

**DRAFT**

**AQUAVISTA**  
AT BAYSIDE TORONTO

**WT - DRP MTG**  
11 NOVEMBER 2015



**CENTRAL BUSINESS DISTRICT**

**WEST DON LANDS**

**PORT LANDS**

**DISTILLERY DISTRICT**

**QUEENS QUAY**

**EAST BAYFRONT**

**LOWER DON LANDS**

**UNION STATION**

**AIR CANADA CENTRE**

**CN TOWER**

**ROGERS CENTRE**

**QUEENS QUAY**

**WATERFRONT TRAIL**

**EAST BAYFRONT BLOCK 2**

**CENTRAL WATERFRONT**

**INNER HARBOUR**

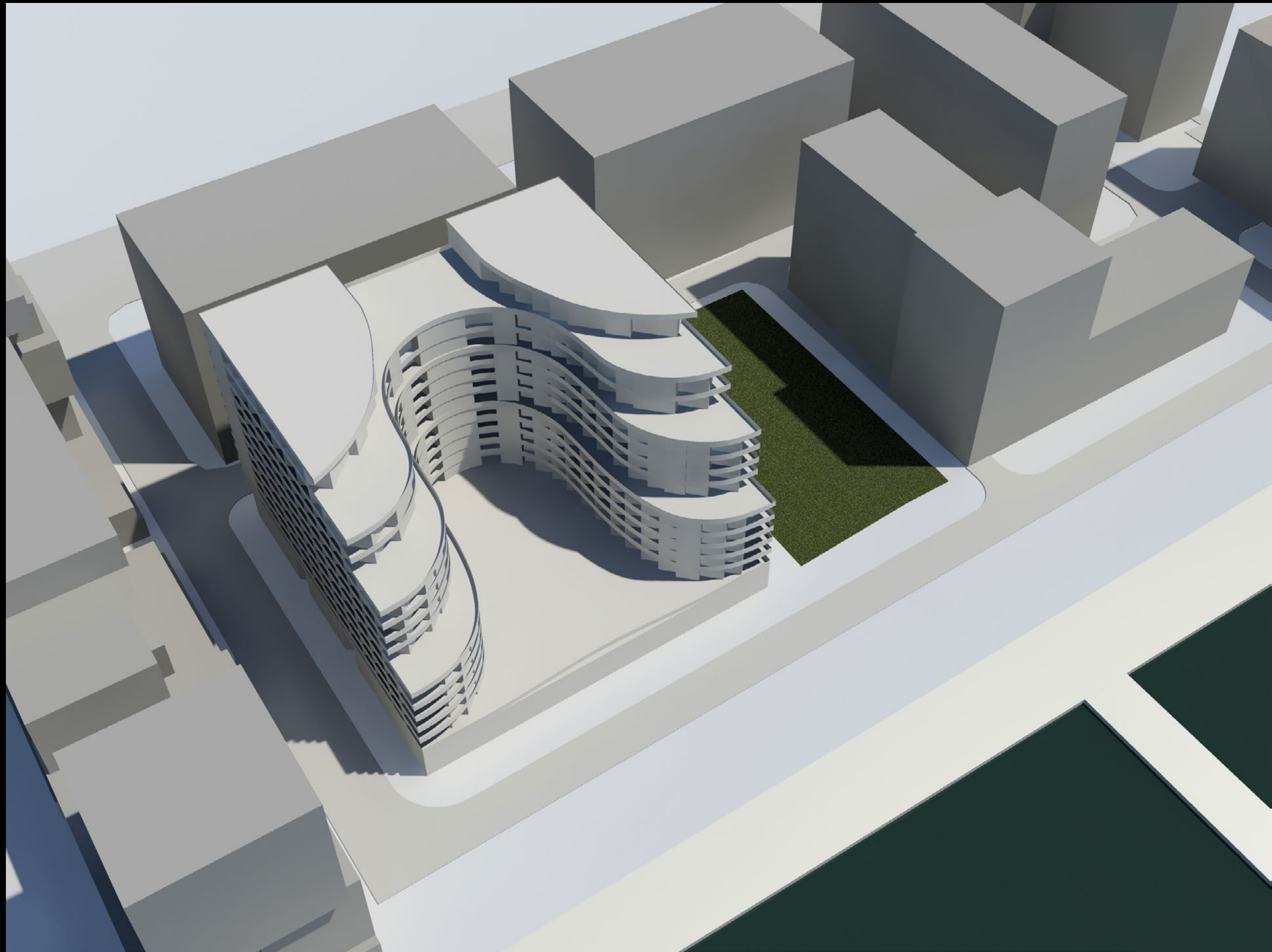
**EXHIBITION PLACE**

**ONTARIO PLACE**

**TORONTO ISLAND**

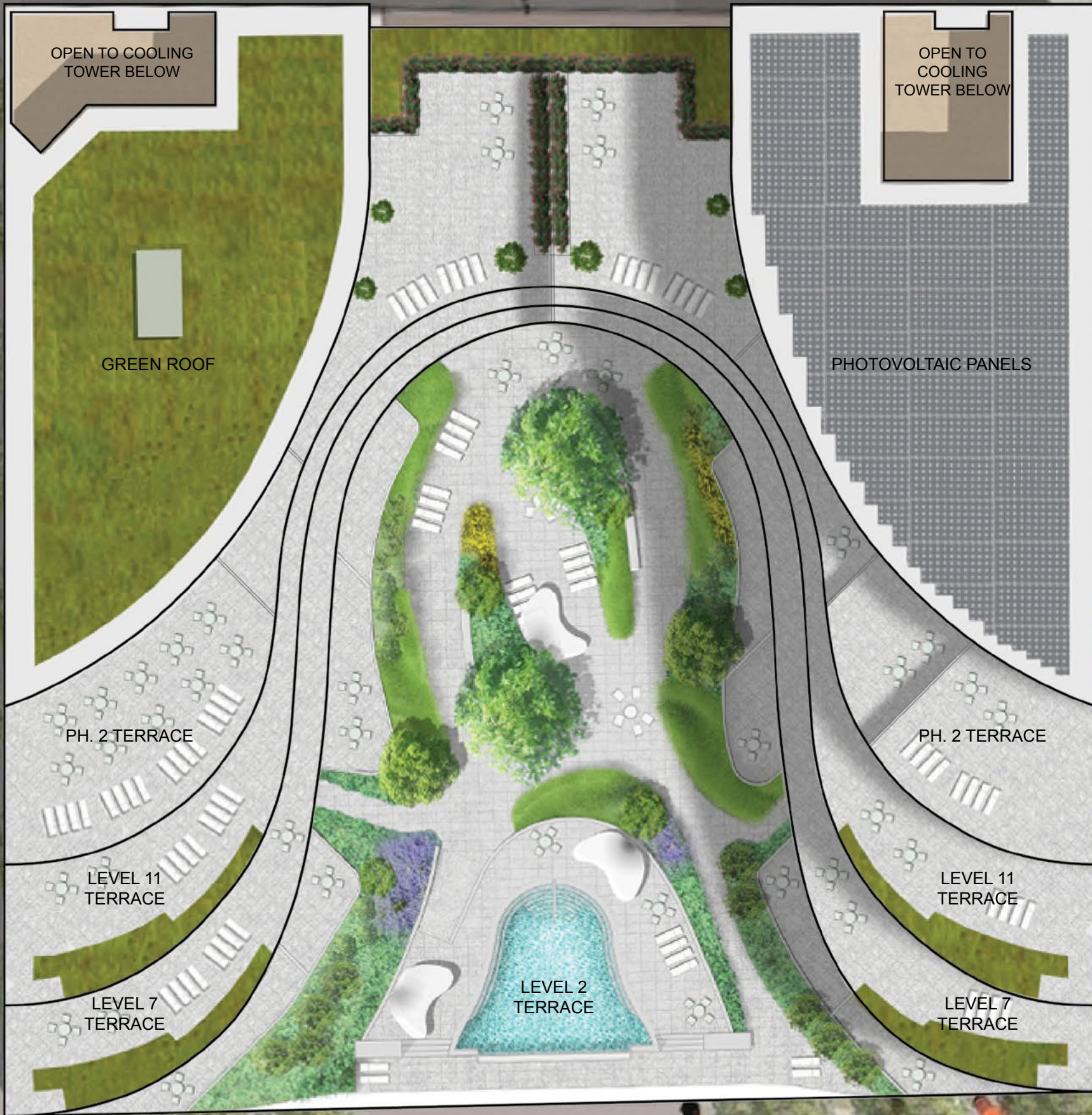
**LAKE ONTARIO**





EDGWATER DRIVE

MERCHANT'S WHARF



MERCHANT'S WHARF

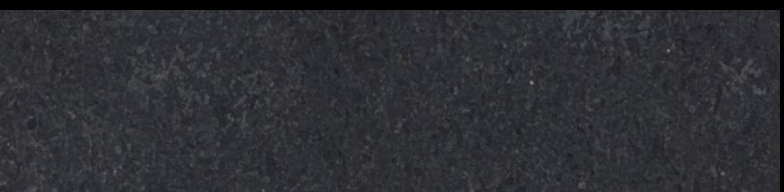
5 METER SETBACK

FUTURE AITKEN PLACE PARK



**ENDICOTT ARCHITECTURAL FACE BRICK**  
 COLOR: MANGANESE IRONSPOT  
 FINISH: SMOOTH  
 SIZE: NORMAN (2 1/4"H X 11 5/8"W X 3 5/8"D)  
 PATTERN: STACK BOND  
 LOCATION: ALL MASONRY WALLS

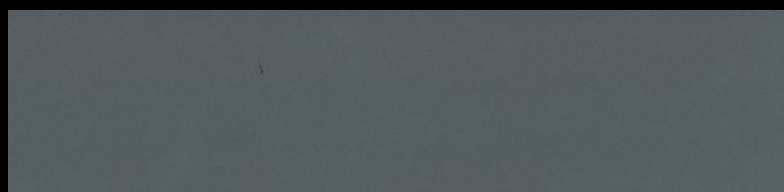
**LEHIGH CEMENT COMPANY: MORTAR**  
 COLOR: BDN886  
 LOCATION: ALL MASONRY MORTAR JOINTS



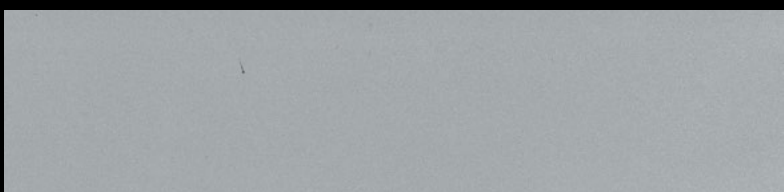
**NORTH CAROLINA GRANITE CORPORATION**  
 COLOR: ABSOLUTE BLACK  
 FINISH: HONED  
 SIZE: AS REQUIRED PER DETAILS  
 LOCATION: STOREFRONT BRICK BASE



**NORTH CAROLINA GRANITE CORPORATION**  
 COLOR: VIRGINIA MIST  
 FINISH: POLISHED  
 SIZE: AS REQUIRED PER DETAILS  
 LOCATION: STOREFRONT GLAZING BASE



**PPG INDUSTRIES, UC70214F**  
 COLOR: GRAY VELVET  
 FINISH: DURANAR XL, UC51742 PRIMER  
 LOCATION: ALL ALUMINUM MULLIONS, LOUVERS AND RECESSED SLAB COVERS



**PPG INDUSTRIES, UC106705XL**  
 COLOR: STEEL-CITY SILVER  
 FINISH: DURANAR XL, UC51132 CLEAR TOPCOAT  
 LOCATION: PRIMARY SLAB COVERS, BALCONY RAILINGS



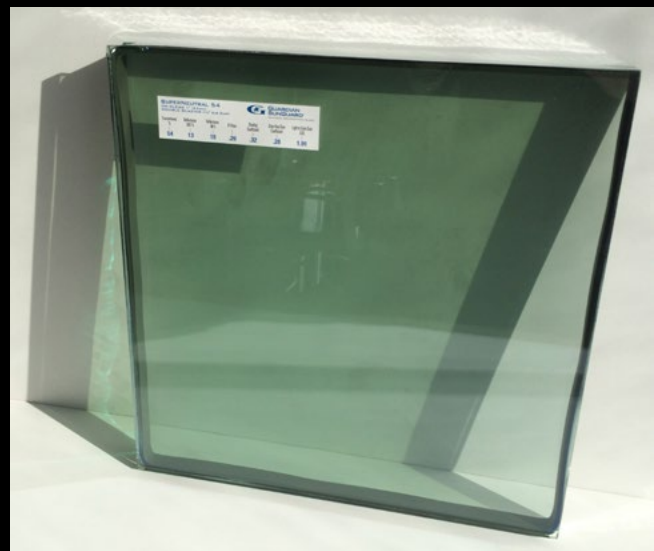
**RETAIL SPANDREL GLASS**  
 1" INSULATED GLAZING UNIT  
 GUARDIAN SUNGUARD SN68  
 WITH GRAY SPANDREL ON THIRD SURFACE



**RESIDENTIAL SPANDREL GLASS**  
 1/4" CLEAR MONOLITHIC SPANDREL  
 VIRACON SUBDUED GRAY #2



**RETAIL VISION GLASS**  
 1" INSULATED GLAZING UNIT  
 GUARDIAN SUNGUARD SN68



**RESIDENTIAL VISION GLASS**  
 1" INSULATED GLAZING UNIT  
 GUARDIAN SUNGUARD SN54

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Roof  
46.500

Level PH2/Mech  
41.300

Level PH1  
37.400

Level 11  
34.150

Level 10  
30.900

Level 9  
27.650

Level 8  
24.400

Level 7  
21.150

Level 6  
17.900

Level 5  
14.650

Level 4  
11.400

Level 3  
8.150

Level 2  
4.900

Level 1M  
1.650

Level 1 (+77.60)  
0

AQUAVISTA

ARTSCAPE

farm fresh

WILD FOODS

WEST ELEVATION

0 5M  
SCALE: 1:300

11 NOV 2015

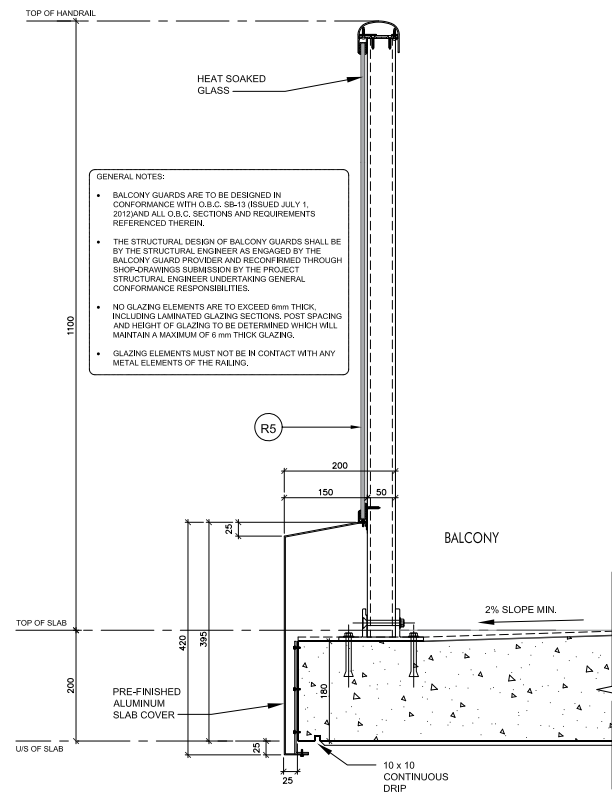
AQUAVISTA

**ADD ELEVATION RENDERING OF TYPICAL BALCONIES**

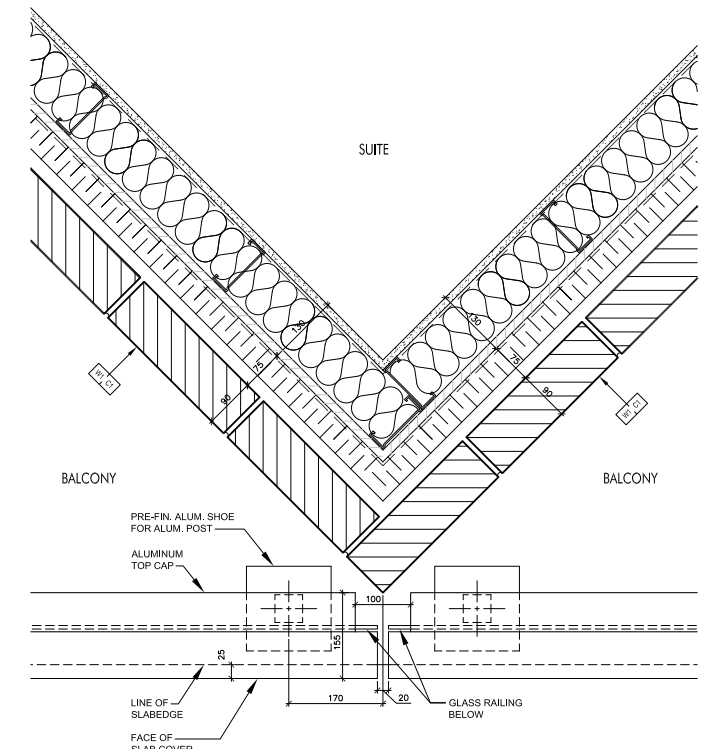
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3D SECTION AT WEST CONDO LOBBY (N.T.S.)



