



ATTACHMENT B

**TD BUILDING REDEVELOPMENT
HRM SITE PLAN APPROVAL: SUPPORTING INFORMATION**

25-07-2011

LYDON LYNCH

SITE PLAN APPROVAL APPLICATION

TD CENTRE REDEVELOPMENT

2011.07.25

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INTRODUCTION

The redevelopment of the TD Centre property provides significant opportunities within a single project to accomplish a number of objectives, including:

- Provide important urban renewal to the downtown core, in particular to Granville Street
- Rehabilitate a heritage asset while allowing it to inform new building design
- Renew the existing TD tower and podium to make it more attractive for tenants while updating and modernizing building systems and materials
- Add brand new downtown office space which has been lacking for many years
- Provide a new cohesive identity to a highly visible and key downtown building
- Design within the new HRMbyDesign by-laws and design guidelines in a manner that showcases its potential to improve the built environment in our downtown (streetwalls, stepbacks, etc)
- Showcase the effectiveness of the new HRM approval process for downtown development

We are confident that all of these objectives can be met while meeting the needs of the owner, the municipality and the public.

The following report outlines our design process and describes the proposed design in detail. It describes our position with regards to the Macara-Barnstead building and how we propose to rehabilitate the façade. Finally, it proposes a number of minor variances to the Downtown Halifax Land Use By-Laws that are required in order to implement the project.



Aerial view from southwest



Aerial view from southeast

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HERITAGE IMPACT

A heritage report of the Macara-Barnstead building was conducted by Mr. Allan Penny and is included as Appendix C herein. It was conducted as part of a previous Site Plan Approval application for which Lydon Lynch Architects had no involvement. Within his report, Mr. Penney states that the building has little redeeming value as a heritage building. While Mr. Penny provides an extensive essay on the reasons for not retaining the Macara-Barnstead building, we are of a different opinion and recommend a different approach which would retain the existing façade and part of the masonry bearing walls. While Halifax has received limited attention towards the retention, maintenance and restoration of heritage assets, we believe that every opportunity must be carefully considered and when possible, such assets should be preserved to the extent that is viable and appropriate.



Macara-Barnstead Building, Granville Street façade, 2011

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Since originally built in 1825, the Macara-Barnstead building has gone through an evolution which has seen its street façade altered in the 1850s, 1906 and finally during the 1920/30s. These alterations largely consisted of modifications to create larger storefront windows and the replacement of the original gable roof with a mansard roof. While Mr. Penny states that these alterations have resulted in a building which is “ugly” and “disfigured”, it is our opinion that they have become an integral part of the building’s history and therefore part of its heritage value.

The larger of the two storefront windows has become an important component of the building’s identity. While it may not follow strict architectural protocol for integration with the lines and patterns of the original façade, it provides a charm to the street by way of its large glass windows, recessed entrance, wood paneling, and opportunity for retail display. Such features provide a sense of urban engagement allowing pedestrians to visually interact with the shop and provide a covered entry threshold at the streetwall. Its quirkiness has ironically become part of its charm and arguably part of its redeeming value.



Granville Street, 1871, Nova Scotia Archives, depicting Macara-Barnstead Building with original storefronts and gable roof (2nd building from left)

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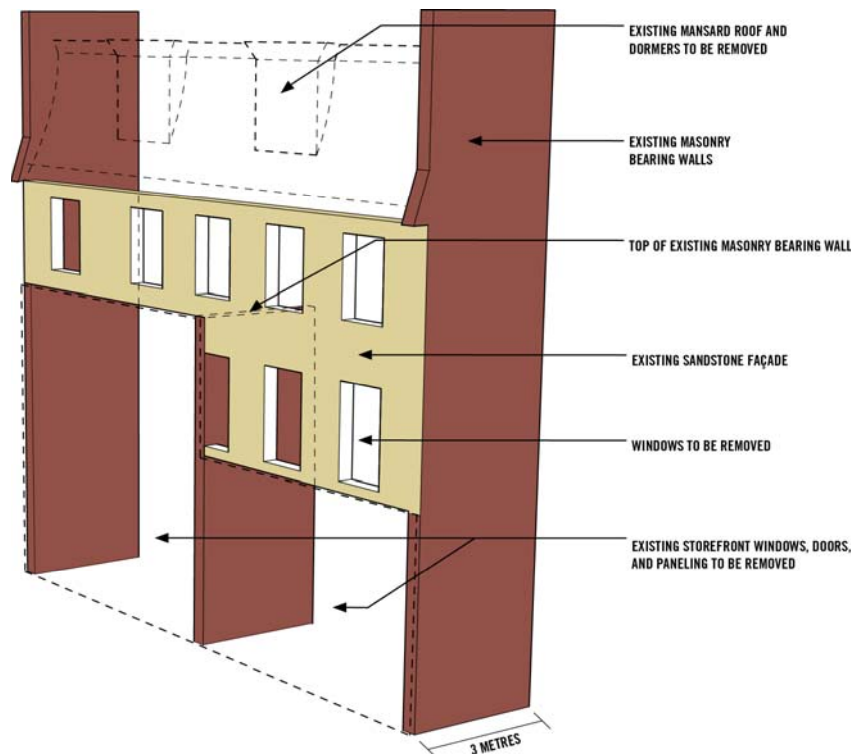
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The introduction of the mansard roof in the 1920s was a significant alteration to the building and allowed a third floor to be added. Mansard roofs were not uncommon characteristics of buildings constructed during the 1800s. The new roof maintained the delineation along the top of the stone wall and continued to provide a similar cornice line as had existed on the original façade. Masonry extensions to the end walls created exposed cheek walls which visibly frame the ends of the mansard roof. Looking at the archive photo, the original roof lines did not match with the adjoining buildings when it was first constructed and therefore its modification did not create a sudden break to the pattern of the streetwall, but continued to allow each building to have their own unique characteristics while still having a sense of commonality. We would suggest that the mansard roof is reasonably consistent with the heritage qualities of its time and not out of place or context.

Given our position that the façade should remain and be incorporated into the new development, we must then determine the extent to which the existing building may be retained. These decisions must be made with consideration towards the logistical challenges of retaining portions of a heritage building so that they may be updated to meet current building standards and codes while being incorporated into a comprehensive redevelopment.

With regards to the ability of physically maintaining the existing building within a redevelopment of the overall property, we are proposing to retain the stone façade as well as portions of the masonry bearing walls situated along the ends and at the centre. These walls would extend to a depth of 3 metres from the property line to coincide with the stepback of new the office tower above. The masonry walls currently support steel beams which carry the stone facades directly above – it is therefore critical to maintain these as they are integral to the support of the façade. The remainder of the existing building will be demolished, which is necessary in order for the new development to proceed. The building as it exists behind the façade has never been visible from the street and only recently has been partially exposed due to the demolition of the Kelly Building. Therefore its demolition will not diminish the historic presence along Granville Street.



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The existing mansard roof which is wood-frame construction with wood-board sheathing has been exposed to rain and weather for many years and as a result has experienced considerable damage and rot. Its present-day condition together with modern code requirements for non-combustibility necessitates the removal of the mansard roof and replacement with a newly constructed mansard roof and dormers. This new construction would match the existing exterior appearance with new copper diamond-shaped shingles, new cornice and dormers and new copper gutters and downspouts.

The existing storefront windows and surrounding wood paneling does not meet current building standards for durability as well as thermal and moisture protection. The single glazed windows provide an inadequate thermal barrier to the outdoors and the wood panels are deteriorating in areas with prolonged and direct exposure to the weather. While the National Building Code requires non-combustible construction, provincial regulations provide mechanisms for "*Alternate Compliance*" which, upon approval from the Authority Having Jurisdiction, may allow a limited use of wood on the exterior walls. Accordingly, it is the intention that wood paneling, trims and fascias will be replaced with new painted wood material with appropriate back-up systems that will meet current industry standards for thermal and moisture protection. Existing profiles will be measured and matched as part of the new construction. New windows will be double-glazed, set within new wood frames with a painted exterior finish. Window frame profiles will be measured and will be matched as closely as possible using proprietary window systems available within the marketplace. In the event that an Alternate Compliance is not permitted by the Authority Having Jurisdiction, non-combustible materials will be investigated which will most closely match the appearance of the existing façade and meet building code criteria. The result will be new exterior wall assemblies which meet current standards for building code, fire resistance, weather resistance, insulative qualities, building maintenance and longevity. The overall appearance will be consistent with that which exists. Deviations may result due to limitations with current building products but efforts would be made to match existing profiles and appearances as best as possible.

As outlined in Campbell Comeau's structural report (Refer to Appendix B), it is possible to support the façade while allowing the remainder of the building to be removed and then be reconnected to a new structure/building in behind. This shall generally form our strategy for integration moving forward and would be in concert with other considerations. These would include the necessity to conform to building codes and regulations which dictate requirements concerning non-combustible construction and fire resistance ratings of floors and roofs.

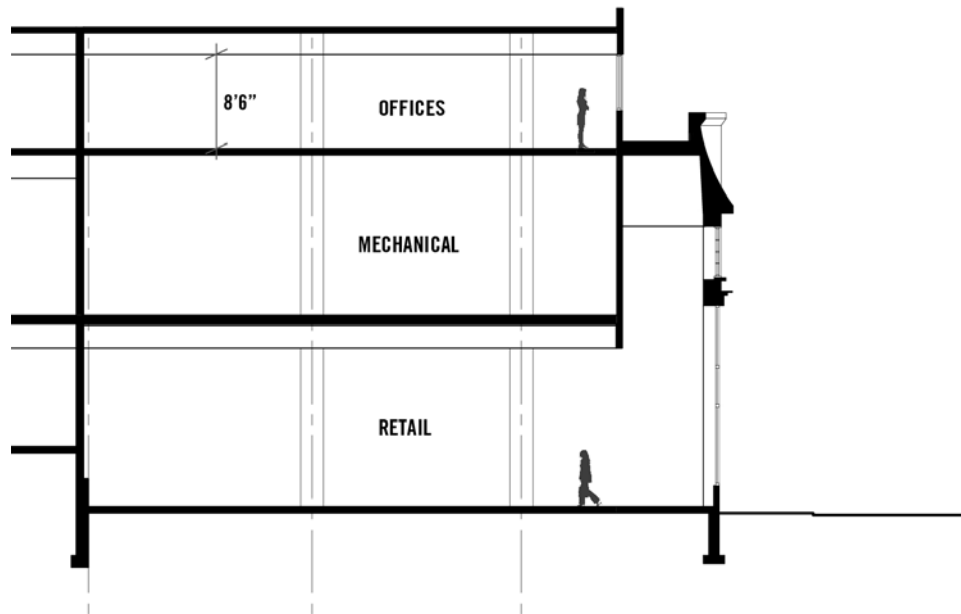
With regards to the ability to integrate the Macara-Barnstead façade with new adjoining development, it becomes important to consider the alignment of floor levels between new and old and their ability to provide usable interior spaces. Existing floor-to-floor heights vary and above street level are generally in the range of 8.5 feet. This presents several challenges and constraints. First, the new addition to the existing office tower must align with existing floor levels in order to provide contiguous, rentable floor areas. These floor levels do not align with the floor levels within the Macara-Barnstead building and consequently would result in stepped floor plates which would not be conducive to occupancy nor meet barrier-free requirements for access within floor areas. In addition, new mechanical and electrical services will be required, in particular new heating and ventilation systems which would be situated within ceiling spaces. Due to the 8.5 feet floor-to-floor heights, this would result in ceiling heights of less than 7 feet, which would be inadequate for occupancy. We have reviewed the impact of extending the floor levels of the office building towards the façade of the Macara-Barnstead building and conclude that such an alignment is achievable and does not impede on the retention of the façade. As illustrated on the following diagram, a new double height space, approximately 10 feet deep,

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will be created directly behind the storefronts which will prevent the adjacent new floor from impeding the open space or abutting the original façade. This will create a dramatic entry experience into these retail spaces. The office floor above the double height space will extend towards the street and become the new roof directly in behind the mansard. The window sills at this floor will align with the top of the mansard parapet, approximately 3 feet above the floor level, which is appropriate for office space and will allow unimpeded views from the office windows. The mansard then becomes an extended parapet wall and as a result, the dormer windows will contain opaque glass which from the street will be indiscernible when compared to a regular window.



The design and development of the new adjoining infill conforms to the requirements of *Schedule S-1: Design Manual, Section 4, Heritage Design Guidelines*. Generally, the new development is contemporary yet respectful of its heritage context, using similar forms, cornice lines, material palette, proportions, rhythms and relationship between solid vs. voids. Much of the detailing has been stripped down to provide a minimal interpretation of the Macara-Barnstead façade.

In addition, HRM Heritage Building Conservation Standards as describes within *Policy 39* of the *Downtown Halifax Secondary Municipal Planning Strategy* shall be used to the extent they are applicable and appropriate for the retention and renovation of the Macara-Barnstead façade.

With respect to colours, the façade of the Macara-Barnstead building has undergone numerous changes to its palette. Its current use of teal and yellow on storefront windows and wood panels was preceded by dark greens, which was preceded by white, which was preceded by unknown colours and/or stains (due to the black and white photography). The new colour palette must utilize historic colours while also being compatible with other

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materials on the façade which will include the existing sandstone and new copper shingles on the mansard. The colours proposed within this submission are based on these criteria.

In summary, we believe the Macara-Barnstead building provides a contribution towards Halifax's heritage landscape and as such, deserves a place within the redevelopment of the TD Centre project. We believe it is equally important to understand the limitations of the building with regards to the extent that it can be integrated and maintained. Our recommendation as outlined above and within the remainder of this submission is a combination of retention, repair and replacement of the existing façade. This will provide an important historical continuum to the streetwall along Granville Street while allowing it to form an integral part of a new development. By maintaining the façade, it will provide clues towards the design of the remainder of the streetwall and hopefully provide a showcase for how historic and new buildings can co-exist in a respectful, dignified and distinctive manner.

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DESIGN DESCRIPTION

The redevelopment of the TD Centre is founded on the principle that the existing buildings must be incorporated into a new and larger redevelopment which results in an integrated, singular identity for the overall property. Finding a design solution which combines buildings from three consecutive centuries (1800s, 1900s, 2000s) requires careful, thoughtful consideration that finds clues from that which exists to create a new architectural vocabulary that binds each era together. Concurrently, the design must conform to the Downtown Halifax Land Use By-Law and Design Manual.

The following design rationale is organized to describe the design in the following order: Granville Street revitalization; TD building podium modifications; TD tower addition/renovations; and design overview.

