



# Fastfrate Distribution Centre

301 Somme Street, Ottawa, Ontario

## DESIGN BRIEF - ADDENDUM SITE PLAN APPROVAL APPLICATION

CBRE Project Number 119011

C i v i t a s   A r c h i t e c t u r e   I n c  
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## TABLE OF CONTENTS

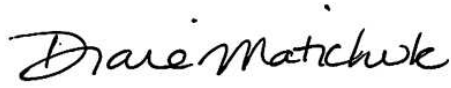
<b>EXECUTIVE SUMMARY</b> .....	<b>2</b>
<b>PREAMBLE</b> .....	<b>4</b>
<b>SECTION 1: APPLICATION</b> .....	<b>4</b>
<b>1.1. APPLICATION SUBMISSION</b> .....	<b>4</b>
<b>1.2. RESPONSE TO CITY DOCUMENTS</b> .....	<b>5</b>
<b>1.2.1. OFFICIAL PLAN</b> .....	<b>5</b>
<b>1.3. CONTEXT PLAN</b> .....	<b>9</b>
<b>1.3.1. CONTEXTUAL BACKGROUND</b> .....	<b>9</b>
<b>1.3.2. CONTEXTUAL ANALYSIS AND RESPONSE</b> .....	<b>13</b>
<b>SECTION 2: DESIGN PROPOSAL</b> .....	<b>16</b>
<b>2.1. MASSING AND SCALE</b> .....	<b>16</b>
<b>2.1.1. BUILDING MASSING</b> .....	<b>16</b>
<b>2.1.2. VIEWS</b> .....	<b>17</b>
<b>2.1.3. BUILDING TRANSITION</b> .....	<b>17</b>
<b>2.1.4. GRADING AND DRAINAGE</b> .....	<b>18</b>
<b>2.2. PUBLIC REALM</b> .....	<b>18</b>
<b>2.2.1. STREETScape</b> .....	<b>18</b>
<b>2.2.2. RELATIONSHIP TO THE PUBLIC REALM</b> .....	<b>19</b>
<b>2.3. BUILDING DESIGN</b> .....	<b>21</b>
<b>2.3.1. EXTERIOR ARCHITECTURAL DETAILS AND DESIGN</b> .....	<b>21</b>
<b>2.4. SUSTAINABILITY</b> .....	<b>27</b>

## EXECUTIVE SUMMARY

The goal of this document is to clarify how the proposed development project achieve the requirements, policies, and the objectives of the City of Ottawa, by illustrating the design work, with its existing and planned context, to demonstrate how the proposal supports the overall goals of the Official Plan, relevant secondary plans, Council approved plans and design guidelines.

The project is a fully compatible and thoughtful response to a relatively straightforward development application, in complete alignment with the City of Ottawa development guidelines and within the context of the existing Hawthorne Industrial Park. The Client, Fastfrate Inc., along with their Project Manager firm CBRE, have fully supported sound design and planning principles. They have also enabled the design development to be environmentally sensitive, improving the street presence along Somme Street, and creating a user friendly and accessible environment despite its industrial uses. The project highlights include the following:

- The Fastfrate development will create a new anchoring element to the Hawthorne Industrial Park to encourage further development and create a presence particularly to the Rideau Road and Somme Street intersection. An existing deficient public access intersection at Hawthorne and Somme Street will be upgraded under this project to the benefit of the City of Ottawa.
- Despite the challenges of large vehicle circulation area requirements, site planning has enabled the creation of an environmentally themed and aesthetic frontage to Somme Street. Transport operations have been confined to a majority of the 'back of house' areas.
- The area of the existing minor watercourse on the North side of the subject property will be environmentally preserved and augmented with new landscape to create a natural buffer to the development along Rideau Road Even though it conforms with the industrial zoning of the site, it was designed for the distance, grade elevation and natural features on the South side of Rideau Road to camouflage the utilitarian aspects from Rideau Road.
- The development is orientated to maximize solar access to the Somme Street forecourt design for pedestrians, building occupants and office-type functions. In addition, the adjacent properties will not be impacted for their own solar access.
- The new Fastfrate Ottawa facility is incorporating several sustainable techniques including the adaptive re-use and soils management of existing poor soils conditions present on the site. The roof structure is designed to accommodate future large array of solar panels and incorporates self-contained site services for water and sanitary waste. The site drainage is configured to be effective and will tie in the existing subdivision stormwater management systems.
- The design and planning of this development is leading-edge and of a higher quality in relation to the existing developments in the vicinity. It sets an excellent precedent for the Hawthorne Industrial Park future.



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## PREAMBLE

Civitas Group (Civitas Architecture Inc.) have been retained by Fastfrate (Ottawa) Inc. for the design, project development and contract administration of a new warehouse and distribution facility located at the Hawthorne Industrial Park.

The Civitas Group is an integrated architecture and landscape architecture firm focussing on the sustainable dovetailing between building and site. They are supported by sub-consultant and specialist teams including: Cunliffe and Associated (Structural); Goodkey Weedmark and Associated Limited (Mechanical & Electrical); GHD (Environmental); GHD (Geotechnical, Slope Stability and Vibration Control); Paterson (ESA); Transportation (Castleglen); Security and Telecommunications) (The Attain Group), CIMA+ (site servicing and storm water management).

## SECTION 1: APPLICATION

### 1.1. APPLICATION SUBMISSION

The purpose of this application is to submit the comprehensive design proposal for the new Fastfrate Ottawa Warehouse and Distribution Facility to be located at **301 Somme Street**, Hawthorne Industrial Park, for site plan approval. The new facility will bring a new centralized facility for the company from an existing and over-capacity leased facility to a larger, fully owned centre. The facility will provide:

- New building and site development by a reputable, national transportation company anchoring the Hawthorne Business Park.
- The central warehouse and distribution centre is conveniently located in close proximity to major highway interchanges south of Ottawa to quickly move goods in a safe efficient manner.
- New corporate warehouse Facility including accessory distribution and office components to represent the City of Ottawa in the Fastfrate national chain of warehouse sites.
- Development of an underutilized, environmentally challenging site in a sustainable and responsible manner.

Civitas Group, acting as agent for Fastfrate Inc., is submitting an application for Site Plan Approval to the City of Ottawa with the objective of securing site plan approval prior to the elaboration of the Contract Documents for the warehouse project identified as *Fastfrate Ottawa Warehouse Facility*. The project is located at the intersection of Somme Street and Rideau Road, in Ottawa, Ontario. The site is located within Block 5 of the 72-hectare Tomlinson Hawthorne Industrial Subdivision. The City of Ottawa has recently provided the municipal address as 301 Somme Street.

#### **Time is of the essence for Site Plan Approvals.**

The Owner is urgently requiring the construction phase of the project to proceed without delays. Their present facilities are extended beyond capacity and has been affecting the efficiency of their operations. The objective is complete documents for building permit purposes for end of October 2021 and make application for building permit in early October 2021. The Issued for Tender documents will be issued shortly thereafter for a General Contractor to be engaged and mobilized before December 2021. Accordingly, the construction is expected to proceed in early Spring 2022 and an occupancy for August 2022.

The Site Plan control application proposal is intending to meet the applicable policies of the Rural Area (Schedule A, Official Plan), and Sections 4.11 and 5. A review of the existing zoning by-law indicates a “RH-Rural Heavy Industrial Zone” designation of which a warehouse is a permitted land use. The site is currently greenfield. The proposed development also meets the policies of Section 4.11 regarding urban design and compatible development.

