the public-collective space. The roofs are mostly flat, but they are often expressed in the form of a false mansard on the façade. The architectural expression of buildings is influenced by the Arts and Crafts movement. Figure 8 shows section and siting layout views representative of the streetscape in the unit. These are schematic representations of conditions observable on Arlington Avenue.

### **Public-collective / private-domestic spaces**

The streetscape strongly conditions the experience of users, while denoting the architectural identity of a place. Several physical and spatial features of the streetscape also assume an essential function of architecture, namely the mediation between public-collective space and private-domestic space.

The physical and spatial features ensuring the mediation between these spaces pertain mainly in this unit to the presence of setbacks and to the raising of the ground floors, which are accessed by a walkway and an external staircase leading to a landing, typically protected by a projecting roof, which sometimes makes dual use as the balcony upstairs.

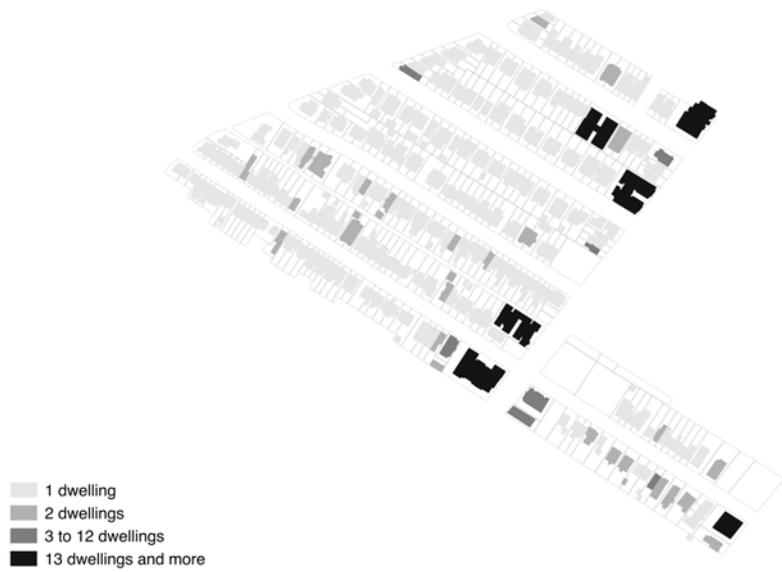


Figure 9. Spatial distribution of the dwelling units per building

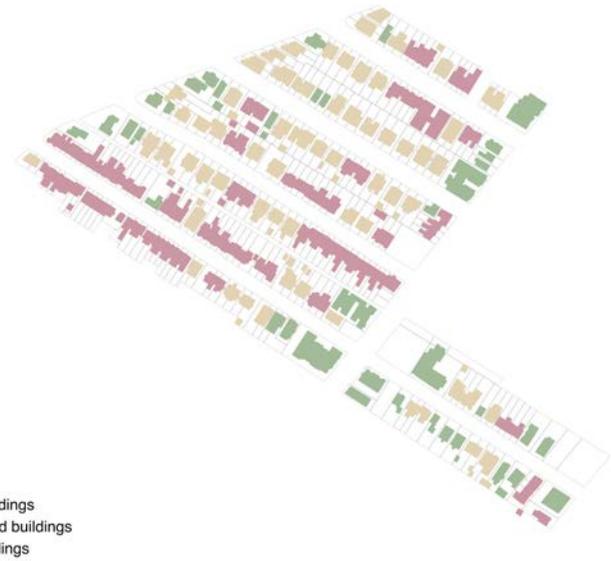


Figure 11. Spatial distribution of buildings according to their mode of aggregation

**Composition of the residential building stock**

Figures 9, 10, and 11, illustrate the spatial distribution of residential buildings according to the number of dwellings per building, their number of floors, as well as their mode of aggregation. The unit does not display any specific spatial trend concerning these characteristics and properties of form, other than a higher concentration of buildings conforming to the attached mode of aggregation in its southwestern portion.

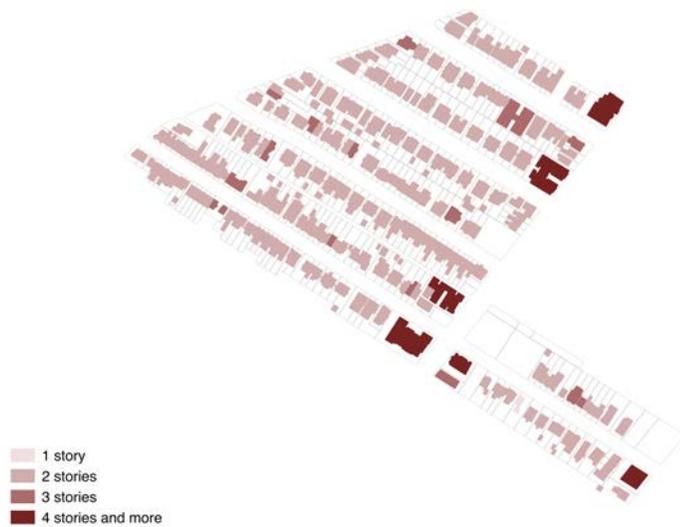
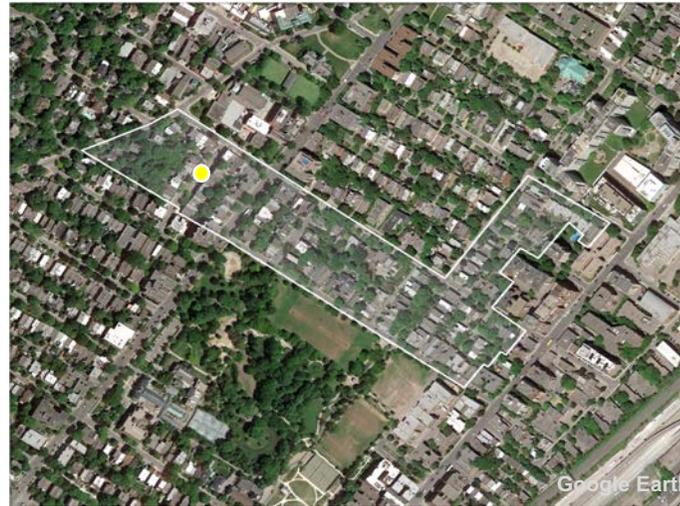
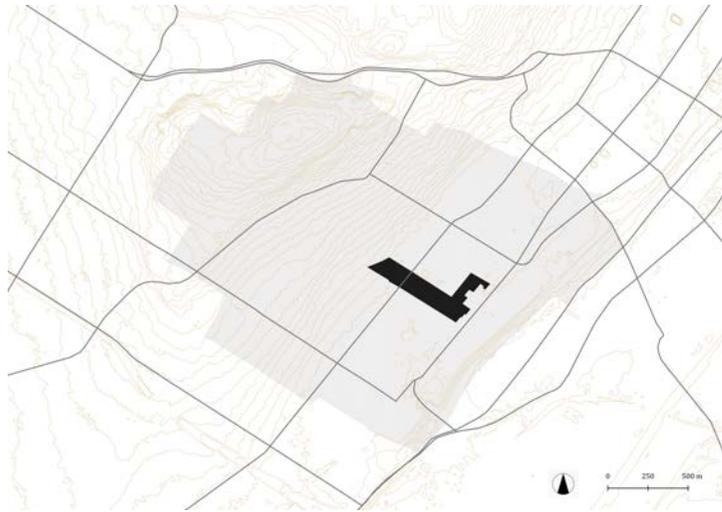


Figure 10. Spatial distribution of buildings according to their number of floors



**Figure 1.** Landscape unit 24

## Landscape unit 24

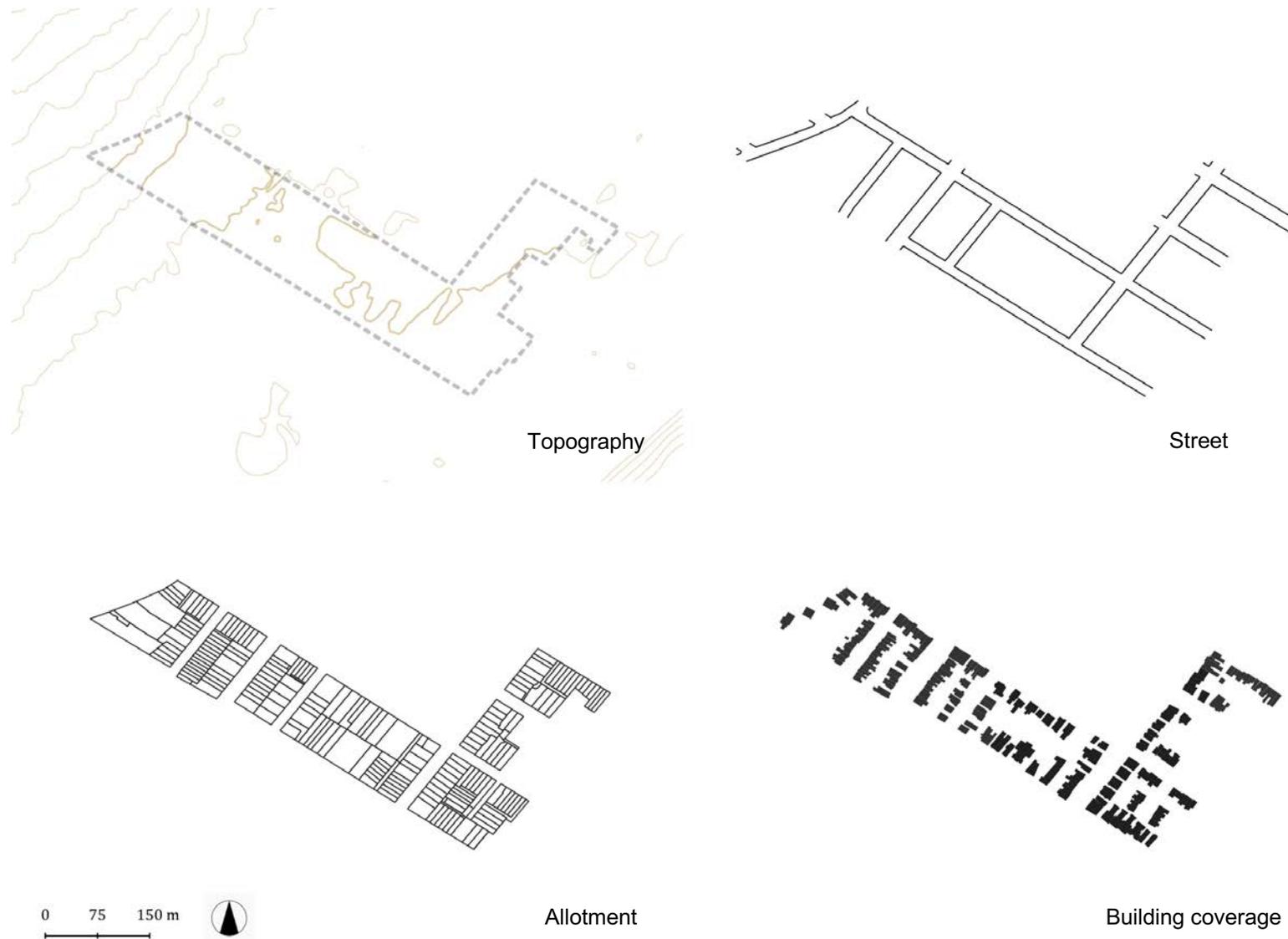
Analytical fact sheet

### Location

Landscape unit 24 is located on the Westmount Plateau. It is bordered to the southeast by the allotment parting line behind the properties located on the northwestern side of Sainte-Catherine Street West, thence, clockwise, by Melville Avenue and the extension of the latter up to Côte-Sainte-Antoine Road, then toward said road towards the northwest, thence by Metcalfe Avenue on the northeastern side, by Sherbrooke Street West and along the latter street towards the northeast and finally, by Redfern Avenue on the said northeastern side.

### Brief description

Spanning 9.36 ha, this landscape unit is composed of 220 housing units distributed in 176 residential buildings. The housing stock is made up of 84.7% of single-family buildings, and 11.4% of duplexes, producing a gross residential density of 23.5 dwellings per hectare and a net density of 31.8 dwellings/ha.



**Figure 2.** Subsystems of the tissue

**Subsystems of the tissue**

The unit is located on the Westmount plateau, where it extends on primarily flat terrain. The street network is mostly orthogonal and delimits urban blocks that vary in dimensions, configuration, orientation and composition. Individual blocks,

including the largest of these, deployed between Melville and Metcalfe avenues, are oriented northwest-southeast longitudinally, whereas other blocks are deployed perpendicular to this orientation. The allotment system presents complex patterns that will be analyzed further in the following section. The residential building

coverage is more homogeneous, being mainly composed of single-family buildings, though those conform to either one of the three modes of aggregation: attached (62.1% of the stock), semi-detached (22.4%), and attached (15.5%).

**Routes hierarchy**

Figure 3 maps the routes of the landscape unit according to their category. Three types of routes are represented. Côte-Sainte-Antoine Road, which borders the unit to the northwest, serves as the matrix route for the tissue. The same is true for Metcalfe Avenue, an ancient crossroad which allowed movement between Côte-Sainte-Antoine Road and the eponymous Petite-Côte- Sainte-Antoine Road (see Part 1). Petite-Côte-Sainte-Antoine Road corresponds to the current Sainte-Catherine Street West. Sherbrooke Street West is a break-through route in this area of Westmount. The other streets are all settling routes.

*Specialized routes*

Sherbrooke Street West is a major thoroughfare oriented northeast-southwest. The same is true for the section of Sainte-Catherine Street West that runs parallel to the latter to the southeast.

**Spatial syntax of the tissue**

The building coverage of the unit is quite diverse, though some more common conditions emerge. They pertain to the predominance of buildings in the single-family category (84.7%), those with two floors above ground (91.5%), and those that comply with the attached (62.1%) and semi-detached (22.4%) modes of aggregation respectively.

The orthogonal configuration of the street system, which is the norm on the Westmount plateau and the foothills of the eponymous Summit, is conditioned by previous agricultural allotment in these areas. What makes this unit deviating from the norm is the presence of urban blocks oriented

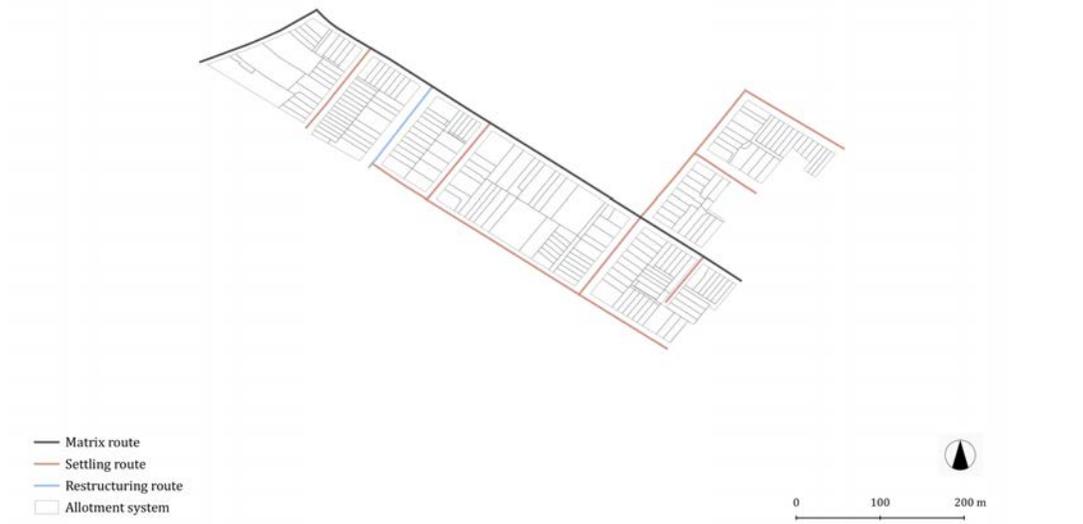


Figure 3. Route hierarchy



Figure 4. Face-block (Contrada) Structure

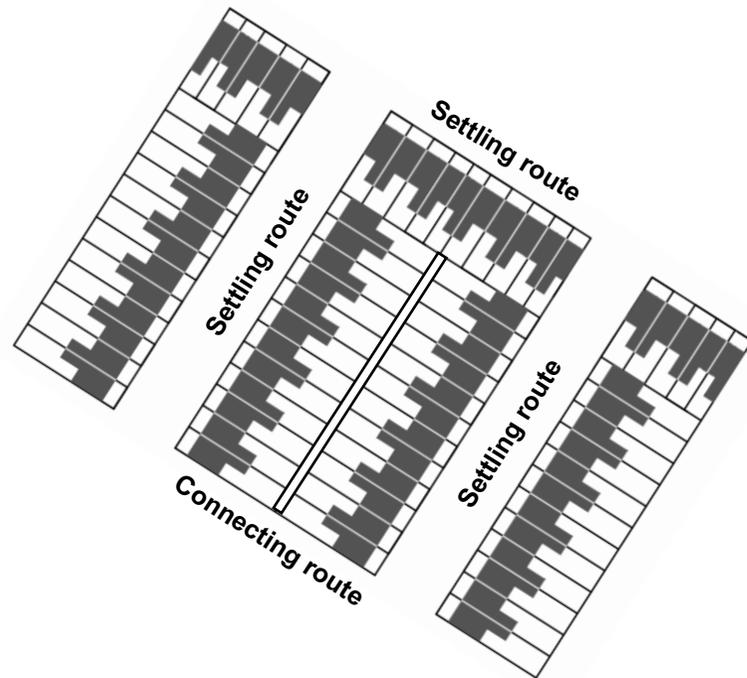


Figure 5. Specialized routes

southwest-northeast, perpendicular to the longitudinal orientation of the former agricultural tracks of land.

These atypical conditions could be explained by the incompatibility between the width of the original agricultural land, the matrix estate, and the subdivision standards in force at the end of the 19th century. The distance between Melville and Metcalfe avenues, including the latter, is approximately 125 meters, namely two arpents as per the old French measurement system.

The allotment pattern on Metcalfe Avenue and Côte-Sainte-Antoine Road, two matrix routes, attests that these were the first to be subdivided for housing purposes in the unit. The lots thus created are particularly spacious. On Metcalfe Avenue, these lots are about 52 meters in width, and their orientation is offset relative to the current alignment of the street. Such conditions generally denote land development operations older than



**Figure 6.** Spatial syntax of the tissue

those associated with the urbanization of the surrounding areas, which display a more cohesive pattern. A pertinent strip of Melville Avenue, between Avenue Melbourne and De Maisonneuve Boulevard West, presents an allotment pattern that also suggests an early subdivision.

Elsewhere in the unit, the lots conform to more regular and predictable dimensional thresholds. We observe the predominance of oblong rectangular lots, which present their short side onto the street. Two standard widths and two standard depths coexist. Their widths are approximately 6 meters (20 ft) or 7.6 m (25 ft) onto the street, and their respective depths are about 38 meters (125 ft) or 45 m (150 ft). The urban blocks oriented northeast-southwest longitudinally, and therefore perpendicular to the dominant orientation on the Westmount plateau and foothills, carry lots of such dimensions. This orientation seemingly allowed to maximize the development potential of the available area. Figure 4 shows the structure of the

face-blocks resulting from the subdivision operations that marked the construction of the sector. The dimensions of the lots are consistent with the main types of buildings carried, which are mainly of the attached buildings (62.1%) and semi-detached categories (22.4%), complemented by detached buildings (15.5%). The residential stock is mainly composed of single-family buildings (84.7%), and constructions of two floors above ground (91.5%). Terraced houses, sharing party walls, more often than not, have an L-shaped footprint. Such a configuration helps to bring natural light and ventilation to the heart of a dwelling that is deployed longitudinally on narrow lots.

The heterogeneous nature of the tissue is reflected in setbacks of variable dimensions from one pertinent strip to the other, though a dimension of four meters is quite common. The norm is the presence of open spaces at the back of the buildings, which today serves as backyards. The latter are of various dimensions, though they are tiny in the case of row buildings. The tissue characteristics and properties described above produce a high overall lot coverage ratio of 0.56.

The urban blocks that are located in the southeastern portion of the unit host alleyways. In the Montréal context in general, this configuration is the norm in a tissue built in the last third of the 19th century, carrying attached buildings. Initially, the alleyways gave access to secondary buildings, such as hangars in which the coal used for heating was stored. Nowadays, alleys give access to parking spaces located in the backyard. In the absence of an alleyway, and where the front setback is sufficiently generous, the row buildings accommodate parking spaces on the front in the said setback margin. Such is the case for the pertinent strip located on the northwestern side of Sherbrooke Street West and the strips located on Springfield Avenue. In the case of buildings complying with a semi-detached mode of aggregation, as a rule, a parking space is positioned on the lateral setback margin and,

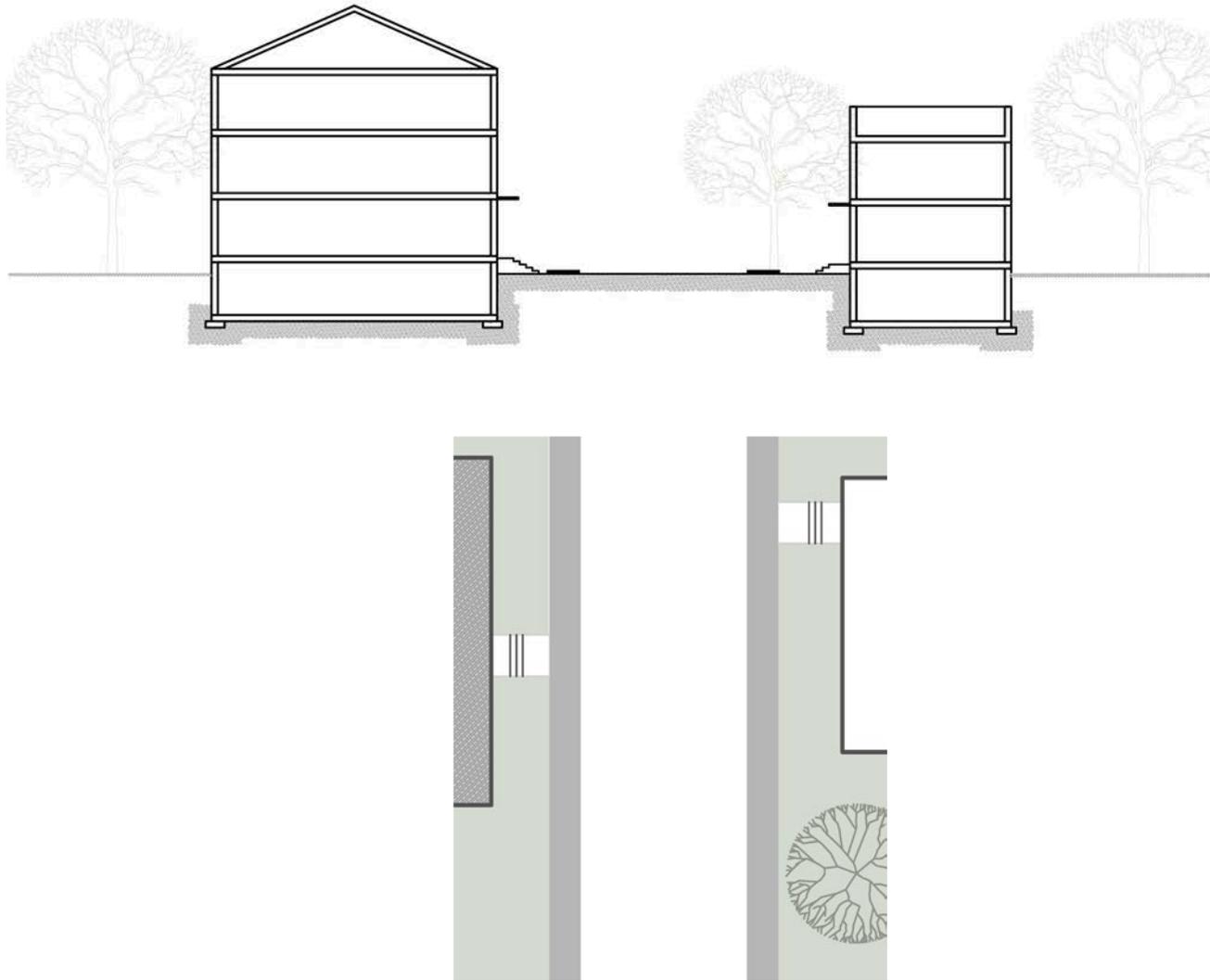
where the width of the latter allows, a driveway often leads to a garage built at the rear of the lot.

### The streetscape

The streetscape of this unit is characterized by orthogonal streets bordered by sidewalks and by rows of trees occasionally interrupted where there is a high concentration of parking spaces on the front of the buildings. The public space is framed by a built fabric predominantly composed of attached or tightly distributed buildings, typically presenting two floors atop a partially aboveground basement level. The elevation of the ground floor generally varies between 1.6 and 2.6 meters above the level of the sidewalks. The front setbacks, although modest, allow the creation of gardens, whose landscaping includes a combination of lawns and flower and shrubs beds.

The most common façade cladding material is the brick, but there is a significant number of buildings adorned with grey stone façades in the unit. The architectural expression is varied and eclectic. The norm commands articulated façades, including projections and recesses, oriels, balconies and porches. The buildings are almost exclusively topped with flat roofs. The noble façades are crowned with ornate cornices or adorned with false mansard roofline detailing.

Figure 7 shows section and siting layout views representative of the streetscape in the unit. These are schematic representations of conditions observable on Metcalfe Avenue.



**Figure 7.** Typical section and siting layout views on a settling route (view towards the northwest)

### Public-collective / private-domestic spaces

The streetscape strongly conditions the experience of users, while denoting the architectural identity of a place. Several physical and spatial features of the streetscape also assume an essential function of architecture, namely the mediation between public-collective space and private-domestic space.

The physical and spatial features ensuring the mediation between these spaces in the unit pertain primarily to the front setbacks and the elevation of the ground floor relative to the street level. The said floor is accessed by a walkway and an external staircase leading to an external landing often protected by a projecting roof.

As the front setbacks are relatively modest, the height of the ground floor, about 1.6 to 2.6 meters above the elevation of the sidewalk, as well as the height of the window sills on the said floor (approximately 2 to 3 meters above the elevation of the sidewalk), are key features safeguarding domestic privacy.

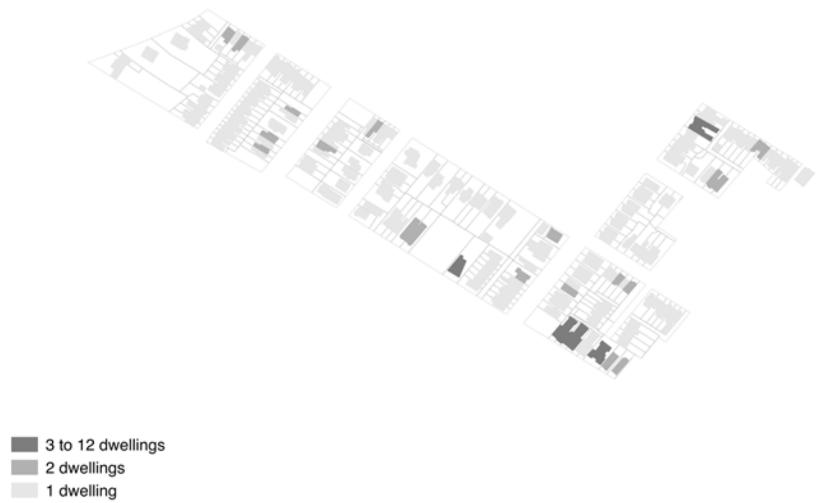


Figure 8. Spatial distribution of the dwelling units per building



Figure 10. Spatial distribution of buildings according to their mode of aggregation



Figure 9. Spatial distribution of buildings according to their number of floors

### Composition of the residential building stock

Figures 8, 9, and 10 illustrate the spatial distribution of residential buildings according to the number of dwellings per building, their number of floors as well as their mode of aggregation. The unit does not display any particular spatial trends in relation to these morphological characters and properties of the form.