In general, the proposed design conforms with the relevant criteria set out within the Downtown Halifax Secondary Municipal Planning Strategy, Downtown Halifax Land Use By-Law and accompanying Design Manual. The MPS states that for Precinct 4, it shall “serve as the primary regional hub for commerce, culture and tourism”. Accordingly, the TD Centre Redevelopment will strengthen the downtown through significant capital investment which will provide increased commercial and retail spaces. This will in turn, provide a sense of renewal within the surrounding area, creating a more vibrant streetscape while creating opportunity for businesses to grow and/or locate within the downtown precinct.

GRANVILLE STREET REVITALIZATION

Along Granville Street, a vacant parcel of the property exists at the mid-block where the Kelly Building once stood. At the northern end of the development exists the Macara-Barnstead building and at the southern end (intersection of Granville and George Streets) sits one end of the TD building podium. The juxtaposition of these two buildings illustrates a challenge to find a design solution which can mitigate and rationalize these disparate buildings with a sense of common purpose and cohesion. The loss of the Kelly Building presents an opportunity to use this vacant space to develop a conceptual framework for the infill building which can serve such a purpose.



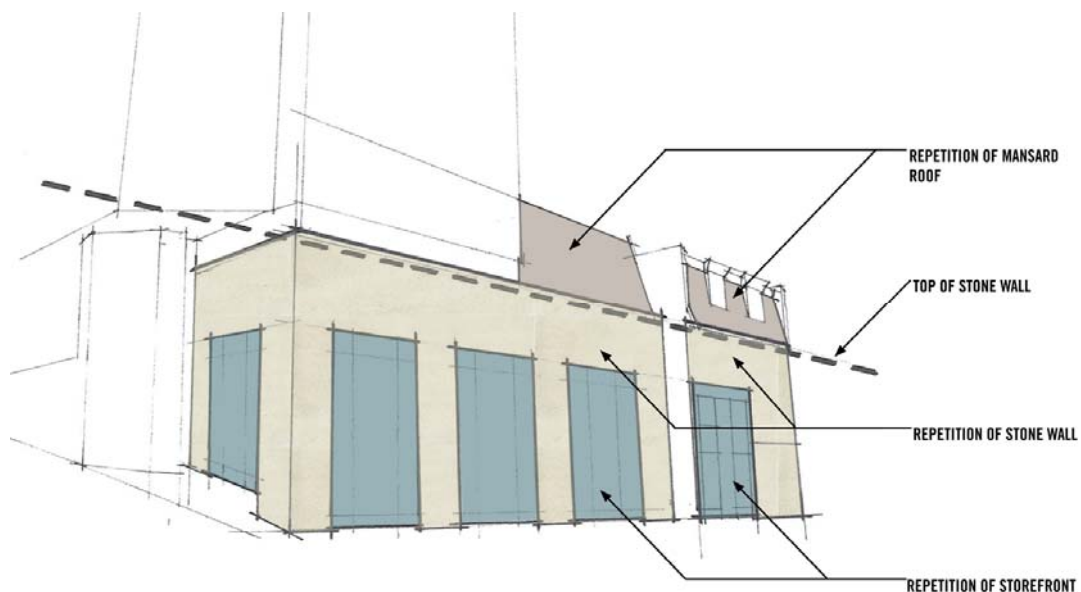
Additionally, we recommend that the existing podium, where it interfaces with the street intersection, requires reconsideration due to its lack of urban engagement.

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Our design process begins with an analysis of the primary architectural features of the Macara-Barnstead building in order to establish its essential qualities. We suggest there are three fundamental attributes which may characterize the façade and provide clues for the new Granville streetwall. First, is the strong horizontal line which is established by the top of the sandstone wall, further enhanced by the cornice. This creates a strong datum which leads the eye across the façade of the building. Second, is the large, double height storefront window situated within the southern half of the façade. While arguably the building's most quirky moment, it is nonetheless one of its strongest visual features and has resulted in a wonderful storefront experience along Granville Street. Third, is the mansard roof which acts as the top of the building. While similar to the large storefront window in that it is not an original component of the building, it has become part of its heritage value and an important characteristic of its street presence. Collectively, these three attributes establish the basic architectural 'order' of the façade and provide an opportunity to extrapolate such features into the redevelopment of Granville Street.



The proposed design extrapolates these basic characteristics of the Macara-Barnstead façade and creates a new architectural rhythm to the streetwall. The existing cornice line is extended across the new addition to create a top of wall height for the overall streetwall. The basic proportion of the large existing storefront window is repeated to create new storefronts complete with recessed entrances and canopies. A new copper shingled mansard roof caps the top of the new wall and extends as a wall down to grade, creating a recessed niche between the Macara-Barnstead façade and the new addition. This niche provides a visual break between new and old while also exposing the existing quoins on the corner of the Macara-Barnstead façade. Finally, new punched windows are added to enhance the existing window patterns.

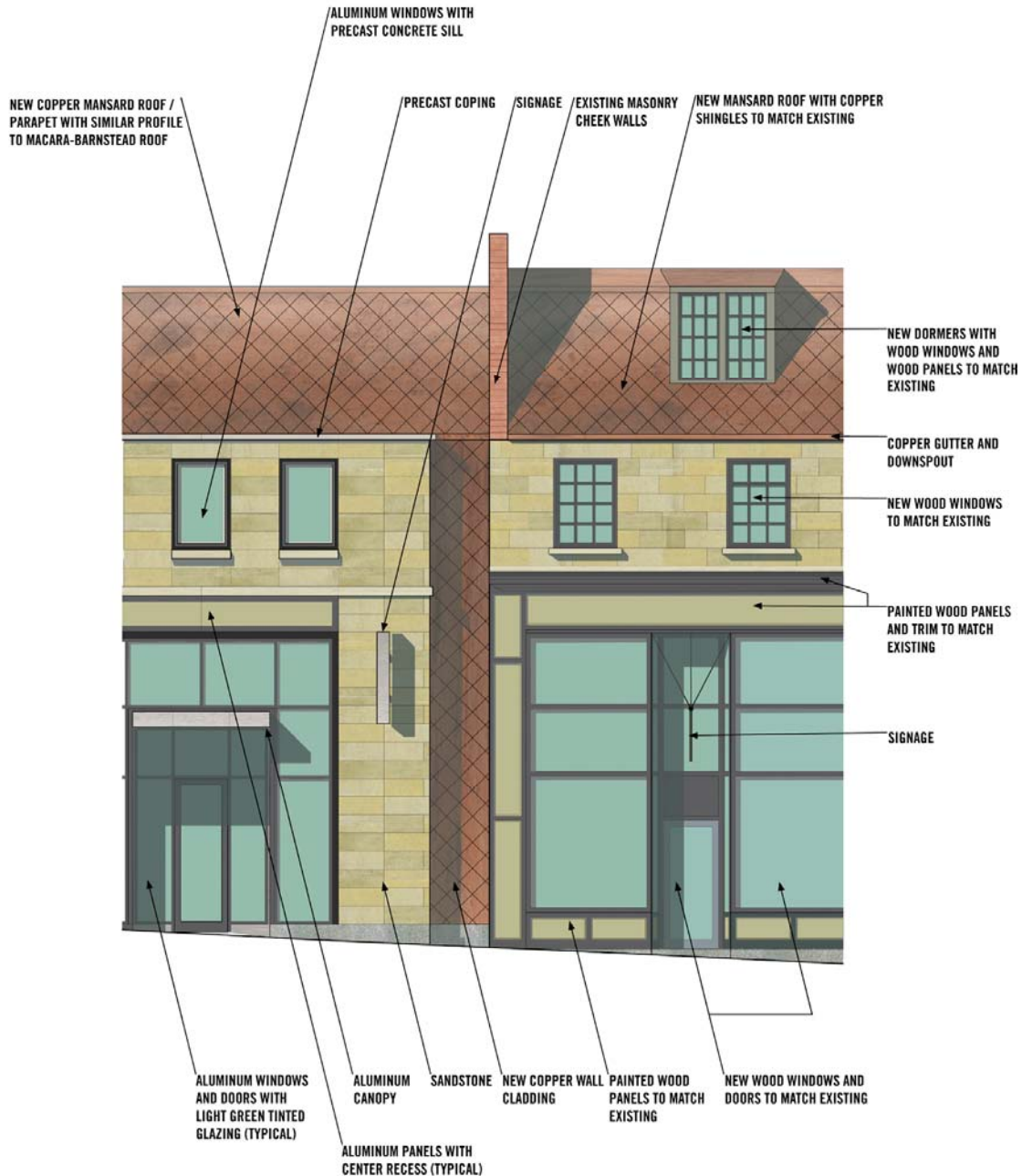


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The new streetwall is designed to be a modern interpretation of the Macara-Barnstead façade with simplified detailing and use of materials. New Wallace sandstone will be used as the predominant material to match the stone of the existing façade. The installation and detailing will be minimal with stack-bonded coursing, a stepped granite base to follow the sloped sidewalk, precast concrete window sills and cornice, and revealed window details. Windows will be aluminum framed with a prefinished colour to match the replacement windows on the Macara-Barnstead façade. Storefront canopies will be clad in aluminum panels with recessed lighting. Signage will consist of wall-bracketed panels with integrated lighting on either side of the storefronts.



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Colours will be carefully chosen to respect historical palettes. The proposed design will use natural materials where possible and will include Wallace sandstone and copper. New windows will be a dark charcoal gray which will also be used on the raised portions of the wall panels. Recessed areas of the wall panels will be a lighter gray with a soft yellow hue.

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TD BUILDING PODIUM MODIFICATIONS

The existing TD podium will be modified so that it can better integrate with the overall design objectives of the new streetwall and tower redesign while also providing an improved pedestrian experience.

The one storey portion at the corner of Granville and George Streets will be demolished to provide an open corner condition which will provide a new storefront and small public plaza. This will also allow the new Granville streetwall to 'turn the corner' and become a three-dimensional building form rather than a two-dimensional façade.



The brick base along George Street will be removed and replaced with new granite panels to match the existing granite on the piers directly above. This will create a cohesive appearance to the podium base. The four storey blank wall along Granville Street will be modified to allow the new streetwall to extend below it. The addition of new windows and aluminum panels in the remaining three storeys above will eliminate the blank wall and thus lessen its visual impact on the street.

New glass and steel framed canopies are proposed along Barrington and George Streets for the full extent of the podium. These canopies will provide weather protection while also mitigating downward wind (downwashing) from the tower above (as recommended in RWDI's wind impact study). As importantly, they will provide definition to the pedestrian level with a modern, clean canopy design. New lighting will be incorporated in the granite piers to provide both upward and downward lighting.

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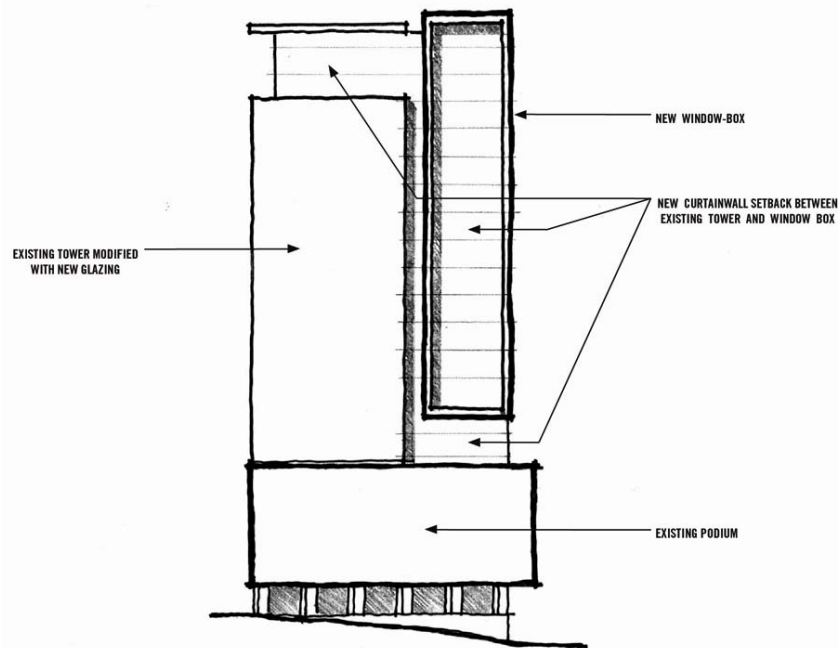
TD TOWER ADDITIONS & RENOVATIONS

The basic premise of the office tower redevelopment is to enlarge the existing floor plates to create more viable floor area/configurations for maintaining and attracting tenants, as well as to add floors to the top of the tower to the extent allowable within the Rampart Maximum. At the same time, the architectural priority is to develop a cohesive appearance and identity to the overall tower design while creating a fresh, modern appearance.

The existing tower is fully clad in curtainwall with floor to ceiling windows. The existing framing system will remain while the glass and exterior mullion caps will be replaced. This will provide a more efficient building envelope with increased thermal and solar performance. The new curtainwall systems on the tower addition will then be able to match the refurbished curtainwall in both design and material for a consistent appearance.

When investigating design solutions for the enlarged tower, it was determined that enlarging the floor plates to form a large square-shaped plan that simply expanded the existing tower appearance, would result in a tower of awkward proportions. It would further miss an opportunity to update the tower design from its 1970 origin to becoming of the present and for the future. Therefore, the proposed design focuses on creating a tower design that has elegant proportions and incorporates a modern design vocabulary.

Within the addition, the proposed design creates a distinct architectural element within the overall tower design. At the southeast corner, a new 14 storey 'window-box' is created which visually breaks the tower into two basic components, thus reinforcing the vertical proportions of the tower. As the window-box turns the corner and extends along the west façade, it incorporates a vertical window pattern which reinforces the new proportions of the tower. The incorporation of this new design vocabulary provides an opportunity to create elegant, vertical proportions to the tower which is in keeping with the original tower's intentions. In order to create a sense of separation between the window-box and the remainder of the tower, a new curtainwall design is setback from the adjoining facades, starting at the new upper floors, extending vertically down between the window box and main tower, and then continuing under the window box. This separation creates distinct components to the tower that collectively provide a visually cohesive composition.



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Thus, two curtainwall designs result to differentiate the basic components of the tower. One is based on the existing design which remains largely intact on the existing tower and podium which is then repeated on selected components of the new tower addition. The glass colour will have a modest tint with a blue/grey hue. The other curtainwall will be used in the setback areas as well as within the window-box. This will have stronger emphasis on the horizontal lines and utilize a glass colour that will be clearer with a light green hue. In combination, the two curtainwall designs and colours reinforce the overall composition while providing a modest amount of variation to the tower.

