



St. Catharines Public Library
Central Library Branch Renovation

Phase One Conceptual Design Report

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St. Catharines Public Library Central Library Branch Renovation

Table of Contents

1-2	Introduction
2-6	1. Building Assessment and Design Objectives
6-7	2. Proposed Conceptual Design
8	3. Preliminary Ontario Building Code Review
9	4. Cost Estimation Summary
10	5. Construction Phasing

Appendix A:

Mechanical and Electrical Design Brief, prepared by Jain Sustainability Consultants.

Appendix B:

Class D Cost Estimate, prepared by A.W. Hooker Quantity Surveyors.

Appendix C:

Conceptual Design Drawings; Architectural, Mechanical and Electrical.

Appendix D:

Conceptual Renderings.

St. Catharines Public Library Central Library Branch - Phase One Conceptual Design Report



Introduction

St. Catharines Public Library (SCPL) Central Branch, located in downtown St. Catharines, at 54 Church Street, is the largest library in the SCPL system. It provides for four building levels, including a basement level for library staff operations and access to covered parking, ground and second floors which provide space for library staff offices and public library space including access to collections, computers, and community meeting spaces, and a third floor dedicated to library administration staff. The Central Library Branch was constructed in 1976, with ongoing building improvements occurring up to 2022 with the replacement of the building HVAC. Though the existing library building provides for extensive physical space for library functions, services, programming and community opportunities, the quality and configuration of the existing building spaces and the physical building infrastructure of the facility does not adequately represent, accommodate well or promote the programming and services it currently provides. As well, the current building layout, configuration and space allocation does not sufficiently support the inclusion of future and flexible community programming and library services and functions.

St. Catharines Public Library proposes to revitalize the existing Central Branch to provide for versatility, flexibility and modernization of space, inclusive design, accessibility upgrades and to establish enhanced visual and functional connections between library spaces. SCPL's objective is to complete an extensive interior building renovation to all four levels of the existing library. The renovation will include a ground floor expansion below the existing second floor level, reconfiguration of two main building entrances from James Street and from Church Street, provision for a new superior building envelope assembly at the existing main entrance lobby and foyer and the inclusion for enhanced interior and exterior building spaces, within the existing building perimeter. The intent of the renovations is to better support and service the public and library staff and provide a revitalized library that is a distinct destination place for the community.

ward99 architects was engaged by St. Catharines Public Library to provide professional consulting services

to assist in achieving their goal to revitalize the Central Library Branch. Phase One of the building renovation and expansion project, includes the provision of a final design concept and report that describes SCPL's vision for the Central Branch. Phase One includes an investigative review of the building and base building documentation, an understanding of library requirements and services, and the development of conceptual design drawings. Through the completion of thorough reviews of base building documentation, observational reviews of the existing building, team discussions and design charrettes, the following summarizes the consultant team's findings:

1. Building Assessment and Design Objectives

Central Library Branch is a three-storey building, with basement, comprised of a building area of 2680m² (28,847sf). The building is constructed of a concrete and steel structure and provides the following gross floor area (GFA);

- o Basement GFA: 1070m² (11,517sf).
- o Ground Floor GFA: 2461m² (26,490sf).
- o Second Floor GFA: 2025m² (21,797sf).
- o Third Floor GFA: 467m² (5,027m²).



Building Concerns and Project Goals:

Building Exterior:

- o The building is clad in concrete panels but does have ample areas of window glazing throughout the basement, ground and second floor levels.
 - The building renovation should take advantage of the exterior glazed windows and provide for an animated library interior to place library spaces and activities on display to the exterior and attract passer-bys and library patrons to enter the building.
- o There are several entrances to the building, with poor wayfinding, no easy access and not one distinct, identifiable main access to the library that is clearly indentifiable from the street.
 - The Church Street building entrance is reached by a large, covered walkway that is dark and uninviting. The existing walkway has been fenced-off and gated by the City of St. Catharines for protection of building property. As this exterior walkway does not function as intended, the Library prefers to expand the ground floor to incorporate this exterior space as part of a new Church street entrance.
 - The James Street entrance is considered the library's main building entrance. This entrance does not have any identifying signage or distinct features that would distinguish it as the building's prominent and main entry point. The entrance does not provide a vestibule and the adjacent glazed building envelope, with sloping glazed roof, provides for a cold entrance and unpleasant foyer space. In addition, this entrance, at times, is dangerous and becomes unusable in the winter, when snow and ice fall from the sloped roof and pile in front of the main entry doors. The Library prefers to replace the existing glazed building envelope, with sloped roof, and provide for a proper identifiable entrance with a vestibule and a glazed foyer with flat roof.



Ground Floor Atrium and Foyer:

- The double-height atrium incorporates two levels; a lower level aligned with the west building entrance from James Street and an upper level aligned with the main library ground floor. The two levels are both connected and separated by stairs, a barrier-free ramp and landscape planters. The atrium is the entry foyer to the library building and was intended to provide opportunities for both structured and spontaneous community gathering. The multiple levels, poor acoustics and poor thermal properties of the space, limits the use of the foyer regarding library services and programming and renders the space unusable. There are several exterior entry points to the space and the existing café, within the foyer, is not well-integrated into the space. The foyer also lacks visual connections to the main public library space on the ground floor, as sightlines to this space are blocked by the existing ground floor program rooms and the stair to the basement level.
 - In addition to the replacement of the glazed building envelope and the inclusion of a main entrance vestibule, the foyer should provide for an accessible space on one level that is visually connected to the main public library. The foyer should be redesigned as a flexible space that accommodates a variety of library programming and that encourages community gathering.



Ground Floor Configuration:

- Multipurpose Rooms: A group of four program rooms provide for meeting rooms, a computer training room and a multipurpose room with a stage. These rooms are physically separated from the main public area, making them difficult to access and resulting in security and safety concerns. The room layouts are static and rigid and obstruct sightlines into the public library space from the main building entrance and foyer.
 - The Library's preference is to remove these rooms to accommodate a more open and flexible public library space and to provide for new multi-purpose rooms, that are accessible from the public library space and that can be used for a variety of functions and be transformed into different sizes to accommodate a variety of occupancies. The new multipurpose rooms should be dedicated to library programming with rental opportunities as a secondary use.
 - Program rooms are to be technologically outfitted to support a variety of activities and programming with provision for more flexibility of use. In this regard, a dedicated room for computer training is not required. Computers are to be mobile and can be set-up in any program room to facilitate group or individual training.
 - The renovated library should accommodate a minimum of five multipurpose program rooms of varying sizes, on the ground and second floors, to suit smaller groups of ten (10) to fourteen (14) persons to larger groups of one hundred (100) persons.
 - Though after-hours access to program rooms is not required, as rental hours align with library hours and library security hours, a dedicated exterior access point to one or more program rooms, on the ground floor, would be an asset.
- The Children's area incorporates space for children from preschool age to school age, including Tweens. The Children's story room is physically separated from the children's area, does not provide views to the children's area and is used as a storage room, due to the lack of existing storage space in the library.
 - The Children's area should provide for a variety of space, including provision of the collection,



lounge, study, computers and gaming and should provide for distinction and separation of preschool, tweens and teens. The shared program room should provide for ease of access and visual connections to the main library space.

- The central open building stairwell to the second floor and the main stair to the basement level parking area, are opaque elements and enclosures, that visually obstruct views to the public library space and that provide physical separations within the library.
 - The renovated interior should consider the removal of both stairwells and the inclusion of new stair assemblies, that are visually accessible and that provide for proper placement within the renovated library space.
- The ground floor provides more than one staff point. The main service counter provides a connection to the lower level staff work area.
 - The redesign of the ground floor should provide a single service point and consider an expanded main service point with direct connection to a ground floor staff work area.
- The long display case for trophies is not required to be included in the renovated space, as the trophies will be relocated to another facility.



Second Floor Configuration:

- The staff service point is located so that staff have their backs to open library space and does not provide for sight lines throughout second floor library spaces. Staff offices are located throughout the second floor, with no connection to the service point.
 - A new service point is to be located to maximize sightlines and provide direct connection to staff work areas.
- Local History/Special Collections is physically separated from the open public library space with walls.
 - Special collections may be relocated but must remain accessible to the public and integrated as part of the main open library collection. Portions of the collection may be vulnerable/delicate and may require a separate storage room with humidity/climate control. Two (2) to four (4) microfilm readers are to be incorporated into the renovated special collections area.



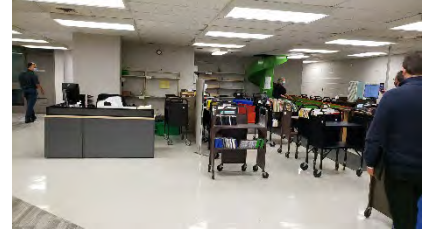
Third Floor Configuration:

- The third floor provides offices and work areas for library administration and a board room that accommodates fifteen (15) to twenty (20) people. The board room is used primarily for board meetings that occur once a month. The board room is supposed to be accessible to the public, though it currently is not due to its location of the third floor.
 - Renovate the third floor to become an accessible public space and relocate administrative staff to other levels of the building. The board room can be relocated to the first floor where it would be easily accessible to the public and can become a multi-purpose program room utilized for various programs when not in use as a board room. There is no requirement to locate the board room adjacent to staff areas.
 - The CEO's office is too large. The CEO and administrative assistant offices may be relocated to ground floor level for access to the public.
 - The third floor will require an accessible washroom for use by the public.



Basement Configuration:

- The basement level provides for staff work areas and space for maintenance and operational staff, as well as building mechanical and electrical services. The work areas and the staff lunchroom area quite large but require reorganization.
 - Staff from upper levels can be relocated to the lower level. Renovation, reorganization of space and the inclusion of smaller workstations can accommodate additional staff in the basement.
 - Collaborative/break-out spaces dedicated to staff use are to be included in the redesign.
 - Storage requirements are to be reviewed and incorporated in the basement level.



General Building Elements:

- Ground floor washrooms are difficult for the public to access and their location do not facilitate proper sightlines. Second floor washrooms are highly visible with direct views to washroom doors, which may make some patrons uncomfortable and discourage their use by patrons.
 - Washrooms should be replaced to accommodate the new building interior layout and are to be located to provide proper sightlines and ease of access to washrooms, while providing patrons with privacy.
 - Washrooms should be accessible and provide for universal gender-neutral washrooms on both ground and second floors.
- A single elevator services four building levels. There is an anticipated higher-use for the existing elevator once the renovation is complete.
 - The renovation should include for a second elevator adjacent to the existing elevator. This will also accommodate the removal of the existing dumbwaiter and associated machine room.
- Collection shelving is old and inaccessible and requires replacement. Building finishes are old and require replacement.
 - The extensive renovation will require complete replacement of the collection shelving and all building finishes.
- Glazed building corners provide for natural light and great views to the exterior, but they are problem areas as tall shelving currently hides views to these corners. Furniture has been removed from these areas as a result to prevent public use/lounging in these areas.
 - The renovated building layout is to consider the removal of shelving from the building perimeter and the inclusion of large, open gathering spaces along exterior building walls.
- Storage occupies various spaces throughout the library.
 - Provide for larger and dedicated storage spaces throughout the renovated library. Dedicated storage is required for local history archives in the basement level, storage for larger loan items is required on the ground floor, in proximity to the service counter and additional storage for equipment and book club kits is required on the second floor.
- A business hub area with copiers/printers is provided on the second floor.
 - Business hubs/print centres should be easily accessible by the public and are to be located on each level of the library.
- There are not enough study rooms in the library.
 - A minimum of ten (10) study rooms are to be provided throughout the ground, second and third floors.
- The library currently lacks the space and infrastructure to provide for collaborative digital spaces.
 - Digital innovation spaces are to be integrated into the public library space, with a variety of open and enclosed spaces, with clear sightlines to the open public library space.
- The library provides for fourteen (14) to fifteen (15) computers. All computers are actively used in the library.
 - Space for public computers in the main library space is required. A minimum of six (6)



computers are required in the Children's area and a minimum of fifteen (15) computers shall be included for use by adults.