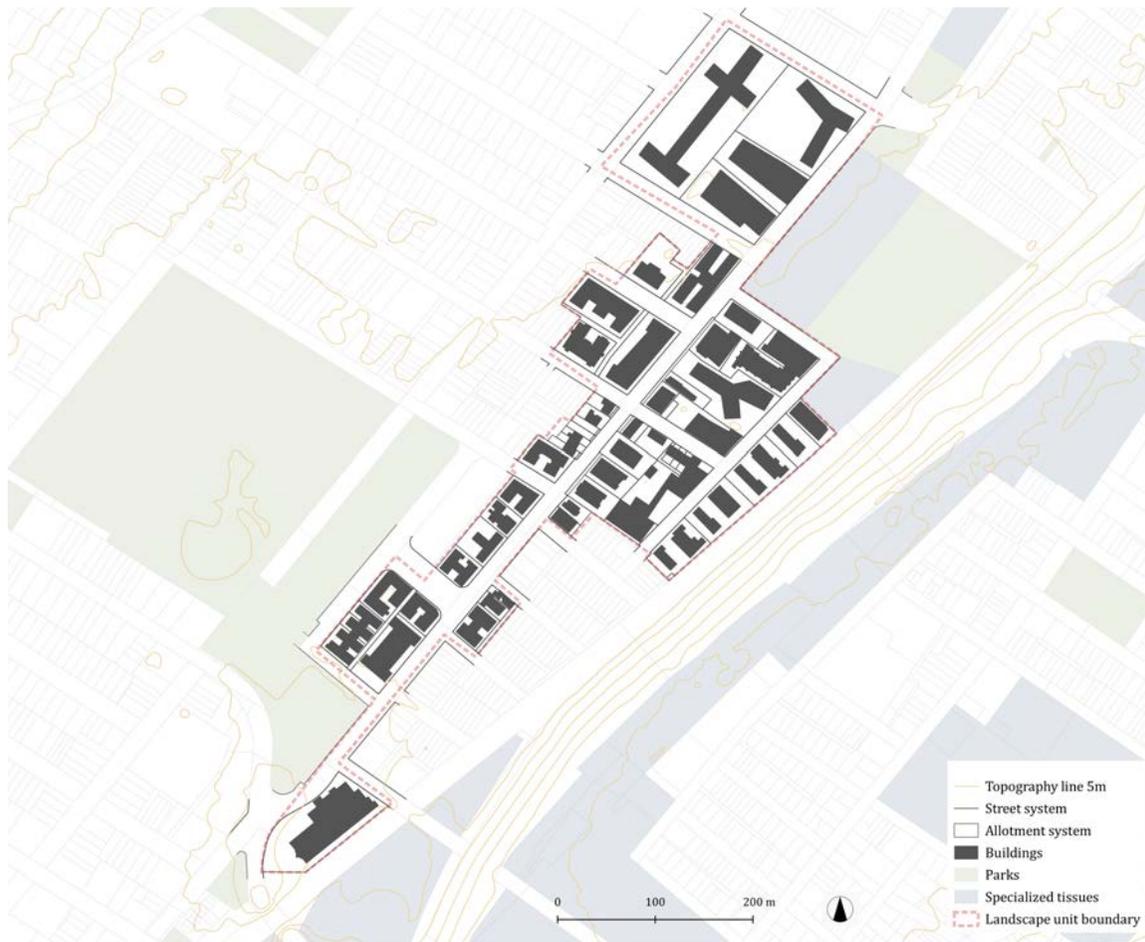
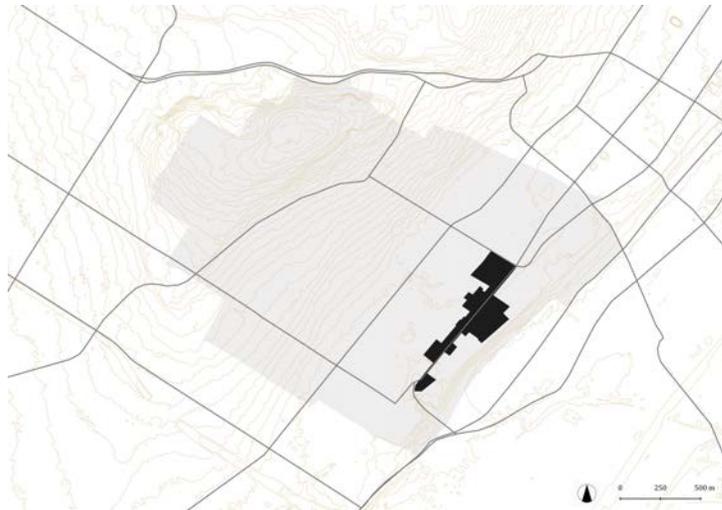


Figure 1. Landscape unit 25

## Landscape unit 25

Analytical fact sheet

### Location

Landscape unit 25 is located on the Westmount Plateau. It is bordered to the southeast in part by Sainte-Catherine Street West, and beyond the latter by the property of Westmount Secondary School, then partly by the tracks of the Canadian National Railway located behind the allotment parting line behind the properties located on the southeastern side of Hillside Avenue, thence in part by a portion of Sainte-Catherine Street West (and beyond the latter by the boundaries of the unit of landscape 26), then by Glen Road to the southwest, then by Academy Road to the northwest, then, primarily, by the allotment parting line behind the properties located on the said side of Sainte-Catherine Street West up to Redfern Avenue, then along the latter avenue towards the northwest, then again, on the said side by De Maisonneuve Boulevard West, and finally, by Clarke Avenue to the northeast.

### Brief description

Spanning 13.66 ha, this landscape unit is composed of 1,667 housing units, distributed in 43



**Figure 2.** Subsystems of the tissue

residential buildings, in addition to some commercial and institutional buildings on Sainte-Catherine Street West. The residential housing stock is mixed, as will be described further in a subsequent section. The unit produces a remarkable gross residential density of 122.1 dwellings per hectare and a net density of 162.7

dwellings/ha.

**Subsystems of the tissue**

The unit is located on the Westmount plateau near the Saint-Jacques escarpment on a plane ground. The tissue around Sainte-Catherine Street West is

deployed within an orthogonal street network, which delineates urban blocks that differ in their dimensions, configuration, orientation and internal composition. The residential built fabric has a mixed composition dominated by apartment buildings of 13 or more dwellings that host 60.5% of the building stock.

**Routes hierarchy**

Figure 3 maps the routes of the landscape unit according to their category. The picture that stems from this exercise is quite contrasted. Sainte-Catherine Street West, which corresponds to the former Petite-Côte-Sainte-Antoine Road, is a matrix route for the tissue. The streets perpendicular to this road are mostly settling routes. Metcalfe Avenue (on the southeastern side of Sainte-Catherine Street West), Academy Road and Bethune Street are connecting routes. Glen Road, which is deployed in a crevice of Saint-Jacques escarpment where a stream used to flow, is a break-through route.

*Specialized routes*

Several major thoroughfares serve the landscape unit. Sainte-Catherine Street West is an extension to both Dorchester Boulevard and René-Lévesque Boulevard West in the southwest direction beyond their point of convergence. Clarke Avenue, which starts at the intersection of the said two boulevards, also extends Dorchester Boulevard, this time perpendicularly in the northwest-southeast direction, up to Sherbrooke Street West, which is also itself a major thoroughfare. The said segment of Clarke Avenue is hence an integral part of the thoroughfare network. The same is true of Glen Road, for similar reasons. Specifically, Glen Road can be seen as extending Victoria Avenue in the southeastern direction, where it reaches Saint-Jacques and Sainte-Antoine streets, that act as a pair to serve as a thoroughfare in the Saint-Henri district. Part 1 (p. 20) of this report presents an overview of the specialized routes in and around Westmount. It illustrates how the said

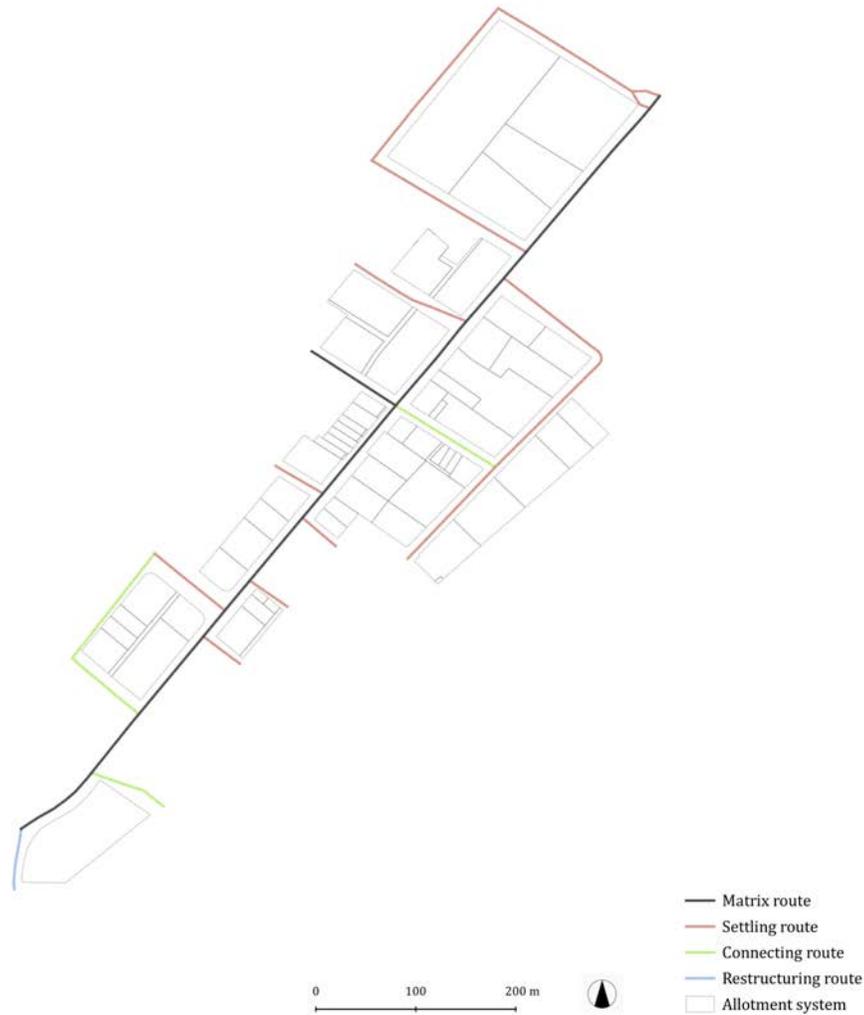


Figure 3. Route hierarchy

thoroughfares are interconnected to form an integrated and coherent network. In conclusion, it is worth mentioning that the portion of Sainte-Catherine Street West that runs on the northeastern side of Clarke Avenue doubles as a local commercial street in concert with Greene Avenue, to which it is connected at a right angle, to form a "T" shaped commercial ensemble (see Part 1 p.19-20).

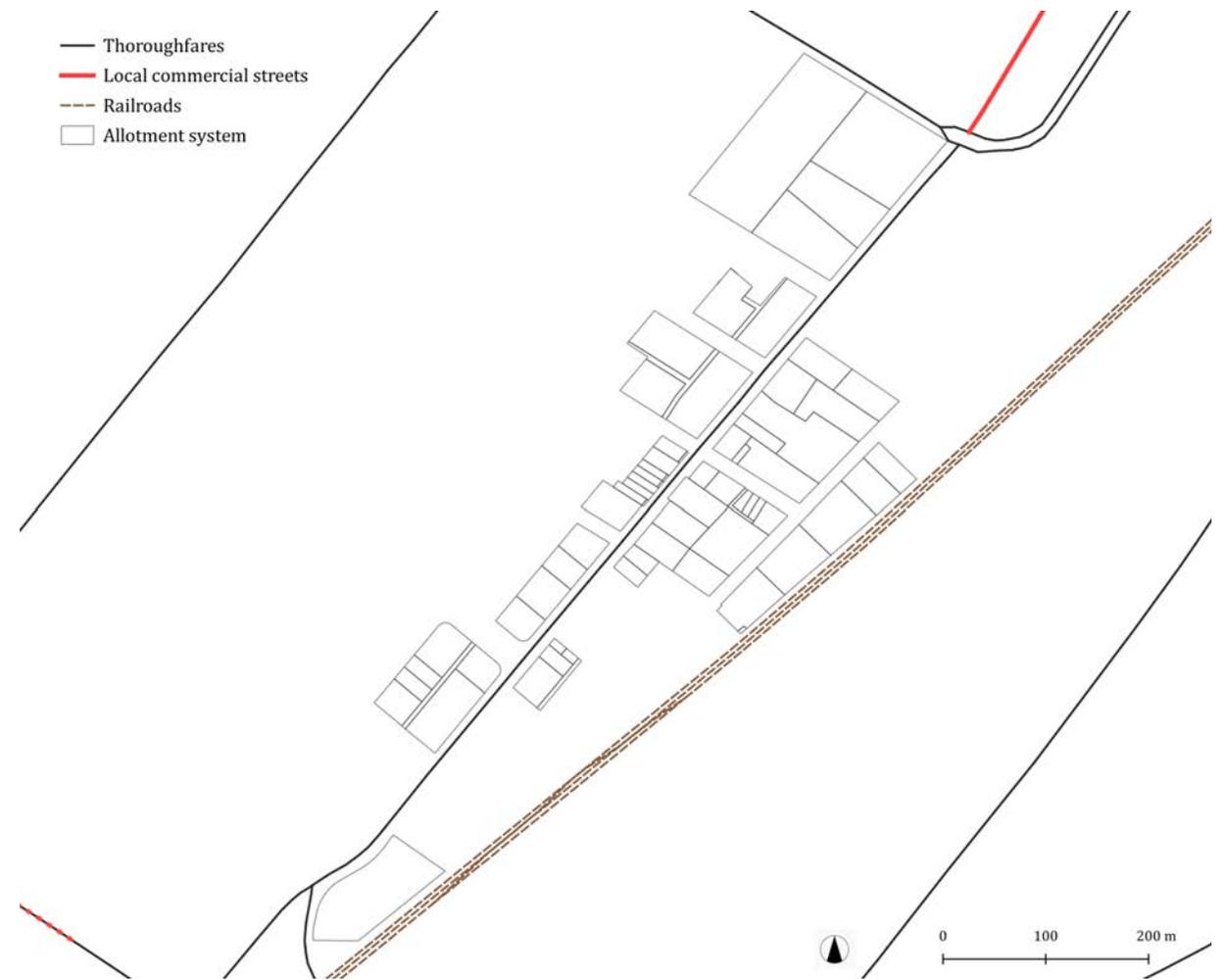


Figure 4. Specialized routes

### Spatial syntax of the tissue

Landscape unit 25 is highly atypical in the Westmount context. Firstly, due to the composition and configurations of its residential building stock, which have prompted its delineation and designation as a landscape unit on its right. Secondly, by its singularity, which stems in part from its relative position in the urban system as well as from the specificities of its agricultural morphological substrate.

The unit is located on the edge of Westmount nearby significant natural and human-made barriers. It is in immediate proximity to the Saint-Jacques Escarpment, a natural urban barrier, and adjacent to the Canadian Pacific Railway, an artificial barrier. The relative position of the sector at the fringe of Westmount residential tissues helps to explain the high prevalence of specialized buildings, including some that were later restructured or replaced for residential occupancy.

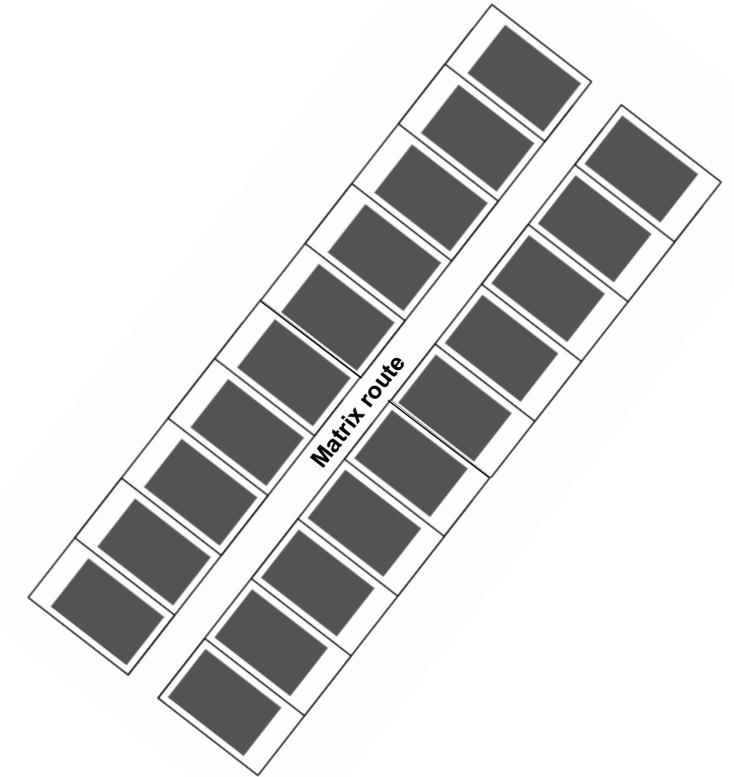


**Figure 4.** Face-block (Contrada) Structure

Another significant spatial trait of the unit is that its street network and allotment are asymmetrical on both sides of Sainte-Catherine Street West. These conditions denote the fact that this route marks the very boundary of the old Fief Saint-Augustin, attributed to the "Poors of the Hôtel-Dieu" in the 17th century (MacKinnon, 2004). The configuration of the fiefdom ignored the topography, as was often the case at the time. Although deployed at the foot the Saint-Jacques escarpment for most the most part, the Fief is bounded to the northwest by what would become Petite-Côte-Sainte-Antoine Road, now Sainte-Catherine Street West, on the Plateau.

The seemingly random character of the current allotment testifies, in fact, to its age. Old roads are typically the first to be subdivided for urbanization purposes. Lots of varying dimensions are gradually cut out from the surrounding agricultural land to accommodate some residential buildings. These typically settle rather loosely along the road initially. Some of these said lots would then be rescinded to carry a more compact built fabric when the urbanization of the sector gains in intensity.

The production of lots of large dimensions as part of the process previously described would favour the construction of large institutional buildings (such as Westmount High School) and commercial

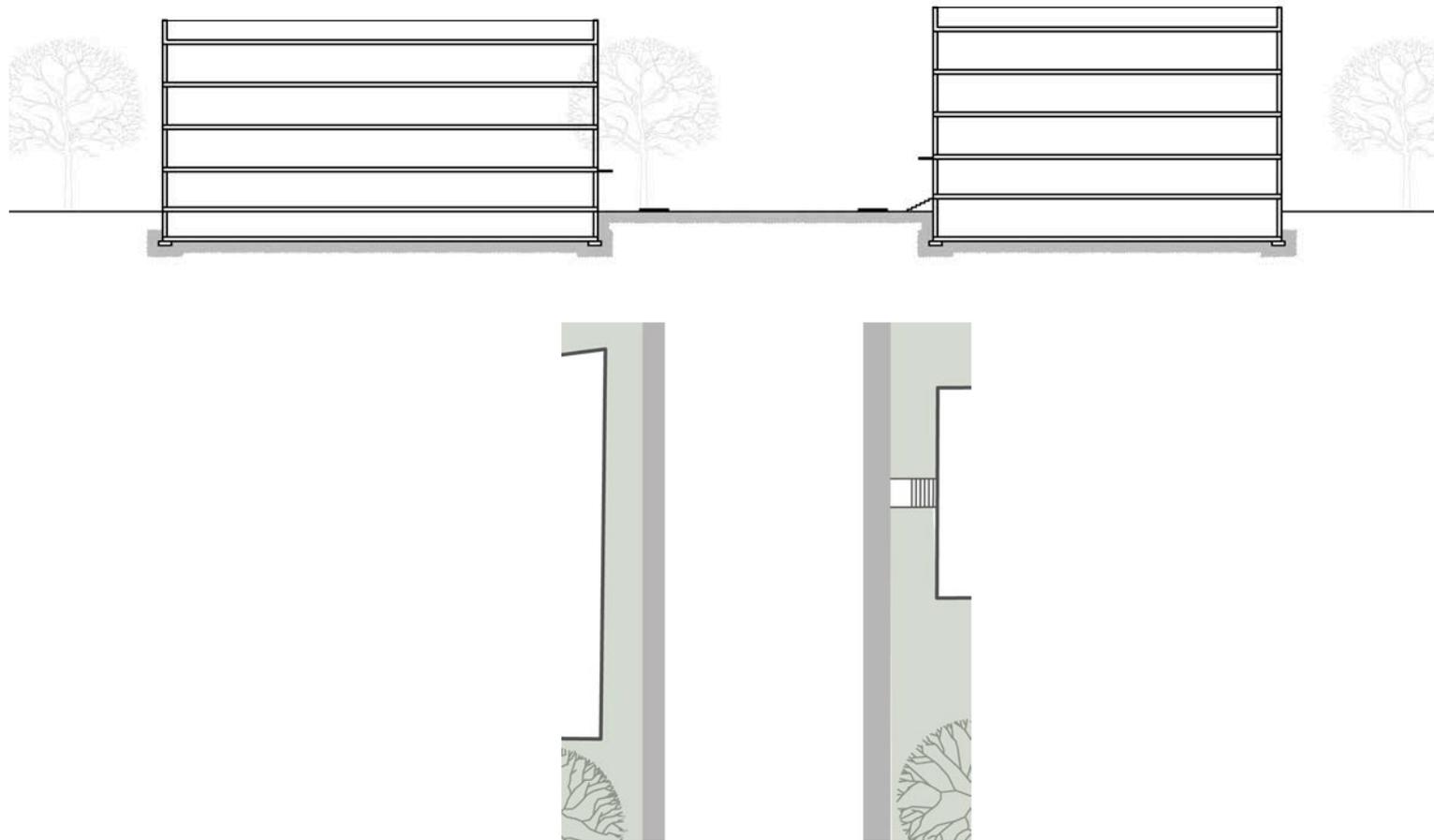


**Figure 6.** Spatial syntax of the tissue

buildings (such as 4333 Sainte-Catherine Street West), as well as apartment buildings. These dominate the sector and justify its promotion to the status of a landscape unit of its own.

### The streetscape

The streetscape of this unit is highly contrasted, not only because of its inherited morphological substrate and the age of its initial urbanization but also because of the multitude of transformations that have taken place there since then. For the most part, the residential building coverage reflects the evolution of local architectural forms throughout the 20th century. In addition to a few



**Figure 7.** Typical section and siting layout views on a settling route (view towards the southwest)

row houses from the end of the 19th century, the older buildings, built in the first third of the 20th century, mainly consists of apartment buildings with four floors above ground. The rest of the stock, built in the second half of the said century, is made up of multi-unit buildings, generally between six and eleven storeys above ground.

Despite the contrasts attributable to the differences in height and size of the buildings and by the diversity of the architectural expression, the streetscape on Sainte-Catherine Street West is surprisingly coherent. Such coherence is mainly due to the architectural framing of the

public-collective space, ensured by buildings constructed in tight rows a short distance from the public street while conforming to a setback of about four meters. In most cases, said setback has a lawn and low flower and shrubs beds, as well as trees, although more sporadically in the latter case. Elsewhere, in the presence of shops on the ground floor, this setback is mineralized and gives access to the latter at grade from the sidewalk. In the rest of the unit, the streetscape varies from one street segment to the other. In some segments, the built fabric presents discontinuous front onto the street (for example, along Avenue Hillside). In others, a sharp contrast of scale can be observed on either

side of the face-block (De Maisonneuve Boulevard West and on Redfern and Kensington avenues). The landscaping and the street trees, in particular, attenuate only partially the deficient framing of the public-collective space.

Figure 7 presents section and siting layout views representative of the streetscape on Sainte-Catherine Street West.

### Public-collective / private-domestic spaces

The streetscape strongly conditions the experience of users, while denoting the architectural identity of a place. Several physical and spatial features of the streetscape also assume an essential function of architecture, namely the mediation between public-collective space and private-domestic space.

The ways in which physical and spatial attributes ensure the mediation between public and private spaces in the unit are no less contrasted than the streetscapes themselves. One can nevertheless observe two circumstances worthy of mention.

Access to the dwelling units in the apartment buildings is through a common hall and distributive interior corridors. Access to the buildings themselves is generally on the street front, at grade, or at the cost of a modest ascent from the level of the sidewalk. The ground floors of buildings are generally raised above the street level. The elevation of the said floor, coupled with the front setback, are the primary guardians of the domestic privacy of the dwellings that are adjacent to the street. Where there are commercial spaces on the ground floor, for example, on Sainte-Catherine Street West, these businesses serve as a buffer between public-collective space and private-domestic space since the dwellings located on the front of the building onto the street, are relegated to the second floor.