TYPICAL RAILING SECTION AT BALCONY (N.T.S.)



TYPICAL RAILING PLAN AT BRICK WALL (N.T.S.)

**RAILING PLAN AT WINDOW WALL**

TYPICAL RAILING PLAN AT WINDOW WALL (N.T.S.)

**RAILING PLAN AT DOUBLE HEIGHT SPACE (show how slab cover wraps to meet corner of 'sawtooth')**

TYPICAL RAILING PLAN AT DOUBLE HEIGHT (N.T.S.)





AQUAVISTA



AQUAVISTA

ARTSCAPE

farm fresh

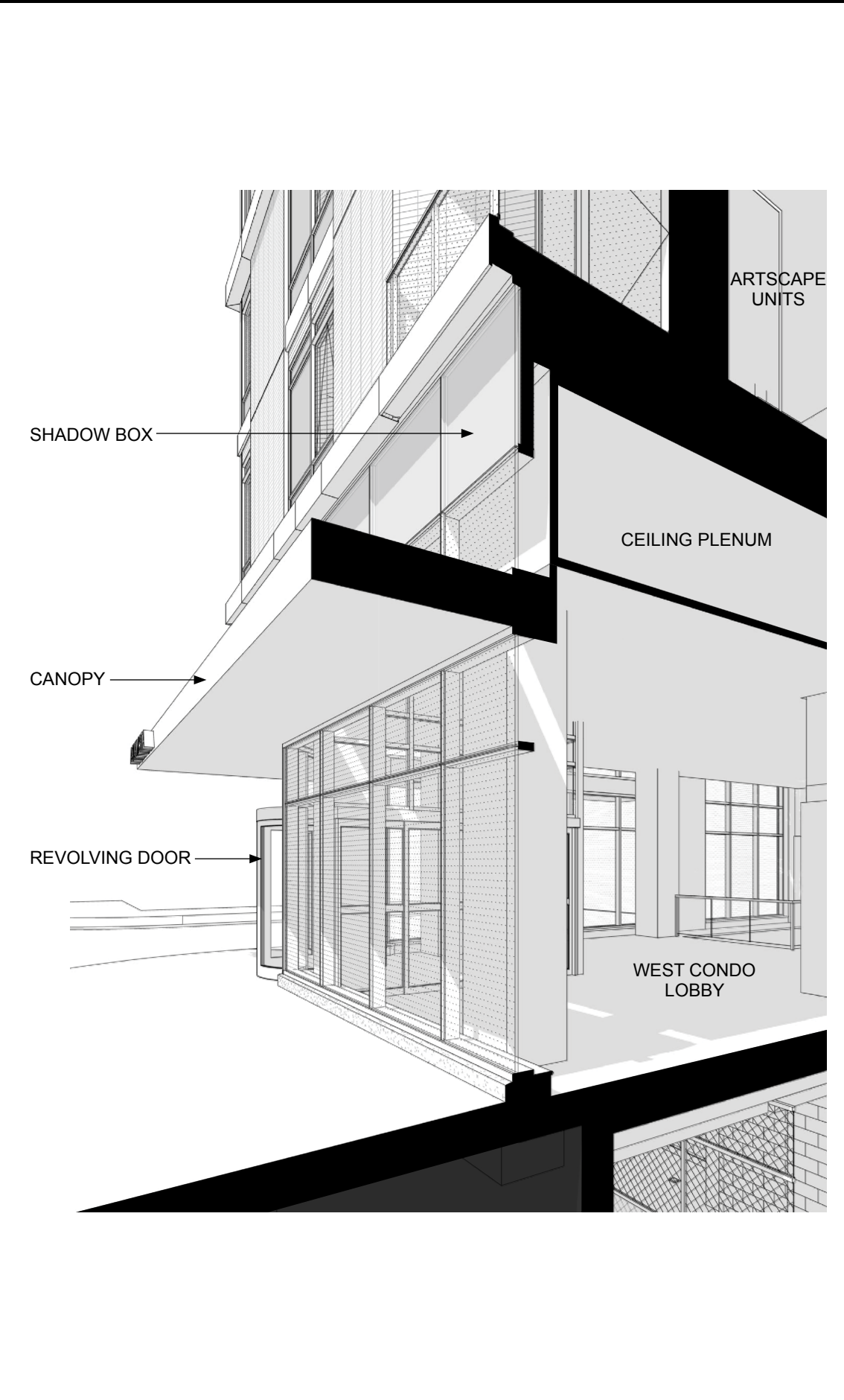
WILD FOODS

Level 3  
9.850

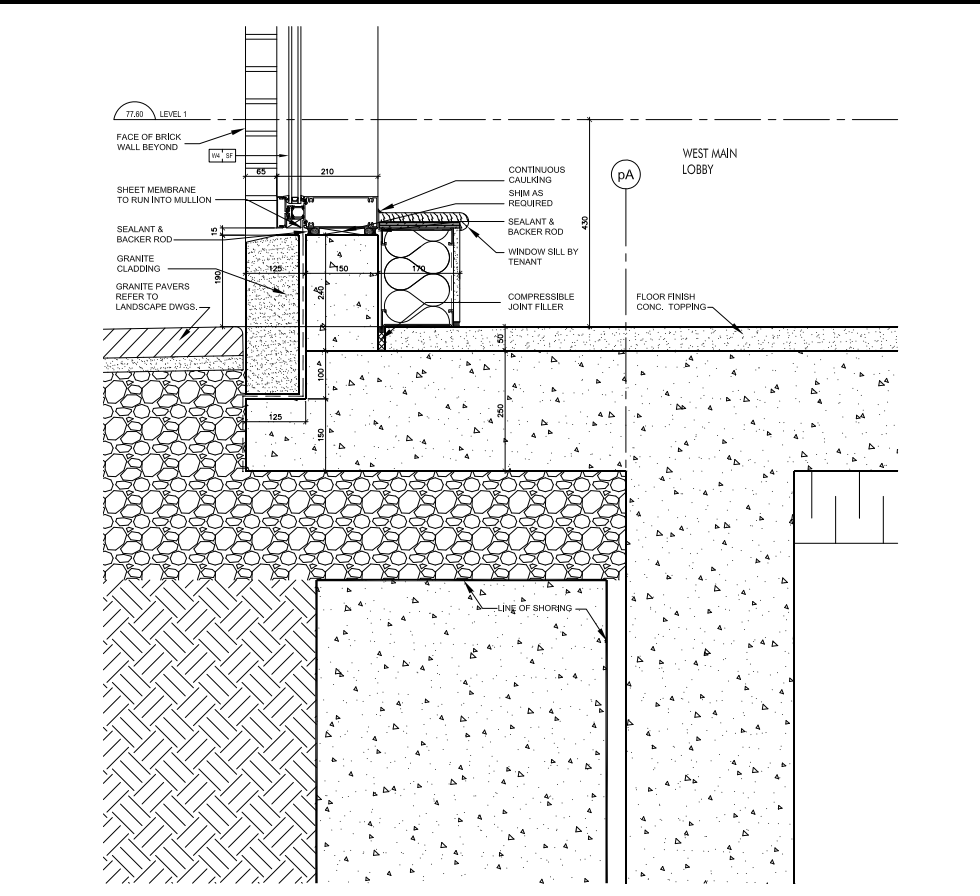
Level 2  
8.100

Level 1M  
3.200

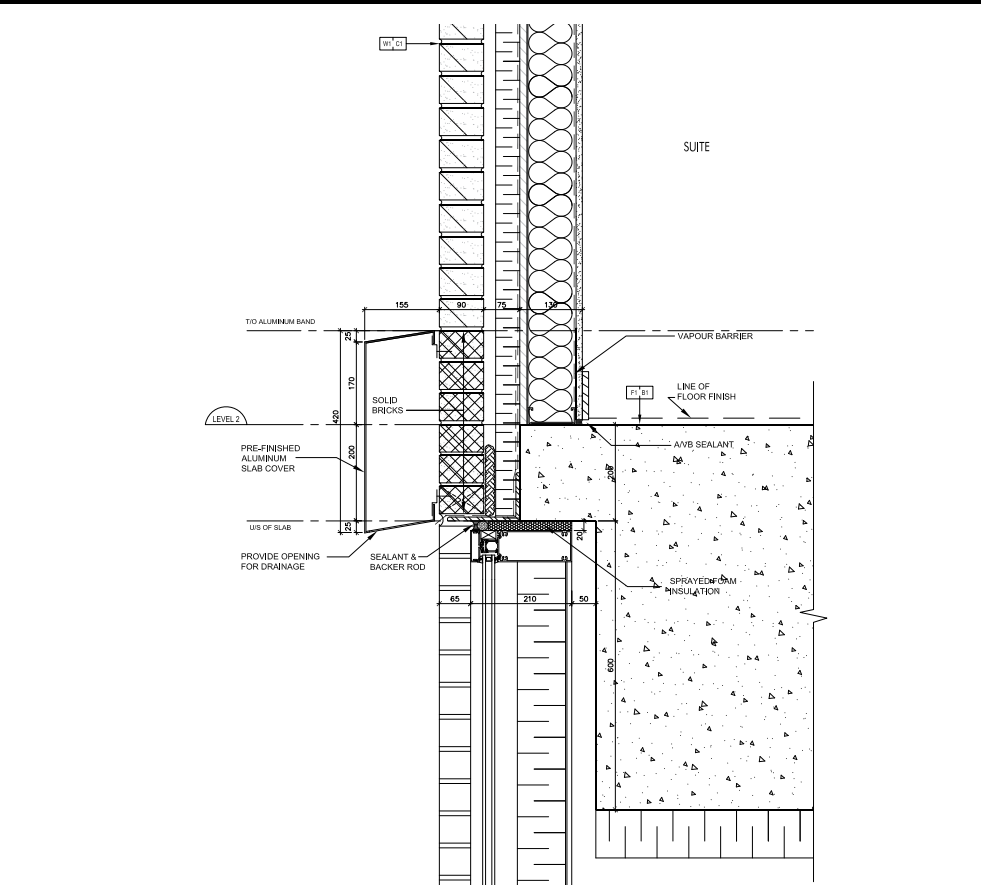
Level 1 (+77.60)



3D SECTION AT WEST CONDO LOBBY (N.T.S.)



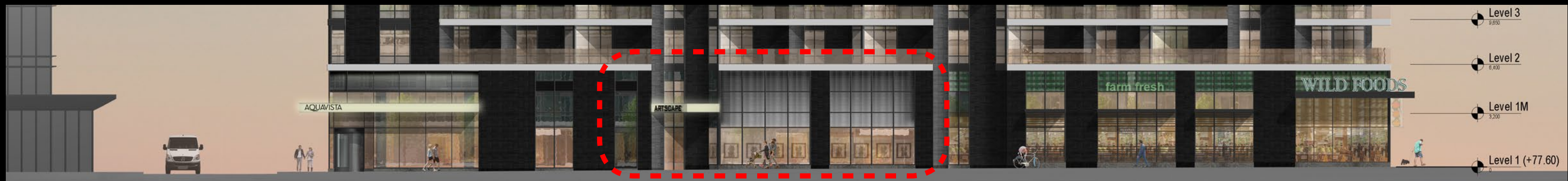
CURTAIN WALL SILL AT WEST CONDO LOBBY (N.T.S.)

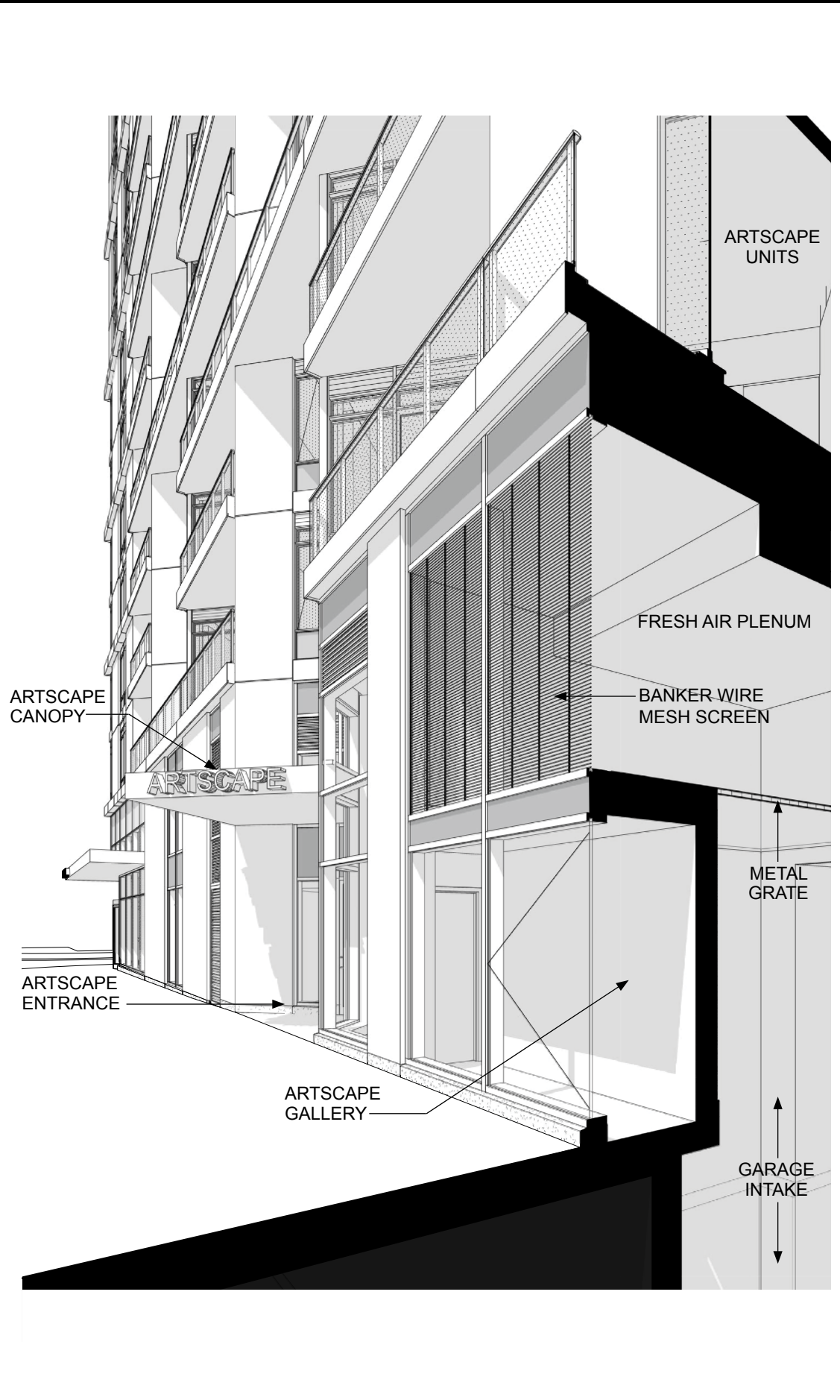


LEVEL TWO SLAB COVER AT WEST CONDO LOBBY (N.T.S.)