Mechanical and Electrical Systems

- o Refer to Appendix A for the Mechanical and Electrical Design Brief prepared by Jain Sustainability Consultants.

2. Proposed Conceptual Design

The final proposed design concept is a result of collaborative design meetings, discussions with library staff and team charette sessions. Refer to Appendix C for the proposed conceptual design drawings, including architectural, mechanical and electrical design drawings and refer to Appendix D for proposed exterior and interior conceptual building renderings.

Proposed Ground Floor Elements:

- o Renovation of the complete ground floor to provide for an open concept public floor that is accessible and provides visual connections throughout.
- o Expansion of the ground floor to the north-west area of the building by 164m² (1,765sf) to enclose the existing exterior concrete walkway and to provide for a new building entrance from Church Street.
- o Provision for two distinct entrances to the building;
 - o Renovated main building entrance from James Street provides for a new interior vestibule and a new identifiable building canopy.
 - o New building entrance from Church Street provides for a new distinct building canopy that projects over the existing ramp to provide shelter and a new interior entry vestibule that connects patrons entering from the existing building stairs and from the existing barrier-free ramp. The new canopy and the new adjacent wall mounted building signage provides for distinct and identifiable library signage.
- o A renovated entry foyer with new barrier-free ramp, a raised floor level to align with the existing ground floor, new perimeter glazed walls and a new roof assembly that provides for a green roof and an exterior community space on the second level. The new foyer is designed as a large, open, flexible multipurpose space that integrates a café and perimeter BYOD counters with views to the exterior. The new foyer serves as a community lounge space with direct views to other areas of the ground floor library.
- o Distinct spaces for children and teens to the east side of the ground floor. The Children's area and Teens occupy the south-east and north-east areas of the building, taking advantage of the existing corner windows. The east side also provides space for tweens, a Children's Program Room with associated storage and Family Washroom, study tables and computer counters.
- o Urban lounge and mobile marketing display in the central open area.
- o Space for collections throughout.
- o Two multipurpose program rooms, which can be separated by a folding partition and with connection to the Church Street building entrance to accommodate after-hours use. The spaces have access to a kitchen and storage room.
- o Staff spaces include a new service counter with direct connection to a staff work room and exterior book return. Additional staff offices, including office of the CEO and a staff collaborative break-out room are also located on the ground floor for ease of connection with the public.
- o Space for holds and storage for large loan items.
- o Space for self-checkout stations near the main entrance.
- o A business hub for printing and copying.
- o A second elevator that services all four levels.
- o Service areas include a new IT Room, and new washrooms, including a universal washroom, with all washrooms having secure doors for implementation of after-hours use in conjunction with rental of the program rooms.
- o A new convenience stair to the second floor with a new adjacent stair to the basement, enclosed in glass walls. The configuration of the stairwells ensures that sightlines are maintained throughout the ground floor space.

Proposed Second Floor Elements:

- Renovation of the complete second floor to provide for an open concept public floor that is accessible and provides visual connections throughout.
- Seven (7) small and medium size bookable study/meeting rooms with glazed partitions to provide visual connections to the main library space.
- Three (3) large digital innovation and makerspace program rooms with glazed partitions to provide visual connections to the main library space.
- Views to two green roofs; one on the south-west side of the building and one on the east side of the building.
- Access to two exterior rooftop lounge and reading areas.
- BYOD counters along the perimeter of the opening to the ground floor.
- Ample space for computers and lounge.
- Collaboration furniture pods, outfitted with power, along the north-west area of the building.
- Space for collections throughout.
- Staff spaces include a new service point with direct connection to a staff work room and provision for sightlines throughout the second floor.
- A business hub for printing and copying.
- Service areas include a new IT Room and new washrooms, including a universal washroom.

Proposed Third Floor Elements:

- Renovation of the complete third floor to provide additional public space that is accessible and provides visual connections throughout.
- Three (3) small and medium size bookable study/meeting rooms with glazed partitions to provide visual connections to the main library space.
- A business hub for printing and copying.
- Service areas include a new IT Room and a new barrier-free washroom.
- Space for collections.
- Space for both lounge and study.

Proposed Basement Elements:

- Renovation of the complete basement floor to provide for accessible space throughout, enclosed offices for managers, additional staff workstations and open work counters.
- Three (3) medium size collaborative break-out rooms with glazed partitions to provide visual connections to the main office work area.
- A business hub for printing and copying.
- Renovated staff washrooms and a new IT/Server Room.
- Storage rooms, including an archive room for Special Collections.
- Space for file storage and staff lockers.
- Renovated staff kitchen/lounge to reduce the size of the kitchen for provision of more office space.
- A renovated vestibule and stair access from the parking area to the ground floor public library.



Proposed Exterior View to North Entrance from Church Street.

3. Preliminary Ontario Building Code Review

The Central Library Branch is a three-storey building with a basement, that provides a building area of 2680m² (28847sf). The building is not sprinklered in its entirety, providing sprinklers only at the basement level open parking garage and adjacent service rooms, with additional sprinkler heads provided at the ground floor level at the perimeter of the second floor opening.

The Ontario Building Code classifies library buildings as Assembly Occupancies of type Group A, Division 2, under Part 3 of the Ontario Building Code. The building construction of the Central Library Branch does not comply with current Ontario Building Code requirements. As the branch is three stories in height, the Ontario Building Code would require the building to be constructed according to article O.B.C. 3.2.2.24. Group A, Division 2, up to 6 Storeys, Any Area, Sprinklered. O.B.C. 3.2.2.24 requires the following:

- o The building is not more than 6 storeys.
- o The building must be sprinklered in its entirety.
- o There are no limitations on building area.
- o The building shall be of non-combustible construction and floor assemblies shall be fire separations that provide a fire-resistance rating, not less than 1 hour, mezzanines shall have a fire-resistance rating of not less than 1 hour and all load-bearing walls, columns and arches shall have a fire-resistance rating not less than that required for the supported assembly.

In order to comply with O.B.C. 3.2.2.24, the proposed library building renovation would require the inclusion of building sprinklers on all library building levels and would require confirmation that existing floor assemblies are fire separations provide for the required 1 hour fire-resistance rating. The existing base building drawings do indicate that the existing steel floor structure provides for spray fire-proofing, but additional investigation will be required to confirm that this fire separation exists throughout the building.

As the library is an existing building and the construction of the library building is proposed to occur in multiple phases, the renovation may be classified under Part 11, O.B.C. article 11.3.3.2. Extensive Renovation. O.B.C. 11.3.3.2. indicates that structural and fire-resistance elements must comply with Part 3 of the Ontario Building Code. The article also indicates that sprinklering of the building is only required where the building under renovation is of type Group C and more than 3 stories in height. Additional review of the building construction phases and the Ontario Building Code will occur in Phase Two of the project.

The building renovation provides for additional washroom fixtures for use by the public. The proposed plumbing fixtures are provided as follows:

- o Ground floor: three (3) water closets and three (3) lavatories for men, three (3) water closets and three (3) lavatories for women, one (1) universal washroom and one (1) barrier-free washroom.
- o Second floor: three (3) water closets and three (3) lavatories for men, three (3) water closets and three (3) lavatories for women and one (1) universal washroom
- o Third floor: one (1) barrier-free washroom.
- o Basement: three (3) existing water closets and three (3) existing lavatories and one (1) barrier-free washroom.

Ontario Building Code Table 3.7.4.3.A – Water Closets for Assembly Occupancies indicates that eight (8) water closets can service 200 females. Sixteen (16) water closets can service over 400 persons. The proposed quantity of washrooms will adequately support the needs of the building occupants.

4. Cost Estimation Summary

A Class D Estimate was prepared by A.W. Hooker Quantity Surveyors based on the architectural, mechanical and electrical conceptual design drawings. Refer to Appendix B for the Class D Estimate Report. The Class D Estimate describes the following building costs (excluding applicable taxes):

- The total estimated construction cost: \$11,963,000 (excluding separate prices).
- The total estimate construction cost including the separate prices described below: \$14,117,000.

- The total estimated construction cost of \$11,963,000, includes the following contingencies:
 - 15% design and pricing contingency at a cost of \$1,170,400.
 - 21.2% escalation contingency of \$1,902,300, assuming construction start of fall 2023.
 - 10% construction contingency of \$1,087,600 for post construction changes.

- The following separate prices are excluded from the total estimated construction cost of \$11,963,000:
 - Separate Price One: \$1,270,000.
 - Description: Ground floor foyer building envelope improvements, including replacement of exterior glazed walls and roof assembly and provision for new curtain wall glazing and a flat roof construction with green roof and outdoor rooftop reading area accessible from the second floor.
 - Separate Price Two: \$229,000.
 - Description: New green roof and outdoor rooftop terrace on the east side of the building and accessible from the second floor.
 - Separate Price Three: \$655,000.
 - Description: Sprinkler the entire building to comply with current Ontario Building Code Classification.
 - Total estimated cost of the Separate Prices is \$2,154,000.

- The total estimated construction cost of \$11,963,000 can be itemized by building level as follows:
 - Basement: \$2,740,000.
 - Ground: \$5,093,000.
 - Second: \$3,290,000.
 - Third: \$840,000.

- The estimated costs described above include only hard construction costs and exclude applicable taxes, soft costs, professional consulting fees, equipment, appliances, furniture and metal shelving costs. In addition, the construction estimate is based on a construction start of Fall 2023. Refer to Appendix B for a complete list of exclusions.

