



# Architectural Project Design Brief

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## Warehouse and Office Headquarters

Project No.: A22-018  
Project Name: Warehouse and Office Headquarters  
Project Location: 45 Blowers Cres, Ajax, ON L1Z 0N4  
Closest Major Intersection: North Entrance Blowers Cres & Salem Rd  
Date of Brief: 10 Jul 2024  
Version: 1.4  
Client: **Starnight Import & Export**

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## 1 Project Description

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- Site location: 45 Blowers Cres, Ajax, ON L1Z 0N4, near North Entrance Blowers Cres & Salem Rd
- 1 building on site, sprinklered, consisting of Warehouse/Storage and Office space with combined GFA of 2,117.3m<sup>2</sup>, divided between:
  - Ground floor: 1,764.1m<sup>2</sup>
  - 2<sup>nd</sup> floor: 353.2m<sup>2</sup>
- Building Occupancy Classification (OBC):
  - Warehouse - Group F2: (Medium Hazard Industrial Occupancies)
  - Office - Group D (Business and Personal Services Occupancy)
- Project to be shown in Metric scale for Site Plan, Imperial scale for Construction Documents, and completed in Revit 2022 version.

## 2 Program Requirements

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- General:
  - No storing of dangerous substances.



- 11-15 staff total
- 2 Exit stairs
- 1 Elevator (basis of design: Schindler 3100/2500 lbs MRL, standard finishes)
- **Ground floor:**
  - Warehouse:
    - Storage of textile on regular racking 40x48' and 48x48'
    - Anticipated 2-3 forklifts to drive into building.
    - Shared Mech/Elec room and Garbage room on ground floor, with direct access from exterior.
    - Shared public washrooms, 1 of which will be Universal, located on Ground Floor.
    - 1-storey Storage/warehouse with open space:
      - 3 docks with overhead doors from a front shared parking space driveway (T.O. asphalt at dock 1 @ FFE, T.O. asphalt @ docks 2 and 3 @ -4'-0").
      - Clear height of 32' inside the warehouse.
  - Office:
    - Reception with waiting area.
    - 1 Board/Meeting room.
    - 1 General office area (8-10 people)
    - 2 Directors' offices
    - 1 CEO/Executive office with WR (to include shower)
    - 1 kitchenette
    - Offices to have main barrier-free access from sidewalk on grade at front, via glazed double swing door.
    - Shared parking on grade.
    - Storefront glazing on the front façade.
    - All rooms to be barrier free.
- **2<sup>nd</sup> floor:**
  - Office:
    - 1 showroom
    - 1 lounge room
    - 3 general offices
    - 1 BF washroom
    - 1 kitchenette
    - Shaft service space
    - Storefront glazing on the front façade.
    - All rooms to be barrier free.

### 3 Building Code and Zoning Considerations

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- Building to be built using non-combustible materials and comply with the Ontario Building Code, including applicable amendments to date at time of building permit application submission.

### 4 Site Design and Servicing

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- Refer to SPA package.

### 5 Envelope & Roofing (Thermal and Moisture Protection)

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- **SPA process requires energy modelling for this building. Energy model will be provided when available.**
- Alternative to energy model, building envelope to meet current 2012 Ontario Building Code SB-10 Division 3 Building Envelope Requirements for **Climate Zone 5** (non-electric space heating): **TABLE SB 5.5-5-2017** (Nonresidential).
- Opaque Elements R-value (I-P):
  - Walls, Above Grade: Mass: R-17 ci
  - Roofs: Insulation Entirely Above Deck: R-35 ci
  - Slab-On-Grade Floors: Unheated: R-15 for 48 in.
- Fenestration
  - Vertical Fenestration, 0% - 40% of Wall
    - Metal framing: fixed: Max. U-Value U-0.38 / Max. SHGC 0.40 / Min. VT/SHGC 1.10
    - Metal framing: entrance door: Max. U-Value U-0.69 / Max. SHGC 0.40 / Min. VT/SHGC 1.10
- Prefabricated concrete walls to have integrated insulation (min R value as per above requirements) and to include vapour retarder.
- Exterior façade:
  - Prefabricated concrete textured and substrate-tinted, with ACM accents on steel stud framing supported off the main walls (with integrated dual water resistive barrier and air barrier). See exterior elevations drawings.
- Exterior glazing
  - Store-front glazing system @ main entrance façade, with windows at remaining 3 facades.
  - All glazing to be thermally broken, with low-e, double glazed hermetically sealed, argon filled insulating glass, with thermally broken exterior frames.
- Roofing:
  - Single-ply, fully adhered EPDM roofing membrane over polyisocyanurate rigid insulation. R value as per above requirements.

## 6 Structural design

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- **To be based on Geotechnical Report (provided)**
- Strip footings @ minimum 1.5m below the finished ground elevation for frost protection.
  - Natural till subsoils bearing capacities:
    - Bearing Capacities: TBD
- Slab-On-Grade:
  - Concrete Slab on grade, thickness TBD
    - See Geotech report for vapour control recommendations.
- Structural System:
  - Prefabricated insulated concrete walls.
  - Steel column/beam system.
  - Concrete topping on steel deck for 2<sup>nd</sup> floor, (alternatively hollow-core slab)
  - Roof structure: steel deck on OWS joists.

## 7 Mechanical & Electrical Systems

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- Building to be sprinklered throughout, see location of FDC on plan.
- No standpipe and fire alarm required.
- Pad mounted transformer per electrical design and city requirements, see site plan.
- Warehouse:
  - Heating and venting provided (see MEP design brief)
- Office:
  - 2 Gas fueled RTUs to serve office space on ground and 2<sup>nd</sup> floors.
- Emergency power not needed.
- See site plan for number and location of 2-outlet EV charging stations on parking.

## 8 Specialty Construction

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- None

## 9 Attachments:

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- Design package.