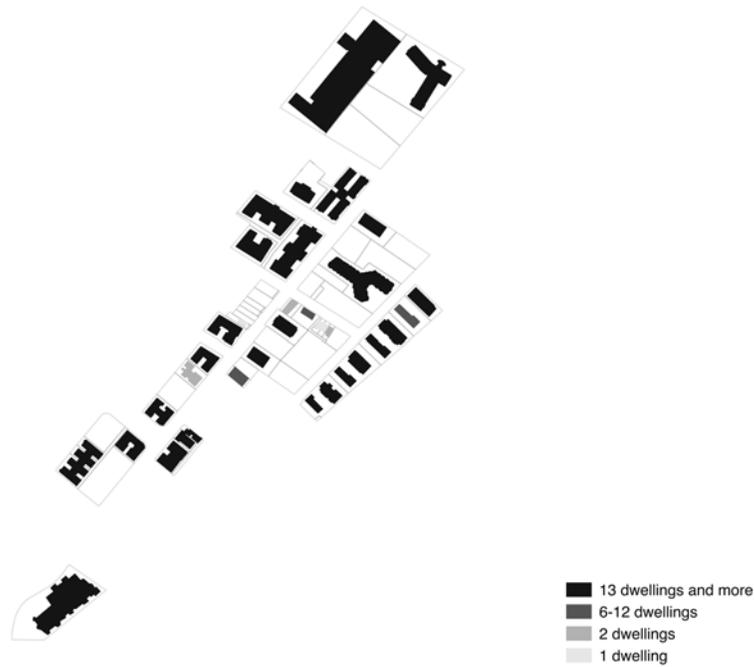


Figure 8. Spatial distribution of the dwelling units per building



Figure 10. Spatial distribution of buildings according to their mode of aggregation

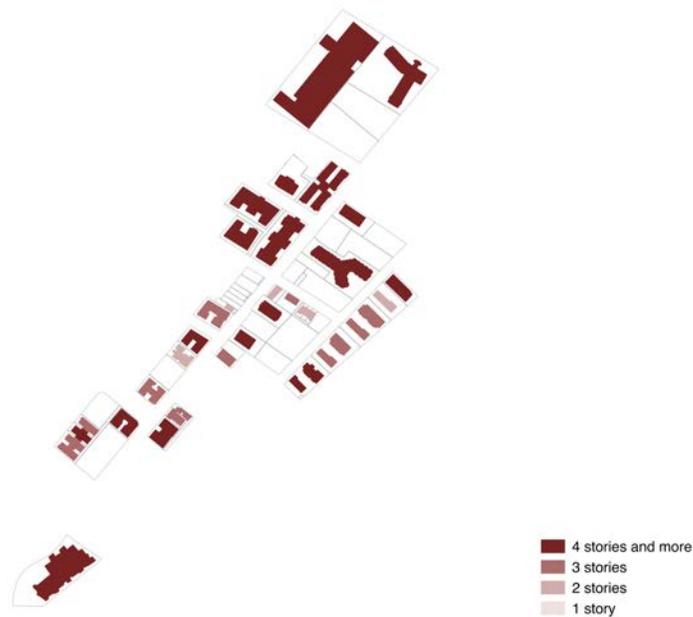
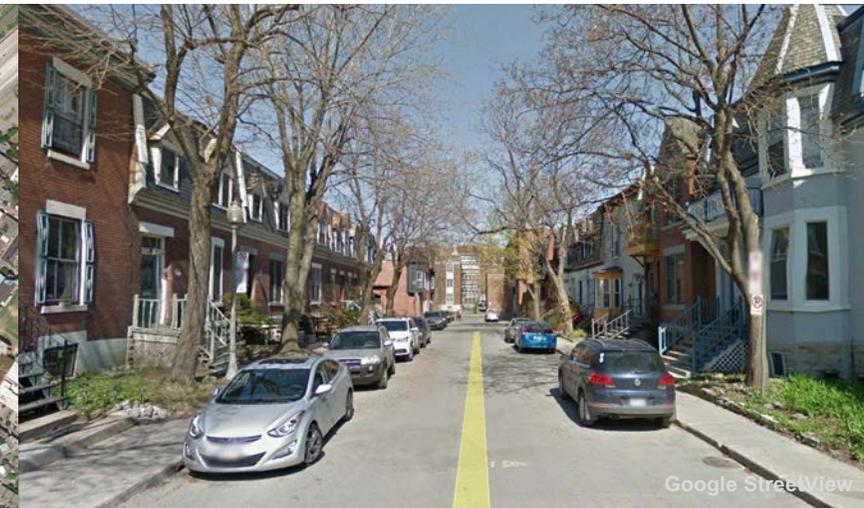
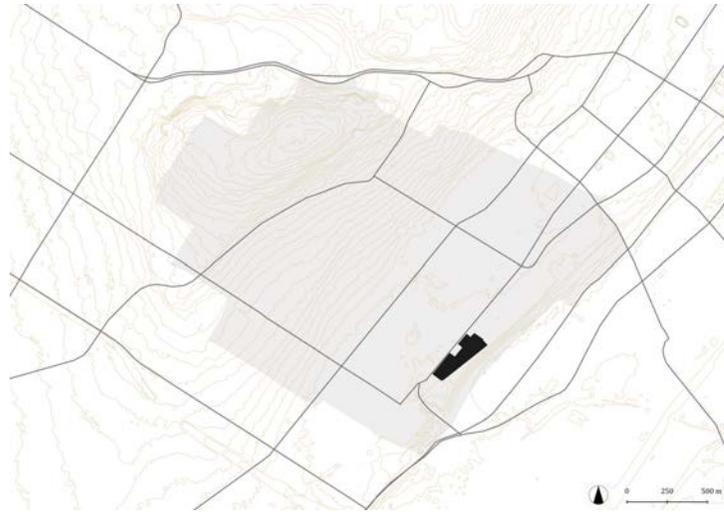


Figure 9. Spatial distribution of buildings according to their number of floors

### Composition of the residential building stock

Figures 8, 9, and 10 illustrate the spatial distribution of residential buildings according to the number of dwellings per building, their number of floors as well as their mode of aggregation. The unit does not display any particular spatial trends concerning these morphological characteristics and properties of the buildings.



## Landscape unit 26

Analytical fact sheet

### Location

Landscape unit 26 is located on the Westmount plateau, near the Saint-Jacques escarpment. It is bordered to the southeast by the tracks of the Canadian Pacific Railway, and from there, clockwise, by Bethune Street on the southwestern side, then by Sainte-Catherine Street West on the northwestern side up to Abbott Street, then by the allotment parting line located behind the properties on the northeastern side of the said street.

### Brief description

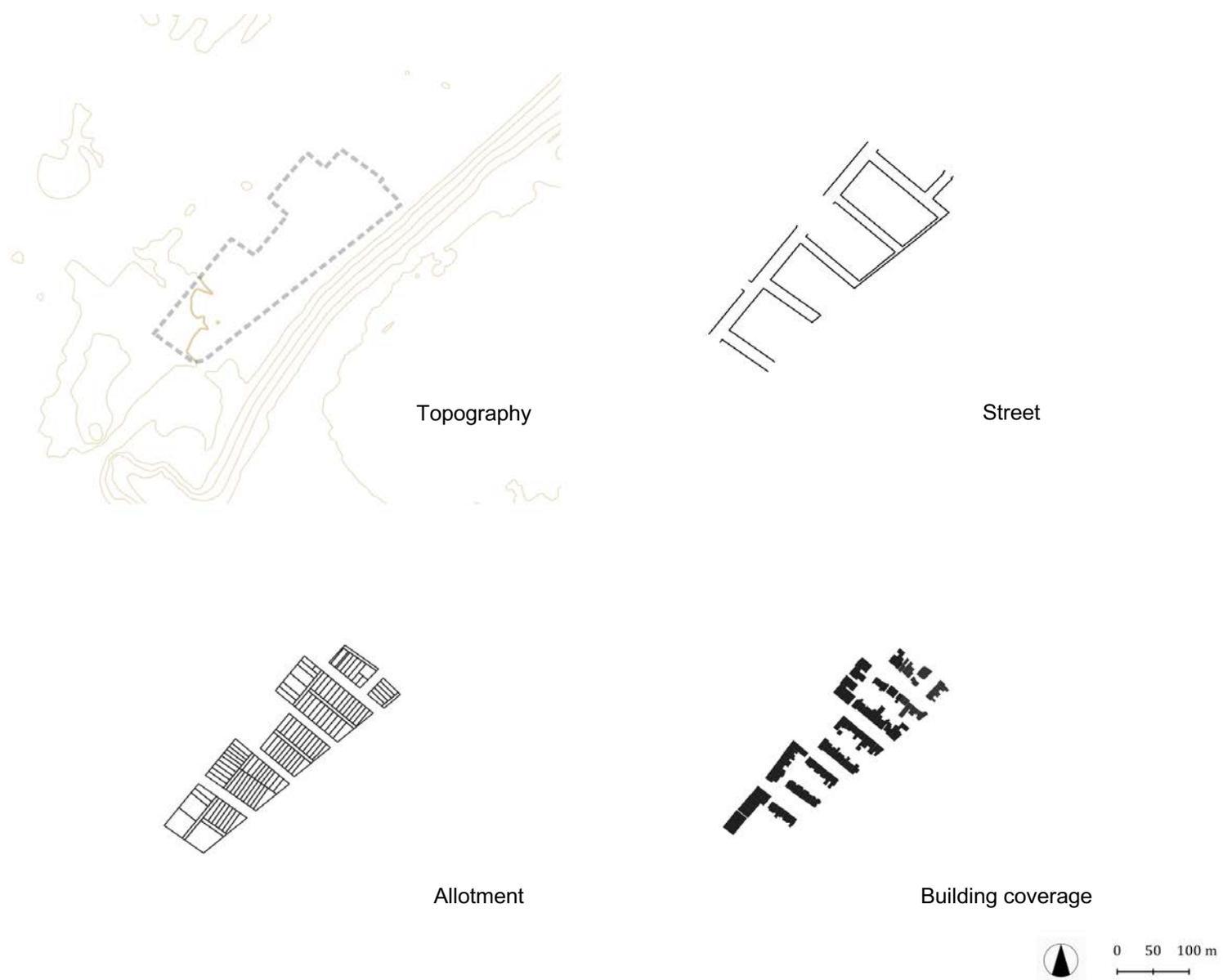
Spanning 3.66 ha, this landscape unit is composed of 142 housing units. The housing stock is made up of single-family buildings at 78.3%, producing a gross residential density of 38.8 dwellings per hectare and a net density of 54.7 dwellings/ha.

### Subsystems of the tissue

The unit is located on the Westmount plateau, on flat ground, near the Saint-Jacques escarpment. The orthogonal street system delimits small urban blocks composed of three pertinent strips and served by back alleys. The said blocks are



Figure 1. Landscape unit 26



**Figure 2.** Subsystems of the tissue

bordered by the railway to the southeast, which entails that the northwest-southeast oriented streets almost all end in cul-de-sacs. The building coverage is mainly composed of terraced buildings sharing party walls.

**Routes hierarchy**

Figure 3 maps the routes of the landscape unit according to their category. Sainte-Catherine Street West, which is the former Petite-Côte-Sainte-Antoine Road, is the matrix route for the tissue in the area. The streets perpendicular to the

latter are all settling routes, except for Bethune Street, which is a connecting route. The latter is extended into a tunnel giving access to specialized lots located beyond the railway, between the latter and the A-720 highway, which runs on the cliff in this sector. Another connecting route is deployed between Irvine and Abbott avenues: Riverview Avenue, which would have all the attributes of an alley given its narrowness and its position if it were not for the presence of a duplex, which has its address on it.

*Specialized routes*

The landscape unit is served by a major thoroughfare, Sainte-Catherine Street West, which is an extension in the southwest direction of the axis formed by Dorchester Boulevard and René-Lévesque Boulevard West.

**Spatial syntax of the tissue**

The orthogonal street system conforms to the norm on the Westmount plateau. The first agricultural subdivisions condition this geometry. As indicated above, the urban blocks are made up of three pertinent strips, namely heads of blocks (têtes d' îlot) on Rue Sainte-Catherine, and two pertinent strips deployed perpendicular to the first. The strips carry oblong lots that correspond to modular lot dimensions presenting a front of six meters (20 ft) onto the street, extending 30.5 meters (100 ft) lengthwise or 36.5 meters (120 ft) in the case of the two blocks located to the southwest.

Such lot dimensions are consistent with the types of buildings carried, which are of the terraced building type at 90.1%. The vast majority of residential buildings are of the single-family category (78.3% of the stock). The rest of the stock is composed of stacked dwelling units in the form of duplexes (12%) or triplexes (8.7%).

The buildings display a rectangular or an "L" shape configuration. They are deeper than they are wide

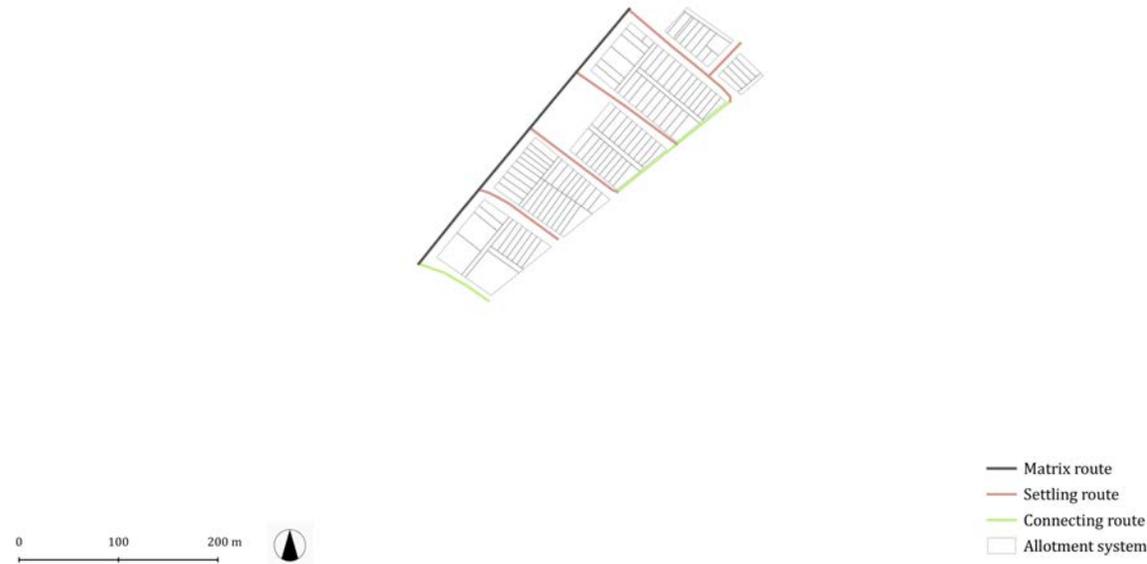


Figure 3. Route hierarchy



Figure 4. Face-block (Contrada) Structure

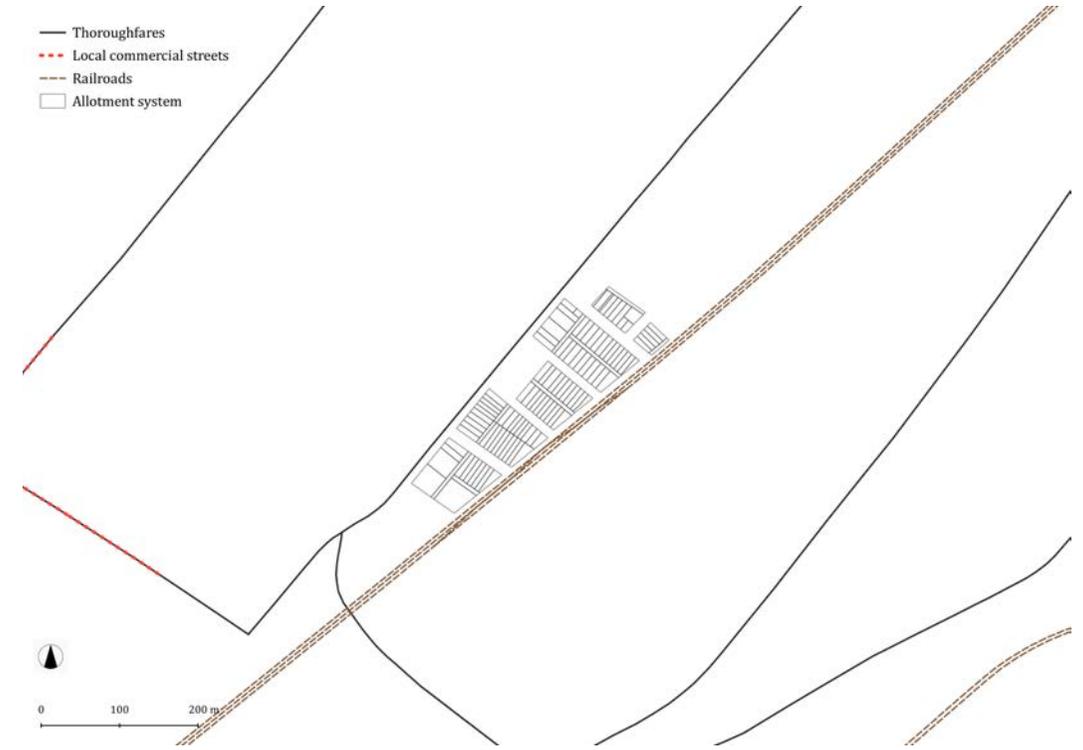
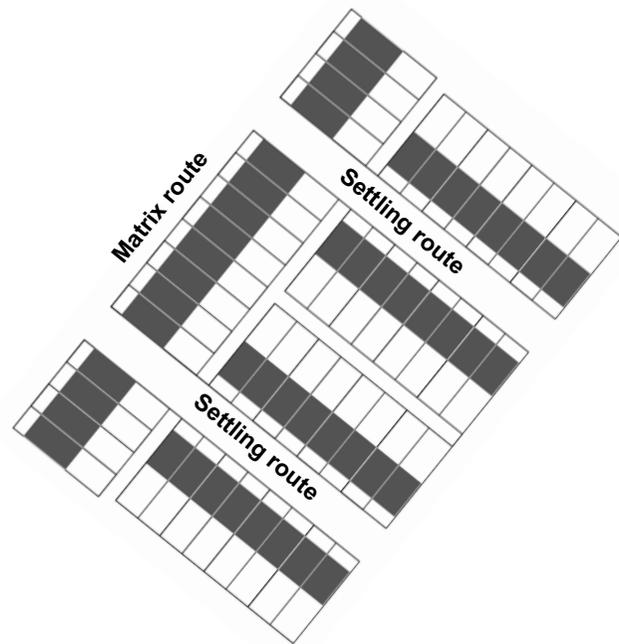


Figure 5. Specialized routes

onto the street, and thus extend lengthwise along the longitudinal direction of their lots. All conform to a front setback of around three or five meters, depending on the pertinent strip. All lots display a backyard space, partly occupied by a parking area or by a garage accessible from an alley. These general conditions produce a very high overall lot coverage ratio of 0.81.

### The streetscape

The streetscape of this unit is characterized by the prevalence of orthogonal streets bounded by sidewalks and adorned with series of aligned trees. The public space is framed by a compact built fabric almost exclusively composed of attached buildings with two floors sitting atop a partially aboveground foundation wall. The elevation of the ground floor varies approximately from 1.35 to 1.85 meters above the sidewalk level. Access to the ground floor of the buildings, therefore, requires the ascent of some steps. The front setbacks



**Figure 6.** Spatial syntax of the tissue

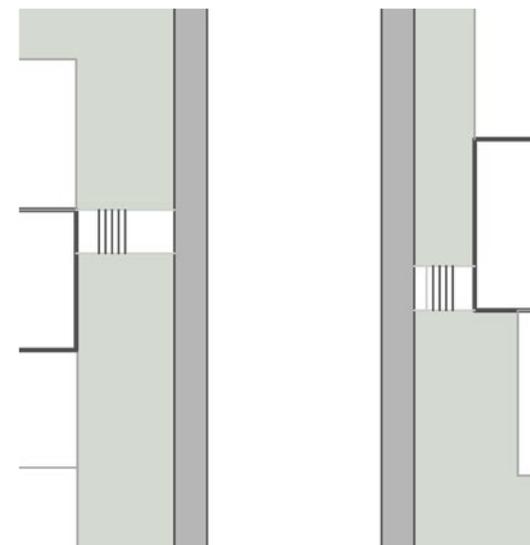
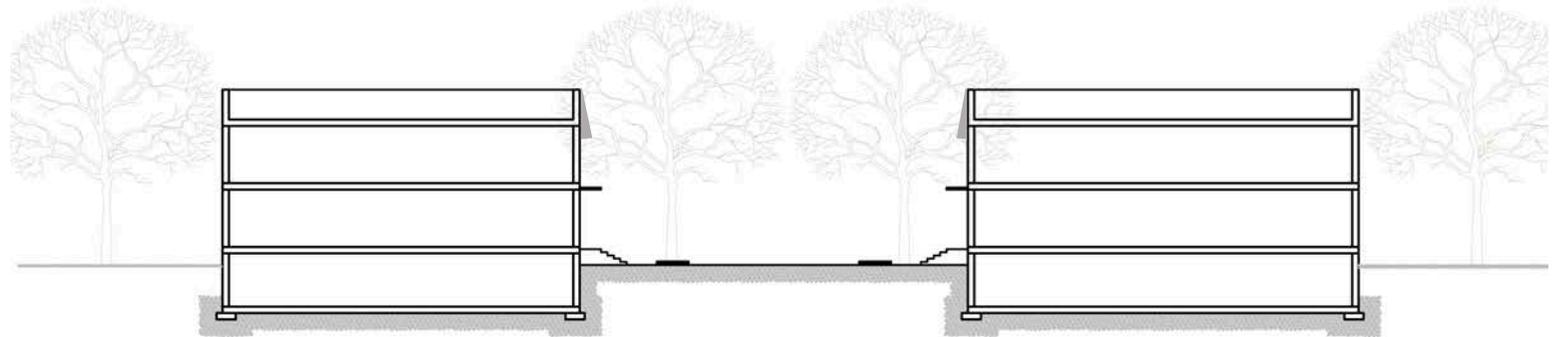
receive small landscaped gardens, composed of lawn and low shrubs arrangements.

The façades, inspired by the Queen Anne architecture style, are all of brick. They are articulated by the presence of oriels, balconies and cornices, assuming a false mansard profile and adorned with dormers. Figure 7 shows section and siting layout views representative of the streetscape, as witnessed on Irvine Avenue.

**Public-collective / private-domestic spaces**

Several physical and spatial features of the streetscape assume an essential function of architecture, namely the mediation between public-collective space and private-domestic space.

The physical and spatial features ensuring the mediation between these spaces in the unit pertain to the presence of setbacks and the raising of the



**Figure 7.** Typical section and siting layout views on a settling route (view towards the northwest)

ground floor, which is therefore accessed by an alley and an external staircase leading to an exterior landing protected by a projecting roof which generally makes dual use as a balcony upstairs. Since the front setbacks are modest, the elevation of the ground floor, of approximately 1.35 to 1.75 meters above the level of the sidewalk), as well as the height of the windowsills of this floor, of approximately 1.75 to 2.2 meters above said level, are the primary guardians of domestic privacy.

**Composition of the residential building stock**

Figures 8, 9 and 10 illustrate the spatial distribution of residential buildings according to the number of dwellings per building, their number of floors, and their mode of aggregation. The unit does not display noticeable spatial trends concerning said morphological characters and properties, except for the concentration of buildings with three or more storeys above the ground on Sainte-Catherine Street West.

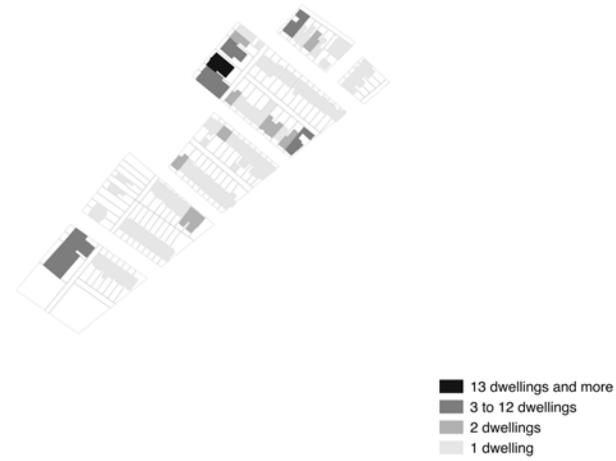


Figure 8. Spatial distribution of the dwelling units per building



Figure 10. Spatial distribution of buildings according to their mode of aggregation

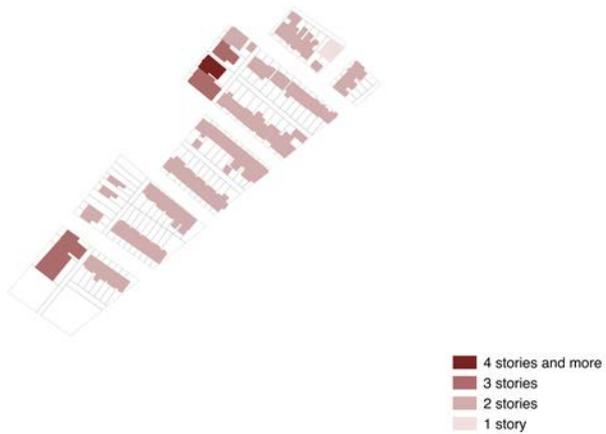
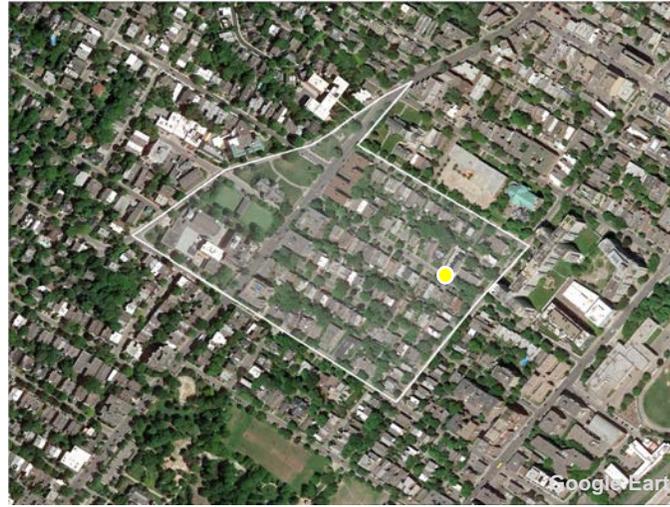
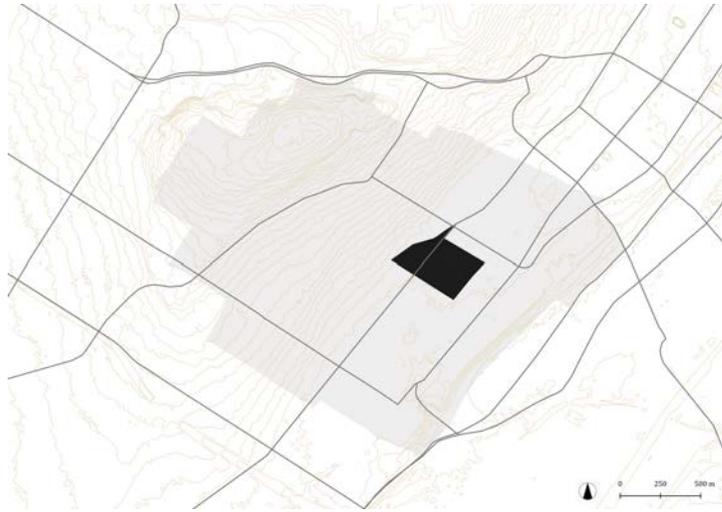


Figure 9. Spatial distribution of buildings according to their number of floors



## Landscape unit 27

Analytical fact sheet

### Location

Landscape unit 27 is located on the Westmount Plateau. It is bordered to the southeast by de Maisonneuve Boulevard West, thence, clockwise, by Metcalfe Avenue on the southwestern side, then by Côte-Sainte-Antoine Road on the northwestern side and finally, by Kitchener Avenue to the northeast.

### Brief description

Spanning 12.22 ha, this landscape unit is composed of 342 housing units distributed in 127 residential buildings, as well as a park (Hôtel-de-Ville park), Westmount's City Hall, a worship temple (Shaar Hashomayim synagogue), a school (Akiva) and a lawn bowling green and club (Westmount Lawn Bowling Club). The residential housing stock is made up of single-family buildings at 86.6%, producing a gross residential density of 28 dwellings per hectare and a net density of 39.3 dwellings/ha.