5. Construction Phasing

St. Catharines Public Library requires the construction for the renovation to the Central Library Branch to occur in phases to ensure the building remains operational and to accommodate the appropriate construction funding over several years. The current construction climate indicates that material and labour costs will continue to increase. It is recommended that the renovation occur in the shortest time possible to provide a successful and efficient construction process and that the project be awarded to one General Contractor to ensure continuity of the work. Optimal construction timing would include a period of one to two years of construction to complete the proposed scope of work outlined in the proposed conceptual drawings. The maximum recommended timing for construction would be a phased construction approach over a three-year period from September 2023 to September 2026. A three-year construction period could be phased as follows:

Year One: September 2023 to September 2024.

o Basement Floor:	\$2,740,000
o Separate Price One:	\$1,270,000
o <u>Partial Separate Price Three-Sprinklers:</u>	<u>\$ 105,000</u>
Estimated Total for Phase One:	\$4,115,000

Year Two: September 2024 to September 2025.

o Ground Floor:	\$5,093,000
o <u>Partial Separate Price Three-Sprinklers:</u>	<u>\$ 245,000</u>
Estimated Total for Phase Two:	\$5,338,000

Year Three: September 2025 to September 2026

o Second Floor:	\$3,290,000
o Third Floor:	\$ 840,000
o Separate Price Two:	\$ 229,000
o <u>Partial Separate Price Three-Sprinklers:</u>	<u>\$ 305,000</u>
Estimated Total for Phase Two:	\$4,664,000

Total Estimated Construction Cost: \$14,117,000

*Note: Total estimated construction cost does not include additional escalation costs regarding the time extension of construction phasing.

The described scenario is only one option regarding the required construction phasing plan for the Central Library Renovation. The final construction phasing plan requires further review, discussion and consultation with the Library team to confirm that all requirements are met in the allotted time frame and to align with the appropriate funding available. A detailed construction phasing plan will be developed in the next project phase in collaboration with the Library team.



St. Catharines Public Library
Central Library Branch Renovation

Phase One Conceptual Design Report

Appendix A - Mechanical and Electrical Brief



**St. Catherines Library
Central Branch
54 Church Street
St. Catharines, Ontario**

**Mechanical and Electrical
Design Brief**

Date: September 13, 2022

**Prepared by:
Jain Sustainability Consultants Inc.
7405 East Danbro Crescent
Mississauga, ON, L5N**

GENERAL

1. The building presently in operation as a library and also work as hub for other branches of the City Libraries. The original building was built in 70's with some renovation in 2002.
2. Following is a brief description of the proposed Mechanical and Electrical system for the building:

PLUMBING

1. It appears the plumbing services are serving the building washroom facilities only as no other services like automatic lawn sprinkler system or kids play features are present at the building.
2. The existing cold, hot water supply system will be reused and revised to suit new / renovated washrooms. Due to age of the building, any existing pipe is removed or needs to be relocated, will not be re-used. All new water supply lines will be copper pipe and cast iron pipes for above ground drains and PVC pipes for buried drains.
3. All new plumbing fixtures, will be of low flow, hard wired sensor operated fixtures.
4. The building will remain in operation during the renovation that requires all work to be done in phases. The plumbing services will be disconnected only for the areas to be renovated. The other areas where the fixtures to remain in operation, the plumbing services will be available. If required, a temporary service will be provided to keep plumbing fixtures operational.

FIRE STAND PIPE SYSTEM

1. The building has fire standpipe system with fire hose cabinets. The coverage of each fire hose cabinet will be verified and any deficiency due to renovation a new fire hose cabinet will be provided.

EXISTING HVAC SYSTEMS

HEATING AND AIR-CONDITIONING

1. The building is heated, ventilated and air conditioned using three types of systems:
 - i) Built-up air handling unit (AHU-1) with return air fan (F-1), hot water coil, DX coil serves the basement.

Remote air cooled condensing unit (CU-1) is located on the second floor roof.

13 hot water duct coils are used for zoning.

Another built-up air handling unit (AHU-2) with return air fan (F-2), hot water coil, DX coil serves the atrium.

Remote air cooled condensing unit (CH-2) is located on the second floor roof.

ii) Five roof-top multizone units serves the three floors as follows:

- RT-1 and RT-2 – Serve the ground floor
- RT-3 and RT-4 - Serve the second floor
- RT-5 – Serves the third floor

iii) Single zone RT-6 serves the atrium.

HUMIDIFICATION

1. Six electric steam humidifiers inject steam in the supply air ducts of AHU-1 and RT-1 to RT-5 to provide humidification to the building.

VENTILATION

1. Fresh air is provided to the two AHU's via wall louvers.

Roof-top units are provided with fresh air hoods and dampers.

PROPOSED SYSTEMS

HEATING AND AIR-CONDITIONING

1. Relocation of the existing diffusers and grilles to suit the new layout.
2. Provision of bypass boxes to allow for individual control for private offices.
3. Provision of a roof-top HVAC unit to serve the new vestibule using linear diffusers.
4. Provision of a new roof exhauster for the ground floor public washroom and second floor public washrooms.
5. Ventilation for the new elevator machine room using exhaust wall louvers to the garage.
6. Relocation of the split system serving the computer room in the basement, to air condition the new entrance vestibule.
7. Exhausting the new private washrooms next to the Children's program through a ceiling fan and wall cap.

ELECTRICAL

ELECTRICAL SERVICE

1. The existing electrical service rated 1000Amp at 347/600V will remain but will be modified to suit the renovation scope of work.

POWER DISTRIBUTION SYSTEM

1. New Distribution Transformers and New Panelboards:
 - a) 600/347V equipment (including HVAC) and will be fed from new power distribution panel which will be fed from the main switchboard.
 - b) Distribution transformers (600V/208V) will be provided located in main and sub- electrical rooms/closets.
 - c) Dedicated 120/208V panels for 120/208V typical floor electrical power supplies, mechanical/electrical equipment, receptacles and lighting loads.
2. Wiring shall be minimum #12 AWG insulated copper.
3. A short circuit and coordination study performed by an independent third party is recommended to be included under the base scope.
4. Electrical panel boards, etc. will be with copper bus or as indicated in the tender package.
5. Lighting panels, receptacle panels will be copper bus with bolt-on type circuit breakers.
6. Conceal all conduits except in unfinished areas and service spaces.

GROUNDING

1. Grounding and bonding materials shall be manufactured to CSA C22.2 No. 41 and installed to CSA C22.3 No. 2.

NEW LIGHTING

1. Lighting levels shall be in accordance with IESNA Standards for this type of building and Owner's specific requirements.
2. Interior lighting will generally consist of LED luminaires with colour temperature of 4000K and a CRI of min 85.
3. Luminaires will be selected in accordance with ceiling types, finish, etc. in coordination with the Architect and Owner.
4. Luminaires in all enclosed spaces such as common areas, corridors, storage, service rooms and will be controlled via occupancy sensors with manual override switches unless otherwise requested or noted.
5. Daylight sensors will be provided for control of lighting at building perimeter where ample daylighting is available as per ASHRAE 90.1 requirements.

6. A low voltage relay lighting control system will be provided for lighting in corridors and other common areas.
7. Exit signs shall be energy efficient LED type, green running man with built-in battery unit.
8. Emergency lighting will be provided in accordance with OBC requirements. 120 VAC input, 24 VDC output battery units shall be provided with 7 watt LED, 24 VDC lighting heads spaced throughout means of egress to provide the minimum 0.9 fc or 10 lux as required by code

MISCELLANEOUS ITEMS

1. All power connection for mechanical equipment, etc. will be provided and coordinated by electrical division.
2. Power to barrier-free door operators, etc. will be provided as per the architectural door hardware schedule.
3. Power to infrared-operated plumbing fixtures will be provided as per plumbing design.
4. Electric heaters will be provided as indicated in the Mechanical Section.
5. Call for assistance system c/w push button and horn strobe devices will be provided in Universal (Barrier-free) Washroom per OBC Section 3.8.

Specification grade 15 ampere, 250 volt, grounded duplex receptacles will be provided in addition to the following special receptacles/ devices/connections:

1. Ground fault interrupting receptacles near lavatories in washrooms
2. General purpose (cleaning) receptacles will be provided in Corridors.

TELECOMMUNICATIONS SYSTEM

1. New pathway rough-in infrastructure for a communications system will be provided for this facility based on Owner's requirements. Cables, jacks, racks, patch panel and switches will be under a separate scope/contract.
2. Incoming telecommunication services shall remain.

ACCESS CONTROL AND SECURITY SYSTEM

1. New power provisions and rough-in conduits and back boxes for Access control card readers and electric door strikes will be provided at designated doors as per the architectural door schedule and as required by Owner's Security Consultant/Provider.
2. Rough-in infrastructure for Access control and/or security systems will be provided for this facility based on Owner's requirements. Cables, devices and equipment related for access control and/o security system will be under separate scope/contract.

FIRE ALARM

1. New Fire alarm system will be provided as a fully addressable, single stage, zoned, electrically supervised system conforming to the requirements of all latest editions of OBC and CSA standards.
2. The main Fire Alarm Control Panel will be installed in the Main Electrical Room.
3. The fire alarm annunciator will be installed at the designated fire fighter's entrance.
4. Smoke and heat detectors will be provided for all other areas as required by Codes.
5. Fire alarm horn or combination horn/strobe will be installed in all areas per codes requirements.

END



St. Catharines Public Library
Central Library Branch Renovation

Phase One Conceptual Design Report

Appendix B - Class D Cost Estimate

St. Catharine's Public Library Renovation

Class D Estimate (R.0)

Prepared for:
Ward99 Architects Inc.

Prepared by:



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Oakville, ON L6H 0G5

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September 28, 2022

September 28, 2022
Tina Ranieri-D'Ovidio
7500 Highway 27, Unit 27B
Vaughan, ON, L4H 0J2

Attn: Tina Ranieri-D'Ovidio, Principal

Re: St. Catharine's Public Library Renovation – Class D Estimate (R.0)

Dear Tina,

Please find enclosed our Class D Estimate (R.0) for the above project. The estimate is based on design drawings and information provided by Ward99 Architect received on August 29, 2022, and September 14, 2022.

This estimate is meant to reflect the fair market value for the construction of this project; it is not intended to be the prediction of the lowest bid and should be representative of the median bid amount received in a competitive bidding scenario.

We recommend that the owner and/or the design team carefully review the cost estimate report, including line item descriptions, unit price clarifications, exclusions, inclusions and assumptions, contingencies, escalation, and mark-ups. This is to ensure that the design intent is captured within the content of the report.

Please refer to the preamble of our cost report for all exclusions, assumptions, and information pertaining to the estimate.

Requests for modifications of any apparent errors or omissions to this document must be made to A.W. Hooker Associates Ltd. within ten (10) business days of receipt of this estimate. Otherwise, it will be understood that the contents in this estimate have been concurred with and accepted as final version of the cost report.

We trust our work will assist in the decision making process and look forward to our continued involvement in this important project.