Finally, it is important for buildings to have a base, middle and top. The podium and streetwall create a strong base while the tower forms the middle. What remains is the need to introduce a top. The proposed design sets back the new upper three floors of the tower along Barrington and George Streets and incorporates an open frame canopy along the top. In combination, they create a dramatic conclusion to the tower which will be enhanced with up-lighting for evening effect.

DESIGN CHALLENGES

Many other factors influenced the design, which present logistical challenges. These include the following:

- Necessity to keep existing tenants within the building during construction
- Necessity to maintain heating and ventilation equipment operational during construction
- Incorporate new heating and ventilation equipment and distribution so that they can be phased in without tenant disruption
- Upgrading of existing elevators and incorporation of new elevator without tenant disruption
- Incorporate new washroom layouts so that they can be phased in without tenant disruption
- Demolishing existing mechanical penthouse after start-up of new penthouse followed by the construction of new upper floors
- Demolition, temporary support and incorporation of the Macara-Barnstead façade
- Maintaining ventilation to existing transformer vault located in basement near corner of George and Granville streets
- Maintaining existing exterior egress to Granville Street from basement exit corridor

The above represent some of the challenges and constraints which the proposed design has considered and incorporated. The significance of addressing these issues early in the design process is critical in order to establish a design that can be confidently implemented.

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SUMMARY

The proposed design incorporates numerous criteria that are logistical, architectural, historical, functional and urban in nature. Often these criteria can have competing interests but they each provide necessary information that inform the design which ultimately result in better design solutions. While taking all these criteria into account, the design goals are not to be compromised and are as follows:

- Create an engaging and meaningful streetwall along Granville Street
- Incorporate the Macara-Barnstead façade in a respectful and interpretive manner
- Improve the existing podium to enhance the pedestrian experience
- Design the tower expansion to create a modern, cohesive appearance
- Establish a base, middle and top to the building
- Create a new and improved identity to the overall development



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DOWNTOWN HALIFAX LAND USE BY-LAW: RELEVANT CRITERIA

MAXIMUM POST-BONUS HEIGHT

It is proposed that the Maximum Post-Bonus Height be allowed in accordance with Section 12 of the By-Law. The 'Public Benefit' shall be a combination of sustainable building practices (such as green roof, building envelope upgrades and high efficiency heating and ventilation systems), preservation of a heritage resource (Macara-Barnstead façade restoration and replacement), and other considerations.

The proposed value of the Public Benefit is calculated as follows:

Pre-Bonus Height = 49 metres (160.8')

Additional gross square metres of building above the Pre-Bonus Height (floors 11-21) = 4,952 square metres

Value of Public Benefit = \$4 per 0.1 square meters = \$198,080

Maximum Post-Bonus Height = Rampart Maximum

The **Rampart Maximum** is as surveyed by Servant, Dunbrack, McKenzie & MacDonald Ltd. using measured elevations. Their survey drawing (as included within the drawing submission) illustrates maximum allowable building elevations calculated from measured viewing positions and Citadel Rampart elevations as specified by Section 26B of the Halifax Peninsula Land Use Bylaw. When compared to the roof plan provided within the drawing submission, all building components are within the maximum allowable elevations.

The survey drawing further illustrates that the building is located outside of View Plane #5.

WIND IMPACT

A pedestrian wind study was prepared by RWDI and submitted as part of the initial Site Plan Approval application. The proposed design revisions do not represent any changes to the building that would require a new or revised wind impact study. A letter has been provided by RWDI which is included as Appendix D within this report. The letter confirms that the findings of the initial report remain valid for the proposed re-design and no further analysis is required.

STREETWALLS AND STEPBACKS

Generally, all by-law requirements have been met with conformance. However, a small number of minor variances are required with regards to streetwall setback and stepback requirements and are described in detail further within this report.

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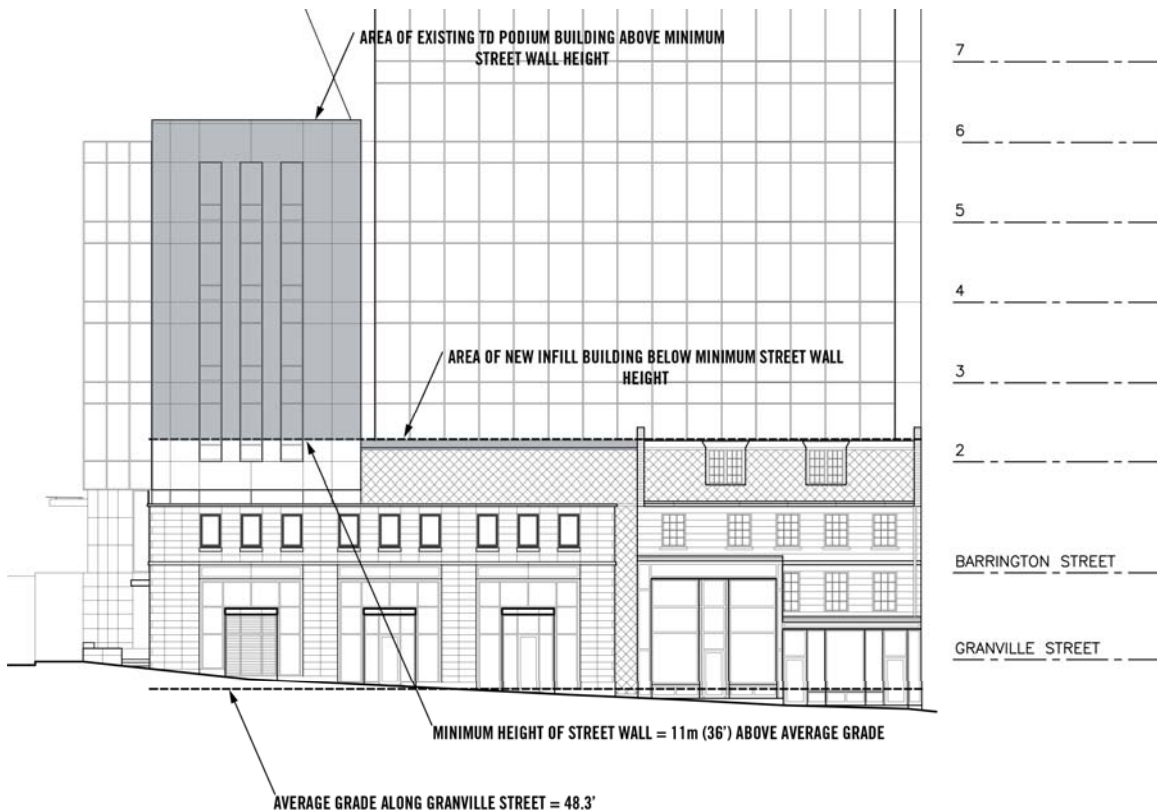
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REFERENCE: STREETWALLS
SECTION 9, Article (3)

REQUIREMENT: The minimum StreetWall height shall be 11 metres (36 feet) high above the average grade.

PROPOSAL: The Granville StreetWall is largely within the minimum height requirement. The top of the mansard roof at the Macara-Barnstead façade almost perfectly meets the minimum height requirement while the portion of the existing TD office building which rises 5 storeys, is well above. The new infill portion extends the height of the copper roof of the Macara-Barnstead façade which establishes its height. The difference in height is a result of not duplicating the existing copper cornice on to the new infill building. This is to distinguish the new building as a modern interpretation of the Macara-Barnstead façade and not include more ornamental detailing and features such as cornices and dormers. The result is that the infill portion of the StreetWall falls modestly below the minimum requirement with a shortfall of 14" or 0.36 metres.

Due to the importance of developing a StreetWall which is sympathetic to, yet distinguishable from the heritage façade, we propose that a minor variance from the minimum streetwall height be allowed.



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REFERENCE: STREETWALLS
SECTION 9, Article (2)
SECTION 9, Article (7)(a)

REQUIREMENT: The maximum streetwall height shall be as specified on Map 7 (Map 7 indicates a maximum height of 18.5 metres for the property).

Provide a minimum setback of 3 metres for that portion of a building that is a maximum of 33.5 metres in height.

PROPOSAL: In the proposed design, the Granville streetwall generally reaches a maximum height of approximately 11 metres, which coincides with the *minimum* streetwall height requirement as per Section 9, Article 3 of the By-Law. The *maximum* allowable height of 18.5 metres is not achieved and results in an un-used streetwall height of 7.5 metres, or two storeys. This is due to a design which is based on the priority of creating a new streetwall that incorporates the heritage façade in a cohesive, integrated and consistent manner. Consequently, two floors of expanded building are not capitalized.

It is therefore proposed that the tower be provided the opportunity to offset that portion of un-used streetwall height. The proposed tower design extends the 33.5 metre height setback requirement by adding the two un-used floors from the streetwall allowance. This establishes a height of approximately 42.6 metres, which is a direct result of the floor locations within the existing tower. Refer to illustrative diagram provided herein.

Accordingly, we request a variance to Section 9, Article (7)(a) as proposed above. As per Item 3.6.5 of the Design Manual, upper storey streetwall setbacks may be subject to a variance if it results in a positive benefit such as improved heritage preservation. We propose that the overall streetwall design is a direct consequence of providing an improved preservation of the Macara-Barnstead building.

