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**Design Review Committee
April 10, 2014**

TO: Chair and Members of Design Review Committee

Signed by

SUBMITTED BY: Brad Anguish, Director, Community and Recreation Services

DATE: March 31, 2014

SUBJECT: **Case 19148: Substantive Site Plan Approval – Mixed-Use
Development at 1583 Hollis Street, Halifax**

ORIGIN

Application by Southwest Properties Limited

LEGISLATIVE AUTHORITY

Halifax Regional Municipality Charter, Part VIII, Planning & Development

RECOMMENDATION

It is recommended that the Design Review Committee:

1. Approve the qualitative elements of the substantive site plan approval application for the mixed-use development for 1583 Hollis Street, Halifax, as shown on Attachment A;
2. Approve the requested variances to the Streetwall Setbacks, Streetwall Width, Upper Storey Streetwall Stepback, Upper Storey Side Yard Stepback, Maximum Tower Width and Maximum Height, as shown in Attachment A;
3. Accept the findings of the quantitative wind impact assessment found in Attachment E; and
4. Recommend that the Development Officer accept, as the post-bonus height public benefit for the development: a) the provision of publically accessible amenity or open space in the form of through-block walkways between Hollis, Sackville and Lower Water Streets and the granting of an easement/right-of-way to HRM; and, b) exemplary sustainable building practices through pursuit of a LEED Gold level.

EXECUTIVE SUMMARY

Southwest Properties Limited is proposing to develop a 21-storey mixed residential and commercial development at 1583 Hollis Street, Halifax within the block bordered by Hollis, Sackville, Lower Water and Salter Streets. The project requires Substantive Site Plan Approval based upon a review of the Design Manual of the Downtown Halifax Land Use By-Law.

The proposed development includes ground floor retail and restaurant uses, 20 floors of residential units above, underground parking, loading and storage areas and exterior public through-block walkways between three streets.

The Design Review Committee is specifically charged with:

- considering the project in light of the Design Manual of the Downtown Halifax Land Use By-law;
- evaluating and making a decision on variances that are being sought;
- considering the results of the wind impact assessment that addresses the expected levels of pedestrian comfort that will result with the project; and
- recommending the proposed public benefit that should be approved to allow the project to exceed the pre-bonus maximum height requirement.

This report provides analysis and recommendations on these matters to the Design Review Committee. It has been determined that the proposal meets the qualitative elements of the Design Manual. Furthermore, it is concluded that the variances being sought are consistent with the Design Manual, the expected wind conditions for pedestrian comfort are acceptable, and the proposed public benefit that is associated with the project is suitable so as to allow it to exceed the pre-bonus maximum height requirement. Upon review of these matters, staff recommends that the site plan approval be granted.

BACKGROUND

Proposal

This application for Substantive Site Plan Approval by Southwest Properties Limited is for a 21-storey mixed residential and commercial development at 1583 Hollis Street, within Downtown Halifax (refer to Attachment A). The proposal includes ground floor retail/ commercial and restaurant uses, 20 floors of residential units above the ground floor, four levels of underground parking, loading and storage areas and exterior public through-block walkways between three streets. To enable the proposal to proceed to the permit and construction phases, the Design Review Committee must consider the proposal relative to the Design Manual within the Downtown Halifax Land Use By-Law (LUB).

Existing Context

The site is located at the intersection of Hollis and Sackville Streets and is the home of the former Bank of Canada federal building, which is currently being demolished. The total site area is approximately 29,510 square feet with 235 feet of frontage on Hollis Street, 120 feet of frontage on Sackville Street and a narrow connection to Lower Water Street (Map 1). This block is currently comprised of the Ralston Building to the immediate south and a provincially-owned parking lot to the immediate east.

Project Description

The following highlights the major elements of the proposal:

- approximately 15,400 square feet of commercial floor space at street level with pedestrian access points along each street and separate residential lobby area;
- approximately 281 residential units on 20 storeys above the ground floor;
- the building has a total height of 72.5 metres, measured from the average grade to the top of the penthouse roof; a variance to exceed the maximum height pursuant to s. 3.6.8 of the Design Manual has been requested;
- four underground parking levels containing approximately 253 vehicle parking spaces and 145 bicycle spaces;
- residential driveway access to underground parking off Sackville Street;
- landscaped areas, including through-block walkways between the three streets, upper level roof terrace, residential terraces and balconies and rooftop low-maintenance landscaping.

Post-bonus Public Benefit

The maximum pre-bonus height for this property is 51 metres. A maximum height (the “post-bonus height”) may be achieved with the provision of a density bonus. The proposed post-bonus public benefit (Attachment C) for this project is the provision of pedestrian through-block walkways between Hollis, Sackville and Lower Water Streets, which would be implemented by way of a public easement or right-of-way in favour of HRM which will be required as part of the post-bonus “public benefit agreement” pursuant to Land Use By-law section 12(9). The agreement will contain the specifics of the public benefit (including cost estimates, specs, plans, etc.). The LUB calls for the “provision of publicly accessible amenity or open space, where a deficiency in such spaces exists” pursuant to 12(7)(b), that deficiency being the lack of mid-block connections in the downtown. Additional public benefit, if necessary, will be provided in the category of the “provision of exemplary sustainable building practices”, pursuant to 12(7)(i), through pursuit of a LEED Gold level.

Information about the approach to the design of the building has been provided by the applicant (Attachment B).

Regulatory Context

With regard to the Downtown Halifax Secondary Municipal Planning Strategy (DHSMPS), the Downtown Halifax LUB and Design Manual, the following are relevant to note from a regulatory context:

- the site is situated within the Lower Central Downtown Area (Precinct #4), is located on a Central Block and is zoned DH-1 (Downtown Halifax);
- as noted above, the maximum pre-bonus height is 51 metres and the post-bonus height is 66 metres;
- the ground floor of the building must have a floor-to-floor height of no less than 4.5 metres;
- the required streetwall setbacks on all street frontages is between 0 and 1.5 metres;
- the minimum streetwall setback is 3 metres between the top of the streetwall and 33.5 metres, and 4.5 metres above 33.5 metres in height;

- the minimum streetwall height is 11 metres while the maximum streetwall height is 18.5 metres for all street frontages;
- high-rise buildings above 33.5 metres shall be separated by 17 metres and shall be a maximum width of 38 metres and depth of 27.5 metres;
- landscaping is required for the portion of flat rooftops which are not occupied by architectural features or mechanical equipment;
- the Sackville Street frontage is indicated as “Prominent Civic/ Cultural Frontage” on Map 1 (Civic Character) of the Design Manual; and
- the subject site and block is identified on Map 10 (Open Spaces) of the MPS as a possible location for a “Desired Mid-Block Link” and “Potential Courtyard”.

Role of the Development Officer

In accordance with the Substantive Site Plan Approval process, as set out in the Downtown Halifax LUB, the Development Officer is responsible for determining if a proposal meets the land use and built form requirements of the LUB. The Development Officer has reviewed the application and determined it to be in conformance with these requirements, with the exception of the Streetwall Setbacks, Streetwall Width, Upper Storey Streetwall Stepback, Upper Storey Side Yard Stepback, Maximum Tower Width and Maximum Height. The applicant has requested variances to these elements.

Role of the Design Review Committee

The role of the Design Review Committee in this case is to:

1. determine if the proposal is in keeping with the design guidelines contained within the Design Manual;
2. determine if the proposal should be approved with respect to the criteria in the Design Manual for the issuance of variances;
3. determine if the proposal is suitable in terms of the expected wind conditions on pedestrian comfort; and
4. provide advice to the Development Officer with respect to the acceptability of the proposed post-bonus height public benefit category.

If the Design Review Committee approves the project, the decision of the Committee is subject to an appeal as per the provisions of the Downtown Halifax Secondary Planning Strategy. If no appeals are received, the project can proceed to the permit and construction phases.

DISCUSSION

Design Manual Guidelines

An evaluation of the proposed project against the applicable guidelines of the Design Manual is found in table format in Attachment D. The table indicates staff’s advice as to whether the project complies with a particular guideline. In addition, it identifies circumstances where there are different possible interpretations of how the project relates to a guideline or where additional explanation is warranted. These matters are outlined in more detail as follows.

Grade-level Retail Entrances (3.2.3f, 3.2.5a)

The Design Manual indicates that retail entrances are to be located at or near grade in order to avoid exceedingly raised or sunken entrances. In this case, along the Hollis Street sidewalk level, there is a small portion of retail frontage which is to be raised slightly to accommodate the change in grade. At this location, the applicant is proposing a ramp and steps, with a small retaining wall which will contain lighting. As this feature is rather minor in terms of the overall retail frontage, it can be considered acceptable.

Canopies and Awnings (2.4 f, 3.2.3 b, 3.1.1 d, 3.3.3 b & c)

The Design Manual encourages canopies and awnings over the sidewalks abutting the project, as a means of providing weather protection for pedestrians. Canopies are also proposed for wind mitigation purposes (refer to *Wind Assessment* section below). Ground-level canopies are proposed over the main entrances on Sackville and Hollis Streets and in the area identified as the restaurant patio. As canopies and awnings are encouraged but not mandatory, except on pedestrian-oriented streets, the presence of these elements meets the intent of the Design Manual.

Corner-Site Building Treatment (3.4.2 a, b, c & d)

The Design Manual calls for the special treatment of building corners at street intersections along prominent civic frontages (Sackville and Hollis Streets – see *Map 1- Civic Character*). The building base at the corner is animated through a frontal design that is comprised of large retail windows that face both Granville and Sackville Streets and is accentuated by the recession of the ground floor level which wraps around the corner beneath the canopy and provides publicly accessible space between the sidewalk and storefronts. Additionally, the tower portion of the building includes a bowed glass vertical element at its northern end which relates to the corner and is separated from the tower’s “box” element by a reveal between them. This distinctive vertical element extends above the base to the full building height and culminates with a signature top feature of glass with aluminum fins which is proposed to be highlighted with nighttime up-lighting.

Lighting (3.5.4b)

Conceptual plans have been provided for the lighting of the building and the public through-block walkways. The applicant has provided details about the lighting that is proposed for the major elements of the project, such as the sidewalk level, entrances, accent architectural features (i.e., rooftop vertical element) and the public open space walkways (in-wall lighting, under-lit seating, lights set in paving and bollards down to Lower Water Street). The observations contained in Attachment D are based on the description of the lighting elements that have been outlined by the applicant and illustrated in Attachment A. The proposed lighting meets the intent of the Design Manual.

Variances:

Six categories of variances are sought to the quantitative elements of the LUB for this development. Four of these (streetwall width, upper storey streetwall stepback, upper storey side yard stepback and tower width variances) relate to the trade-off involved in providing the public through-block connections between Hollis, Sackville and Lower Water Streets and dealing with the resultant loss of “buildable area” on the site by altering the building form and positioning. The proposed variances are as follows:

- 1) Streetwall Setback Variance: Downtown Halifax LUB: Section 9, Subsection (1). Streetwall setbacks are in accordance with Map 6 of the LUB which establishes that setbacks shall be within 0 – 1.5 metres.

Non-compliance: There are 2 areas of non-compliance:

- a) 2.0 metre setback requested along the ground-floor level of Hollis Street to accommodate multiple recessed entrances; and
- b) Varying setback of between 1.8 to 3 metres requested along the ground-floor level of Sackville Street to accommodate a recessed entrance and an existing sewer easement.

Variance option: Section 3.6.1 of the Design Manual allows for a variance to the streetwall setback subject to meeting certain conditions as outlined in Attachment D. Of the potential conditions for a variance, this application is being considered under the following provisions:

- 3.6.1a. the streetwall setback is consistent with the objectives and guidelines of the Design Manual;

Response: The LUB definition of the streetwall allows for minor recesses for individual doorways. In this case, the larger recession of the ground-floor level of the building provides for a coherent row of retail storefronts, results in a greater degree of weather protection for pedestrians and avoids infringing upon the existing sewer right-of-way. It is therefore recommended that the DRC grant the requested variance, which is consistent with the intent of the LUB and the Design Manual.

- 2) Streetwall Width Variance: Downtown Halifax LUB: Section 9, Subsection (5). The streetwall shall extend the full width of a lot within the Central Blocks.

Non-Compliance: The streetwall extends for 76% of the lot width along Hollis Street and 84% of the lot width along Sackville Street. The resultant 5.5 metre-wide “gaps” in the streetwall are to provide for the proposed through-block, sidewalk-level walkways and to accommodate the restaurant patio off Hollis Street.

Variance option: Section 3.6.4 of the Design Manual allows for a variance to the streetwall width subject to meeting certain conditions as outlined in Attachment D. Of the potential conditions for a variance, this application is being considered under the following provisions:

- 3.6.4 a. the streetwall width is consistent with the objectives and guidelines of the Design Manual; and
- b. the resulting gap in the streetwall has a clear purpose, is well designed and makes a positive contribution to the streetscape;

Response: Policy 59 and Map 10 (Open Spaces) of the MPS suggest a potential mid-block link and courtyard on the central portion of this block. The creation of new through-block walkways is consistent with the intent of the Design Manual (Section 3.2.2c) to provide enhanced pedestrian environments in specific locations throughout the downtown. The details related to these walkways will be the subject of the public benefit agreement noted in the *Background* section of this report. This agreement, in combination with the design drawings in Attachment A, will ensure that the public benefit in the form of the through-block walkways will be well

designed and have a clear purpose. It is therefore recommended that the DRC grant the requested variance.

3) Upper Storey Streetwall Stepback Variance: Downtown Halifax LUB: Section 9(7)(a) and (b) stipulate minimum setbacks above the streetwall of 3 metres and 4.5 metres for portions of a building that are a maximum of 33.5 metres in height or greater than 33.5 metres in height, respectively. Section 10(13) stipulates that balconies shall be permitted encroachments into a setback, provided that the protrusion of the balcony is no greater than 2 metres from the building face and the aggregate length of such balconies does not exceed 50% of the horizontal width of that building face.

Non-Compliance: Along Hollis Street, the proposed setback above the streetwall is 1.2 metres from the northwestern corner of the building and the continuous balconies along the western façade. On Sackville Street, the setback is 3.5 metres from the bowed facade.

Variance option: Section 3.6.5 of the Design Manual allows for a variance to the upper storey setback subject to meeting certain conditions as outlined in Attachment D. Of the potential conditions for a variance, this application is being considered under the following provisions:

- 3.6.5 a. the upper storey streetwall setback is consistent with the objectives and guidelines of the Design Manual; and
- b. the modification results in a positive benefit such as improved heritage preservation or the remediation of an existing blank building wall.

Response: In this case, the need to position the mid-rise and tower portions of the building slightly closer to Hollis and Sackville Streets is a direct result of the provision of the through-block pedestrian links along the south and east property lines, which is seen as a positive benefit. The resultant building floor plates will provide the ability to achieve reasonable depths for the residential units. As indicated in the response to variance #2 (streetwall width variance), the creation of new through-block walkways is consistent with the intent of the MPS and the Design Manual. It is therefore recommended that the DRC grant the requested variance.

4) Upper Storey Side Yard Stepback Variance: Downtown Halifax LUB: Section 10(5) stipulates that the mid-rise portion of a building shall not project beyond the vertical plane of the exterior walls of the low-rise portion of the building. Section 10(7) stipulates that any portion of a high-rise building above a height of 33.5 metres shall be setback 11.5 metres from interior lot lines. Section 10(13) stipulates that balconies shall be permitted encroachments into a setback, provided that the protrusion of the balcony is no greater than 2 metres from the building face and the aggregate length of such balconies does not exceed 50% of the horizontal width of that building face.

Non-Compliance: There are 2 areas of non-compliance:

- a) the area of the swimming pool, which is located within the mid-rise portion of the building, projects over the low-rise portion by approximately 1.5 metres, and
- b) a 10.3 metre setback (instead of 11.5m) is requested from the northeastern corner of the building and the continuous balconies along the eastern façade.

Variance option: Section 3.6.6 of the Design Manual allows for a variance to the upper storey side yard setback subject to meeting certain conditions as outlined in Attachment D. Of the potential conditions for a variance, this application is being considered under the following provisions:

- 3.6.6 a. the upper storey side yard setback is consistent with the objectives and guidelines of the Design Manual; and
- b. where the height of the building is substantially lower than the maximum permitted building height and the setback reduction is proportional to that lower height;

Response: As the subject site is located on a Central Block, there is no side yard required for either the low-rise or mid-rise portion of the building. In this case, a 5.5 metre setback of the low-rise portion is proposed to accommodate the through-block link which will lie above the underground parking levels. The building height in this location is much lower than the maximum permitted. Therefore, it is reasonable to allow for the minor overhang or encroachment of the swimming pool above the low-rise portion of the building. With regard to the upper storey side yard setback along the eastern façade, as is indicated in the response to variance #2 (streetwall width variance), the need for this variance results from the creation of new through-block walkways which is consistent with the intent of the MPS and the Design Manual. It is therefore recommended that the DRC grant the requested variance.

- 5) Maximum Tower Width Variance: Downtown Halifax LUB: Section 10(11) stipulates that any portion of a building above a height of 33.5m located in the central blocks, as identified in Map 8, shall be a maximum width of 38m and a maximum depth of 27.5m.

Non-Compliance: The proposed width of the tower is 53 metres instead of 38 metres.

Variance option: Section 3.6.7 of the Design Manual allows for a variance to the width of the building subject to meeting certain conditions as outlined in Attachment D. Of the potential conditions for a variance, this application is being considered under the following provisions:

- 3.6.7 a. the maximum tower width is consistent with the objectives and guidelines of the Design Manual; and
- b. the modification results in a clear public benefit such as the remediation of an existing blank building wall;

Response: Within the Downtown, the LUB addresses the need for light penetration by requiring buildings to be stepped back as they rise above the street and by setting maximum width and depth requirements for towers. The proposed tower is approximately 15 metres wider than what is permitted by the LUB. However, there is ample distance (35.5m) between the proposed tower and its closest neighbour, the Ralston Building to the immediate south. Thus, the tower width will have a modest impact on the visual intent of the LUB. As is indicated in the response to variance #2 (streetwall width variance), the need for this variance results from the creation of new through-block connections which is consistent with the intent of the MPS and the Design Manual. It is therefore recommended that the DRC grant the requested variance.

- 6) Maximum Height Variance: Downtown Halifax LUB: Section 8(8) stipulates that height requirements shall not apply to specific rooftop features, elevator enclosures and mechanical

equipment/ penthouses, provided that they occupy less than 30% of the area of the roof of the building on which they are located. Section 8(10) stipulates that such features be setback no less than 3 metres from the outer most edge of the roof.

Non-Compliance: The proposed mechanical penthouse will occupy 75% of the area of the roof and will be set back 1.5 metres from the east, south and west edges of the roof. The bowed signature top feature of glass with aluminum fins has no setback.

Variance option: Section 3.6.8 of the Design Manual allows for a variance to the maximum height subject to meeting certain conditions as outlined in Attachment D. Of the potential conditions for a variance, this application is being considered under the following provisions:

- 3.6.8 a. the maximum height is consistent with the objectives and guidelines of the Design Manual; and
- b. the additional building height is for rooftop architectural features and the additional height does not result in an increase in gross floor area;

Response: Sections 3.3.4 d) and 3.5.1 e) of the Design Manual call for a single well-designed roof top structure to house the mechanical equipment. No additional floor area is proposed. Sculptural and architectural elements are encouraged to add visual interest, in this case the bowed glass signature architectural feature. It is therefore recommended that the DRC grant the requested variance.

Wind Assessment

A quantitative wind impact assessment was prepared by RWDI Consulting for the proposal (refer to Attachment E). The purpose of the assessment is to determine whether the site, and in particular the surrounding sidewalks, will be safe and comfortable for pedestrians once the new building is constructed. Wind conditions are rated in terms of relative comfort for different pedestrian activities that include “sitting”, “standing”, and “walking.” In general terms, the intended usage of the sidewalks is for “walking.”

Wind tunnel testing was conducted for three separate configurations: 1. with existing buildings in place; 2. with existing and the proposed (unmitigated) buildings in place; and 3. with the existing and proposed buildings, including mitigation measures. The RWDI Study indicates that the pedestrian wind conditions for the proposed development is expected to meet or surpass suitable conditions for each of the test locations, with the exception of a few specific locations at building corners. Higher-than desired wind speeds were predicted at outdoor patio locations. These wind conditions will be improved significantly by the proposed wind mitigation measures (wind screens, canopies and vegetation), creating acceptable conditions. These mitigation options have been incorporated into the building design. At sidewalk level, mitigation measures are included in the form of wind canopies over the public sidewalk. These canopies over the sidewalk will require a separate encroachment approval, through staff, prior to a construction permit and, therefore, do not require a decision of the Committee.

Proposed Public Benefit

The LUB specifies a maximum pre-bonus height and a maximum post-bonus height. Projects that propose to exceed the maximum pre-bonus height are required to provide a public benefit. The LUB lists the required public benefit categories, and establishes a public benefit value that is

the equivalent of \$4.00 for every 0.1 square metres of gross floor area created by extending above the pre-bonus height¹. The maximum pre-bonus height for the proposal is 51 metres and the post-bonus height is 66 metres. The gross floor area to be gained is approximately 4,468 square metres. A preliminary calculation of the value of the required public benefit is approximately \$195,520. The applicant has outlined the elements proposed for public benefit in Attachment C.

The applicant proposes that the public benefit categories include: a) publically accessible open space in the form of the through-block walkways and the granting of an easement/ right-of-way to HRM and, if required; b) the provision of exemplary sustainable building practices through pursuit of a LEED Gold level. These benefits fall within the public benefit categories identified in the LUB. The estimated cost of the proposed open space areas is \$390,000. When the public benefit agreement is prepared, a determination will be made about what proportion of the required density bonus cost (\$195,520) will be allocated towards the walkways, which would include related lighting and benches, rather than the landscaping that would have been established in the absence of these features. If this amount is less than the cost of the density bonus, the applicant proposes that remaining funds are to be directed to the “exemplary sustainable building practices” public benefit category. The applicant indicates that the costs related to LEED certification and associated capital investments would greatly exceed the required density bonus cost.

With regard to the proposed through-block walkways, the subject block represents one of the few opportunities in the downtown to achieve such connections. Staff have some concern over the usability and functionality of the space in its current form. However, the applicant has endeavored to seek and obtain cooperation with the province to reserve an identical strip of land as open space on the abutting provincially-owned lot to the east. Additionally, there is potential for cooperation with the federal government regarding reinvestment in the current walkway space on the Ralston Building site to the immediate south. While the MPS and Design Manual encourage through-block linkages, there is no specific indication, other than the general guidelines, of how these connections should be designed.

The Design Review Committee’s role is to review and recommend to the Development Officer whether a proposed public benefit should be accepted by the Municipality. With this, the final cost estimates of providing the public benefit will be determined and an agreement with the Municipality will be executed at the permit approval stage.

Conclusion

Upon review of the proposal against the criteria of the Design Manual, staff recommends that, with the inclusion of the requested variances and public benefit contribution, the proposal meets the Design Manual guidelines.

¹ Public benefit value is adjusted annually in accordance with the Statistics Canada and Province of Nova Scotia Consumer Price Index which is currently \$4.376)

FINANCIAL IMPLICATIONS

There are no financial implications. The HRM costs associated with processing this planning application can be accommodated within the approved operating budget for C310 Planning & Applications.

COMMUNITY ENGAGEMENT

The community engagement process is consistent with the intent of the HRM Community Engagement Strategy and the requirements of the Downtown Halifax LUB regarding substantive site plan approvals. The level of engagement was information sharing, achieved through the HRM website, the developer's website, public kiosks at HRM Customer Service Centres, a sign on the property, and a public open house.

Where a site plan approval is appealed, a hearing is held by Regional Council to provide the opportunity for the applicant and the appellants to speak.

ENVIRONMENTAL IMPLICATIONS

No implications have been identified.

ALTERNATIVES

1. The Design Review Committee may choose to approve the application for Substantive Site Plan Approval with conditions. This may necessitate further submissions by the applicant as well as a supplementary report from staff. This is not the recommended course of action.
2. The Design Review Committee may choose to deny the application. The Committee must provide reasons for this refusal, based on the specific guidelines of the Design Manual. An appeal of the Design Review Committee's decision can be made to Regional Council. This is not the recommended course of action.