The purpose of this document is to assist the applicant to organize and substantiate the design justification in support of the proposed development and to assist staff and the public in the review of the proposal.

The “Concept Plan”, prepared by Civitas Group, outlines the major features of the project in sufficient detail for the initial site plan review submission. We understand the City Planning Staff will need to be comfortable that the proposed development will comply with the City’s zoning by-law and infrastructure requirements. Every effort has been made to meet or exceed expectations and present a high-quality project for the City of Ottawa.

Zoning considerations include such matters as lot frontage, access, building footprint and elevations, a sufficient number of parking spaces for the desired floor area, walkways, driveways, yards, and landscaped open space; infrastructure requirements, including preliminary sewer and water design as well as preliminary lot grading, drainage, and storm water management. Other site plan details related to such matters as lighting, and waste storage may also need to be considered in the initial Concept Plan review. This plan is being produced by Civitas Group with the sole intent of meeting the objective of obtaining site plan approval.

## 1.2. RESPONSE TO CITY DOCUMENTS

### 1.2.1. OFFICIAL PLAN

The proposed development is located in the Rural Area (Schedule A, Official Plan). A review of the existing zoning by-law indicates a “RH-Rural Heavy Industrial Zone” designation, which purpose is to permit the development of heavy industrial uses in areas mainly designated as General Rural Area, Village and Carp road corridor rural employment in the Official Plan; accommodate a range of heavy industrial uses and limited service commercial uses at locations which are neither environmentally sensitive or in close proximity to incompatible land uses; and, regulate development in a manner that respects adjacent land uses and will have a minimal impact on the rural area. (<https://ottawa.ca/en/living-ottawa/laws-licences-and-permits/laws/law-z/planning-development-and-construction/maps-and-zoning/zoning-law-no-2008-250/zoning-law-2008-250-consolidation/part-13-rural-zones-sections-211-236#rh-rural-heavy-industrial-zone-sections-221-and-222>).

**Section 2.5.1 of the Official Plan identifies several Design Objectives** in the form of statements which express how the City wants to influence the built environment as the city evolves. These Design Objectives are broadly applicable, to plans and development in all land use designations, and from a city-wide to a site-specific basis. Table 1 provides an assessment of how the proposed site plan for this project is consistent with these guidelines.

<b>Official Plan            Policy Reference Section 2.5.1 Designing Ottawa            Design Objectives</b>	
Design Objectives	Site Plan Design Response
1. To enhance the sense of community by creating and maintaining places with their own distinct identity.	The Proposed Site Plan for the Warehouse facility has been <b>designed to initiate a positive identity for the industrial park</b> and act as a <b>catalyst for the future industrial community</b> of the Hawthorne Industrial Park.
2. To define quality public and private spaces through development	The proposed warehouse has been sited to <b>create a strong separation between the active transport and vehicle circulation and the more subdued office and pedestrian orientated 'forecourt'</b> facing Somme Street.
3. To create places that are safe, accessible and are easy to get to, and move through.	Transport activities have been placed to one side of the property for access and behind the main warehouse building massing. <b>This creates a quiet and pedestrian-safe front landscape</b> related to the office functions.
4. To ensure that new development respects the character of existing areas.	Located within the Hawthorne Industrial Park which respects the character and intended use of the area as a rural industrial park. <b>In fact, this development strives to set a high-quality precedent for vacant lands in the industrial park.</b>
5. To consider adaptability and diversity by creating places that can adapt and evolve easily over time and that are characterized by variety and choice.	The site plan design and layout provide for the adaptive re-use of the site over time for industrial uses requiring a large format building site. In particular, the building facades and structures behind the building faces all along Somme Street have been designed with flexibility; <b>using materials and modular construction which can be readily changed or reconfigured to adapt to new circumstances.</b>
6. To understand and respect natural processes and features in development design.	The site plan design respects the natural processes in the immediate area including <b>provision a sufficient development setback from the minor watercourse and environmental conservation area</b> along Rideau Road adjacent to the Northern site property line.
7. To maximize energy-efficiency and promote sustainable design to reduce the resource consumption, energy use, and carbon footprint of the built environment.	Incorporation of best practices will be into the building and site to reduce reduce the resource consumption, energy use, and carbon footprint of the built environment were deemed appropriate. For example, with the large roof area common to any warehouse,  <b>the building was aligned to solar exposure and will be designed to accommodate future solar roof panel array units.</b>



**The proposed site plan development is consistent with the broad design objectives outlined in Section 2.5.1 of the Official Plan.**

**Section 5.2.1 of the Official Plan identifies several components** in order to ensure that the design provisions of this Plan are addressed; building elevations provided to the City in support of applications submitted for approval under the provisions for Site Plan Control in the Planning Act may be required to show exterior architectural details and design features. Drawings and elevations have been provided to sufficient scope, quality, clarity and detail to ascertain detailed design, materials, and finishes and the treatment of the public realm. Drawings and elevations serve to illustrate matters of compatibility with adjacent buildings or sensitivity to local area place, context and setting, to address the relationship between buildings and between buildings and the street, to incorporate sustainable design features, and to illustrate scale, transitions in form, massing, character and materials.

<b>Official Plan Policy Reference Section 5.2.1 Building/Site Design Objectives</b>	
Design Objectives	Site Plan Design Response
a) Treatment of the public realm;	As the development is situated in an almost vacant Industrial Park without neighboring development, the design is actually investing into the initiation of the first public realm for the area and setting precedence.
b) Views of the entire block, so that proposed buildings may be seen in their context;	The proposed warehouse is situated with no surrounding buildings within over 550 metres. It will be situated along a heavily treed and environmentally conserved area along its Northern boundary. The remaining area is open subdivision lots, with little foliage.
c) Finish, texture, materials, patterns and colours of all building exteriors, including roofs;	The relatively large building has been treated with varying materials and finishes to breakdown its massing, providing human scale, patterning and visual interest. For example, precast concrete wall panels are being proposed with surface texture/patterns.
d) Location, size, colour, and type of all building exterior signage and lighting;	Lighting for the project is primarily by way of freestanding lighting standards designed to light the secure compounds. Signage will be primarily building mounted due to the area available on the building massing and minimize ground visual environment. Photometric studies have been performed to provide site lighting which is effective and minimizes light pollution to the adjacent properties and be cognizant of Dark Skies principles.
e) Number, placement, type and finishing of all exterior doors and windows	For design interest, the design has invested in providing translucent glazing features to the warehouse to provide natural lighting to interior aisles of the warehouse.

	Prominent glazing features are provided to the forecourt and landscaping along Somme Street.
f) Finish, texture, materials, patterns and colours of functional elements attached to or forming part of the exterior of buildings such as entrance elements, walls, stairs, gates, railings, balconies, planters, awnings, alcoves, canopies, bays, seating, parking decks and ramps;	To enhance the facades and 'break down' the large massing of the main warehouse, subsidiary office areas are provided with several highlighting features. Coloured metal panels are introduced at areas of entrance doors or glazing. Pronounced horizontal and vertical prefinished coloured fin elements are added to the facades which introduce feature lighting and highlight the more pedestrian environments, versus the utilitarian transport functions.
g) Any sustainable design features to be incorporated, such as green roofs or walls, sun traps, reflective or permeable surfaces;	Sustainable design features are integrated into the design and includes a white reflective roof covering and capacity for future solar panel arrays on the main roof. The orientation of the building was designed to maximize solar access to the frontage along Somme Street, along with considerable landscaping features.
h) Placement, finish, colour, size of any exterior mechanical systems such as heating and air conditioning, electronic transmission / receiving devices, and all above ground utilities (whether stand-alone or attached to the building) including any screening materials associated with the foregoing;	Generally, there will be no visible mechanical systems or prominent utilitarian features to the building around the site. A ground mounted emergency generator and necessary electrical transformer has been located in accordance with utility requirements. These are positioned to one side of the development and within a landscaped screened area.
i) Integration of elements such as mechanical equipment, elevator machine rooms, communication devices and visible temporary devices (window washing equipment), together with any building parapet that constitute the roofscape design;	As the site is located in an industrial park, raised significantly in grade from Rideau Road and the warehouse is relatively high, the main mechanical system units will not be readily apparent to the surrounding areas. No other large appurtenances on the main roofs are anticipated other than the future solar panels. The lower roof areas, primarily visible to Somme Street, are fitted with raised parapets to screen any smaller HVAC components or roof access ladders.