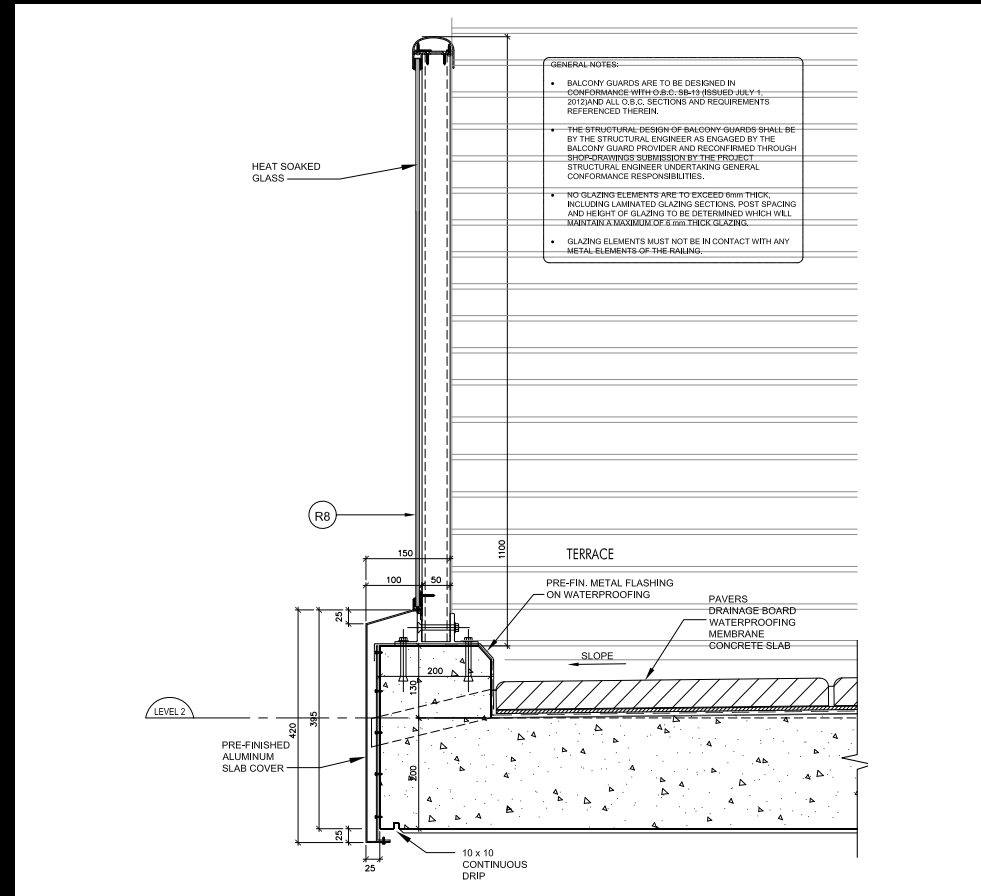


CANOPY DETAIL AT WEST CONDO LOBBY (N.T.S.)

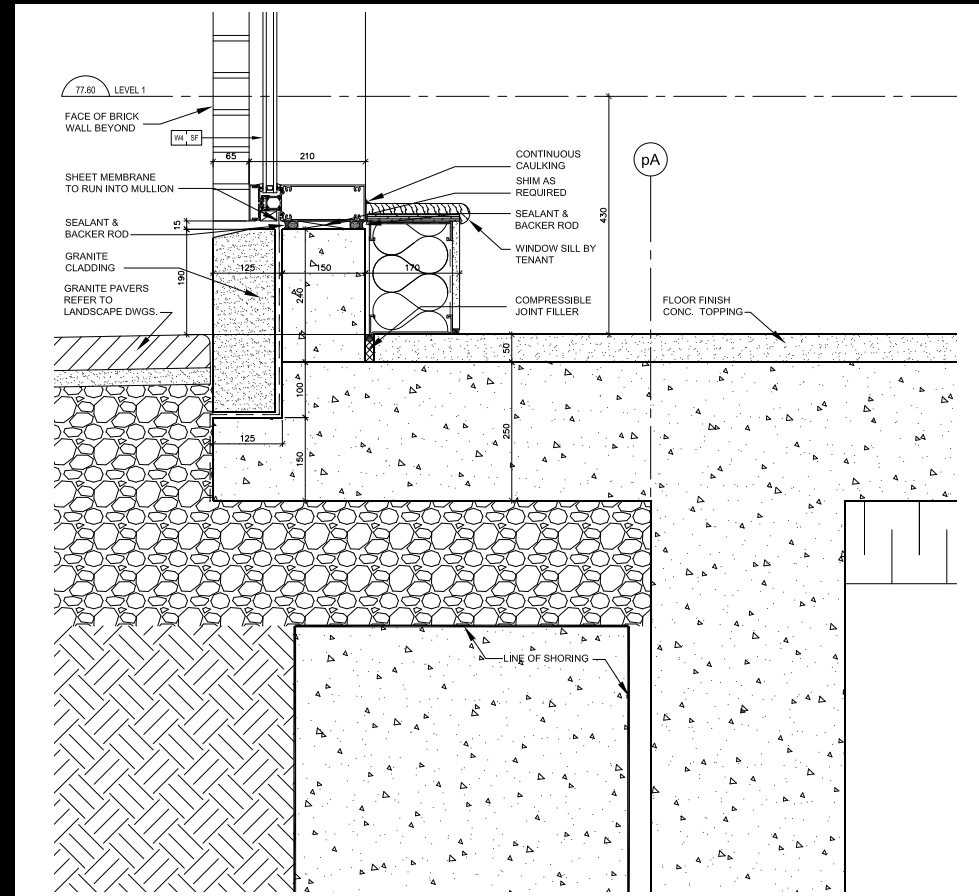




3D SECTION AT GARAGE INTAKE AND ARTSCAPE ENTRANCE (N.T.S.)

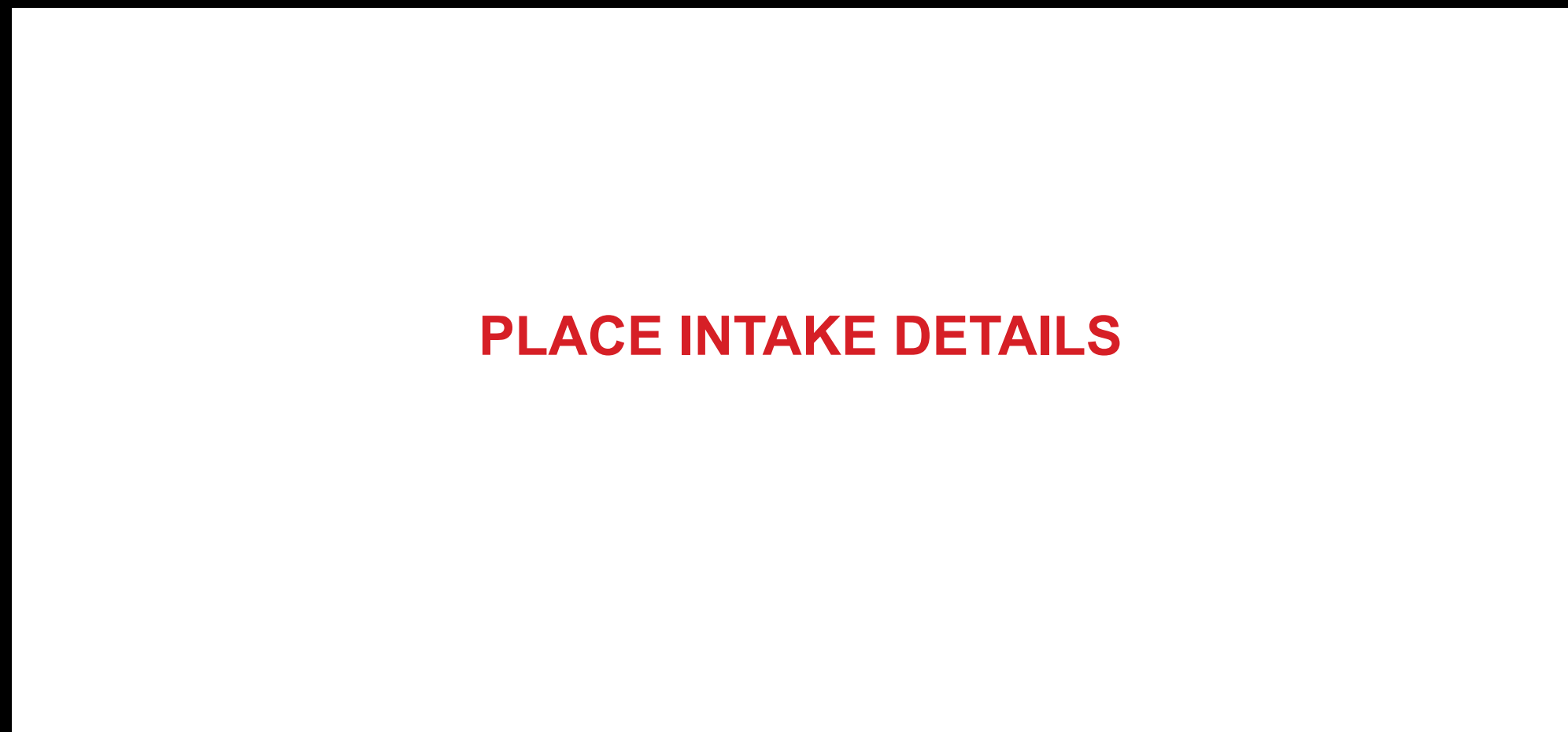


TYPICAL RAILING SECTION AT LEVEL TWO TERRACE (N.T.S.)



CURTAIN WALL SILL AT ARTSCAPE GALLERY (N.T.S.)

**PLACE INTAKE DETAILS**

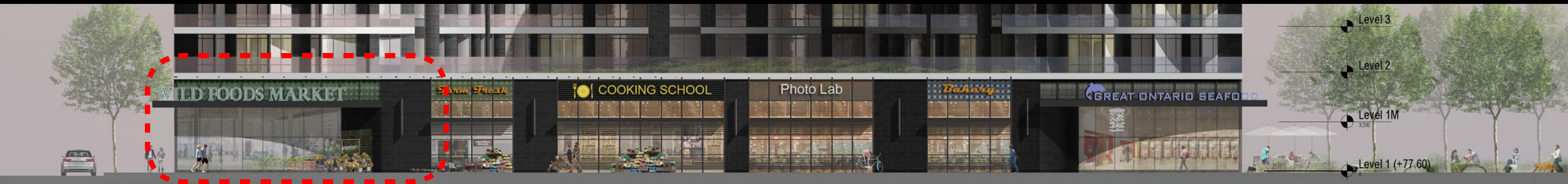


GARAGE INTAKE SECTION (N.T.S.)

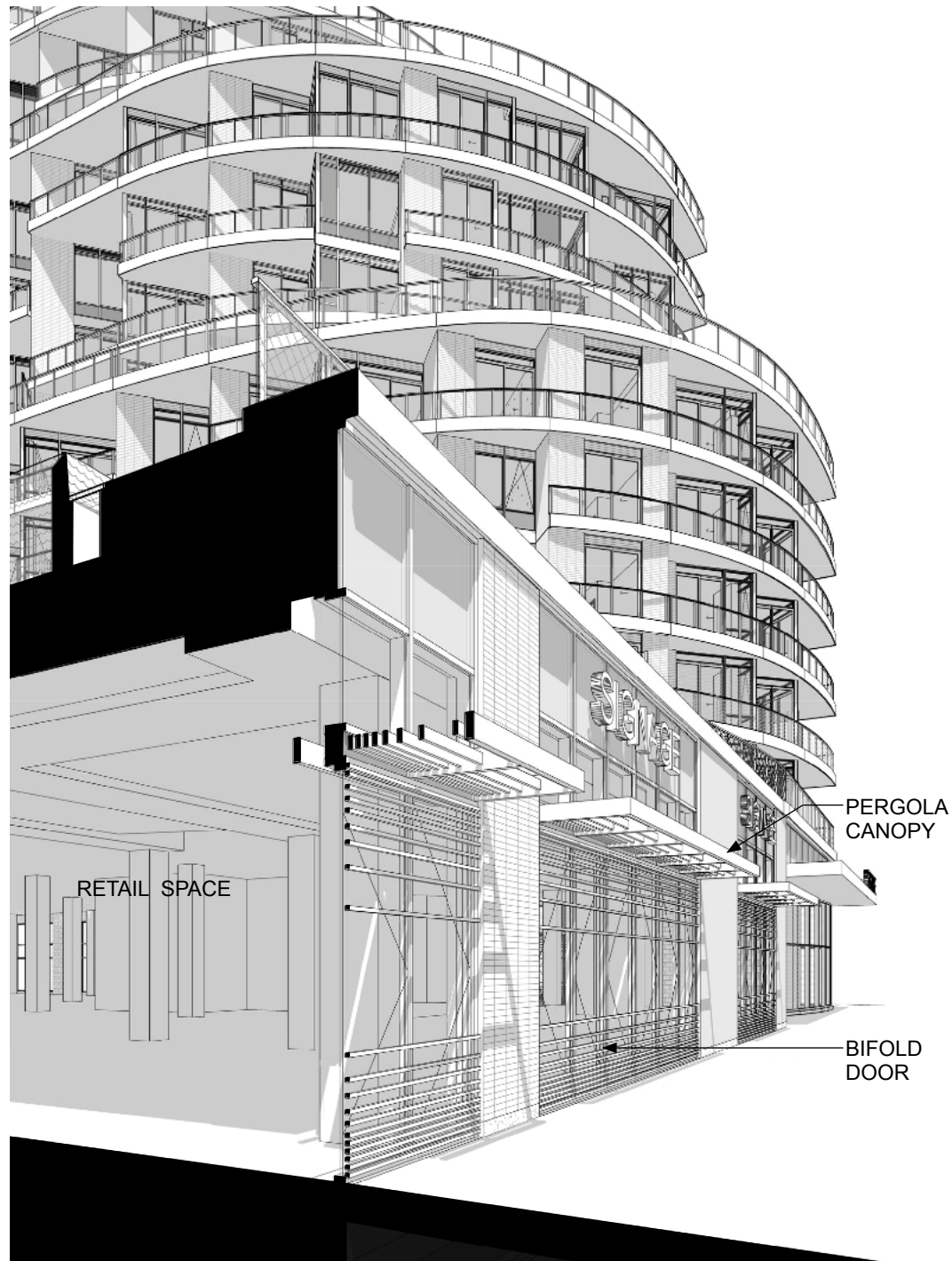




- Roof  
48,500
- Level PH2/Mech  
41,300
- Level PH1  
37,600
- Level 11  
34,150
- Level 10  
30,900
- Level 9  
27,850
- Level 8  
24,700
- Level 7  
21,750
- Level 6  
18,500
- Level 5  
15,550
- Level 4  
12,600
- Level 3  
9,650
- Level 2  
6,700
- Level 1M  
3,200
- Level 1 (+77.60)







3D SECTION AT SOUTH RETAIL FACADE (N.T.S.)