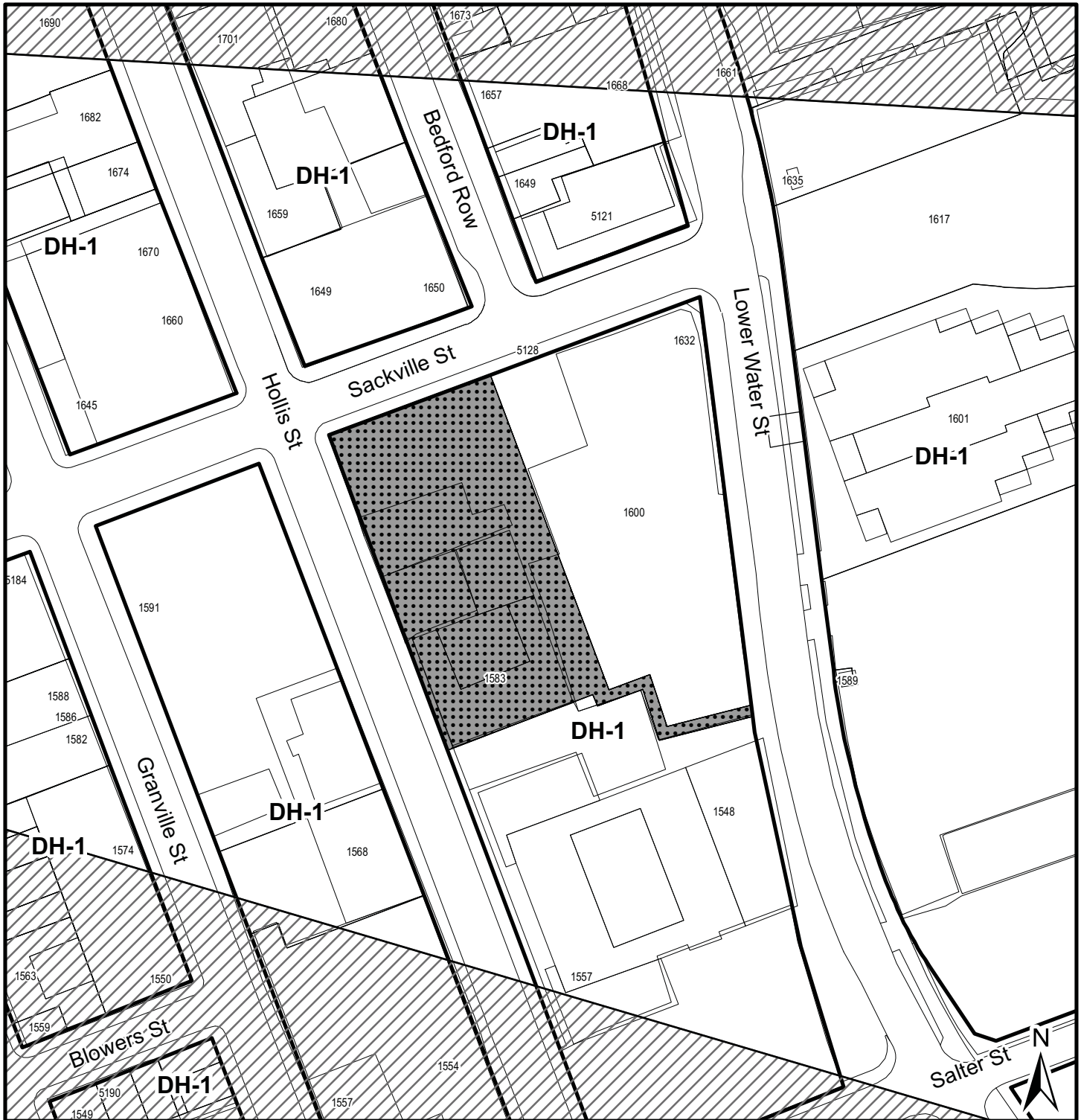
ATTACHMENTS

Map 1	Location and Zoning
Attachment A	Site Plan Approval Plans
Attachment B	Design Rationale and Variance Request
Attachment C	Public Benefit Letter
Attachment D	Design Manual Checklist – Case 19148
Attachment E	Wind Study

A copy of this report can be obtained online at [http://www.halifax.ca/boardscom/DesignReviewCommittee-
HRM.html](http://www.halifax.ca/boardscom/DesignReviewCommittee-
HRM.html) then choose the appropriate meeting date, or by contacting the Office of the Municipal Clerk at 490-4210 or fax 490-4208.


Report Prepared by: Paul Sampson, LPP, Planner, 490-6259

Report Approved by:  Signed by
Kelly Denty, Manager of Development Approvals, 490-4800



Map 1 - Zoning

1583 Hollis Street
Halifax

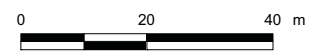
 Subject site

 View plane

Downtown Halifax Plan Area

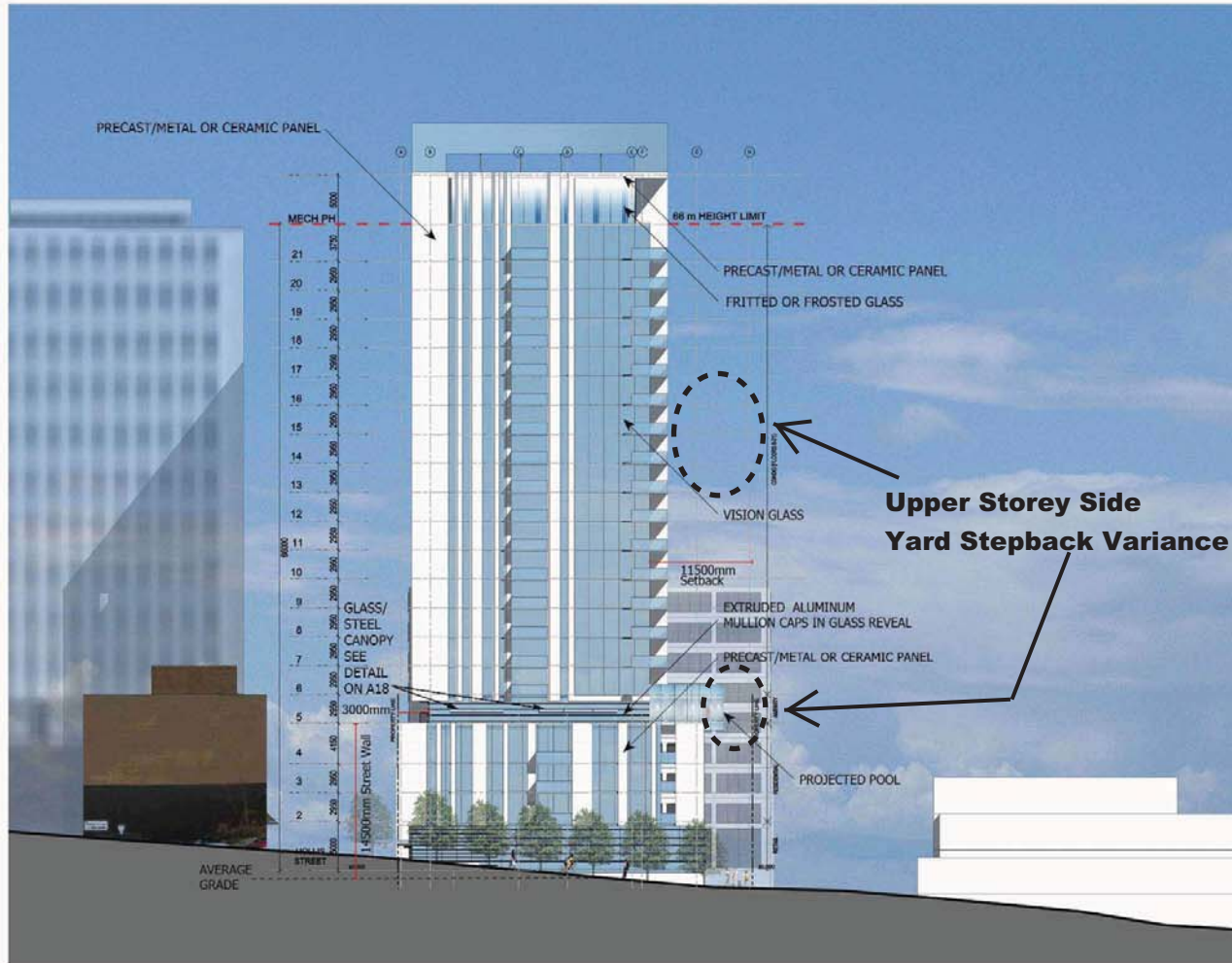
Zone

DH-1 Downtown Halifax 1



This map is an unofficial reproduction of a portion of the Zoning Map for the plan area indicated.

HRM does not guarantee the accuracy of any representation on this plan.



**Upper Storey Side
Yard Stepback Variance**

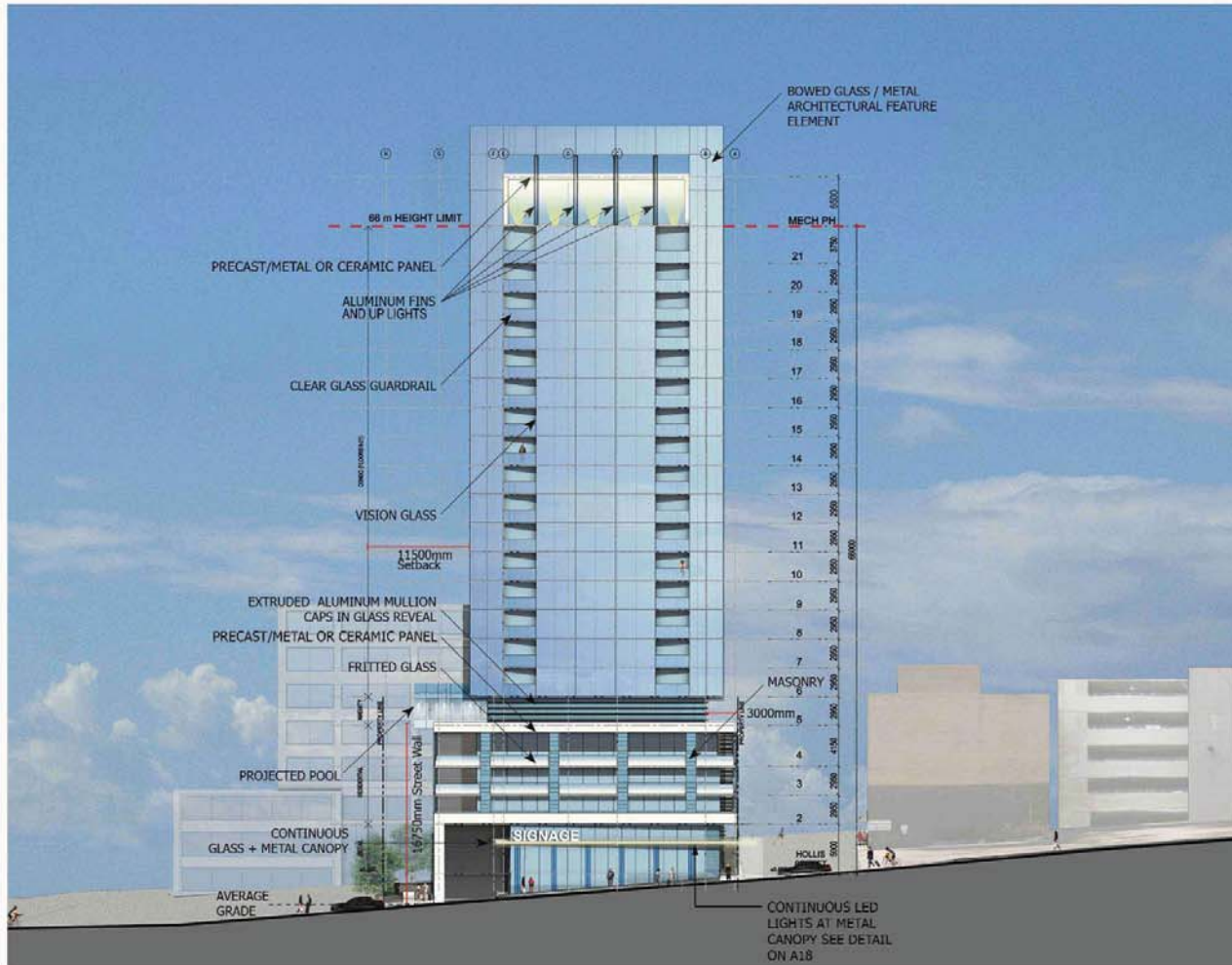


1583 HOLLIS STREET DEVELOPMENT
 HALIFAX NOVA SCOTIA
 SOUTH ELEVATION FACING PEDESTRIAN WALKWAY
 SCALE 1:500 PROJECT NO.: 28758 DATE: FEB. 13TH, 2014

PROPERTY OWNER
 Southwest Properties Ltd.
 HALIFAX, NOVA SCOTIA



A1



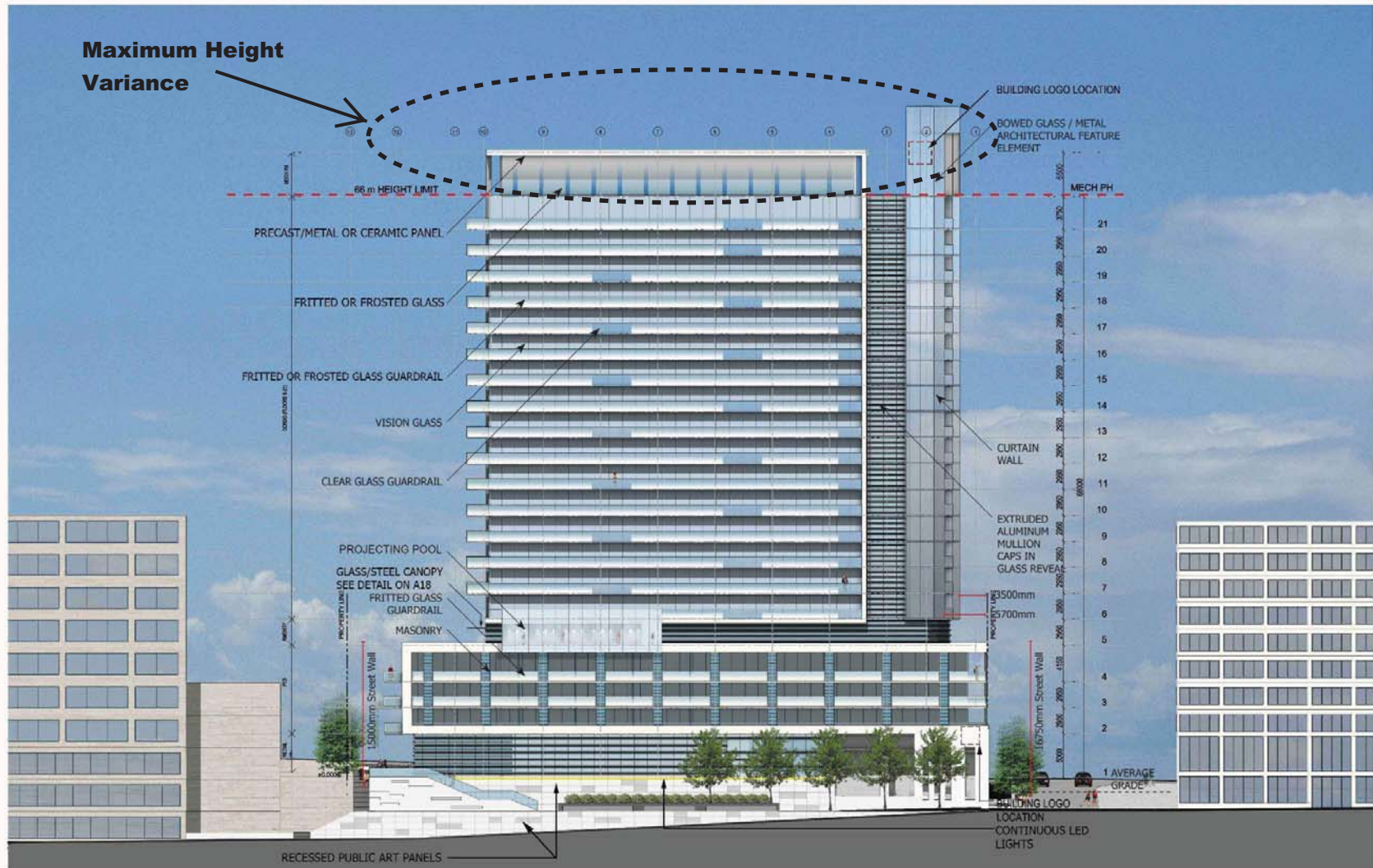
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1583 HOLLIS STREET DEVELOPMENT
 HALIFAX NOVA SCOTIA
 NORTH ELEVATION FACING SACKVILLE STREET
 SCALE 1:500 PROJECT NO.: 28758 DATE: FEB. 13TH, 2014

PROPERTY OWNER
 Southwest Properties Ltd.
 HALIFAX, NOVA SCOTIA



A2

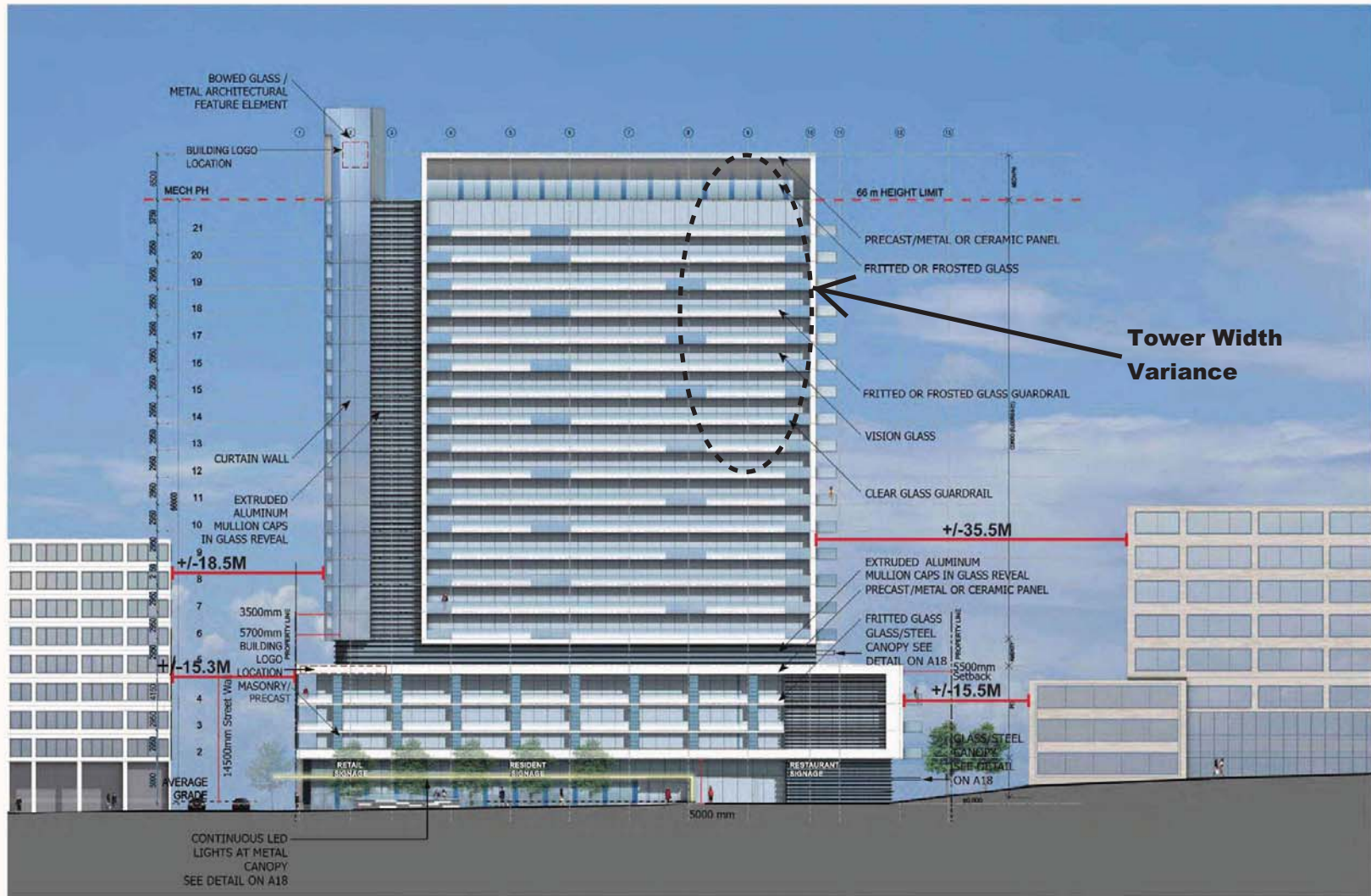


1583 HOLLIS STREET DEVELOPMENT
 HALIFAX NOVA SCOTIA
 EAST ELEVATION FACING PEDESTRIAN WALKWAY
 SCALE 1:500 PROJECT NO.: 28758 DATE: FEB. 13TH, 2014

PROPERTY OWNER
 Southwest Properties Ltd.
 HALIFAX, NOVA SCOTIA



A3



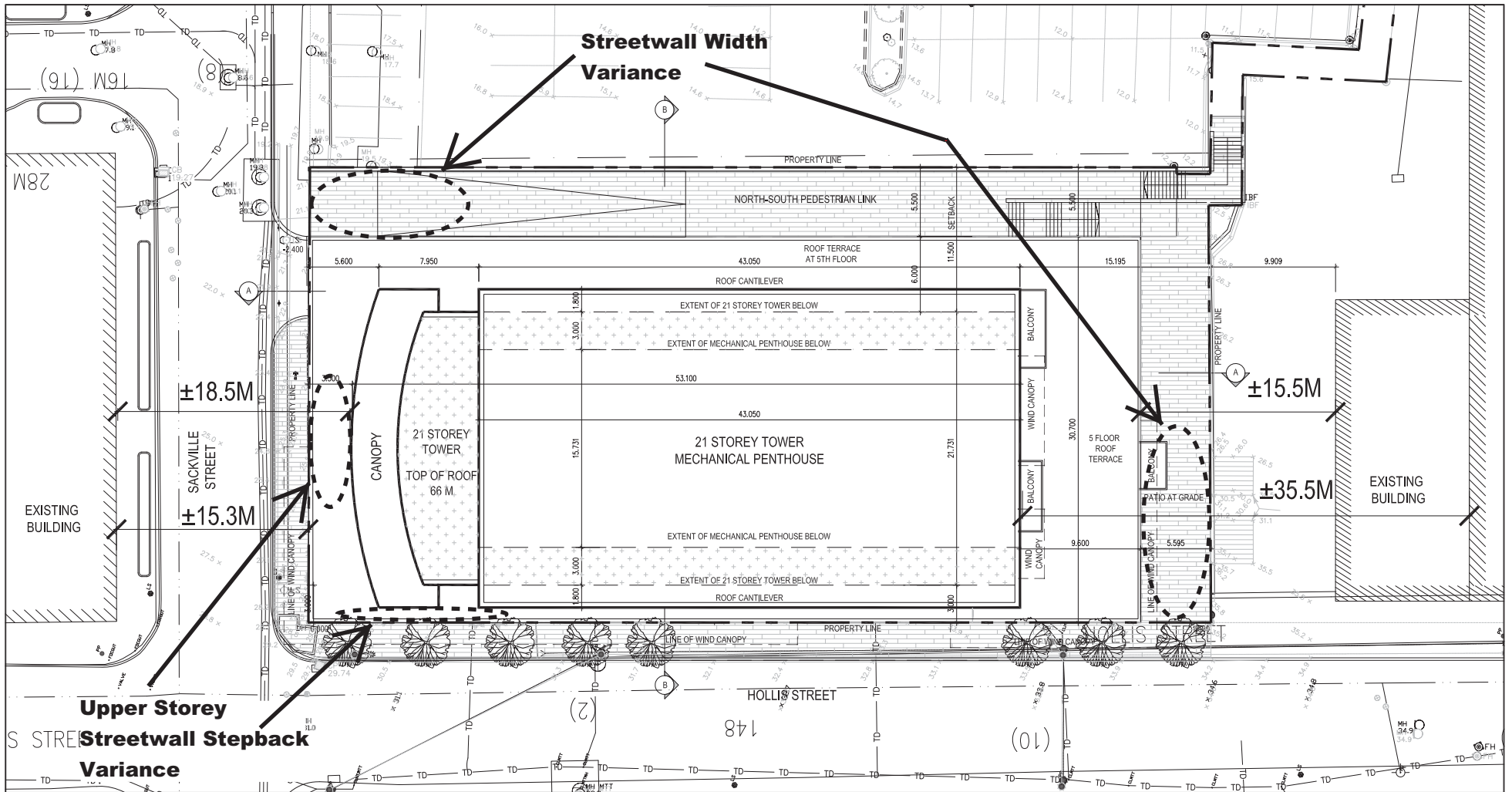
Tower Width Variance

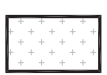


1583 HOLLIS STREET DEVELOPMENT
 HALIFAX NOVA SCOTIA
 WEST ELEVATION FACING HOLLIS STREET
 SCALE 1:500 PROJECT NO.: 28758 DATE: FEB. 13TH, 2014

PROPERTY OWNER
 Southwest Properties Ltd.
 HALIFAX, NOVA SCOTIA





 Denote roofs at top of residential floor to be Light colour pavers and/or high reflective membrane roof in supporting LEED requirements