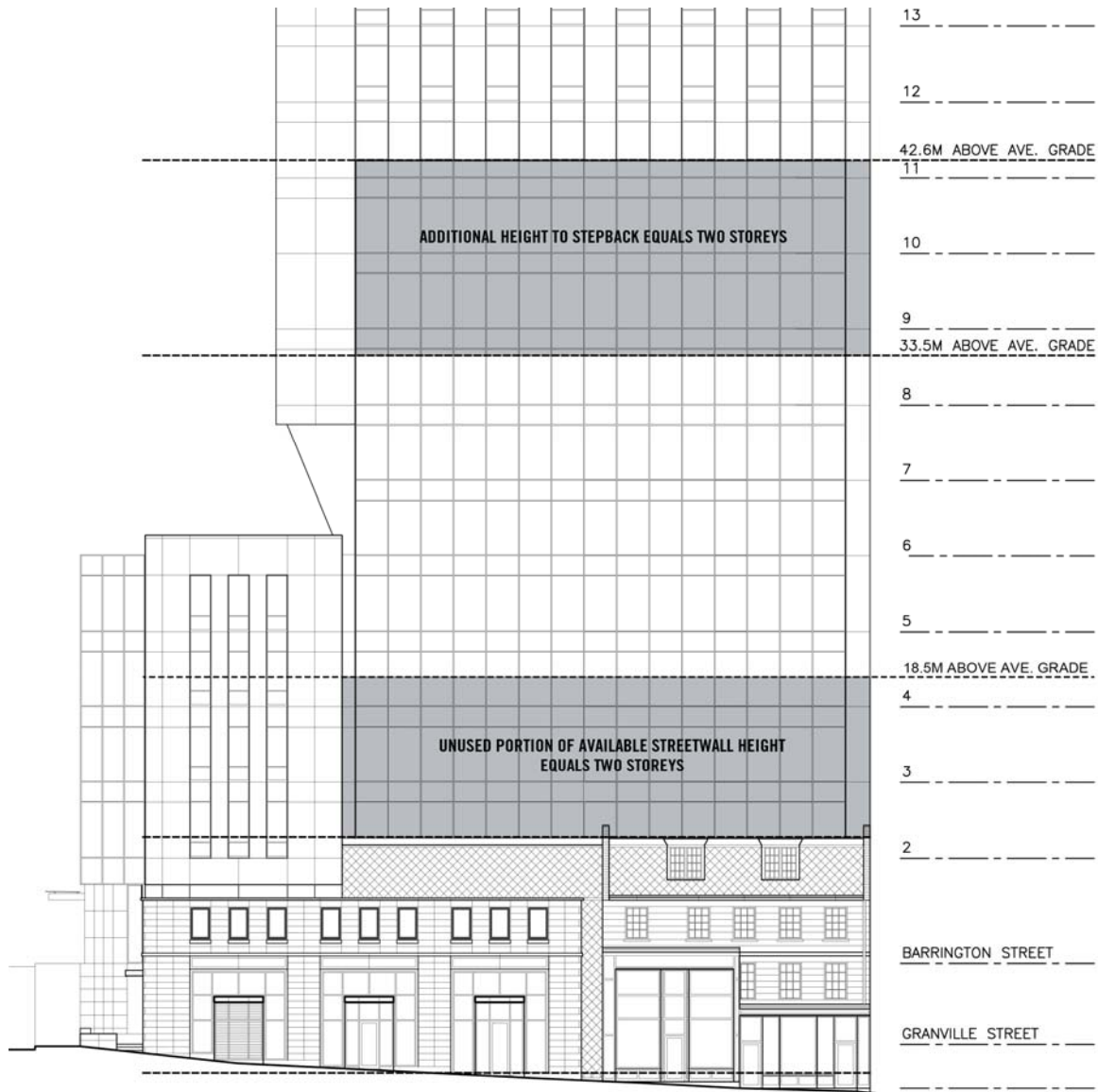


Diagram illustrating offset of allowable streetwall height to tower

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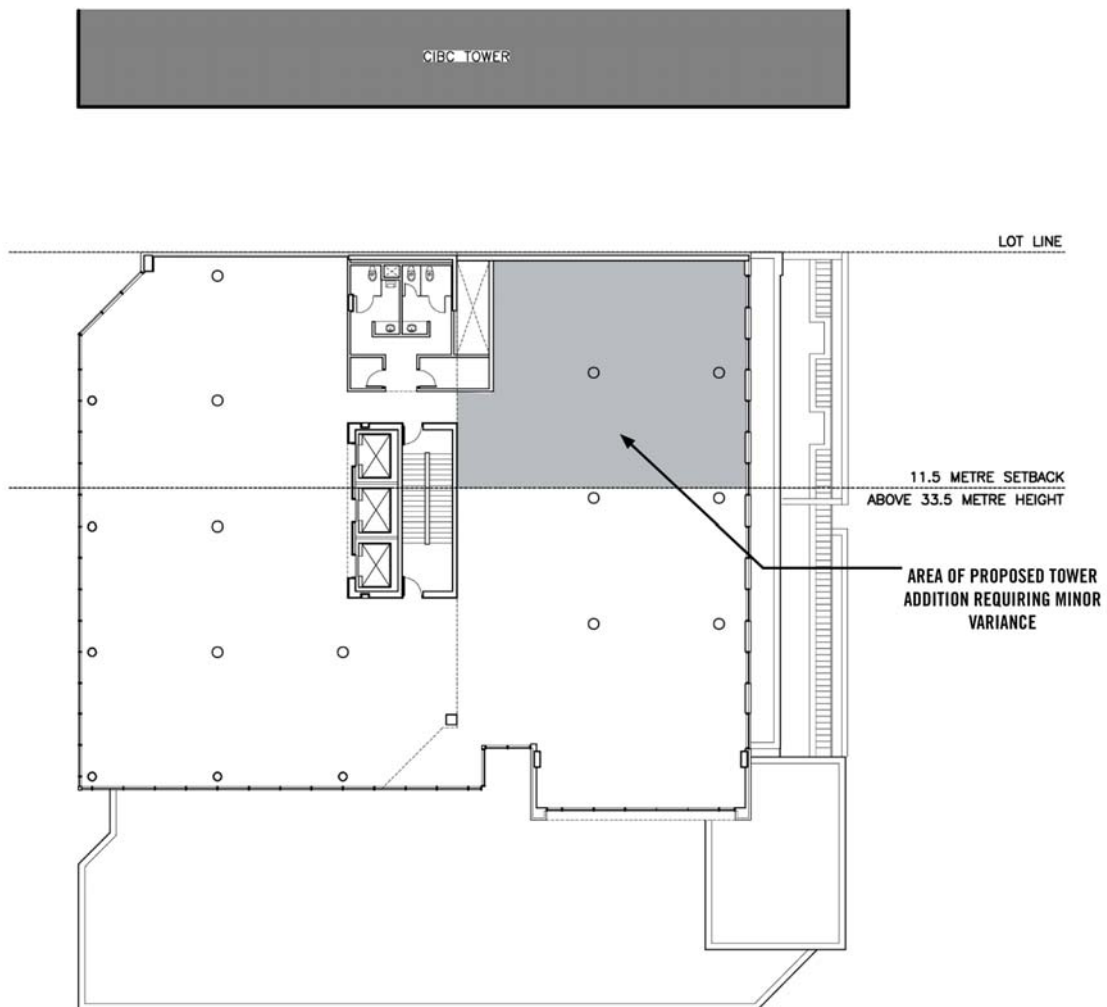
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REFERENCE: STREETWALLS
SECTION 10, Article (7)

REQUIREMENT: Any portion of a high-rise building above a height of 33.5 metres shall be setback 11.5 metres from interior lot lines.

PROPOSAL: The proposed design is an extension of existing building conditions and will not create any new situations which are inconsistent with what currently exists. The existing TD tower is positioned on the lot line for its full height. The proposed addition to the existing tower generally extends the footprint of the tower along its eastern portion up to the setback distances as required from Granville Street. As a result, the addition maintains the tower's relationship to the interior lot line, which is necessary to provide an overall tower configuration that is viable. By doing so, the addition eliminates the existing blank façade on the east side in its entirety and replaces it with a new façade comprised of mostly glass with aluminum panels.



The following report was conducted as part of a previous Site Plan Approval application for which Lydon Lynch Architects had no involvement. It is provided herein to fulfill the requirements of the HRM Site Plan Approval requirements.

1796-1798 Granville Street, Halifax, Nova Scotia



A report on the heritage values and issues surrounding the incorporation of a Designated Heritage Building façade into a new development with several potential solutions to a technically and ethically challenging problem.

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A Heritage Impact Statement for the proposed development of the site which includes 1796-98 Granville Street, Halifax, Nova Scotia.

1 Introduction

Significant issues are raised by the proposed development of the recently assembled Toronto Dominion Bank site, which happens to include the building at 1796-98 Granville Street. From a new evaluation of 1796-98 Granville Street it can be argued that the evaluation giving this building the right to added to the list of Municipal Heritage Properties in 1982, was most probably a mistake, for now it would be difficult to claim it was this significant a building in Halifax.

Several major architectural issues are not addressed in the Heritage Impact Statement, and were certainly not addressed in the original evaluation. Nowhere is there any indication that demolition of a Heritage building, while retaining the façade alone, is permitted in the HRM. Halifax has a number of built examples of this, as well as one under construction in 2010, but the Heritage Impact Statement clearly assumes the whole of a Heritage building is going to be retained. Retaining only the façade destroys any integrity that the building still retains. The street ends in being a stage set. This building is not what it appears to be from the exterior.

1796-98 Granville Street lost its integrity in 1850-60, 1906, 1922 and in the 1930s. Successive owners failed to appreciate what they were destroying while making their alterations to 'improve' the building.

2 1825 construction

The original stone-walled building of 1825 has been largely ignored in any assessment of the architectural quality of what remains. The grid of openings is asymmetric, with one wall section 1.5 times the width of the others. This change of grid probably indicates that the original wall at grade contained a wider opening, possibly to accommodate the passage of a cart, or to provide a shop window. The wall at street level was thus asymmetric and probably had two door openings in it, one for each of two stores. The store owners would have lived over their shops in the typically rented commercial accommodation.

The utilitarian attitude towards openings was still visible in the building at the corner of George and Granville streets in the 1870 photo Fig. 1. This was the commercial low-grade end of the Georgian style, with little to commend it but its quiet and effective grid, providing order and a sense of composure. The sole decorative features of these buildings were the cornice at the top of the wall with possibly delicate classical mouldings, and the horizontal plain string courses dividing the wall into horizontal bands. A generation earlier, in Edinburgh, or Bath, the string course would have been

carried vertically at the ends to link to the next property in streets where there were level changes between neighbours. The nature of the planning of lots and the granting of individual lots to a person, prevented the cohesion of the streets in colonial cities, which was common in the streets of the homeland, in London, Edinburgh or Dublin. In Halifax it was every man for himself. There was composure on the street only because the stonemasons did their usual thing. It was natural, after it had taken a seven year apprenticeship to learn how to do it, to build to rule. The wall was dominated by a module, based on the classical orders, where the height of the wall determined the size of everything else. The system of design worked well for two hundred years. The walls and openings of these stores were devoid of decoration. Plain, simple and only saved from being boring by the porches on houses, or by the cornice at the roof edge, the design of the wall fit a standard pattern.

3 1850-60 construction

The first act of expedient alterations was the dividing into two of the previously united but slightly asymmetric façade, which had existed before 1870. From the 1870s photographs we see this act involved the insertion of beams to carry the solid stone façade above the wide opening from party wall to party wall. It would appear by the remarkable consistency of the store fronts photographed in 1870, that one contractor was employed by everyone to install similar store windows in each store, with similar beams, blind boxes and name boards on the front of the blind box. This continuity across property lines, diminished the effect of the wall above, which soon became invisible from below when the blinds were deployed creating a cool sidewalk protected from sun and rain. This attitude of control, focussing the eye of the pedestrian shopper on the goods on display, was an early form of manipulation of the shopper, it was thought to be good for trade. Unfortunately, what was good for trade was bad for architecture, for the 1825 asymmetry of openings was now able to be ignored altogether. The 1825 wall had lost its significance, and the change in grid pattern had lost its justification or reason for being there.

4 1906 construction

The dramatic change made in 1906 was the insertion of a different window on each half of the building, with two door openings at # 1798, and one enormous window and single door at #1796. Both windows ignore the composition lines of the original windows above. What remains of the 1825 stonewall was now brutally abused. The natural vertical place to stop was the string course, but that was ignored. The natural horizontal place would have been in a solid wall panel or at the edge of a window, but the crass alteration

made to this building cutting through a window is an unbelievable eye-sore, which has been in place for over a century. It should not be given celebrity status, but modified or removed. It was a crude and expedient solution that lacked any sense of propriety or taste. By this crude insertion of a very large window as apart of the 1906 alterations, the whole wall has become unbalanced, with over 70% of the 1825 wall now destroyed. The vertical cut, exactly on the centre line of the façade, ignored the asymmetrical layout of the Georgian windows of 1825, and thus caused the unacceptable reduction of a sliding sash window by one third of its width. Replacing the shop window to the north and extending vertically, the shop window to the south, fundamentally ignored all basic rules of architectural composition. The windows again fail to recognise the original façade's grid, and go much further in introducing five different dimensions of wood panelled margin, thus abrogating all the composure of the original simple stone wall with an overwhelming, oversized opening with no clear indication that the stone wall above is supported by anything other than a wooden signboard. To make matters worse, the different dimensions of wooden margins to the plate glass windows, make each of the 1906 interventions a different horizontal dimension, with different approaches to the openings previously in place in the 1870 photograph. Further to this is the extraordinary breaking of all architectural composition rules to establish a major division of the façade, precisely at the centre line. This makes the façade a duality, but a lop-sided one, a very different attitude from the Georgian grid, established over two hundred years, and so crudely simple as measuring for the centre line and sawing up through whatever was found to be in the way.

5 1922 -36 construction

An new floor replaced the original attics out to the walls, making a full new floor. There was a fire and soon the roof was replaced. From the exterior it appears the new floor established the boundary of the mansard roof. This dramatic change of balance in the façade suggests that the original wall terminated with a stone cornice at the edge of the roof. No roof was visible from street level. With the aggressive and tall, visible wall of the Mansard, the hat had now become too large for the head. This scale problem of a too large roof was exacerbated by pulling the edge of the roof down too low, to where it hid the 1825 cornice moulding, which appears to be still in place. The cornice is used to support the additional cheek walls which are made of brickwork, and so introduced an alien material into the façade. The dormer windows in the Mansard roof bear no relation to any known pattern and they ignore the window pattern below. This roof with its dramatic bell cast, unlikely diamond shaped copper tiled roof surface, now displays excessive damage. It appears to have been left unrepaired for seven years, suggests the building owner thought of the building as being derelict, or wished it so.

6 Present condition

Each alteration to this building has caused the architectural value to diminish.

What is left is a distorted face with one eye closed and the nose bent sideways. This is truly the portrait of a losing pugilist. And just when one thought it was finished, a spate of signs and brackets has been added to the face. The excess suggests somebody knows a blacksmith. Insult is now being added to insult, and the wall irrevocably damaged. The photo from 1984 shows no damage, and only one sign. It appears by the damage that the wall has been structurally altered by the force of storm strength winds on the rigid sign cantilevered from the stonewall displacing the centre of the wall at the lintel over the diminished window. Wall safety appears to have been compromised. Another storm may cause a collapse.

7 Conclusion

What is particularly difficult in this case, is the confusion generated by the evaluation of 1981, and the effect of an evaluation using current criteria. If the building were assessed today it is easy to see how it would not be accepted.

Looking dispassionately at this building to ascertain its architectural merits, there is the shocking realisation that it has little to justify its existence. This building is ugly, unbalanced, it has been badly disfigured by misguided builders, one after another. It has been badly treated in general, is now sadly deteriorated, has some possibly major structural problems, and some minor problems of rot which will probably require rebuilding the wooden panel frame at the northern end, where it appears rainwater, presumably from a broken down leader, is likely to have caused serious damage from within. This will cause problems for the Heritage Evaluators if it is rebuilt, but it appears dangerous to the fabric and an inevitable and extensive repair is imperative to secure safety. It might require removal of the whole side to first repair the rainwater removal system before tackling the covering.

So much deterioration of the fabric has occurred since it was first evaluated, that the whole street face must now be repaired. The unpatched roof is rotting from eight areas of missing tiles. The 1906 woodwork window framing is rotting, most likely from a leaking rainwater down leader enclosed within it, and the ashlar stonework is presumably delaminating from rain penetration through the roof saturating the porous stone wall from within to allow frost damage on the surface, and laterally displaced stones were probably dislodged by excessive wind effects on the wall from the recently installed rigid sign.

From this superficial observation from ground level, the building is rapidly becoming a terminal case, with little now to commend its retention.

8 Advice

My advice is to measure, record and take samples, but remove the wall, before it causes problems or collapses, i.e. remove the building.

One fear is that if this façade is incorporated into a new building, the repairs must still take place, and there is so little justification for so much expenditure on a wall so mauled as to be unworthy of such attention.

This one built example could be used in the wrong hands to defeat the whole cause of Heritage designation. This has to be a most dubious base on which to argue for retention. As a vehicle for learning 'how not to it,' it has long been an illustration I have used in teaching, both here and abroad.

Another fear is that the specialists in the field may come to Halifax and ridicule it. The trouble required to refurbish an already broken building is hard to justify when the basic architecture was either missing to begin with or if there, has been eroded away by the actions of a subsequent owner.

This is a truly sad building. Halifax has little cause for complacency when so much of value has already been destroyed, but this building is only of interest because of one window, which has its own existence at the cost of an older wall now removed and the older windows that were in it.

It seems inevitable that the issue of 'unique' or 'rare' is dealt with, for here is a building that has a rare, if not unique window, but that is all. 70% of the original wall has been destroyed. The roof is a great muddle of a recent addition, and the composition of the whole is a desperate mess which cannot be improved.

Because I was asked to write a Heritage Impact Statement, I now make an attempt, though I fear the fundamental needs cannot be met.

9 Heritage Impact Statement for 1796-98 Granville Street.

(a) Identification of Heritage Value and Character Defining Elements

The statement on the Macara-Barnstead Building in Canada's Historic Places is highly prejudiced in favour of the building. While the architecture might have once had some value it is discussed without authority. It states that it is valued for its 'architectural style.' There is very little style on show anywhere, most has been destroyed. Mediocre at best, the initial building has been eroded and truncated over time by a succession of heavy alterations. This building is such a bad example it might be worth keeping as a warning to others, and to show just how bad old buildings could be. I hope nobody will think this to be a good idea.

If the building is re-evaluated, [I score it as under 30 even including the party wall], it could then be quietly put to rest having served its purpose.

Compared with the two-storey window in a cast-iron façade in the next block of Granville Street to the north, this one is quite unworthy compared with one having true architectural merit.

forms of work to stabilise the surface, and the standards set for repairs to the surface where fixings have been removed may be assumed to comply with the recommendations of conservationist Bernard Fielden. Where this building is substantially using Northern European building technology it is appropriate to use a compatible conservation technique. Woodwork has to be replaced, at the window surround at the north end, the surface will be hand planed to ensure the elimination of power planer judder ripples. Window sashes will be rebuilt wherever possible rather than replaced and the mouldings matched meticulously. Window surrounds on the interior, which are invisible from the street side of the wall, will be meticulously treated in a similar way. The surrounding junction of existing to new construction will use traditional methods and materials, not a reliance on caulking compounds. If used they will be hidden from view.