**The proposed site plan development is consistent with the aesthetic building elevation and massing design objectives outlined in Section 5.2.1 of the Official Plan.**

### **1.3. CONTEXT PLAN**

The context plan intends to provide a contextual analysis that discusses and illustrates the properties, of a 100-meter radius for the surrounding area of the project, such as: transit stations, transportation networks for cars, cyclists, and pedestrians, focal points/nodes, gateways; parks/open spaces, topography, views towards the site, the urban pattern (streets, blocks), future and current proposals (if applicable), public art and heritage resources.

#### **1.3.1. CONTEXTUAL BACKGROUND**

In this contextual analysis, the Architect and Landscape Architect provides a full description of the subject development context and any important considerations in the design of the project. We refer the reader to the aerial and ground photographs included in this section.

##### **1.3.1.1 Transportation and Road Network**

The subject site is located to the Northeast corner of the existing Hawthorne Industrial Park. The site frontage is located along Somme Street which is longest property line. As Somme is the internal road to the subdivision the frontage offers opportunities for access, particular to the southerly areas. Rideau Road is located along the length of the Northern property line, with a minor intersection at Somme Street and Rideau Road. To the Northwest/west property line are open land areas and to the Southeast/South an existing undeveloped lot for the subdivision.

The primary access for transport vehicles for this site and the subdivision in general is located at the Somme Street and Hawthorne Road intersection, Southwest of the site. Vehicles are primarily required to use this intersection and traverse Somme Street and enter the site by the Southeast property line.

##### **1.3.1.2 Adjacent Buildings or Structures**

The site and adjacent properties of the subdivision are greenfield technically; there has been the importation of excess poor fill materials over the years. There are no adjacent buildings or structure within at least 550 metres to the West but is primarily open for several thousand metres in almost all directions.

##### **1.3.1.3 Pedestrian Walkways or Road Features**

There are no pedestrian sidewalks serving the site nor the subdivision, with minimal road lighting, no public transportation stops or service. The roadways have shallow gravel shoulders and generally drainage ditches.

##### **1.3.1.4 Green Space**

Between Rideau Road and the North Property line is an existing man-made ditch which serves Rideau Road, and an area deemed an environmentally sensitive area. It is essentially a low-lying wet area with treed vegetation. As an industrial subdivision there are no public park amenities or greenspaces in the area. The Greenbelt area is to the Northeast of the site, but the remaining areas are primarily open subdivision lots with little or no trees; only low, weedy vegetation.

### **1.3.1.5 Existing Vegetation**

Much of the site and adjacent properties is disturbed open field. The vegetation characteristics of the site are typical of areas with high disturbance and historical clearing. This area was dominated by perennial rye grass (*Lolium perenne*), Kentucky blue grass (*Poa pratensis*), Canada goldenrod (*Solidago canadensis*), common burdock (*Arctium minus*), Queen Anne's lace (*Daucus carota*), common dandelion (*Taraxacum officinale*), chicory (*Cichorium intybus*), white clover (*Trifolium repens*), and common mullein (*Verbascum thapsus*). The only tree species identified were willow and balsam poplar (*Populus balsamifera*), located at the base of the Northern property line pronounced slope. For more information, please refer to Tree Conservation Report.

### **1.3.1.6 Views**

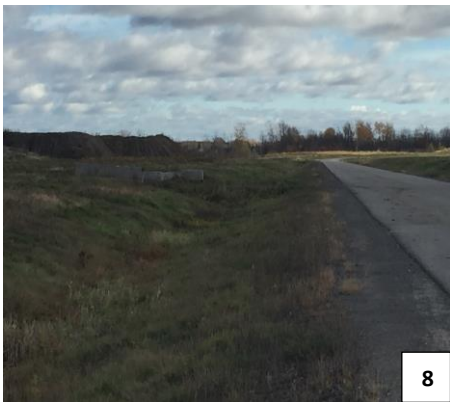
The site does not offer any significant aesthetic views with its position in an industrial subdivision. The only realistic opportunity is to address the view towards Somme Street and provide a street frontage to create an area for views or view refuge from its industrial context.

### **1.3.1.7 Topography**

The site topography is relatively flat with various small mounds of fill material, sloping down to the surrounding streets. The surrounding topography slopes up from south to north by approximately 3.5 meters from Rideau Road to the section of Somme Street south of the Site. The Site elevation is higher compared to the surrounding streets varying from approximately 0.2 metres (m) higher on the south side (Somme Street) to 4.0 m higher on the north side (Rideau Road). There was also a ditch along the south, west, and north perimeters of the Site. The historic fill placement at the Site has created sloping of approximately 2:1 (H:V) around the south, west, and north perimeters of the Site.

Existing conditions on the site are shown in the following photographs. See images below, each number indicates the order of the picture.





### 1.3.2. CONTEXTUAL ANALYSIS AND RESPONSE

The context of the project being located within a relatively flat undeveloped industrial park, it seemed clear to the architecture and landscape architecture design team that, in some ways, we were required to a) enhance any features or elements to **improve or preserve the context** and b) add or design the project to **create a context and contribute to the future of the subdivision**. The following were the key contextual design responses.

#### 1.3.2.1 Environmental Preservation

The acknowledgement of the sensitivity of the designated watercourse and associated lands between Rideau Road and the subject development property line is important to the Consultant team. An Environmental Impact Study has been prepared to address potential environmental issues associated with an application to develop the property. The study area included open disturbed area and a roadside ditch. Within this area, we confirmed the boundaries on key natural features (e.g., watercourse), confirmed their ecological functions, and have recommended appropriate mitigation measures, including buffers (setbacks) to prevent impacts on natural features from the proposed development.



The photograph to the left which was taken on June 2021 is a view of the existing Rideau Road ditch, looking East. It shows the top of bank along Rideau Road and the watercourse approximately 2m in width. There is a manmade distinguishing bank on the south side of the ditch and therefore delineates a line for top of bank for the purpose of the 15m setback distance.

**In summary, the Environmental Impact Study identifies that the proposed development will not result in a significant negative impact on identified natural heritage features or their functions provided the 15m buffer from the bank of the watercourse (ditch) is respected**, and associated mitigation measures are implemented. These recommendations have been made to address potential impacts to natural features (identified watercourse) and/or their functions during the site preparation, construction and post-construction period.

#### 1.3.2.2 Street Presence and Sanctuary

The design team understands the nature of the industrial and utilitarian context of the Hawthorne Industrial Park. A remote and 'rough and ready' environment often results in developments which are simple and take the view 'out of site/out of mind'. Through the support of the Client Fastfrate, the design and planning has endeavoured to make a 'place' which accommodates not only the hub of transport trucking, but street presence and calmness. The design is focused in centring the aesthetics, low activity function and greenspace to the street frontage in the form of a forecourt.