1583 HOLLIS STREET DEVELOPMENT

HALIFAX NOVA SCOTIA

SITE PLAN

SCALE 1: 300

PROJECT NO.: 28758

DATE: FEB 21, 2014

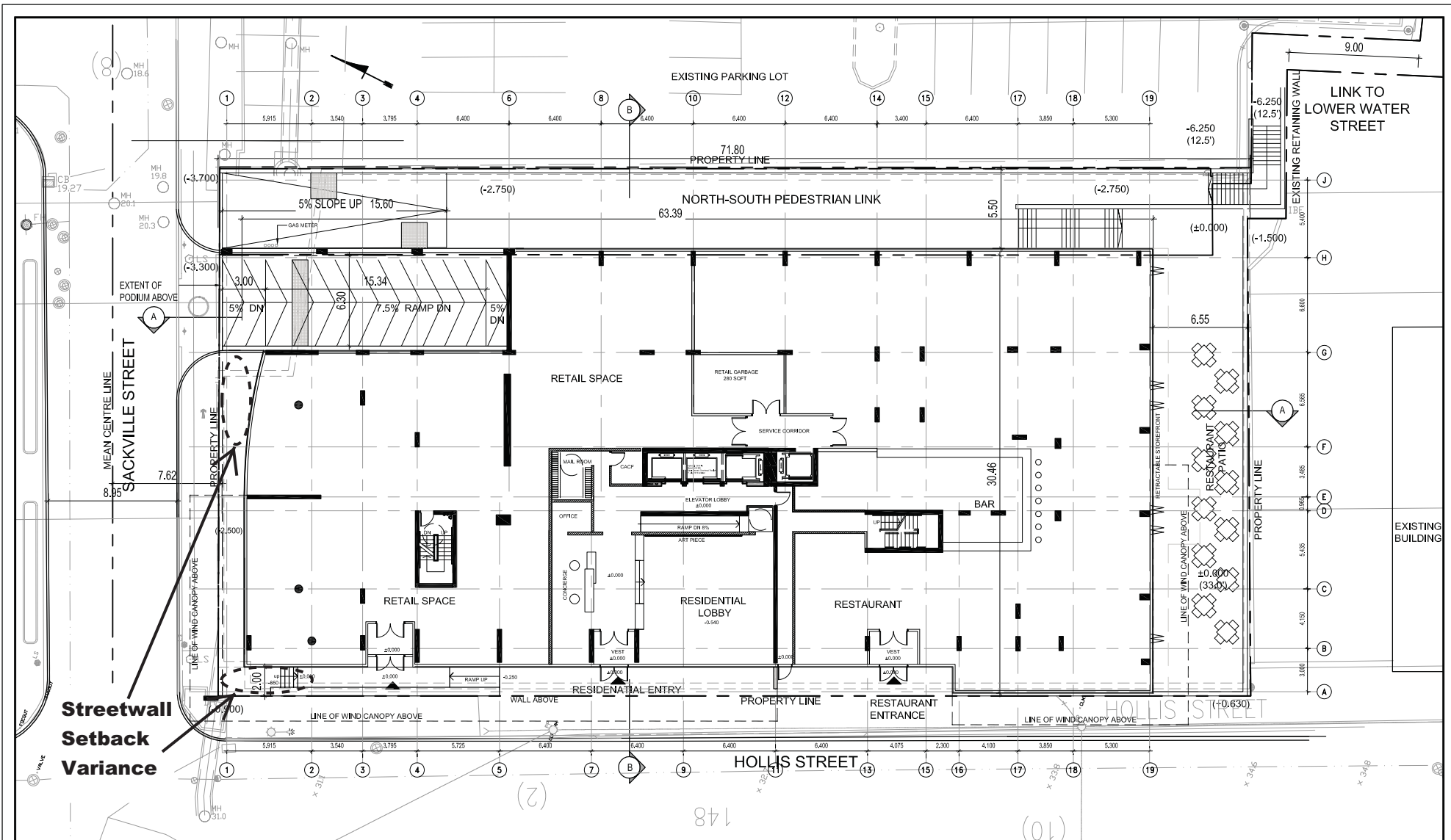
PROPERTY OWNER

Southwest Properties Ltd.
HALIFAX, NOVA SCOTIA



A5





**Streetwall
Setback
Variance**

1583 HOLLIS STREET DEVELOPMENT

HALIFAX NOVA SCOTIA
GROUND FLOOR PLAN

SCALE 1:250

PROJECT NO.: 28758

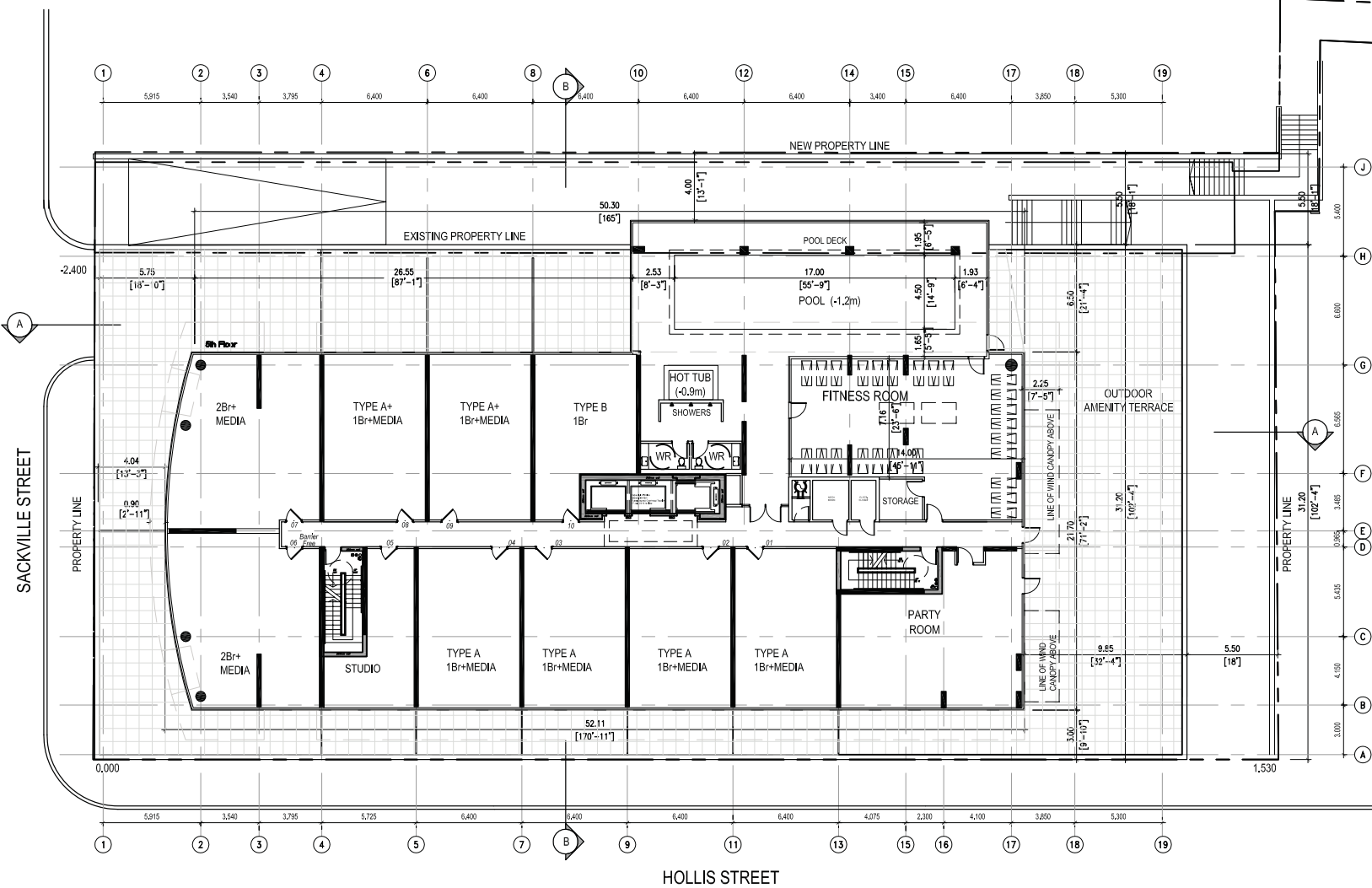
DATE: FEB. 13, 2014

PROPERTY OWNER

Southwest Properties Ltd.
HALIFAX, NOVA SCOTIA



A6



1583 HOLLIS STREET DEVELOPMENT

HALIFAX NOVA SCOTIA
5th FLOOR PLAN - AMENITY & PES

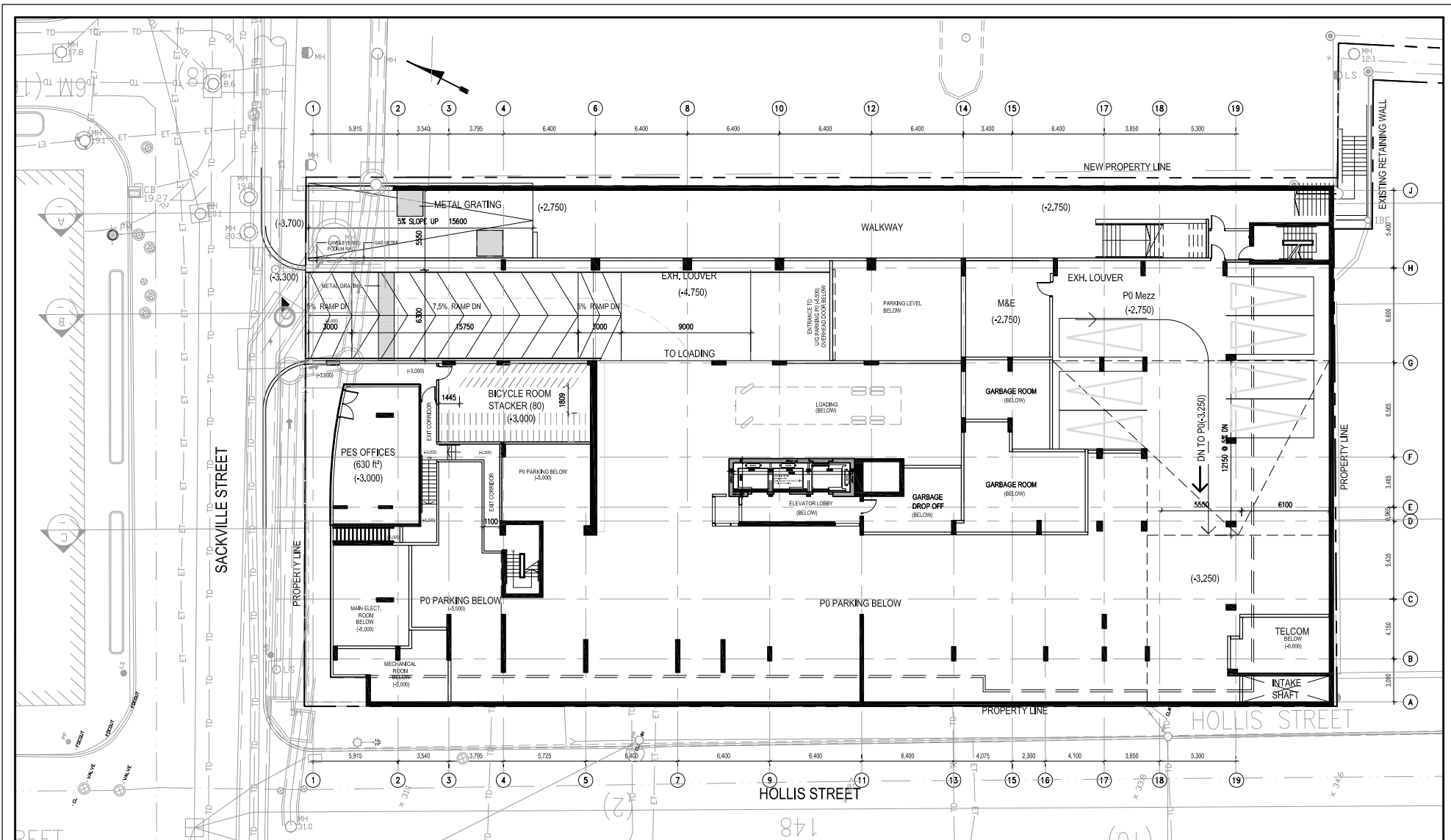
SCALE 1: 250 PROJECT NO.: 28758 DATE: FEB. 13, 2014

PROPERTY OWNER

Southwest Properties Ltd.
HALIFAX, NOVA SCOTIA



A9



1583 HOLLIS STREET DEVELOPMENT

HALIFAX NOVA SCOTIA
 UNDERGROUND PARKING P0Mezz (-2.750)

SCALE 1: 250

PROJECT NO.: 28758

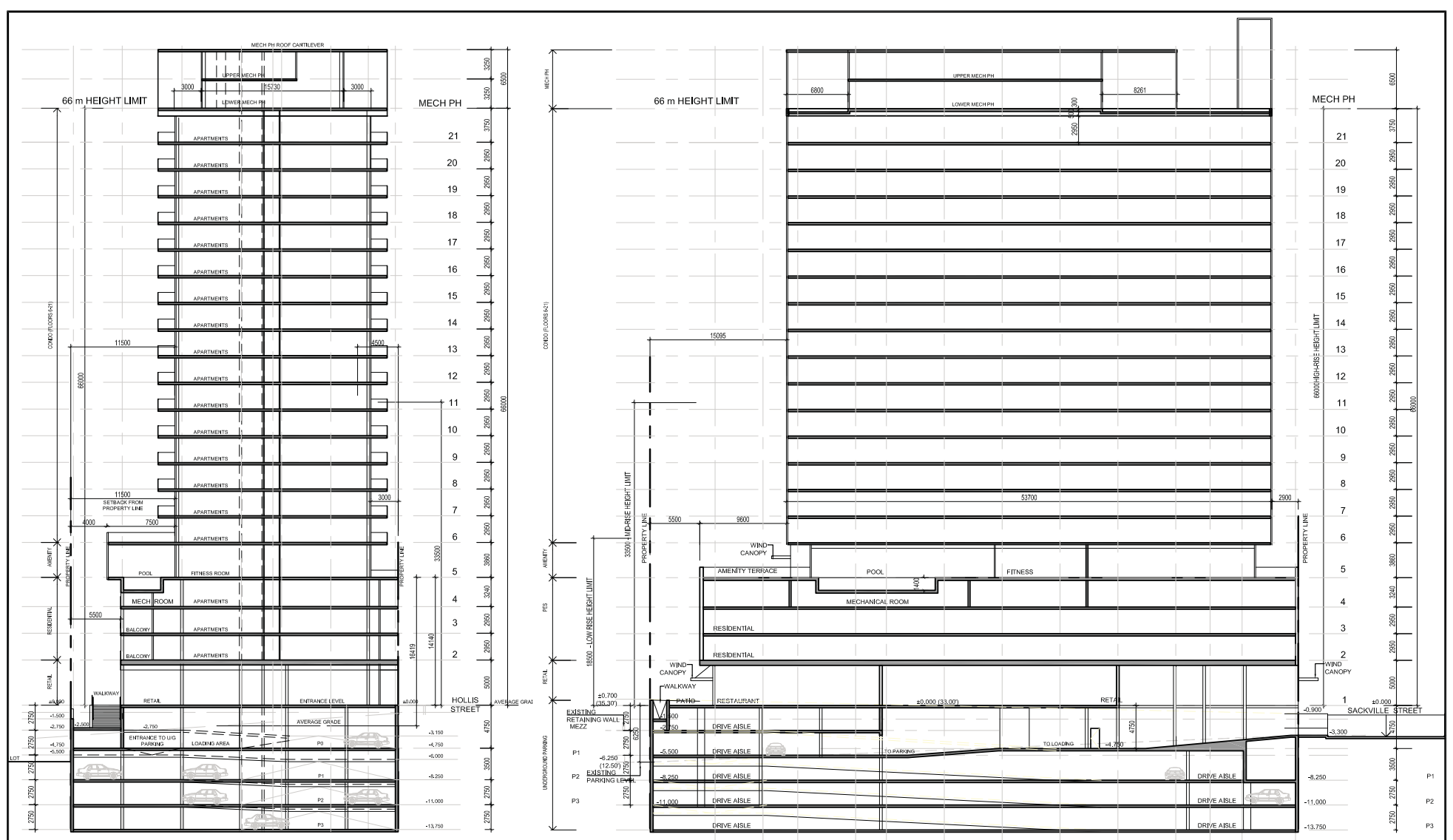
DATE: FEB. 13, 2014

PROPERTY OWNER

Southwest Properties Ltd.
 HALIFAX, NOVA SCOTIA



A12

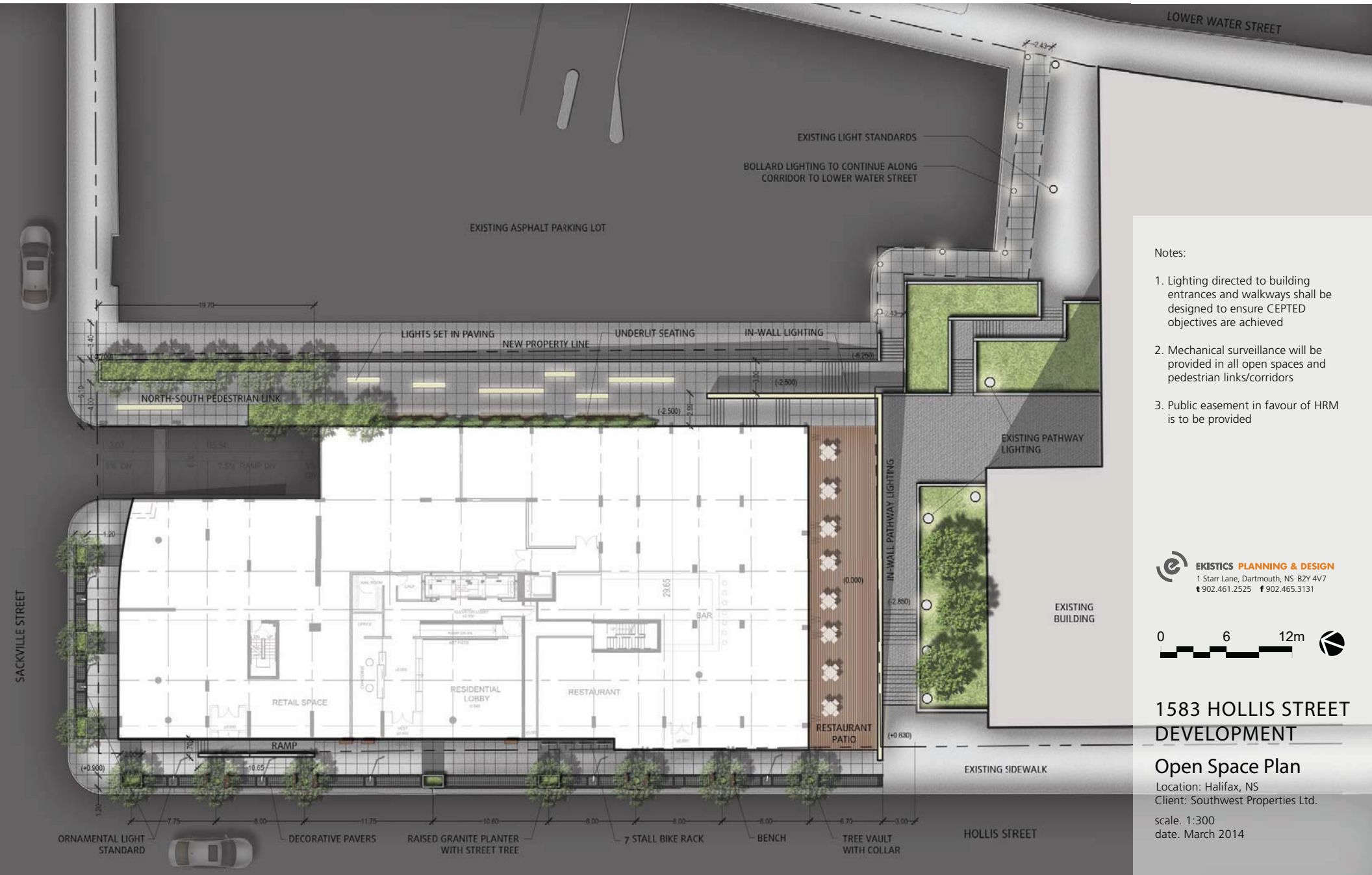


1583 HOLLIS STREET DEVELOPMENT
 HALIFAX NOVA SCOTIA
 BUILDING SECTIONS
 SCALE 1: 400 PROJECT NO.: 28758 DATE: FEB. 13, 2014

PROPERTY OWNER
 Southwest Properties Ltd.
 HALIFAX, NOVA SCOTIA



A17



Notes:

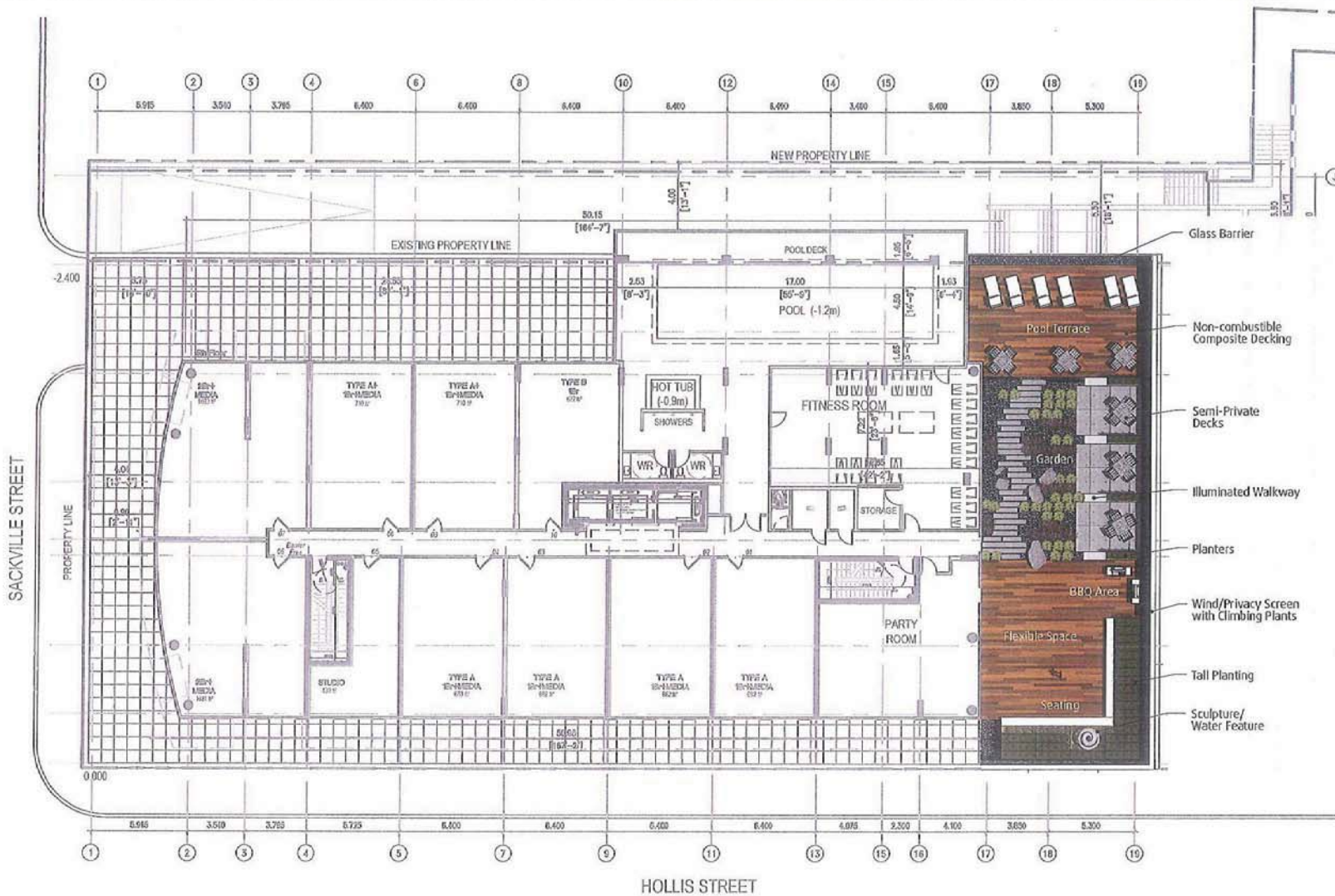
1. Lighting directed to building entrances and walkways shall be designed to ensure CEPTED objectives are achieved
2. Mechanical surveillance will be provided in all open spaces and pedestrian links/corridors
3. Public easement in favour of HRM is to be provided

EKISTICS PLANNING & DESIGN
 1 Starr Lane, Dartmouth, NS B2Y 4V7
 ☎ 902.461.2525 📠 902.465.3131



1583 HOLLIS STREET DEVELOPMENT

Open Space Plan
 Location: Halifax, NS
 Client: Southwest Properties Ltd.
 scale: 1:300
 date: March 2014



Design Rationale and Requested Variances

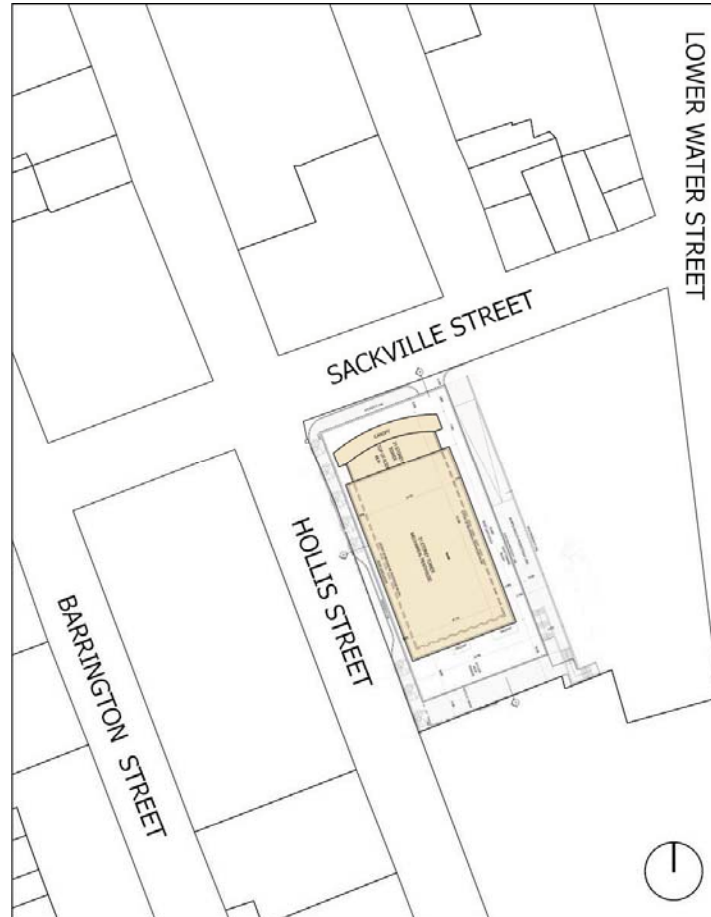
In support of the Substantive Site Plan Approval Application by Southwest Properties Ltd. For Proposed Mixed Use Building located at 1583 Hollis Street, Halifax, Nova Scotia



MARCH 27, 2014

Prepared by:
Page + Steele/ IBI Group Architects
95 St. Clair Avenue West, Toronto, Ontario, M4V 1N6

Executive Summary



The project will be located at the prominent intersection of Hollis and Sackville Streets (1583 Hollis) in downtown Halifax and will comprise Premier Executive Suites and residential apartments, with grade related retail and commercial uses in a sustainable, efficient and exciting 292,000 sf. 21-storey, mixed-use development.