The most difficult work will be associated with the roof, where too many challenges await the conservator to predict the problems or hazard their solutions. How much has rotted? Is the structure still sound? Must it all be removed and replaced? Making guesses from ground level are not worth writing about. A thorough investigation has to be made to determine the size and complexity of the task. As we already know that levels do not match the new structure, there are a number of potential incompatibilities that might be worth searching for alternative methods. The roof material may not be the same as the new building and this would be a silly precedent to continue, when one material has inbuilt compatibilities and may only need an expansion joint between the two. If the roof is rebuilt and the cornice exposed, possibly using it to support the eaves trough, or to hide the eaves trough, the projection beyond the property line will diminish. Whether the change is sufficient to prevent the wall being relocated is another complex issue with several small solutions with large cost implications. The incompatible brick masonry facing the street might well be removed to the benefit of the whole façade. All hanging signs are anachronistic and should be removed. Flat signs of a multitude of colours and typefaces should not be contemplated as replacements.

(e) Implementation and Monitoring.

A plan for the conservation needs to be drawn up, explaining fully the extent, technical problems envisaged, the methods and materials to be used, the safeguards to be put in place, and the potential results if these are not carried out. Furthermore the conditions under which the work will actually be carried out, Relative Humidity control being the most significant, will need to be worked through and a method found to achieve it. The space required and the protection, especially protection from dust, will have to be found, secured and monitored.

The supervision of the different tasks depend on the working relationship between the craftsman and the supervisor to ensure the task is performed to the highest standard. The architect will draw up a schedule of tasks and the specialists or consultants to be used. This can be extremely valuable in saving expense on the job if all methods are tested before hand. Material incompatibilities will be resolved during trials.

This whole process is rather like a conservation laboratory and the work is therefore much better carried out in a laboratory setting, not at the top of a staging on a downtown street, but best done off site. Quality control cannot be carried out in the rain.

(f) Summary Statement and Conservation Recommendations:

- The heritage value and character defining elements of the heritage resource.
While the Heritage value may be low for all but the tall window, it seems that the damage sustained by the hanging signs and water damage may require a complete dismantling. If the wall is to be retained and repaired on site, it seems imperative to have a temporary enclosure that provides real climate control, not stretched tarps that come undone and allow no protection against dust.
The defining element of this resource is its ugliness and the brutality of the treatment by different generations of users and the builders they employed. Nothing can hide or diminish their impact from this piece of wall.
- The identification of any impact that the proposed development will have on the heritage resource.
The need to remove the back three quarters or more of the building is cause for concern as to what is really left. The retention of a storefront that must function in a different age than that for which it was built, has many subtle factors to make it work. In order to visually appear unimpaired a task like re-hanging the doors to swing out, creates a great problem for the existing frame, for if wood is removed on one side and new wood is added on the other side, is there sufficient strength to allow the door to slam shut without causing

a problem. It is one thing to swing in and quite another to swing out and contend with ice or snow. The wooden door was not designed for this.

The largest visual impact will be at roof level on the latest alteration to the building. The advanced plane of the roof may very well be retreated to allow the façade to regain the visible stone cornice, and the scale of the roof diminished a little. The most significant effect will be on the skyline, a silhouette where the old building will now be seen against the backdrop of a new building rather than sky, as at present, if one stands in just the right place. The reason for the double covering of the cornice will have to be disclosed and if rotted or missing, will have to be reinstated using the correct materials and procedures.

- An explanation of what conservation or mitigative measures, or alternative development or site alteration approaches are recommended to minimize or avoid any impact on the heritage resource.

Incorporating an existing portion of delicate building, into a new work puts an enormous pressure on the use of the already restricted site, where crane use, concrete spills, or dropped tools could destroy the artefact being preserved and incorporated, especially a large window. It is even more imperative that the temporary enclosure protect against the elements as well as flying objects dropped from a great height. Here is yet another reason for the maintenance work being carried out away from the building site. It is impossible to remove most of a building and not have a problem of support, shoring, complex attempts to buckle, etc. The artefact will have to be secured against a robust steel frame with adequate temperature controls in the couplings.

- If applicable, clarification of why some conservation or mitigative measures, or alternative development or site alteration approaches are not appropriate.

Application of thermal insulation to the interior of the wall will add to the thickness and change all the interior trim at window openings; protective coatings on stone masonry will cause the moisture in the stone to be trapped at the outer surface, so frost damage will increase; using incompatible materials will cause damage; so none of these or anything like them will be allowed to take place. Proper specifications and diligent supervision will ensure a high quality of conservation.

10 Options

Copied from a previous report:

7 Proposals with different strategies for development

1 Introduction

There are too many variables to suggest only one proposal.

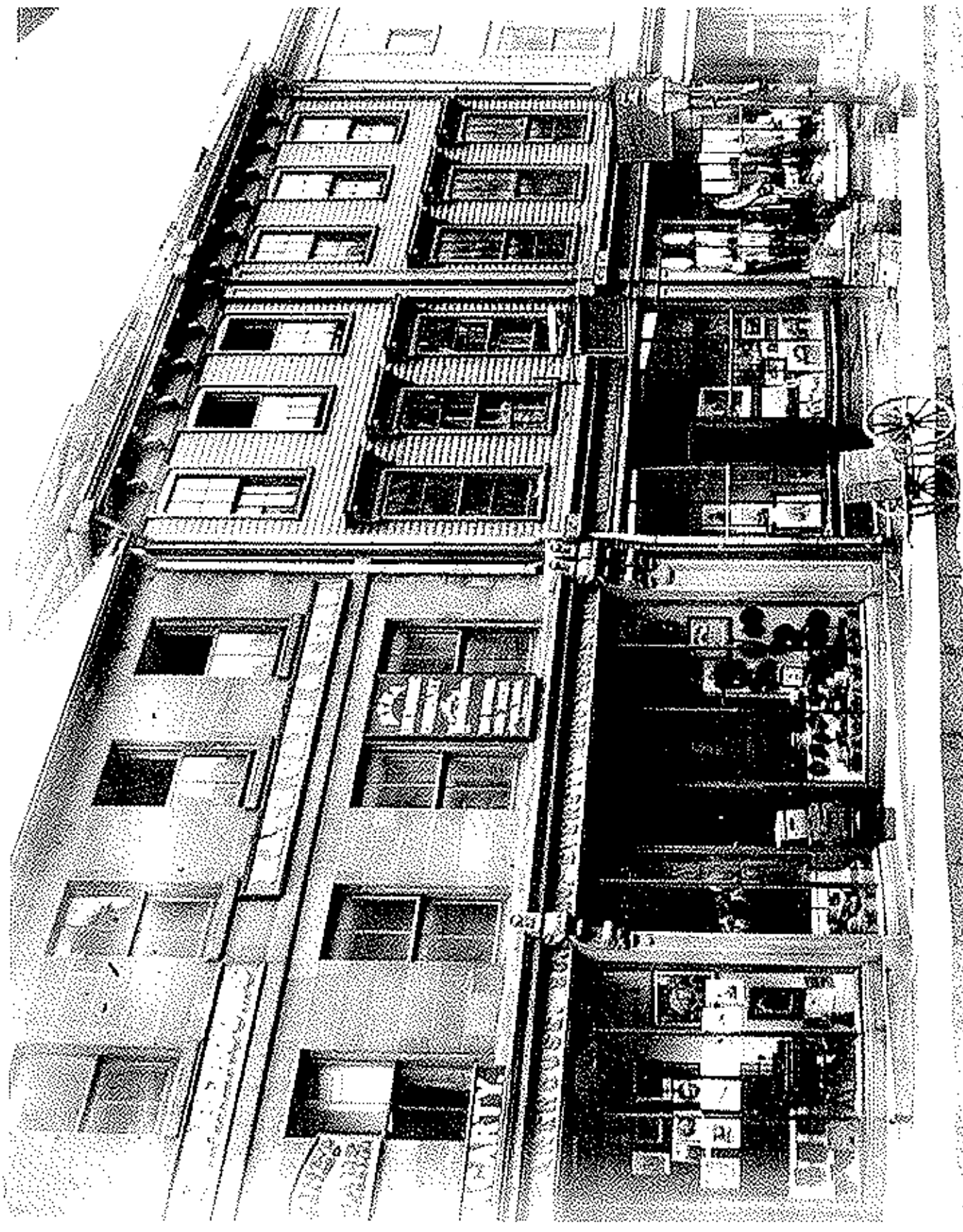
There are a number of ways to incorporate the significant part of the Heritage designated portion of the building into a new building. The following list is not exhaustive, but as each possibility has pros and cons, it seems reasonable to express the magnitude, if not the detail of the range.

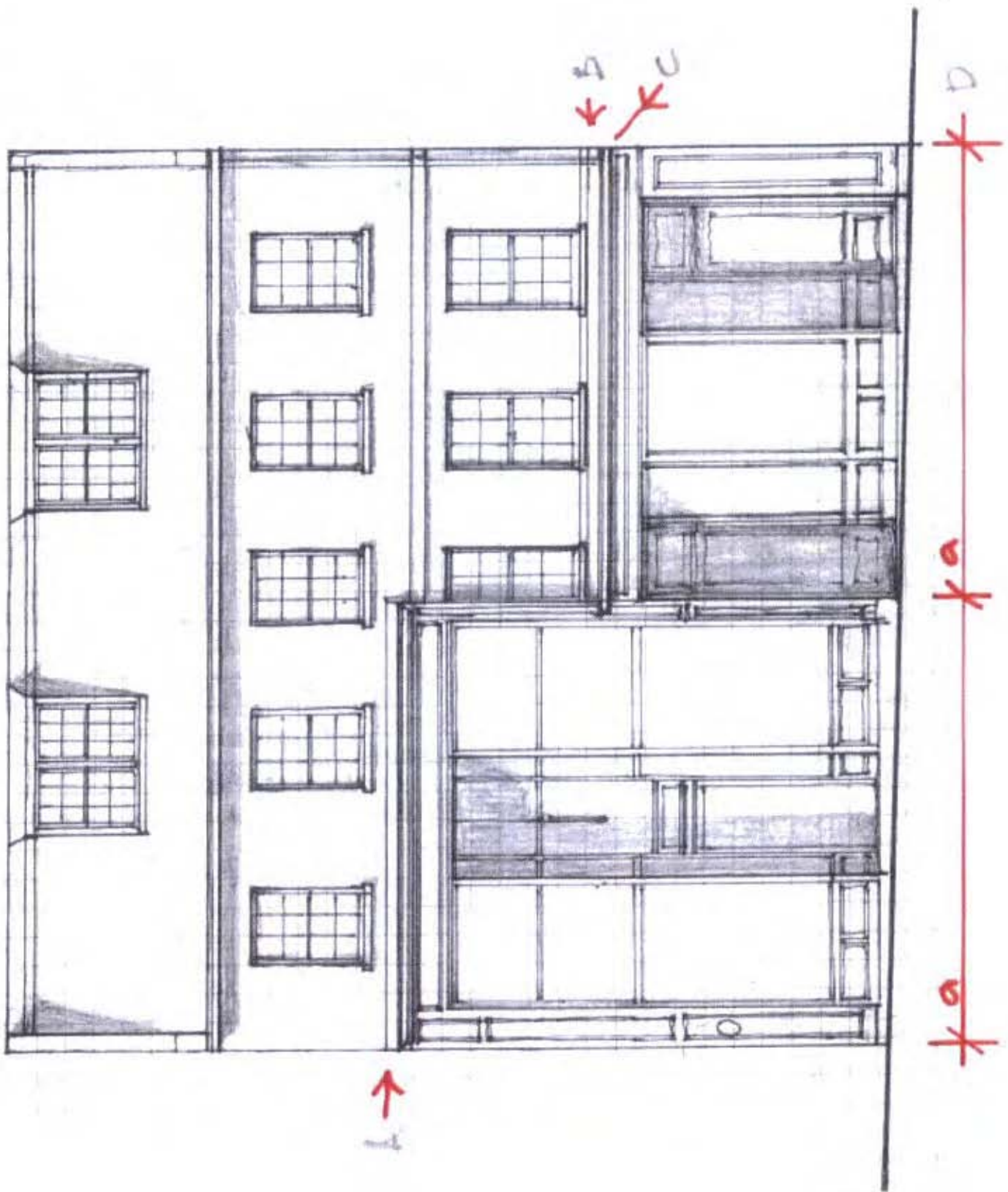
This does not claim to be an exhaustive list of options.

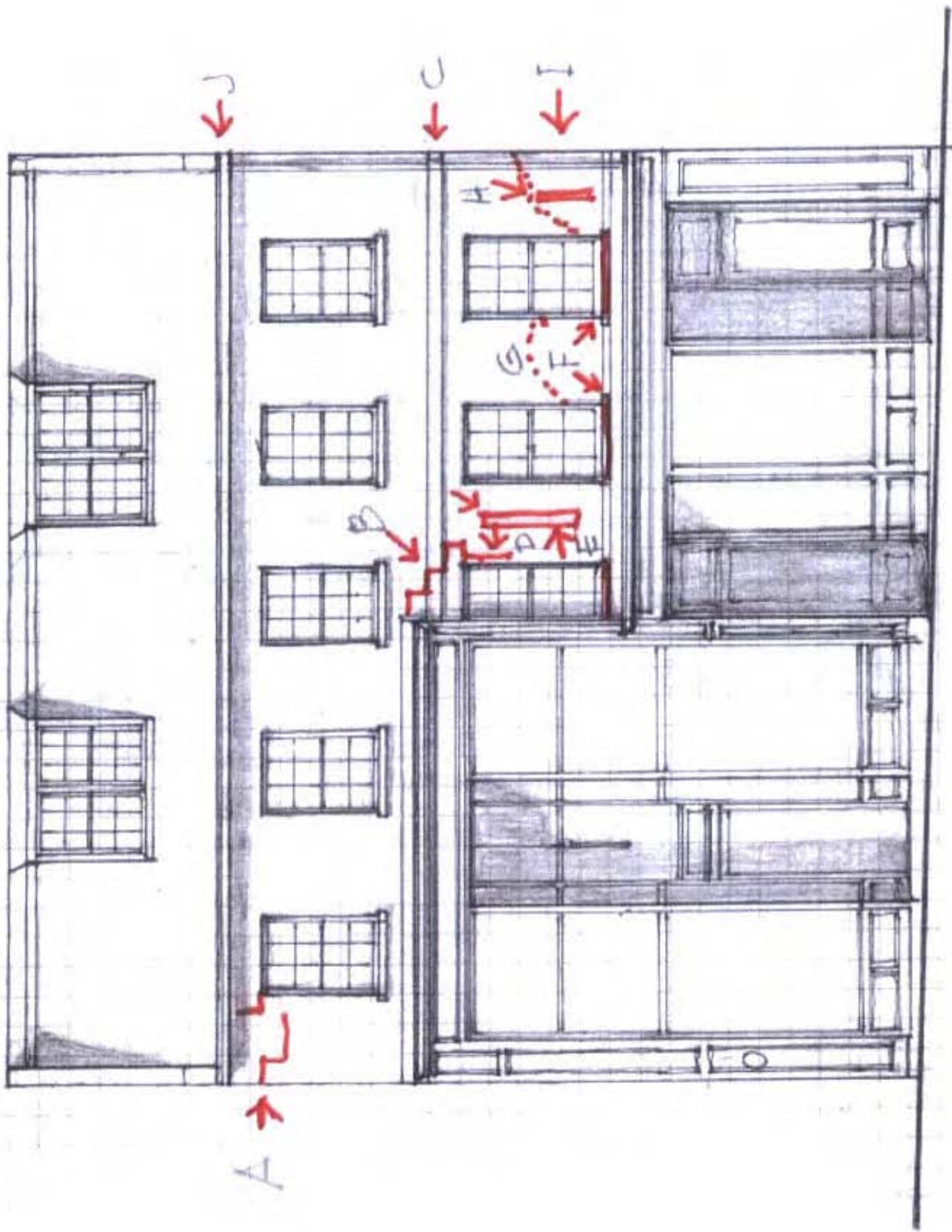
1 Obtain a second opinion.