### 1.3.2.3 Environmental Adaptation

The soils and slope conditions are less than ideal for this development and makes this particularly challenging. However, the Consultant has accepted the challenge and have approached this almost as a brownfield site and what we call an 'environmental adaptation' or reuse.

The existing property has been used as a dump site for exported fill material. The fill material encountered at the site consisted of a mixture of sand, silt, clay, and gravel. The composition of the fill material varied with depth and borehole location. The thickness of the fill at the borehole locations was approximately 6.0 m; the fill material was found to be loose to compact in compactness state and was recovered in a damp condition becoming moist to saturated with depth. Site preparation within the building footprint will depend on design finish grade and preferred foundation option; the existing fill within the building footprint will need to be improved using site specific ground improvement techniques. The recommended soil improvement method at this time is Dynamic Compaction performed by specialty contractors. This method will compact the existing fill material using a crane that repeatedly drops a 15 to 20 ton weight in a closely spaced grid pattern across the site, creating a uniformly compacted subgrade. In the areas with softer cohesive soils, the addition and compaction of imported granular material may be required to further strengthen the soil. Following completion of the compaction, the contractor will perform on site pressure meter tests in the compacted areas to confirm that the design bearing capacity has been achieved or whether additional compaction is required.

Based on the preliminary slope stability analysis, depending on the composition and compactness state of the fill material, the factor of safety for the slope may be equal or slightly below (i.e., 1.3 under static condition and 0.9 under pseudo-static condition) the recommend values of 1.5 for static condition and 1.1 for pseudo-static condition. Some slope remediation or adjustment is required, and the condition of the slope must be monitored during site preparation and building construction.

With the above conditions, we have set the following objectives in line with environmentally responsible practices:

#### 1.3.2.3.1 Consolidate Poor Soil Material

The development is endeavouring to **reduce the amount of exported unsuitable fill** to the greatest extent possible. We do not want to merely transport our 'garbage' to another location. Through Dynamic Compaction we can consolidate poor fill material and compact it to accommodate the building foundation substrate. This also reduces the cost and environmental impact to import large amounts of fill.

#### 1.3.2.3.2 Reduce Dynamic Compaction Impacts

Dynamic Compaction activities in an urban or populated area often have noise and vibration impacts on adjacent properties and uses, due to the repetitive dropping of weights to the ground. Contextually, this ground improvement procedure will not adversely affect the area in terms of sound or vibrations. There are no built-up properties within 1000m in almost all directions, the only built-up property is a heavy industrial one, approximately 550m from the site. However, we are exercising caution with the Vibration Report in the Site Plan Application documents and our commitment to monitor operations. **Responsibility for the environmental controls will be exercised by the Dynamic Compaction Contractor and mitigation plans coordinated with the City of Ottawa.**



### **1.3.2.3.3 Stabilization of Existing Slopes**

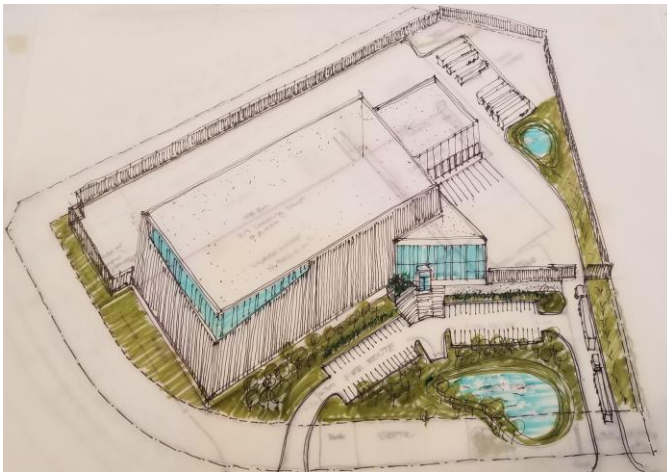
It should be noted that the existing slopes on the site are not natural or original slope features. They are a result of the importation of 6 to 8m of unsuitable fill material to the site. A Slope Stabilization Report has been executed to analyse and provide the measures to prevent slope destabilization along the perimeter of the property. Our engineering team has been provided **measures to retain and monitor the slopes primarily along the North property line to preserve the environmental sensitive areas** noted earlier.

## SECTION 2: DESIGN PROPOSAL

### 2.1. MASSING AND SCALE

#### 2.1.1. BUILDING MASSING

Early conceptual work strived to isolate the transport truck activities to zones away from the Somme Street frontage as much as possible. The objective was to use the massing, landscape features and building elements to create a quieter, pedestrian and environmentally friendly space. Our team envisioned an almost pastoral forecourt to Somme Street; creating inviting views, pedestrian friendly environment, and offer exterior amenity areas.



It is always a challenge to work with large scale industrial buildings on sites. The effort was to set back and turn the large warehouse element away from Somme Street. Transport trucking does require significant turning and circulation space and was also challenging with the irregular property configuration.

However, the major transport access off Somme and the circulation was able to be concentrated to

Fastrate Ottawa Distribution Centre - Early Conceptual Sketch

the side and rear of the property respectively. The result was a generous forecourt of small vehicle parking, circulation and pedestrian movement with an environmental landscape emphasis. The massing is divided into three main volumes or buildings:

- **The main warehouse block:** With a height to top of parapet of 12.4m, this is the main building and is composed of a standard warehouse (Cluster B), and the E-commerce area (Cluster C). The structure and foundation of this building will be designed to allow for the future construction of an interior mezzanine on the south side of the building.
- **The cross-dock block:** With a height to top of parapet of 8m, this is the second building in area and is located on the east side of the main warehouse building.
- **The offices and driver's amenities areas:** With a height to top of parapet of 6.2m, this building accommodates the supportive Office space (Cluster D) and the Driver's Amenities and Support areas (Cluster E) and is attached to the main warehouse on its south side. Its main façade will contain curtain wall, which will contrast in appearance with the almost fully opaque building envelope of the rest of the warehouse.

### **2.1.2. VIEWS**

Due to its location, the building mass, height and location does not impact the views visible from public viewpoints, such as monuments, bridges, civic spaces, landforms, or other valued spaces.

One of the main focus of the design has been to develop the building perspective from the employee/visitor access to the site, since this will be the first view when approaching the building.

The main building entrance is located on the south side (at Cluster D - Office) and shall be noticeable when employees and visitors approach the two-way vehicle access leading to the parking lots. Landscape design also plays a fundamental role on the design of the south side of the site to accentuate the main building entrance.

The west and north areas of the site contain the loading and unloading areas. Trucks and vehicles transporting and distributing goods have access to these areas through a primary truck access located on the south of the site. Transport trailers and vehicles will be screened from public view and acoustically dampened by the building mass, along with planted trees and vegetation between the south access/entrance areas and the west loading areas.

### **2.1.3. BUILDING TRANSITION**

The site is currently greenfield with no adjacent buildings to the site.