**PLACE SILL DETAILS**

BI-FOLD DOOR SILL AT SOUTH RETAIL FACADE (N.T.S.)

**PLACE SLAB COVER  
DETAILS  
(AT POOL DECK)**

LEVEL TWO SLAB COVER AT SOUTH RETAIL FACADE (N.T.S.)

**PLACE CANOPY DETAILS**

CANOPY DETAIL AT SOUTH RETAIL FACADE (N.T.S.)





Photo Lab

COOKING SCHOOL

AQUAVISTA  
AT BAYSIDE

AQUAVISTA  
AT BAYSIDE

AQUAVISTA  
AT BAYSIDE





- Roof  
46.500
- Level PH2/Mech  
41.300
- Level PH1  
37.400
- Level 11  
34.150
- Level 10  
30.900
- Level 9  
27.650
- Level 8  
24.400
- Level 7  
21.150
- Level 6  
17.900
- Level 5  
14.650
- Level 4  
11.400
- Level 3  
8.150
- Level 2  
4.900
- Level 1M  
3.200
- Level 1 (+77.60)  
0

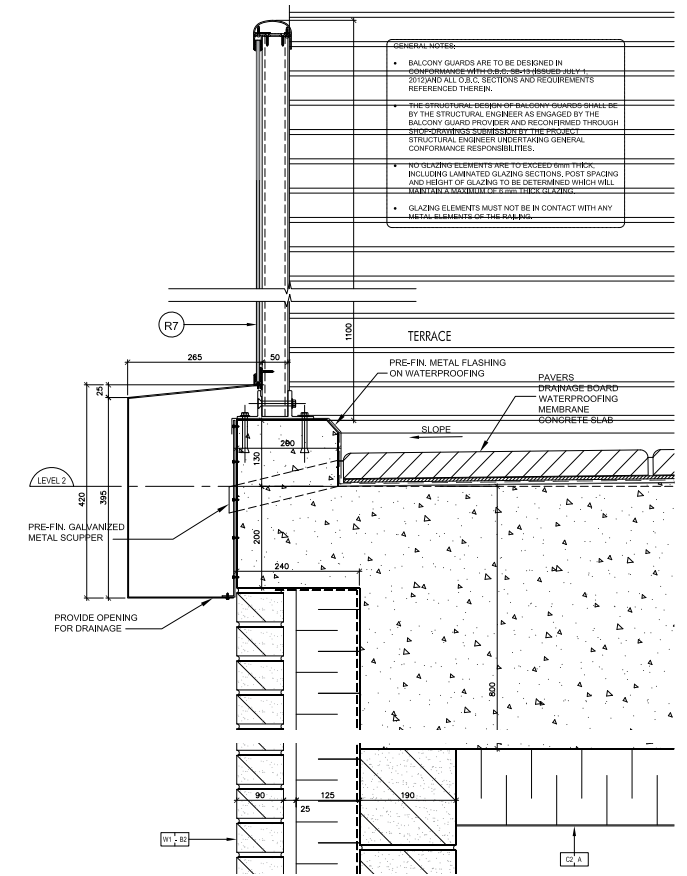




3D SECTION AT EAST RETAIL FACADE (N.T.S.)

**PLACE SILL DETAIL AT GARAGE EXHAUST**

CURTAIN WALL SILL AT EAST RETAIL FACADE (N.T.S.)



LEVEL TWO SLAB COVER AT EAST RETAIL FACADE (N.T.S.)

**PLACE CANOPY DETAIL**

CANOPY DETAIL AT EAST RETAIL FACADE (N.T.S.)



AQUAVISTA



Level 3  
9.850

Level 2  
8.400

Level 1M  
3.200

Level 1 (+77.60)

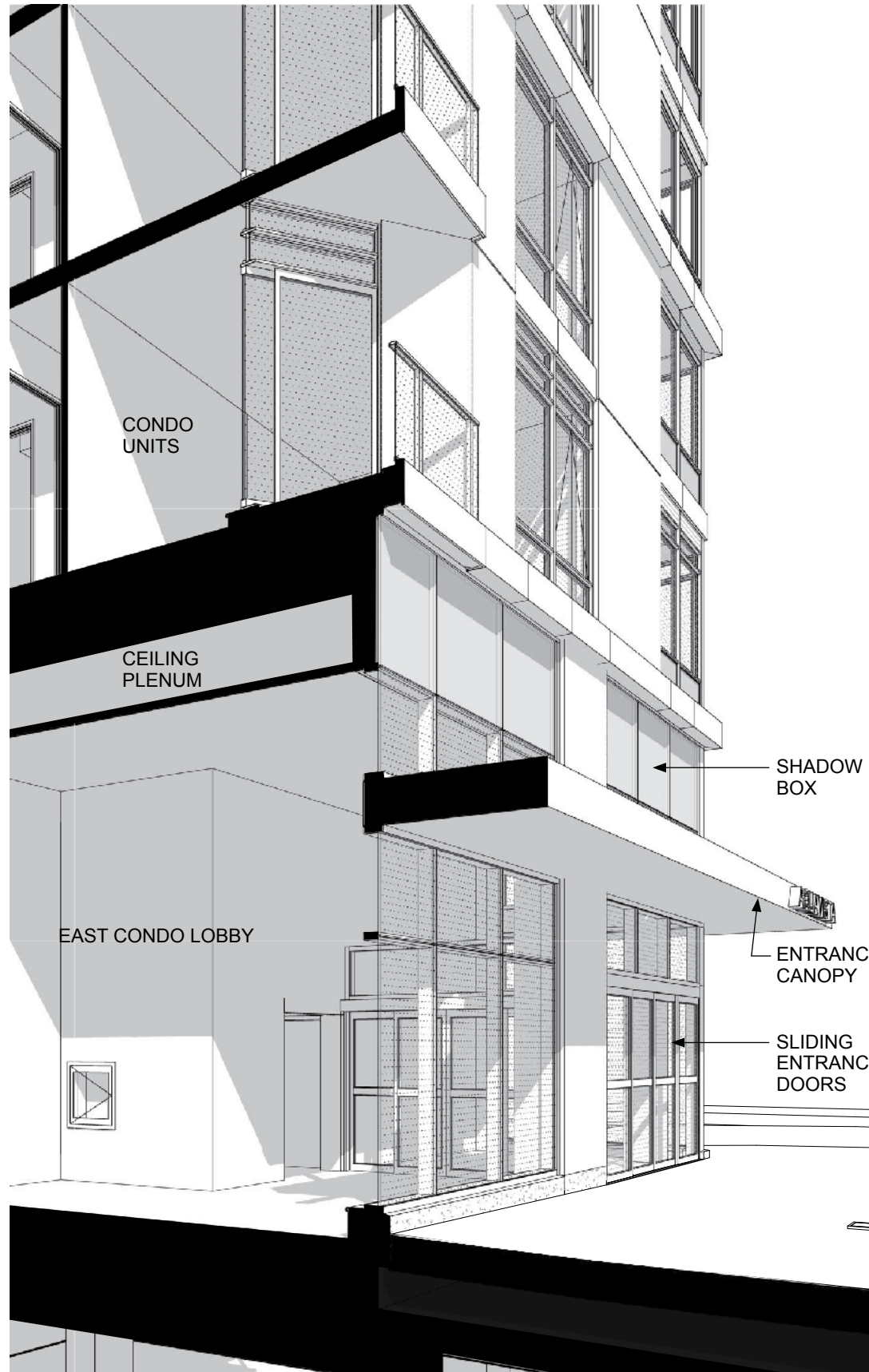
EAST CONDO LOBBY ENTRANCE

11 NOV 2015

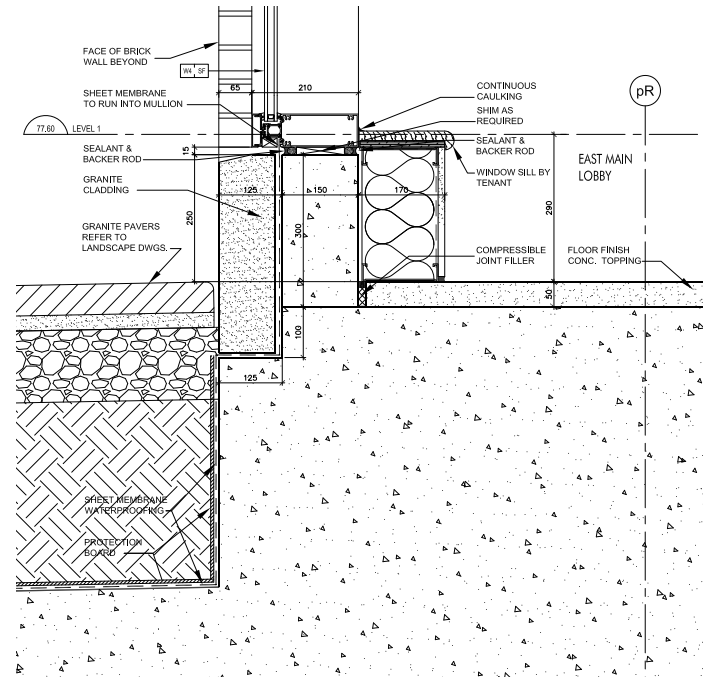
AQUAVISTA

Hines | TRIDEL | ARQUITECTONICA | KIRKOR ARCHITECTS + PLANNERS

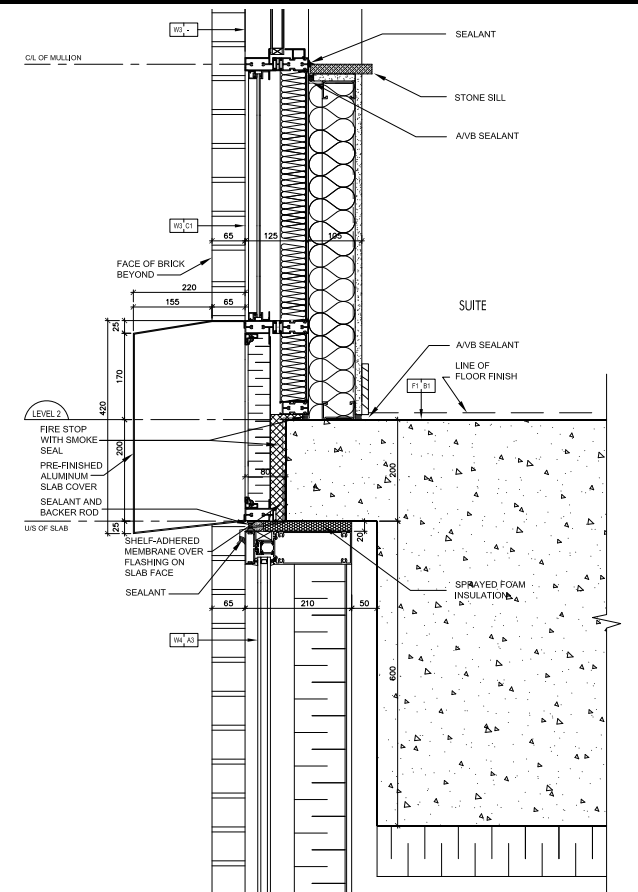
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3D SECTION AT EAST CONDO LOBBY (N.T.S.)



CURTAIN WALL SILL AT EAST CONDO LOBBY (N.T.S.)



LEVEL TWO SLAB COVER AT EAST CONDO LOBBY (N.T.S.)

**PLACE CANOPY DETAIL**

CANOPY DETAIL AT EAST CONDO LOBBY (N.T.S.)





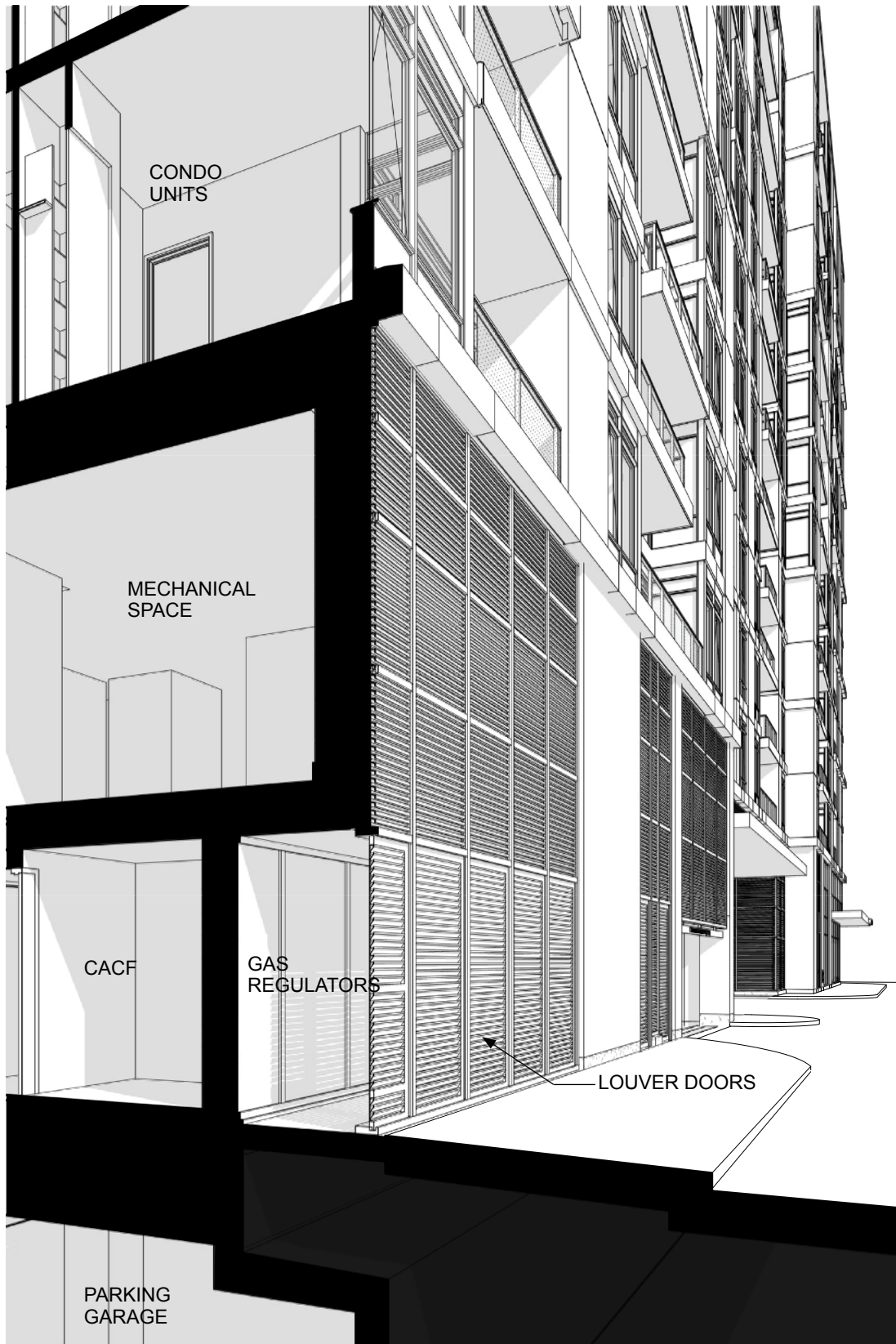
- Roof  
45.500
- Level PH2/Mech  
41.300
- Level PH1  
37.400
- Level 11  
34.150
- Level 10  
30.900
- Level 9  
27.650
- Level 8  
24.700
- Level 7  
21.750
- Level 6  
18.500
- Level 5  
15.550
- Level 4  
12.800
- Level 3  
9.850
- Level 2  
6.800
- Level 1M  
3.200
- Level 1 (+77.60)  
0