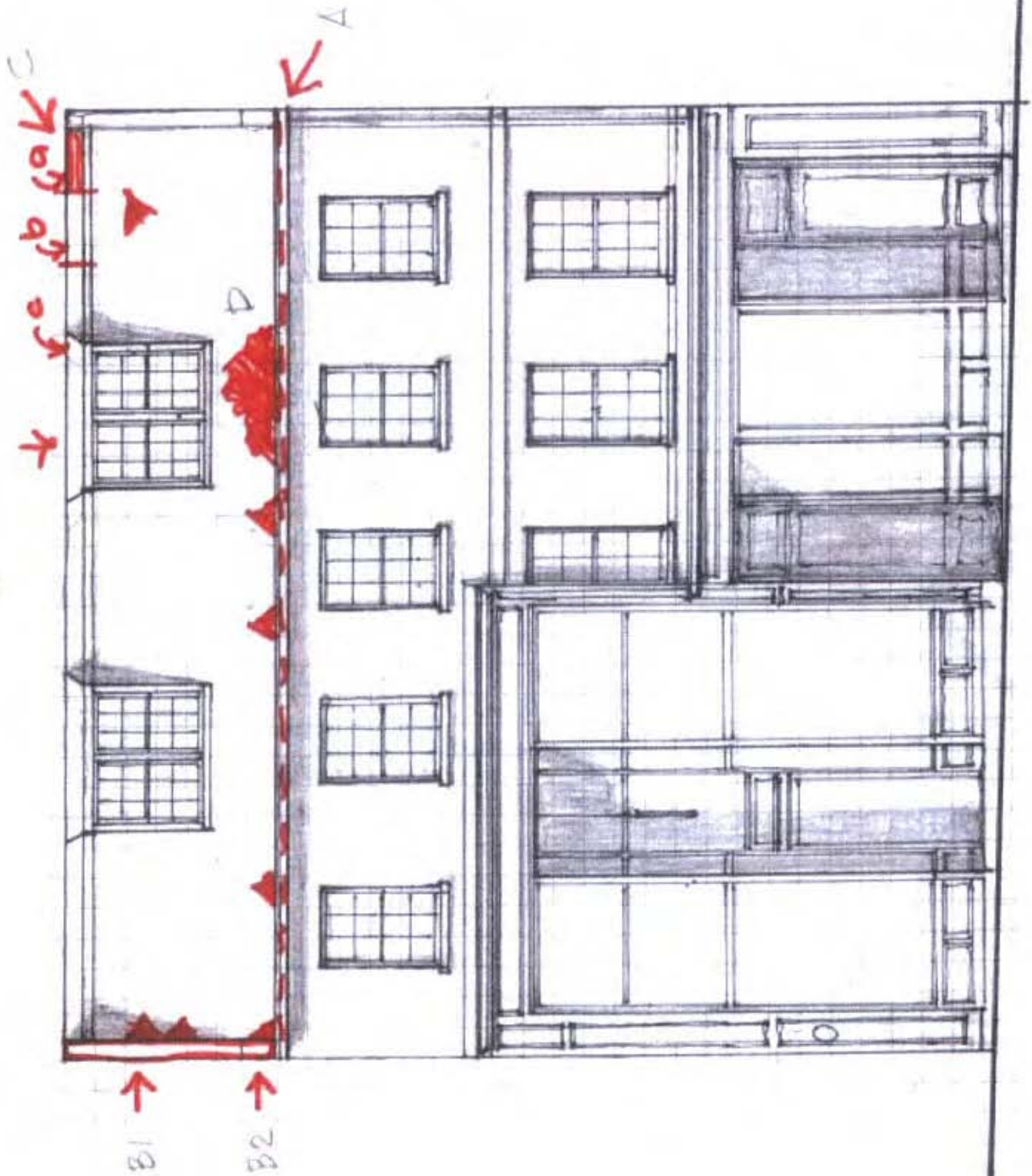
Re-evaluate the building using the 2008 Evaluation Criteria to establish the true value of the wall in 2010 with its changed context and condition.

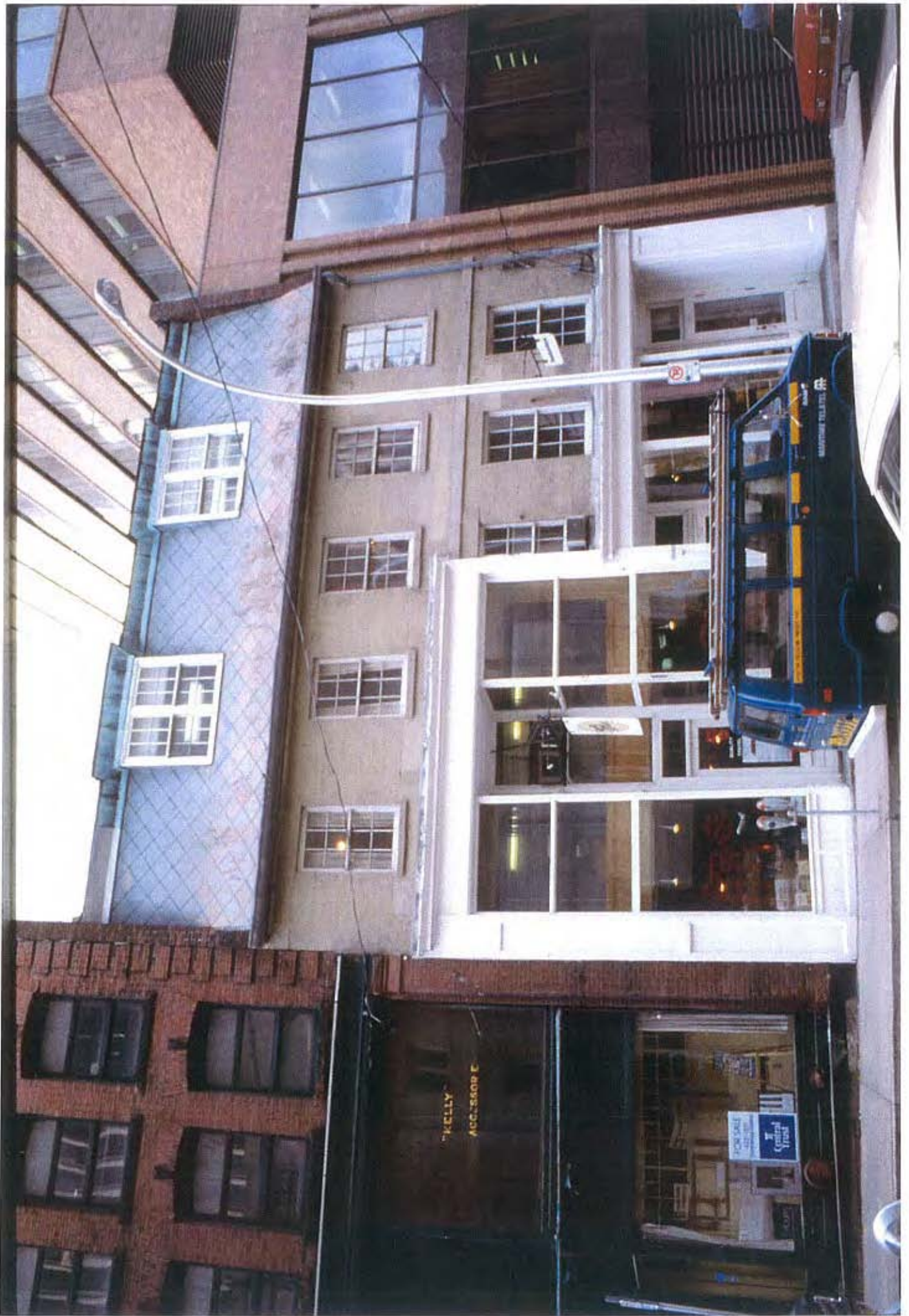
- 2 **Discard the wall as non-reusable.**
Record the present structure, and then remove it. Design the new building without the encumbrance of incorporating a old wall of questionable value.
- 3 **Restore the wall in situ.**
The purpose would be to retain the wall exactly as it is for a new structure to be built around it.
- 4 **Dismantle and remove the wall in order to repair it.**
Spreading the parts put horizontally allows efficient conservation and stabilisation. The old wall may be re-erected at the building line.
- 5 **Insert the wall into the new structure using the original evaluation criteria.**
This has structural problems, reusing a wall with minimal depth but with a 3 dimensional roof problem. The section is an immense challenge.
- 6 **Insert the wall into the new structure using the original evaluation criteria.**
As 5 but removing the roof above the stone cornice level. This is part reuse and part restoration. The section is less of a challenge. The new roof maybe of the original pitch, a new but less obtrusive Mansard,
- 7 **Insert the wall into the new structure, modifying the original party wall.**
The length of party wall to be retained has great impact on the scheme. Height, roof, and inconvenience in the new building need to be balanced with the section requirements, which could conceivably be prodigious, yet require the damaged roof to be replaced.