Sincerely,
A.W. Hooker Associates Ltd



Jeremy Smith, PQS, CET
Senior Quantity Surveyor

Sincerely,
A.W. Hooker Associates Ltd



Stew Kyle, PQS, CET
Partner

Encl. (Class D Estimate (R.0) – September 28, 2022)

Table of Contents

1. Introduction to the Estimate	2
1.1 Project Description	2
1.2 Type of Estimate	3
2. Basis of the Estimate	3
2.1 General Information	3
2.2 Location Cost Base	3
2.3 Unit Rates.....	4
2.4 Taxes.....	4
2.5 Construction Schedule	4
2.6 General Requirements and Fees	4
2.7 Bonding and Insurance	4
2.8 Procurement.....	4
2.9 Specifications	5
2.10 Soft Costs.....	5
3. Contingencies	5
3.1 Design and Pricing Contingency	5
3.2 Escalation Contingency.....	5
3.3 Construction Contingency (Post Contract Changes)	5
4. General Liability	6
4.1 Statement of Probable Costs.....	6
4.2 Ongoing Cost Control.....	6
5. Estimate Scope Clarifications	6
5.1 List of Exclusions	6
5.2 List of Assumptions	7
6. Documentation Received	8
7. Gross Floor Area Summary	8
7.1 Summary of Renovation Construction Area	8
7.2 Gross Floor Areas (graphical representations)	9
8. Elemental Estimate	A1 – A30

1. Introduction to the Estimate

1.1 Project Description

Central Branch is a renovation of 3 existing floors and basement staff area and an expansion (GFA not building area) of the ground floor. Note the following:

Basement Scope of Work:

- Complete demolition of interiors and Interior Renovation to occupied staff space.
- Small expansion to basement entry lobby from the parking garage (must be fire-rated).
- New elevator adjacent to existing elevator to provide access to all floors.
- Dumbwaiter and book return chute to be demolished and floor openings to be filled with new floor assembly.
- Two existing stairs in the basement to be demolished and ground floor opening covered with new floor assembly.
- New stair and floor opening to be provided to access the second floor.
- Renovation to ceilings, walls and flooring throughout. Provide acoustic ceiling tile assemblies (refer to RCP) and carpet flooring, except for porcelain at washrooms.
- Existing parking garage is sprinklered. Basement occupied space is not sprinklered.
- Refresh of existing washrooms and staff lounge.

Ground Floor Scope of Work:

- Complete demolition of interiors and Interior Renovation to entire floor; new open space, new staff areas, new program rooms, new washrooms, new entry.
- Small expansion to ground floor below second floor to provide for the new entry from Church Street and washrooms (refer to plans and interior elevations and renderings). Provide new curtain wall framing with IGU, new entry vestibule, new exterior signage and logo wall covering.
- New canopy at new Church street entrance.
- Expansion at ground floor main entrance to provide for a glazed vestibule and new canopy.
- New elevator adjacent to existing elevator to provide access to all floors.
- Dumbwaiter to be demolished and floor opening to be filled with new floor assembly.
- New fire-rated glazed enclosure at new stair from the basement.
- Renovation to ceilings, walls and flooring throughout. Provide new ceiling assemblies (refer to RCP) and carpet flooring, except for porcelain at washrooms and at main entry areas and pathway.
- Entry lobby – new barrier-free ramp and provide raised floor to cover sunken floor and to make the entire ground floor one level.
- Ground Floor Separate Price Required: At the main entry and lobby area: Provide new flat roof with green roof and second floor outdoor reading terrace to replace existing sloped glazed roof. Replace with new curtain wall framing with IGU at ground floor Lobby walls. As part of this separate price, additional costs for structural works will need to be included to support this new roof (down to the renovated basement).

Second Floor Scope of Work:

- Complete demolition of interiors and Interior Renovation to entire floor; new open space, new staff areas, new glazed program rooms, new washrooms, new counters around existing floor openings.
- Provide an allowance for decorative wall feature (refer to interior renderings) off the double height atrium.
- New elevator adjacent to existing elevator to provide access to all floors.
- Dumbwaiter to be demolished and floor opening to be filled with new floor assembly.
- Renovation to ceilings, walls and flooring throughout. Provide new ceiling assemblies (refer to RCP) and carpet flooring, except for porcelain at washrooms.
- Second Floor Separate Price Required: Provide new green roof and outdoor reading terrace to replace existing flat roof (adjacent to glazed program rooms).

Third Floor Scope of Work:

- Complete demolition of interiors and Interior Renovation to entire floor; new open space, new glazed program rooms, new washroom.
- New elevator adjacent to existing elevator to provide access to all floors.
- Renovation to ceilings, walls and flooring throughout. Provide new ceiling assemblies (refer to RCP) and carpet flooring, except for porcelain at washrooms.

General Scope:

- Furniture and equipment N.I.C.
- Library shelving: Provide an allowance for new metal book stacks.
- Include an allowance for interior signage.
- Include an allowance for inspection and testing during construction.

1.2 Type of Estimate

This Class D Estimate is intended to establish a realistic elemental estimate of the hard construction costs based on the level of design information provided. Detailed quantities have been measured from drawings where possible for the proposed building (excluding site). This estimate reflects our opinion as to the fair market value for the hard construction of this project.

The accuracy of the estimate is based on the documentation provided and design stage is intended to be +/- 20%. This accuracy is based on the definition for Estimate Classifications (Class D) outlined in the *Guide to Cost Predictability in Construction prepared by the Joint Federal Government & an Industry Cost Predictability Taskforce. Contingencies are included to offset the accuracy risk, to the extent that the estimated amount represents the current opinion of the likely fair market value at the time of tender.

The intention of the estimate is not to predict the low bid price received; typically based on historical tender results estimates are more likely to be towards the median value of bids received under competitive conditions. This is a deliberate methodology due to the inherent risk in attempting to predict the low bid and numerous factors which can contribute to lower than anticipated tender submissions which are beyond our control.

*Reference: http://www.cca-acc.com/pdfs/en/CCA/Guide_to_Cost_Predictability.pdf

2. Basis of the Estimate

2.1 General Information

From the design information provided, we have measured quantities where possible and applied typical unit rates for each of the specific elements based on the project specifications. Where specific design information has not been provided, unit rates are based on historical cost data for this type of project. In some instances where design information is limited, we have made reasonable assumptions based on our experience with projects of a similar scope and design. Estimates for mechanical and electrical systems are developed based on information prepared by the project engineers.

Significant changes to the basis of design will impact the estimate value; this is particularly critical where changes are made after the final estimate prior to tender. We recommend that all major design or scope changes be reviewed for their cost, time and constructability impact prior to incorporation in a finalized tender package.

2.2 Location Cost Base

The location cost base for this estimate is St. Catharines, Ontario.

2.3 Unit Rates

The unit rates in the preparation of the elemental estimate include labour and material, equipment, and subcontractors overheads and profits. We have assumed for pricing purposes that non-union contractors would perform the work. We have assumed the fair wage policy would be in effect. The unit rates for each of the elements are based on typical mid-range costs for the type of design, construction, and materials proposed.

Unit rates in all estimates combine the material, labour, and equipment components for a single unit cost for ease of presentation. This estimate is not a prediction of low bid. Pricing assumes competitive bidding for every aspect of the work.

2.4 Taxes

Harmonized Sales Tax (HST) is excluded from our estimate.

2.5 Construction Schedule

The estimate has been prepared on the assumption that the work will be performed within the timelines of a 3-year phased construction schedule. The duration of the schedule would be based on the work being performed during regular daytime work hours. We have assumed the structural components of the building would be constructed in predominantly non-winter months. No allowances have been included for premium time and after hours work associated with an accelerated construction schedule.

2.6 General Requirements and Fees

The General Requirements for the General Contractor are included as a percentage of the hard construction cost. This estimate of the prime contractor's site overheads includes site supervision and labour, access to the site, site accommodations, site protection, temporary utilities, clean up, equipment, and other miscellaneous project requirements provided by the General Contractor.

The Fee element of the estimate is meant to cover the General Contractor's fee to perform the work. The fee would be based on the competitive nature of the bidding process and the market conditions at the time of tender.

2.7 Bonding and Insurance

We have included the median estimated costs for 50% Performance, 50% Labour and Materials, and 10% bid bonds. These are the traditional bonding requirements commonly requested by the owner. The actual final bonding costs will vary depending on the selected contractors' performance history.

The estimate includes an allowance for general liability and builder's risk insurance based on an average cost per \$1,000 of estimated hard construction costs. The actual insurance costs would be subject to the insurance requirements for the project.

2.8 Procurement

It was assumed for the preparation of this estimate that the project would be tendered to a prequalified list of bidders with a project specific lump sum contract. Pricing is based on competitive tender results with a minimum of four (preferably six tender submissions) at general contractor and major trade level. Pre-qualification with a restrictive list of contractors or subcontractors may result in a higher tendered cost due to the inherent reduction in competitiveness. Tenders receiving two or less submissions (occasionally three) historically tend to have a much higher risk of an overrun in cost when compared to the budget established in an estimate. Ensuring adequate bonafide bidders is a prerequisite for competitive bidding scenarios, on which the estimate is predicated.

2.9 Specifications

As detailed and comprehensive specifications are unavailable, we have assumed that no onerous special requirements will be applicable to this project. It was assumed that all materials and equipment could be substituted with an alternative product to avoid sole-sourcing which results in a non-competitive market condition.

2.10 Soft Costs

The estimated soft costs have been excluded from this estimate.

These costs include items traditionally funded by the owner and separate from the hard construction costs which would be applicable to the contractor. The soft costs include items such as consultant fees; disbursements; project management fees; independent inspection and testing; third party commissioning; legal fees; permits and development charges; operational and moving expenses; financing and loan fees; owner supplied furnishings, fixtures, and equipment; land acquisition costs; and Harmonized Sales Tax.

3. Contingencies

3.1 Design and Pricing Contingency

A design and pricing contingency of **15%** has been included in the estimate as a percentage of the hard construction costs including the general requirements and fees. This contingency is meant to cover design and pricing unknowns in the preparation of this estimate and reflect the incomplete nature of the design information provided at the time the estimate is prepared.

The contingency where included in our estimate is not meant to cover significant additional program space or quality modifications, but rather to provide some flexibility as the design develops. The design contingency typically decreases as the design progresses and more definition and detail is available to refine the basis of the cost estimate. If the owner anticipates significant changes to the basis of design we recommend additional contingency be retained as a reserve for the scope modifications.

3.2 Escalation Contingency

The estimate includes an allowance for escalation. This allowance of is meant to provide for increases in construction costs due to changes in market conditions between the time of the estimate and the potential construction commencement. For projects with a schedule in excess of 12 months, the contingency is based on a timeframe that takes escalation to the midpoint of the construction phase.

Escalation Contingency		
Assumed Tender Date	-	Sept (Q3) 2023
Escalation % per annum	-	8.0%
Total % Escalation	-	21.2%

Escalation during construction is included in the unit rates; essentially this allowance is the risk carried by the general contractor and trades with a fixed price made years before the work is completed or carried out for some trades.

3.3 Construction Contingency (Post Contract Changes)

The estimate includes a contingency for the construction phase of the project. This contingency is meant to cover the potential cost of post contract changes that may occur after the project is tendered. This allowance of **10%** is to provide for increases in construction costs due to Change Orders issued during construction. This contingency excludes any major program or scope requests by the client; these should form part of an overall project management reserve or be reflected in increased funding.