AQUAVISTA



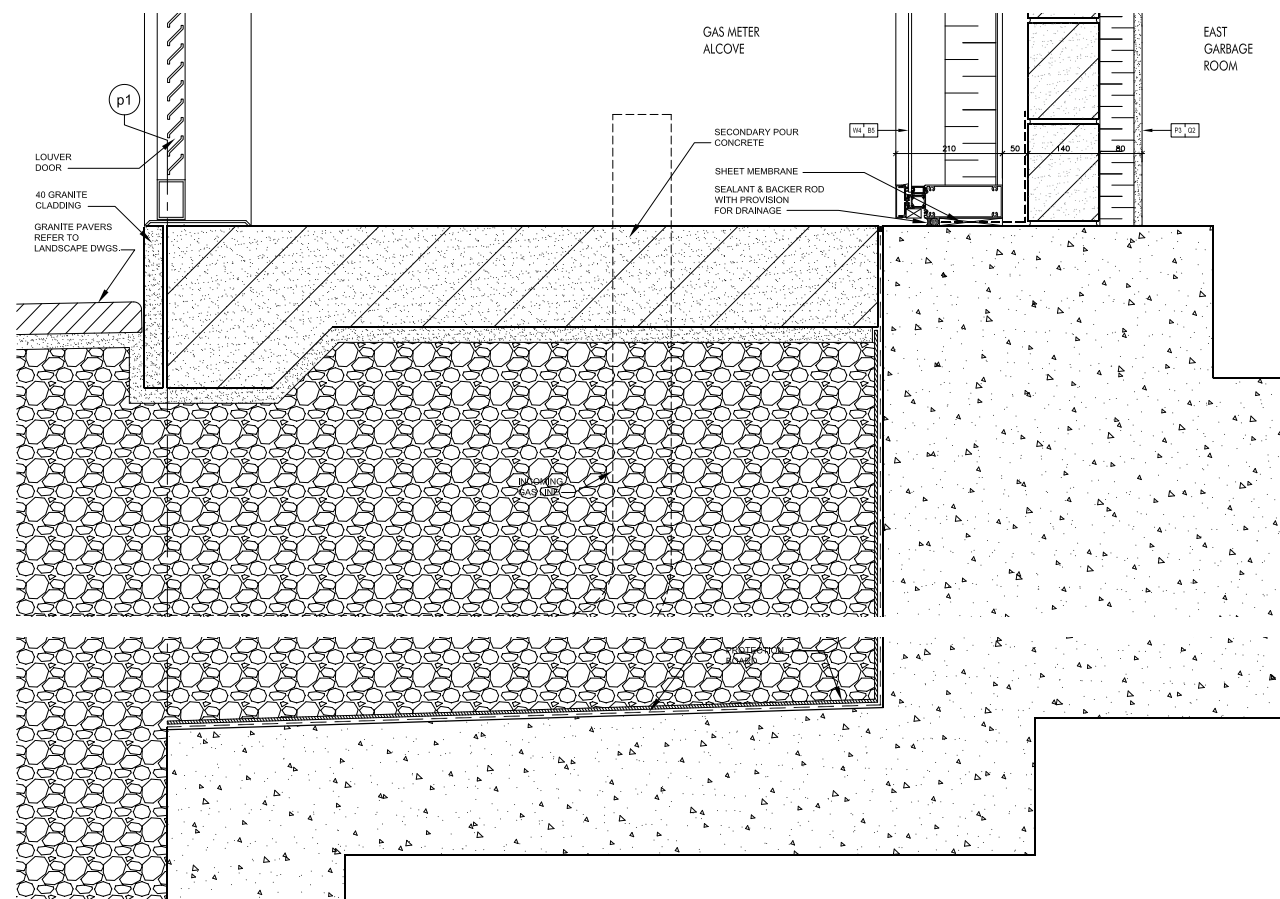
- Level 3  
9.850
- Level 2  
8.400
- Level 1M  
3.200
- Level 1 (+77.60)



3D SECTION AT GAS REGULATORS (N.T.S.)

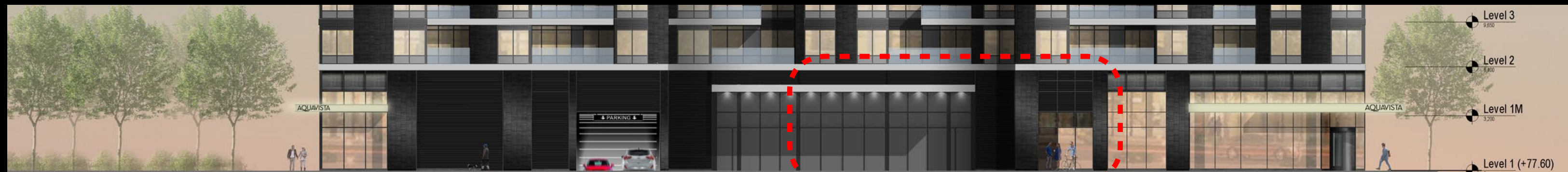
## PLACE WALL DETAIL

CURTAIN WALL AT GAS REGULATORS (N.T.S.)

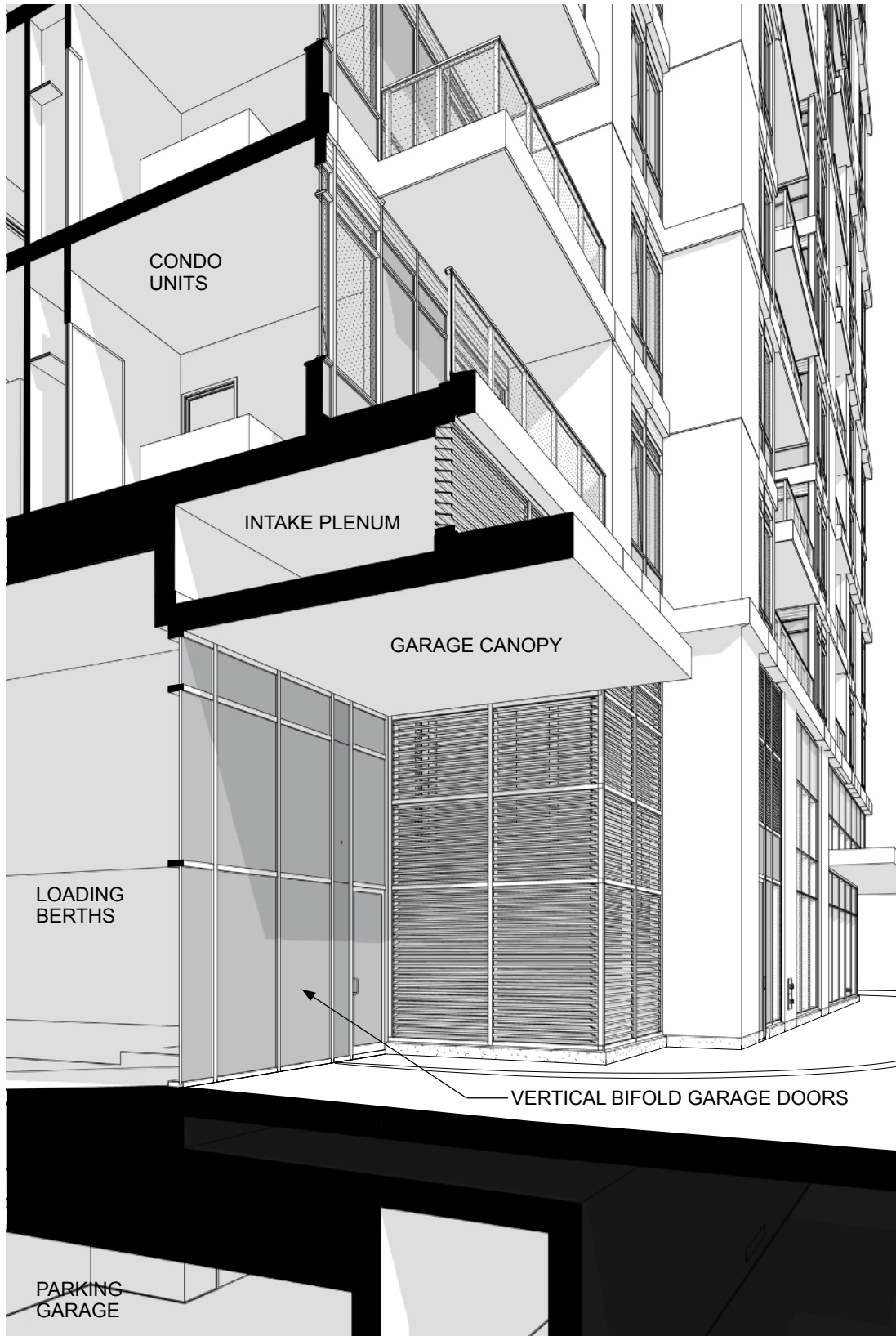


CURTAIN WALL SILL AT REGULATORS (N.T.S.)

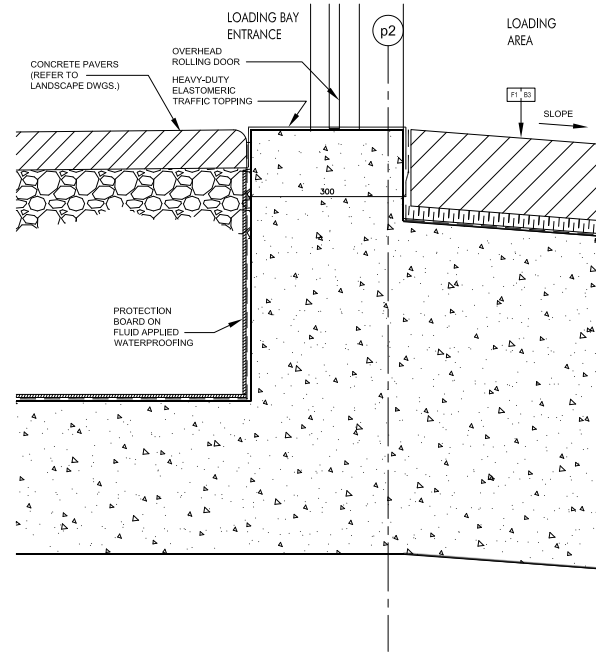




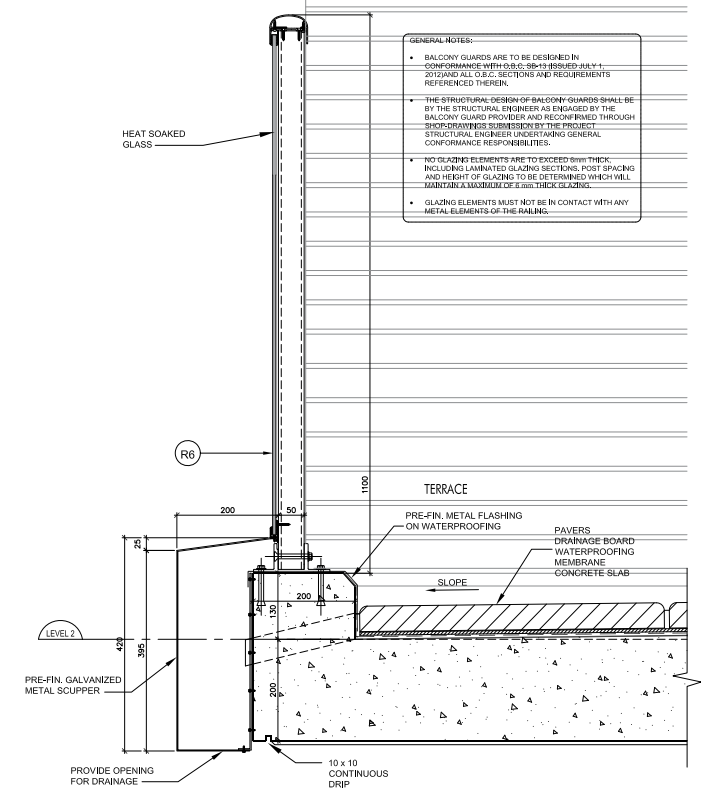




3D SECTION AT SERVICE LOADING BAY (N.T.S.)



OVERHEAD DOOR SILL AT SERVICE LOADING BAY (N.T.S.)



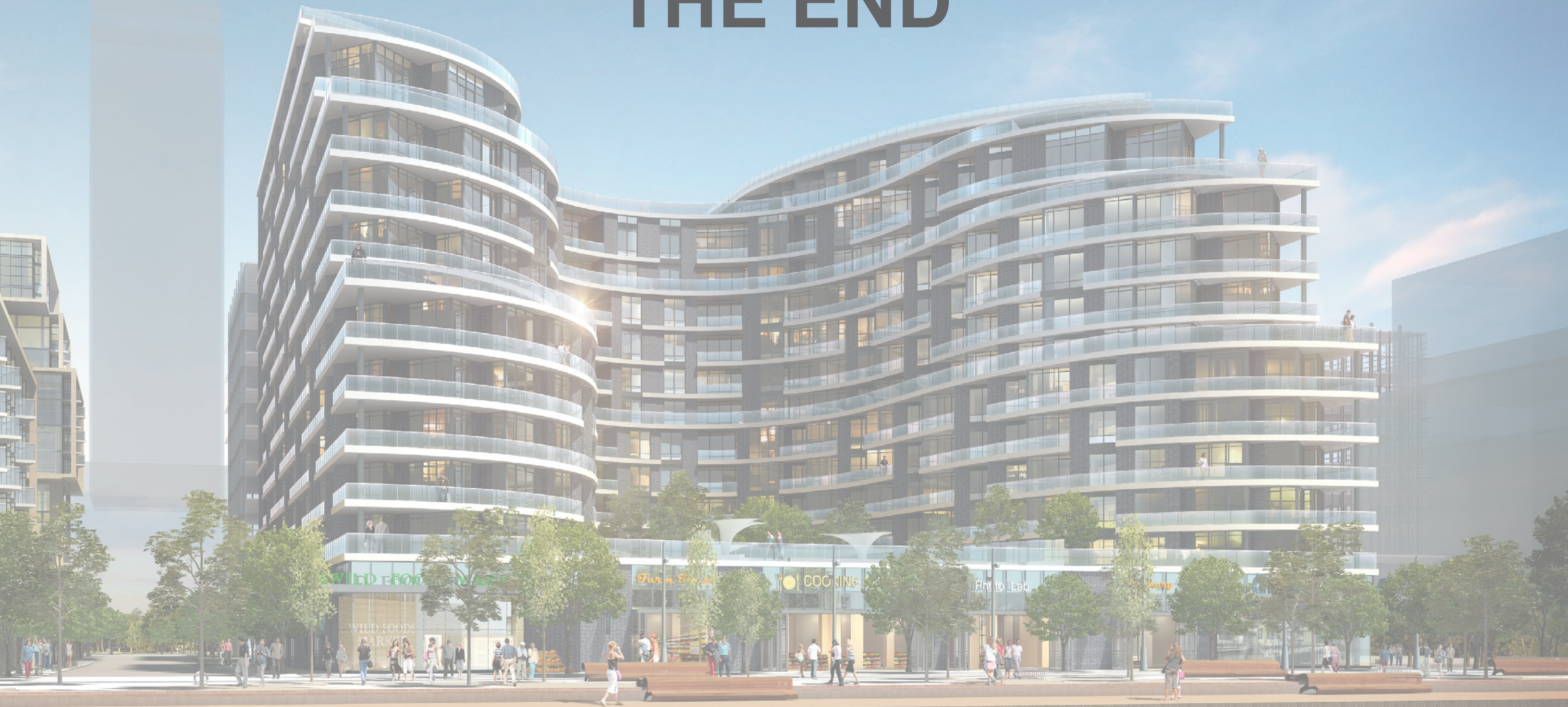
LEVEL TWO SLAB COVER AT SERVICE LOADING BAY (N.T.S.)