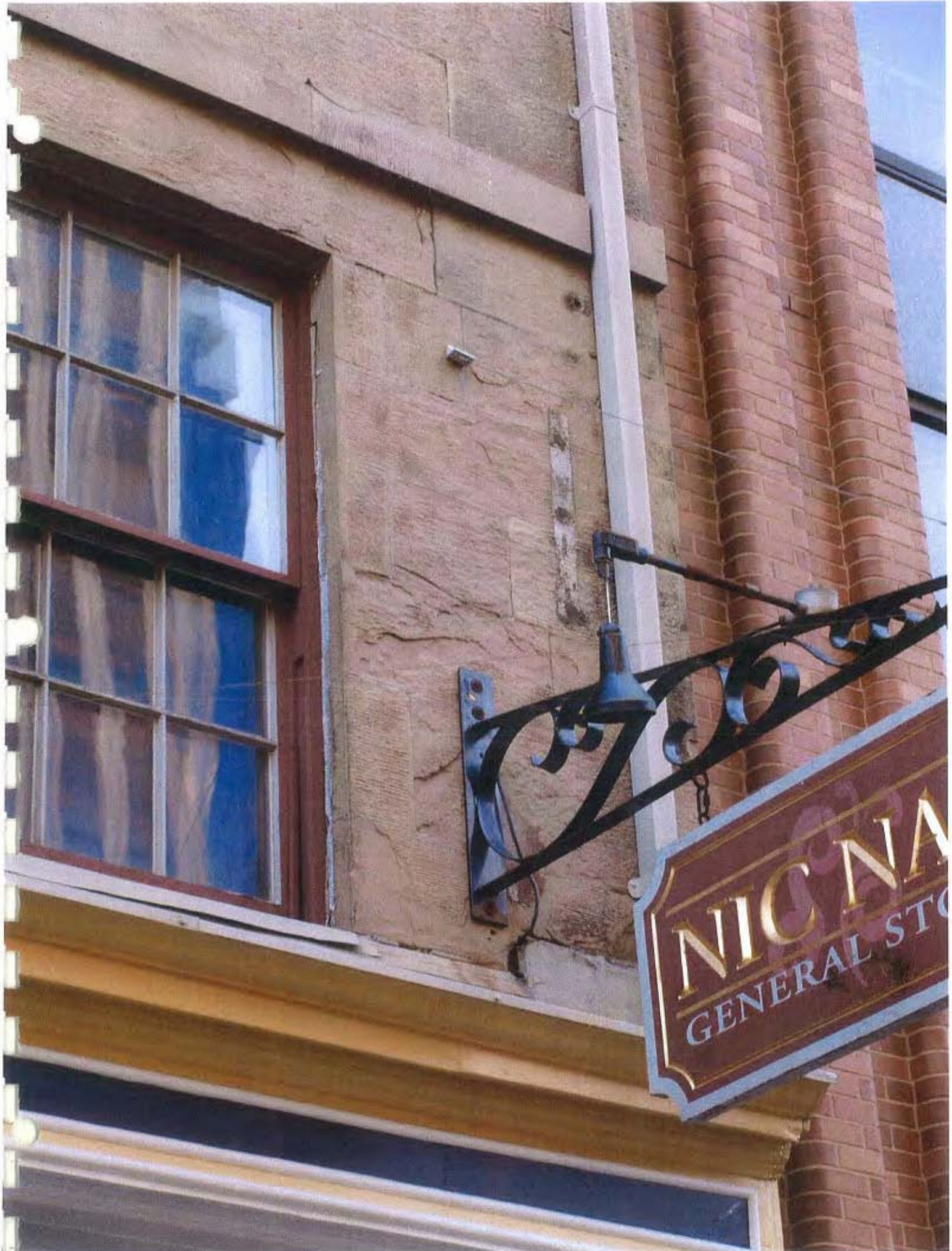




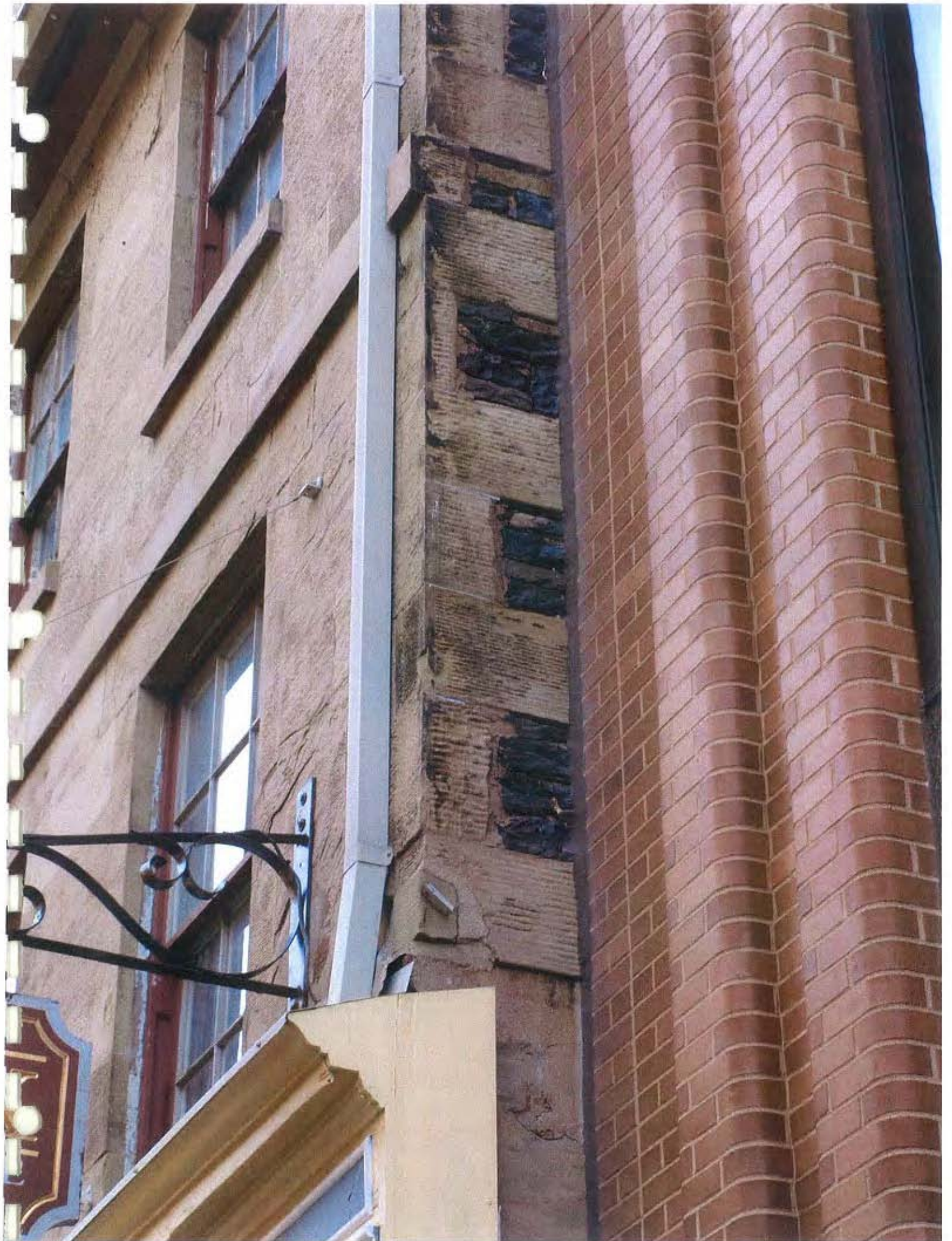






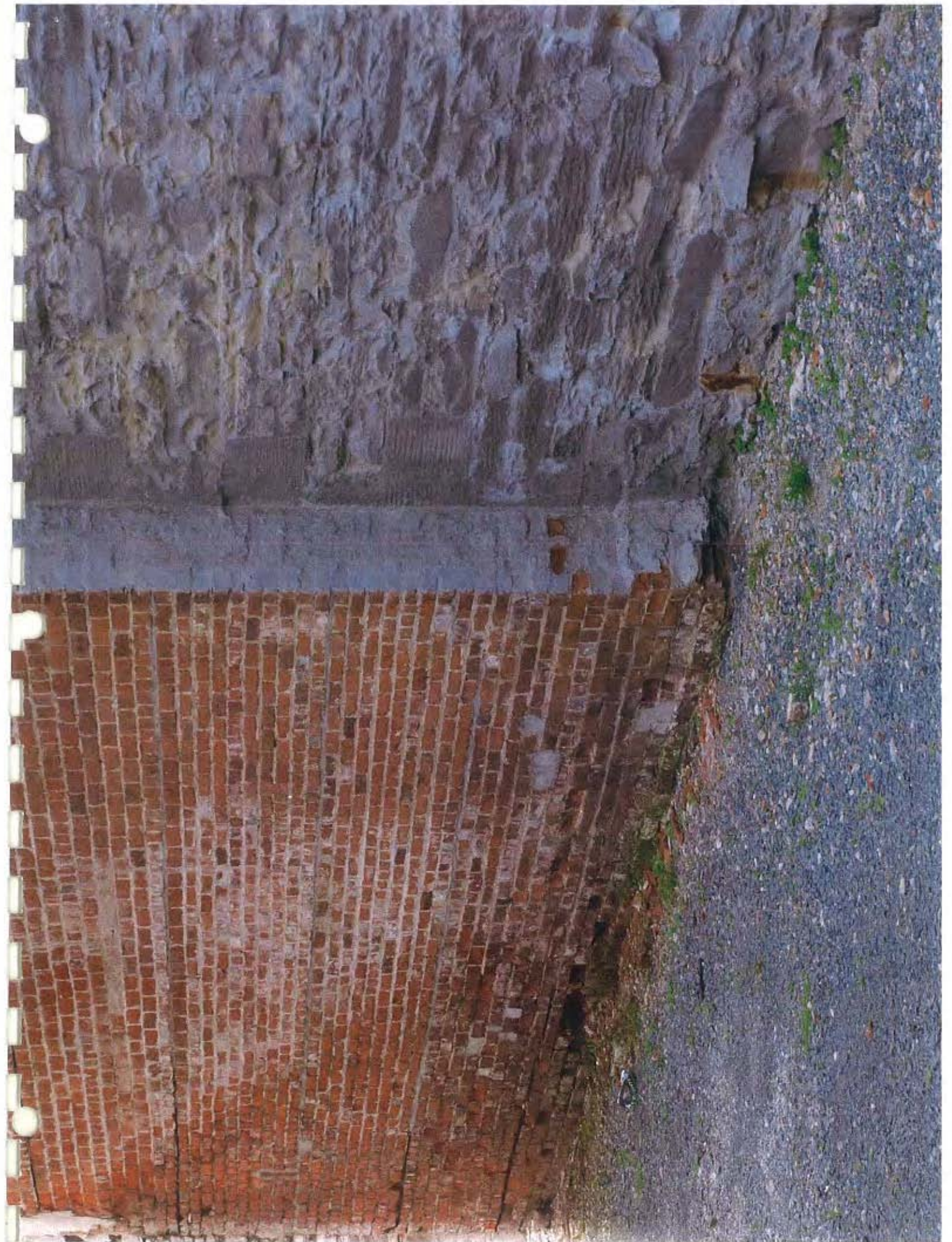


NICNA
GENERAL STORE









The following report was conducted by Campbell Comeau Engineering Limited to provide structural analysis of the Macara-Barnstead façade.

The report concludes that the stone façade, masonry end walls and masonry centre wall may be retained to the extent required for the redevelopment project. It states that sections or pieces of existing sandstone masonry may require removal and/or replacement due to open joints which have deteriorated the integrity of the façade. This will be further analyzed during detailed design phases as well as during construction. The report further provides a proposed structural bracing design for temporary support of the façade during construction.

In conclusion, the report supports the intent of the proposed design.

***TD BANK BUILDING REDEVELOPMENT
1800 GRANVILLE STREET FACADE***

The **Macara-Barnstead Building** is a historic building located at 1800 Granville Street. The building is at the northeast corner of the site of the proposed TD Bank Building Redevelopment Project.

This 1825 building has a historic stone facade. The facade is to be incorporated into the TD Bank Building Redevelopment Project. To achieve this, the stone masonry elevation on Granville Street will be supported by temporary shoring during the construction of the redevelopment project.

The east facade of 1800 Granville Street is composed of glass, masonry and wood elements. The upper section of the facade, at the fourth floor level, is a wood framed structure. The sloped mansard wall is of wood construction and the roof framing is of wood rafter and beam construction supported on a wood truss at the mid-width of the building. This upper wood framed section will be removed and will not be retained in the new construction.

The facade from the second floor on the north half and from the third floor on the south half up to the fourth floor is stone masonry construction. This wall is in the order of 24 inches thick. It is faced with sandstone on the exterior and backed up with ironstone masonry. The wall is supported upon paired metal beams, made of wrought iron or rolled steel. The two beams are at the third floor on the south half of the elevation and two beams are at the second floor at the north half of the elevation. The facade was modified and these beams were inserted in 1906 approximately after the original construction of this building.

Below the steel beams and masonry, the facade of the building is constructed with glass and wood framing. There is a support at the mid-width of the building to carry the load of the ends of the metal I-beams. At each side of the building the beams bear on the flanking masonry walls.

Temporary support will be provided to this facade while construction takes place for the new redevelopment. Prior to undertaking any demolition work in the area of 1800 Granville Street, temporary steel support frames will be installed at the sidewalk of the facade. The temporary steel frames will provide horizontal bracing for the stone facade as the demolition of the wood framed floors and roof is undertaken. The reinforced concrete frame of the tower expansion will provide the permanent support for the facade once the new tower construction is in place. The stone elements of the facade and the supporting steel beams will be connected to the concrete structure to provide permanent lateral stability to the facade. Once these connections have been made the temporary steel shoring frames will be removed.



The temporary steel shoring frames proposed for the lateral support of the Granville Street facade are shown in accompanying sketches. The Shoring Plan indicates the layout of the existing building foundation and also shows that the front 10 feet of the stone masonry north and south side walls will be retained above the sidewalk level elevation. These sections of the existing stone wall will assist the temporary steel frames in bracing the facade.

As shown on SK-1 and SK-3, there will be four vertical steel bracing frames. These will be anchored at the sidewalk level by concrete footing elements. These will be cast over the sidewalk and will be removed with the steel frames after the facade is secured to the permanent structure.

The four vertical steel shoring frames will support horizontal wall braces at two levels which will clamp the existing stone facade to the four shoring frames. There will also be a steel collar tie located close to the underside of the metal I-beams at the third floor and second floor levels to provide bracing for the ends of the beams at these locations.

As noted above, a portion of the flanking walls on the north and south elevations of the building will be retained. The wood floor framing in this width will also be maintained during the temporary support condition. As the interior permanent structure is constructed the wood flooring will be removed.

We have noted during a site visit that the exterior facade of the masonry wall currently displays some open mortar joints and deteriorated stone. It can be anticipated that parts of this wall will require deconstruction to enable repairs to the stone and reinstate masonry bonding ties to the backup wall. This work would be carried out after the removal of the temporary shoring frames and once the existing facade is secured to the new concrete structure.

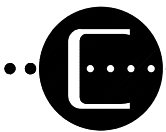
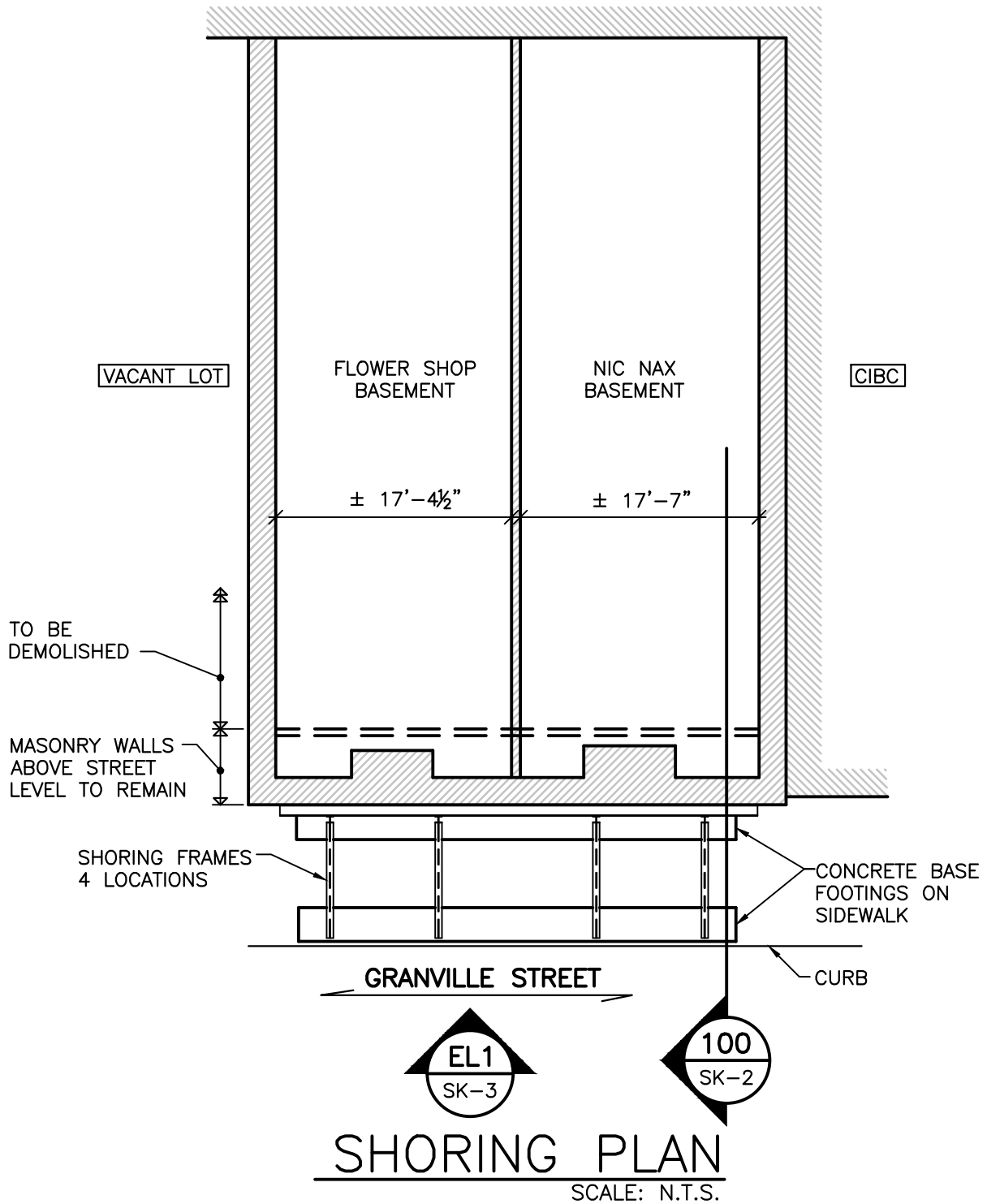
CAMPBELL COMEAU ENGINEERING LIMITED
June, 2011