4. General Liability

4.1 Statement of Probable Costs

A.W. Hooker Associates Ltd. (HOOKER) has no control over the cost of labour and materials, the general contractors or any subcontractors' methods of determining prices, or competitive bidding and market conditions. This opinion of probable cost of construction is based on the experience, qualifications, and best judgment of the professional consultant familiar with the construction industry. HOOKER does not warranty that proposals or actual construction costs will not vary from this or subsequent estimates.

4.2 Ongoing Cost Control

A.W. Hooker Associates Ltd. **recommends** that the owner and/or the design team carefully review the cost estimate report, including line item descriptions, unit price clarifications, exclusions, inclusions and assumptions, contingencies, escalation, and mark-ups. This is to ensure that the design intent is captured within the content of the report. This is especially important at early stage estimates which tend to be based on a lesser level of design completion.

If the project is over budget or there are unresolved budget issues, alternative systems or schemes should ideally be evaluated before proceeding with the design phase. We recommend that cost control be implemented throughout the various stages of the design process to ensure the proposed design remains within the overall budget. It is recommended that the final estimate be produced by HOOKER using Bid Documents to determine overall cost changes, which may have occurred since the preparation of this estimate. The final update estimate will address changes and additions to the documents as well as addenda issued during the bidding process. HOOKER cannot reconcile bid results to any estimate not produced from bid documents including all addenda.

5. Estimate Scope Clarifications

5.1 List of Exclusions

1. Harmonized Sales Tax (HST)
2. Project Soft Costs (as described in item 2.10 above)
3. Furniture, furnishings, and equipment (except as noted in the estimate)
4. Premium time / after hours work
5. Accelerated construction schedule
6. Handling and removal of contaminated soils
7. Special foundation systems such as caissons or pile foundations
8. Premium for construction management or alternate approaches to procurement
9. Sole sourced equipment or building control systems
10. Security and Communications Equipment & Cabling; estimate includes empty conduit only
11. Building permit
12. Landscaping/siteworks

5.2 List of Assumptions

Architectural / Structural:

1. Work to be completed in phases per floor during regular working hours, starting with the basement.
2. Allowance to make good slab on grade where effected by new elevator construction.
3. New stairs to be metal pan concrete filled.
4. Exterior wall assembly has been assumed to match existing.
5. Allowance for exterior signage and logo has been included.
6. Cash allowances have been included. Refer to detailed estimate.

Mechanical:

7. Work will be conducted by fair wage contractor generally during regular working hours.
8. Allowance is included for plumbing fixtures of premium commercial quality.
9. Refer to estimate for scope specific assumptions.
10. No modifications to fire protection have been included in the estimate.
11. Assume controls are standalone type.

Electrical:

12. Work will be performed during regular working hours.
13. Existing main service will require remedial work to accommodate renovation requirements.
14. Upgrade to existing building grounding system has been included.
15. An allowance for third-party short circuit and coordination study has been included.
16. New lighting fixtures will be energy efficient dimmable LEDs.
17. Fire alarm will be addressable single stage.
18. Supply, programming, and installation of security equipment has been included.
19. Refer to estimate for further assumption of scope.

General:

20. Various assumptions have been made based on the design information available and our experience with projects of a similar nature. Please refer to the specific items within the estimate for the detailed assumptions made.

6. Documentation Received

Drawings and design documentation were prepared by the following consultants:

Pages	Documentation Received	Documentation Issued
6 Pages	St. Catherines Library – M&E Design Brief	September 14, 2022
12 Pages	Rendering(interior and exterior)_St. Catherines Lib 20220826s prepared by Ward99 Architects Inc	August 29, 2022
2 Dwgs	St. Catharine's Library_PDF's-2022.08.26 prepared Ward99 Architects Inc	August 29, 2022
9 Dwgs	St. Catharines Library-Mechanical Drawings-Schematic-R prepared by Jain	September 19, 2022
9 Dwgs	St. Catharines Library-Electrical Drawings-Schematic prepared by Jain	September 19, 2022

7. Gross Floor Area Summary

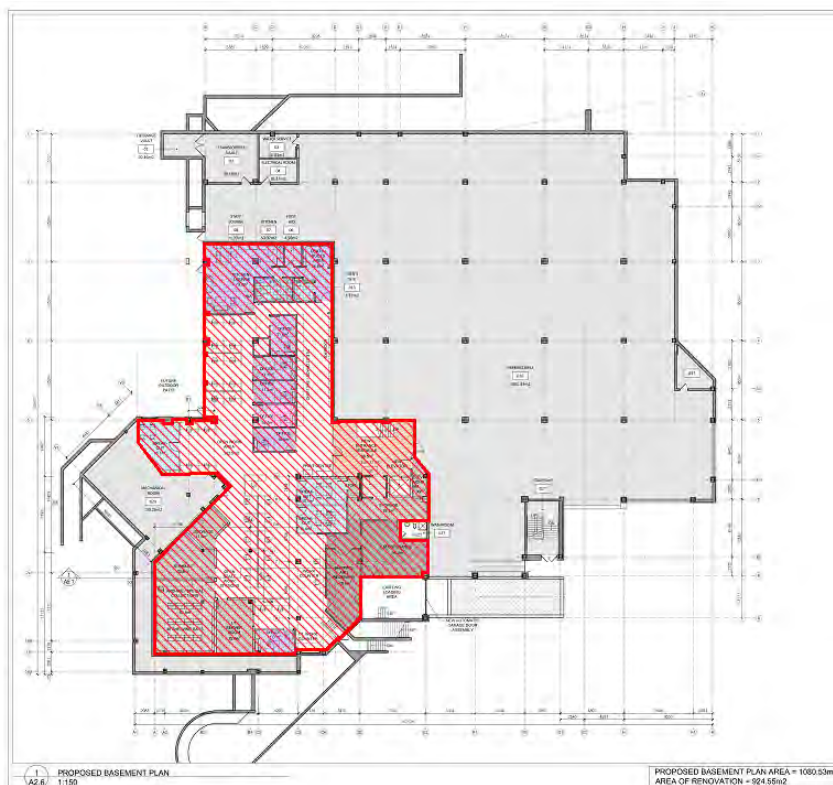
The following gross floor areas of renovation construction have been measured from floor plan drawings. The areas were measured electronically with a digitizer and checked longhand by dimensioning and scaling. The gross area calculations were performed in accordance with the Standard Method of Measurement published by the Canadian Institute of Quantity Surveyors.

7.1 Summary of Renovation Construction Area

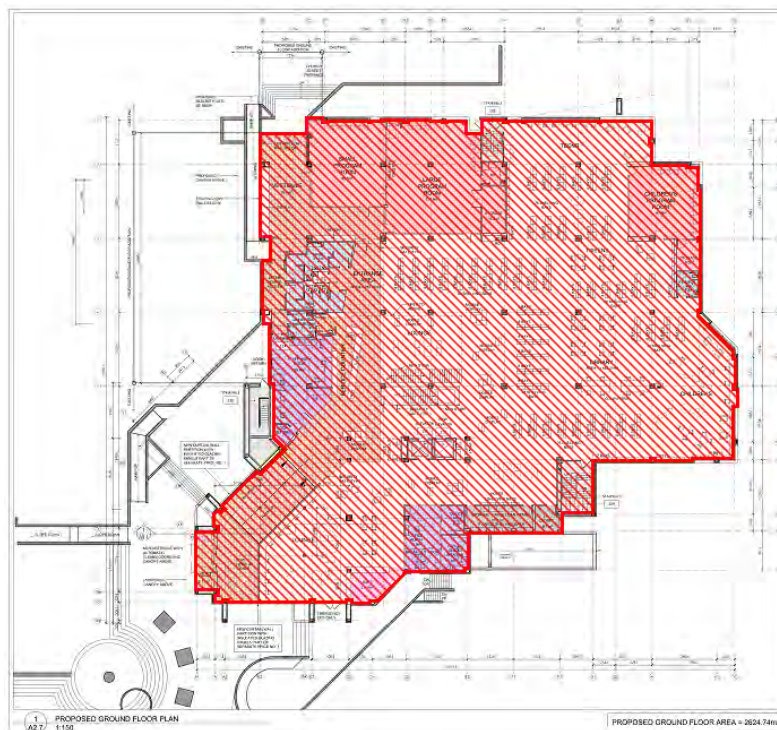
Area Description	Gross Floor Area
Basement Level	877
Ground	2,538
Second	1,915
Third	372
Total Gross Floor Area (square meters)	5,702
Total Gross Floor Area (square feet)	61,376