The residential lobby is located immediately north of the restaurant and is accessed off of Hollis Street under a glass canopy and the overhang of the podium floors. Over 9,000 s.f. of retail space has been located at the prominent corner of Hollis and Sackville, facilitating maximum visibility for potential retail users on both frontages. With a floor-to-floor height of 16 feet, a clear ceiling height of 13 to 14 feet is achievable in this space. Access to parking and loading are located at the northeast corner of the site, which takes advantage of the steep drop in grade across the site. This drop in grade also exposes part of the P1 level to the street on Hollis and facilitates the provision of an additional 5000 s.f. of space at this lower level for retail or commercial purposes.

The second, third and fourth floors are occupied by Premier Executive Suites. The Hollis and Sackville frontages are articulated by deep loggia spaces which create outdoor rooms, adding to the street animation. The next 17 floors of the project are set back from the podium to create a tower form and contain residential apartments. The lowest of these floors, contains amenity space, and is slightly recessed from the rest of the tower, allowing the tower to “float” above the podium. Residents will have access to a wrap-around terrace that will afford views of the waterfront and a dedicated outdoor space for their use and enjoyment. Amenities will include a pool, fitness facility and board room and additional meeting space. Three levels of below-grade parking will accommodate 252 cars.

Design Rationale

Relevant Criteria

Downtown Halifax Land Use By-Law and Schedule S-1 Design Manual

The property is situated within the Downtown Halifax Zone (DH-1) as per Map 1.

The property is situated within Precinct 4 – Lower Central Downtown as per Map 2.

The property is located within Central Block – as per Map 8.

The property has a Maximum Pre-Bonus Height of 51 meters – as per Map 4.

The property has a Maximum Post-Bonus Height of 66 meters – as per Map 5.

The property has a street wall setback of 0-1.5 meters - as per Map 6.

The property has a maximum street wall height of 18.5 meters along Hollis street and Sackville Street – as per Map 7.

Land Use Requirements

Permitted Land Uses – Section 7

- (1) The proposed mix of residential and commercial uses are permitted in the DH-1 zone.
- (2) Eating establishments and retail uses are permitted on the ground floor.
- (4) Proposed residential multiple unit building contains studio, one bedroom, two bedroom and three bedroom units.
- (5) Residential lobby has direct access to the exterior ground level at Hollis street.
- (12-15) The proposed building is situated beyond Schedule W boundary.
- (18) The proposed building structure is setback from the Sackville street mean center line by 7.62 meters.
- (22) Retail uses and accessories to retail use are permitted on the ground floor abutting waterfront view corridor.

Built Form Requirements – Section 8

- (7) The proposed building has a maximum post-bonus height of 66 meters.
- (8) The proposed building exceeds 30% limit for the mechanical penthouse area.
- (10) The proposed building mechanical penthouse is not setback by 3 meters from the south edge of the roof.

A variance is being sought to allow these 2 conditions.

- (12) Amenity roof on the 5 floor to be fully landscaped; high roof area will receive white roof membrane to reduce heat island effect.
- (13) The floor-to-floor height of the ground floor measures 5.0 meters.

- (18) A qualitative wind assessment has been provided. See attached letter.
- (20) Prohibited External Cladding Material are not used on the proposed building.

Street walls – Section 9

- (1) The proposed building has a street line setback of 0 meters along Hollis and Sackville streets. However at the ground floor, the storefront along Hollis street is setback from 0.9 meters to 2.0 meters to ensure that entrances to retail and eating establishment do not interfere with pedestrian traffic. Ground floor setback at Sackville street varies from 1.8m to 3m to accommodate existing sewer easement.
A variance is being sought.
- (2) The proposed building does not exceed the Maximum street wall height of 18.5 meters along Hollis and Sackville streets.
- (3) The building meets the 11 meter minimum street wall height requirement.
- (4) The two street walls do not extend the full width of the lot abutting street line, at the east end of Sackville street podium is set back from east property line and at the south end of Hollis Street the podium is set back from the South Property Line to create the mid-block publicly accessible pedestrian connection. A variance is being sought.
- (7a) The building is stepped back by 3 meters above a maximum of 33.5 meters in height.
- (7b) The building step back above 33.5 meters varies along Sackville street from 3.5 meters to 5.7 meters. The building step back along Hollis street is 3 meters.

A variance is being sought.

Building Setbacks and Step Backs – Section 10

- (4) 4 m setback is proposed for extent of swimming pool at east interior property line.

A variance is being sought.
- (10, 11) Portion of the proposed building above a height of 33.5 meters is 53 meters wide and exceeds a maximum width of 38 meters.

A variance is being sought.
- (13) Encroachment of balconies into a setback does not exceed 2.0 meters from building face. Aggregate length of balconies exceeds 50% of the horizontal width of building face.

A variance is being sought.

Post Bonus Height Benefit – Section 12

See Appendix 'X' for a detailed description of the public benefit.

Signs – Section 13

The proposed building and tenant signage shall comply with all guidelines and requirements.

Parking – Section 14

- (1) Accessory surface parking is not provided for the proposed building.

Schedule S-1 Design Manual – Relevant Criteria

2.4 Precinct: Lower Central Downtown

2.4(a) “Allow for mixed-use high-rise development”

The proposed development consists of retail/eating establishments at grade and 20 storeys residential building above.

2.4(b) “Prohibit new surface parking lots of any kind.”

The proposed building provides 3 levels of underground parking garage.

3.1 The Street Wall

3.1.1 Pedestrian Oriented Commercial

3.1.1(a) “Articulation of ...shop fronts...close placement to sidewalk”

4 main entrances are setback from the sidewalk and articulated by window displays.

3.1.1(b) “High level of transparency”

Street level storefronts comprise of continuous glazing, providing visual connection between retail space and pedestrian traffic.

3.1.1(c) “Frequent entries”

Continuous curtain wall system at ground floor along Hollis and Sackville streets allows for multiple entries to retail spaces and the residential building.

3.1.1(d) “Protection of pedestrians from elements”

Proposed building design provides protection from the elements along Hollis and Sackville streets: storefront at grade is setback from the sidewalk whereas podium extends to the street line and is cantilevered over the ground floor. A continuous canopy wraps around these two principal frontages.

3.1.1(e) “Patios and other spill-out activity...”

Restaurant patio is designed along south building elevation and is connected to the pedestrian north-south and east-west links to the waterfront.

3.1.2 Street wall Setback

3.1.2(a) “ Minimal to no setback”

The entire building has minimal to no setback, consistent with adjacent structures along Hollis street to the north and south of the proposed building.

3.1.3 Street wall height

The proposed building complies with requirements for the street wall height.

3.2 Pedestrian Streetscapes



3.2.1 Design of Street Wall

3.2.1(a) Design of the Street Wall

Continuous glazing at street level is articulated by masonry pilasters, glass canopies consistent with traditional narrow buildings and storefronts in the area.

3.2.1(e) “Street wall should be designed to have the highest quality materials...”

Ground floor retail and residential spaces face the street with sophisticated curtain wall design, high quality masonry pilasters, glass canopies and extruded aluminum mullions at restaurant entrance.

3.2.1(f) “Streetwall should have many windows...”

Street wall at both ground floor and podium residential levels has continuous storefront providing a sense of animation and engagement.

3.2.1(g) “Along pedestrian frontages at grade blank wall shall not be permitted...”

Continuous clear glazing is provided along pedestrian frontages at Hollis and Sackville Streets.

3.2.2 Building Orientation and Placement

- 3.2.2(a) “All buildings should orient to...street edge with clearly defined primary entry points that directly access sidewalk”
The proposed building is located right at the sidewalk with multiple entries to retail and residential areas directly from the sidewalk along Hollis street.

3.2.3 Retail Uses

- 3.2.3(a) “...retail frontages should have retail uses at grade with a minimum 75% glazing...”
The proposed building has a continuous retail frontage with glazing exceeding 75% of street elevation.
- 3.2.3(b) “Weather protection for pedestrians through well-designed awnings and canopies...”
Continuously cantilevered podium above ground floor retail frontage and glass canopies provide protection from elements to pedestrians.
- 3.2.3(d) “Minimize transition zone between retail and the public realm...”
Retail spaces are located immediately adjacent to sidewalk and have direct access to the sidewalk.

3.2.4 Residential Uses

- 3.2.4(b) Common entrance to the residential units is located at grade and is immediately recognizable by use of full height curtain wall providing high visibility into residential lobby.
- 3.2.4(d) All residential units have deep balconies.
Podium level units have deep terraces; 5th floor units have direct access to roof terrace.
Common outdoor amenity space is provided at the 5th floor.
- 3.2.4(e) Studios and one bedroom units are incorporated along with multiple bedrooms units, architectural design and use of materials are common for all unit types.

3.2.5 Sloping Conditions

- 3.2.5(a) Active pedestrian walkway is provided along east facade sloping wall c/w landscape design, illumination and landscape furniture.
- 3.2.5(c) Windows, doors and architectural detailing is provided along east sloping wall.
- 3.2.5(e) Retail display full height windows wrap around north-west corner along sloping Sackville street.



East Elevation Facing Pedestrian Walkway

3.3 Building Design

The overall massing of the building is characterized by three major elements;

Base: A three storey podium 'box',

Middle: A framed tower 'box'

Top: the glazed 'bow' and illuminated feature wall screening the penthouse.

These three principal formal elements are separated from each other and from the ground plane by glass reveals which allow each of them to have a distinctive expression and to seemingly 'float'.

The ground floor is occupied by active animated uses fronting the two principal streets including retail along Sackville and the northern half of the Hollis frontage. South of this is the residential lobby with a restaurant anchoring the south end of the podium. The podium is set back from the South property line by 5.5 metres facilitating the creation of an outdoor patio for the restaurant to spill out into. The proposed retractable storefront glazing on this south face will allow a seamless transition from interior to exterior. A publicly accessible east west connection is proposed at the south end of the property along the patio to create an important mid block connection from Hollis to Lower Water street. Likewise a 5.5m north south pedestrian connection is created along the east property line linking Sackville street to the pedestrian link to Lower Water street.

Access to parking is via a ramp close to the north-east corner of the property on Sackville street which is virtually the lowest point on the site. The retail and lobby frontages along Hollis and Sackville are set back by 2m to facilitate a widened pedestrian realm and continuity in the sidewalk at the entrance lay-by area on Hollis Street. The grade change at the north west corner is negotiated by the introduction of a raised patio that wraps the corner of Hollis and Sackville.

The podium form then steps out for 3 stories above and floats above this glazed ground floor creating an overhang that affords pedestrians protection from the elements at grade. The podium is occupied by long-term stay apartments. Each apartment is fronted by outdoor balcony loggias creating outdoor "rooms" fronting Hollis and Sackville streets and the east façade of the podium. On these three frontages the podium form is defined by a white precast frame element that manifests itself on the south face of the podium as a series of vertical ribs arranged randomly between glazing panels. The podium element is further scaled by a series of darker masonry clad vertical pilasters that scale the façade with a regular rhythm along the Hollis and Sackville frontages. The glass balcony railings are treated with a white ceramic frit which transitions from opaque at the bottom to transparent at the top of the panel.

The podium has a height of 19.3m at the north east corner, from the low point on Sackville, and 15.3m at the southwest corner, from the high point on Hollis street.

The 'tower' form rises from the 6th floor, floating above a glass 'reveal' at the 5th floor that is set back 3m from the west face of the podium and an average distance of 5.6m from the north wall. The setback is 6m from the east and 11m from the south. These setback facilitate the creation of terraces surrounding the building at this level, which are extensions of the residential units and outdoor amenity spaces where they adjoin the indoor amenities including a pool, fitness centre and party room, located at this level.

By virtue of balconies being added to the residential units from floors 6 to 21 above the built form appears to grow larger above this level and 'float' above the 5th floor. While the east and west facades of the tower are treated in a similar manner with glazed, fritted balcony railings framed by a precast element, the north and south face of the buildings are distinctive based on their orientation. The glazed north wall is bowed in form with recessed balconies creating a clean undifferentiated façade that terminates in a feature element at the top of the building. A large window above the bow is articulated by vertical metal fins that will be illuminated at night creating a distinct signature for the tower that will be visible from great distances including the bridges, making the building instantly recognizable in the Halifax skyline.

Much like the frame of the podium, the tower frame also manifests itself as a series of vertical ribs, however in this case the ribs are canted to ensure that they do not obstruct south west views to the water.

The mechanical penthouse is incorporated into the framed 'box' that defines the tower. The glazed façade of the mechanical penthouse is setback from the rest of the tower glazing and treated with the fritted pattern, interspersed with clear glass ribs at regular intervals, on the east and west facades. This setback allows the soffit of the frame to have a deeper expression. The design intent is to illuminate this soffit at night.

The frit pattern on the east and west facing balconies is similar to the podium in terms of its transition from opaque to transparent. However the continuity of the balcony is broken by introducing section of clear glass balcony railings adding scale and visual interest.

As evidenced above the design follows the principles outlined in the Design by HRM Manual in creating an articulated ground plane, a defined podium street-wall of 15 to 18m and setting the tower form back from the podium on all sides. It also maintains the required separation distances from adjacent properties based on its proposed uses.

While the tower form does deviate from the HRM guideline requiring buildings above 33.5m in height to be limited to a length of 38m, the proposed form creates a more cohesive ensemble that is better suited to the function it embodies. As explained above, in other areas the setbacks provided are more generous than those required by the HRM design guidelines and so the resultant overall building area of the proposed building is no greater than the area that would result if all of the built form requirements of the HRM design guidelines were strictly adhered to.

5.2 Sustainability

The project will incorporate the best in sustainable design strategies and will be targeting a LEED Gold level. Some of the sustainable features to be incorporated in the project will be light coloured roofing materials to reduce heat island effect, high performance exterior glazing system reducing heat gain/loss, operable windows for natural ventilation, access to an abundance of natural daylight, rapidly renewable resources for materials and finishes, low voc paints, carpet and wall covering, low flow fixtures in washrooms, motion sensing lighting systems, high efficiency mechanical systems, on-site storm water management systems which will be recycled for onsite irrigation and green roofs where possible.

At a site plan level, the project is inherently geared to sustainability by virtue of its location and the fact that it is a brown field site. Some sustainable amenities provided in the building include a large bike storage area, easy access to a gym within the building and proximity to public transportation, in particular the ferry.

The architectural aspirations of this project are to create a signature building for this important site in downtown Halifax that will be visually striking and functionally appropriate for its proposed uses. Most importantly it will enhance the public realm at its base and contribute to the creation of vibrant and animated street fronts at Hollis and Sackville.

LAND USE BY-LAW SECTION		DOWNTOWN HALIFAX LUB REQUIREMENTS	PROPOSED BUILDING	DESIGN RATIONALE FOR REQUESTED VARIANCES
BUILT FORM REQUIREMENTS	8			
BUILDING HEIGHT	8 (6)	Maximum Pre Bonus Height 51 meters	Proposed building height 66m	Public benefit will be provided as required in Section 12 of Downtown Halifax Land use by-law
	8 (7)	Maximum Post Bonus Height 66 meters	Compliant	
	8 (8)	Mechanical penthouse shall not occupy more than 30% of roof area	Mechanical penthouse occupies 75% of roof area	Mechanical penthouse is intergal part of overall building design, incorporated into framed 'box' that defines the tower, glazed façade of mechanical penthouse is treated with fritted glass, set back from the tower edge and is designed to be illuminated at night time, which allows to create a distinct building character and enhance building presence at this prominent location.
	8 (10)	Mechanical penthouse shall be set back by no less than 3 m from roof edge	Mechanical penthouse is set back by 1.5m from south, east & west sides, 0 m from north side	Additional area is required for mechanical penthouse by mechanical engineer to meet LEED requirements.
STREETWALLS	9			
STREETWALL: STREETLINE SETBACKS	9 (1)	Streetwall shall have a streetline setback 0-1.5 m	Hollis street setback is 2 m Sackville street setback varies from 1.8 m to 3.0 m	Deeper setback is designed to provide better weather protection for pedestrians along Hollis street. Indicated setbacks are established to accommodate existing sewer easement along Sackville street.
STREETWALL: WIDTH	9 (5)	Streetwall shall extend full width of the lot abutting streetline	Streetwall is 76% of width of lot at Hollis street Streetwall is 84% of width of lot at Sackville street	5.5 m set back from south interior lot line was created to provide through block pedestrian connection to Lower Water Street, and is designed to be well illuminated and equipped with various landscape features also providing public access to restaurant patio. 5.7 m setback from east side is created to provide north-south pedestrian connection and access to restautant patio.
STREETWALL: STEPBACKS	9 (7a) 9 (7b)	A minimum of 3.0 m for portion of a building that is a maximum 33.5 m in height A minimum of 4.5 m for portion of a building greater than 33.5m in height	3.5 m along Sackville street 1.2 m and 3 m stepback along Hollis street	Curved north elevation facing Sackville street provides distinctive massing articulation, identifies highly visible building and creates a landmark at prominent downtown location. Proposed setback is required to provide reasonable depth for residential building and maintain 11.5m setback from east interior lot line.
BUILDING SETBACKS AND STEPBACKS	10			
MID-RISE BUILDINGS	10 (4)	5.5 m setback is required from interior lot lines	4 m setback at east interior lot line, top of pool projection is at 20.3 m from average grade.	4 m setback is proposed to accommodate swimming pool at the 5 floor level which serves as an architectural feature visible from both Sackville street and Lower Water Street
HIGH-RISE BUILDINGS	10 (7)	Any portion of building above 33.5m height shall be setback 11.5m from interior lot line	Continuous balconies along east elevation and residential unit at north-east corner have setback of 10.3m.	Proposed configuration is important component of the overall building design intergity. Increased open public space is provided at grade to provide pedestrian walkway to waterfront.
	10 (11)	Building shall be a maximum width of 38 m and a maximum depth of 27.5 m.	Building width is 53 m	Proposed building width is integral part of the architectural design, treated with continuous glass balconies, well balanced with north feature wall and illuminated building crown.
PERMITTED ENCROACHMENTS	10 (13)	Balconies shall be permitted encroachments into a setback provided that aggregate length of balconies does not exceed 50% of building face	Continuous balconies at east and west elevations	Continuous balconies with glass guardrails create architectural feature, contribute to design quality of the building and enhance quality of public area.



Southwest Properties Limited

1583 Hollis Street – Site Plan Application – Proposed Public Benefit Contribution

Attention: Paul Sampson

March 27, 2014

Proposed Public Benefit Contribution

We are proposing to construct the 1583 Hollis Street project to the post-bonus height of 66 metres. This represents an additional gross square footage of 4468m² when compared to the pre-bonus height of 51 metres (4 additional floors 4 @ 1117m²=4468m²).

The LUB references a required public benefit of \$4.376 for each .1 square metre of gross floor area, which in this instance would equate to \$195,520. For your reference, the capital costs for the development of the proposed public open space and consulting budgets for the project pertaining LEED certification, measurement and verification will easily exceed this amount before consideration of any capital investments required to achieve the LEED Gold Certification.

We are proposing that this benefit will be provided firstly in consideration for the “provision of publicly accessible amenity or open space, where a deficiency in such spaces exists” pursuant to 12(7)(b), and secondly in consideration for exemplary sustainable building practices, as the project will be designed and constructed as a LEED Gold Facility. In fact, when completed, it will be the largest LEED Gold multi-residential building in the region.

Regards,


Original signed

Eric Burchill
Vice President – Planning & Development
Southwest Properties Limited

Attachment D – Design Manual Checklist – Case 19148

Section	Guideline	Complies	Discussion	N/A
2	Downtown Precinct Guide lines (<i>refer to Map 2 for Precinct Boundaries</i>)			
2.4	Precinct 4: Lower Central Downtown			
2.4a	Allow for mixed-use high-rise infill development on large opportunity sites.	●		
2.4b	Prohibit new surface parking lots of any kind.	●		
2.4c	Ensure that existing surface parking lots and vacant sites are developed.	●		
2.4d	Vacant sites shall be developed in a way that provides a continuous streetwall and uninterrupted pedestrian experiences.		●	
2.4e	The precinct is to be characterized by animated streetscapes.	●		
2.4f	Focus pedestrian activities at sidewalk level through the provision of weather protected sidewalks using well-designed canopies and awnings.		●	
2.4g	East-west streets shall continue to provide views between the Citadel and the Harbour.	●		
2.4h	Extensions of east-west streets between Lower Water Street and the Harbour are required as key components in open space network.			●
2.4i	Establish the George Street and Carmichael Street corridor as a major east-west pedestrian connection, given the linkage between the Town Clock, the Grand Parade, and the Harbour.			●
2.4j	To ensure that the Halifax Harbour walk is of a width and quality to be an important open space linkage with other precincts.			●
2.4k	Ensure that Lower Water Street shall be developed with a continuous streetwall and public realm design that emphasizes its meandering qualities and its emergence as an important street.	●		
2.4l	To retain isolated heritage properties and protect them from inappropriate redevelopment.			●
2.4m	New waterfront development shall adhere to Section			●

Attachment D – Design Manual Checklist – Case 19148

Section	Guideline	Complies	Discussion	N/A
	2.10 of the Design Manual.			
3	General Design Guidelines			
3.1	The Streetwall			
3.1.1	<p>Pedestrian-Oriented Commercial On certain downtown streets pedestrian-oriented commercial uses are required to ensure a critical mass of activities that engage and animate the sidewalk These streets will be defined by streetwalls with continuous retail uses and are shown on Map 3 of the Land Use By-law.</p> <p>All retail frontages should be encouraged to reinforce the ‘main street’ qualities associated with the historic downtown, including:</p>			
3.1.1a	The articulation of narrow shop fronts, characterized by close placement to the sidewalk.	●		
3.1.1b	High levels of transparency (non-reflective and non-tinted glazing on a minimum of 75% of the first floor elevation).	●		
3.1.1c	Frequent entries.	●		
3.1.1d	Protection of pedestrians from the elements with awnings and canopies is required along the pedestrian-oriented commercial frontages shown on Map 3, and is encouraged elsewhere throughout the downtown.		●	
3.1.1e	Patios and other spill-out activity is permitted and encouraged where adequate width for pedestrian passage is maintained.	●		
3.1.1f	Where non-commercial uses are proposed at grade in those areas where permitted, they should be designed such that future conversion to retail or commercial uses is possible.			●
3.1.2	Streetwall Setback (<i>refer to Map 6</i>)			
3.1.2a	Minimal to no Setback (0-1.5m): Corresponds to the traditional retail streets and business core of the downtown. Except at corners or where an entire block length is being redeveloped, new buildings should be consistent with the setback of the adjacent existing buildings.		●	

Attachment D – Design Manual Checklist – Case 19148

Section	Guideline	Complies	Discussion	N/A
3.1.2b	Setbacks vary (0-4m): Corresponds to streets where setbacks are not consistent and often associated with non-commercial and residential uses or house-form building types. New buildings should provide a setback that is no greater or lesser than the adjacent existing buildings.			●
3.1.2c	Institutional and Parkfront Setbacks (4m+): Corresponds to the generous landscaped setbacks generally associated with civic landmarks and institutional uses. Similar setbacks designed as landscaped or hardscaped public amenity areas may be considered where new public uses or cultural attractions are proposed along any downtown street. Also corresponds to building frontages on key urban parks and squares where an opportunity exists to provide a broader sidewalk to enable special streetscape treatments and spill out activity such as sidewalk patios.			●
3.1.3	Streetwall Height To ensure a comfortable human-scaled street enclosure, streetwall height should generally be no less than 11 metres and generally no greater than a height proportional (1:1) to the width of the street as measured from building face to building face. Accordingly, maximum streetwall heights are defined and correspond to the varying widths of downtown streets – generally 15.5m, 17m or 18.5m. Consistent with the principle of creating strong edges to major public open spaces, a streetwall height of 21.5m is permitted around the perimeter of Cornwallis Park. Maximum Streetwall Heights are shown on Map 7 of the Land Use By-law.	●		
3.2	Pedestrian Streetscapes			
3.2.1	Design of the Streetwall			
3.2.1a	The streetwall should contribute to the fine grained character of the streetscape by articulating the façade in a vertical rhythm that is consistent with the prevailing character of narrow buildings and storefronts.	●		
3.2.1b	The streetwall should generally be built to occupy 100% of a property’s frontage along streets.		●	
3.2.1c	Generally, streetwall heights should be proportional to the width of the right-of-way, a 1:1 ratio between	●		

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Section	Guideline	Complies	Discussion	N/A
	streetwall height and right of way width. Above the maximum streetwall height, further building heights are subject to upper storey stepbacks.			
3.2.1d	In areas of contiguous heritage resources, streetwall height should be consistent with heritage buildings.			●
3.2.1e	Streetwalls should be designed to have the highest possible material quality and detail.	●		
3.2.1f	Streetwalls should have many windows and doors to provide 'eyes on the street' and a sense of animation and engagement.	●		
3.2.1g	Along pedestrian frontages at grade level, blank walls shall not be permitted, nor shall any mechanical or utility functions (vents, trash vestibules, propane vestibules, etc.) be permitted.	●		
3.2.2	Building Orientation and Placement			
3.2.2a	All buildings should orient to, and be placed at, the street edge with clearly defined primary entry points that directly access the sidewalk.	●		
3.2.2b	Alternatively, buildings may be sited to define the edge of an on-site public open space, for example, plazas, promenades, or eroded building corners resulting in the creation of public space (see diagram at right). Such treatments are also appropriate for Prominent Visual Terminus sites identified on Map 9 of the Land Use By-law.	●		
3.2.2c	Sidyard setbacks are not permitted in the Central Blocks defined on Map 8 of the Land Use Bylaw, except where required for through-block pedestrian connections or vehicular access.		●	
3.2.3	Retail Uses			
3.2.3a	All mandatory retail frontages (Map 3 of Land Use By-law) should have retail uses at-grade with a minimum 75% glazing to achieve maximum visual transparency and animation.			●
3.2.3b	Weather protection for pedestrians through the use of well-designed awnings and canopies is required along mandatory retail frontages (Map 3) and is strongly		●	