**PLACE CANOPY DETAIL**

CANOPY DETAIL AT SERVICE LOADING BAY (N.T.S.)



# THE END



**AQUAVISTA**  
AT BAYSIDE TORONTO

&



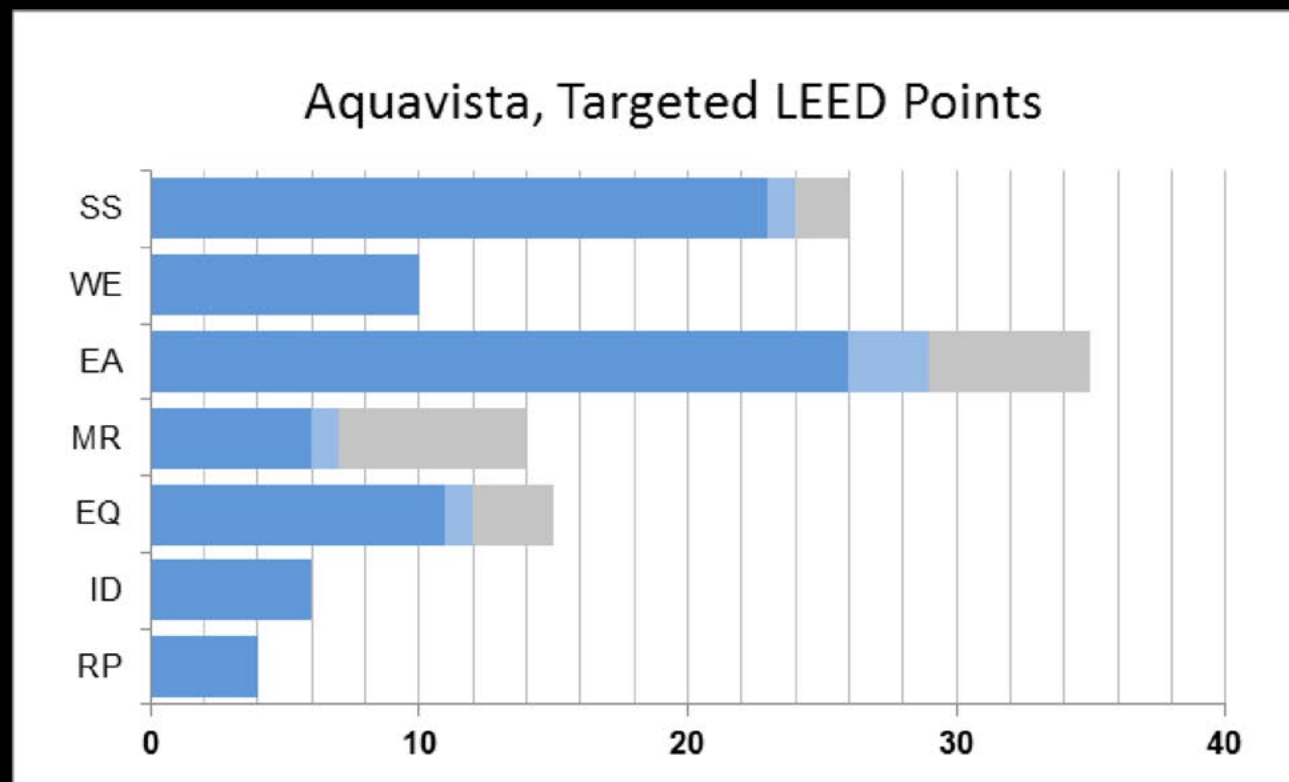
# Sustainability & MGBR

Presented by:



# Sustainability Targets

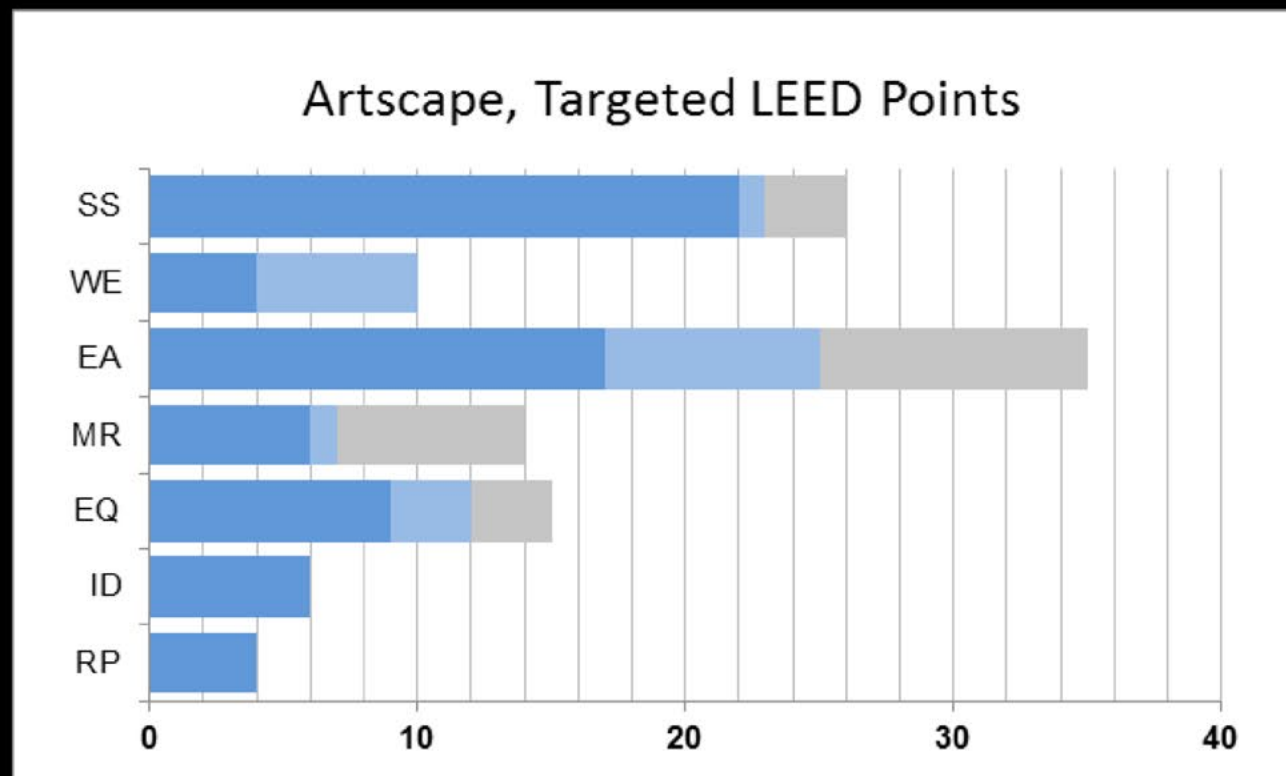
- ✓ MGBR, version 1.0 with amendments
- ✓ Toronto Green Standard, Tier 2
- ✓ LEED® Canada 2009 Registered, on track to achieve **LEED® Platinum**, with 86 points  
(Exceeds **MGBR#2** requirement to achieve LEED® Gold)



- 51% energy cost reduction over MNECB (16 out of 19 LEED points)
- 150.7 ekWh/m<sup>2</sup> design (176.8 ekWh/m<sup>2</sup> with process loads)
- 277.9 ekWh/m<sup>2</sup> reference (316.0 ekWh/m<sup>2</sup> with process loads)

# Sustainability Targets

- ✓ MGBR, version 1.0 with amendments
- ✓ Toronto Green Standard, Tier 1
- ✓ Pursuing LEED® Canada 2009 certification, on track to achieve **LEED® Gold**, with 68 points (Achieves **MGBR#2** requirement to achieve LEED® Gold)

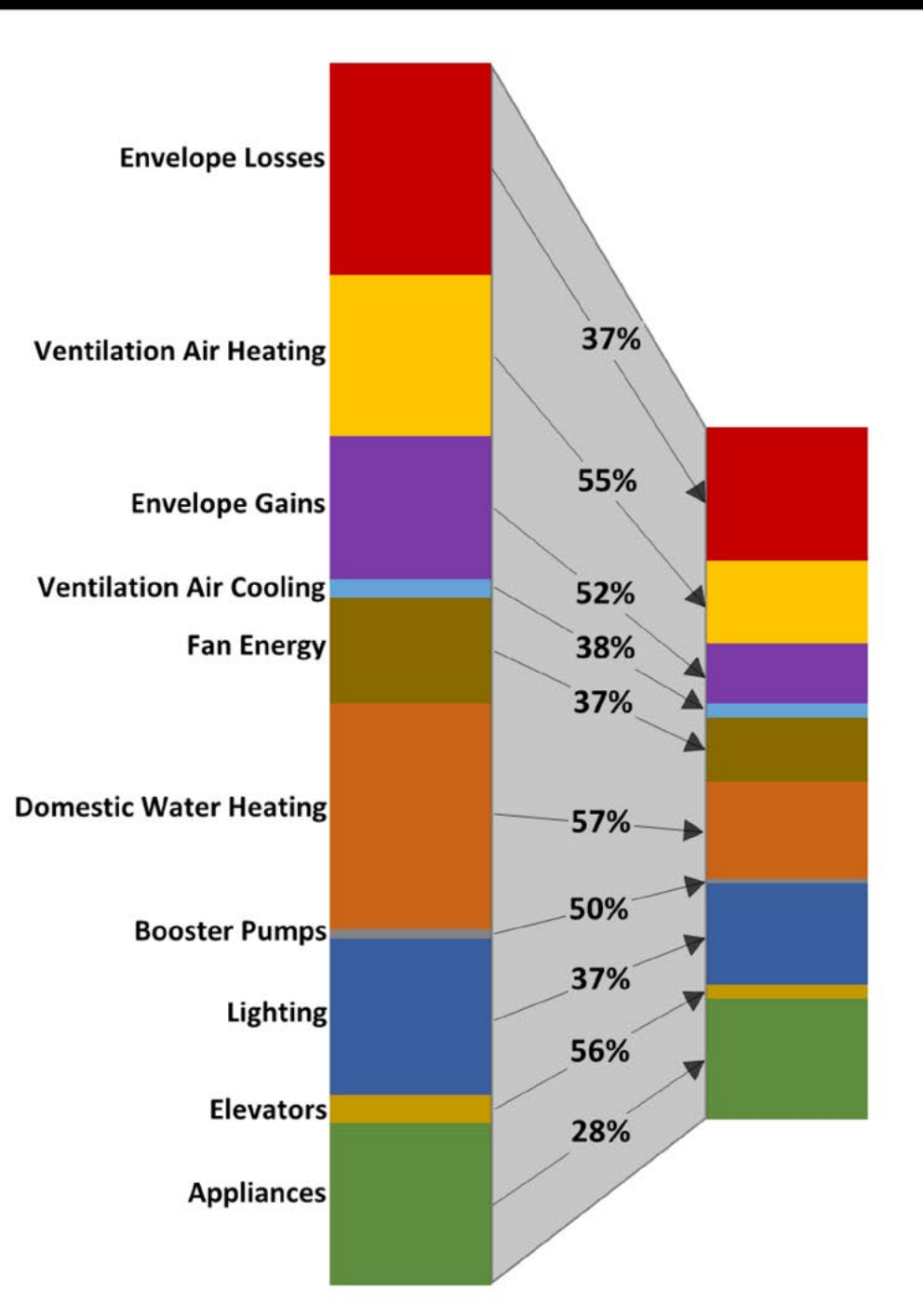


- 46% energy cost reduction over MNECB (13 out of 19 LEED points)
- 147.4 ekWh/m<sup>2</sup> design (170.3 ekWh/m<sup>2</sup> with process loads)
- 280.8 ekWh/m<sup>2</sup> reference (310.6 ekWh/m<sup>2</sup> with process loads)

# MGBR #2 – Energy Performance for Aquavista

| Energy                    |   |           |       |                             |                         |
|---------------------------|---|-----------|-------|-----------------------------|-------------------------|
|                           | Energy Cost   |           |       | Energy Intensity            | Notes                   |
|                           | Total   | Delta     | %     | (ekWh/m <sup>2</sup> /year) |                         |
| <b>MNECB Reference</b>    | \$588,060   | _____     | _____ | 277.9                       | Excluding process loads |
| <b>Proposed Design</b>    | \$271,458   | \$316,602 | 53.8% | 150.7                       | Excluding process loads |
| Window & Doors            |   |           |       |                             |                         |
|                           | Description of Materials  |           |       | U-Value (IP)                | SHGC (%)                |
| <b>Typical Window</b>     | Double-glazed low-E, argon fill, warm-edge spacers, thermally broken aluminum frame.            |           |       | 0.35                        | 0.28                    |
| <b>Typical Glass Door</b> | Double-glazed low-E, argon fill, warm-edge spacers, thermally broken aluminum frame.            |           |       | 0.35                        | 0.36                    |
| Wall & Roof               |   |           |       |                             |                         |
|                           | Description of Materials  |           |       | U-Value (IP)                | R-Nom (IP)              |
| <b>Typical Wall</b>       | Spandrel, semi-rigid insulation, batt insulation. Brick, cavity wall w semi-rigid and batt ins. |           |       | 0.083                       | R-20                    |
| <b>Roof</b>               | Inverted ballast roof or concrete pavers, with 150mm rigid insulation.                          |           |       | 0.033                       | R-30                    |

# Energy Savings Breakdown



- 38% glass-to-wall ratio
- Improved spandrel insulation
- WarmEdge spacers and argon gas
- Corridor air minimized, 20 cfm
- In-suite air heat-recovery, ~70% efficiency
- Low-E coating, max SHGC 0.28 (retail 0.36)
- Reduced air volumes, reduced stack effect, and high-efficiency variable frequency motors
- Water use reduction of ~50% translates to reduced water heating consumption and reduced pumping energy
- Efficient plant systems: condensing boilers & advanced chiller options (e.g. magnetic or ceramic bearing)
- LEDs, occupancy/daylight sensors incorporated where appropriate
- Regenerative elevators
- Energy Star appliances

# MGBR #2 – LEED Platinum for Aquavista

## 86 6 18 Total Project Score Possible Points 110

Y ? N Certified 40 to 49 points Silver 50 to 59 points Gold 60 to 79 points Platinum 80+points