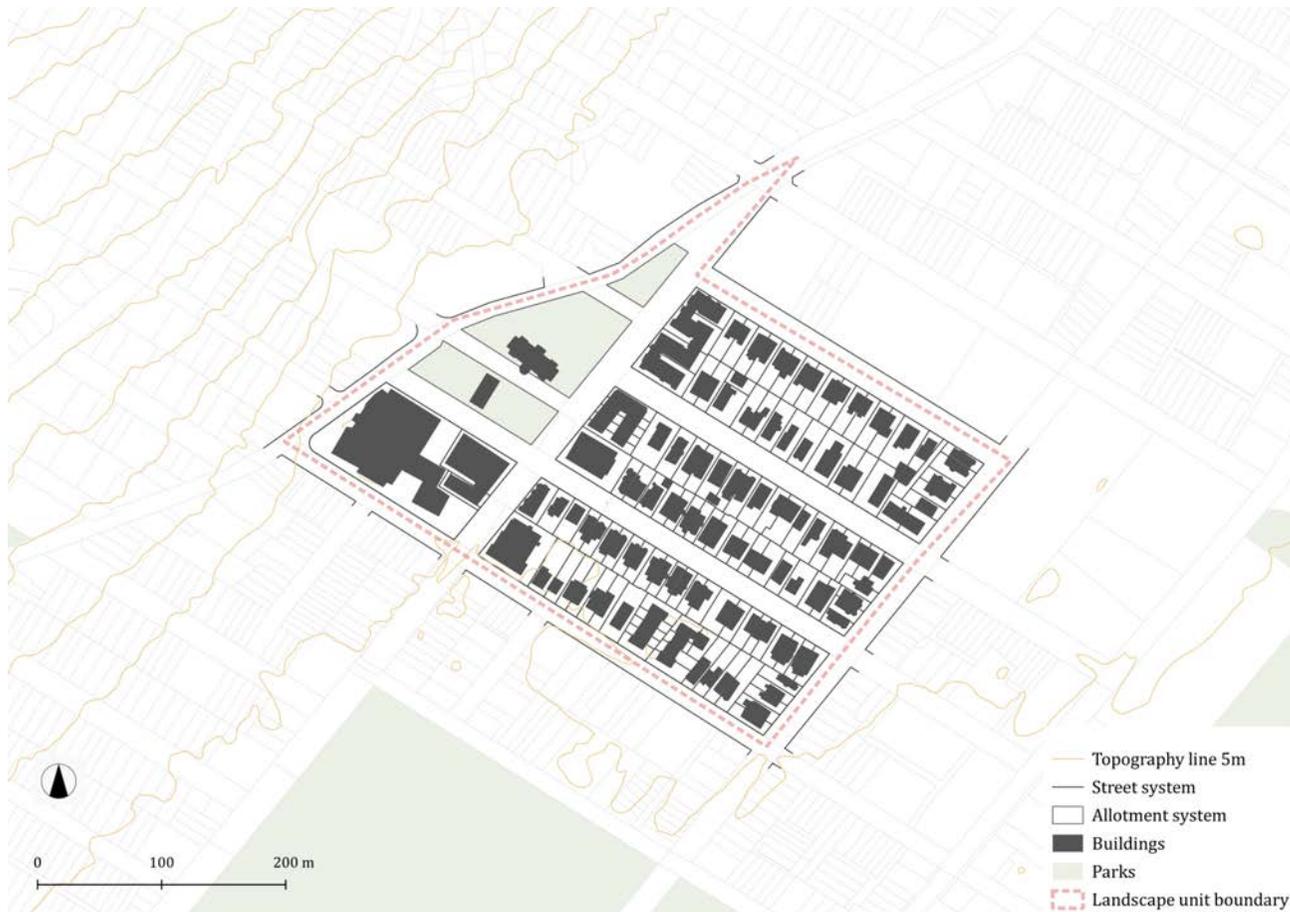
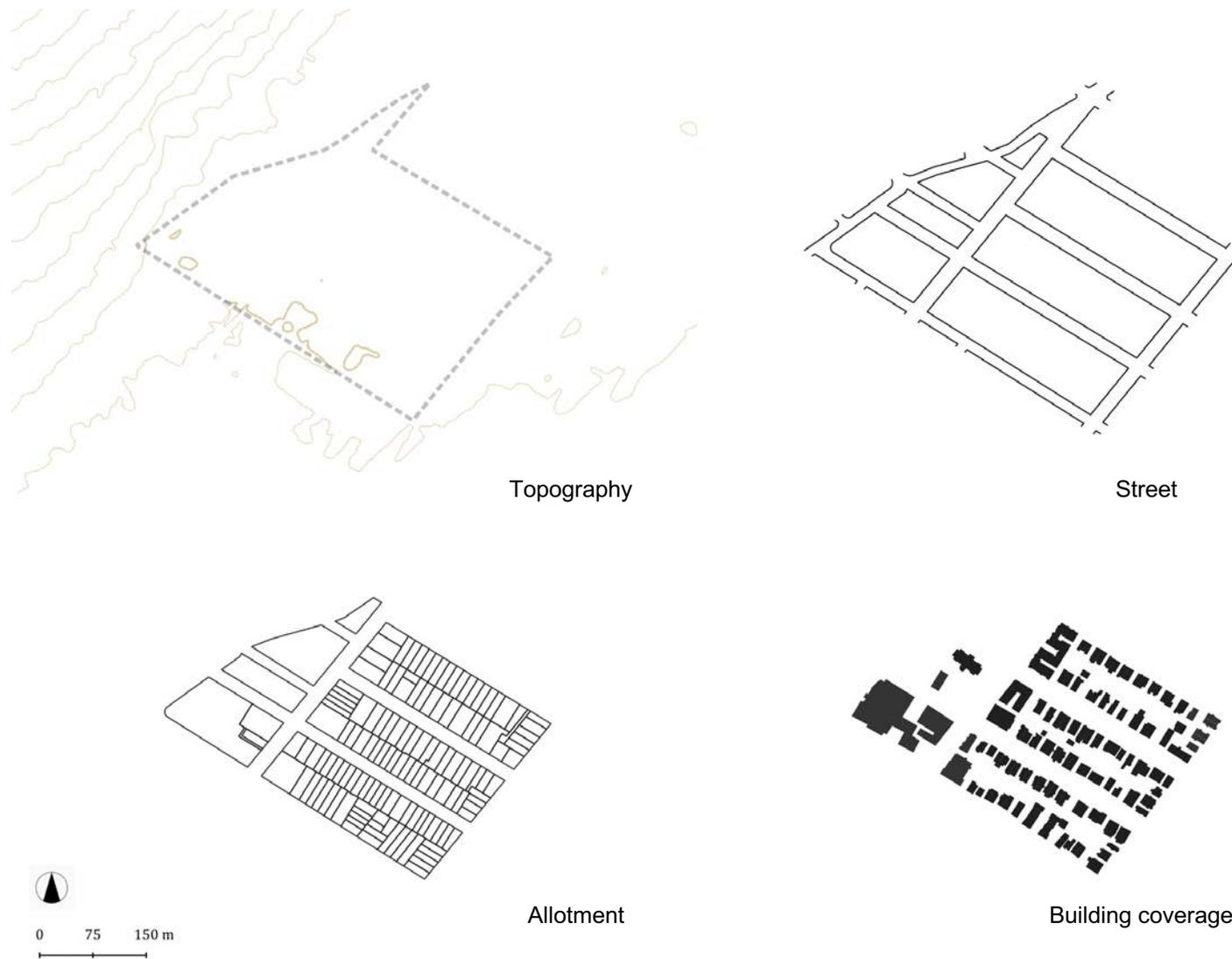


Figure 1. Landscape unit 27



**Figure 2.** Subsystems of the tissue

**Subsystems of the tissue**

The unit is located on the Westmount plateau, where it extends on flat ground. The street network, mostly orthogonal, delimits residential blocks composed of four pertinent strips. The residential building coverage consists mainly of

semi-detached buildings (60.2% of the stock) as well as detached buildings (27.3%), in addition to attached buildings (12.5%).

**Routes hierarchy**

Figure 3 maps the routes of the landscape unit according to their category. The four types of routes are represented. The sector is bounded by two matrix routes for the tissue: Côte-Sainte-Antoine Road, which borders the unit to northwest and Metcalfe Avenue on the southwestern side. Metcalfe is an old through-road that allowed movement between Côte-Sainte-Antoine Road and Petite-Côte-Sainte-Antoine Road (see Part 1). Sherbrooke Street West serves as a break-through route in this sector of Westmount. Between the latter and Côte-Sainte-Antoine Road, Stanton Street and Argyle Avenue assume the function of connecting routes. They do not carry lots with their addresses on them. Kensington, Redfern and Kitchener avenues, as well as De Maisonneuve Boulevard West, are all settling routes in this area.

*Specialized routes*

Sherbrooke Street West is a major thoroughfare. Two nearby routes assume the same function at a short distance from the unit; Sainte-Catherine Street West and Clarke Avenue (Figure 5). For an overview of the specialized routes network in and around Westmount, see Part 1 (p. 19-20).

**Spatial syntax of the tissue**

The unit's orthogonal street system is conditioned by the initial agricultural subdivisions of the land. The same could be said of the urban blocks oriented northwest-southeast lengthwise, along the longitudinal direction of the agricultural fields. The blocks are composed of four pertinent strips, which assume the form of heads of blocks (*têtes d'îlot*) on Sherbrooke Street and De Maisonneuve Boulevard West, and that are accompanied by strips deployed perpendicularly on Metcalfe, Kensington, Redfern and Kitchener avenues. These carry oblong lots. Except for the street segments of Sherbrooke Street West, the majority of the lots present standard dimensions that express modules of either 9 or 10.5 meters (30 or



Figure 3. Route hierarchy

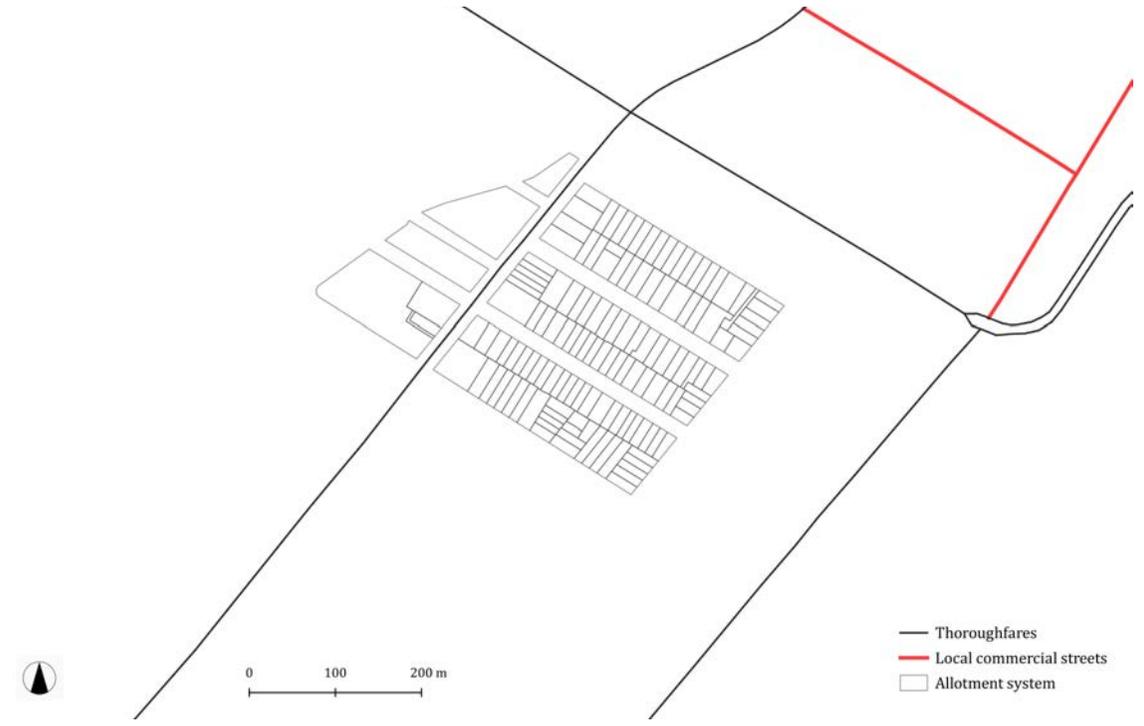


Figure 5. Specialized routes

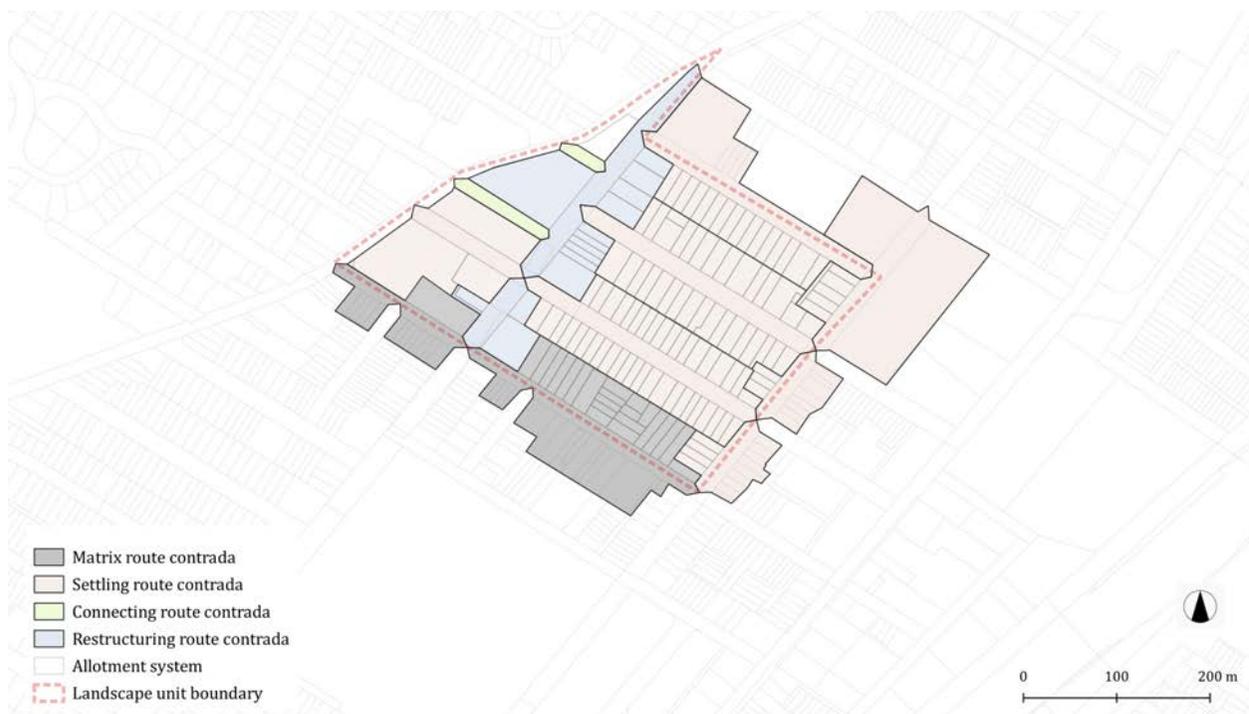
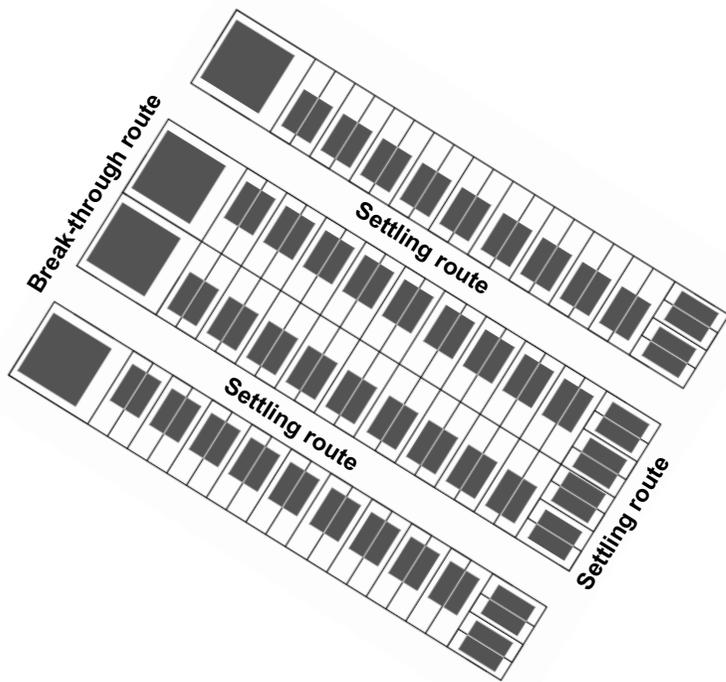


Figure 4. Face-block (Contrada) Structure

35 ft) onto the street by 45.5 meters (150 ft) lengthwise. For its part, the allotment pattern observed on Sherbrooke Street West denotes its status as a break-through route. The creation of the route, which was laid out after the development of the sector had begun, led to the creation of lots of various dimensions, intended to carry large-scale residential buildings, such as apartment buildings, as well as specialized buildings, such as Westmount City Hall. Thus, rather than reproducing the surrounding allotment model, the tracing of the lots is opportunistic and adjusted to the opportunities offered by a prominent location in a boulevard. Figure 4 illustrates the structure of the face-blocks resulting from the subdivision operations that have taken place in the sector.

The built fabric's composition of the unit is diverse, though some more common occurrences can be observed, that pertains, in particular, to the predominance of single-family buildings (86.6%), and that of buildings with two stories above ground (83.5 %).



**Figure 6.** Spatial syntax of the tissue

The architectural diversity of the building stock suggests that the institutive phase extended over a long period. In addition to contrasting architectural expression, the mode of aggregation varies greatly (the three modes are represented). Such conditions make it challenging to identify general spatial syntactic rules of the tissue in this sector, besides the fact that the buildings are generally deeper than they are wide onto the street; and that they all conform to a front setback (although the latter varies in size from one pertinent strip to the other, ranging from 2.5 to 4.5 and 5.5 meters); and finally, that each lot has a backyard. Another significant characteristic of the tissue is that a majority of residential lots receive a garage, which is generally built at the back of the courtyard and is accessed by a driveway deployed in a lateral setback. It is not uncommon in the case of more recently constructed buildings, however, that a garage is integrated into the main body of the building, on the ground floor, and that it is accessed in front. The composition and contrasting

configurations of the landscape unit produce an average lot coverage ratio of 0.51.

### The streetscape

The streetscape of this unit is characterized by the prevalence of orthogonal streets bordered by as is customary in Westmount sidewalks, which receive rows of aligned trees. On Sherbrooke Street West, apartment buildings frame the public street at a short distance from the sidewalks, and so do specialized buildings and their forecourts.

On the other avenues, the architectural framing of the public space is ensured by a built fabric composed of two-storey buildings, deployed in more or less tight rows depending on the street segment. The tissue is tighter on Kensington and Kitchener avenues, where the semi-detached mode of aggregation dominates, than on Metcalfe and Redfern Avenues, which have proportionately more buildings in detached layout (Figure 10).

The two-storey buildings are presenting a partially aboveground basement onto the street, and are sometimes topped with sloping roofs that can house habitable attics, a combination that accentuates their vertical projection. The elevation of the ground floor is generally around 1.85 to 2 meters above the level of the sidewalk, although higher elevations of approximately 3.2 meters can be observed in the northwest portion of the block bounded by Redfern and Kitchener avenues; where special topographic conditions create a small localized mound. The rather generous front setbacks adorned with landscaped gardens, composed of lawns, flower beds and shrub. The shrubs are generally deployed near the aboveground basement walls, which they mask partially.

The most common façade cladding material is brick, but there is a significant number of buildings with stone façades. The architectural expression is varied and eclectic, due in particular to the wide-ranging construction periods. The buildings are a little older on Metcalfe and Kensington avenues

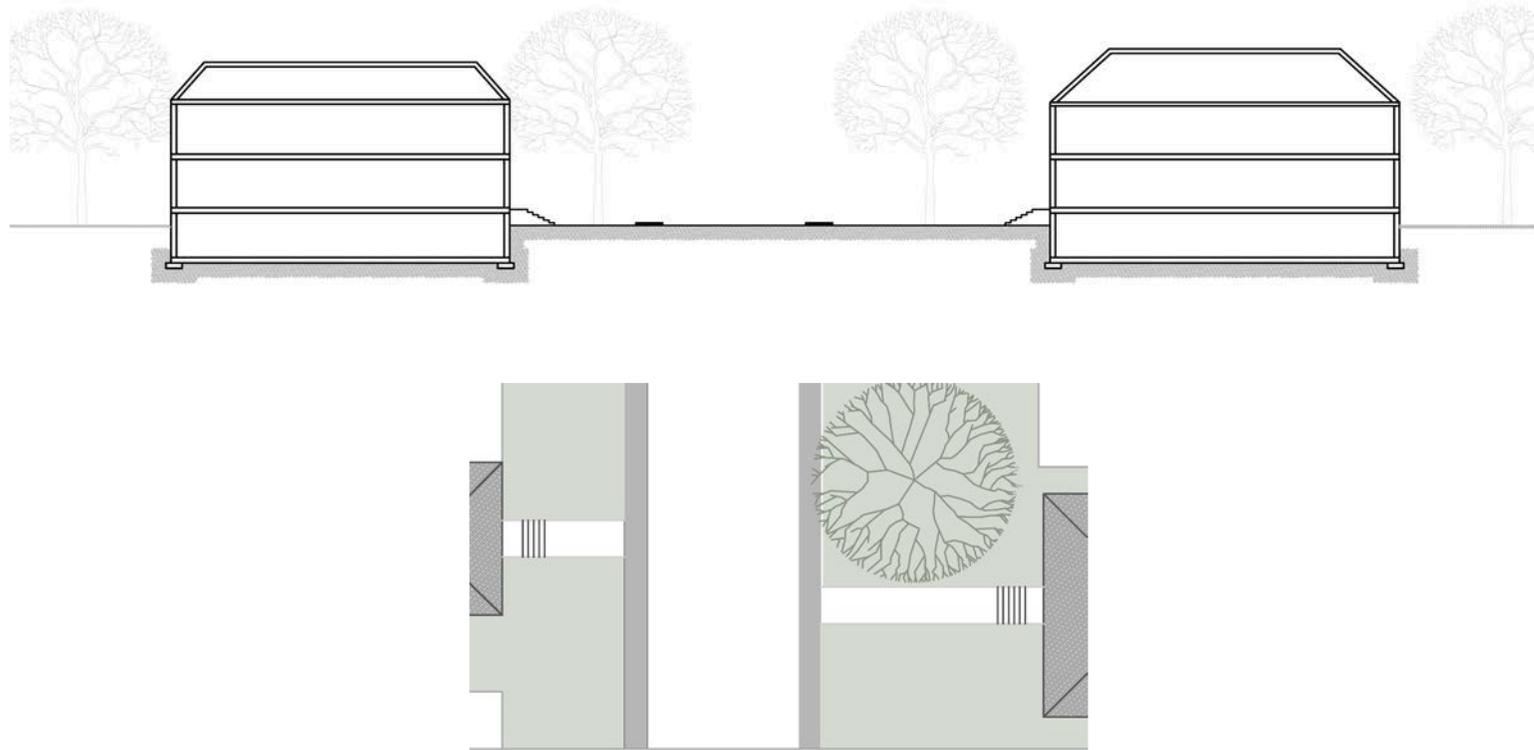
where the norm commands articulated façades, inspired by the Arts and Crafts movement, and endowed with projections, oriels, balconies and porches. On Redfern and Kitchener avenues, the architectural expression of the façades is soberer.

Figure 7 shows section and siting layout views representative of the streetscape in the unit as observable on Kensington Avenue.

### Public-collective / private-domestic spaces

The streetscape strongly conditions the experience of users, while denoting the architectural identity of a place. Several physical and spatial features of the streetscape also assume an essential function of architecture, namely the mediation between public-collective space and private-domestic space.

In this unit, the physical and spatial features ensuring the mediation between these spaces pertain mainly to the presence of generous front setbacks and the raised ground floors, which are accessed by an alley and an external staircase leading to a landing often protected by a projecting roof. Access to the housing unit is generally on the noble façade onto the street, but in a significant number of cases, access is on the lateral façade instead.



### Composition of the residential building stock

Figures 8, 9, and 10, illustrate the spatial distribution of residential buildings according to the number of dwellings per building, their number of floors, as well as their mode of aggregation. The unit does not display specific spatial trends concerning these characteristics and properties of the form, other than the high prevalence of apartment buildings on Sherbrooke Street West, and the large concentration of buildings conforming to the detached mode of aggregation on Redfern and Metcalfe avenues. One can also observe two small sets of rowhouses deployed perpendicular to the street on Metcalfe Avenue, which are made accessible by pedestrian walkways.

**Figure 7.** Typical section and siting layout views on a settling route (view towards the northwest)

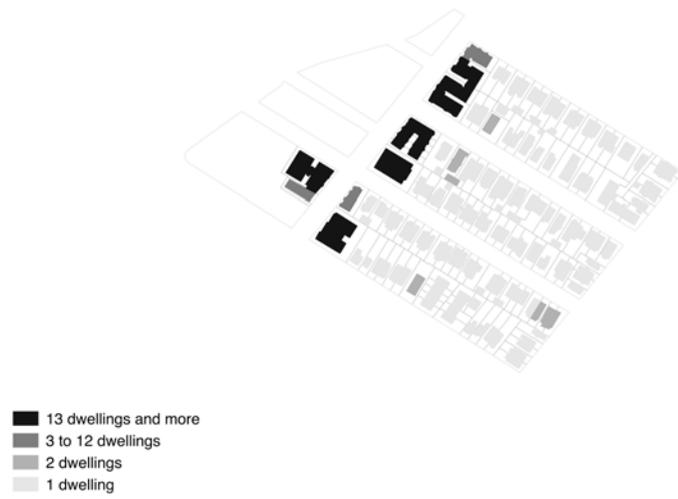


Figure 8. Spatial distribution of the dwelling units per building



Figure 10. Spatial distribution of buildings according to their mode of aggregation

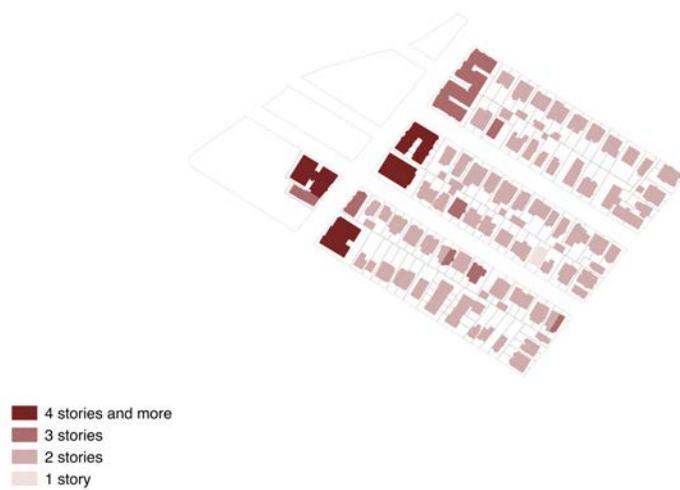
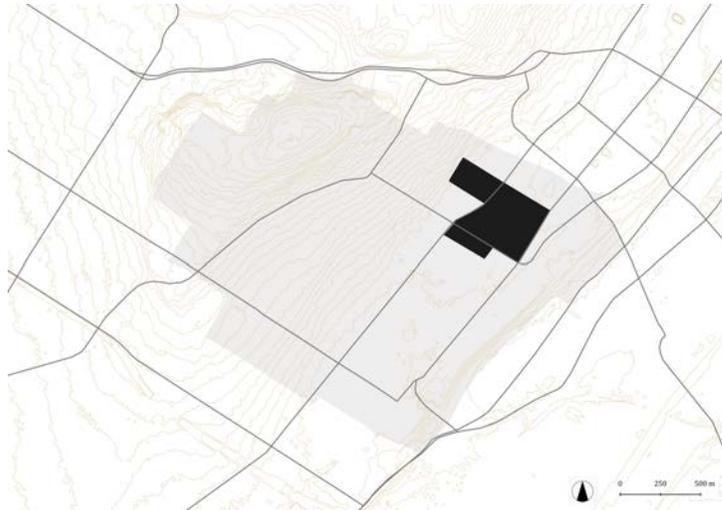


Figure 9. Spatial distribution of buildings according to their number of floors



## Landscape unit 28

Analytical fact sheet

### Location

Landscape unit 28 is located on the Westmount Plateau. It is bordered to the southeast by Sainte-Catherine Street West, thence, clockwise, by Clarke Avenue on the southwestern side, then by a segment of de Maisonneuve Boulevard West in this direction, then by Kitchener Avenue also on the southwestern side, then by a segment of Sherbrooke Street West on the northwestern side, thence, on the southwestern side by Redfern Avenue, then again, by the allotment parting line located behind the properties located on the northwestern side of Holton Avenue in the said direction, and finally, by Wood Avenue to the northeast.