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Section	Guideline	Complies	Discussion	N/A
	encouraged in all other areas.			
3.2.3c	Where retail uses are not currently viable, the grade-level condition should be designed to easily accommodate conversion to retail at a later date.	●		
3.2.3d	Minimize the transition zone between retail and the public realm. Locate retail immediately adjacent to, and accessible from, the sidewalk.	●		
3.2.3e	Avoid deep columns or large building projections that hide retail display and signage from view.	●		
3.2.3f	Ensure retail entrances are located at or near grade. Avoid split level, raised or sunken retail entrances. Where a changing grade along a building frontage may result in exceedingly raised or sunken entries it may be necessary to step the elevation of the main floor slab to meet the grade changes.		●	
3.2.3g	Commercial signage should be well designed and of high material quality to add diversity and interest to retail streets, while not being overwhelming.			●
3.2.4	Residential Uses			
3.2.4a	Individually accessed residential units (i.e. town homes) should have front doors on the street, with appropriate front yard privacy measures such as setbacks and landscaping. Front entrances and first floor slabs should be raised above grade level for privacy, and should be accessed through means such as steps, stoops and porches.			●
3.2.4b	Residential units accessed by a common entrance and lobby may have the entrance and lobby elevated or located at grade-level, and the entrance should be clearly recognizable from the exterior through appropriate architectural treatment.	●		
3.2.4c	Projects that feature a combination of individually accessed units in the building base with common entrance or lobby-accessed units in the upper building, are encouraged.			●
3.2.4d	Units with multiple bedrooms (2 and 3 bedroom units) should be provided that have immediately accessible	●		

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Section	Guideline	Complies	Discussion	N/A
	outdoor amenity space. The amenity space may be at-grade or on the landscaped roof of a podium.			
3.2.4e	Units provided to meet housing affordability requirements shall be uniformly distributed throughout the development and shall be visually indistinguishable from market-rate units through the use of identical levels of design and material quality.			●
3.2.4f	Residential uses introduced adjacent to pre-existing or concurrently developed eating and drinking establishments should incorporate acoustic dampening building materials to mitigate unwanted sound transmission.			●
3.2.5	Sloping Conditions			
3.2.5a	Maintain active uses at-grade, related to the sidewalk, stepping with the slope. Avoid levels that are distant from grade.		●	
3.2.5b	Provide a high quality architectural expression along facades. Consider additional detailing, ornamentation or public art to enhance the experience.	●		
3.2.5c	Provide windows, doors and other design articulation along facades; blank walls are not permitted.	●		
3.2.5d	Articulate the façade to express internal floor or ceiling lines; blank walls are not permitted.	●		
3.2.5e	Wrap retail display windows a minimum of 4.5 metres around the corner along sloping streets, where retail is present on the sloping street.	●		
3.2.5f	Wherever possible, provide pedestrian entrances on sloping streets. If buildings are fully accessible at other entrances, consider small flights of steps or ramps up or down internally to facilitate entrances on the slope.	●		
3.2.5g	Flexibility in streetwall heights is required in order to transition from facades at a lower elevations to facades at higher elevations on the intersecting streets. Vertical corner elements (corner towers) can facilitate such transitions, as can offset or “broken” cornice lines at the top of streetwalls on sloping streets.	●		
3.2.6	Elevated Pedestrian Walkways			

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Section	Guideline	Complies	Discussion	N/A
	<i>The intent of these guidelines is to focus pedestrian activity and at the sidewalk level in support of sidewalk level retail establishments, and overall public realm vibrancy. However pedways may be appropriate or necessary in some case.</i>			
3.2.6a	Not be constructed in a north-south direction such that they block views up and down the east-west streets in the downtown.			●
3.2.6b	Not be more than a single storey in height.			●
3.2.6c	Strive to have as low a profile as possible.			●
3.2.6d	Be constructed of highly transparent materials.			●
3.2.6e	Be of exceptionally high design and material quality.			●
3.2.7	Other Uses			
3.2.7a	Non-commercial uses at-grade should animate the street with frequent entries and windows.			●
3.3	Building Design			
3.3.1	Building Articulation			
3.3.1a	<p>To encourage continuity in the streetscape and to ensure vertical breaks in the façade, buildings shall be designed to reinforce the following key elements through the use of setbacks, extrusions, textures, materials, detailing, etc.:</p> <ul style="list-style-type: none"> ● Base: Within the first four storeys, a base should be clearly defined and positively contribute to the quality of the pedestrian environment through animation, transparency, articulation and material quality. ● Middle: The body of the building above the base should contribute to the physical and visual quality of the overall streetscape. ● Top: The roof condition should be distinguished from the rest of the building and designed to contribute to the visual quality of the skyline. 	●		
3.3.1b	Buildings should seek to contribute to a mix and variety of high quality architecture while remaining respectful of downtown's context and tradition.	●		

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Section	Guideline	Complies	Discussion	N/A
3.3.1c	To provide architectural variety and visual interest, other opportunities to articulate the massing should be encouraged, including vertical and horizontal recesses or projections, datum lines, and changes in material, texture or colour.	●		
3.3.1d	Street facing facades should have the highest design quality; however, all publicly viewed facades at the side and rear should have a consistent design expression.	●		
3.3.2	Materials			
3.3.2a	Building materials should be chosen for their functional and aesthetic quality, and exterior finishes should exhibit quality of workmanship, sustainability and ease of maintenance.	●		
3.3.2b	Too varied a range of building materials is discouraged in favour of achieving a unified building image.	●		
3.3.2c	Materials used for the front façade should be carried around the building where any facades are exposed to public view at the side or rear.	●		
3.3.2d	Changes in material should generally not occur at building corners.	●		
3.3.2e	Building materials recommended for new construction include brick, stone, wood, glass, in-situ concrete and pre-cast concrete.	●		
3.3.2f	In general, the appearance of building materials should be true to their nature and should not mimic other materials.	●		
3.3.2g	Stucco and stucco-like finishes shall not be used as a principle exterior wall material.	●		
3.3.2h	Vinyl siding, plastic, plywood, concrete block, EIFS (exterior insulation and finish systems where stucco is applied to rigid insulation), and metal siding utilizing exposed fasteners are prohibited.	●		
3.3.2i	Darkly tinted or mirrored glass is prohibited. Clear glass is preferable to light tints. Glare reduction coatings are preferred.	●		

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Section	Guideline	Complies	Discussion	N/A
3.3.2j	Unpainted or unstained wood, including pressure treated wood, is prohibited as a building material for permanent decks, balconies, patios, vernadas, porches, railings and other similar architectural embellishments, except that this guidelines shall not apply to seasonal sidewalk cafes.	●		
3.3.3	Entrances			
3.3.3a	Emphasize entrances with such architectural expressions as height, massing, projection, shadow, punctuation, change in roof line, change in materials, etc.	●		
3.3.3b	Ensure main building entrances are covered with a canopy, awning, recess or similar device to provide pedestrian weather protection.		●	
3.3.3c	Modest exceptions to setback and stepback requirements are possible to achieve these goals.		●	
3.3.4	Roof Line and Roofscapes			
3.3.4a	Buildings above six storeys (mid and high-rise) contribute more to the skyline of individual precincts and the entire downtown, so their roof massing and profile must include sculpting, towers, night lighting or other unique features.	●		
3.3.4b	The expression of the building ‘top’ (see previous) and roof, while clearly distinguished from the building ‘middle’, should incorporate elements of the middle and base such as pilasters, materials, massing forms or datum lines.	●		
3.3.4c	Landscaping treatment of all flat rooftops is required. Special attention shall be given to landscaping rooftops in precincts 3, 5, 6 and 9, which abut Citadel Hill and are therefore pre-eminently visible. The incorporation of living “green roofs” is strongly encouraged.	●		
3.3.4d	Ensure all rooftop mechanical equipment is screened from view by integrating it into the architectural design of the building and the expression of the building ‘top’. Mechanical rooms and elevator and stairway head-houses should be incorporated into a single well-designed roof top structure. Sculptural and architectural elements are encouraged to add visual interest.	●		

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Section	Guideline	Complies	Discussion	N/A
3.3.4e	Low-rise flat roofed buildings should provide screened mechanical equipment. Screening materials should be consistent with the main building design. Sculptural and architectural elements are encouraged for visual interest as the roofs of such structures have very high visibility.			●
3.3.4f	The street-side design treatment of a parapet should be carried over to the back-side of the parapet for a complete, finished look where they will be visible from other buildings and other high vantage points.	●		
3.4	Civic Character			
3.4.1	Prominent Frontages and View Termini			
3.4.1a	Prominent Visual Terminus Sites: These sites identify existing or potential buildings and sites that terminate important view corridors and that can strengthen visual connectivity across downtown. On these sites distinctive architectural treatments such as spires, turrets, belvederes, porticos, arcades, or archways should be provided. Design elements (vertical elements, porticos, entries, etc.) should be aligned to the view axis. Prominent Visual Terminus Sites are shown on Map 9 in the Land Use By-law.	●		
3.4.1b	Prominent Civic Frontage: These frontages identify highly visible building sites that front onto important public open spaces such as the Citadel and Cornwallis Park, as well as important symbolic or ceremonial visual and physical connections such as the waterfront boardwalks, the proposed Grand Promenade linking the waterfront to the Town Clock, and other eastwest streets that connect the downtown to the waterfront. Prominent Civic Frontages are shown on Map 1 in Appendix A of the Design Manual.	●		
3.4.2	Corner Sites			
3.4.2a	Provision of a change in the building massing at the corner, in relation to the streetwall.		●	
3.4.2b	Provision of distinctive architectural treatments such as spires, turrets, belvederes, porticos, arcades, or archways.		●	
3.4.2c	Developments on all corner sites must provide a frontal design to both street frontages.		●	

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Section	Guideline	Complies	Discussion	N/A
3.4.2d	Alternatively, buildings may be sited to define the edge of an on-site public open space, for example, plazas, promenades, or eroded building corners resulting in the creation of public space.	●		
3.4.3	Civic Buildings			
3.4.3e	Civic buildings entail a greater public use and function, and therefore should be prominent and recognizable, and be designed to reflect the importance of their civic role.			●
3.4.3f	Provide distinctive architectural treatments such as spires, turrets, belvederes, porticos, arcades, or archways.			●
3.4.3g	Ensure entrances are large and clearly visible. Provide a building name and other directional and wayfinding signage.			●
3.4.3h	Very important public buildings should have unique landmark design. Such buildings include transit terminals, museums, libraries, court houses, performing arts venues, etc.			●
3.5	Parking Services and Utilities			
3.5.1	Vehicular Access, Circulation, Loading and Utilities			
3.5.1a	Locate parking underground or internal to the building (preferred), or to the rear of buildings.	●		
3.5.1b	Ensure vehicular and service access has a minimal impact on the streetscape, by minimizing the width of the frontage it occupies, and by designing integrated access portals and garages.	●		
3.5.1c	Locate loading, storage, utilities, areas for delivery and trash pickup out of view from public streets and spaces, and residential uses.	●		
3.5.1d	Where access and service areas must be visible from or shared with public space, provide high quality materials and features that can include continuous paving treatments, landscaping and well designed doors and entries.			●
3.5.1e	Coordinate and integrate utilities, mechanical equipment and meters with the design of the building, for example, using consolidated rooftop structures or internal utility	●		

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Section	Guideline	Complies	Discussion	N/A
	rooms.			
3.5.1f	Locate heating, venting and air conditioning vents away from public streets. Locate utility hook-ups and equipment (i.e. gas meters) away from public streets and to the sides and rear of buildings, or in underground vaults.	●		
3.5.2	Parking Structures			
3.5.2a	Where multi-storey parking facilities are to be integrated into new developments they should be visually obscured from abutting streets by wrapping them with sleeves of active uses.	●		
3.5.2b	Animated at-grade uses should occupy the street frontage, predominantly retail, with 75% transparency.	●		
3.5.2c	At-grade parking access and servicing access to retail stores should be provided to the rear and concealed from the street.	●		
3.5.2d	Provide articulated bays in the façade to create fine-grained storefront appearance.			●
3.5.2e	Provide pedestrian amenities such as awnings, canopies, and sheltered entries.	●		
3.5.2f	Provide façade treatment that conceals the parking levels and that gives the visual appearance of a multi-storey building articulated with window openings.	●		
3.5.2g	Design of parking structures such that they can be repurposed to other uses (i.e. level floor slabs) is encouraged.			●
3.5.2h	Provide cap treatment (at roof or cornice line) that disguises views of rooftop parking and mechanical equipment.	●		
3.5.2i	Utilize high quality materials that are compatible with existing downtown buildings.	●		
3.5.2j	Locate pedestrian access to parking at street edges, with direct access. Ensure stairs to parking levels are highly visible from the street on all levels.			●
3.5.2k	Ensure all interior and exterior spaces are well lit,	●		

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Section	Guideline	Complies	Discussion	N/A
	inclusive of parking areas, vehicular circulation aisles, ramps, pedestrian accesses, and all entrances.			
3.5.2l	Maintain continuous public access to parking at all hours and in all seasons.			●
3.5.2m	Minimize the width and height of vehicular access points to the greatest practical extent.			●
3.5.2n	Provide clear sightlines for vehicles and pedestrians at sidewalks, by setting back columns and walls, and providing durable low maintenance mirrors.	●		
3.5.2o	Bicycle parking must be provided in visible at grade locations, and be weather-protected.			●
3.5.3	Surface Parking			
3.5.3a	Surface lots shall be located out of sight behind buildings or inside city blocks rather than adjacent to streets or at corners.			●
3.5.3b	Surface lots shall only be moderate in size (10-20 cars) for the handicapped and visitors, and must include bicycle parking opportunities.			●
3.5.3c	Surface parking shall be designed to include internal landscaping or hardscaping on islands at the ends of each parking aisle, clearly marked pedestrian access and paths, lighting and be concealed with landscaped buffers or other mitigating design measures.			●
3.5.3d	In addition to landscaping, a variety of hardscaping materials should be used to add visual texture and reduce apparent parking lot scale. Landscaping should be low maintenance.			●
3.5.4	Lighting			
3.5.4a	Attractive landscape and architectural features can be highlighted with spot-lighting or general lighting placement.	●		
3.5.4b	Consider a variety of lighting opportunities inclusive of street lighting, pedestrian lighting, building up or down lighting, internal building lighting, internal and external signage illumination (including street addressing), and decorative or display lighting.		●	

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Section	Guideline	Complies	Discussion	N/A
3.5.4c	Illuminate landmark buildings and elements, such as towers or distinctive roof profiles.	●		
3.5.4d	Encourage subtle night-lighting of retail display windows.	●		
3.5.4e	Ensure there is no light trespass onto adjacent residential areas by the use of shielded full cutoff fixtures.			●
3.5.4f	Lighting shall not create glare for pedestrians or motorists by presenting unshielded lighting elements in view.	●		
3.5.5	Signs <i>(to be reviewed by Development Officer pursuant to LUB section 5(11)e)</i>			
3.5.5a	Integrate signs into the design of building facades by placing them within architectural bay, friezes or datum lines, including coordinated proportion, materials and colour.			●
3.5.5b	Signs should not obscure windows, cornices or other architectural elements.			●
3.5.5c	Sign scale should reinforce the pedestrian scale of the downtown, through location at or near grade level for viewing from sidewalks.			●
3.5.5d	Large freestanding signs (such as pylons), signs on top of rooftops, and large scale advertising (such as billboards) are prohibited.			●
3.5.5e	Signs on heritage buildings should be consistent with traditional sign placement such as on a sign band, window lettering, or within architectural orders.			●
3.5.5f	Street addressing shall be clearly visible for every building.			●
3.5.5g	The material used in signage shall be durable and of high quality, and should relate to the materials and design language of the building.			●
3.6	Site Plan Variance			
3.6.1	Streetwall Setback Variance			
3.6.1a	the streetwall setback is consistent with the objectives		●	

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Section	Guideline	Complies	Discussion	N/A
	and guidelines of the Design Manual;			
3.6.1b	on an existing building, where an addition is to be constructed, the existing structural elements of the building or other similar features are prohibitive in achieving the streetwall setback requirement; or			●
3.6.1c	the streetwall setback of abutting buildings is such that the streetwall setback would be inconsistent with the character of the street.			●
3.6.2	Side and Rear Yard Setback Variance			
3.6.2a	the modified setback is consistent with the objectives and guidelines of the Design Manual; and			●
3.6.2b	the modification does not negatively impact abutting uses by providing insufficient separation.			●
3.6.3	Streetwall Height Variance			
3.6.3a	the streetwall height is consistent with the objectives and guidelines of the Design Manual; and			●
3.6.3b	the modification is for a corner element that is used to join streetwalls of differing heights; or			●
3.6.3c	the streetwall height of abutting buildings is such that the streetwall height would be inconsistent with the character of the street; or			●
3.6.3d	where a landmark building element is called for pursuant to the Design Manual			●
3.6.4	Streetwall Width Variance			
3.6.4a	the streetwall width is consistent with the objectives and guidelines of the Design Manual; and	●		
3.6.4b	the resulting gap in the streetwall has a clear purpose, is well-designed and makes a positive contribution to the streetscape.		●	
3.6.5	Upper Storey Streetwall Stepback Variance			
3.6.5a	the upper storey streetwall setback is consistent with the objectives and guidelines of the Design Manual; and	●		
3.6.5b	the modification results in a positive benefit such as		●	

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Section	Guideline	Complies	Discussion	N/A
	improved heritage preservation or the remediation of an existing blank building wall.			
3.6.6	Upper Storey Side Yard Stepback Variance			
3.6.6a	the upper storey side yard stepback is consistent with the objectives and guidelines of the Design Manual; and	●		
3.6.6b	where the height of the building is substantially lower than the maximum permitted building height and the setback reduction is proportional to that lower height; or		●	
3.6.6c	a reduction in setback results in the concealment of an existing blank wall with a new, well designed structure.			●
3.6.7	Maximum Tower Width Variance			
3.6.7a	the maximum tower width is consistent with the objectives and guidelines of the Design Manual; and	●		
3.6.7b	the modification results in a clear public benefit such as the remediation of an existing blank building wall; or		●	
3.6.8	Maximum Height Variance			
3.6.8a	the maximum height is consistent with the objectives and guidelines of the Design Manual; and	●		
3.6.8b	the additional building height is for rooftop architectural features and the additional height does not result in an increase in gross floor area;		●	
3.6.8c	the maximum building height is less than 1.5 metres below the View Plane or Rampart height requirements;			●
3.6.8d	where a landmark building element is provided pursuant to the Design Manual; or			●
3.6.8e	where the additional height is shown to enable the adaptive re-use of heritage buildings.			●



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Case 19148: Attachment E - Wind Study

1583 Hollis Street
Halifax, Nova Scotia

Final Report

Pedestrian Wind Consultation Wind Tunnel Tests

RWDI # 1400125
November 28, 2013

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1583 Hollis Street – Halifax, Nova Scotia
Pedestrian Wind Consultation
RWDI#1400125
November 28, 2013

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1. INTRODUCTION

Rowan Williams Davies & Irwin Inc. (RWDI) was retained by Page + Steele / IBI Group Architects to consult on the pedestrian wind conditions for the proposed 1583 Hollis Street development in Halifax, Nova Scotia. The purpose of the study was to assess the wind environment around the development in terms of pedestrian wind comfort and safety. The objective of this study was achieved through wind tunnel testing of a 1:300 scale model of the proposed development for the following configurations:

Existing:	existing buildings and surroundings;
Proposed:	existing surroundings and proposed development; and
Mitigation:	existing surroundings and proposed development, with wind control measures based on discussions between RWDI and Page and Steele / IBI Group Architects.

The photographs in Figures 1a through 1c show the test model in RWDI's boundary-layer wind tunnel. The proposed building is 21 storeys and 72.5 m high, with the first five storeys serving as a podium. The test model was constructed using the design information and drawings listed in Appendix A. This report summarizes the methodology of wind tunnel studies for pedestrian wind conditions, describes the RWDI pedestrian wind criteria, presents the local wind conditions and their effects on pedestrians and provides conceptual wind control measures, where necessary.

2. SUMMARY OF WIND CONDITIONS

The wind conditions around the proposed 1583 Hollis Street development are discussed in detail in Section 5 of this report and may be summarized as follows:

- The wind safety criterion would be met at all locations in both the proposed and mitigation configurations, except for the southwest corner of the intersection of Sackville and Hollis Streets (Location 41).
- The pedestrian wind conditions for the proposed development is expected to meet or surpass suitable conditions for each of the test locations, with the exception of the northwest and southwest building corners (Locations 2 and 7) and the southwest corner of the intersection of Sackville and Hollis Streets (Location 41).
- Higher-than desired wind speeds were predicted at outdoor patios on and around the proposed development in the proposed configuration. These wind conditions will be improved significantly by the proposed wind mitigation, creating acceptable conditions. These mitigation options have been incorporated into the building design.
- Wind conditions at Locations 2, 7 and 41 are expected to be improved by future development on the open lot west of the current development.



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3. METHODOLOGY

As shown in Figures 1a through 1c, the wind tunnel model included the proposed development and all relevant surrounding buildings and topography within a 345 m radius of the study site. The boundary-layer wind conditions beyond the modelled area were also simulated in RWDI's wind tunnel. The model was instrumented with 57 wind speed sensors to measure mean and gust wind speeds at a full-scale height of approximately 1.5 m. These measurements were recorded for 36 equally incremented wind directions.

Wind statistics recorded at the Shearwater Airport between 1971 and 2009 were analysed for the Summer (May through October) and Winter (November through April) seasons. Figure 2 graphically depicts the distribution of wind frequency and directionality for the two seasons. When all wind records are considered, winds from the southwest quadrant are predominant in the summer, as indicated by the wind rose on the left of the figure. During the winter, winds from the northwest quadrant are predominant as indicated by the wind rose on the right of the Figure. Calm winds recorded at the airport occur for 6.4% of the time in the summer and 4.0% of the time in winter.

Strong winds of a mean speed greater than 30 km/h measured at the airport (at an anemometer height of 10m) occur for 2.7% and 11.2% of the time during the summer and winter seasons, respectively. Strong winds are evenly distributed among all directions during the summer, as indicated by the left-side rose.

During the winter, strong winds from the west through the north are more frequent, as indicated by the right-side wind rose. Winds from these directions could potentially be the source of uncomfortable or even severe wind conditions, depending upon the site exposure or development design. The analysis methods have accounted for these and all wind directions.

Wind statistics from the Shearwater Airport were combined with the wind tunnel data in order to predict the frequency of occurrence of full-scale wind speeds. The full-scale wind predictions were then compared with the RWDI criteria for pedestrian comfort and safety.

4. EXPLANATION OF CRITERIA

The RWDI pedestrian wind criteria are used in the current study. These criteria have been developed by RWDI through research and consulting practice since 1974 (References 1 through 6). They have also been widely accepted by municipal authorities as well as by the building design and city planning community.



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RWDI Pedestrian Wind Criteria

Comfort Category	GEM Speed (km/h)	Description
Sitting	≤ 10	Calm or light breezes desired for outdoor restaurants and seating areas where one can read a paper without having it blown away
Standing	≤ 14	Gentle breezes suitable for main building entrances and bus stops
Strolling	≤ 17	Moderate winds that would be appropriate for window shopping and strolling along a downtown street, plaza or park
Walking	≤ 20	Relatively high speeds that can be tolerated if one's objective is to walk, run or cycle without lingering
Uncomfortable	> 20	Strong winds of this magnitude are considered a nuisance for most activities, and wind mitigation is typically recommended
Notes: (1) Gust Equivalent Mean (GEM) speed = $\max(\text{mean speed, gust speed}/1.85)$; and (2) GEM speeds listed above are based on a seasonal exceedance of 20% of the time between 6:00 and 23:00.		
Safety Criterion	Gust Speed (km/h)	Description
Exceeded	> 90	Excessive gust speeds that can adversely affect a pedestrian's balance and footing. Wind mitigation is typically required.
Note: Based on an annual exceedance of 9 hours or 0.1% of the time for 24 hours a day.		

A few additional comments are provided below to further explain the wind criteria and their applications.

- Both mean and gust speeds can affect pedestrian's comfort and their combined effect is typically quantified by a Gust Equivalent Mean (GEM) speed, with a gust factor of 1.85 (References 1, 5, 7 and 8).
- Instead of standard four seasons, two periods of summer (May to October) and winter (November to April) are adopted in the wind analysis, because in a moderate or cold climate such as that found in Halifax, there are distinct differences in pedestrian outdoor behaviours between these two time periods.
- Nightly hours between the midnight and 5 o'clock in the morning are excluded from the wind analysis for wind comfort since limited usage of outdoor spaces is anticipated.
- A 20% exceedance is used in these criteria to determine the comfort category, which suggests that wind speeds would be comfortable for the corresponding activity at least 80% of the time or four out of five days.
- Only gust winds need to be considered in the wind safety criterion. These are usually rare events, but deserve special attention in city planning and building design due to their potential safety impact on pedestrians.



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- These criteria for wind forces represent average wind tolerance. They are sometimes subjective and regional differences in wind climate and thermal conditions as well as variations in age, health, clothing, etc. can also affect people's perception of the wind climate. Comparisons of wind speeds for different building configurations are the most objective way in assessing local pedestrian wind conditions.

5. PREDICTED WIND CONDITIONS

Table 1, located in the Tables section of this report, presents the wind comfort and safety conditions for the three test configurations. These conditions are graphically depicted on a site plan in Figures 3a through 5c.

In our discussion of anticipated wind conditions, reference may be made to the following generalized wind flows. Tall buildings tend to intercept the stronger winds at higher elevations and redirect them to the ground level (see Image 1). Such a *Downwashing Flow* is often the main cause for wind accelerations around large buildings at the pedestrian level. Also, when two buildings are situated side by side, wind flow tends to accelerate through the space between the buildings due to the *Channelling Effect* (see Image 2). In addition, it is common to have wind accelerations around building corners (see *Corner Acceleration* in Image 3). If these building/wind combinations occur for prevailing winds, there is a greater potential for increased wind activity.