### 23 1 2 Sustainable Sites Possible Points 26

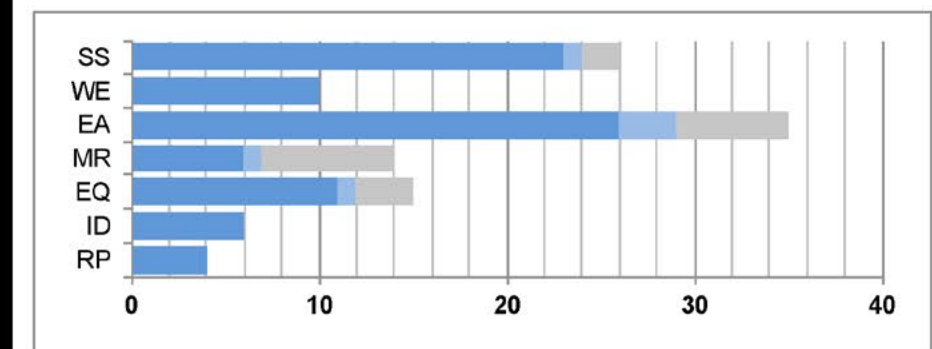
| Y | ? | N |        |  |   |
|---|---|---|--------|--|---|
| - | - | - | SSp1   | Construction Activity Pollution Prevention                       | - |
| 1 |   |   | SSc1   | Site Selection   | 1 |
| 5 |   |   | SSc2   | Development Density & Community Connectivity                     | 5 |
| 1 |   |   | SSc3   | Brownfield Redevelopment   | 1 |
| 6 |   |   | SSc4.1 | Alternative Transportation, Public Transportation Access         | 6 |
| 1 |   |   | SSc4.2 | Alternative Transportation, Bicycle Storage & Changing Rooms     | 1 |
| 3 |   |   | SSc4.3 | Alternative Transportation, Low-Emitting Fuel Efficient Vehicles | 3 |
|   |   | 2 | SSc4.4 | Alternative Transportation, Parking Capacity                     | 2 |
|   | 1 |   | SSc5.1 | Site Development, Protect or Restore Habitat                     | 1 |
| 1 |   |   | SSc5.2 | Site Development, Development Footprint                          | 1 |
| 1 |   |   | SSc6.1 | Stormwater Management, Quantity Control                          | 1 |
| 1 |   |   | SSc6.2 | Stormwater Management, Quality Control                           | 1 |
| 1 |   |   | SSc7.1 | Heat Island Effect, Non-Roof                                     | 1 |
| 1 |   |   | SSc7.2 | Heat Island Effect, Roof   | 1 |
| 1 |   |   | SSc8   | Light Pollution Reduction  | 1 |

### 10 Water Efficiency Possible Points 10

| Y | ? | N |      |                                    |   |
|---|---|---|------|------------------------------------|---|
| - | - | - | WEp1 | Water Use Reduction                | - |
| 4 |   |   | WEc1 | Water Efficient Landscaping        | 4 |
| 2 |   |   | WEc2 | Innovative Wastewater Technologies | 2 |
| 4 |   |   | WEc3 | Water Use Reduction                | 4 |

### 26 3 6 Energy & Atmosphere Possible Points 35

| Y  | ? | N |        |  |    |
|----|---|---|--------|--|----|
| -  | - | - | EAp1   | Fundamental Commissioning of Building Energy Systems | -  |
| -  | - | - | EAp2   | Minimum Energy Performance                           | -  |
| -  | - | - | EAp3   | Fundamental Refrigerant Management                   | -  |
| 16 | 3 |   | EAc1   | Optimize Energy Performance                          | 19 |
| 1  |   | 6 | EAc2   | On-Site Renewable Energy                             | 7  |
| 2  |   |   | EAc3   | Enhanced Commissioning                               | 2  |
| 2  |   |   | EAc4   | Enhanced Refrigerant Management                      | 2  |
| 3  |   |   | EAc5.1 | Measurement and Verification                         | 3  |
| 2  |   |   | EAc6   | Green Power  | 2  |



### 6 1 7 Materials & Resources Possible Points 14

| Y | ? | N |        |  |   |
|---|---|---|--------|--|---|
| - | - | - | MRp1   | Storage & Collection of Recyclables                      | - |
|   |   | 3 | MRc1.1 | Building Reuse, Maintain Existing Walls, Floors, Roof    | 3 |
|   |   | 1 | MRc1.2 | Building Reuse, Maintain Interior Nonstructural Elements | 1 |
| 2 |   |   | MRc2   | Construction Waste Management                            | 2 |
|   |   | 2 | MRc3   | Materials Reuse  | 2 |
| 2 |   |   | MRc4   | Recycled Content   | 2 |
| 2 |   |   | MRc5   | Regional Materials                                       | 2 |
|   |   | 1 | MRc6   | Rapidly Renewable Materials                              | 1 |
|   | 1 |   | MRc7   | Certified Wood   | 1 |

### 11 1 3 Indoor Environmental Quality Possible Points 15

| Y | ? | N |        |   |   |
|---|---|---|--------|---|---|
| - | - | - | EQp1   | Minimum IAQ Performance                                       | - |
| - | - | - | EQp2   | Environmental Tobacco Smoke (ETS) Control                     | - |
|   |   | 1 | EQc1   | Outdoor Air Delivery Monitoring                               | 1 |
| 1 |   |   | EQc2   | Increased Ventilation   | 1 |
| 1 |   |   | EQc3.1 | Construction IAQ Management Plan, During Construction         | 1 |
| 1 |   |   | EQc3.2 | Construction IAQ Management Plan, Before Occupancy            | 1 |
| 1 |   |   | EQc4.1 | Low-Emitting Materials, Adhesives & Sealants                  | 1 |
| 1 |   |   | EQc4.2 | Low-Emitting Materials, Paints                                | 1 |
| 1 |   |   | EQc4.3 | Low-Emitting Materials, Flooring Systems                      | 1 |
| 1 |   |   | EQc4.4 | Low-Emitting Materials, Composite Wood and Agrifiber Products | 1 |
| 1 |   |   | EQc5   | Indoor Chemical & Pollutant Source Control                    | 1 |
| 1 |   |   | EQc6.1 | Controllability of Systems, Lighting                          | 1 |
|   |   | 1 | EQc6.2 | Controllability of Systems, Thermal Comfort                   | 1 |
| 1 |   |   | EQc7.1 | Thermal Comfort, Design                                       | 1 |
| 1 |   |   | EQc7.2 | Thermal Comfort, Verification                                 | 1 |
|   |   | 1 | EQc8.1 | Daylight & Views, Daylight                                    | 1 |
|   | 1 |   | EQc8.2 | Daylight & Views, Views                                       | 1 |

### 6 Innovation in Design Possible Points 6

| Y | ? | N |        |   |   |
|---|---|---|--------|---|---|
| 1 |   |   | IDc1.1 | Innovation in Design, Green Education                                 | 1 |
| 1 |   |   | IDc1.2 | Innovation in Design, Green Cleaning                                  | 1 |
| 1 |   |   | IDc1.3 | Innovation in Design, Exemplary performance, >45% Water Use Reduction | 1 |
| 1 |   |   | IDc1.4 | Innovation in Design, Exemplary performance, 100% Underground Parking | 1 |
| 1 |   |   | IDc1.5 | Innovation in Design, Exemplary performance, 70% Green Power          | 1 |
| 1 |   |   | IDc2   | LEED® Accredited Professional   | 1 |

### 4 Regional Priority Possible Points 4

| Y | ? | N |      |                          |   |
|---|---|---|------|--------------------------|---|
| 1 |   |   | RPc1 | Durable Building         | 1 |
| 3 |   |   | RPc2 | Regional Priority Credit | 3 |

Target = LEED Platinum Certification

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# MGBR #2 – Energy Performance for Artscape

| <b>Energy</b>             |   |              |          |                                  |                         |
|---------------------------|---|--------------|----------|----------------------------------|-------------------------|
|                           | <b>Energy Cost</b>  |              |          | <b>Energy Intensity</b>          | <b>Notes</b>            |
|                           | <b>Total</b>  | <b>Delta</b> | <b>%</b> | <b>(ekWh/m<sup>2</sup>/year)</b> |                         |
| <b>MNECB Reference</b>    | \$131,511   | _____        | _____    | 280.8                            | Excluding process loads |
| <b>Proposed Design</b>    | \$64,591  | \$66,920     | 50.9%    | 147.4                            | Excluding process loads |
| <b>Window &amp; Doors</b> |   |              |          |                                  |                         |
|                           | Description of Materials  |              |          | U-Value (IP)                     | SHGC (%)                |
| <b>Typical Window</b>     | Double-glazed low-E, argon fill, warm-edge spacers, thermally broken aluminum frame.            |              |          | 0.35                             | 0.28                    |
| <b>Typical Glass Door</b> | Double-glazed low-E, argon fill, warm-edge spacers, thermally broken aluminum frame.            |              |          | 0.35                             | 0.36                    |
| <b>Wall &amp; Roof</b>    |   |              |          |                                  |                         |
|                           | Description of Materials  |              |          | U-Value (IP)                     | R-Nom (IP)              |
| <b>Typical Wall</b>       | Spandrel, semi-rigid insulation, batt insulation. Brick, cavity wall w semi-rigid and batt ins. |              |          | 0.083                            | R-20                    |
| <b>Roof</b>               | Inverted ballast roof or concrete pavers, with 150mm rigid insulation.                          |              |          | 0.033                            | R-30                    |

# Energy Saving Features

- 31% glass-to-wall ratio
- Improved spandrel insulation
- WarmEdge spacers and argon gas
- Corridor air minimized, 20 cfm
- In-suite air heat-recovery, ~70% efficiency
- Low-E coating, max SHGC 0.28
- Reduced air volumes, reduced stack effect, and high-efficiency variable frequency motors
- Water use reduction of ~50% translates to reduced water heating consumption and reduced pumping energy
- Efficient boilers and chillers
- CFLs throughout with occupancy sensors incorporated where appropriate
- Energy Star appliances



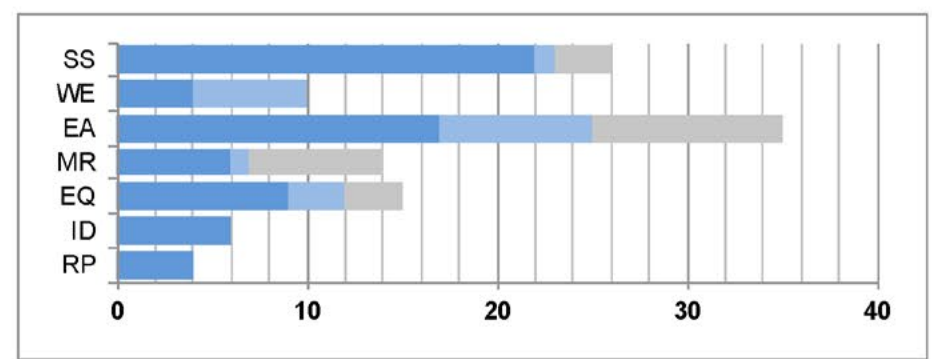
# MGBR #2 – LEED Gold for Artscape

|    |    |    |                            |                        |                      |                     |
|----|----|----|----------------------------|------------------------|----------------------|---------------------|
| 68 | 19 | 23 | <b>Total Project Score</b> | Possible Points        | 110                  |                     |
| Y  | ?  | N  | Certified 40 to 49 points  | Silver 50 to 59 points | Gold 60 to 79 points | Platinum 80+ points |

|    |   |   |   |                 |    |
|----|---|---|---|-----------------|----|
| 22 | 1 | 3 | <b>Sustainable Sites</b>  | Possible Points | 26 |
| Y  | ? | N |   |                 |    |
| -  | - | - | SSp1 Construction Activity Pollution Prevention                         | -               |    |
| 1  |   |   | SSc1 Site Selection   | 1               |    |
| 5  |   |   | SSc2 Development Density & Community Connectivity                       | 5               |    |
| 1  |   |   | SSc3 Brownfield Redevelopment   | 1               |    |
| 6  |   |   | SSc4.1 Alternative Transportation, Public Transportation Access         | 6               |    |
| 1  |   |   | SSc4.2 Alternative Transportation, Bicycle Storage & Changing Rooms     | 1               |    |
| 3  |   |   | SSc4.3 Alternative Transportation, Low-Emitting Fuel Efficient Vehicles | 3               |    |
|    |   | 2 | SSc4.4 Alternative Transportation, Parking Capacity                     | 2               |    |
|    | 1 |   | SSc5.1 Site Development, Protect or Restore Habitat                     | 1               |    |
|    |   | 1 | SSc5.2 Site Development, Development Footprint                          | 1               |    |
| 1  |   |   | SSc6.1 Stormwater Management, Quantity Control                          | 1               |    |
| 1  |   |   | SSc6.2 Stormwater Management, Quality Control                           | 1               |    |
| 1  |   |   | SSc7.1 Heat Island Effect, Non-Roof                                     | 1               |    |
| 1  |   |   | SSc7.2 Heat Island Effect, Roof   | 1               |    |
| 1  |   |   | SSc8 Light Pollution Reduction  | 1               |    |

|   |   |   |   |                 |    |
|---|---|---|---|-----------------|----|
| 4 | 6 |   | <b>Water Efficiency</b>                 | Possible Points | 10 |
| Y | ? | N |   |                 |    |
| - | - | - | WEp1 Water Use Reduction                | -               |    |
|   | 4 |   | WEc1 Water Efficient Landscaping        | 4               |    |
|   | 2 |   | WEc2 Innovative Wastewater Technologies | 2               |    |
| 4 |   |   | WEc3 Water Use Reduction                | 4               |    |

|    |   |    |   |                 |    |
|----|---|----|---|-----------------|----|
| 17 | 8 | 10 | <b>Energy &amp; Atmosphere</b>                            | Possible Points | 35 |
| Y  | ? | N  |   |                 |    |
| -  | - | -  | EAp1 Fundamental Commissioning of Building Energy Systems | -               |    |
| -  | - | -  | EAp2 Minimum Energy Performance                           | -               |    |
| -  | - | -  | EAp3 Fundamental Refrigerant Management                   | -               |    |
| 13 | 3 | 3  | EAc1 Optimize Energy Performance                          | 19              |    |
|    |   | 7  | EAc2 On-Site Renewable Energy                             | 7               |    |
| 2  |   |    | EAc3 Enhanced Commissioning                               | 2               |    |
| 2  |   |    | EAc4 Enhanced Refrigerant Management                      | 2               |    |
|    | 3 |    | EAc5.1 Measurement and Verification                       | 3               |    |
|    | 2 |    | EAc6 Green Power  | 2               |    |



|   |   |   |   |                 |    |
|---|---|---|---|-----------------|----|
| 6 | 1 | 7 | <b>Materials &amp; Resources</b>                                | Possible Points | 14 |
| Y | ? | N |   |                 |    |
| - | - | - | MRp1 Storage & Collection of Recyclables                        | -               |    |
|   |   | 3 | MRc1.1 Building Reuse, Maintain Existing Walls, Floors, Roof    | 3               |    |
|   |   | 1 | MRc1.2 Building Reuse, Maintain Interior Nonstructural Elements | 1               |    |
| 2 |   |   | MRc2 Construction Waste Management                              | 2               |    |
|   |   | 2 | MRc3 Materials Reuse  | 2               |    |
| 2 |   |   | MRc4 Recycled Content   | 2               |    |
| 2 |   |   | MRc5 Regional Materials   | 2               |    |
|   |   | 1 | MRc6 Rapidly Renewable Materials                                | 1               |    |
|   | 1 |   | MRc7 Certified Wood   | 1               |    |

|   |   |   |  |                 |    |
|---|---|---|--|-----------------|----|
| 9 | 3 | 3 | <b>Indoor Environmental Quality</b>                                  | Possible Points | 15 |
| Y | ? | N |  |                 |    |
| - | - | - | EQp1 Minimum IAQ Performance   | -               |    |
| - | - | - | EQp2 Environmental Tobacco Smoke (ETS) Control                       | -               |    |
|   |   | 1 | EQc1 Outdoor Air Delivery Monitoring                                 | 1               |    |
| 1 |   |   | EQc2 Increased Ventilation   | 1               |    |
| 1 |   |   | EQc3.1 Construction IAQ Management Plan, During Construction         | 1               |    |
| 1 |   |   | EQc3.2 Construction IAQ Management Plan, Before Occupancy            | 1               |    |
| 1 |   |   | EQc4.1 Low-Emitting Materials, Adhesives & Sealants                  | 1               |    |
| 1 |   |   | EQc4.2 Low-Emitting Materials, Paints                                | 1               |    |
| 1 |   |   | EQc4.3 Low-Emitting Materials, Flooring Systems                      | 1               |    |
| 1 |   |   | EQc4.4 Low-Emitting Materials, Composite Wood and Agrifiber Products | 1               |    |
|   | 1 |   | EQc5 Indoor Chemical & Pollutant Source Control                      | 1               |    |
| 1 |   |   | EQc6.1 Controllability of Systems, Lighting                          | 1               |    |
|   |   | 1 | EQc6.2 Controllability of Systems, Thermal Comfort                   | 1               |    |
| 1 |   |   | EQc7.1 Thermal Comfort, Design                                       | 1               |    |
|   | 1 |   | EQc7.2 Thermal Comfort, Verification                                 | 1               |    |
|   |   | 1 | EQc8.1 Daylight & Views, Daylight                                    | 1               |    |
|   | 1 |   | EQc8.2 Daylight & Views, Views                                       | 1               |    |

|   |   |   |  |                 |   |
|---|---|---|--|-----------------|---|
| 6 |   |   | <b>Innovation in Design</b>  | Possible Points | 6 |
| Y | ? | N |  |                 |   |
| 1 |   |   | IDc1.1 Innovation in Design, Green Education                                 | 1               |   |
| 1 |   |   | IDc1.2 Innovation in Design, Green Cleaning                                  | 1               |   |
| 1 |   |   | IDc1.3 Innovation in Design, Exemplary performance, >45% Water Use Reduction | 1               |   |
| 1 |   |   | IDc1.4 Innovation in Design, Exemplary performance, 100% Underground Parking | 1               |   |
| 1 |   |   | IDc1.5 Innovation in Design, Exemplary performance, 70% Green Power          | 1               |   |
| 1 |   |   | IDc2 LEED® Accredited Professional   | 1               |   |

|   |   |   |                               |                 |   |
|---|---|---|-------------------------------|-----------------|---|
| 4 |   |   | <b>Regional Priority</b>      | Possible Points | 4 |
| Y | ? | N |                               |                 |   |
| 1 |   |   | RPc1 Durable Building         | 1               |   |
| 3 |   |   | RPc2 Regional Priority Credit | 3               |   |

Target = LEED Gold Certification

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Daylighting with glare control in common areas and amenities.