The transition of the warehouse to the adjacent uses is resolved with setbacks and building site orientation as follows:

- **South Side, Main Property Line:** A forecourt has been created to front on Somme Street. This contains two parking lots divided with landscape features, concrete sidewalks and an environmentally themed natural landscape area including a stormwater pond. This presents a calming and professional approach from Somme Street.
- **West Side, Transition to Rideau Road:** A continuation of Somme Street, where the grades rise from the Somme Street and Rideau Road intersection into the subdivision. The building is provided with a stepped building façade to frame the forecourt oriented to the South, identified above. This is the short side of the main building rectangle to reduce visual impact to Somme.
- **North Side, Environmental and Visual Buffer:** Along the north property line the development is separated from the roadway by approximately 25m and the building by approximately 85m. The vehicle compound is approximately 6m above the level of Rideau road. The public thoroughfare is not only separated by significant distance and elevation, the conservation area with natural landscape screens the development.
- **East side:** The west loading/downloading area, concrete sidewalks, the track access driveway, and a landscape area separate the building from an adjacent property.

A building height and massing transition has been implemented on the east side of the development, where the development is in contact with an adjacent property, by reducing the height from 13.6 m of the main warehouse to the 8 m of the cross-dock.

#### **2.1.4. GRADING AND DRAINAGE**

As discussed earlier, the site topography is relatively flat with various small mounds of fill material, sloping down to the surrounding streets. The surrounding topography slopes up from south to north by approximately 3.5 meters from Rideau Road to the section of Somme Street south of the Site. The Site elevation is higher compared to the surrounding streets varying from approximately 0.2 metres (m) higher on the south side (Somme Street) to 4.0 m higher on the north side (Rideau Road).

The topography lends itself nicely for the necessity for even, low slope areas for transport truck circulation and maneuvering. However, with the amount of unsuitable fill material present on site, it presents challenges to managing the cut and fill for the development. The architectural, environmental and engineering team established a balance approach between:

- a) Dropping the existing grades to reduce the height requirement of retaining walls along the Northern property line but incurring the cost and negative environmental impact to export the unsuitable fill material.  
*versus*
- b) Maintaining the existing grades to minimize the need to export the unsuitable fill, but then requiring much higher retaining walls to the North.

It should be noted that the above approaches impacted the ability for the grading and drainage design to utilize the subdivision stormwater management. Lowering the grades too much to reduce the height of the Northern retaining wall then required some alternatives to using the Subdivision Plan stormwater system. The team opted to tie into to the subdivision's stormwater system.

## **2.2. PUBLIC REALM**

### **2.2.1. STREETScape**

The Hawthorne Industrial Park presently is primarily vacant land, with minimal subdivision development. There are no defining building elements, structures or features that would constitute a streetscape in the urban sense. One could argue the remoteness and nature of the land use would not anticipate the sensitivities found in more urban areas. Both Somme Street and Rideau Road have no pedestrian sidewalks or boulevards; no bike lines; and both roadways have one traffic lane in each direction.

The following photographic views illustrates the context for street design in relation to the proposed development:



Views along Somme Street, along the front of the subject property looking East (left) and North (right)

## 2.2.2. RELATIONSHIP TO THE PUBLIC REALM

The Fastfrate Ottawa Warehouse and Distribution Centre will be accessed by way of two locations at 301 Somme Street.

- A primary access near the east site boundary intended primarily for the ingress/egress of tractor trailers (coming from Hawthorne) and other transport trucks destined to the warehouse/crossdock facility to the rear areas of the property. Features include an accommodation for queuing of two tractor trailers in tandem, card access/intercom kiosks and vertical pivoting security gates. The primary ground-mounted lit signage will be provided at the street to demarcate the transport access. This entrance will also serve standard vehicles to access the parking lots for employees who usually arrive and depart the facility outside of the times of transport vehicles; no conflict safety concerns are anticipated.
- A secondary access to the West of the main truck access is provided for vehicle and pedestrian safety. Employee or visitor regular vehicles (there is minimal visitors to the facility) are able to access the office components of the development. This will also act as a secondary means of exit for transport trucks from the main access for emergencies only (i.e., in the event of turnaround requirement from the queue) or emergency vehicle circulation. Features for this entrance are a secondary ground-mounted sign demarcating employee/visitor access.

The frontage along Somme Street, despite its context, has been designed to be a welcoming forecourt/landscape to the otherwise utilitarian use. The building massing and elevations were designed to take advantage of the solar exposure to the South. Parking areas have been divided and articulated to reduce the heat island effect and monotony. The forecourt includes an environmentally themed landscape view which houses the underground septic systems and stormwater/fire pond. This is made accessible for building user and visitor amenity.



Fastfrate Ottawa Warehouse and Distribution Centre – Conceptual Model, Main Views from Somme Street

## 2.3. BUILDING DESIGN

### 2.3.1. EXTERIOR ARCHITECTURAL DETAILS AND DESIGN

#### 2.3.1.1 Building Programme and Planning

The building consists of one ground floor with a total area of 8,641.44 m<sup>2</sup>. See images below for floor plans. The building programme is divided into several clusters, as follows:

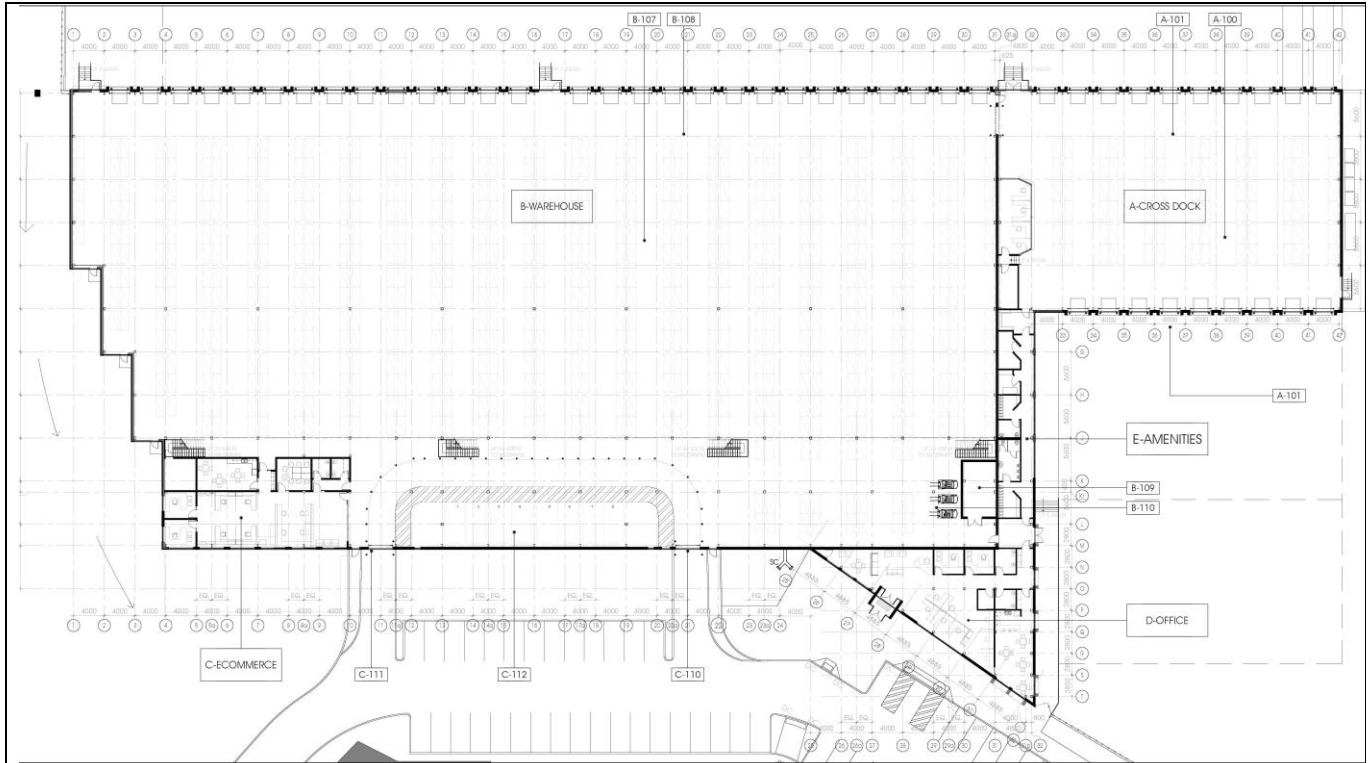
- Cluster A is the Cross-Dock building, which has a lower roof height than the rest of the warehouse and a total area of 1,292.37 m<sup>2</sup>. It includes a main open space and cross-dock loading bays, the dispatch and the coordinator offices, and a driver's desk.
- Cluster B is the main Warehouse, that has an area of 6,610.36 m<sup>2</sup>. It contains the warehouse main area and loading bays, a mechanical room and a forklift charging area.
- Cluster C is the E-commerce office with an area of 276.10 m<sup>2</sup>. It contains a waiting room, two washrooms, driver's dispatch office, meeting room, open workstation area, two individual offices, lunchroom, and other ancillary rooms, such as electrical and IT rooms. Also, the vehicle entrance, parking and exit areas are considered within this cluster.
- Cluster D is the main Office of the building. With an area of 304.47 m<sup>2</sup>, it contains the main entrance vestibule door, a lobby/guest seating area, an open office-workstations area, two individual offices, small meeting room, two washrooms, IT/Security room, and the main lunchroom of the building.
- Cluster E is the Driver's Amenities and Support and has an area of 153.15 m<sup>2</sup>. It includes several washrooms & changing rooms, and other ancillary rooms, such as janitor, storage, first AID and PPE room.