### Brief description

Spanning 22.7 ha, this landscape unit is composed of 745 housing units distributed in 274 residential buildings, as well as a school and a worship temple (eponymous Saint-Léon-de-Westmount), a second church (Ascension of our Lord Church), the commercial component of the Westmount Square complex and many commercial buildings concentrated on Greene Avenue and Sherbrooke

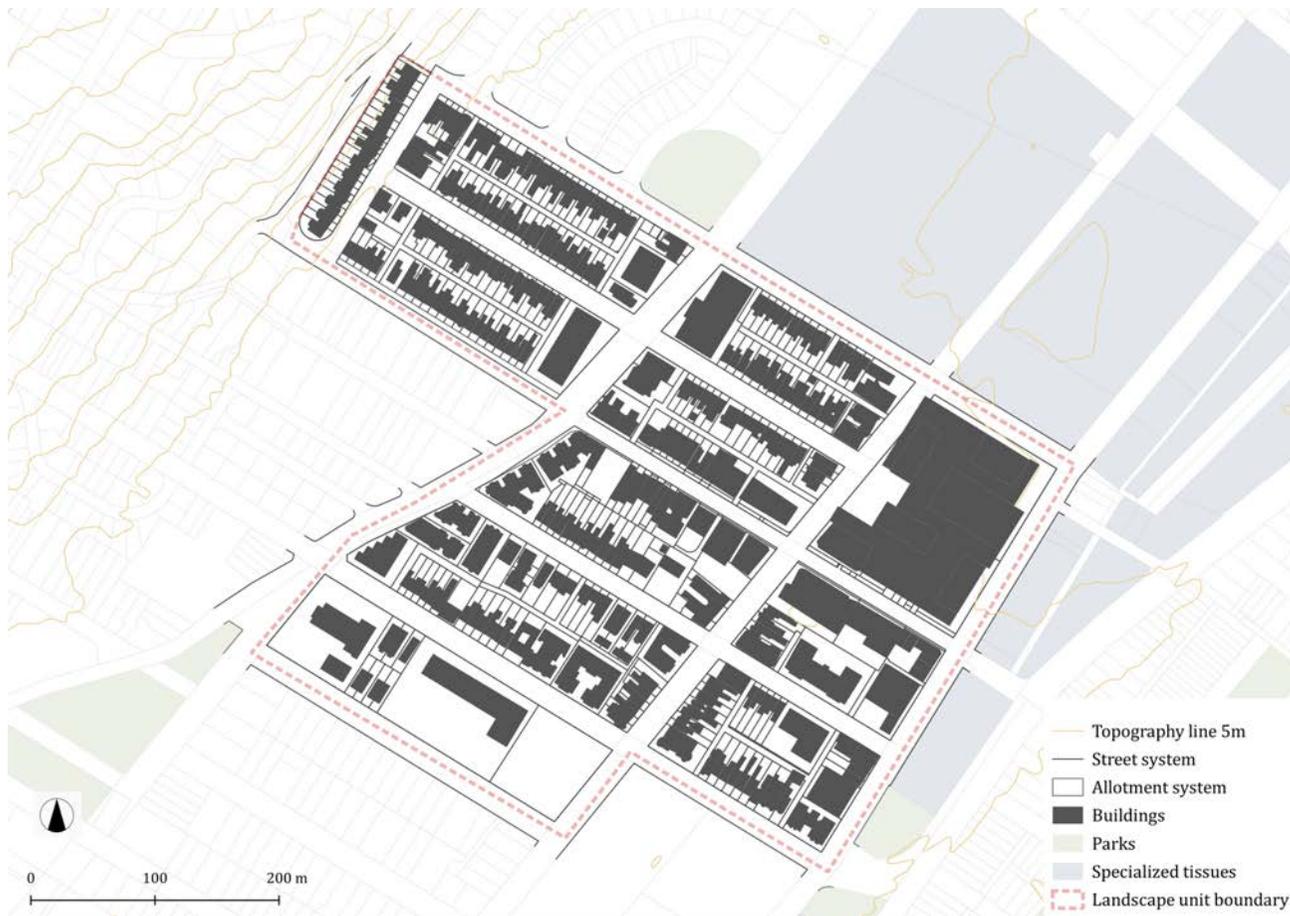


Figure 1. Landscape unit 28



**Figure 2.** Subsystems of the tissue

Street West. The residential building stock is diverse and produces a gross residential density of 32.8 dwellings per hectare and a net density of 44 dwellings/ha.

**Subsystems of the tissue**

The unit is located on the Westmount plateau, where it is mainly deployed on flat ground. The street network is mostly orthogonal and delimits residential blocks composed of four pertinent strips for the most part. The residential building coverage

consists mainly of single-family buildings (75.2% of the stock). A clear majority of buildings comply with the attached mode of aggregation (82.5%), followed by the detached mode (11.4%).

**Routes hierarchy**

Figure 3 maps the routes of the landscape unit according to their category. The four types of routes are represented. The sector has three matrix routes, which is exceptional. These are respectively: an old segment of current Sherbrooke Street West and its extension as Côte-Sainte-Antoine Road; Greene Avenue, an ancient through-route that allowed movement between Côte-Sainte-Antoine Road and Petite-Côte-Sainte-Antoine Road and, finally; a segment of said Petite-Côte now known as Sainte-Catherine Street West, to the southwest of Greene Avenue (see Part 1). Another small segment of Sherbrooke Street West, southwest of Clarke Avenue, is a break-through route in this area of Westmount, and beyond in, in said direction. A portion of Wood Avenue to the southeast is a connecting route. The other avenues, as well as the portion of Sainte-Catherine Street West to the northeast of Avenue Greene, are all settling routes, created from their inception to receive lots that had their addresses on them.

*Specialized routes*

Sherbrooke Street West, Dorchester Boulevard and Clarke Avenue are major thoroughfares that facilitate inter-district movements. Greene Avenue and a segment of Sainte-Catherine Street West, which is perpendicular to it, are local commercial streets forming a small "T"-shape ensemble. Part 1 provides an overview of all of the specialized routes in and around Westmount (p. 19-20).



Figure 3. Route hierarchy

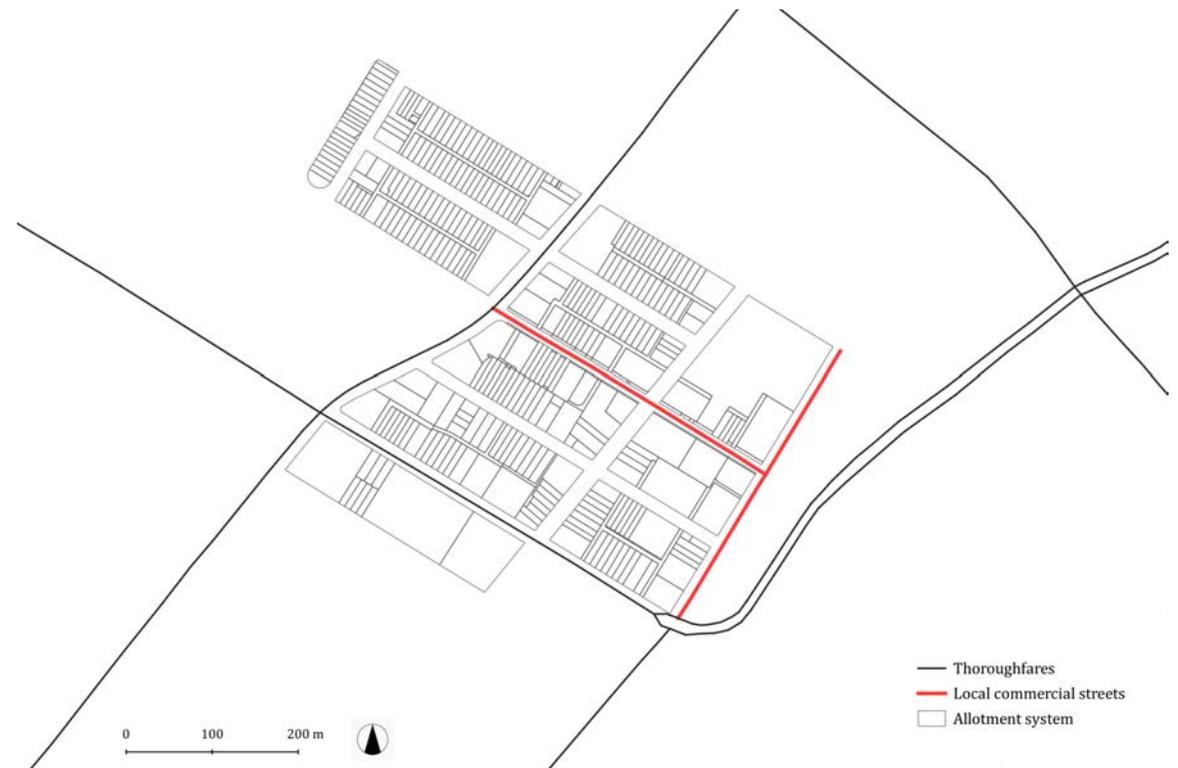


Figure 4. Specialized routes

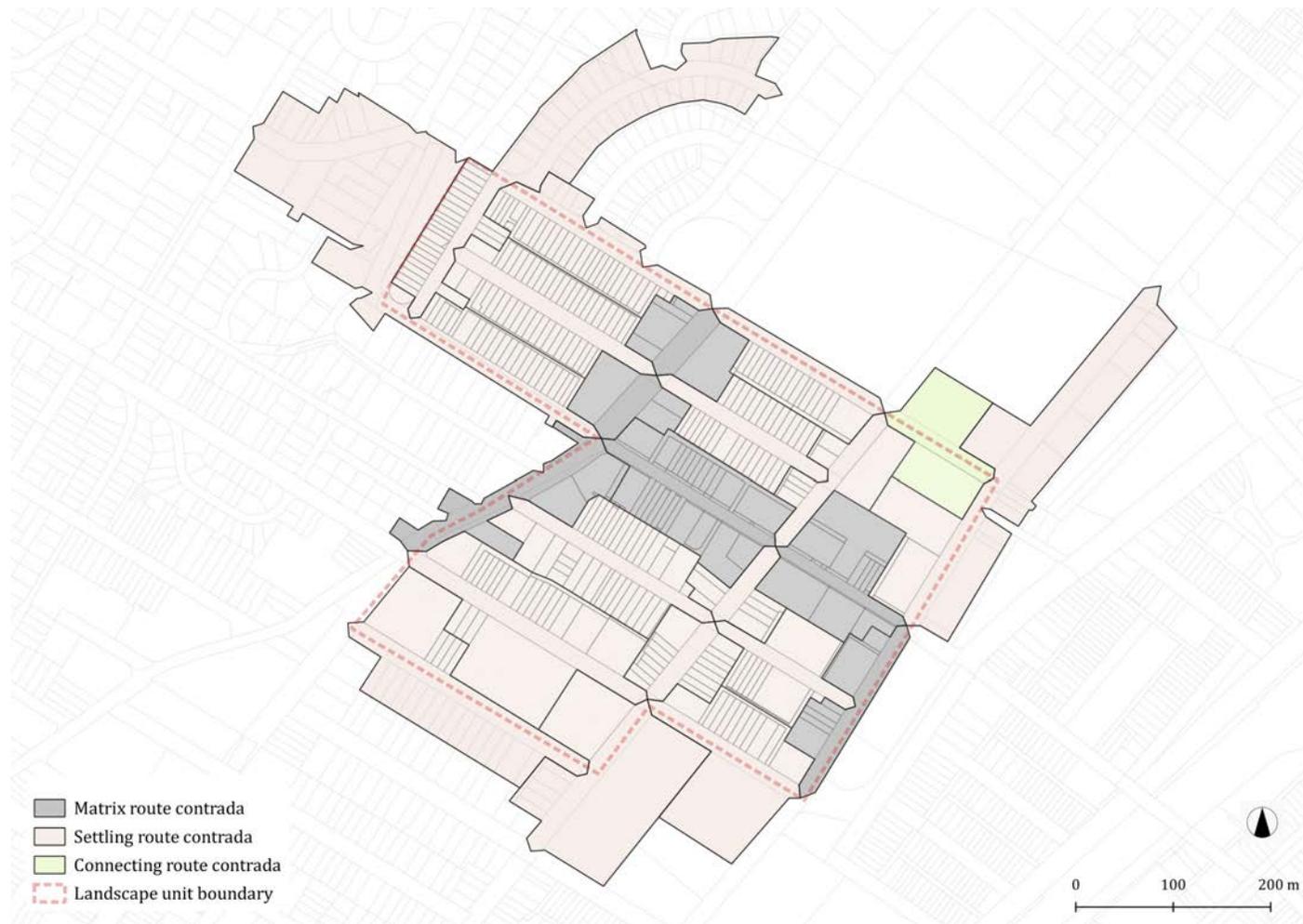
### Spatial syntax of the tissue

The original agricultural allotment conditions the orthogonal street system. The same is true of the urban blocks, which develop northwest-southeast lengthwise along the longitudinal direction of the agricultural tracks of land. Most of these blocks are composed of four pertinent strips. Sherbrooke Street West, De Maisonneuve Boulevard West and Sainte-Catherine Street West, all oriented southwest-northeast, carry heads of the blocks (têtes d' îlot). The avenues deployed perpendicular to them, thus carry the strips deployed in a northwest-southeast axis. The heads of the blocks present the particularity of carrying lots that all present their noble façade to the street. They are therefore considered first-tier settling routes in the system. In that regard, their configuration replicates that of a matrix route. (see Part 1, p. 5-6,

on first- and second-tier settling routes). The settling routes, deployed perpendicular to the first, are second-tier ones since they are bordered by the lateral façades of the buildings carried by the corner lots, before being framed by the noble façades of their pertinent strips. Figure 5, which shows the structure of the face-blocks, illustrates this last point.

The above description suggests that the allotment of the unit, which is the result of deliberate and concerted development operations, is well-ordered. However, the situation there is a little more complicated. On closer examination, the allotment pattern appears somewhat heterogeneous, which denotes the coexistence of lots that are the products of land operations going back to different periods of development.

The process of urbanization here, as is often the case, starts along the old agricultural roads. The cutting out of lots of more "urban" dimensions from the agricultural parcel marks this development stage (and is precisely what confer these routes their status as matrix route). The first-generation lots are generally of generous dimensions compared to those from the following subdivisions when the urbanization of the sector in question intensifies. The intensive development period that marks the last third of the 19th century in Westmount and Montréal, more broadly, is generally associated with widespread spatial models. In the current case, the concerted model consists of urban blocks served by "H" shaped alleys, carrying oblong lots with their short side onto the street, and intended to receive terraced buildings, sharing common walls. This development entailed adjusting to and altering

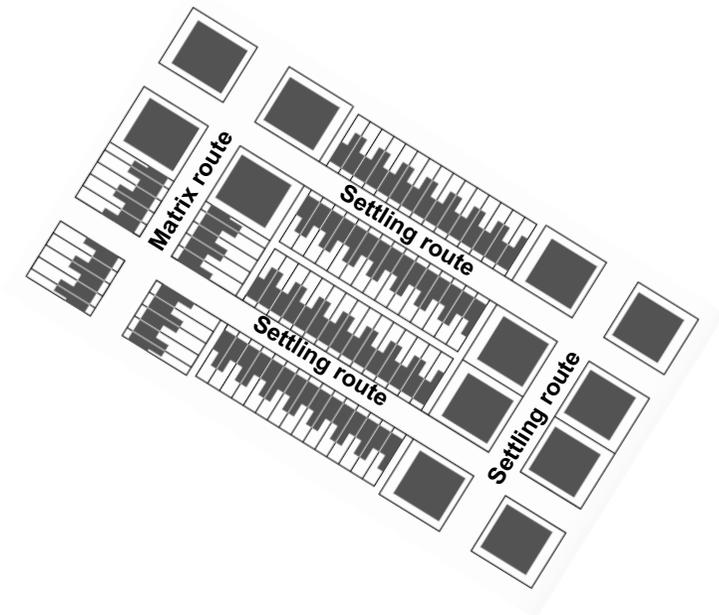


**Figure 4.** Face-block (Contrada) Structure

some of the first-generation urban lots while intensifying land use. This process is what has produced a heterogeneous allotment pattern.

The analysis of subdivision plans from that period compared to the current conditions help to understand the institutive and repletive phases of development in the area and, in particular, lot metamorphosis and building repletion processes. The Plan of a property belonging to the ladies of the Grey Nuns General Hospital located near the city of Montreal by H.M. Perrault (1857), which illustrates the area surrounding Clarke Avenue, provides a good example. The eclectic built fabric currently observed in the sector (institutional

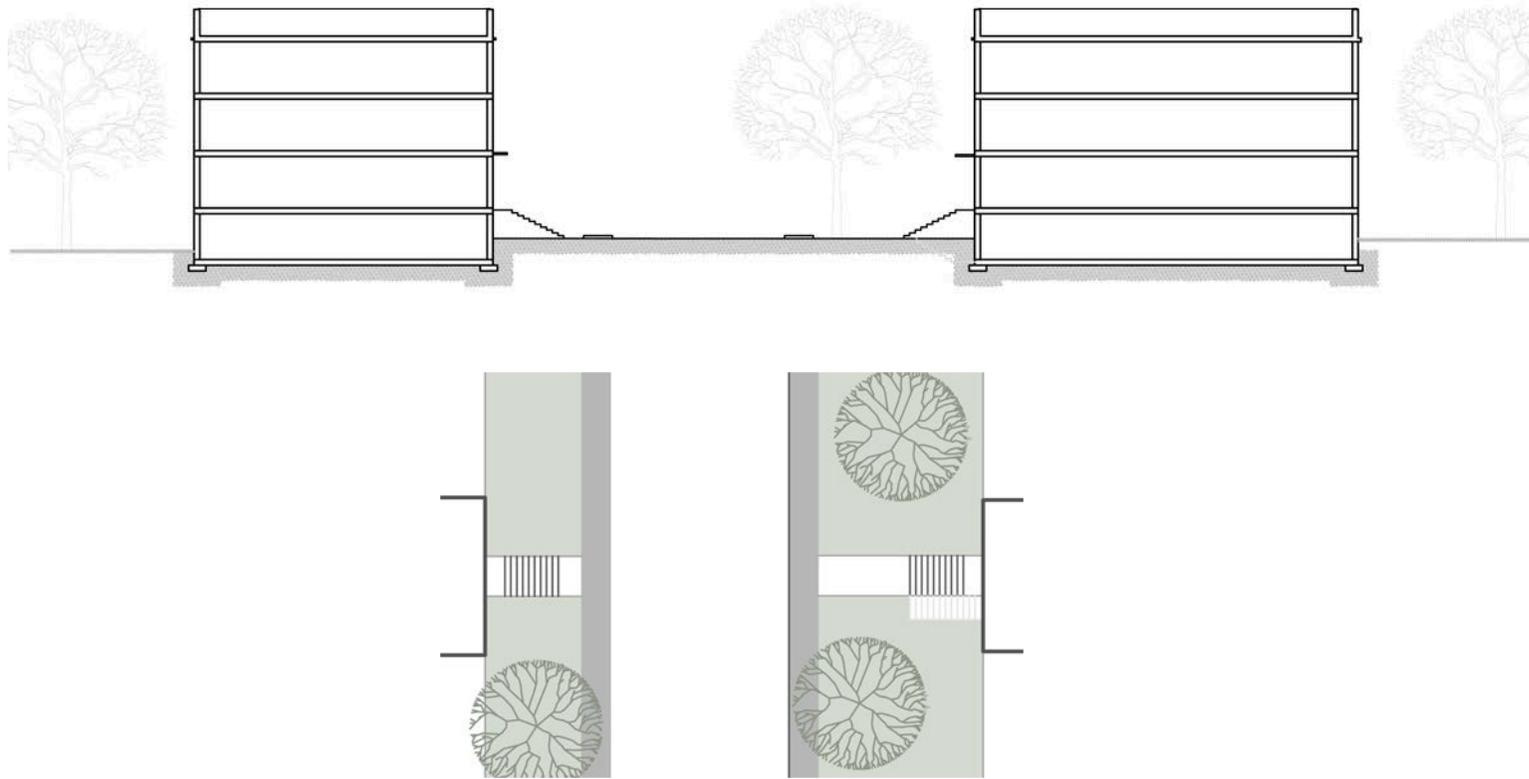
buildings, apartment buildings and row buildings) testifies in particular to the progressive intensification of the lots plotted around 1857. Another example of the same process is presented by a subdivision plan of the bordering sector located between Clarke Avenue and the pertinent strip on the southwestern side of present Avenue Greene. The document illustrates square lots with 140 feet sides (42.67 m), meant to receive detached villas (Perrault, 1869, Plan of a Property Belonging to the Ladies of the Grey Nunnery Situated at Cote St. Antoine Showing its Subdivision into Villa Lots). Many of these lots now carry large buildings, particularly on Greene Avenue (including buildings built on merged lots),



**Figure 6.** Spatial syntax of the tissue

while other original lots have been subdivided to carry attached buildings, in particular on Olivier Avenue.

Another plan, from 1909, points to the evolution of subdivision practices in the sector when urbanization gained in intensity (Anonymous, BAnQ, 1909). The document relates to an urban block divided by Sherbrooke Street West, Wood and Elm avenues, and a segment later destined to be part of Sainte-Catherine Street West, designated by the toponym St Luke Street. The cartographic representation shows an urban block formed by four pertinent strips, endowed with alleys, and carrying 25 feet (7.6 m) wide lots.



**Figure 7.** Typical section and siting layout views on a settling route (view towards the northwest)

Urban blocks with such a configuration and lots of such widths would become the norm throughout the unit. Such subdivisions were intended to receive terraced buildings with an L-shaped footprint, a configuration aiming to provide natural light and ventilation to the heart of narrow dwellings and deployed deep between two party walls.

Most of the lots in the unit have front setbacks of about 3.5 meters, and open spaces at the back of the buildings, now used as backyards. Initially, the alleys gave access to secondary buildings such as hangars in which the coal used for heating was

stored. Nowadays, the alleys give access to parking spaces located in the backyard, including garages built for this purpose. The conditions previously translate into a high overall lot coverage ratio of 0.59.

### The streetscape

The streetscape of this landscape unit is characterized by the prevalence of orthogonal streets producing tightly framed visual perspectives. In the commercial sections of Greene Avenue and Sainte-Catherine Street West, the bordering buildings are directly accessible at

grade from the sidewalk. The diverse built fabric there is composed of buildings of two to nine storeys on Greene Street and up to twenty storeys in the southeast portion of the latter route and on Sainte-Catherine Street West. Sherbrooke Street West presents a boulevard-type streetscape. It is bordered by sidewalks and aligned trees on landscaped setbacks and is framed by large institutional, commercial and apartment buildings, comprising four to six storeys above ground.

Elsewhere, avenues are also served by sidewalks, as is customary in Westmount, and are lined with trees. The public space is framed by a built fabric composed of terraced buildings typically presenting two floors atop a partially aboveground basement wall to the street. The elevation of the ground floor generally varies between 1.8 and 2.6 meters above the level of the sidewalks. The front setbacks, although modest, allow the creation of small landscaped gardens, in which lawns as well as flower and shrubs beds alternate.

The most common façade cladding material is brick, but there is a sizable number of façades adorned with Montréal grey stone and reddish stone façades. Their architectural expression is inspired by Queen Anne and Arts and Crafts styles. The norm commands articulated façades that include projections and that often garnished with oriels, and even loggias, though more rarely. The buildings are almost exclusively topped with flat roofs. Façades are crowned by ornate cornices, including false-mansard details.

Figure 7 shows a schematic section and siting layout views representative of the streetscape. These are the observable conditions on Avenue Elm.



Figure 8. Spatial distribution of the dwelling units per building



Figure 10. Spatial distribution of buildings according to their mode of aggregation

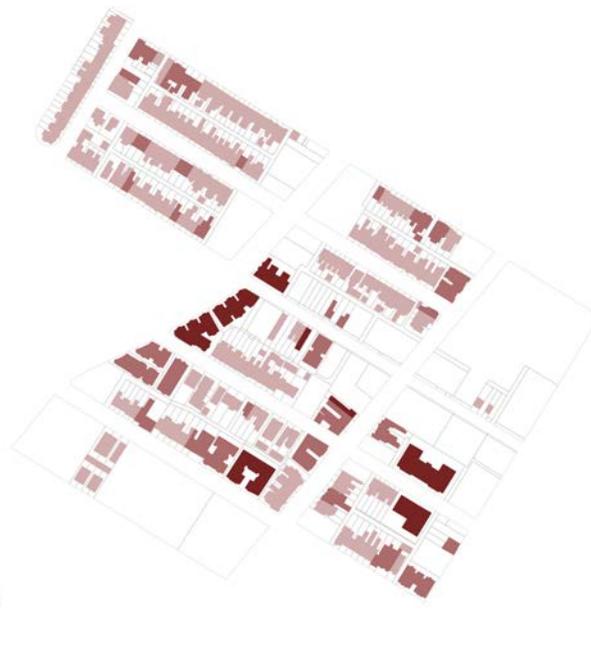


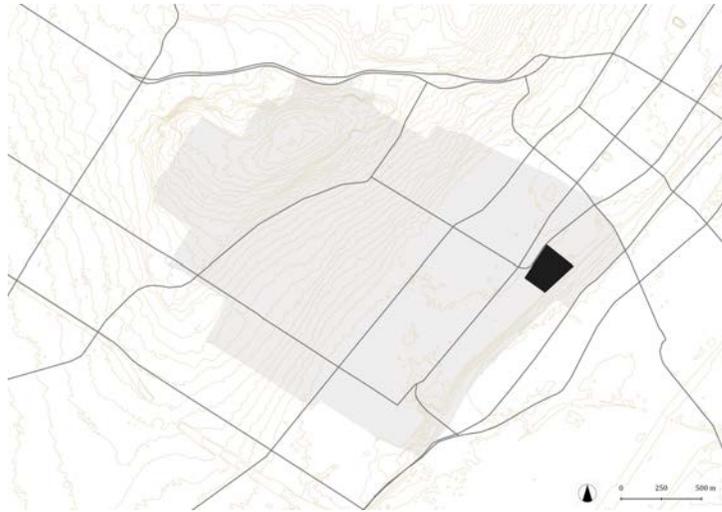
Figure 9. Spatial distribution of buildings according to their number of floors

**Public-collective / private-domestic spaces**

Several physical and spatial features of the streetscape assume an essential function, namely the mediation between public-collective space and private-domestic space. The setbacks and the elevation of the ground floors, which are accessed by an alley and a staircase leading to an external landing, are the first guardians of domestic privacy in this unit.

**Composition of the residential stock**

Figures 8, 9, and 10 illustrate the spatial distribution of residential buildings according to the number of dwellings per building, their number of floors as well as their mode of aggregation. The unit does not display any particular spatial trends concerning these characters and morphological properties of the buildings, aside from the concentration of apartment buildings on Sherbrooke Street West and near Sainte-Catherine Street West.



## Landscape unit 29

Analytical fact sheet

### Location

Landscape unit 29 is located on the Westmount plateau, nearby the Saint-Jacques escarpment. It is bordered to the southeast by the tracks of Canadian National Railway, thence, clockwise, by Hallowell Avenue on the southwestern side, followed by Dorchester Boulevard to the northwest and finally, by Greene Avenue on the northeastern side.