Daylight sensor-controlled lighting in daylit common areas



LED lighting in common areas, including amenity space and lobby

Material selection targeting recycled (20%) and regional (40%) content

Low-VOC finishes, including paint, adhesives, flooring and carpet

Ultra-Low Emitting Formaldehyde (ULEF) in composite wood and agrifibre

Occupancy sensors in garage, stairwells, and many common areas.

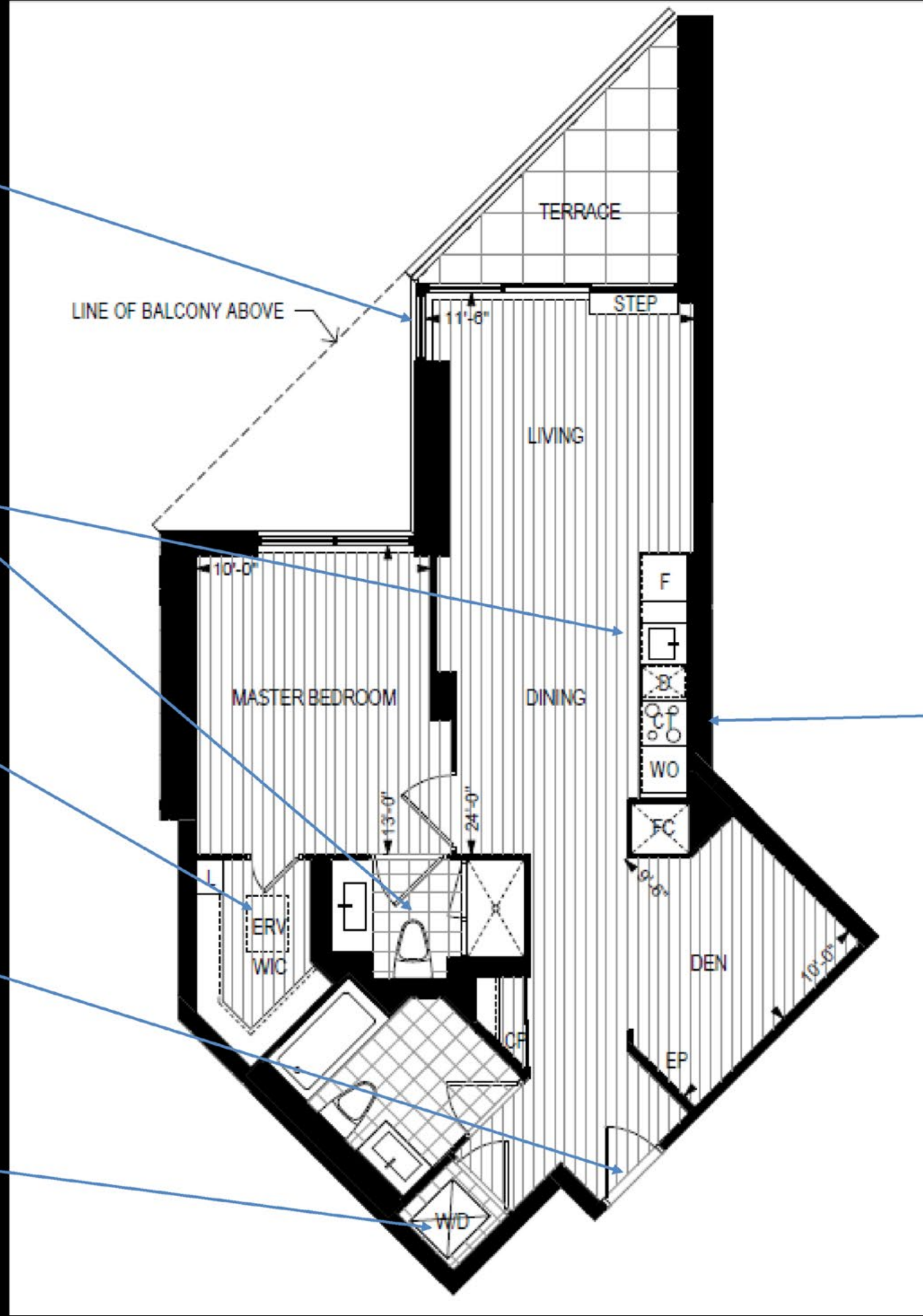
High performance envelope with low-E glazing, argon gas, warm-edge spacers, and casement windows

Over 50% water use reduction through plumbing fixture selection (per LEED 2009 reference)

Reduced air-heating energy: in-suite ERVs with 70% heat recovery and corridor mark-up air reduction to 20 cfm/suite

Weatherstripping on suite doors to minimize odours and tobacco smoke from migrating between suites

**MGBR#4:** Energy Star® appliances throughout improve energy and water savings



Material selection targeting recycled (20%) and regional (40%) content

Low-VOC finishes, including paint, adhesives, flooring and carpet

Ultra-Low Emitting Formaldehyde (ULEF) in composite wood and agrifibre

**MGBR #8:** Segregated cabinet space for 3-stream waste collection built into kitchen storage

Green Cleaning policy promotes long term healthy indoor air quality

Green Education brochure informs tenants of building features and their role in energy management and sustainability

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Green roof integrated into occupied space for wind mitigation and privacy on terraces

MGBR#7: 65% green roof coverage of available roof area



Photovoltaic Panels, 135 sq.m. to offset 1% of annual energy consumption, by cost (for Aquavista only).

Stormwater capture and re-use for 100% non-potable irrigation of rooftop amenities and street trees

- 100% non-potable water will be used for irrigation.
- Extensive green roof will be native, adaptive, drought tolerant; to be irrigated during establishment period.
- Green roof planters to have permanent irrigation system.
- Maintenance plan will be provided by green roof / landscape contractors.

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**MGBR #7:** Roof is designed to carry 8.2 kPa deadload, enough to potentially support an intensive green roof in the future.

**MGBR #6:** Slab-to-slab heights of 2.95 (regular suites) and 3.25-5.2m (penthouse); ground floor 6.4m with back-of-house mezzanine.

Bird-friendly glass is used to treat 85% of first 12 metres; 4 metres above green roof; and fly-through corners.



# MGBR#1: Integrated Design Process

Topics discussed in IDP meetings:

- Holistically energy efficient design, informed by building energy simulation
  - Envelope design and specification
  - Equipment efficiencies
  - Lighting strategies
- Roof design
  - Integration of green roof, terraces, and amenity spaces
  - Solar PVs
- Stormwater management and reuse
- Strategies for achieving LEED Gold / Platinum
- Spatial configuration
  - Optimal positioning of cistern, utility rooms, bicycle storage, etc. for efficient use of space and function.



## MGBR#2b: Measurement & Verification

- Measurement of key central and in-suite energy and water loads
- M&V plan will follow IPMVP Option “D”, Method 2 : Calibrated Simulation.
- Building energy simulation will be calibrated, based on metered data, and compared to MNECB Reference.
- Quarterly reports will be issued for one full year of operation, to provide useful feedback on building energy and water performance.



Electrical Meter

Water Meter

Thermal Meter

## MGBR#5: In-Suite Metering

- Heating, cooling, hot water, cold water, and electricity will be submetered.
- Residents will be invoiced monthly.
- Residents will have access to web portal and mobile app to review all historical hourly consumption data.

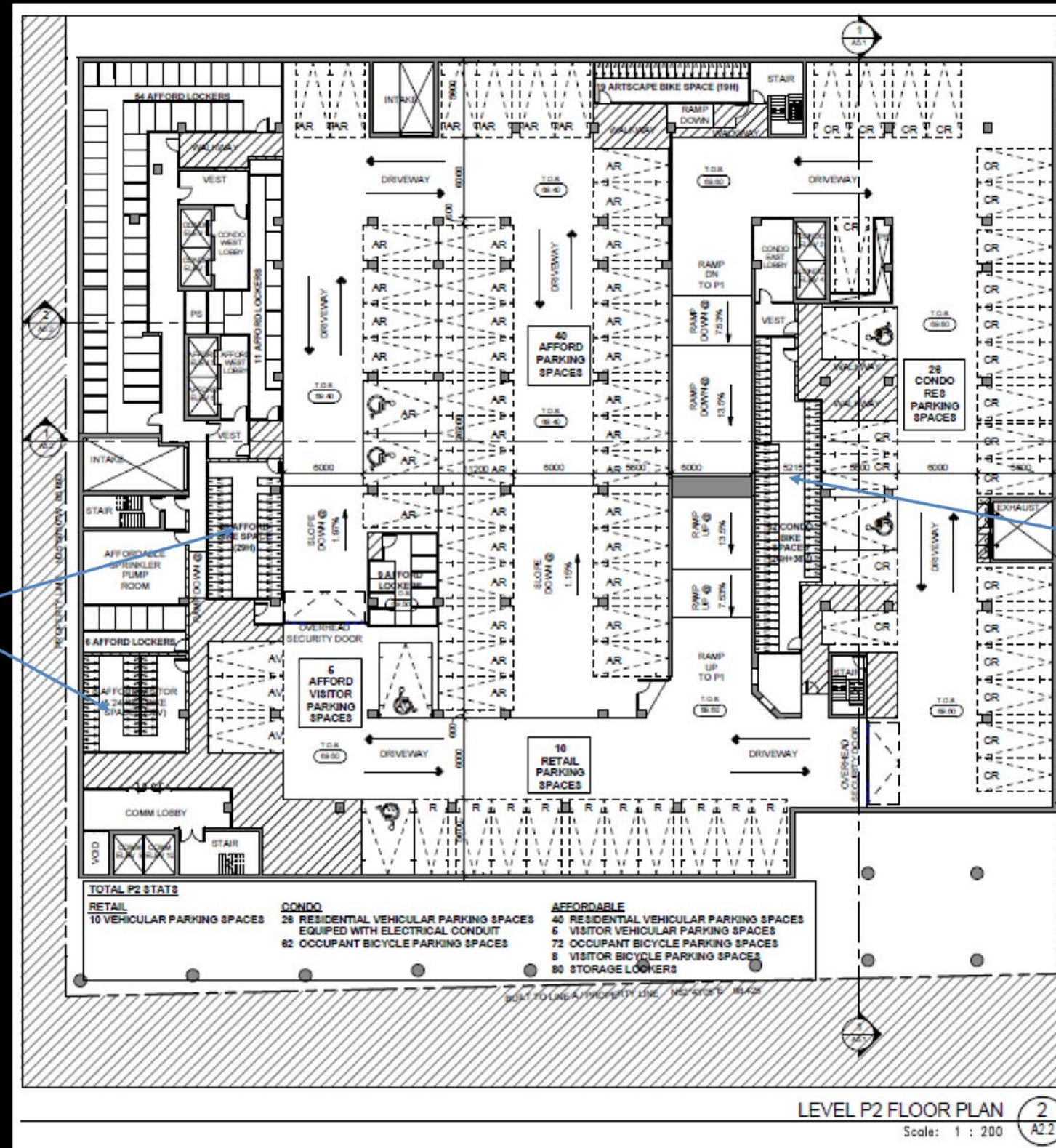


# MGBR # 9 – Waste Management

- Tandem Triple Waste-sorting bins will be integrated into kitchen design.
- Artscape will have a Trisorter for separating waste streams.
- Aquavista will have a bisorter for garbage and recycling plus a separate chute for organic waste.
- Instructions for sorting waste will be posted beside waste chutes and included within literature provided to new occupants.



# MGBR # 10 – Bicycle Parking & Storage



72 bicycle parking spaces for Artscape located within the Artscape parking and storage area on P2.

219 bicycle parking spaces for Aquavista situated around dedicated elevator on each parking level.

Supporting Materials Provided: Yes

# MGBR Checklist

| MGBR Checklist                                      | Summary of Strategy   |
|---|---|
| 1. Integrated Design Process                        | The IDP process began early during concept design and will continue with regular IDP meetings. Topics discussed at IDP meetings include: LEED Gold/Platinum strategy, energy efficiency, solar PVs (for Aquavista), vegetation at rooftop amenities, and stormwater reuse.                |
| 2. LEED Gold  | Aquavista: LEED Platinum will be pursued, with at least 86 points targeted. Current design is 51% more energy efficient than MNECB (by cost).<br>Artscape: LEED Gold will be pursued, with at least 68 points targeted. Current design is 46% more energy efficient than MNECB (by cost). |
| 2b. Measurement & Verification                      | M&V plan will follow IPMVP Option "D", Method 2 : Calibrated Simulation. Building energy simulation will be calibrated, based on metered data, and compared to MNECB Reference.   |
| 3. District Energy                                  | Not applicable.   |
| 4. Energy Star Appliances                           | Energy Star appliances (or equivalent) will be provided.  |
| 5. Meter Energy and Water Consumption at Each Suite | Each suite will have thermal meters (heating and cooling), electricity meters, and both hot and cold water meters. Residents will be invoiced monthly based on metered consumption. Residents will be able to log in to view consumption online and via mobile app.                       |
| 6. Long Term Flexibility                            | Slab to slab heights ranging from 2.95 to 5.2 meters are provided in residential spaces. Ground floor height is 6.4 meters.   |
| 7. Green Roof                                       | Green roof area is at least 60% of available roof space. Roof structure is designed for intensive green roof. A maintenance plan will be established to support health and longevity of the green roof.   |
| 8. Waste Management                                 | Kitchens will have segregated cabinet space for waste, recyclables, and organics.   |
| 9. Bicycle Parking and Storage                      | 219 bicycle parking spaces are provided for Aquavista and 72 are provided for Artscape. LEED ND requirements will be exceeded.  |