The interior of the main Warehouse (Cluster B) and Cross-Dock building (Cluster A) should be filled with large, open spans and take advantage of natural light as much as possible. The main warehouse space is essentially conceived to maximize the number of warehouse shelving racks. The main warehouse structure and foundation will be designed to be able to support the addition of a second floor (mezzanine) on the south of the building, which will maximize the warehouse space without the high costs of a complete renovation.

The main building of the complex in terms of design relevance is the Office (Cluster D). This building contains the main entrance door to the complex and will be characterized by the presence of a full-height glass curtain wall on its main elevation, which will allow for the filtration of natural light into the building.

The designers are envisioning the main lobby/open office area as a casual space for interaction between the office employees, visitors, and clients. Both the lobby/open office and the lunchroom are designed as flexible and spacious open areas, where Fastrate can accommodate different programmatic and operational needs. Both areas are conceived as open environments, with no visual barriers to the exterior of the building. The design of Cluster D also entails taking advantage of the high ceilings and exposing the building structure and deck. The interior design of both Cluster D and C includes the use of big sidelights/glazing opening to contribute to create the perception of open, interconnected and fluid spaces.

The designers want to create minimalist workspaces, featuring a restrained palette of transparent materials and light and neutral colours. This is a resource to look for abstraction and luminosity. The interiors are also conceived as a neutral environment where Fastfrate employees can display the company branding.



Fastfrate Ottawa Warehouse and Distribution Centre - Overall Ground Floor Plan



### 2.3.1.2 Look and Feel Preferences

The following are inspirational images selected by designers for character and architectural treatments.



*Contemporary Facades*



*Overhead door facades integrated in the overall building design*



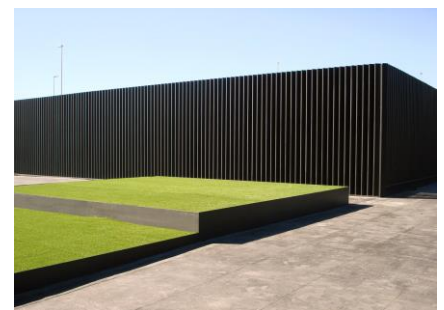
*Simplicity of the volumes and neutral colour palette*



*Big glass openings for specific locations, like the offices and lunchrooms*



*Glass curtain wall for the main building access facade (Cluster D)*



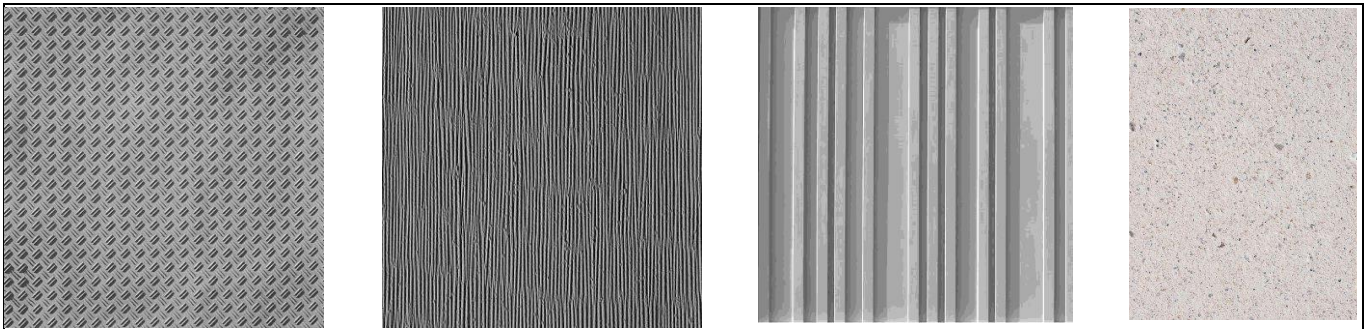
*Simple design for the lateral facades*

### 2.3.1.3 Exterior Building Materials and Finishes

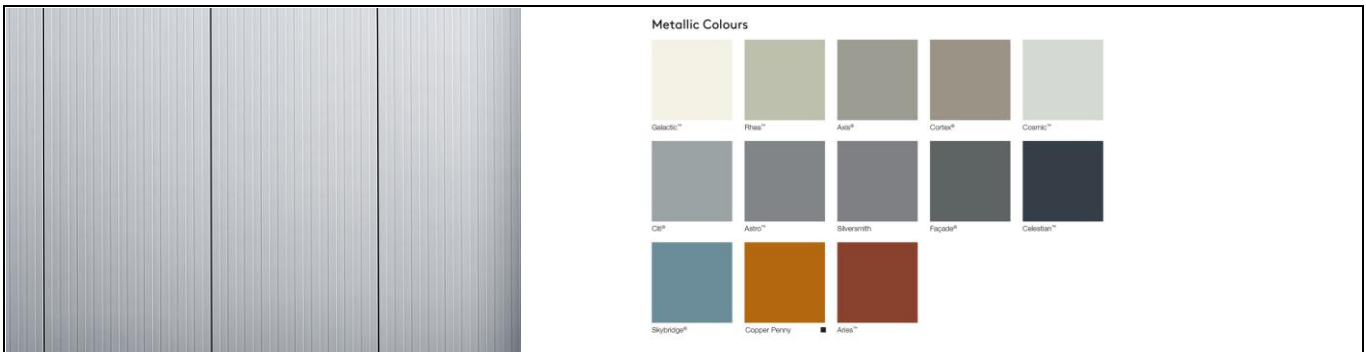
The building is located in the periphery of the city of Ottawa, in a relatively remote industrial area in the Hawthorne Industrial Park. The design of a practical warehouse has been a crucial aspect for the architects since this will have a direct impact on the efficiency of the warehouse and goods distribution operations. The exterior and interior architecture of the warehouse primarily focused on solutions for the distribution and handling of products; providing easy access to stored goods, minimize travel time and improve order fulfillment rates. The project also accommodates offices, lunchrooms, washrooms and other ancillary rooms to support the warehousing operations.