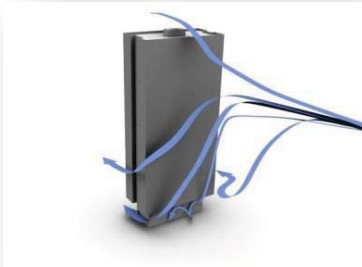


Image 1 – Downwashing Flow

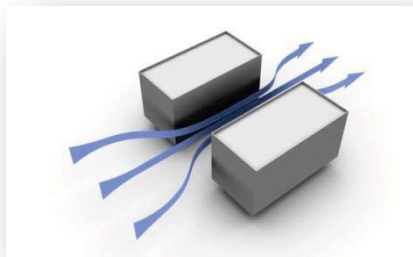


Image 2 – Channelling Effect

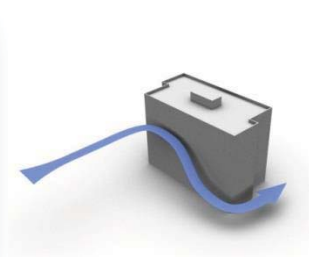


Image 3 – Corner Acceleration

5.1 Existing Site Conditions (Locations 1 through 48)

The current grade level wind climate in the vicinity of the proposed development is comfortable for sitting or standing during the summer, as shown in Figure 3a. During the winter, winds tend to be stronger and standing or strolling conditions generally characterize the local wind climate, as shown in Figure 4a.

There are currently no locations surrounding the proposed development where the wind safety criterion is exceeded.



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5.2 On-site Areas (Locations 1 through 13)

Wind conditions comfortable for sitting are generally desired at cafes or restaurant patio areas, while standing or sitting conditions are desired at building entrances. Strolling conditions would be desired in areas where frequent, brief loitering is expected, such as the bicycle parking area. Wind conditions suitable for walking or better are appropriate for sidewalks.

5.2.1 Proposed Configuration

The addition of the proposed 1583 Hollis Street development and its effect on local wind conditions is presented on Figure 3b for the summer season. Wind conditions at entrances to the retail space, the restaurant and the main lobby (Locations 3 through 5) would be comfortable for standing or sitting for the proposed configuration (Figure 3b). In the restaurant seating area (Locations 8 and 9) wind conditions suitable for standing can be expected. Sitting conditions, however, would be preferred in an outdoor restaurant seating area during the summer. Along the eastern side of the building, at the bike parking area and the pedestrian link (Locations 11 and 12), wind conditions would be comfortable for sitting, which is ideal. Strolling and standing conditions would be expected at building corners and along walkways surrounding the proposed development (Locations 1, 2, 6, 7 and 13).

During the winter months, wind conditions would be generally appropriate for pedestrian activities at all locations around the proposed development, as shown in Figures 4b. The restaurant seating area in particular would not be expected to be used during the winter months due to the cold climate in Halifax. Therefore, the expected walking conditions would be acceptable. The only exceptions would be at the northwest and southwest building corners (Locations 2 and 7) which are expected to be uncomfortable.

The wind safety criterion would be met at all locations in the immediate vicinity of the proposed development.

5.2.2 Mitigation Configuration

Overall, the wind conditions in all areas adjacent to the proposed development are expected to be suitable during summer months. The addition of large canopies wrapping around the northwest and southwest building corners, while sheltering pedestrians and entrances under them, aren't expected to reduce wind speeds significantly at the corners (Locations 2 and 7), as shown in Table 1. Winds at these building corners are expected to be channeled from the west and accelerate around the corners underneath the canopy. While the addition of vertical screens at grade close to these two corners could help to reduce the winds, they may not be practical as they would impede pedestrian access along the sidewalks. Wind conditions at Locations 2, 7 and 41 would be improved by any future development on the open lot west of the proposed 1583 Hollis site.

5.3 Fifth Storey Amenity Area and Suite Terraces (Locations 49 through 57)

It is generally desirable for wind conditions on terraces to be comfortable for sitting more than 80% of the time in the summer. During the winter, terrace areas would not typically be used in colder climates, such as that in Halifax, and increased wind activity would be considered appropriate.



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5.3.1 Proposed Configuration

Wind conditions on the fifth storey suite terraces and at the amenity area range from sitting conditions to strolling conditions during the summer, as shown in Figure 3b. The sheltered area along the eastern side of the proposed development (Location 53) is expected to be comfortable for sitting, which is ideal. However, areas more exposed to westerly winds (Locations 49 through 52 and Locations 54 through 57) are expected to be suitable for standing or strolling activities. Improvements to the proposed design are discussed below in Sections 5.3.2.

5.3.2 Mitigation Configuration

The mitigation measures discussed between RWDI and Page + Steele / IBI Group Architects are shown on Figure 1c and the test results for the summer wind conditions are presented on Figure 3c. The addition of the canopies above the amenity area, planters with tall, dense grass within the amenity areas, porous wind screens between suites along the west side of the building and the addition of porous wind screens along the west and south amenity area parapets is expected to reduce wind speeds to standing and sitting conditions across the entire fifth floor.

The addition of these canopies and porous wind screens would also eliminate all the wind safety exceedances on the fifth floor annually, as shown on Figure 5c.

5.4 Surrounding Pedestrian Areas (Locations 14 through 48)

Wind conditions suitable for walking or strolling are appropriate for sidewalks.

5.4.1 Proposed and Mitigation Configurations

In the area surrounding the proposed 1583 Hollis Street development wind conditions would generally be similar in the summer with or without wind mitigation, as shown on Figures 3b and 3c. These wind conditions are considered appropriate.

In the winter, wind conditions surrounding the proposed development would also remain similar, as shown on Figures 4b and 4c. Walking conditions, or better, can be expected at all locations, except for the southwest corner of the intersection of Sackville and Hollis Streets (Location 41). The uncomfortable conditions expected at this location are the result of strong winds from the southerly through westerly directions, as well as the northerly through easterly directions. The presence of future development on the empty lot west of the proposed 1583 Hollis Street development would improve wind conditions at this street corner (Location 41). However, local wind mitigation measures on the 1583 Hollis Street site are not likely to reduce wind conditions significantly at this location.

The safety criterion will be met at all pedestrian areas surrounding the proposed development except for the southwest corner of the intersection of Sackville and Hollis Streets (Location 41).



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6. CONCLUSIONS

Based on the above discussion on wind conditions and the mitigation configuration test results, the following measures have been incorporated in the building design:

- Porous wind screens, approximately 2 m high, installed along the west and south sides of both the fifth storey amenity area and the grade level restaurant patio area;
- Planters with tall grass placed between individual seating areas on the fifth floor amenity area;
- Porous dividers, approximately 2 m high installed between each suite on the fifth floor terrace;
- Canopies at least 2 m deep included above the fifth storey amenity area;
- Wraparound canopies 4 and 2 m deep, respectively, installed at the northwest and southwest building corners.

The presence of future development on the empty lot west of the proposed 1583 Hollis Street development would improve wind conditions at this street corner (Location 41). However, local wind mitigation measures on the 1583 Hollis Street site are not likely to reduce wind conditions significantly at this location.

7. APPLICABILITY

The wind conditions presented in this report pertain to the model of the proposed 1583 Hollis Street development constructed using the architectural design drawings listed in Appendix A. Should there be any design changes that deviate from this list of drawings, the wind conditions presented may change. Therefore, if changes in the design are made, it is recommended that RWDI be contacted and requested to review their potential effects on wind conditions.



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8. REFERENCES

- 1) ASCE Task Committee on Outdoor Human Comfort (2004). *Outdoor Human Comfort and Its Assessment*, 68 pages, American Society of Civil Engineers, Reston, Virginia, USA.
- 2) Williams, C.J., Hunter, M.A. and Waechter, W.F. (1990). "Criteria for Assessing the Pedestrian Wind Environment," *Journal of Wind Engineering and Industrial Aerodynamics*, Vol.36, pp.811-815.
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- 4) Soligo, M.J., Irwin, P.A., and Williams, C.J. (1993). "Pedestrian Comfort Including Wind and Thermal Effects," *Third Asia-Pacific Symposium on Wind Engineering*, Hong Kong.
- 5) Soligo, M.J., Irwin, P.A., Williams, C.J. and Schuyler, G.D. (1998). "A Comprehensive Assessment of Pedestrian Comfort Including Thermal Effects," *Journal of Wind Engineering and Industrial Aerodynamics*, Vol.77&78, pp.753-766.
- 6) Williams, C.J., Wu, H., Waechter, W.F. and Baker, H.A. (1999). "Experiences with Remedial Solutions to Control Pedestrian Wind Problems," *Tenth International Conference on Wind Engineering*, Copenhagen, Denmark.
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- 8) Durgin, F. H. (1997). "Pedestrian Level Wind Criteria Using the Equivalent average", *Journal of Wind Engineering and Industrial Aerodynamics*, Vol. 66, pp. 215-226.

TABLES



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Table 1: Pedestrian Wind Comfort and Safety Conditions

Location	Configuration	Wind Comfort (20% Seasonal Exceedance)				Wind Safety (0.1% Exceedance)	
		Summer		Winter		Annual	
		Speed (km/h)	Rating	Speed (km/h)	Rating	Speed (km/h)	Rating
1	Existing	12	Standing	14	Standing	72	Pass
	Proposed	11	Standing	14	Standing	65	Pass
	Mitigation	10	Sitting	13	Standing	70	Pass
2	Existing	12	Standing	15	Strolling	69	Pass
	Proposed	17	Strolling	22	Uncomfortable	89	Pass
	Mitigation	17	Strolling	21	Uncomfortable	88	Pass
3	Existing	11	Standing	15	Strolling	67	Pass
	Proposed	11	Standing	14	Standing	57	Pass
	Mitigation	11	Standing	14	Standing	58	Pass
4	Existing	10	Sitting	13	Standing	55	Pass
	Proposed	10	Sitting	14	Standing	57	Pass
	Mitigation	10	Sitting	13	Standing	56	Pass
5	Existing	10	Sitting	13	Standing	56	Pass
	Proposed	9	Sitting	12	Standing	60	Pass
	Mitigation	10	Sitting	13	Standing	64	Pass
6	Existing	10	Sitting	13	Standing	54	Pass
	Proposed	10	Sitting	14	Standing	61	Pass
	Mitigation	10	Sitting	13	Standing	56	Pass
7	Existing	10	Sitting	13	Standing	59	Pass
	Proposed	16	Strolling	22	Uncomfortable	90	Pass
	Mitigation	16	Strolling	22	Uncomfortable	88	Pass
8	Existing	7	Sitting	10	Sitting	40	Pass
	Proposed	13	Standing	18	Walking	80	Pass
	Mitigation	10	Standing	13	Strolling	58	Pass
9	Existing	5	Sitting	7	Sitting	29	Pass
	Proposed	14	Standing	20	Walking	86	Pass
	Mitigation	12	Standing	17	Strolling	89	Pass
10	Existing	10	Sitting	13	Standing	58	Pass
	Proposed	15	Strolling	20	Walking	81	Pass
	Mitigation	11	Standing	15	Strolling	69	Pass
11	Existing	8	Sitting	10	Sitting	59	Pass
	Proposed	10	Sitting	13	Standing	56	Pass
	Mitigation	10	Sitting	13	Standing	60	Pass
12	Existing	10	Sitting	13	Standing	71	Pass
	Proposed	10	Sitting	13	Standing	59	Pass
	Mitigation	10	Sitting	12	Standing	59	Pass

Seasons

Summer = May to October
Winter = November to April

Hours

6:00 to 23:00 for Comfort
1:00 to 24:00 for Safety

Wind Comfort Category

(20% Seasonal Exceedance)

≤ 10 km/h Sitting
11 to 14 Standing
15 to 17 Strolling
18 to 20 Walking
> 20 km/h Uncomfortable

Wind Safety Category

(0.1% Annual Exceedance)

≤ 90 km/h Pass
> 90 km/h Exceeded

Configuration

Existing = without the proposed development
Proposed = with the proposed development
Mitigation = with the proposed development and mitigation



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Table 1: Pedestrian Wind Comfort and Safety Conditions

Location	Configuration	Wind Comfort (20% Seasonal Exceedance)				Wind Safety (0.1% Exceedance)	
		Summer		Winter		Annual	
		Speed (km/h)	Rating	Speed (km/h)	Rating	Speed (km/h)	Rating
13	Existing	13	Standing	16	Strolling	75	Pass
	Proposed	14	Standing	17	Strolling	77	Pass
	Mitigation	14	Standing	17	Strolling	78	Pass
14	Existing	13	Standing	16	Strolling	76	Pass
	Proposed	14	Standing	18	Walking	75	Pass
	Mitigation	14	Standing	17	Strolling	73	Pass
15	Existing	10	Sitting	12	Standing	61	Pass
	Proposed	9	Sitting	11	Standing	58	Pass
	Mitigation	9	Sitting	11	Standing	55	Pass
16	Existing	12	Standing	14	Standing	72	Pass
	Proposed	10	Sitting	13	Standing	69	Pass
	Mitigation	10	Sitting	12	Standing	72	Pass
17	Existing	11	Standing	12	Standing	61	Pass
	Proposed	9	Sitting	10	Sitting	54	Pass
	Mitigation	8	Sitting	10	Sitting	55	Pass
18	Existing	12	Standing	14	Standing	68	Pass
	Proposed	10	Sitting	13	Standing	59	Pass
	Mitigation	10	Sitting	13	Standing	59	Pass
19	Existing	12	Standing	14	Standing	66	Pass
	Proposed	13	Standing	17	Strolling	69	Pass
	Mitigation	13	Standing	16	Strolling	69	Pass
20	Existing	12	Standing	15	Strolling	66	Pass
	Proposed	13	Standing	16	Strolling	76	Pass
	Mitigation	12	Standing	15	Strolling	71	Pass
21	Existing	10	Sitting	12	Standing	58	Pass
	Proposed	10	Sitting	12	Standing	53	Pass
	Mitigation	10	Sitting	12	Standing	51	Pass
22	Existing	14	Standing	19	Walking	83	Pass
	Proposed	13	Standing	18	Walking	78	Pass
	Mitigation	13	Standing	17	Strolling	76	Pass
23	Existing	12	Standing	16	Strolling	72	Pass
	Proposed	13	Standing	17	Strolling	69	Pass
	Mitigation	12	Standing	16	Strolling	67	Pass
24	Existing	10	Sitting	12	Standing	54	Pass
	Proposed	11	Standing	13	Standing	57	Pass
	Mitigation	11	Standing	13	Standing	56	Pass

Seasons

Summer = May to October
 Winter = November to April

Hours

6:00 to 23:00 for Comfort
 1:00 to 24:00 for Safety

Wind Comfort Category

(20% Seasonal Exceedance)

≤ 10 km/h Sitting
 11 to 14 Standing
 15 to 17 Strolling
 18 to 20 Walking
 > 20 km/h Uncomfortable

Wind Safety Category

(0.1% Annual Exceedance)

≤ 90 km/h Pass
 > 90 km/h Exceeded

Configuration

Existing = without the proposed development
 Proposed = with the proposed development
 Mitigation = with the proposed development and mitigation



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Table 1: Pedestrian Wind Comfort and Safety Conditions

Location	Configuration	Wind Comfort (20% Seasonal Exceedance)				Wind Safety (0.1% Exceedance)	
		Summer		Winter		Annual	
		Speed (km/h)	Rating	Speed (km/h)	Rating	Speed (km/h)	Rating
25	Existing	13	Standing	17	Strolling	67	Pass
	Proposed	12	Standing	16	Strolling	63	Pass
	Mitigation	12	Standing	16	Strolling	62	Pass
26	Existing	12	Standing	16	Strolling	68	Pass
	Proposed	12	Standing	15	Strolling	64	Pass
	Mitigation	12	Standing	15	Strolling	64	Pass
27	Existing	10	Sitting	13	Standing	57	Pass
	Proposed	11	Standing	15	Strolling	63	Pass
	Mitigation	11	Standing	14	Standing	63	Pass
28	Existing	10	Sitting	13	Standing	56	Pass
	Proposed	10	Sitting	13	Standing	53	Pass
	Mitigation	12	Standing	17	Strolling	70	Pass
29	Existing	11	Standing	15	Strolling	67	Pass
	Proposed	10	Sitting	14	Standing	63	Pass
	Mitigation	10	Sitting	13	Standing	65	Pass
30	Existing	11	Standing	14	Standing	66	Pass
	Proposed	13	Standing	18	Walking	76	Pass
	Mitigation	14	Standing	19	Walking	77	Pass
31	Existing	10	Sitting	13	Standing	60	Pass
	Proposed	14	Standing	18	Walking	80	Pass
	Mitigation	12	Standing	16	Strolling	72	Pass
32	Existing	DATA NOT AVAILABLE					
	Proposed	DATA NOT AVAILABLE					
	Mitigation	DATA NOT AVAILABLE					
33	Existing	11	Standing	13	Standing	68	Pass
	Proposed	12	Standing	16	Strolling	74	Pass
	Mitigation	12	Standing	16	Strolling	80	Pass
34	Existing	11	Standing	14	Standing	59	Pass
	Proposed	15	Strolling	19	Walking	78	Pass
	Mitigation	14	Standing	19	Walking	78	Pass
35	Existing	10	Sitting	13	Standing	56	Pass
	Proposed	15	Strolling	19	Walking	80	Pass
	Mitigation	14	Standing	18	Walking	76	Pass
36	Existing	10	Sitting	13	Standing	54	Pass
	Proposed	15	Strolling	20	Walking	83	Pass
	Mitigation	14	Standing	19	Walking	78	Pass

Seasons

Summer = May to October
Winter = November to April

Hours

6:00 to 23:00 for Comfort
1:00 to 24:00 for Safety

Wind Comfort Category

(20% Seasonal Exceedance)

≤ 10 km/h Sitting
11 to 14 Standing
15 to 17 Strolling
18 to 20 Walking
> 20 km/h Uncomfortable

Wind Safety Category

(0.1% Annual Exceedance)

≤ 90 km/h Pass
> 90 km/h Exceeded

Configuration

Existing = without the proposed development
Proposed = with the proposed development
Mitigation = with the proposed development and mitigation



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Table 1: Pedestrian Wind Comfort and Safety Conditions

Location	Configuration	Wind Comfort (20% Seasonal Exceedance)				Wind Safety (0.1% Exceedance)	
		Summer		Winter		Annual	
		Speed (km/h)	Rating	Speed (km/h)	Rating	Speed (km/h)	Rating
37	Existing	11	Standing	15	Strolling	64	Pass
	Proposed	12	Standing	15	Strolling	68	Pass
	Mitigation	11	Standing	15	Strolling	70	Pass
38	Existing	12	Standing	16	Strolling	74	Pass
	Proposed	12	Standing	15	Strolling	76	Pass
	Mitigation	12	Standing	15	Strolling	78	Pass
39	Existing	10	Sitting	11	Standing	62	Pass
	Proposed	12	Standing	14	Standing	70	Pass
	Mitigation	11	Standing	14	Standing	74	Pass
40	Existing	11	Standing	14	Standing	65	Pass
	Proposed	14	Standing	18	Walking	82	Pass
	Mitigation	14	Standing	17	Strolling	85	Pass
41	Existing	12	Standing	15	Strolling	67	Pass
	Proposed	16	Strolling	21	Uncomfortable	92	Exceeded
	Mitigation	16	Strolling	21	Uncomfortable	92	Exceeded
42	Existing	11	Standing	14	Standing	61	Pass
	Proposed	14	Standing	18	Walking	77	Pass
	Mitigation	14	Standing	18	Walking	80	Pass
43	Existing	11	Standing	14	Standing	74	Pass
	Proposed	12	Standing	15	Strolling	71	Pass
	Mitigation	12	Standing	15	Strolling	72	Pass
44	Existing	11	Standing	15	Strolling	71	Pass
	Proposed	12	Standing	16	Strolling	73	Pass
	Mitigation	11	Standing	15	Strolling	75	Pass
45	Existing	11	Standing	14	Standing	64	Pass
	Proposed	12	Standing	15	Strolling	68	Pass
	Mitigation	12	Standing	15	Strolling	66	Pass
46	Existing	12	Standing	15	Strolling	70	Pass
	Proposed	12	Standing	15	Strolling	71	Pass
	Mitigation	12	Standing	14	Standing	66	Pass
47	Existing	12	Standing	14	Standing	69	Pass
	Proposed	14	Standing	17	Strolling	78	Pass
	Mitigation	14	Standing	17	Strolling	81	Pass
48	Existing	10	Sitting	11	Standing	57	Pass
	Proposed	15	Strolling	19	Walking	84	Pass
	Mitigation	15	Strolling	18	Walking	81	Pass

Seasons

Summer = May to October
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Hours

6:00 to 23:00 for Comfort
1:00 to 24:00 for Safety

Wind Comfort Category

(20% Seasonal Exceedance)

≤ 10 km/h Sitting
11 to 14 Standing
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18 to 20 Walking
> 20 km/h Uncomfortable

Wind Safety Category

(0.1% Annual Exceedance)

≤ 90 km/h Pass
> 90 km/h Exceeded

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Existing = without the proposed development
Proposed = with the proposed development
Mitigation = with the proposed development and mitigation



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Table 1: Pedestrian Wind Comfort and Safety Conditions

Location	Configuration	Wind Comfort (20% Seasonal Exceedance)				Wind Safety (0.1% Exceedance)	
		Summer		Winter		Annual	
		Speed (km/h)	Rating	Speed (km/h)	Rating	Speed (km/h)	Rating
49	Existing	DATA NOT AVAILABLE					
	Proposed	13	Standing	16	Strolling	69	Pass
	Mitigation	10	Sitting	14	Standing	59	Pass
50	Existing	DATA NOT AVAILABLE					
	Proposed	16	Strolling	21	Uncomfortable	91	Exceeded
	Mitigation	14	Standing	18	Walking	76	Pass
51	Existing	DATA NOT AVAILABLE					
	Proposed	14	Standing	19	Walking	86	Pass
	Mitigation	12	Standing	17	Strolling	79	Pass
52	Existing	DATA NOT AVAILABLE					
	Proposed	11	Standing	17	Strolling	73	Pass
	Mitigation	12	Standing	18	Walking	76	Pass
53	Existing	DATA NOT AVAILABLE					
	Proposed	8	Sitting	11	Standing	46	Pass
	Mitigation	7	Sitting	10	Sitting	50	Pass
54	Existing	DATA NOT AVAILABLE					
	Proposed	13	Standing	16	Strolling	98	Exceeded
	Mitigation	9	Sitting	11	Standing	86	Pass
55	Existing	DATA NOT AVAILABLE					
	Proposed	16	Strolling	21	Uncomfortable	93	Exceeded
	Mitigation	8	Sitting	10	Sitting	55	Pass
56	Existing	DATA NOT AVAILABLE					
	Proposed	14	Standing	18	Walking	85	Pass
	Mitigation	13	Standing	17	Strolling	77	Pass
57	Existing	DATA NOT AVAILABLE					
	Proposed	16	Strolling	22	Uncomfortable	93	Exceeded
	Mitigation	11	Standing	15	Strolling	65	Pass

Seasons

Summer = May to October
Winter = November to April

Hours

6:00 to 23:00 for Comfort
1:00 to 24:00 for Safety

Wind Comfort Category

(20% Seasonal Exceedance)

≤ 10 km/h Sitting
11 to 14 Standing
15 to 17 Strolling
18 to 20 Walking
> 20 km/h Uncomfortable

Wind Safety Category

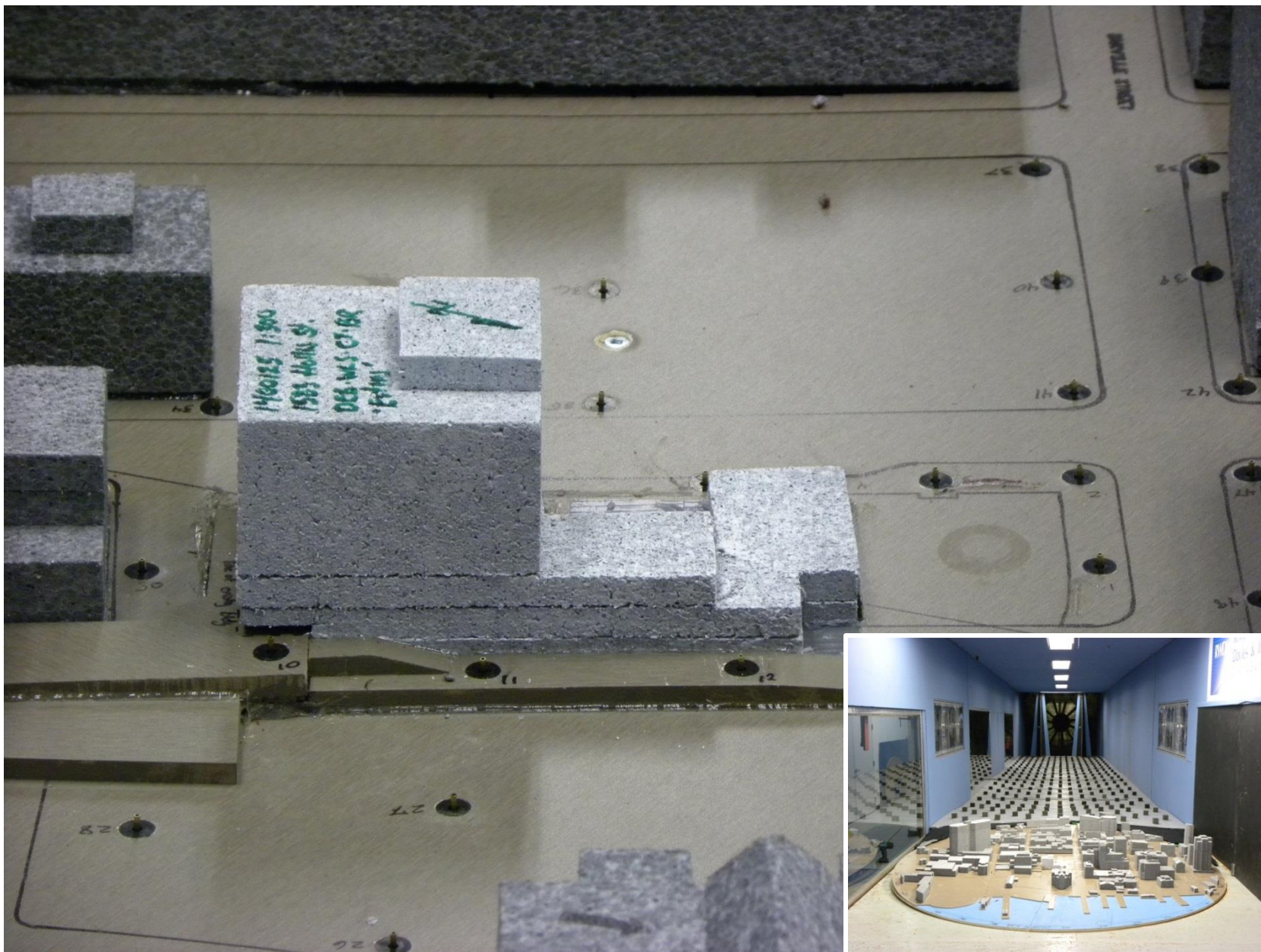
(0.1% Annual Exceedance)