7.2 Gross Floor Areas (graphical representations)

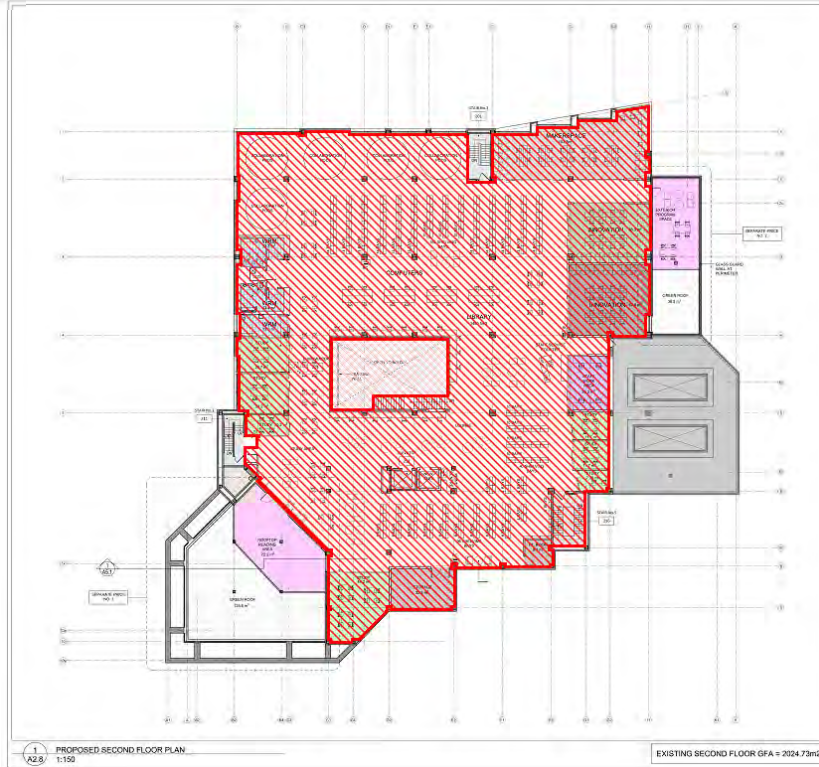
Basement Level



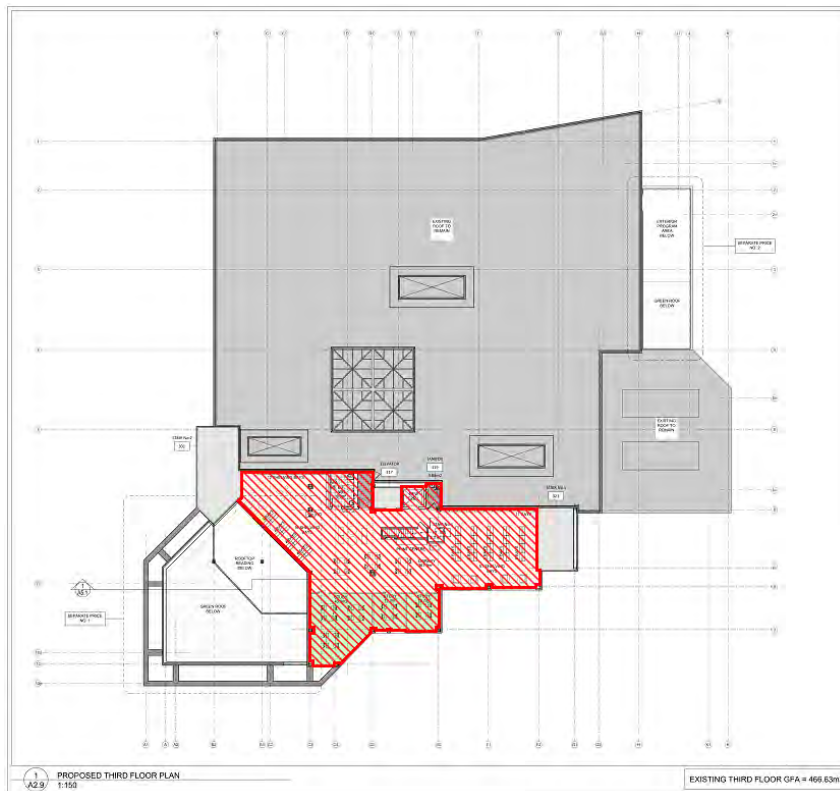
Ground Floor



Second Floor



Third Floor



MASTER ESTIMATE SUMMARY
ST. CATHARINE'S PUBLIC LIBRARY RENOVATION
 CLASS D ESTIMATE (Rev.0)
 AUGUST 28, 2022

Hard Construction Costs		GFA (m2)	Unit (Cost/m2)	Sub Total	Estimated Total	% of Total
1	Building Shell	5,702	\$69.03		\$393,600	3.3%
	- Sub Structure		\$4.38	\$25,000		
	- Structure		\$13.61	\$77,600		
	- Exterior Enclosure		\$51.03	\$291,000		
2	Building Interiors	5,702	\$507.08		\$2,891,389	24.2%
	- Partitions and Doors		\$212.69	\$1,212,773		
	- Finishes		\$157.95	\$900,656		
	- Fittings and Equipment		\$136.44	\$777,960		
3	Mechanical	5,702	\$58.46		\$333,325	2.8%
	- Plumbing and Drainage		\$42.11	\$240,100		
	- Fire Protection		\$0.00	\$0		
	- Heating, Ventilation, Air Conditioning		\$15.38	\$87,725		
	- Controls		\$0.96	\$5,500		
4	Electrical	5,702	\$366.42		\$2,089,339	17.5%
	- Service and Distribution		\$64.96	\$370,394		
	- Lighting, Devices, and Heating		\$178.27	\$1,016,467		
	- Systems and Ancillaries		\$123.20	\$702,478		
5	Site Work	5,702	\$0.00		\$0	0.0%
	- Site Development (prep, surfaces, landscaping)		\$0.00	\$0		
	- Mechanical Site Services		\$0.00	\$0		
	- Electrical Site Services		\$0.00	\$0		
6	Ancillary Work	5,702	\$66.71		\$380,365	3.2%
	- Demolition		\$66.71	\$380,365		
	- Alterations		\$0.00	\$0		
7	Contractor's General Requirements	10.0%	5,702	\$235.50	\$1,342,800	11.2%
8	Contractor's Fees (OH&P)	5.0%	5,702	\$65.24	\$372,000	3.1%
9	Design & Pricing Contingency	15.0%	5,702	\$205.26	\$1,170,400	9.8%
Sub Total (current dollars)		5,702	\$1,573.66		\$8,973,000	
10	Escalation Contingency	21.2%	5,702	\$333.62	\$1,902,300	15.9%
Sub Total (including escalation to SEPT (Q3) 2023)		5,702	\$1,907.23		\$10,875,000	
11	Construction Contingency (Post Contract Changes)	10.0%	5,702	\$190.74	\$1,087,600	9.1%
Total Estimated Hard Construction Cost		5,702	\$2,098.04		\$11,963,000	
Imperial Conversion		61,376	\$194.91		Per SF	

Estimated Construction Costs (Breakdown by Major Component)		GFA m2	Unit Cost/m2	Estimated Total	% of Total
1	Building	5,702	\$1,967.03	\$11,216,000	93.8%
2	Alterations and Demolition	5,702	\$131.01	\$747,000	6.2%
3	Site Work (including M&E site services)	0	\$0.00	\$0	0.0%
4	Soft Costs	5,702	\$0.00	Excluded	0.0%
Total Estimated Hard and Soft Construction Costs		5,702	\$2,098.04	\$11,963,000	
Imperial Conversion		61,376	\$194.91	Per SF	

ITEMIZED AND SEPARATE ESTIMATE SUMMARY
ST. CATHARINE'S PUBLIC LIBRARY RENOVATION
 CLASS D ESTIMATE (Rev.0)
 AUGUST 28, 2022

No.	Description	Quant.	Unit	Rate	Sub Total
Itemized Estimates: (Included Above)					
<i>The Itemized costs listed below are INCLUDED in our estimate. The amount identified for each item is inclusive of all mark ups on a prorated basis (General Requirements, Fee and Contingencies).</i>					
1	Basement	877	m2	\$3,124.29	\$2,740,000
2	Ground Floor	2,538	m2	\$2,006.70	\$5,093,000
3	Second Floor	1,915	m2	\$1,718.02	\$3,290,000
4	Third Floor	372	m2	\$2,258.06	\$840,000
Sub Total of Itemized Estimates					\$11,963,000
Separate Estimates: (Not Included Above)					
<i>The Separate costs listed below are EXCLUDED from our estimate. The amount identified for each item is inclusive of all mark ups on a prorated basis (General Requirements, Fee and Contingencies).</i>					
Main lobby: remove existing glass roof and provide new roof structure and green roof					
1	and provide new curtain wall at lobby				\$1,270,000
2	Second Floor: provide new green foor and outdoor reading terrace to replace existing				\$229,000
3	Sprinkler the entire building				\$655,000
Sub Total of Separate Estimates					\$2,154,000

MECHANICAL ESTIMATE SUMMARY
ST. CATHARINE'S PUBLIC LIBRARY RENOVATION
 CLASS D ESTIMATE (Rev.0)
 AUGUST 28, 2022

Gross Floor Area **5,702 m2**

Description Element\Sub-Element	Specialty Sub Break down	Sub Element Total	Element Total	\$ per m2 Sub Element	\$ per m2 Element	% Element
C1 Mechanical						
C1.1 Plumbing & Drainage			\$240,100	\$42.11	72.0%	
C1.11 - Plumbing Fixtures		\$101,750		\$17.84		
C1.12 - Domestic Water		\$42,600		\$7.47		
C1.13 - Sanitary Waste & Vent		\$50,150		\$8.80		
C1.14 - Storm		\$0		\$0.00		
C1.15 - Natural Gas		\$0		\$0.00		
C1.16 - Specialty Systems:		\$14,600		\$2.56		
- C1.16.1 - Medical Gases	\$0					
- C1.16.2 - Fine Gases	\$0					
- C1.16.3 - Compressed air	\$0					
- C1.16.4 - Vacuum	\$0					
- C1.16.5 - Oil Storage and Transfer System	\$0					
- C1.16.6 - Purified Water System	\$0					
- C1.16.7 - Specialty Drainage	\$0					
- C1.16.8 - Selective / General Demolition	\$14,600					
C1.17 - Miscellaneous Works and General Accounts		\$31,000		\$5.44		
C1.2 Fire Protection			\$0	\$0.00	0.0%	
C1.21 - Standpipe		\$0		\$0.00		
C1.22 - Sprinklers		\$0		\$0.00		
C1.23 - Specialty Systems		\$0		\$0.00		
C1.24 - Fire Extinguisher		\$0		\$0.00		
C1.25 - Miscellaneous Works and General Accounts		\$0		\$0.00		
C1.3 Heating, Ventilation & Air Conditioning			\$87,725	\$15.38	26.3%	
C1.31 - Liquid Heat Transfer (Heating)		\$0		\$0.00		
C1.32 - Liquid Heat Transfer (Cooling)		\$3,500		\$0.61		
C1.33 - Steam and Condensate		\$0		\$0.00		
C1.34 - Air Distribution		\$49,750		\$8.73		
C1.35 - Exhaust Systems		\$17,650		\$3.10		
C1.36 - Specialty Systems		\$0		\$0.00		
C1.37 - Support Systems and Works		\$4,825		\$0.85		
- C1.37.1 - Noise and Vibration Isolation	\$1,200					
- C1.37.2 - Mechanical Wiring and Starters	\$0					
- C1.37.3 - Balancing and Commissioning	\$2,500					
- C1.37.4 - Heat recovery Systems	\$0					
- C1.37.5 - Laboratory Exhaust Systems	\$0					
- C1.37.6 - Generator Support	\$0					
- C1.37.7 - Humidification	\$0					
- C1.37.8 - Selective Demolition	\$1,125					
C1.38 - Miscellaneous Works and General Accounts		\$12,000		\$2.10		
C1.4 Controls			\$5,500	\$0.96	1.7%	
C1.41 - Controls and Automation		\$5,500		\$0.96		
C1.42 - Miscellaneous Works and General Accounts		\$0		\$0.00		
Total Building (C1) Mechanical			\$333,325	\$58.46 Per m2		
Imperial Conversion		61,376 SF		\$5.43 Per SF		

ELECTRICAL ESTIMATE SUMMARY
ST. CATHARINE'S PUBLIC LIBRARY RENOVATION
 CLASS D ESTIMATE (Rev.0)
 AUGUST 28, 2022

Gross Floor Area **5,702 m2**

Description Element\Sub-Element	Sub Element Total	Element Total	\$ per m2 Sub Element	\$ per m2 Element	% Element
C2 Electrical					
C2.1 Service & Distribution		\$370,394		\$64.96	17.7%
C2.11 - Main Service	\$24,400		\$4.28		
C2.12 - Emergency Power	\$0		\$0.00		
C2.13 - Distribution	\$102,636		\$18.00		
C2.14 - Feeders	\$71,845		\$12.60		
C2.15 - Motor Controls & Wiring	\$85,530		\$15.00		
C2.16 - Miscellaneous	\$28,400		\$4.98		
C2.17 - Electrical Contractors Overhead	\$57,583		\$10.10		
C2.2 Lighting, Devices & Heating		\$1,016,467		\$178.27	48.7%
C2.21 - Lighting	\$656,476		\$115.13		
C2.22 - Branch Devices & Wiring	\$216,666		\$38.00		
C2.23 - Heating	\$0		\$0.00		
C2.24 - Electrical Contractors Overhead	\$143,325		\$25.14		
C2.3 Systems & Ancillaries		\$702,478		\$123.20	33.6%
C2.31 - Fire Alarm System	\$142,550		\$25.00		
C2.32 - Security System	\$85,530		\$15.00		
C2.33 - Communications	\$213,864		\$37.51		
C2.34 - P.A. System	\$125,444		\$22.00		
C2.35 - Miscellaneous	\$21,610		\$3.79		
C2.36 - Electrical Contractors Overhead	\$113,480		\$19.90		
Total Building (C2) Electrical		\$2,089,339		\$366.42 Per m2	
Imperial Conversion		61,376 SF		\$34.04 Per SF	