- The general design approach is for contemporary rationalist industrial architecture that serves the function of the building while considering the budget of the client. The building exterior should not be too modern, traditional, or 'noisy'. On the contrary, it should be a simple, strong, and categorical architecture in harmony with the natural environment.
- The massing and elevations for the entire building are conceived as a unitary design. However, the emphasis is to the design of the main elevation of the building, since it will be the first view of the building for visitors, employees and clients when approaching the building.

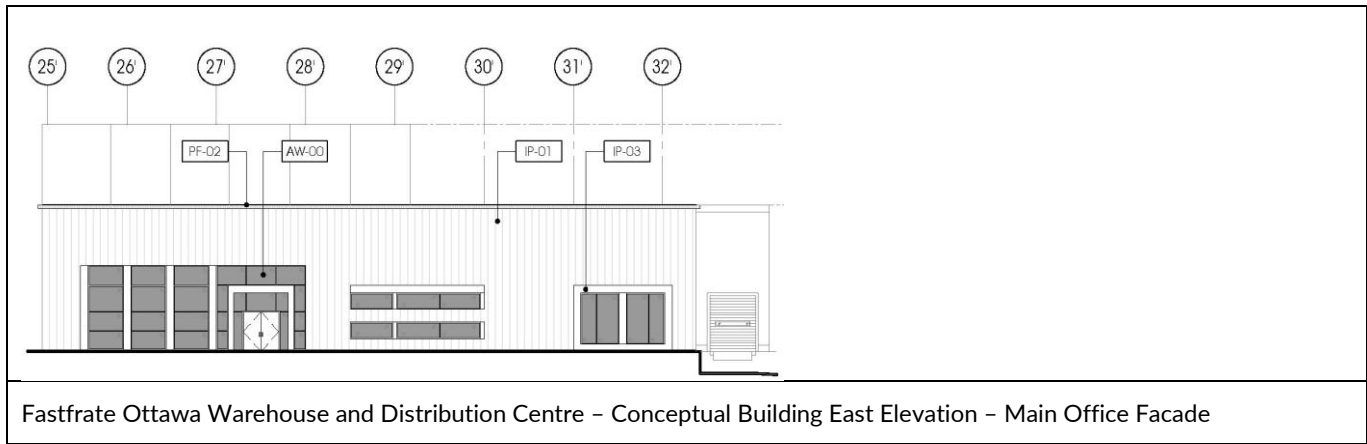
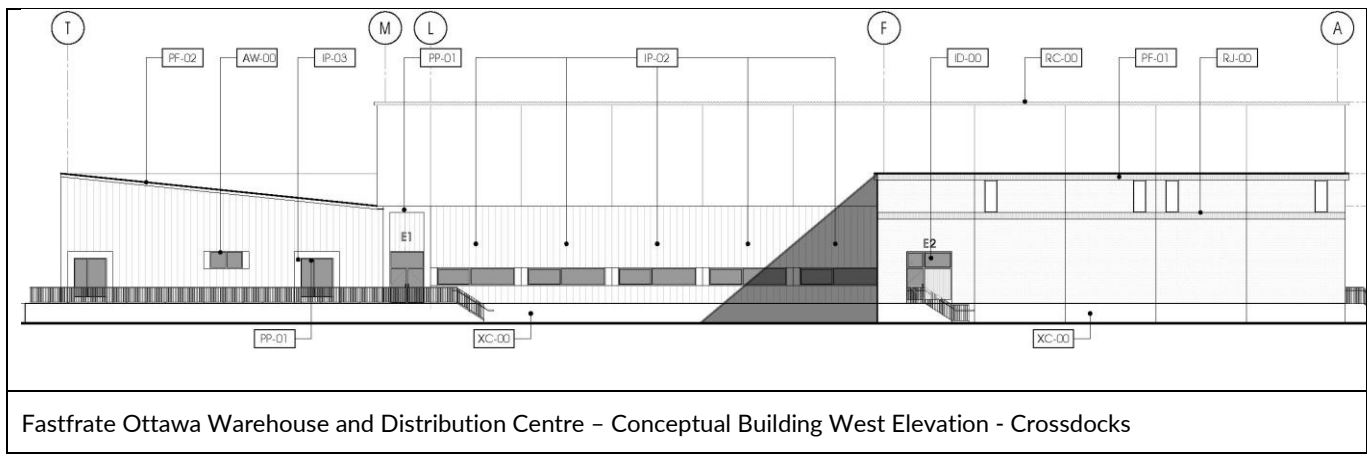
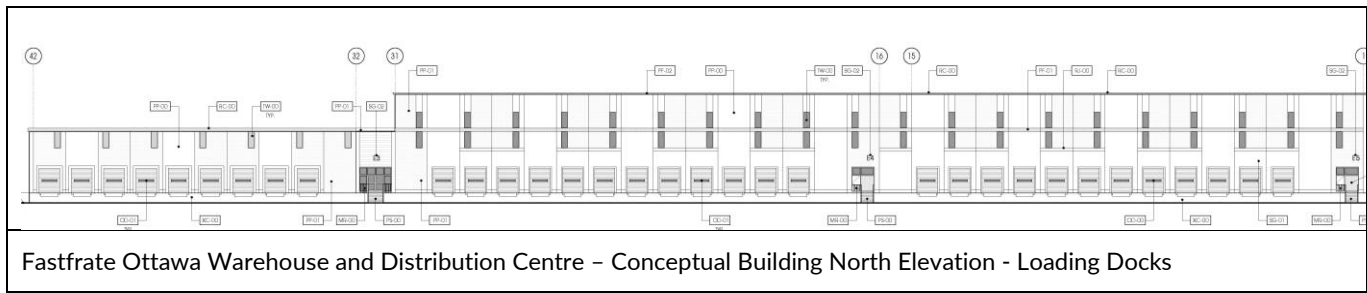
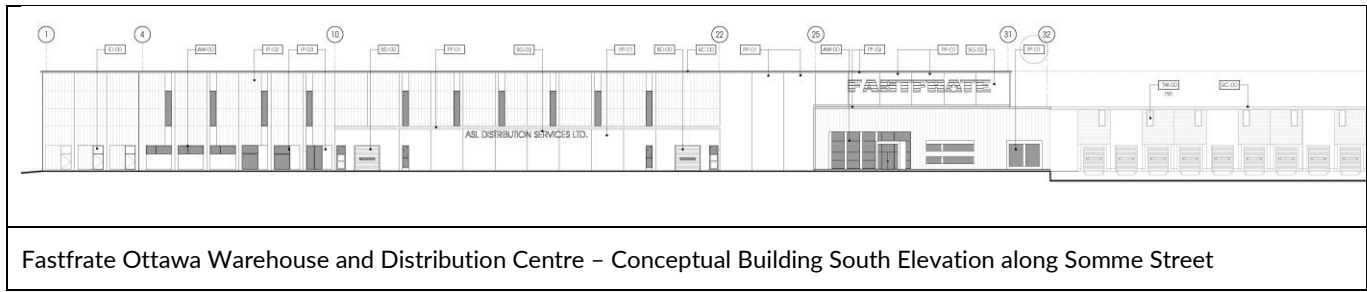
- The main entrance to the building is located in Cluster D (Offices), a building that will be marked by a glass curtain wall. This façade will provide contrast with the relatively opaque building envelope of the rest of the building.
- On the main warehouse façade, alternate sets of windows give rhythm and ‘movement’ to the façade. During the day, the building looks like a closed metallic body with slim vertical windows. At night, they become subtle lines of light floating in the darkness. The horizontal windows allow for the filtration of natural light into the office component of the building, reducing electricity consumption. These windows also eliminate the perception of confinement of most warehouses, which will improve the quality of the employees working environment.
- Two secondary entrances to the building will be located near the e-commerce area – on the front elevation – and to get access to Cluster E (Driver’s Amenities and Support) on one side elevation.
- The flush docks will be located on the north elevation of the main warehouse and the north and south elevations of the cross-dock building.
- Main building materials for the main warehouse building are precast concrete panels intended for energy efficiency, affordability and durability. However, the design team is proposing to use decorative concrete form liners to provide pattern and visual interest to the building, particularly on the street façade(s)
- To ‘lighten’ the mass of the main building, insulated prefinished metal panels are utilized. These panels are primarily employed on the office identities along Somme Street and will be in neutral, contrasting colours for visual interest.