Photo No. 1 - East Elevation





**CAMPBELL COMEAU
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dwg no:

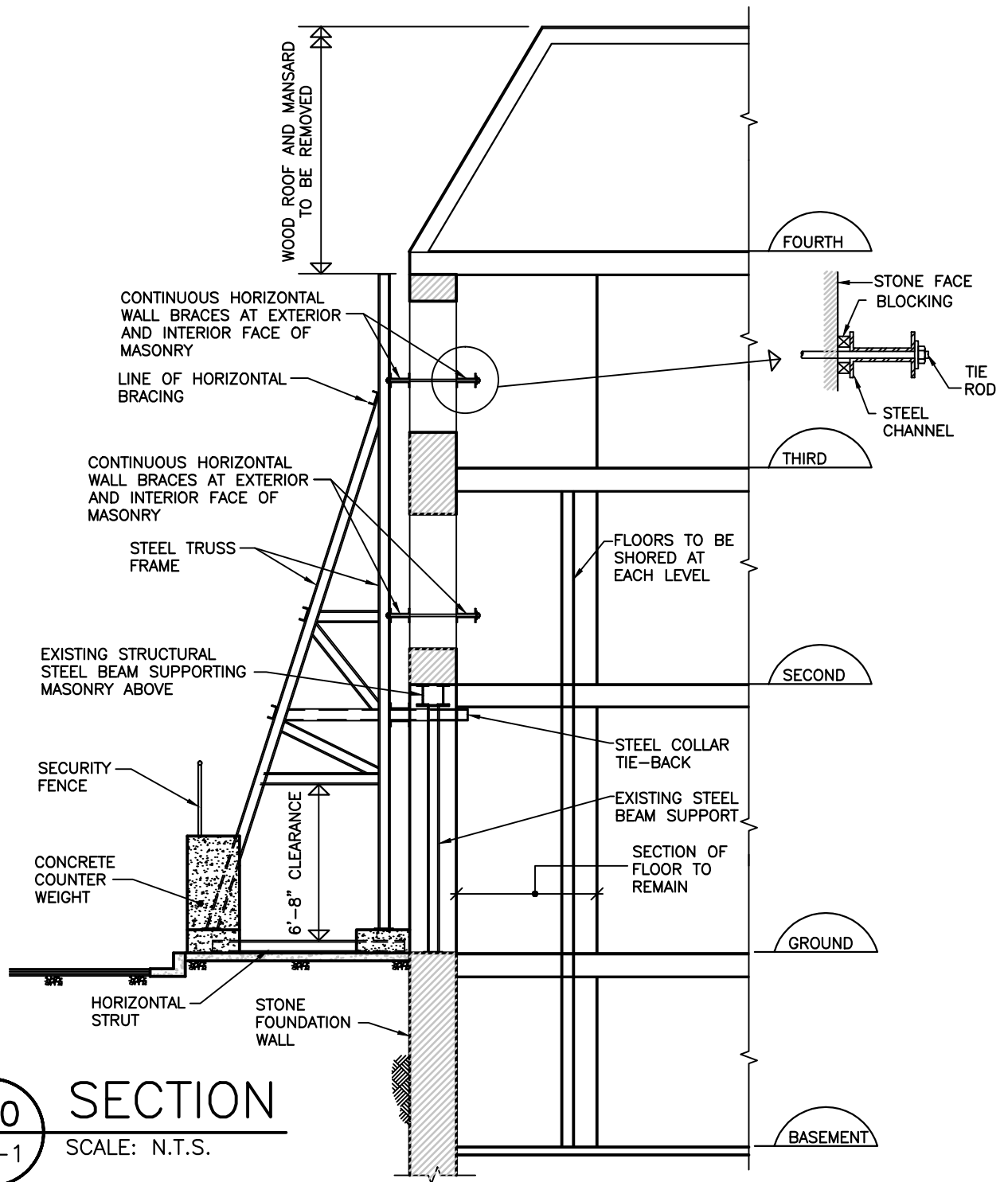
SK-1

project: MACARA-BARNSTEAD BUILDING SHORING

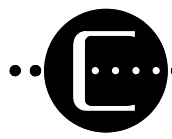
drawn: STAFF

title: SHORING PLAN

date: 06/17/11



100 SECTION
 SK-1 SCALE: N.T.S.



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dwg no:
SK-2

project: **MACARA-BARNSTEAD BUILDING SHORING**

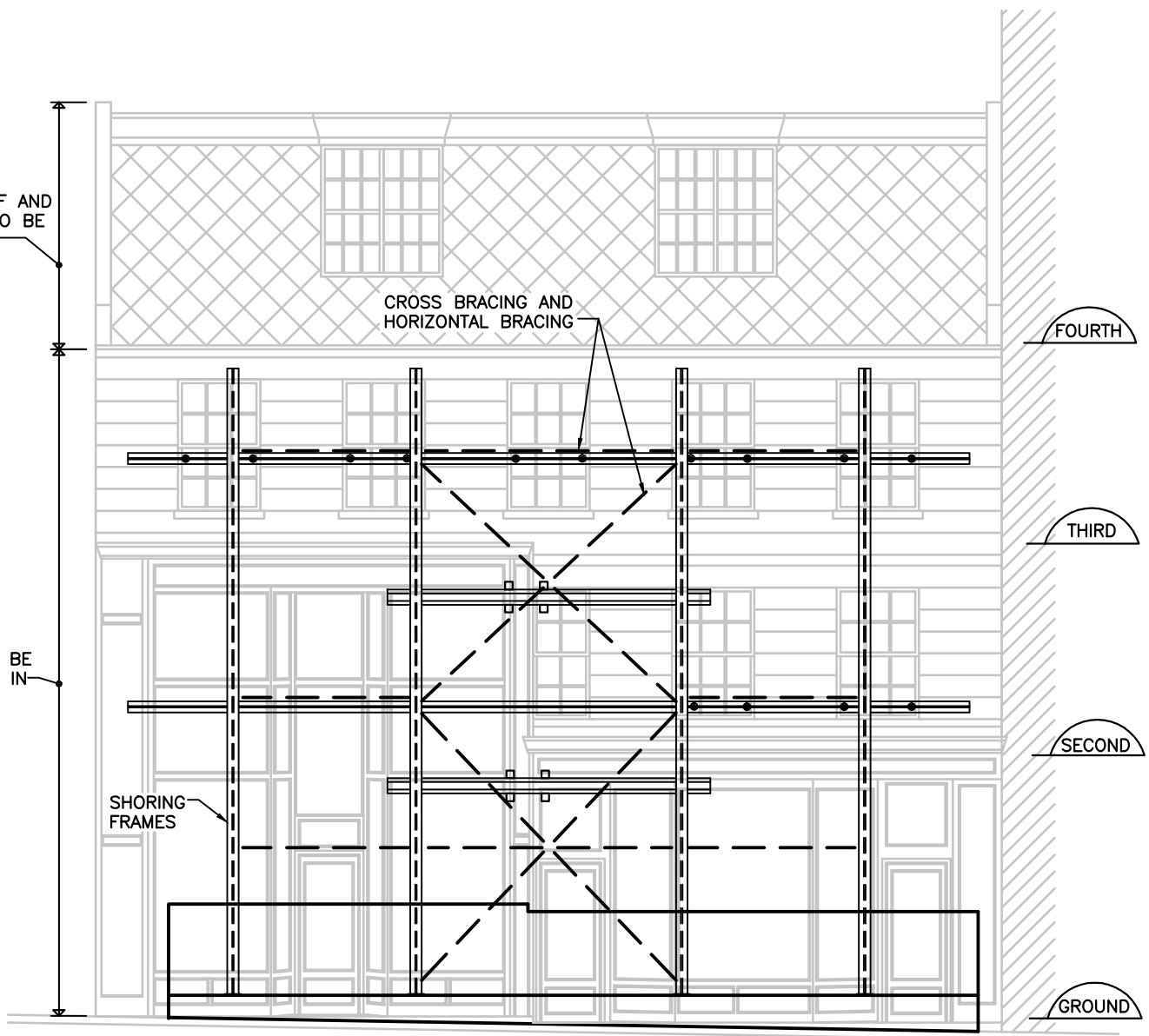
drawn: **STAFF**

title: **SECTION 100**

date: **06/17/11**

WOOD ROOF AND
MANSARD TO BE
REMOVED

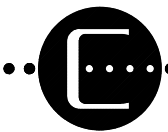
FACADE TO BE
MAINTAINED IN
POSITION



EL1
SK-1

ELEVATION

SCALE: N.T.S.



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dwg no:

SK-3

project: MACARA-BARNSTEAD BUILDING SHORING

drawn: STAFF

title: ELEVATION EL1

date: 06/17/11

The following calculations are based on the drawings as submitted herein and are accurate to the extent possible for a concept design proposal.

FLOOR LEVEL	EXISTING		ADDITION		TOTAL	
	GROSS FLOOR AREA		GROSS FLOOR AREA		GROSS FLOOR AREA	
	(sq. feet)	(sq. metres)	(sq. feet)	(sq. metres)	(sq. feet)	(sq. metres)
Sub-Basement	2,472	230	-	-	2,472	230
Basement	10,465	972	4,034	375	14,452	1,343
1	8,953	832	4,210	391	13,163	1,223
2	9,955	925	3,386	315	13,341	1,239
3	10,403	966	3,323	309	13,726	1,275
4	10,403	966	3,323	309	13,726	1,275
5	10,403	966	3,323	309	13,726	1,275
6	5,072	471	4,162	387	9,234	858
7	5,072	471	4,162	387	9,234	858
8	5,072	471	4,520	420	9,592	891
9	5,072	471	4,520	420	9,592	891
10	5,072	471	4,520	420	9,592	891
11	5,072	471	4,150	386	9,222	857
12	5,072	471	4,150	386	9,222	857
13	5,072	471	4,150	386	9,222	857
14	5,072	471	4,150	386	9,222	857
15	5,072	471	4,150	386	9,222	857
16	5,072	471	4,150	386	9,222	857
17	5,072	471	4,150	386	9,222	857
18	5,072	471	4,150	386	9,222	857
19	3,866	359	4,214	391	8,080	751
20	-	-	7,959	739	7,959	739
21	-	-	7,959	739	7,959	739
TOTAL AREA	132,856	12,342	96,815	8,994	229,624	21,332

Notes:

1. The "Basement" level is level with Granville Street while Level 1 is at the Barrington Street level.
2. The existing building is 18 stories plus penthouse. As per the table, the existing 19th floor is the penthouse which is currently dedicated for mechanical, electrical and elevator equipment.
3. The proposed design adds three stories (levels 19, 20 & 21).
4. The existing podium level terminates at Level 5.

The following addendum was prepared by RWDI and is provided in reference to their original report dated June 26, 2009 which was submitted as part of a previous Site Plan Approval Application. The letter is to provide validation of the original report as it now relates to the current Site Plan Approval Application.



CONSULTING ENGINEERS
& SCIENTISTS

Tel: 519.823.1311
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Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West
Guelph, Ontario, Canada
N1K 1B8

June 21, 2011

Eugene Pieczonka
Principal
Lydon Lynch Architects Ltd.
1209 Marginal Road, 3rd Floor
Halifax, Nova Scotia
B3H 4P8
eugene@lydonlynch.ca

**Re: Pedestrian Wind Assessment
TD Canada Trust Building
Halifax, Nova Scotia
RWDI Reference No. 0940177**

Dear Eugene,

As per your request, Rowan Williams Davies & Irwin Inc. (RWDI) has completed a review of the re-design of the TD Canada Trust Building in Halifax, Nova Scotia. Previous wind tunnel testing was conducted in June 2009 and the final report was issued on June 26, 2009¹. This letter serves as an addendum to the previous report and is based on drawings received on June 17, 2011.

Building Information

For the previous test, information received by RWDI on February 3rd, 2009 was used. The existing building is comprised of an 18-storey tower and a five-storey podium. The originally proposed building addition included an expansion of the footprint of the existing 18-storey structure as well as a three-storey addition to the top of the tower, with a peaked tower roof. For the new design, the same footprint and overall height (21-storeys) remain. The top of the tower has been altered to include a flat roof with mechanical penthouse, and a canopy (approximately 6 feet wide) has been added to the west and south sides of the podium above the first level.

Pedestrian Wind Assessment

For a high-rise tower, alterations at the roof level will have minimal effect on wind conditions at grade. Thus, wind speeds at grade are not expected to change due to the change in roof design.

The addition of the canopy along the Barrington Street and George Street elevations is a positive design feature for wind control, as it will provide wind protection from the prevailing winds from several directions. Overall, wind conditions along Barrington Street and George Street are expected to be slightly better than those that were stated in our 2009 report. If desired, further wind tunnel testing can be conducted to quantify the wind conditions in these areas.

¹ R. Thomson, T. Lovlin, R. Stangl and B. Waechter. "Pedestrian Wind Study – TD Canada Trust Building – Halifax, Nova Scotia". RWDI Project #0940177, June 26, 2009.

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Eugene Pieczonka
Lydon Lynch Architects Ltd.
RWDI#0940177
June 21, 2011

CONSULTING ENGINEERS
& SCIENTISTS

Given the minor design changes, wind conditions in other areas on and around the currently proposed development are expected to be the same as those that were previously predicted by our wind tunnel tests.

Closing

We trust the above assessment satisfies your requirements for the project. Should you have any questions or require additional information, please do not hesitate to call.

Yours very truly,

ROWAN WILLIAMS DAVIES & IRWIN Inc.

A handwritten signature in black ink that reads 'Rachel Thomson'.

Rachel Thomson
Technical Coordinator

A handwritten signature in black ink that reads 'Dan Bacon'.

Dan Bacon
Senior Project Manager / Associate

A handwritten signature in black ink that reads 'Hanqing Wu'.

Hanqing Wu, Ph.D., P.Eng.
Project Director

The following photographs illustrate the existing buildings within the development property as they currently exist.



View from Grand Parade



View from southeast corner of George and Granville Streets



View of existing podium, vacant lot and Macara-Barnstead building along George and Granville Streets



View of Macara-Barnstead façade along Granville Street



Views of vacant lot and blank walls along Granville Street



View of northwest corner of tower showing blank wall facing CIBC building