≤ 90 km/h Pass
> 90 km/h Exceeded

Configuration

Existing = without the proposed development
Proposed = with the proposed development
Mitigation = with the proposed development and mitigation

FIGURES



**Wind Tunnel Study Model
Existing**

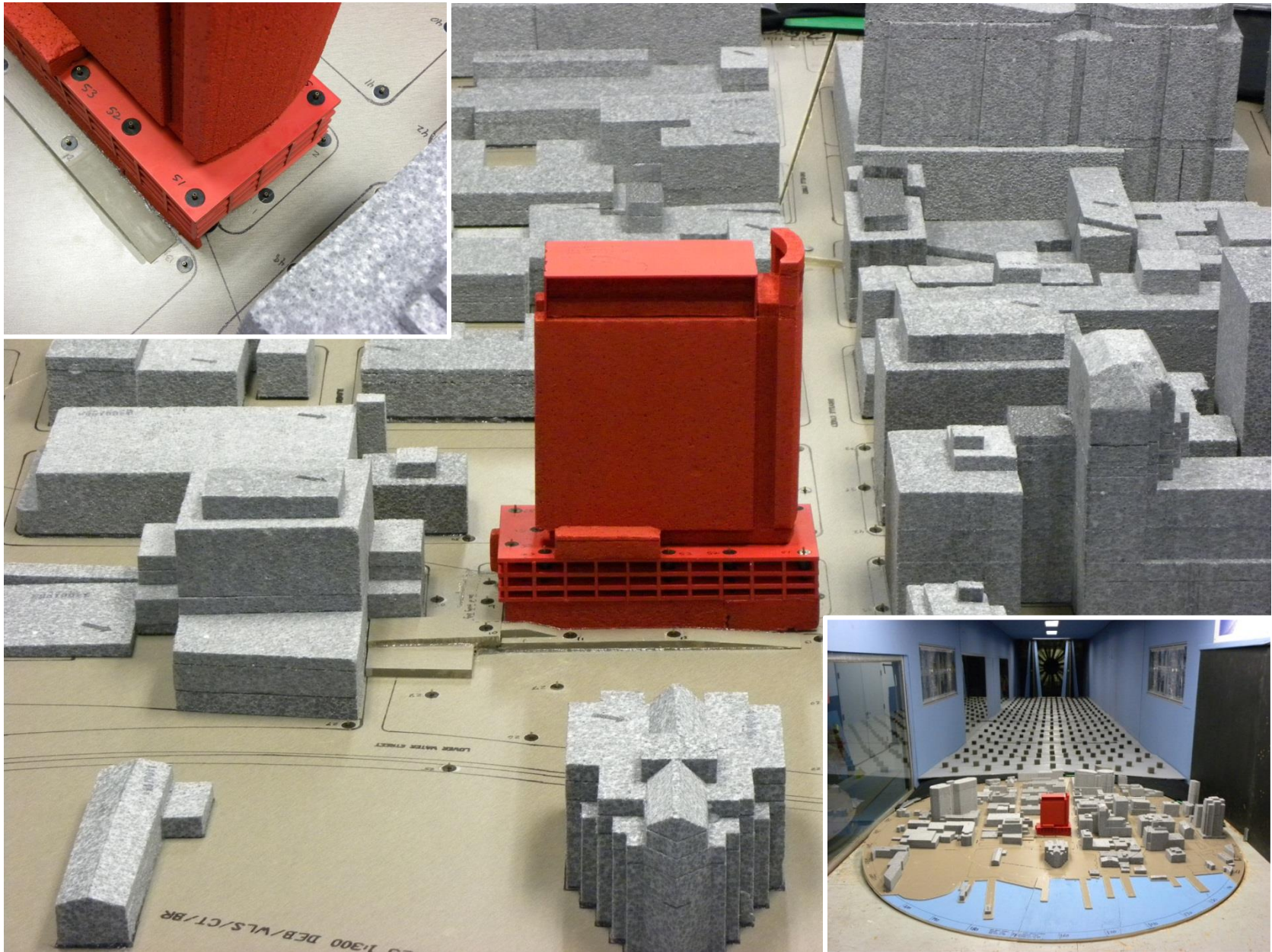
1583 Hollis Street – Halifax, Nova Scotia

Figure No. 1a

Date: November 27, 2013

Project #1400125





**Wind Tunnel Study Model
Proposed**

1583 Hollis Street – Halifax, Nova Scotia

Figure No. 1b

Date: November 27, 2013

Project #1400125





**Wind Tunnel Study Model
Mitigation**

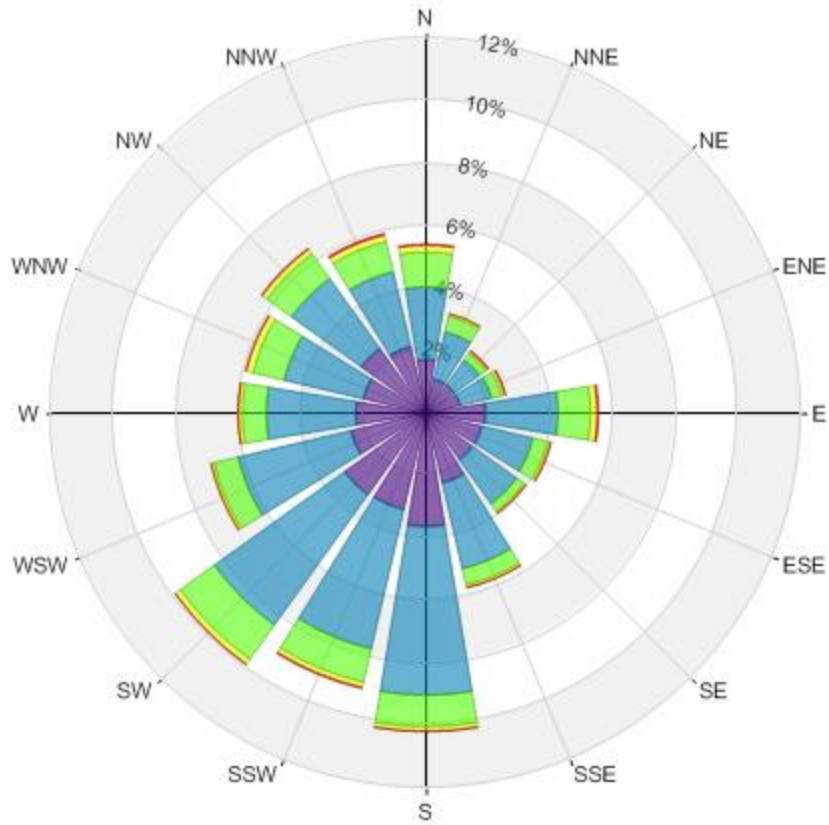
1583 Hollis Street – Halifax, Nova Scotia

Figure No. 1c

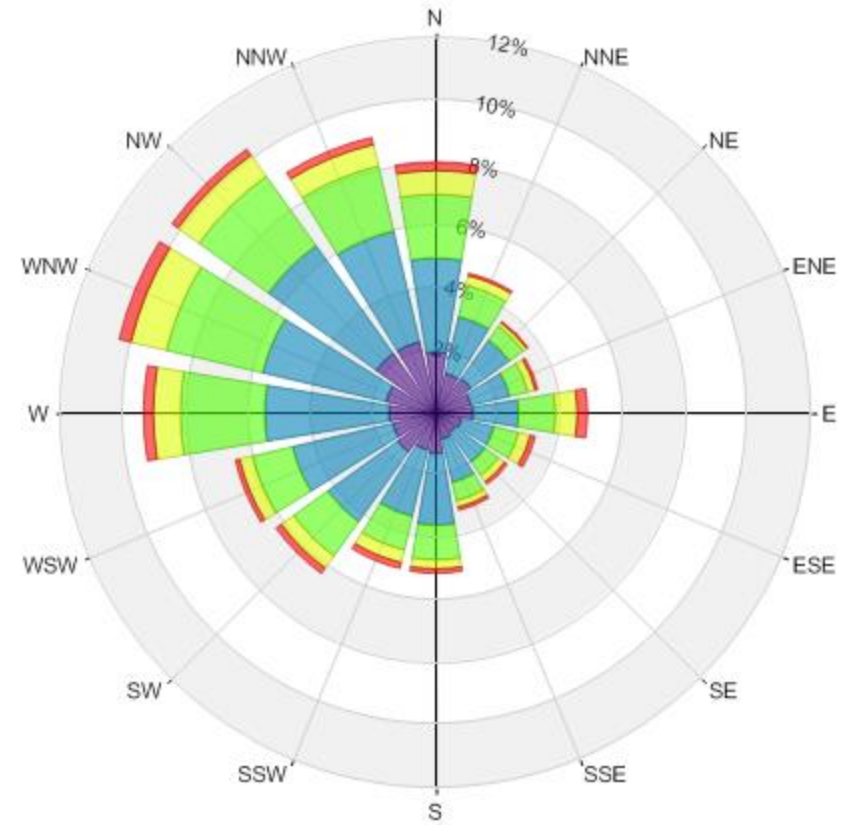
Date: November 27, 2013

Project #1400125





Summer
(May - October)



Winter
(November - April)

Wind Speed (km/h)	Probability (%)	
	Summer	Winter
Calm	6.4	4.0
1-10	34.5	22.7
11-20	43.9	39.2
21-30	12.6	23.0
31-40	2.3	8.2
>40	0.4	3.0

**Directional Distribution (%) of Winds (Blowing From)
Shearwater Airport (1971 - 2009)**

1583 Hollis Street – Halifax, Ontario

Figure No. 2

Project #1400125

Date: November 27, 2013



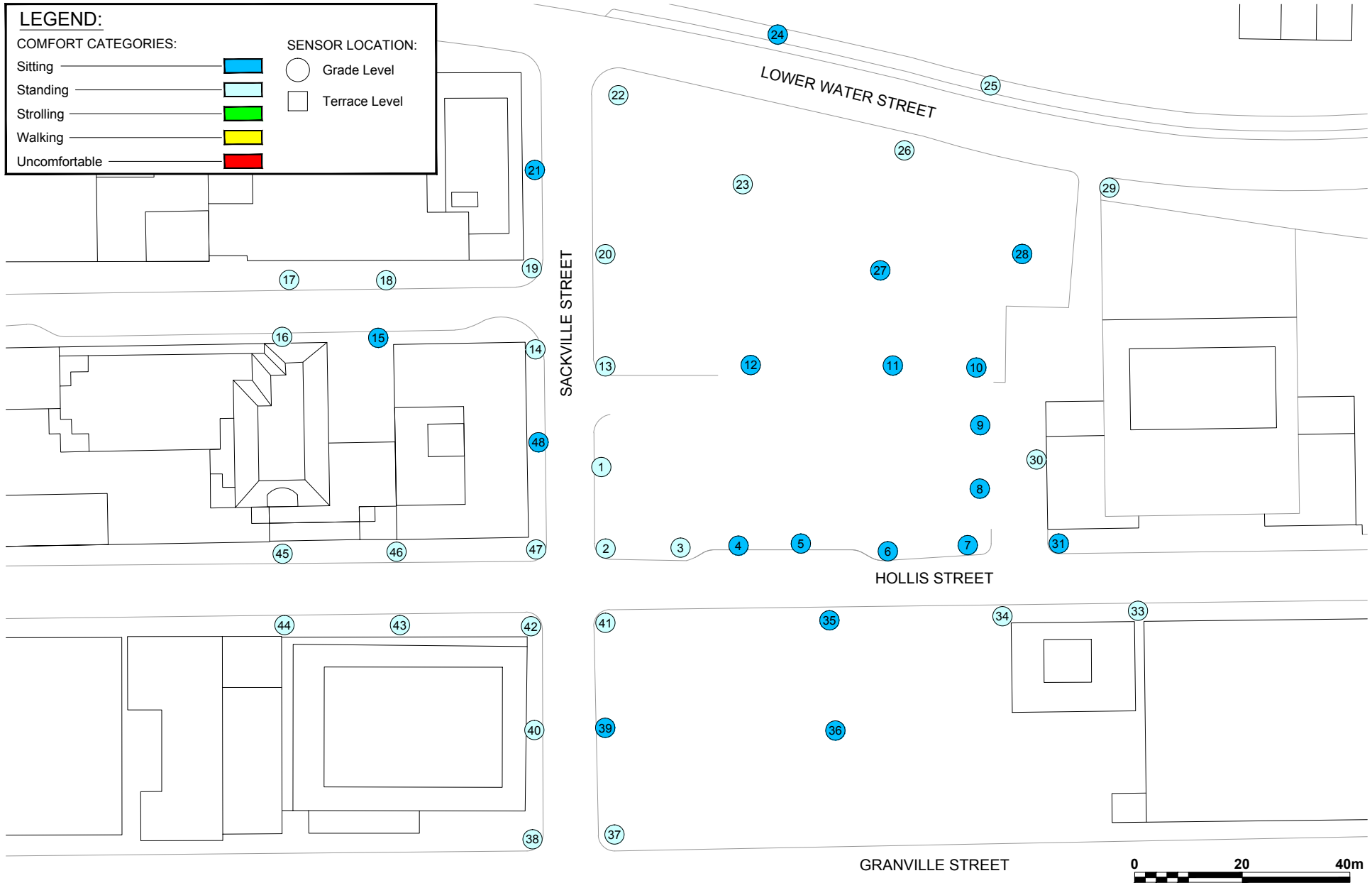
LEGEND:

COMFORT CATEGORIES:

- Sitting
- Standing
- Strolling
- Walking
- Uncomfortable

SENSOR LOCATION:

- Grade Level
- Terrace Level



<p>Pedestrian Wind Comfort Conditions - Existing Summer (May to October, 6:00 to 23:00)</p> <p>1583 Hollis Street - Halifax, NS</p>	Project North True North	Drawn by: DJM	Figure: 3a		
			Approx. Scale: 1:1000		
			Date Revised: Nov. 20, 2013		

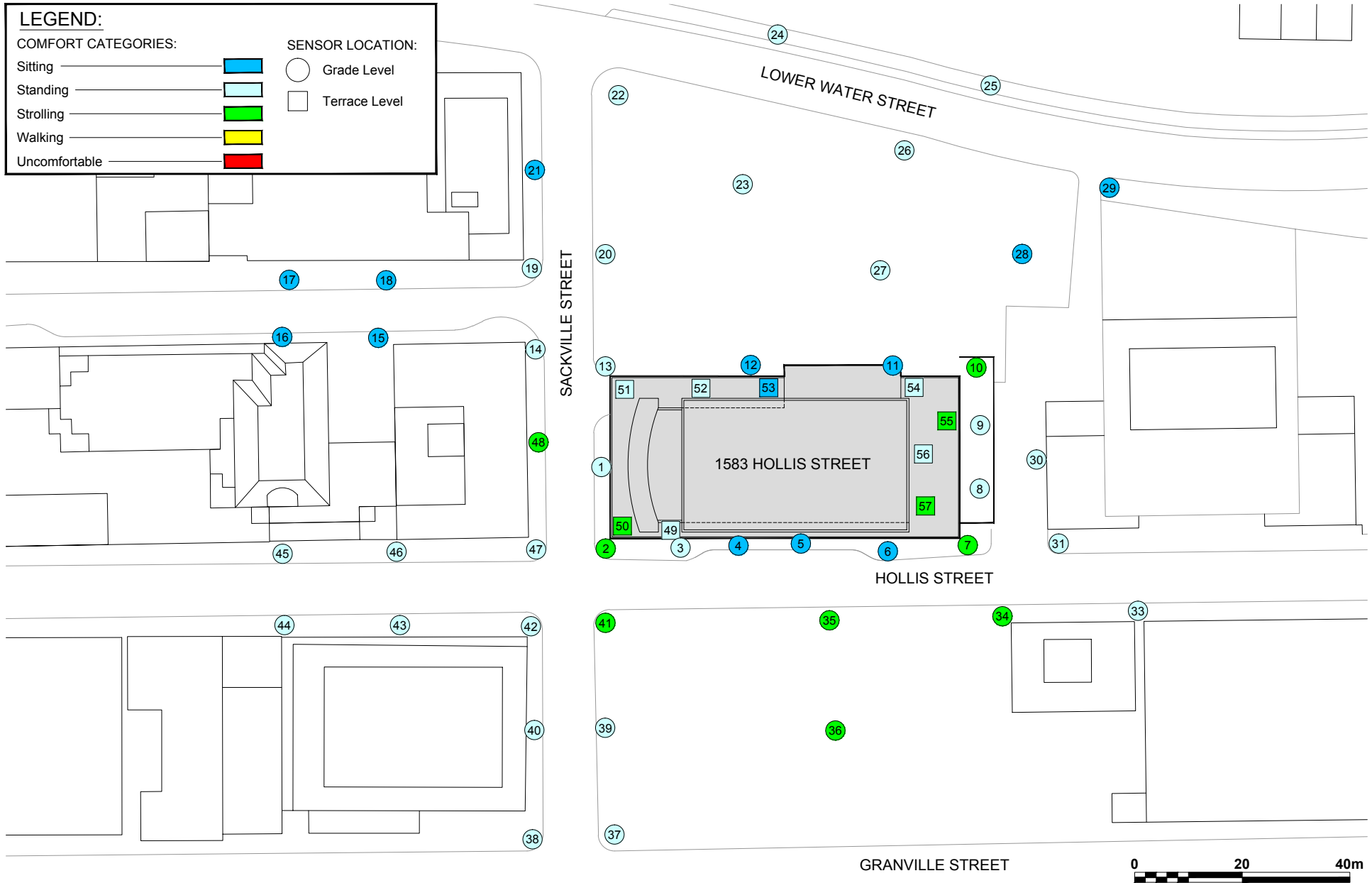
LEGEND:

COMFORT CATEGORIES:

- Sitting
- Standing
- Strolling
- Walking
- Uncomfortable

SENSOR LOCATION:

- Grade Level
- Terrace Level



<p>Pedestrian Wind Comfort Conditions - Proposed Summer (May to October, 6:00 to 23:00)</p> <p>1583 Hollis Street - Halifax, NS</p>	Project North True North	Drawn by: DJM	Figure: 3b		
			Approx. Scale: 1:1000		
			Date Revised: Nov. 20, 2013		

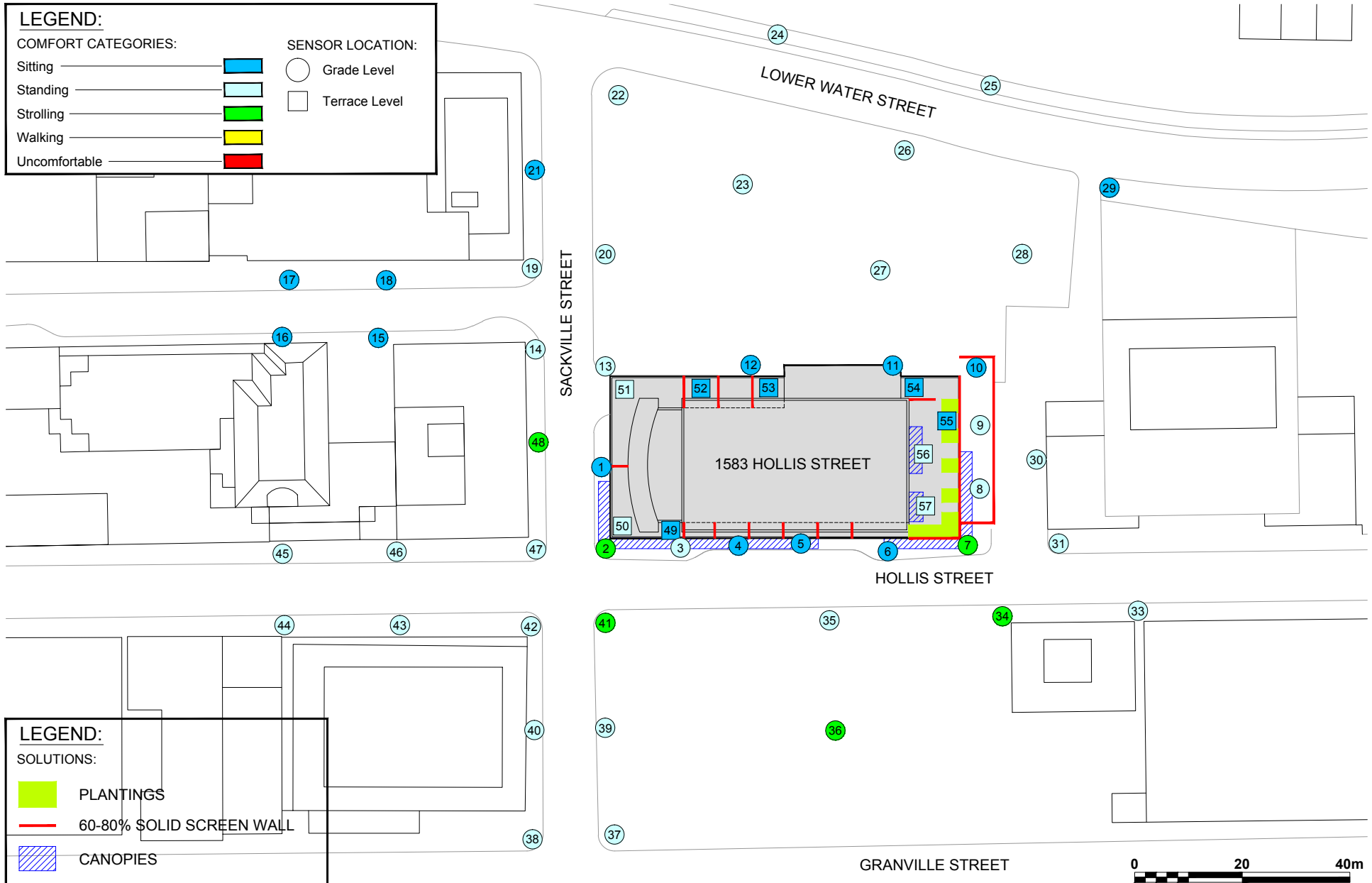
LEGEND:

COMFORT CATEGORIES:

- Sitting
- Standing
- Strolling
- Walking
- Uncomfortable

SENSOR LOCATION:

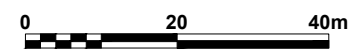
- Grade Level
- Terrace Level



LEGEND:

SOLUTIONS:

- PLANTINGS
- 60-80% SOLID SCREEN WALL
- CANOPIES



<p>Pedestrian Wind Comfort Conditions - Mitigation Summer (May to October, 6:00 to 23:00)</p> <p>1583 Hollis Street - Halifax, NS</p>	Project North True North	Drawn by: DJM Figure: 3C	
	Approx. Scale: 1:1000		
	Date Revised: Nov. 20, 2013		