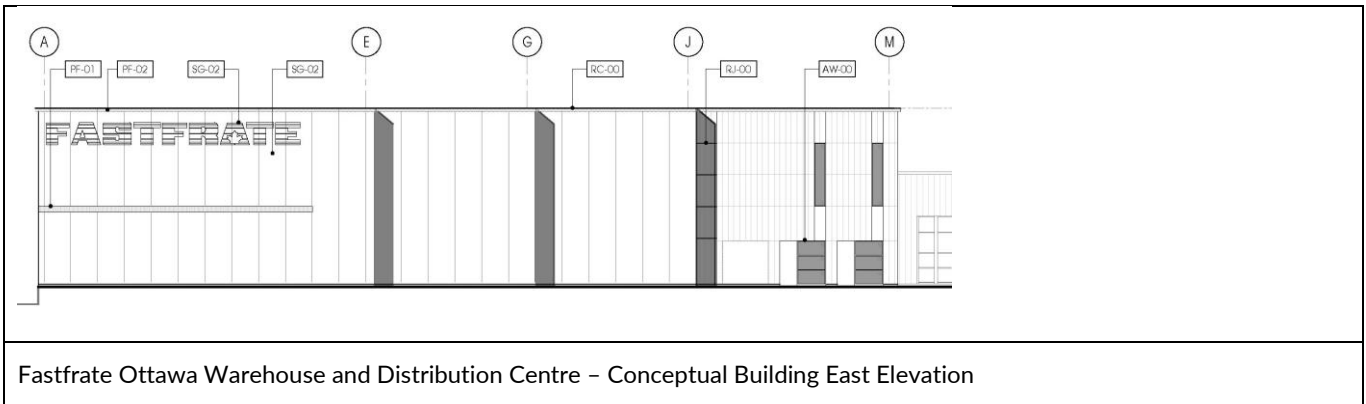
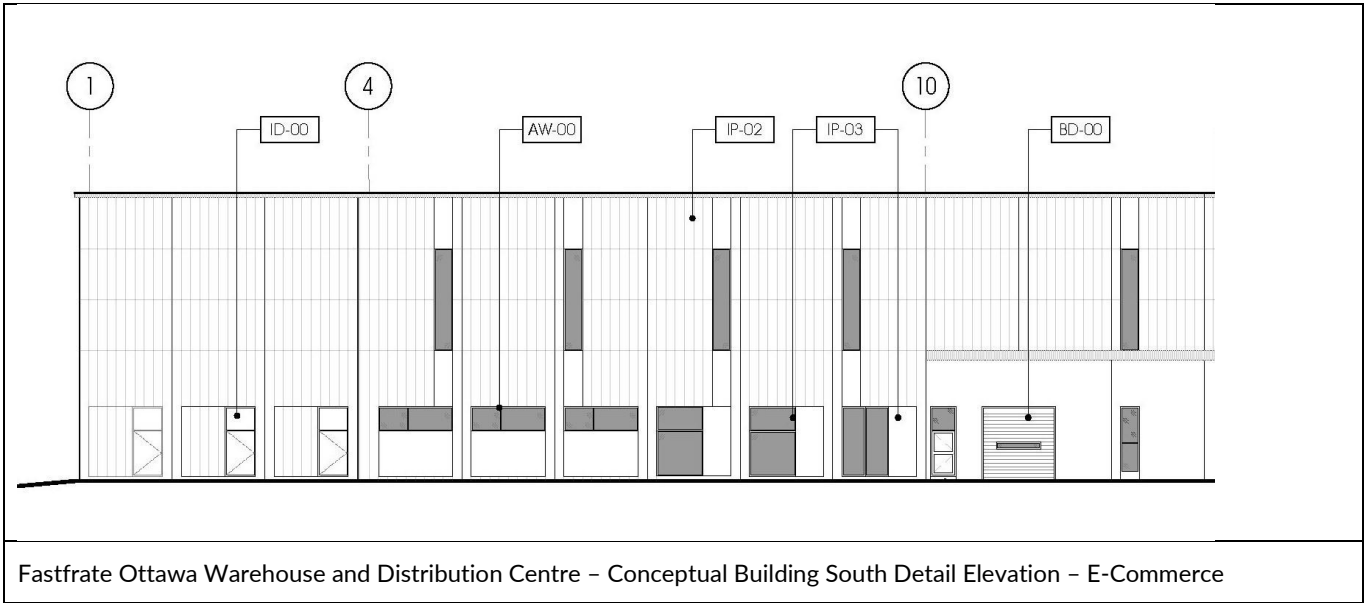


Precast Concrete Finishes – Possible Options for Main Warehouse Building



Prefinished Insulated Metal Panels Finishes – Possible Options for Office Facades and Somme Street Frontage





## 2.4. SUSTAINABILITY

The following are some sustainable practices that will be incorporated into the building design:

- **Recycled Materials:** The insulated metal sandwich panels used on the building envelope (Kingspan) utilize QuadCore Insulation (EcoAlf), made of recycled bottles recovered from plastic waste in the Ocean. The recycled bottles are converted into PET and then used in the insulation.
- **Energy Saving and Indoor Environmental Quality:** The warehouse space design maximizes the access of natural light to reduce electricity consumption and eliminate the perception of confinement of most warehouses, which will improve the quality of the employees working conditions.
- **Crime Prevention through Environmental Design:** The proposed building has been designed with substantial glazing into the offices and lunchrooms maximizing visibility to the exterior amenity areas and parking lots to support Crime Prevention through Environmental Design (CPTED) principles of eyes on the street. Lighting for the proposed building will be strategically located to ensure safety for warehouse employees at all ingress and egress points.
- **Industrial Construction Processes:** The building is designed to take advantage of Industrial Modular Construction. Modular construction is a process in which a building is constructed off-site, under controlled plant conditions, using the same materials and designing to the same codes and standards as conventionally built facilities – but in about half the time. Buildings are produced in “modules” that are then put together on site. Modular buildings can be disassembled, and the modules relocated or refurbished for new use, reducing the demand for raw materials and minimizing the amount of energy expended to create a building to meet the new need. When building in a factory, waste is eliminated by recycling materials, controlling inventory and protecting building materials.
- **Alternative Transportation:** The design includes bike racks to foster alternative transportation methods.

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