### Brief description

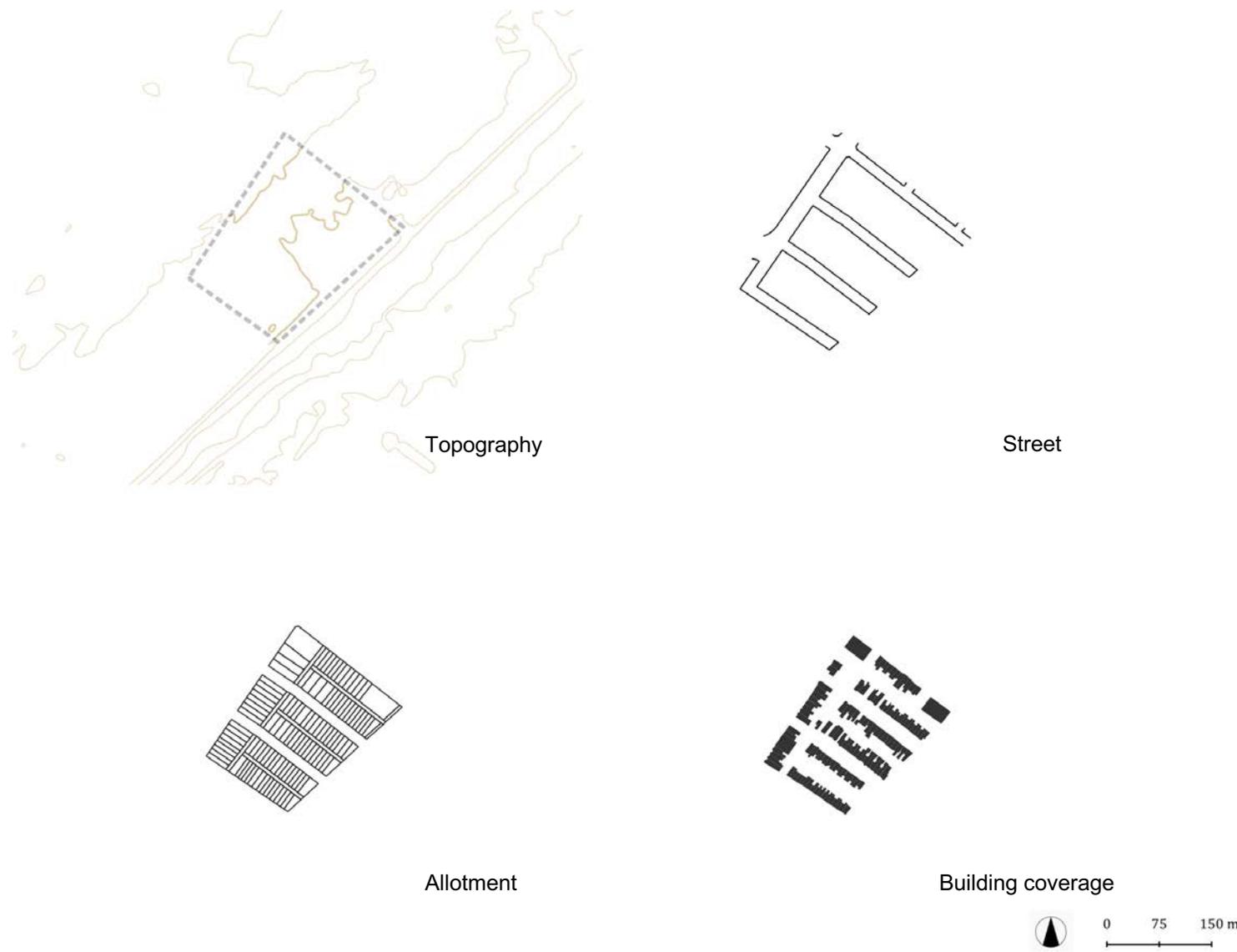
Spanning 4.6 ha, this landscape unit is composed of 180 housing units distributed in 98 buildings, a park (Bruce), and some commercial buildings on Dorchester Boulevard. The housing stock is made up of single-family buildings at 69.4%, and of two-family units of the duplex type at 24.5%, producing a gross residential density of 39.2 dwellings per hectare and a net density of 56.1 dwellings/ha.

### Subsystems of the tissue

The unit is mainly deployed on flat ground. The orthogonal street system delineates urban blocks of modest dimensions, composed of three



Figure 1. Landscape unit 29



**Figure 2.** Subsystems of the tissue

pertinent strips served by back-alleys. The said urban blocks are bordered by the railway to the southeast so that the northwest-southeast-oriented streets all end there as cul-de-sacs. The building coverage is made up almost exclusively of the attached building category.

**Routes hierarchy**

Figure 3 maps the routes of the landscape unit according to their category. Dorchester Boulevard West corresponds to the former Petite-Côte-Sainte-Antoine Road. It is the matrix route for the tissue in the sector. The avenues deployed

perpendicularly to the latter are all settling routes opened to carry lots and buildings with their addresses on them since their inception, but for part of Greene Avenue. The southeastern portion of Greene is a break-through route created in order to cross the cliff and provide access to Sainte-Antoine Street West on its foothills.

*Specialized routes*

The landscape unit is served by major thoroughfares that carry inter-district movements, starting with Dorchester Boulevard, which is extending René-Lévesque Boulevard West towards the southwest. Clarke Avenue, which extends from said Dorchester Boulevard in the northwest-southeast direction, up to Sherbrooke Street West, which is also a major thoroughfare. The portion of Sainte-Catherine Street West, which runs on the northeastern side of Clarke Avenue, doubles as a local commercial street and forms a "T"-shaped commercial ensemble in conjunction with Greene Avenue to which it is connected at a right angle. Part 1 (p. 19-20) of this report provides an overview of the specialized routes in and around Westmount.

**Spatial syntax of the tissue**

The original agricultural allotment conditions the orthogonal street system. The same could be said of the orientation of the urban blocks, which develop along a northwest-southeast axis lengthwise, as per the longitudinal direction of the agricultural lands. The urban blocks are composed of three pertinent strips, namely a head of the block (*tête d' îlot*) on Dorchester Boulevard West and two strips deployed perpendicular to the first. The strips carry oblong lots which correspond to modular lot dimensions consisting in a six meters (20 ft) front onto the street and 30.5 meters (100 ft) of depth, except for the head of the block on Boulevard Dorchester, between Columbia and Bruce avenues, which carries lots of 7.6 meters (25 ft) in front by approximately 38 meters (125 ft) deep. These lots mainly receive attached buildings

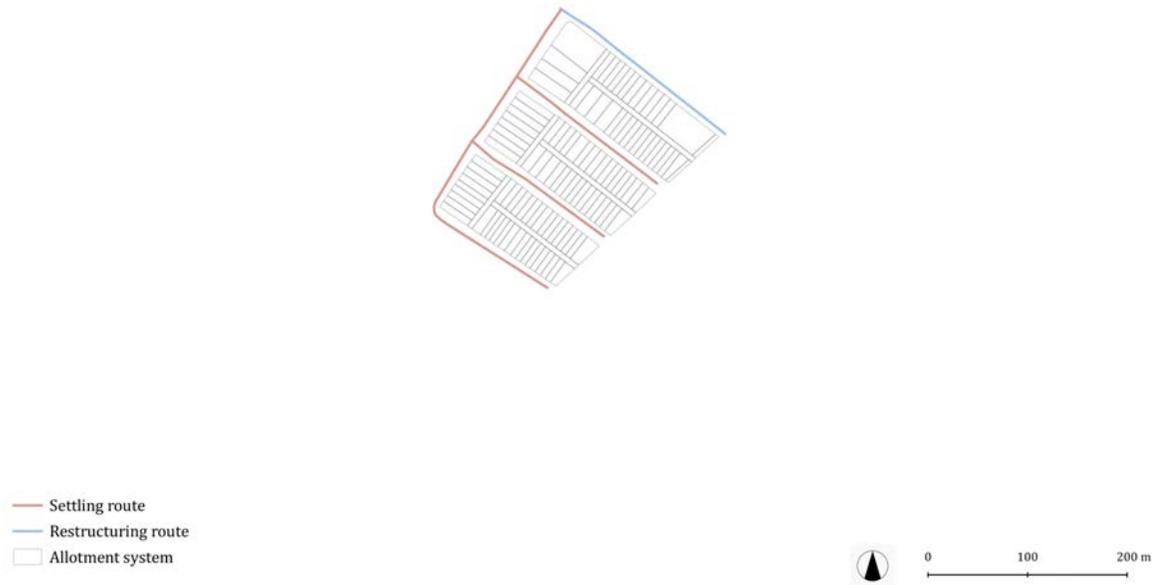


Figure 3. Route hierarchy

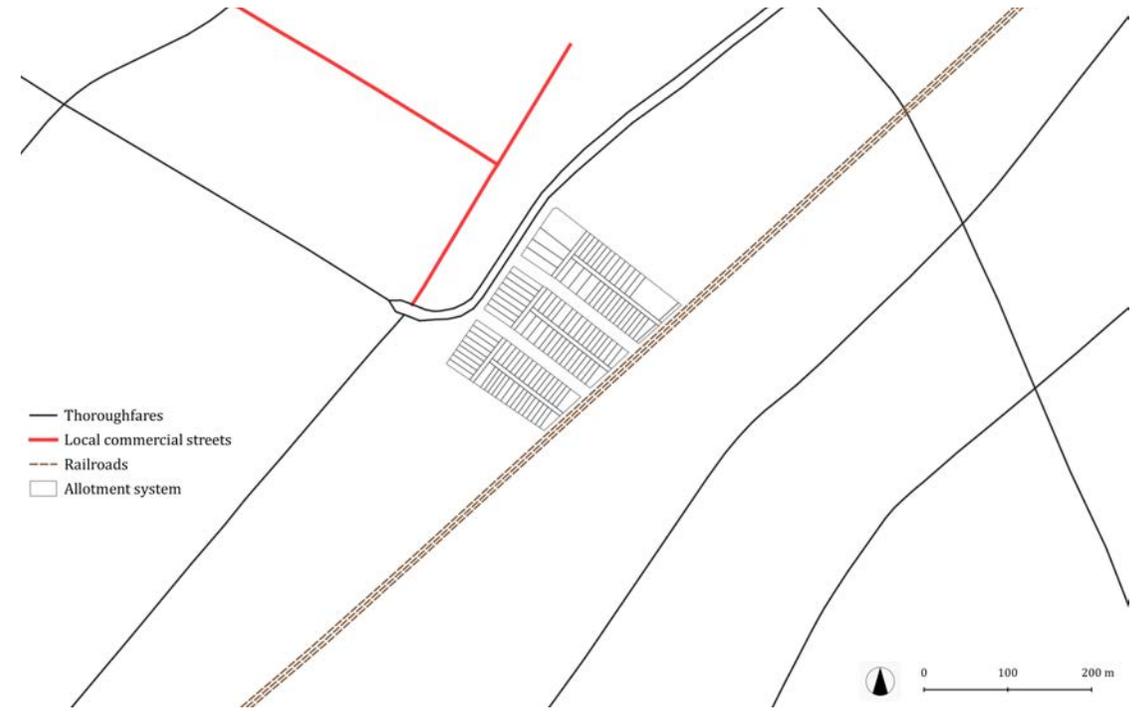


Figure 5. Specialized routes

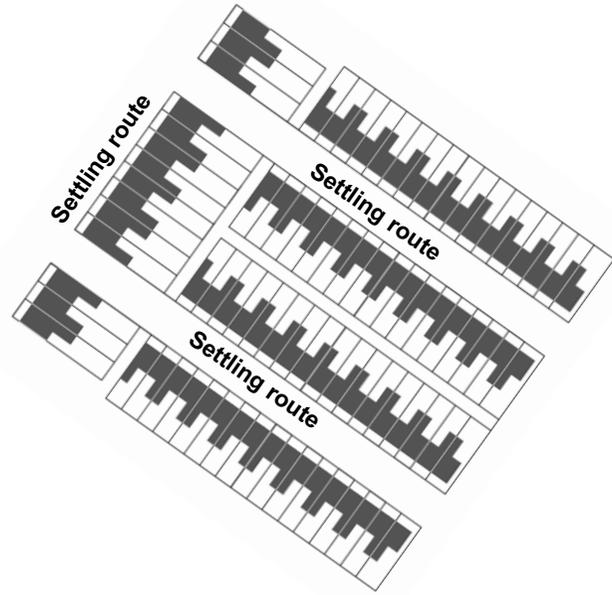


Figure 4. Face-block (Contrada) Structure

(93.3% of the stock), single-family buildings (69.4%) or two-family buildings of the duplex type (24.5%). Most buildings display an L-shaped footprint. The latter extend lengthwise in the longitudinal direction of the lots. All buildings conform to a front setback of approximately 3.5 meters and have a backyard partly occupied by a parking area that is accessed by an alley. These general conditions translate into a high overall lot coverage ratio of 0.43.

### The streetscape

The streetscape of this unit is characterized by the prevalence of orthogonal streets, bordered by sidewalks and aligned trees. Public space is framed by adjacent buildings comprising two floors in addition to a partially aboveground foundation wall. The ground floor elevation varies between 1.6 to 3.5 meters above the sidewalk level. Access to the ground floor of buildings thus requires the ascent of an exterior staircase. The front setbacks are adorned with small landscaped gardens,



**Figure 6.** Spatial syntax of the tissue

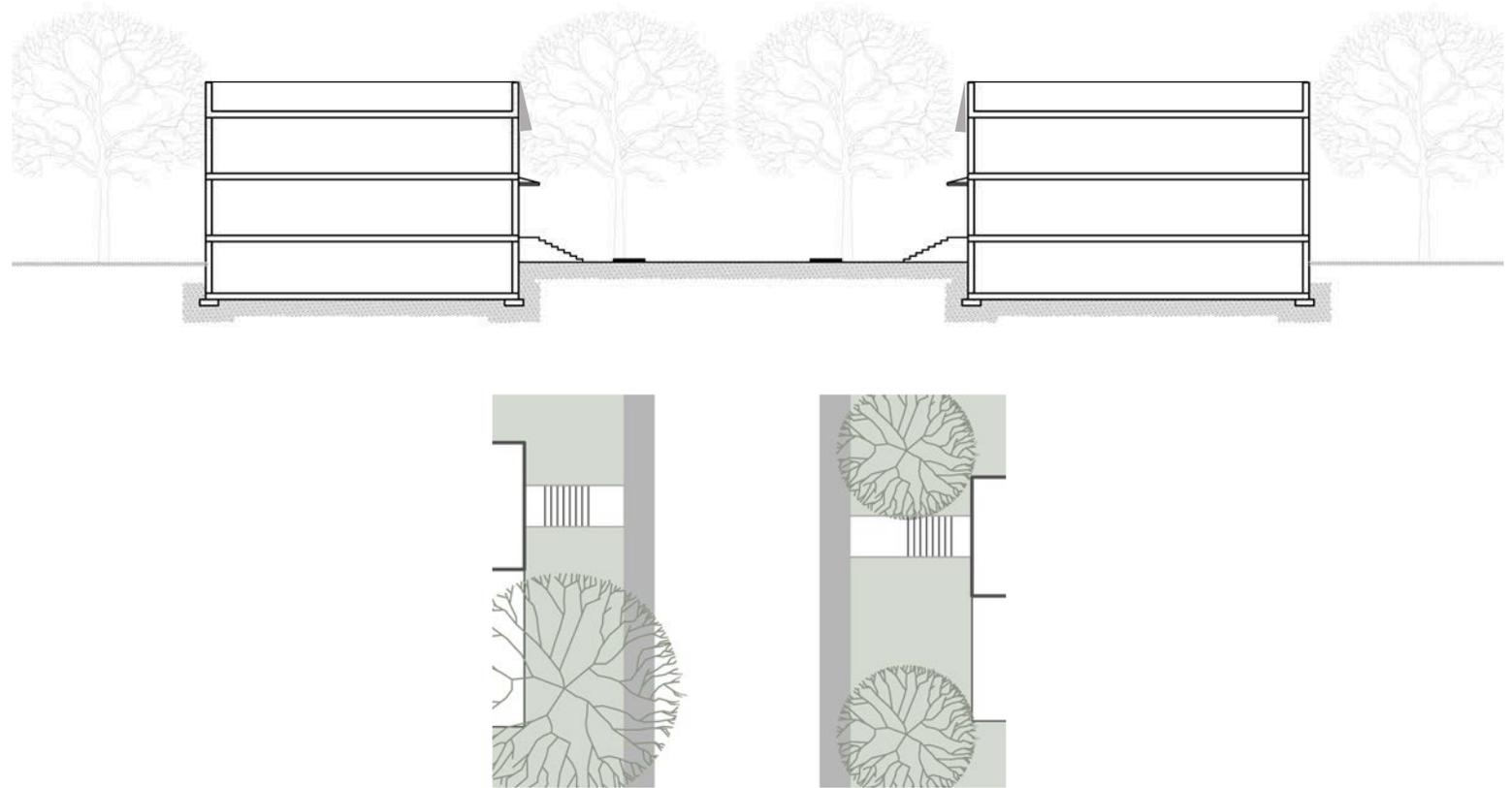
composed of lawn and low shrubs.

The façades all have brick or stone cladding. The architectural expression of the façades, inspired by the Queen Anne style, is enhanced by the presence of oriels, balconies, false-mansard cornices adorned with dormer windows. Figure 7 shows section and siting layout views representative of the streetscape, such as on Columbia Avenue.

**Public-collective / private-domestic spaces**

The streetscape strongly conditions the experience of users, while denoting the architectural identity of a place. Several physical and spatial features of the streetscape also assume an essential function of architecture, namely the mediation between public-collective space and private-domestic space.

The physical and spatial features ensuring the



**Figure 7.** Typical section and siting layout views on a settling route (view towards the northwest)

mediation between these spaces in the unit pertain to the presence of setbacks and the raising of the ground floor, which is accessed by an alley and a staircase leading to an external landing protected by a projecting roof. Given the modest dimension of the front setbacks, at around 3.5 meters, it is mainly the elevation of the ground floor as well as the height of the windowsills on this floor that are the main guarantors of the privacy of the domestic space.

**Composition of the residential building stock**

Figures 8, 9 and 10 illustrate the spatial distribution of residential buildings according to the number of dwellings per building, their number of floors, as well as their mode of aggregation. The unit does not display any specific spatial trends concerning said characters and morphological properties.

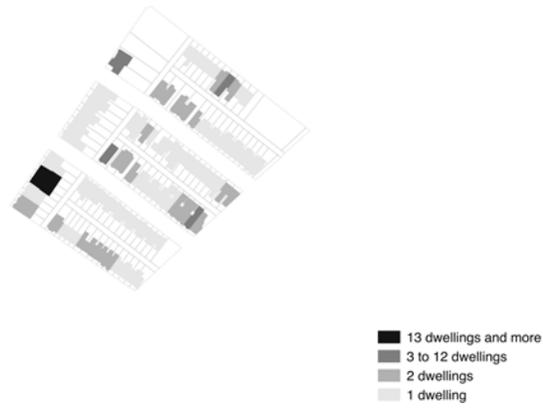


Figure 8. Spatial distribution of the dwelling units per building



Figure 10. Spatial distribution of buildings according to their mode of aggregation

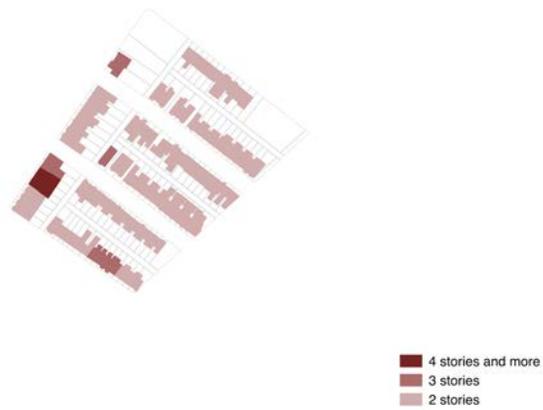
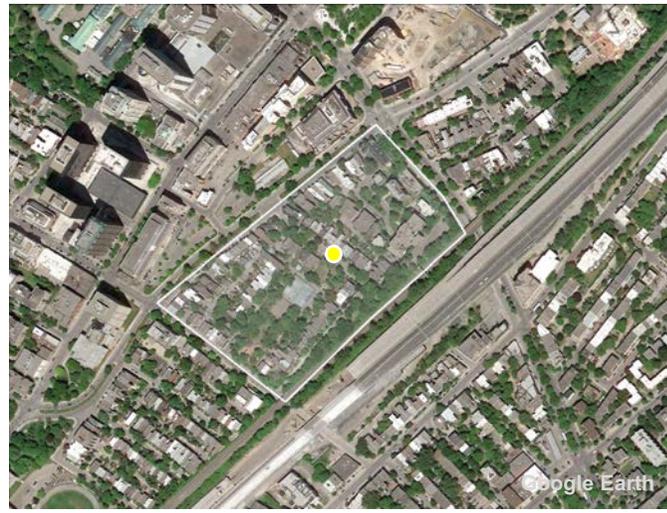
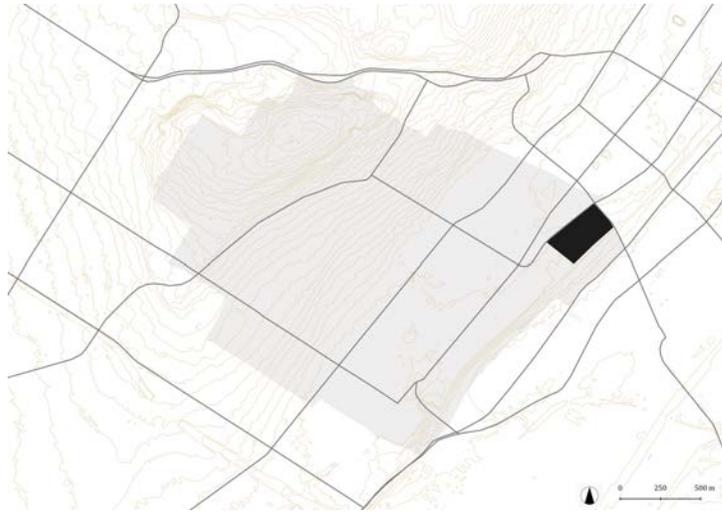


Figure 9. Spatial distribution of buildings according to their number of floors



## Landscape unit 30

Analytical fact sheet

### Location

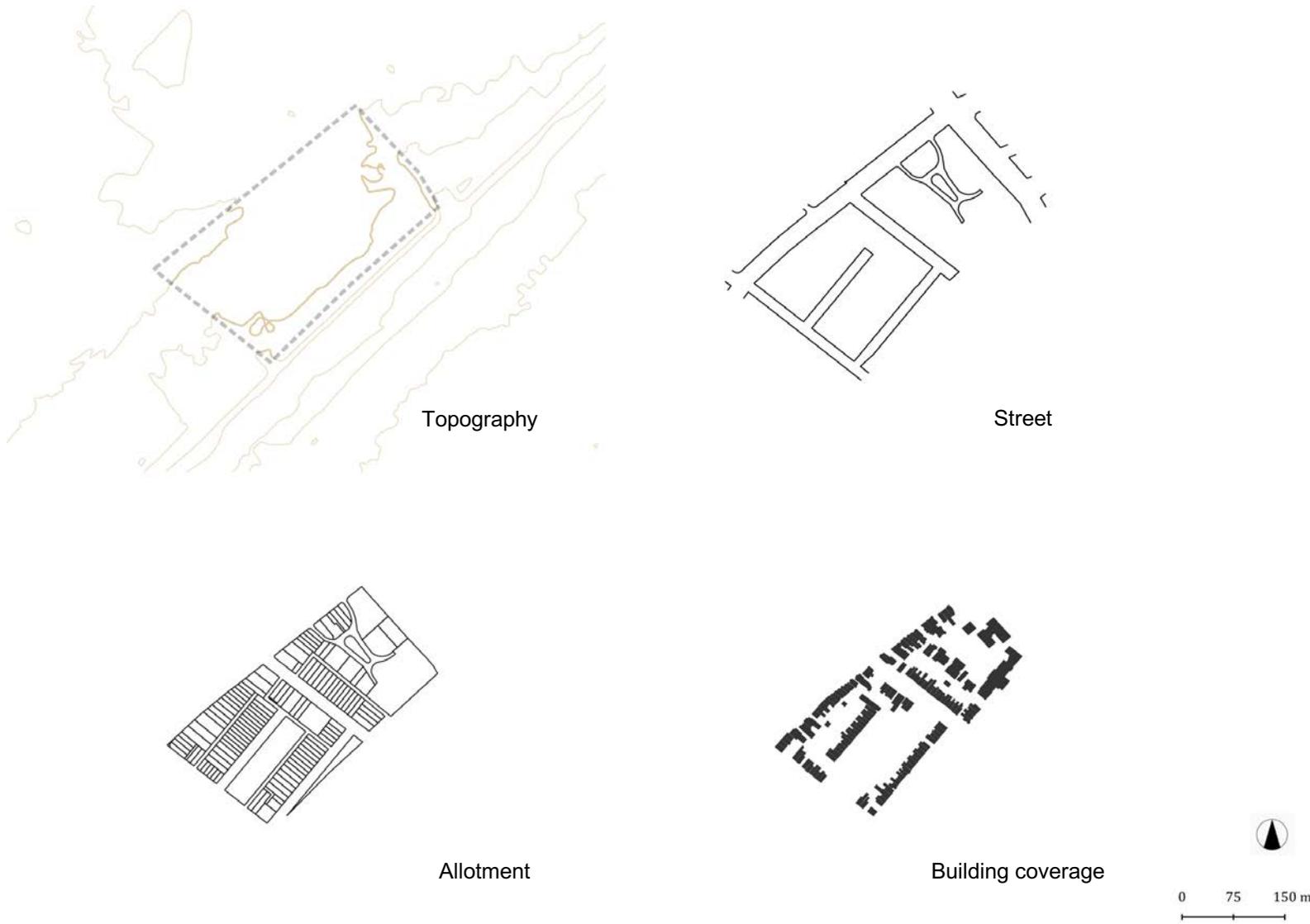
Landscape unit 30 is located on the Westmount plateau, nearby Saint-Jacques escarpment. It is bordered to the southeast by the tracks of Canadian National Railway, thence, clockwise, by Greene Avenue to the southwest, then by Dorchester Boulevard on the northeastern side, and finally, by Atwater Avenue to the northeast.

### Brief description

Spanning 7.28 ha, this landscape unit is composed of 248 housing units distributed in 123 buildings, in addition to three parks (Stayner, Prospect and Weredale), a worship temple (Saint Stephens Church) and a few institutional buildings. The housing stock is made up of single-family buildings at of 70.7%, and of two-family duplex-type units at 17.1%, producing a gross residential density of 34.1 dwellings per hectare and a net density of 49.7 dwellings/ha.



Figure 1. Landscape unit 30



**Figure 2.** Subsystems of the tissue

**Subsystems of the tissue**

The unit is located on the Westmount plateau near the railway and the Saint-Jacques escarpment. It is primarily deployed on flat land, except for lots on Prospect Street, which displays a slight slope to the southeast. The orthogonal street system delineates two urban blocks of irregular shapes and dimensions, each surrounded by a public park. The allotment presents an irregular and seemingly chaotic pattern. The residential building coverage

is mainly composed of attached buildings (72%) that form compact aggregates.

**Routes hierarchy**

Figure 3 maps the routes of the landscape unit according to their category. Dorchester Boulevard West, which corresponds to the former Petite-Côte-Sainte-Antoine Road, is a matrix route for the tissue. The same is true of Atwater Avenue in this part of Westmount. Prospect Stayner and

Weredale Park streets, as well as Clandeboye Avenue, are all settling routes, created since their inception to carry lots and buildings that have their addresses on them. Greene Avenue underwent a restructuring in its southeastern part in order to make it cross the cliff and thus connect it to Sainte-Antoine Street West at the foot of the escarpment. This avenue is thus considered to be a breakthrough route in the area.

*Specialized routes*

Two major thoroughfares serve the landscape unit: Dorchester Boulevard West, which is an extension of Boulevard René-Lévesque West, and Atwater Avenue, which is oriented northwest-southeast (see Part 1 p. 19-20 for an overview of the specialized routes in Westmount and its surroundings).