ELEMENTAL SUMMARY
ST. CATHARINE'S PUBLIC LIBRARY RENOVATION
 CLASS D ESTIMATE (Rev.0)
 AUGUST 28, 2022

Gross Floor Area **5,702 m2**

Description Element/Sub-Element	Ratio	Quantity	Unit	Unit Rate	Elemental Cost		\$ per m2 Sub Element	\$ per m2 Element	%
					Sub Element	Element Total			
A. SHELL									
A1. Sub-Structure						\$25,000		\$4.38	0.2%
A1.1 Foundations	0.15	877	m2	\$28.51	\$25,000		\$4.38		
A1.2 Basement Excavation	0.00	0	m2	\$0.00	\$0		\$0.00		
A2. Structure						\$77,600		\$13.61	0.6%
A2.1 Lowest Floor Construction	0.15	877	m2	\$5.70	\$5,000		\$0.88		
A2.2 Upper Floor Construction	0.02	116	m2	\$625.86	\$72,600		\$12.73		
A2.3 Roof Construction	0.00	0	m2	\$0.00	\$0		\$0.00		
A3. Exterior Enclosure						\$291,000		\$51.03	2.4%
A3.1 Walls Below Grade	0.00	0	m2	\$0.00	\$0		\$0.00		
A3.2 Walls Above Grade	0.00	28	m2	\$3,342.86	\$93,600		\$16.42		
A3.3 Windows & Entrances	0.00	10	m2	\$4,397.61	\$43,400		\$7.61		
A3.4 Roof Finish	0.00	0	m2	\$0.00	\$0		\$0.00		
A3.5 Projections	1.00	5,702	m2	\$27.01	\$154,000		\$27.01		
B. INTERIORS									
B1 Partitions & Doors						\$1,212,773		\$212.69	10.1%
B1.1 Partitions	0.51	2,916	m2	\$322.06	\$939,123		\$164.70		
B1.2 Doors	0.03	159	m2	\$1,721.07	\$273,650		\$47.99		
B2 Finishes						\$900,656		\$157.95	7.5%
B2.1 Floor Finishes	0.95	5,439	m2	\$72.37	\$393,633		\$69.03		
B2.2 Ceiling Finishes	0.95	5,439	m2	\$77.74	\$422,855		\$74.16		
B2.3 Wall Finishes	1.23	7,014	m2	\$12.00	\$84,168		\$14.76		
B3 Fittings & Equipment						\$777,960		\$136.44	6.5%
B3.1 Fittings & Fixtures	1.00	5,702	m2	\$48.75	\$277,960		\$48.75		
B3.2 Equipment	0.00	0	m2	\$0.00	\$0		\$0.00		
B3.3 Conveying Systems	1.00	5,702	m2	\$87.69	\$500,000		\$87.69		
C. SERVICES									
C1 Mechanical						\$333,325		\$58.46	2.8%
C1.1 Plumbing & Drainage	1.00	5,702	m2	\$42.11	\$240,100		\$42.11		
C1.2 Fire Protection	0.00	0	m2	\$0.00	\$0		\$0.00		
C1.3 HVAC	1.00	5,702	m2	\$15.38	\$87,725		\$15.38		
C1.4 Controls	1.00	5,702	m2	\$0.96	\$5,500		\$0.96		
C2 Electrical						\$2,089,339		\$366.42	17.5%
C2.1 Service & Distribution	1.00	5,702	m2	\$64.96	\$370,394		\$64.96		
C2.2 Lighting, Devices & Heating	1.00	5,702	m2	\$178.27	\$1,016,467		\$178.27		
C2.3 Systems & Ancillaries	1.00	5,702	m2	\$123.20	\$702,478		\$123.20		
D. SITE & ANCILLARY WORK									
D1 Site Work						\$0		\$0.00	0.0%
D1.1 Site Development	1.00	5,702	m2	\$0.00	\$0		\$0.00		
D1.2 Mechanical Site Services	0.00	0	m2	\$0.00	\$0		\$0.00		
D1.3 Electrical Site Services	0.00	0	m2	\$0.00	\$0		\$0.00		
D2 Ancillary Work						\$380,365		\$66.71	3.2%
D2.1 Demolition	1.00	5,702	m2	\$66.71	\$380,365		\$66.71		
D2.2 Alterations	0.00	0	m2	\$0.00	\$0		\$0.00		
Z. GENERAL REQUIREMENTS & CONTINGENCIES									
Z1 General Requirements & Fees						\$1,714,800		\$300.74	14.3%
Z1.1 General Requirements	1.00	5,702	m2	\$235.50	\$1,342,800		\$235.50		
Z1.2 Fees	1.00	5,702	m2	\$65.24	\$372,000		\$65.24		
Z2 Allowances						\$4,160,300		\$729.62	34.8%
Z2.1 Design & Pricing Contingency	1.00	5,702	m2	\$205.26	\$1,170,400		\$205.26		
Z2.2 Escalation Contingency	1.00	5,702	m2	\$333.62	\$1,902,300		\$333.62		
Z2.3 Construction Contingency	1.00	5,702	m2	\$190.74	\$1,087,600		\$190.74		
TOTAL ESTIMATED CONSTRUCTION COST (nearest ,000)						\$11,963,000		\$2,098.06	100.0%

No.	Description	Quant.	Unit	Rate	Sub Total	Total
A. SHELL						
<u>A1.1 SUB-STRUCTURE - Foundations</u>						
<u>A1.11 - Standard Foundations</u>						
<u>Basement</u>						
1	Elevator foundations including:	1	NO	\$25,000.00	\$25,000	
1.1	- excavation, backfill and dispose of excavated material					
1.2	- concrete pad footing					
1.3	- concrete pit walls with waterproofing membrane					
<u>A1.12 - Special Foundations</u>						
2	NIL					
TOTAL FOR SUB-STRUCTURE - Foundations		0.15	877 m2	\$28.51	\$25,000	
<u>A2.1 STRUCTURE - Lowest Floor Construction</u>						
<u>Basement</u>						
3	Make good slab on grade effected by new elevator pit	1	LS	\$5,000.00	\$5,000	
TOTAL FOR STRUCTURE - Lowest Floor Construction		0.15	877 m2	\$5.70	\$5,000	
<u>A2.2 STRUCTURE - Upper Floor Construction</u>						
<u>A2.21 - Upper Floor Construction</u>						
<u>Ground Floor</u>						
4	Infill opening where book return chute was removed on ground floor	1	NO	\$3,500.00	\$3,500	
5	Infill opening where book return chute was removed on second floor	1	NO	\$3,500.00	\$3,500	
6	Infill upper floor construction where stairs were removed	12	m2	\$500.00	\$6,000	
7	Framed up infill at ground floor lobby	116	m2	\$250.00	\$29,000	
8	Extra over for ramp	54	m2	\$50.00	\$2,700	
<u>A2.22 - Stair Construction</u>						
<u>Ground Floor</u>						
9	Metal pan concrete filled stairs basement to ground	22	m	\$450.00	\$9,900	
10	Metal pan concrete filled stairs ground to second	40	m	\$450.00	\$18,000	
TOTAL FOR STRUCTURE - Upper Floor Construction		0.02	116 m2	\$625.86	\$72,600	

No.	Description	Quant.	Unit	Rate	Sub Total	Total
<u>A3.2 EXTERIOR ENCLOSURE - Walls Above Grade</u>						
<u>A3.21 - Walls Above Grade</u>						
<u>Ground Floor</u>						
11	Exterior wall including:	28	m2	\$700.00	\$19,600	
11.1	- composite panel cladding with z-clips					
11.2	- vapour barrier					
11.3	- exterior sheathing					
11.4	- structural steel studs					
11.5	- gypsum board					
12	Allowance for exterior signage and logo wall covering	1	LS	\$25,000.00	\$25,000	
<u>A3.22 - Structural Walls Above Grade</u>						
13	NIL					
<u>A3.23 - Glazed Curtain Wall</u>						
<u>Ground Floor</u>						
14	Aluminum framed curtain wall system, assumed double glazed, low e coating, and argon filled	35	m2	\$1,400.00	\$49,000	
TOTAL FOR EXT. ENCLOSURE - Walls Above Grade		0.00	28	m2	\$3,342.86	\$93,600
<u>A3.3 EXTERIOR ENCLOSURE - Windows & Entrances</u>						
<u>A3.31 - Windows & Louvers</u>						
<u>Ground Floor</u>						
15	Aluminum framed windows, assumed double glazed, low e coating, and argon filled	2	m2	\$950.00	\$1,900	
<u>A3.32 - Entrance Glazed Screens</u>						
<u>Ground Floor</u>						
16	Aluminum framed glazed entrance screens				Included in A3.23	
<u>A3.33 - Exterior Doors</u>						
<u>Ground Floor</u>						
17	Aluminum framed fully glazed doors including installation and finish					
17.1	- single, 915 mm x 2150mm	1	NO	\$4,000.00	\$4,000	
17.2	- automatic single sliding	1	NO	\$12,500.00	\$12,500	
17.3	- automatic double sliding	1	PR	\$25,000.00	\$25,000	
TOTAL FOR EXT. ENCLOSURE - Windows & Entrances		0.00	10	m2	\$4,397.61	\$43,400

No.	Description	Quant.	Unit	Rate	Sub Total	Total
<u>A3.4 EXTERIOR ENCLOSURE - Roof Covering</u>						
<u>A3.41 - Roofing</u>						
18	NIL					
<u>A3.42 - Skylights & Roof Glazing</u>						
19	NIL					
<u>A3.43 - Roof Hatches & Doors</u>						
20	NIL					
TOTAL FOR EXT. ENCLOSURE - Roof Covering		0.00	0	m2	\$0.00	\$0
<u>A3.5 EXTERIOR ENCLOSURE - Projections</u>						
<u>A3.51 - Projections</u>						
<u>Ground Floor</u>						
21	Canopy at NW/SW Entrance including structure, roof finish, soffit finish, and fascia		77	m2	\$2,000.00	\$154,000
TOTAL FOR EXT. ENCLOSURE - Projections		1.00	5,702	m2	\$27.01	\$154,000
B. INTERIORS						
<u>B1.1 PARTITIONS & DOORS - Partitions</u>						
<u>B1.11 - Fixed Partitions</u>						
<u>Basement</u>						
22	Concrete block partitions		66	m2	\$225.00	\$14,850
23	Gypsum board partitions		450	m2	\$135.00	\$60,750
23.1	- gypsum board					
23.2	- metal studs					
23.3	- sound attenuation batts					
23.4	- gypsum board					
24	Aluminum framed glazed partitions		92	m2	\$850.00	\$78,200
25	Extra over for fire rated glazing to above		27	m2	\$250.00	\$6,750
26	Rough carpentry		877	m2	\$6.00	\$5,262
27	Caulking, sealing, and firestopping		877	m2	\$8.00	\$7,016