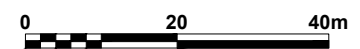
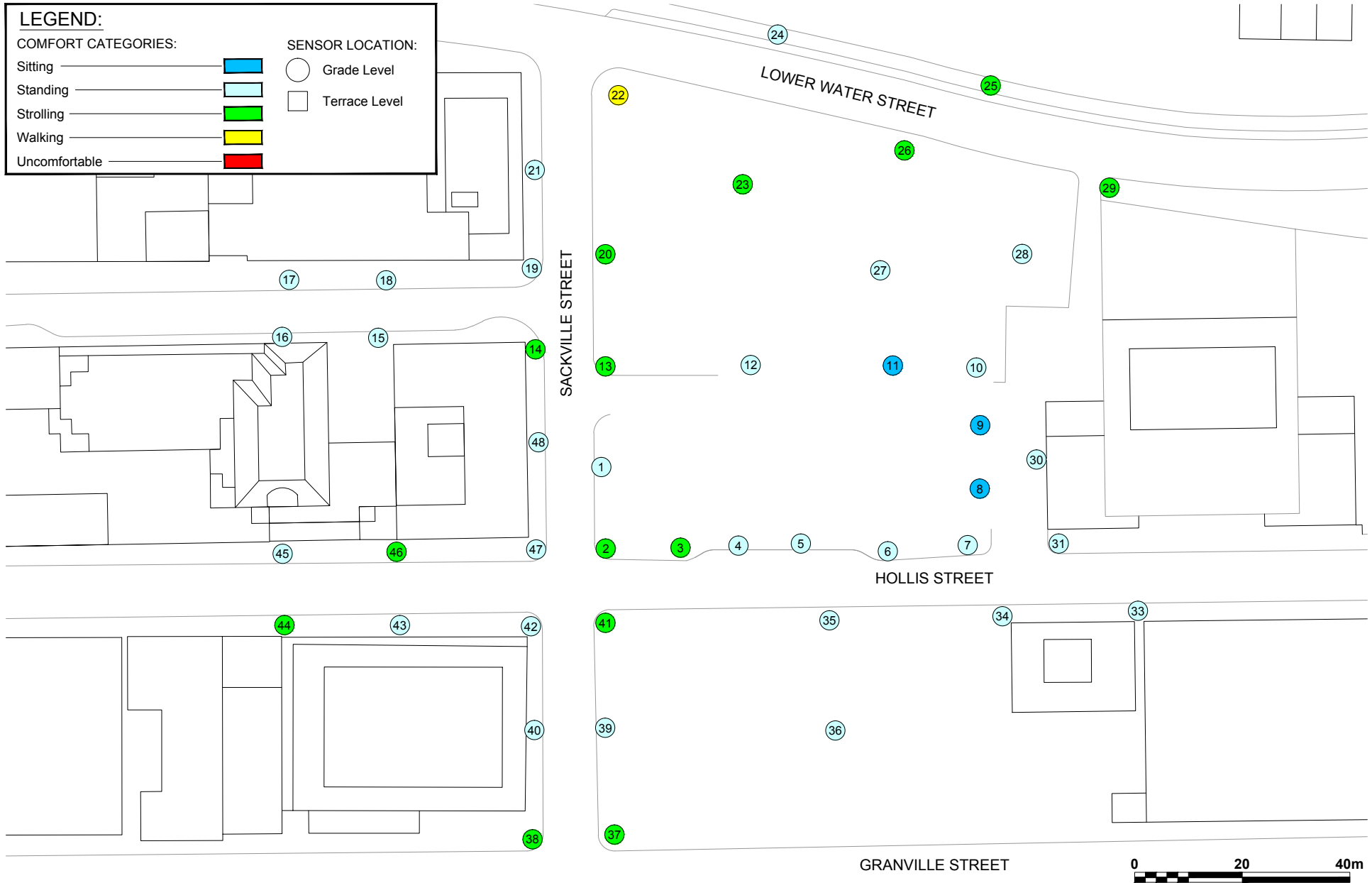
LEGEND:

COMFORT CATEGORIES:

- Sitting
- Standing
- Strolling
- Walking
- Uncomfortable

SENSOR LOCATION:

- Grade Level
- Terrace Level



<p>Pedestrian Wind Comfort Conditions - Existing Winter (November to April, 6:00 to 23:00)</p> <p>1583 Hollis Street - Halifax, NS</p>	Project North True North	Drawn by: DJM	Figure: 4a		
			Approx. Scale: 1:1000		
			Date Revised: Nov. 20, 2013		
		Project #1400125			

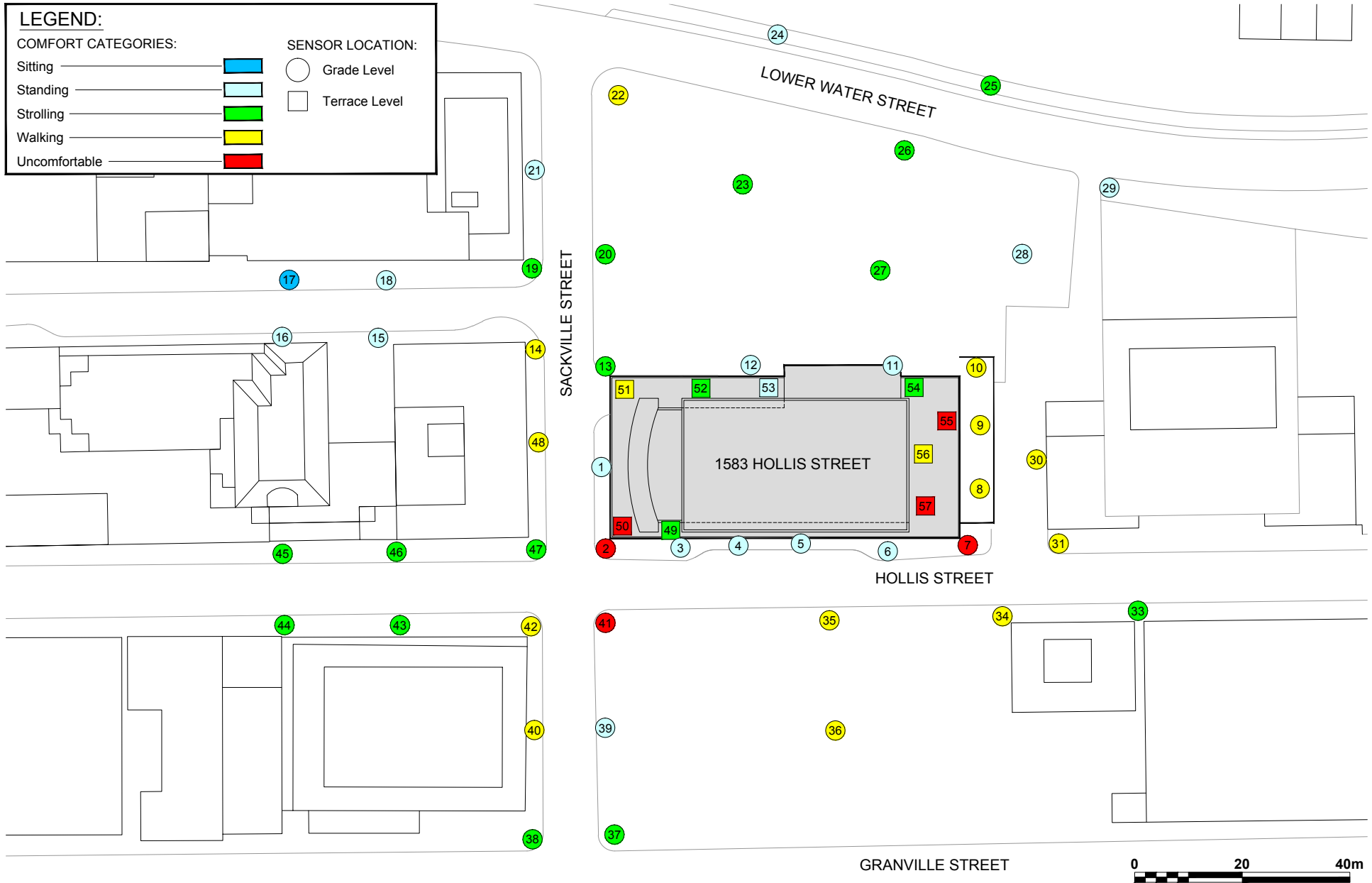
LEGEND:

COMFORT CATEGORIES:

- Sitting
- Standing
- Strolling
- Walking
- Uncomfortable

SENSOR LOCATION:

- Grade Level
- Terrace Level



<p>Pedestrian Wind Comfort Conditions - Proposed Winter (November to April, 6:00 to 23:00)</p> <p>1583 Hollis Street - Halifax, NS</p>	Project North True North	Drawn by: DJM	Figure: 4b		
			Approx. Scale: 1:1000		
			Date Revised: Nov. 20, 2013		

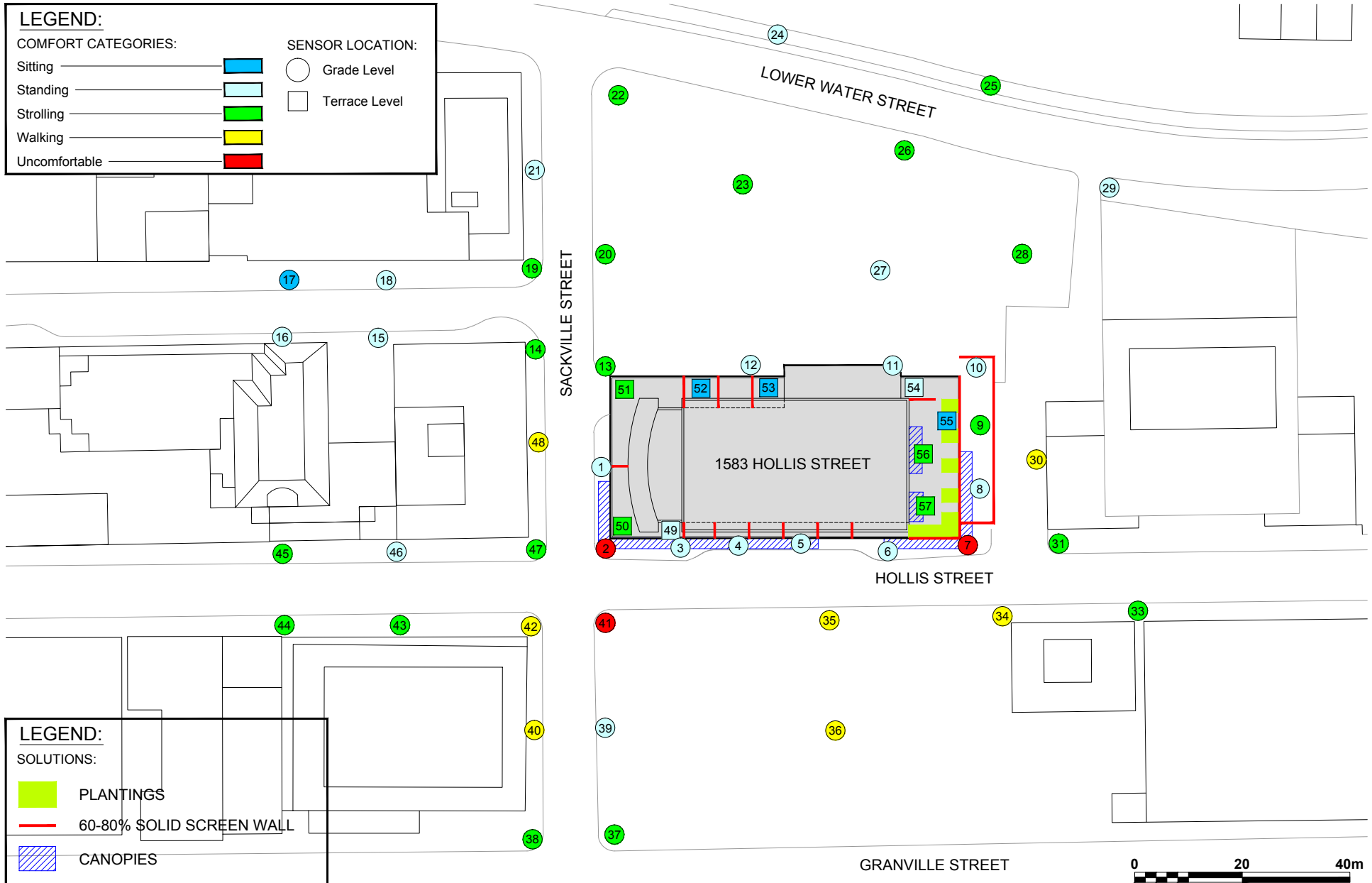
LEGEND:

COMFORT CATEGORIES:

- Sitting
- Standing
- Strolling
- Walking
- Uncomfortable

SENSOR LOCATION:

- Grade Level
- Terrace Level





LEGEND:



SOLUTIONS:

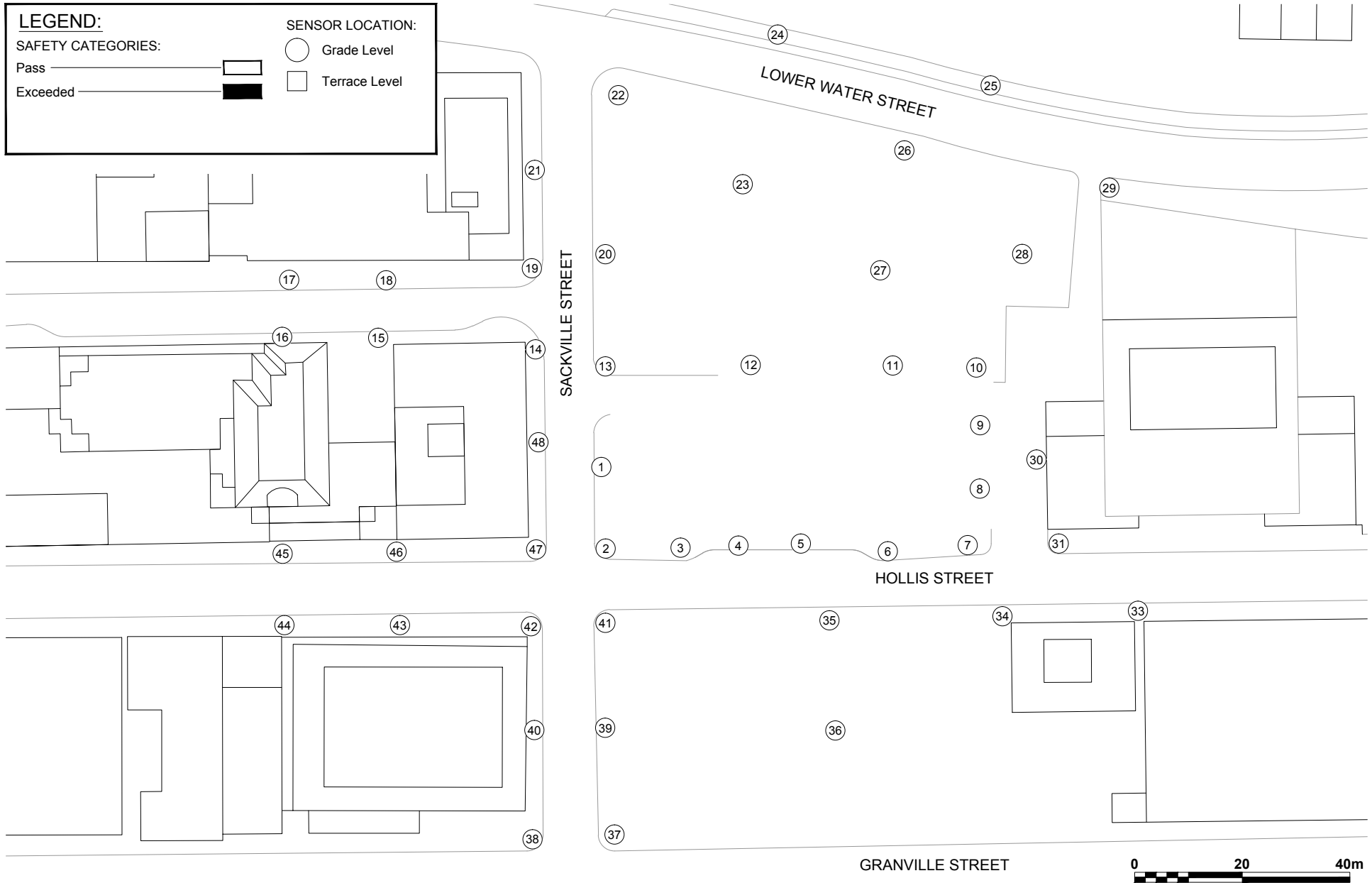
- PLANTINGS
- 60-80% SOLID SCREEN WALL
- CANOPIES




<p>Pedestrian Wind Comfort Conditions - Mitigation Winter (November to April, 6:00 to 23:00)</p> <p>1583 Hollis Street - Halifax, NS</p>	Project North True North	Drawn by: DJM Figure: 4C	
	Approx. Scale: 1:1000		
	Date Revised: Nov. 20, 2013		
Project #1400125			

LEGEND:



SAFETY CATEGORIES:
 Pass 
 Exceeded 



SENSOR LOCATION:
 Grade Level 
 Terrace Level 

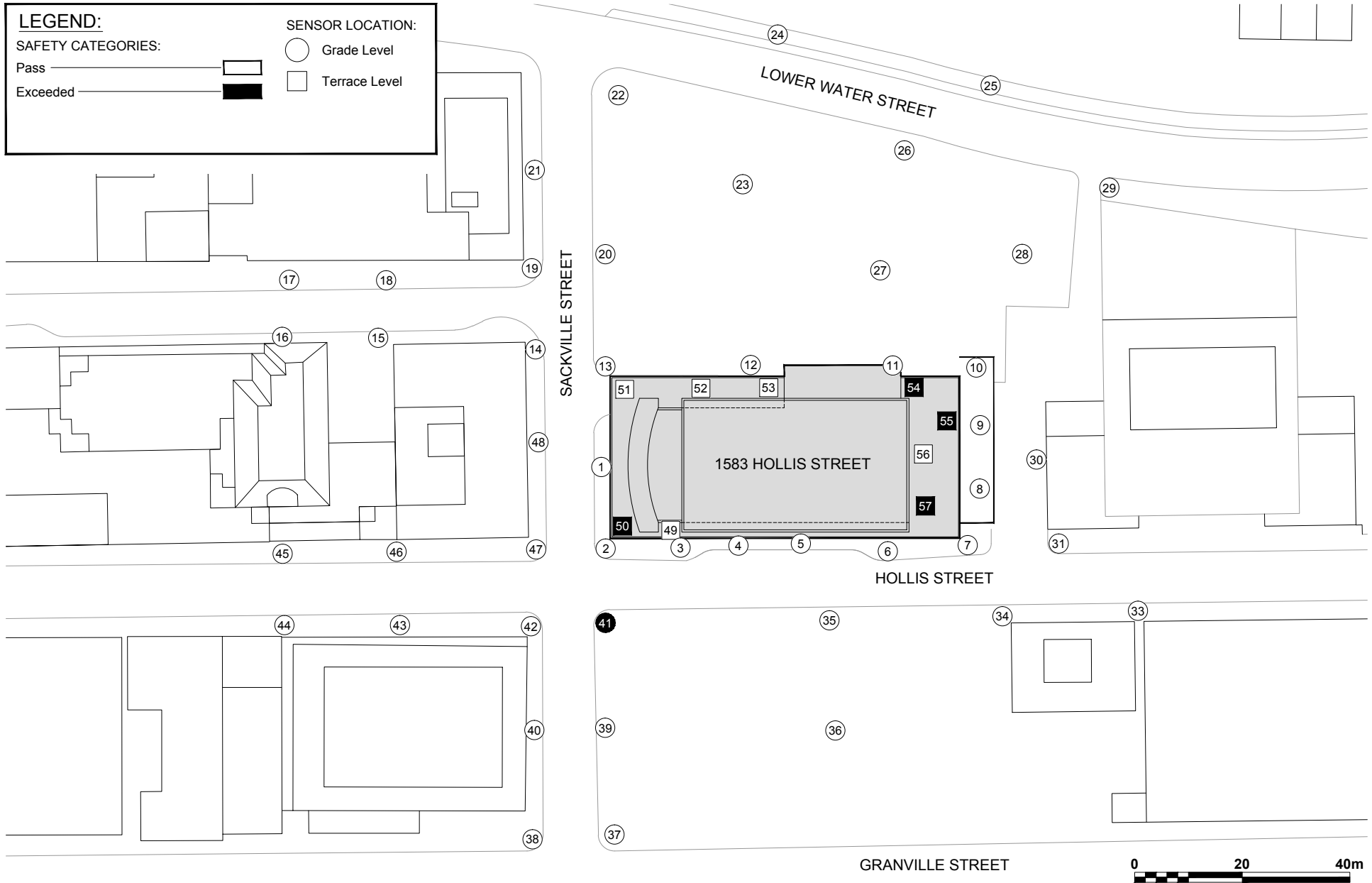





<p>Pedestrian Wind Safety Conditions - Existing Annual (January to December, 0:00 to 23:00)</p> <p>1583 Hollis Street - Halifax, NS</p>	<p>Project North  True North </p>	Drawn by: DJM Figure: 5a	
		Approx. Scale: 1:1000	
		Date Revised: Nov. 20, 2013	
Project #1400125			

LEGEND:

SAFETY CATEGORIES:
 Pass 
 Exceeded 


SENSOR LOCATION:
 Grade Level 
 Terrace Level 




<p>Pedestrian Wind Safety Conditions - Proposed Annual (January to December, 0:00 to 23:00)</p> <p>1583 Hollis Street - Halifax, NS</p>	<p>Project North True North</p>  	Drawn by: DJM Figure: 5b	
		Approx. Scale: 1:1000	
		Date Revised: Nov. 20, 2013	
Project #1400125			

LEGEND:

SAFETY CATEGORIES:

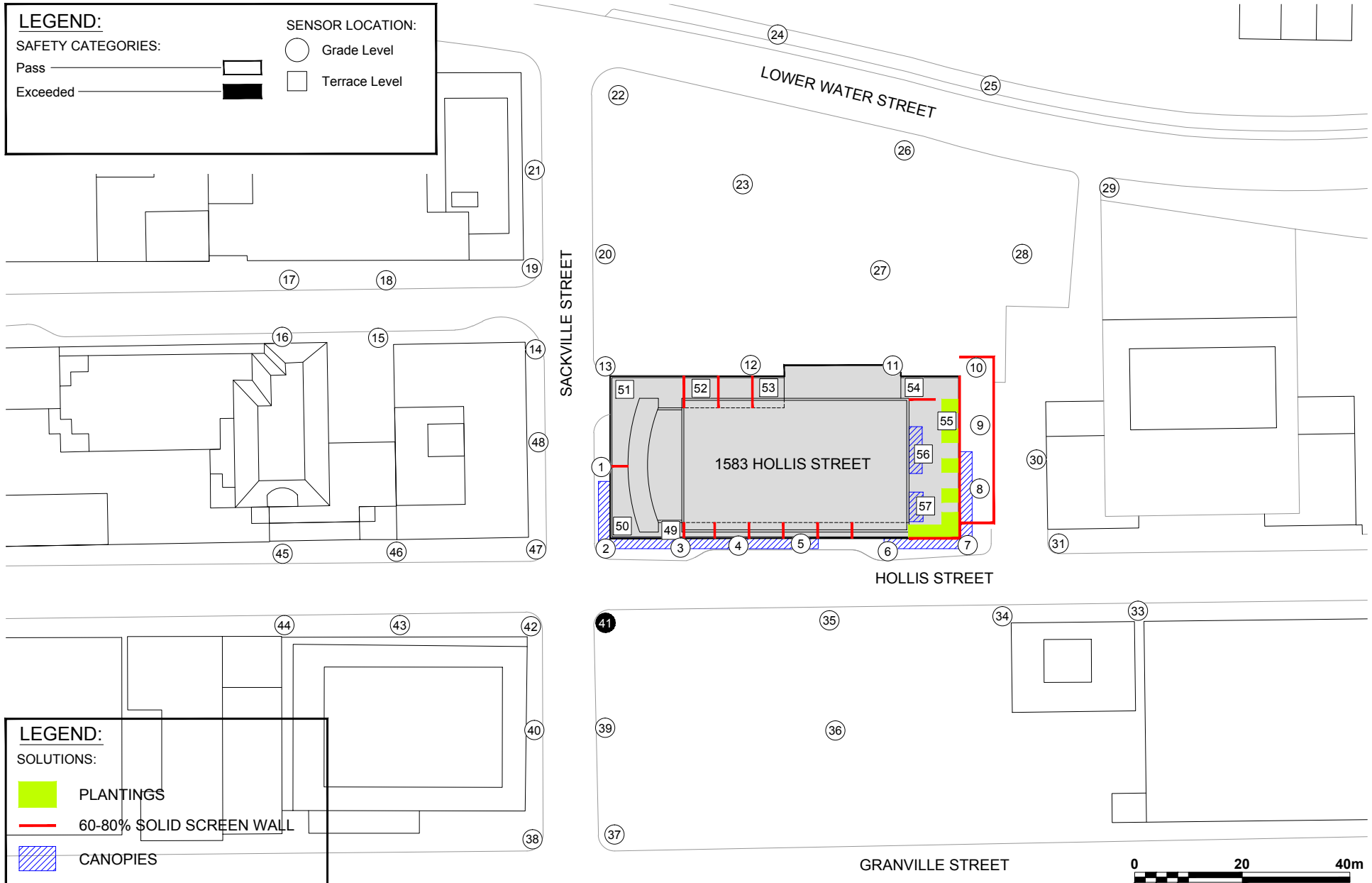
Pass 

Exceeded 

SENSOR LOCATION:


○ Grade Level


□ Terrace Level




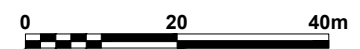
LEGEND:

SOLUTIONS:

 PLANTINGS

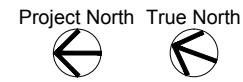
 60-80% SOLID SCREEN WALL

 CANOPIES



Pedestrian Wind Safety Conditions - Mitigation
 Annual (January to December, 0:00 to 23:00)

1583 Hollis Street - Halifax, NS



Drawn by: DJM	Figure: 5C
Approx. Scale: 1:1000	
Date Revised: Nov. 20, 2013	



Project #1400125

APPENDIX A



APPENDIX A: DRAWING LIST FOR MODEL CONSTRUCTION

The drawings and information listed below were received from IBI Group Architects and were used to construct the scale model of the proposed 1583 Hollis Street development. Should there be any design changes that deviate from this list of drawings, the results may change. Therefore, if changes in the design area made, it is recommended that RWDI be contacted and requested to review their potential effects on wind conditions.

File Name	File Type	Date Received (dd/mm/yyyy)
28758-1 FLOOR	.dwg	27/09/2013
28758-2-3 FLOOR	.dwg	27/09/2013
28758-4 FLOOR	.dwg	27/09/2013
28758-5 FLOOR-AMENITY	.dwg	27/09/2013
28758-6-19 FLOOR	.dwg	27/09/2013
28758-20-21 FLOOR	.dwg	27/09/2013
28758-Hollis-Elevation-East	.dwg	27/09/2013
28758-Hollis-Elevation-North	.dwg	27/09/2013
28758-Hollis-Elevation-South	.dwg	27/09/2013
28758-Hollis-Elevation-West	.dwg	27/09/2013
28758-MPH	.dwg	27/09/2013
28758-ROOF	.dwg	27/09/2013
28758-1 FLOOR	.dwg	27/09/2013
28758-2-3 FLOOR	.dwg	27/09/2013
28758-4 FLOOR	.dwg	27/09/2013
28758-5 FLOOR-AMENITY	.dwg	06/11/2013
28758-1 FLOOR	.dwg	06/11/2013