**Spatial syntax of the tissue**

As mentioned earlier, the unit presents tangled tissue conditions. It is nonetheless possible to recognize some consistencies and a distinct spatial hierarchy. The lots lining Dorchester Boulevard West carry buildings which all present their noble façade to the latter, marking, in so doing, the preponderance of the boulevard in the tissue system. Clandeboye and Greene avenues carry pertinent strips that run perpendicular to the boulevard, just behind its southeastern pertinent strip. Hierarchically, these avenues have a second-tier settling route status. In the urban block located to the southwest, Stayner and Prospect streets carry pertinent strips that extend behind that of Avenue Greene. These streets are third in hierarchical rank. The designation of the routes as boulevard, avenue and street is consistent with the respective position in the hierarchy of the street system here (which is the exception rather than the rule on Westmount territory!). Stayner and Prospect streets each carry only one pertinent strip, which faces a public park in both cases. Stayner Park is bordered by the pertinent strip of the eponymous street on the northwestern side as

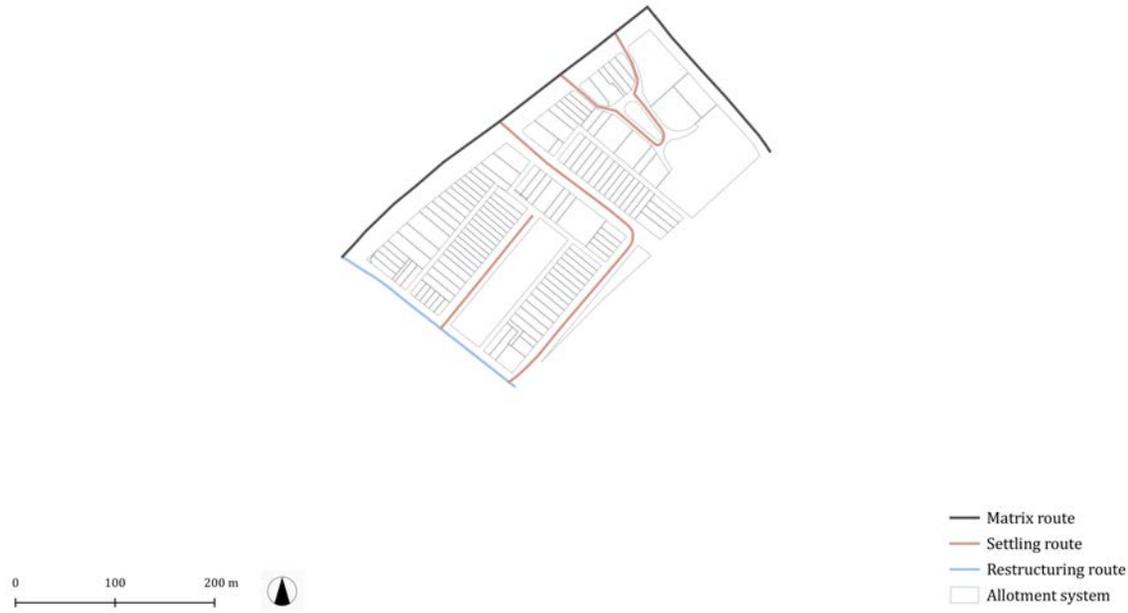


Figure 3. Route hierarchy

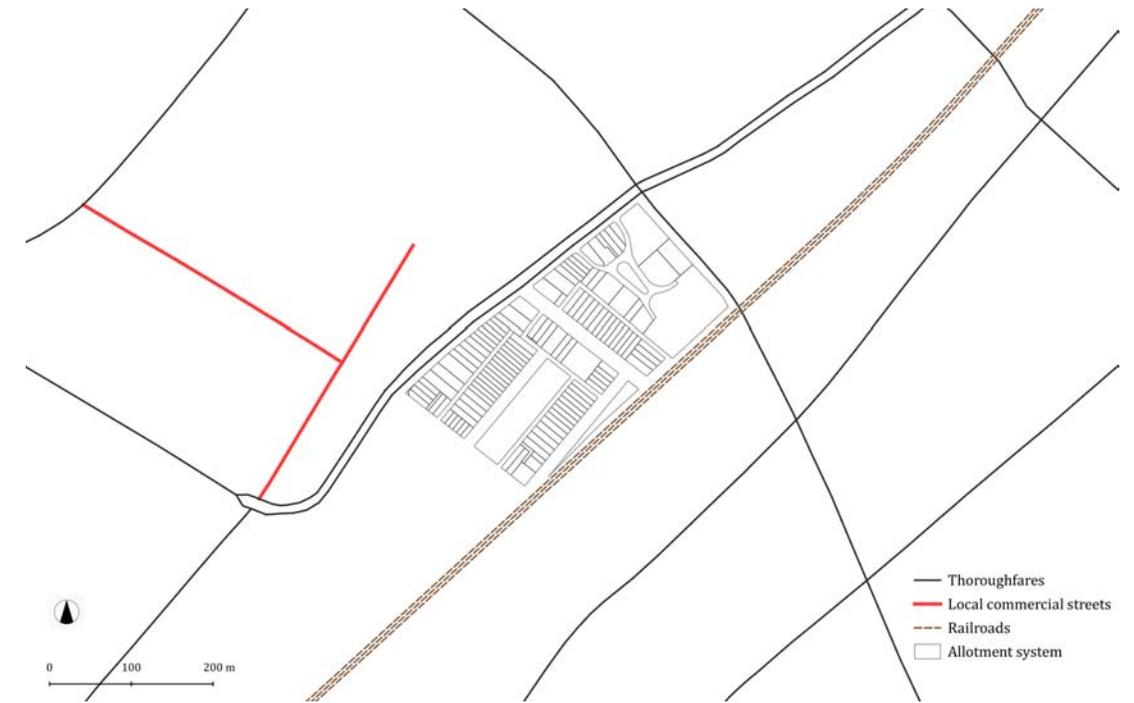


Figure 5. Specialized routes

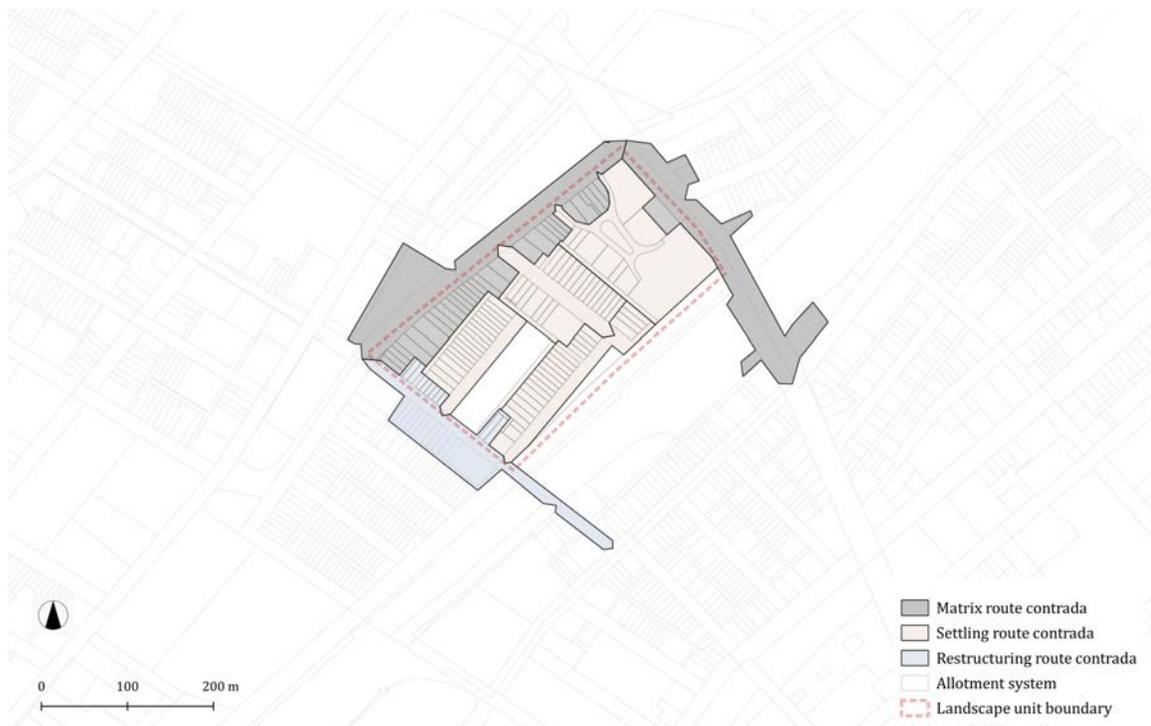
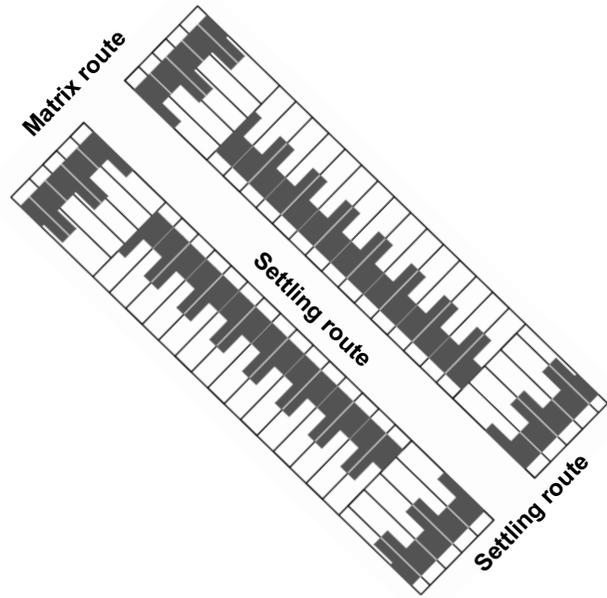


Figure 4. Face-block (Contrada) Structure

well as by the alley behind the pertinent strip of Prospect Street, on its southeastern side. This configuration is incongruous relative to the usual spatial syntax rules on the Westmount plateau, as Stayner Park occupies the space that should have hosted a second pertinent strip opposite to the existing one on Stayner Street.

The conditions differ in the urban block located to the northeast of the unit, but these are no less unusual. In this case, a loop route, Weredale Park Street, runs through the heart of the block, where it serves residential and specialized lots that have their addresses on it. Figure 4 illustrates the structure of the face-blocks associated with said tissue configuration. Despite the exceptional conditions described above, the landscape unit has a certain number of more expected characteristics, in particular concerning the modularity of its lots and its residential architectural types.

Most oblong lots conform to modular lot dimensions of about six meters (20 ft) onto the

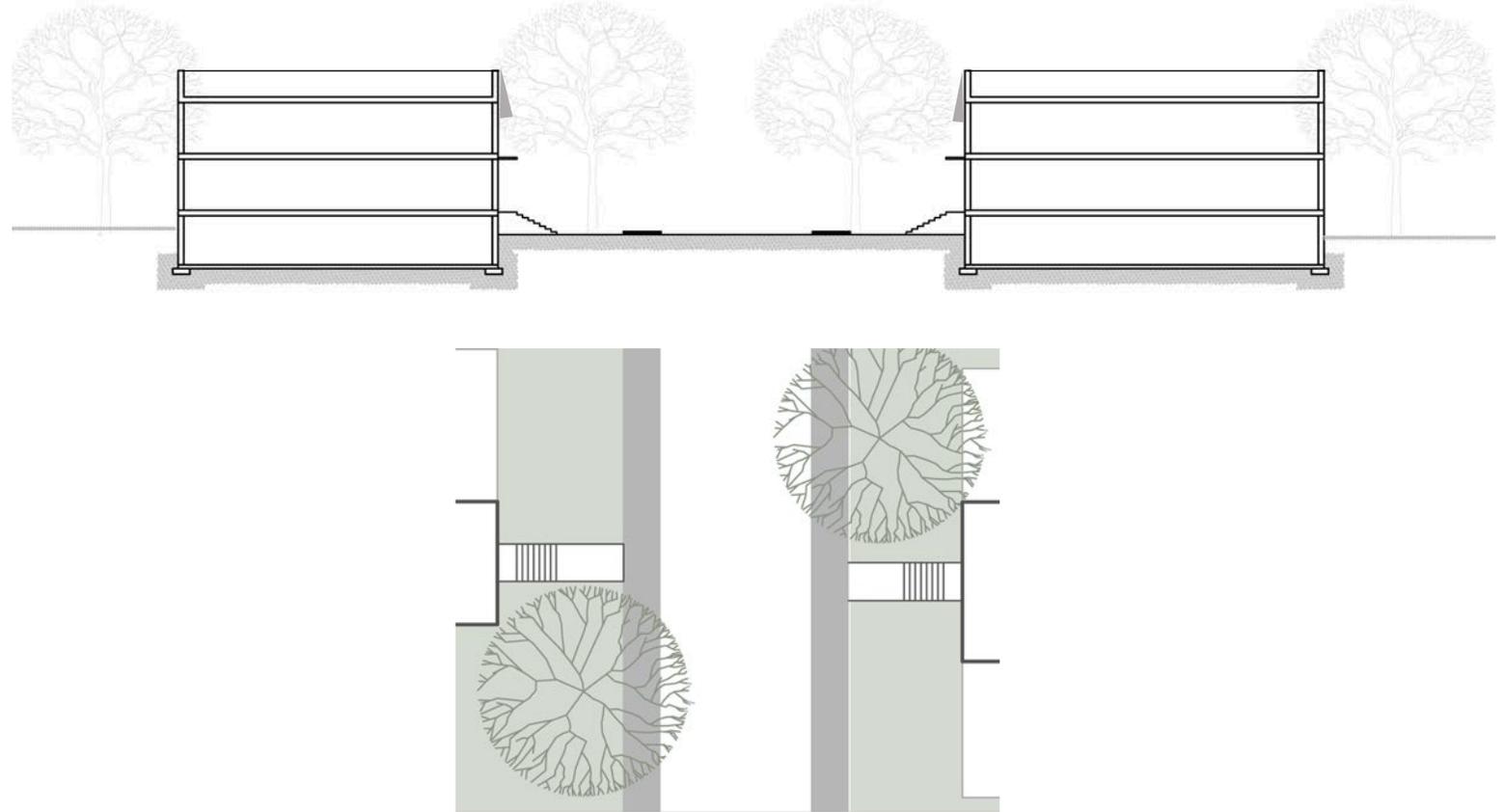


**Figure 6.** Spatial syntax of the tissue

street by 38 meters (125 ft) in depth. Some lots are 7.6 meters (25 ft) wide onto the street. Together these lots mainly serve single-family (70.7%) and two-family duplex-type buildings (17.1%), which are complying to attached (72%), semi-detached (11.2%) and detached (16.8%) modes of aggregation respectively. Like the lots that carry them, the buildings are deeper than they are wide onto the street. The majority displays an "L" shaped footprint. All the buildings conform to a front setback of about 4 meters and have a backyard partly occupied by a parking space and, as the case may be, by a garage that is accessed by a back-alley. These overall conditions translate into an overall lot coverage ratio of 0.35.

**The streetscape**

The streetscape of this unit is characterized by the prevalence of orthogonal streets, bounded by sidewalks and aligned trees, though the trees' presence is sometimes more sporadic. The architectural framing of the public space is ensured by a tightly knit built fabric composed



**Figure 7.** Typical section and siting layout views on a settling route (view towards the northwest)

predominantly of attached and semi-detached buildings, with two floors (74.1% of the stock) or three floors (22.3%) above ground, in addition to a partially aboveground foundation wall. The elevation of the ground floors relative to the street spans approximately from 1.85 to 2.75 meters in height (and even to more than 3.2 m in the specific case of Prospect Street). Access to the ground floor of the buildings thus requires the ascent of an exterior staircase. The front setbacks are adorned with small landscaped gardens, composed of lawn and often quite luxuriant flower beds and shrubs.

The façades all display brick or stone cladding. The architectural expression, inspired by Queen Anne or the Arts and Crafts styles, manifests a certain exuberance. The façades are articulated and are enhanced by many architectural features such as projections, oriels, balconies, and cornices

of the false mansard variety that are abundantly ornamented. Figure 7 shows section and siting layout views representative of the streetscape, as observable on Clandeboye Avenue.

**Public-collective / private-domestic spaces**

Several physical and spatial features of the streetscape assume an essential function of architecture, namely the mediation between public-collective space and private-domestic space. In the unit, this mediation is ensured by the front setbacks and by an elevation of the ground floor, accordingly accessed by a walkway and a staircase leading to an external landing protected by a projecting roof. The front setbacks being modest, at about 4 meters, it is mainly the elevation of the ground floor from 1.85 to 3 meters above the level of the sidewalk approximately, as



Figure 8. Spatial distribution of the dwelling units per building



Figure 10. Spatial distribution of buildings according to their mode of aggregation

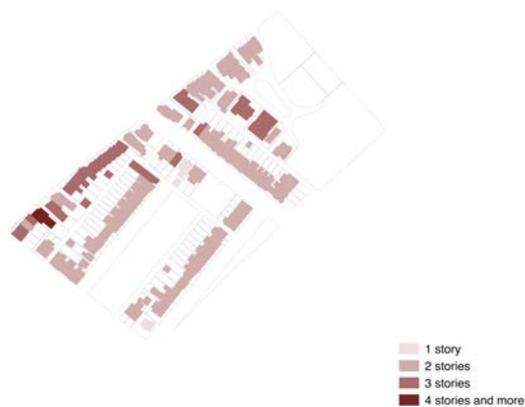
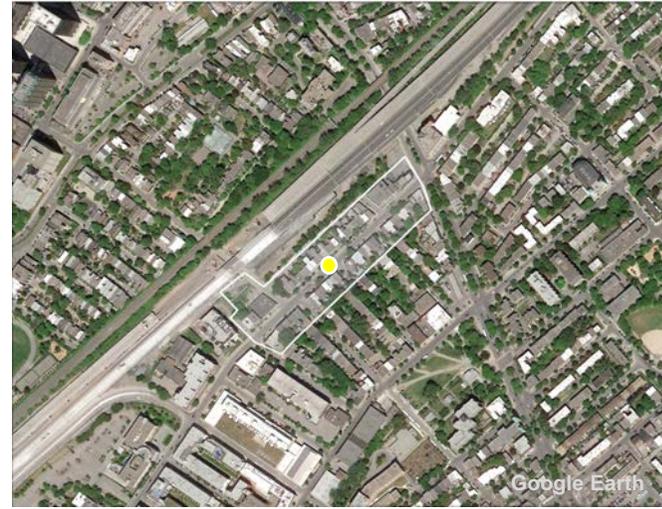
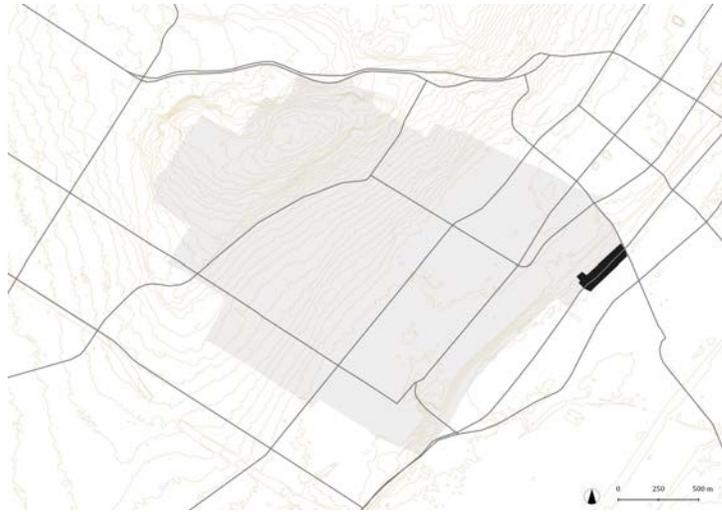


Figure 9. Spatial distribution of buildings according to their number of floors

well as the height of the windowsills on the said floor, that guarantee the privacy of the domestic space.

**Composition of the residential building stock**

Figures 8, 9 and 10 illustrate the spatial distribution of residential buildings according to the number of dwellings per building, their number of floors and their mode of aggregation. The unit does not display specific spatial trends, apart from a concentration of 3-storey buildings on Dorchester Boulevard West.



## Landscape aggregate 31\*

Analytical fact sheet

### Location

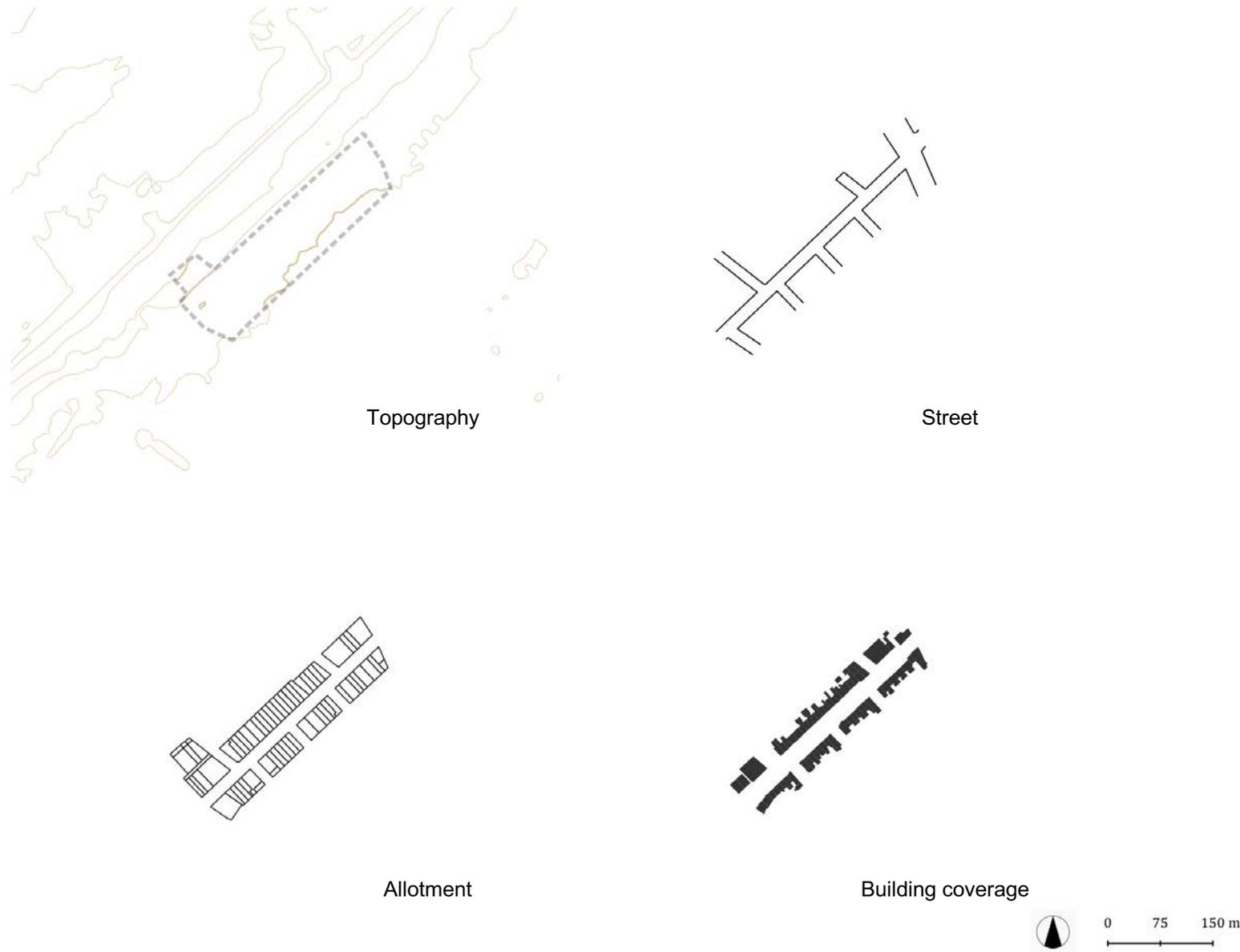
Landscape aggregate 31\* is located at the foot of the Saint-Jacques escarpment, to the southeast. It is bordered on the said direction by the allotment parting line located behind the properties located on this side of Sainte-Antoine Street West, thence, clockwise, by Greene Avenue to the southwest, then by the cliff on the northwestern side and finally, by Atwater Avenue to the northeast.

### \*Explanatory note

As delimited, landscape aggregate 31 is located for a half in Westmount (on the northwestern side of Sainte-Antoine Street West) and located for the other half in the Saint-Henri district of the Sud-West borough of the city of Montréal (on the southeastern side of the said street). Strictly speaking, the aggregate in question is part of a much larger landscape unit, most of which is located on the Saint-Henri's territory. A thorough morphological analysis would generally require a probing of the whole landscape unit. However, given the very modest area that falls under the jurisdiction of the city of Westmount, it seemed more reasonable to limit the analysis to the



Figure 1. Landscape aggregate 31



**Figure 2.** Subsystems of the tissue

face-block deployed on both sides of Sainte-Antoine Street West. We deem the unit an aggregate, to avoid any confusion.

**Brief description**

Spanning 3.2 ha, this landscape aggregate is composed of 185 housing units distributed in 51 buildings and a park (Selby). The housing stock is made up of 63.2% of triplexes, in addition to 13.7% of duplexes and 9.8% of single-family buildings, producing a gross residential density of 57.8 dwellings per hectare and a net density of 91.5

dwellings/ha.

**Subsystems of the tissue**

Although leaning against a cliff, the built-up portion of the aggregate presents a topographic profile mostly flat. The street network is orthogonal. The main street segment, oriented northeast-southwest, carries two pertinent strips that receive residential buildings of the plex variety, which largely conform to the attached mode of aggregation (86.5%).

**Routes hierarchy**

Figure 3 maps the routes of the landscape aggregate according to their category. Atwater Avenue, which borders the area to the northeast, is a matrix route for the tissue. Sainte-Antoine Street West and the routes that connect to it are all settling routes, except for Brooke Avenue, which is a connecting route, and Greene Avenue, which is a break-through route in this sector. The latter has been extended beyond the Westmount plateau into the cliff in order to connect it to Sainte-Antoine Street West, which runs at the foot of the escarpment.

*Specialized routes*

Major thoroughfares serve the landscape aggregate. These are Atwater Avenue, which connects several neighbourhoods located on both sides of the Saint-Jacques escarpment, as well as Sainte-Antoine Street West and Saint-Jacques Street. These streets form a pair that acts as a major thoroughfare running at the foot of the cliff, respectively taking charge of the northeast bound and southwest bound traffic. Part 1 (p. 19-20) provides a useful overview of the specialized routes in and around Westmount.

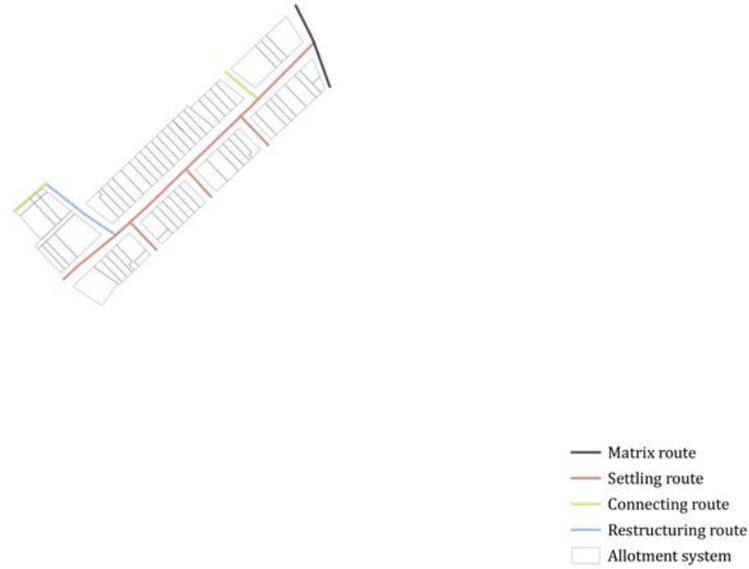


Figure 3. Route hierarchy

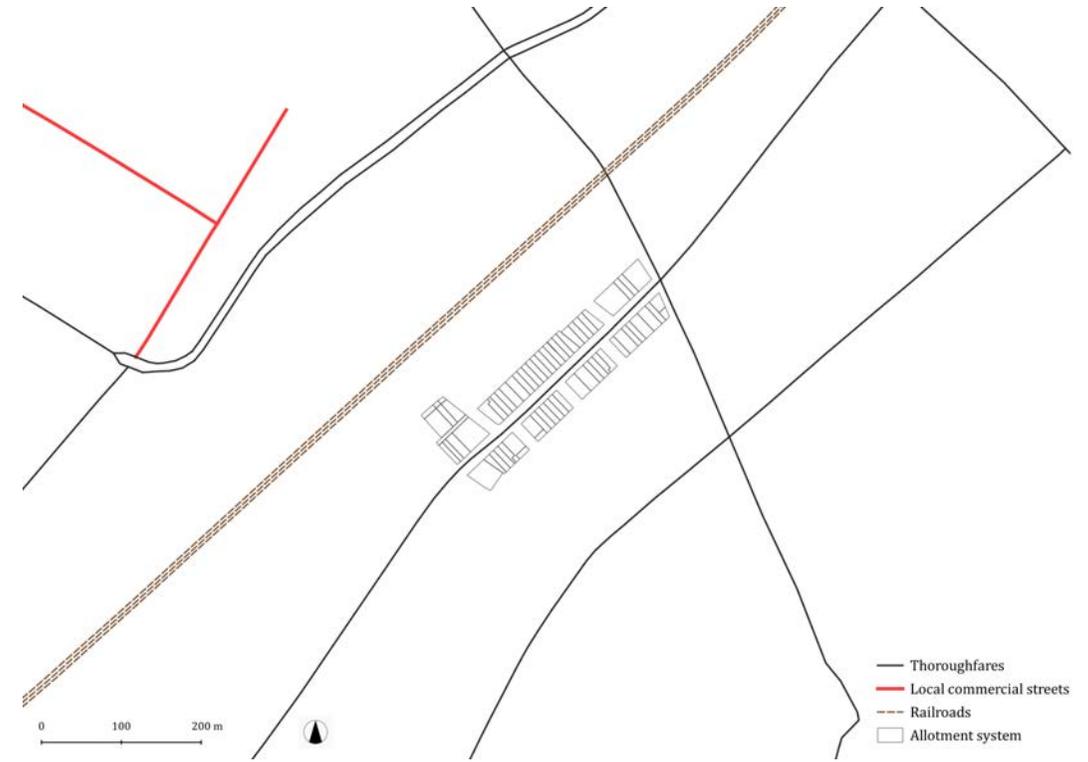


Figure 5. Specialized routes

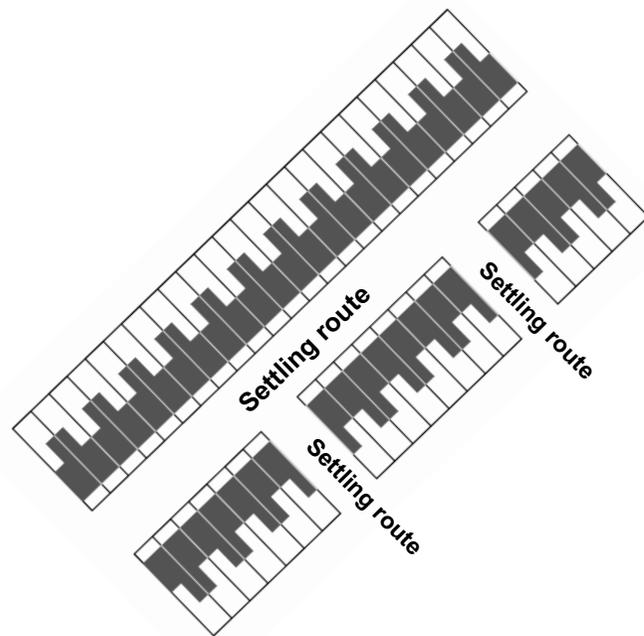


Figure 4. Face-block (Contrada) Structure

### Spatial syntax of the tissue

As delineated, the aggregate is exceptionally modest in size, consisting of only three face-blocks, including the largest segment, deployed on Sainte-Antoine Street West, which is split in the middle between the territory of Westmount and that of Saint-Henri (Figure 4). This segment consists of three pertinent strips to the northwest and four strips in Saint-Henri on the southeastern side. The last strips act as heads of the blocks that they bound. The urban blocks in question are deployed between Sainte-Antoine Street West and Saint-Jacques Street, which also carries heads of the blocks at their other end. Each of the four blocks is composed of four pertinent strips and is served by an alley in the shape of an "H."

The pertinent strips located northwest of Sainte-Antoine Street West, in Westmount, present a continuous front on this street, except for interruptions due to the presence of two perpendicular streets, Greene and Brooke

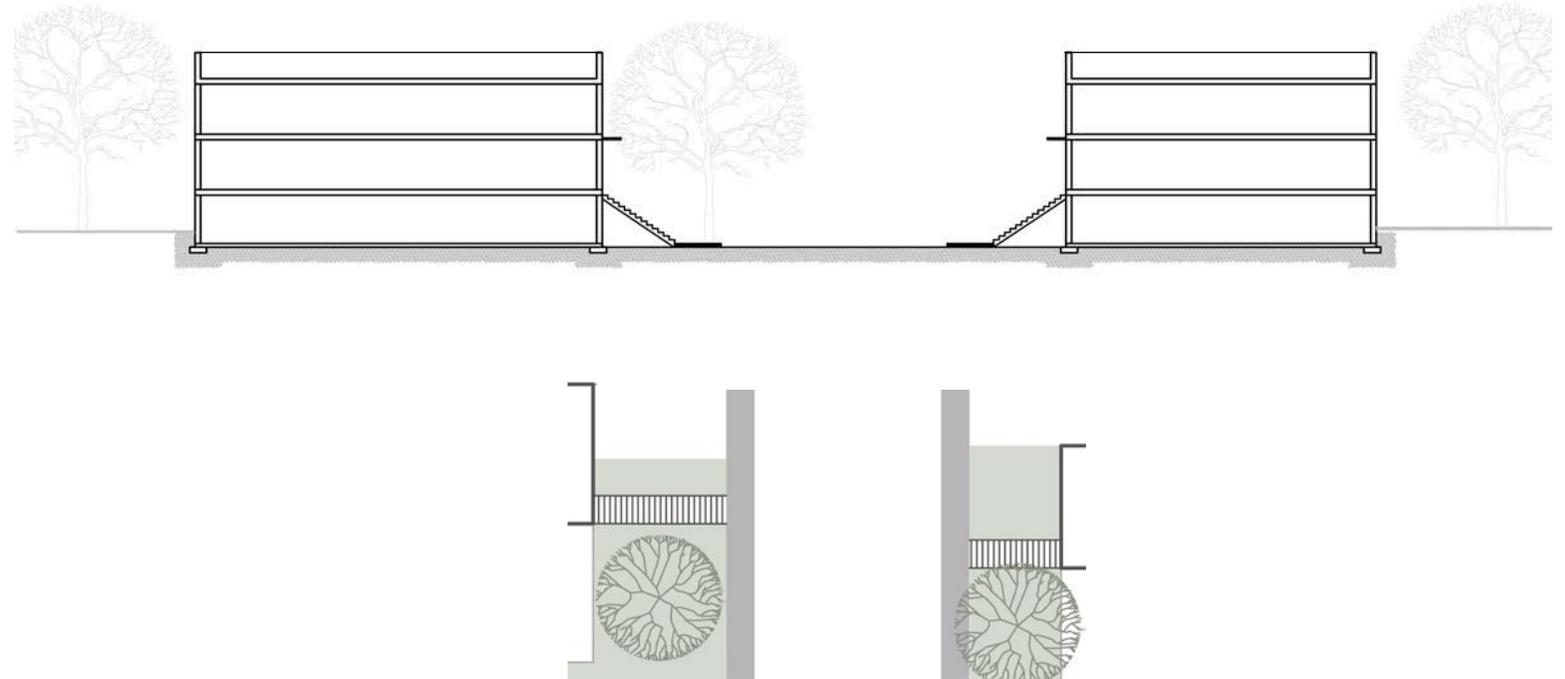


**Figure 6.** Spatial syntax of the tissue

avenues. It is of interest to note that all the lots and buildings that line Sainte-Antoine Street West present their noble façades to the latter.

Figure 4 illustrates the structure of the face-blocks. In addition to the general conditions described above, one can notice that Brooke Avenue, which is otherwise configured as an alleyway, carries two lots of its own, cut out of the pertinent strip of Sainte-Antoine Street West. Selby Street carried until very recently two buildings that had their addresses on it, but these were demolished in the wake of the reconstruction of a section of the A-720 in this area.

Figure 6 schematically illustrates the main spatial syntactic rules prevailing on Sainte-Antoine Street West. The oblong lots have a front of 7.6 meters (25 ft) onto the street and a depth of approximately 33.5 or 36 meters (110 or 120 ft). They carry terraced plex-type buildings. The buildings display L-shaped footprints, which extend lengthwise along



**Figure 7.** Typical section and siting layout views on Saint-Antoine Street West (towards the southwest)

the longitudinal direction of their lots. All buildings conform to a front setback of approximately 4 meters and have a backyard partially occupied by a parking area that is accessed by an alleyway. These general conditions translate into a high overall lot coverage ratio of 0.51.

The unit's building stock is made up of triplexes (63.2%), duplexes (13.7%), "six-plexes" (9.3%), single-family buildings (9.8%) and a few housing units located in multi-unit buildings.

### The streetscape

The public street on Sainte-Antoine Street West is bordered by sidewalks. Front setbacks are adorned with small gardens made up of low flower beds and shrubs. Many of these small gardens have a mature tree that contributes to the streetscape. The architectural framing of the public-collective space is ensured by a tightly meshed built fabric composed almost exclusively

of attached buildings with three floors above ground (86.8% of the stock). The ground floor unit is accessible at grade, and the first and second-floor units are reached by an external staircase located in the front setback, following the vernacular architectural tradition of Montréal.

The preferred material for the façade is grey stone. The architectural expression is inspired by the Queen Anne style. The roofs are flat. The façades are crowned by ornate cornices, and often adorned with false-mansard detailing.

### Public-collective / private-domestic spaces

Several physical and spatial features of the streetscape assume an essential function of architecture, namely the mediation between public-collective space and private-domestic space. In the unit, the physical and spatial features ensuring the mediation between these spaces are above all the front setbacks, as well as elevation of the ground

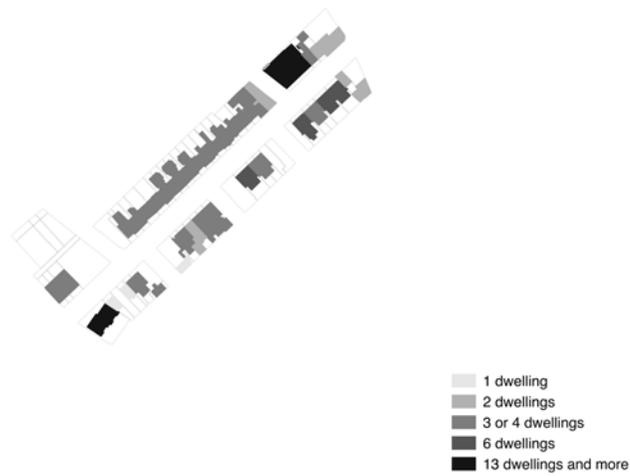


Figure 8. Spatial distribution of the dwelling units per building



Figure 10. Spatial distribution of buildings according to their mode of aggregation

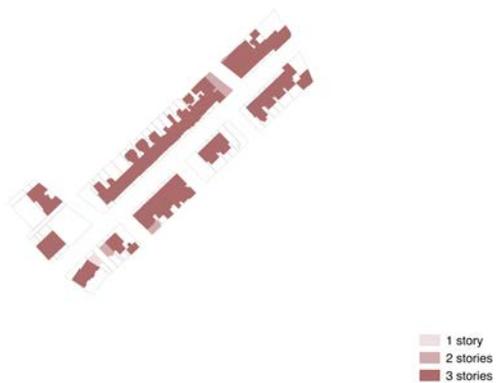


Figure 9. Spatial distribution of buildings according to their number of floors

floor relative to the street level, which entails the presence of intermediate spaces such as exterior stairs and landings, to which one could add external balconies on the upper floors, which serve similar purposes.

#### Composition of the residential building stock

Figures 8, 9 and 10 illustrate the spatial distribution of residential buildings according to the number of dwellings per building, their number of floors, as well as their mode of aggregation. The unit does not display any specific spatial trends concerning the said characters and morphological properties.

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## LEXICON

### **Allotment**

*The subsystem of the tissue constituted of lots of a tissue area, to the exclusion of the cadastral lots corresponding to the roads or other surface utilities or infrastructures right-of-way. The allotment is generally represented cartographically.*

### **Allotment parting line**

*The line formed by the cadastral limits at the back of the lots forming a pertinent strip.*

### **Attached building**

*Pertains to the mode of aggregation of buildings, in reference to a building that shares party-walls with the neighbouring buildings on both sides.*

### **Break-through route**

*A route created after the initial building phase of the tissue, which opens a breach through an urbanized area, sometimes by widening an existing route, in order to facilitate traffic flows, and generally aiming a linking two urban poles more efficiently (according to Caniggia and Maffei, 2017).*

### **Building coverage**

*The subsystem of the tissue that comprises all the buildings of a tissue area. The building coverage is generally represented cartographically by building footprints.*

### **Built environment**

*Part of the material culture, “the transformation of natural features by the deliberate application of human energy to suit human needs and purposes” (Kropf, 2017).*

### **Built landscape**

*The built environment within its broader natural and geographical contexts.*

### **Connecting route**

*A route created in order to connect two settling*

*routes with each other. In general, a connecting route does not carry lots that have their address at the origin. The spatial syntax of a connecting route at its inception entails that it is bordered by the lateral facades of buildings on the corner lots of pertinent strips of the settling routes that are perpendicular to it. Later transformations can entail the creation of lots and buildings that have their addresses on a connecting route.*

### **Detached building**

*Pertains to the mode of aggregation of buildings, in reference to a stand-alone building.*

### **Face-Block (Contrada)**

*A segment of a route between two intersections and its pertinent strips. A connecting route segment may not have pertinent strips (Caniggia and Maffei, 2017).*

### **First-tier settling route**

*A settling route bordered on both sides by buildings that all present their noble facades to it, namely by pertinent strips that act as heads of blocks. This condition is primarily observed in the context of planned subdivisions, where it reproduces the spatial syntax of a matrix route, though on a route whose existence does not predate the urbanization of the zone.*

### **Gross residential density**

*The total number of dwellings divided by the total area of the landscape unit. The unit of measurement is in dwellings/hectare.*

### **Head of the block (tête d’îlot)**

*The pertinent strip of the matrix route of the tissue or a first-tier settling street.*

### **Institutive phase**

*The phase during which the majority of the lots subdivided to this end, receive a first generation of buildings (Conzen, 1981).*

**Landscape unit / Built landscape unit**

*A cohesive residential urban area unveiled by the analysis (cf. Type of tissue; Basic tissue)*

**Local commercial street / Local high street**

*A specialized street that carries convenience retail, which is generally centrally located in the residential region that it serves.*

**Lot**

*The area corresponding to a land property under private or public control, usually corresponding to a cadastral lot, including, as the case may be, an adjacent surface adjoining the public domain and subjected to a public utility easement.*

**Lot coverage ratio**

*The ratio between the area of the building footprint and the area of the lot which the latter occupies. It produces a value between 0 and 1.*

**Lot module/tissue module**

*Unit of land whose dimensions and configuration have served as a customary reference for the plotting during the institutive phase of an urban tissue.*

**Matrix route**

*A route created before the urbanization of the zone, which becomes a vector of urbanization according to the theoretical model of the morphogenesis of residential tissues by Caniggia and Maffei (2017). Initially laid out in rural areas where it tends to conform to natural conditions of the landscape, a matrix route often conserves a curvilinear configuration. The spatial syntax of the matrix route entails that it is bordered on both sides by buildings that generally all present their noble facades to it.*

**Mereological property**

*Property of the form that refers to the relationship of the parts to the whole.*

**Metrological property**

*Property of the form that refers to the geometric*

*dimensions.*

**Mode of aggregation**

*Refers to the associative modalities of residential buildings in the urban tissue. Stand-alone buildings are deemed detached; two adjacent buildings sharing a party-wall are deemed semi-detached, buildings that are part of a contiguous series and which are sharing party-walls are deemed attached.*

**Morphometric property**

*Property of the form that refers to the geometric figure and the conformation.*

**Net residential density**

*The total number of dwellings divided by the total area of residential lots of the landscape unit. The unit of measurement is in dwellings/hectare.*

**Pertinent strip**

*A series of contiguous built lots, adjacent to a segment of a route between two intersections, on which these lots have their addresses. The buildings of the series all present their main, or noble, façades on this segment of the route.*

**Relative position**

*Expresses a relationship between two spatial components.*

**Residential tissue/Basic tissue**

*Tissue (of an area of, or superior to, 2.5 hectares for the purposes of the present study) mainly composed of built residential lots and routes that serve them, and that may include some non-residential lots carrying functions complementary to this function (such as schools, temples, convenience stores, green spaces).*

**Route hierarchy**

*Refers to the belonging to one of the four categories of routes, which are: matrix route, settling route, connecting route and break-through route.*

**Secondary building**

*Non-residential annex building on a residential lot.*

**Second-tier settling route**

*A settling route presenting a spatial syntax typical for this type of route, which distinguishes it from first-tier settling routes in a context of the planned subdivision where such a hierarchy prevails.*

**Semi-detached building**

*Pertains to the mode of aggregation of the buildings, in reference to a building that shares a party-wall with one neighbouring building.*

**Settling route / Planned building route**

*Route created in a context of spontaneous or planned subdivision in order to accommodate urban lots that have their addresses on it. According to the theoretical model of morphogenesis of residential tissues of Caniggia and Maffei (2017), in the context of spontaneous development, the settling routes are laid out from the matrix route and perpendicularly to the latter. The spatial syntax of the settling route entails that it is bordered by the lateral facades of buildings on the corner lots of the matrix routes permanent strips, and then by the noble façades of buildings situated on its own pertinent strips.*

**Spatial syntax (rules of)/Spatial syntactic rules**

*Rules governing the spatial relations between components of the anthropic environment in relation to metrological, morphometrical and mereological properties, and relative position.*

**Specialized tissue**

*Tissue (of an area of, or superior to 1,5 hectares, for the purposes of the present study) mainly composed of built lots carrying non-residential functions (such as intensive commerce, industry, large park), as well as the routes that serve those.*

**Street network**

*The subsystem of the tissue constituted of all the routes of a tissue area. The street network is generally represented cartographically.*

### **Streetscape**

*The natural or built elements that are visible from the public collective space of the street, which compose the latter street or contribute to its framing.*

### **Structure of permanence**

*The set of traces and historical layouts of the urban form that subsist as testimony of its past and of the collective memory (Lévy and Spigai, 1989).*

### **Theoretical model of the tissue**

*Diagrammatic cartographic representation illustrating the spatial syntactic rules of the tissue.*

### **Thoroughfare (Major)**

*A specialized route granted with a high level of arteriability (Marshall, 2005) – i.e. connected to streets or road infrastructures of similar or superior topological status, such as or controlled-access highways –; which spans over the length of more than one landscape unit, to which it provides access; that often allows for the crossing of urban barriers, and; that tend to be located on, or nearby, the boundaries of landscape units (adapted from Buzzetti, Gauthier and MacDougall, forthcoming).*

### **Urban barrier**

*Zone of extensive urban territory (areas larger than 2.5 hectares) affected by linear or areal spatial discontinuities induced by natural elements or human works, where crossing on foot is tiring, difficult or impossible, dangerous or prohibited (adapted from Spigai, 1995).*

### **Urban block**

*The urban area composed of one single built lot or a group of contiguous built lots and delineated by interconnected route segments and, as the case may be, by such segments and an urban barrier.*

### **Urban form**

*The spatial arrangement of artifacts and natural features of a human settlement.*

### **Urban morphology**

*A scientific field dedicated to “the study of human settlements, their structure and the process of their formation and transformation.” (Kropf, 2017). Mainly centred on artifacts and spatial forms, it conceives the built environment as a dynamic system (Gauthier and Gilliland, 2005).*

### **Urban tissue/Urban tissue type**

*The urban tissue type, or urban tissue, for short, is the set of spatial syntactic rules governing the mutual arrangement of buildings, lots and routes, and ensuring the coherence of the whole. This set of rules is associated with a cultural model, which is generally carried unconsciously by the agents while being manifested in their building and dwelling practices and concretize, or reified, in the artifacts and spatial forms. The said rules are unveiled retrospectively by the morphological analysis (according to Caniggia and Maffei, 2017; Gauthier, 2003).*

## **APPENDIX 1**

### **Comparative table of the landscape units**

This section presents a comparative table of the landscape units of Westmount, which allows for a quantitative comparison of the primary architectural and tissue attributes and properties.

Typo-morphological portrait of Westmount

Unit	Area (ha)	Tot No. Resi. Bldg	Tot No. DU	Gross Dens(DU/ha)	Net Dens(DU/ha)	Slope	Bldg 1 DU	Bldg 2 DU	Bldg 3-12 DU	Bldg 13+ DU	Bldg 1 FLR	Bldg 2 FLR	Bldg 3 FLR	Bldg 4+ FLR	Bldg Det.	Bldg Semi-det.	Bldg Att.	Front setbacks	Lot coverage ratio
1	15.6	211	213	13.7	19.2	3.18°	99.1%	0.9%	0.0%	0.0%	3.3%	96.2%	0.5%	0.0%	29.9%	70.1%	0.0%	4/6m	0.38
2	19.86	132	133	6.7	10.4	5.237° - 0°	99.2%	0.8%	0.0%	0.0%	24.2%	75.8%	0.0%	0.0%	100.0%	0.0%	0.0%	4.5/8.5/4m	0.41
3	35.62	247	253	7.1	9.5	14.026°	97.6%	2.4%	0.0%	0.0%	6.1%	87.4%	6.5%	0.0%	94.4%	5.6%	0.0%	4/10m	0.35
4	3.91	28	28	7.2	8.4	8.765°	100.0%	0.0%	0.0%	0.0%	7.1%	92.9%	0.0%	0.0%	92.9%	7.1%	0.0%	5/7.5/9m	0.47
5	5.16	62	62	12.0	17.0	3.404°	100.0%	0.0%	0.0%	0.0%	24.2%	74.2%	1.6%	0.0%	67.7%	32.3%	0.0%	4/7m	0.3
6	26.24	389	395	15.1	20.9	4.038°	98.7%	1.0%	0.3%	0.0%	2.1%	97.4%	0.5%	0.0%	18.0%	82.0%	0.0%	6m	0.37
7	5.43	95	95	17.5	26.5	4.97°	100.0%	0.0%	0.0%	0.0%	1.1%	98.9%	0.0%	0.0%	17.9%	82.1%	0.0%	3/4/5m	0.43
8	4.39	36	37	8.4	12.0	5.732°	97.2%	2.8%	0.0%	0.0%	0.0%	97.2%	2.8%	0.0%	91.7%	8.3%	0.0%	5/15m	0.26
9	19.31	208	210	10.9	14.3	5.229°	99.0%	1.0%	0.0%	0.0%	3.9%	92.8%	3.4%	0.0%	59.6%	35.1%	5.3%	3.5/5/8m	0.3
10	4.39	48	98	22.3	27.6	5.226°	72.9%	18.8%	6.3%	2.1%	4.2%	87.5%	6.3%	2.1%	7.8%	45.1%	47.1%	3/5m	0.45
11	9.49	152	155	16.3	21.8	5.955°	98.0%	2.0%	0.0%	0.0%	1.3%	98.7%	0.0%	0.0%	42.8%	49.3%	7.9%	3/4.5m	0.49
12	8.98	77	78	8.7	11.7	7.06°	98.7%	1.3%	0.0%	0.0%	1.3%	98.7%	0.0%	0.0%	61.0%	39.0%	0.0%	5/11m	0.55
13	4.28	32	32	7.5	8.1	13.241°	100.0%	0.0%	0.0%	0.0%	6.3%	90.6%	3.1%	0.0%	78.8%	21.2%	0.0%	4/7.5/12m	0.34
14	2.91	24	246	84.5	107.7	0	91.7%	0.0%	0.0%	8.3%	0.0%	88.0%	4.0%	8.0%	41.4%	41.4%	17.2%	16/18m	0.63
15	5.08	41	41	8.1	11.6	7.746°	100.0%	0.0%	0.0%	0.0%	12.2%	78.0%	9.8%	0.0%	100.0%	0.0%	0.0%	3.5/6m	0.76
16	12.1	148	186	15.4	21.6	0°-5.254°	98.0%	1.4%	0.0%	0.7%	2.0%	85.1%	12.2%	0.7%	47.4%	46.2%	6.4%	3.5/6m	0.74
17	1.32	5	237	179.5	227.3	0	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	100.0%	100.0%	0.0%	0.0%	7m	0.88
18	10.75	201	333	31.0	32.1	4.335°	82.1%	12.4%	4.5%	1.0%	6.5%	87.5%	4.5%	1.5%	12.9%	33.2%	53.9%	2/3.5/5m	0.29
19	8.55	183	449	52.5	81.4	0	90.2%	7.1%	2.2%	0.5%	2.2%	87.5%	9.8%	0.5%	4.9%	11.9%	83.2%	4m	0.45
20	18.54	284	727	39.2	53.4	0°-4.2°	72.2%	16.9%	7.4%	3.5%	7.0%	79.9%	12.0%	1.1%	14.4%	21.8%	63.9%	5m	0.45
21	4.01	35	41	10.2	13.7	4.693°	82.9%	17.1%	0.0%	0.0%	2.2%	91.1%	6.7%	0.0%	77.3%	22.7%	0.0%	5/6.5m	0.33
22	2.55	48	63	24.7	34.3	0	95.8%	2.1%	0.0%	2.1%	0.0%	97.9%	2.1%	0.0%	9.8%	82.4%	7.8%	5m	0.38
23	15.97	305	594	37.2	48.8	4.26°	83.6%	11.8%	2.6%	2.0%	2.4%	89.6%	6.1%	2.0%	13.5%	42.4%	44.1%	4/5m	0.43
24	9.36	176	220	23.5	31.8	0	84.7%	11.4%	4.0%	0.0%	0.0%	91.5%	8.5%	0.0%	15.5%	22.4%	62.1%	4m	0.56
25	13.66	43	1667	122.1	162.7	0	20.9%	9.3%	9.3%	60.5%	11.6%	23.3%	20.9%	44.2%	81.0%	0.0%	19.0%	4m	0.63
26	3.66	92	142	38.8	54.7	0	78.3%	12.0%	8.7%	1.1%	2.2%	88.9%	7.8%	1.1%	7.7%	2.2%	90.1%	4m/6 m.	0.81
27	12.22	127	342	28.0	39.3	0	86.6%	5.5%	2.4%	5.5%	3.1%	83.5%	10.2%	3.1%	27.3%	60.2%	12.5%	2.5/4.5/5.5m	0.66
28	22.7	274	745	32.8	44.0	0	75.2%	12.0%	8.0%	4.7%	5.5%	72.5%	19.0%	2.9%	11.4%	6.1%	82.5%	3.5m	0.59
29	4.6	98	180	39.2	56.1	0	69.4%	24.5%	5.1%	1.0%	0.0%	91.2%	7.7%	1.1%	1.1%	5.6%	93.3%	3.5m	0.43
30	7.28	123	248	34.1	49.7	0	70.7%	17.1%	8.1%	4.1%	2.7%	74.1%	22.3%	0.9%	16.8%	11.2%	72.0%	4m	0.35
31	3.2	51	185	57.8	91.5	0	9.8%	13.7%	72.5%	3.9%	3.8%	9.4%	86.8%	0.0%	1.9%	11.5%	86.5%	4m	0.51

Comparative table of the landscape units