No.	Description	Quant.	Unit	Rate	Sub Total	Total
<u>Ground Floor</u>						
28	Concrete block partitions	44	m2	\$225.00	\$9,900	
29	Gypsum board partitions including:	1,074	m2	\$135.00	\$144,990	
29.1	- gypsum board					
29.2	- metal studs					
29.3	- sound attenuation batts					
29.4	- gypsum board					
30	Aluminum framed glazed partitions	210	m2	\$850.00	\$178,500	
31	Extra over for fire rated glazing to above	46	m2	\$250.00	\$11,500	
32	Rough carpentry	2,538	m2	\$6.00	\$15,228	
33	Caulking, sealing, and firestopping	2,538	m2	\$8.00	\$20,304	
<u>Second Floor</u>						
34	Concrete block partitions	43	m2	\$225.00	\$9,675	
35	Gypsum board partitions to including:	607	m2	\$135.00	\$81,945	
35.1	- gypsum board					
35.2	- metal studs					
35.3	- sound attenuation batts					
35.4	- gypsum board					
36	Aluminum framed glazed partitions	148	m2	\$850.00	\$125,800	
37	Allowance for feature wall	1	LS	\$50,000.00	\$50,000	
38	Rough carpentry	1,915	m2	\$6.00	\$11,490	
39	Caulking, sealing, and firestopping	1,915	m2	\$8.00	\$15,320	
<u>Third Floor</u>						
40	Concrete block partitions	34	m2	\$225.00	\$7,650	
41	Gypsum board partitions to including:	101	m2	\$135.00	\$13,635	
41.1	- gypsum board					
41.2	- metal studs					
41.3	- sound attenuation batts					
41.4	- gypsum board					
42	Aluminum framed glazed partitions	47	m2	\$850.00	\$39,950	
43	Rough carpentry	372	m2	\$6.00	\$2,232	
44	Caulking, sealing, and firestopping	372	m2	\$8.00	\$2,976	
<u>B1.12 - Moveable Partitions</u>						
<u>Ground Floor</u>						
45	Folding partition to Program room (assumed manual operation, standard quality)	28	m2	\$900.00	\$25,200	
<u>B1.13 - Structural Partitions & Shear Walls</u>						
46	NIL					
TOTAL FOR INTERIOR PARTITIONS & DOORS - Partitions		0.51	2,916	m2	\$322.06	\$939,123

No.	Description	Quant.	Unit	Rate	Sub Total	Total
<u>B1.2 PARTITIONS & DOORS - Interior Doors</u>						
<u>B1.21 - Interior Doors & Hardware</u>						
<u>Basement</u>						
47 47.1	Hollow metal door and frame including installation and paint finish - single	21	NO	\$1,500.00	\$31,500	
48	Door hardware supply allowance	21	NO	\$850.00	\$17,850	
49	Barrier free operators	2	NO	\$3,000.00	\$6,000	
<u>Ground Floor</u>						
50	Aluminum framed fully glazed automatic sliding doors including installation and finish to entrance vestibule	1	NO	\$25,000.00	\$25,000	
51	Aluminum framed fully glazed sliding doors including installation and finish	3	NO	\$5,000.00	\$15,000	
52 52.1 52.2	Hollow metal door and frame including installation and paint finish - single - double	25 1	NO PR	\$1,500.00 \$3,000.00	\$37,500 \$3,000	
53	Door hardware supply allowance	27	NO	\$850.00	\$22,950	
54	Barrier free operators	1	NO	\$3,000.00	\$3,000	
<u>Second Floor</u>						
55	Aluminum framed fully glazed sliding doors including installation and finish	13	NO	\$5,000.00	\$65,000	
56 56.1 56.2	Hollow metal door and frame including installation and paint finish - single - double	6 1	NO PR	\$1,500.00 \$3,000.00	\$9,000 \$3,000	
57	Door hardware supply allowance	8	NO	\$850.00	\$6,800	
58	Barrier free operators	1	NO	\$3,000.00	\$3,000	
<u>Third Floor</u>						
59	Aluminum framed fully glazed sliding doors including installation and finish	3	NO	\$5,000.00	\$15,000	
60 60.1	Hollow metal door and frame including installation and paint finish - single	3	NO	\$1,500.00	\$4,500	
61	Door hardware supply allowance	3	NO	\$850.00	\$2,550	
62	Barrier free operators	1	NO	\$3,000.00	\$3,000	
TOTAL FOR INTERIOR PARTITIONS & DOORS - Doors		0.03	159	m2	\$1,721.07	\$273,650

No.	Description	Quant.	Unit	Rate	Sub Total	Total
<u>B2.1 FINISHES - Floor Finishes</u>						
<u>B2.11 - Floor Finishes</u>						
<u>Basement</u>						
63	Porcelain tile	113	m2	\$180.00	\$20,340	
64	Carpet tile	491	m2	\$55.00	\$27,005	
65	Concrete sealer	206	m2	\$15.00	\$3,090	
66	Flooring bases including:					
66.1	- porcelain tile	84	m	\$25.00	\$2,100	
66.2	- carpet	353	m	\$15.00	\$5,295	
66.3	- rubber	192	m	\$8.00	\$1,536	
67	<u>Ground Floor</u>					
68	Porcelain tile	476	m2	\$160.00	\$76,160	
69	Carpet tile	1,853	m2	\$55.00	\$101,915	
70	Concrete sealer	96	m2	\$15.00	\$1,440	
71	Flooring bases including:					
71.1	- porcelain tile	333	m	\$25.00	\$8,325	
71.2	- carpet	482	m	\$15.00	\$7,230	
71.3	- rubber	108	m	\$8.00	\$864	
72	<u>Second Floor</u>					
73	Porcelain tile	42	m2	\$160.00	\$6,720	
74	Carpet tile	1,749	m2	\$55.00	\$96,195	
75	Concrete sealer	59	m2	\$15.00	\$885	
76	Flooring bases including:					
76.1	- porcelain tile	61	m	\$25.00	\$1,525	
76.2	- carpet	522	m	\$15.00	\$7,830	
76.3	- rubber	54	m	\$8.00	\$432	
77	<u>Third Floor</u>					
78	Porcelain tile	19	m2	\$160.00	\$3,040	
79	Carpet tile	329	m2	\$55.00	\$18,095	
80	Concrete sealer	6	m2	\$15.00	\$90	
81	Flooring bases including:					
81.1	- porcelain tile	32	m	\$25.00	\$800	
81.2	- carpet	167	m	\$15.00	\$2,505	
81.3	- rubber	27	m	\$8.00	\$216	
TOTAL FOR FINISHES - Floor Finishes		0.95	5,439	m2	\$72.37	\$393,633

B2.2 FINISHES - Ceiling Finishes**B2.21 - Ceiling Finishes****Basement**

82	Suspended gypsum board with paint finish	9	m2	\$140.00	\$1,260	
83	Suspended acoustical tile	764	m2	\$55.00	\$42,020	
84	Exposed structure with paint finish	37	m2	\$20.00	\$740	
85	Gypsum board bulkheads	2	m2	\$200.00	\$400	

No.	Description	Quant.	Unit	Rate	Sub Total	Total
<u>Ground Floor</u>						
86	Suspended gypsum board with paint finish	199	m2	\$140.00	\$27,860	
87	Suspended acoustical tile	1,698	m2	\$55.00	\$93,390	
88	Suspended acoustical cloud	140	m2	\$200.00	\$28,000	
89	Wood grille ceiling	44	m2	\$450.00	\$19,800	
90	Composite ceiling panel cladding, assumed similar to Trespa Panels	107	m2	\$500.00	\$53,500	
91	Exposed structure with paint finish	376	m2	\$20.00	\$7,520	
92	Gypsum board bulkheads	75	m2	\$200.00	\$15,000	
<u>Second Floor</u>						
93	Suspended gypsum board with paint finish	62	m2	\$140.00	\$8,680	
94	Suspended acoustical tile	1,788	m2	\$55.00	\$98,340	
95	Suspended acoustical cloud ceiling	27	m2	\$200.00	\$5,400	
<u>Third Floor</u>						
96	Suspended gypsum board with paint finish	16	m2	\$140.00	\$2,240	
97	Suspended acoustical tile	335	m2	\$55.00	\$18,425	
98	Exposed structure with paint finish	4	m2	\$20.00	\$80	
99	Gypsum board bulkheads	1	m2	\$200.00	\$200	
TOTAL FOR FINISHES - Ceiling Finishes		0.95	5,439	m2	\$77.74	\$422,855
<u>B2.3 FINISHES - Wall Finishes</u>						
<u>B2.31 - Wall Finishes</u>						
<u>Basement</u>						
100	Paint	1,512	m2	\$12.00	\$18,144	
<u>Ground Floor</u>						
101	Paint	2,879	m2	\$12.00	\$34,548	
<u>Second Floor</u>						
102	Paint	2,036	m2	\$12.00	\$24,432	
<u>Third Floor</u>						
103	Paint	587	m2	\$12.00	\$7,044	
TOTAL FOR FINISHES - Wall Finishes		1.23	7,014	m2	\$12.00	\$84,168

No.	Description	Quant.	Unit	Rate	Sub Total	Total
B3.1 FITTINGS & EQUIPMENT - Fittings & Fixtures						
B3.11 - Miscellaneous Metals						\$123,160
Basement						
104	Miscellaneous metals including lintels, bracing, and so forth	877	m2	\$5.00	\$4,385	
105	Wall mounted handrails, assumed painted metal	5	m	\$350.00	\$1,750	
106	Elevator pit ladder	1	NO	\$1,500.00	\$1,500	
Ground Floor						
107	Miscellaneous metals including lintels, bracing, and so forth	2,538	m2	\$5.00	\$12,690	
108	Floor mounted handrail and balustrade, assumed painted metal	16	m	\$500.00	\$8,000	
109	Glass guard to lounge	16	m	\$700.00	\$11,200	
110	Allowance for book return slot	1	NO	\$5,000.00	\$5,000	
Second Floor						
111	Miscellaneous metals including lintels, bracing, and so forth	1,915	m2	\$5.00	\$9,575	
112	Floor mounted glass and metal handrails	16	m	\$1,200.00	\$19,200	
113	Floor mounted glass balustrade as wood rail	40	m	\$1,200.00	\$48,000	
Third Floor						
114	Miscellaneous metals including lintels, bracing, and so forth	372	m2	\$5.00	\$1,860	
B3.12 - Millwork						\$56,550
Basement						
115	Kitchen type counter with upper and lower cabinets	4	m	\$1,600.00	\$6,400	
116	Kitchen type upper cabinets	2	m	\$350.00	\$700	
117	Closet shelf and rod	7	m	\$150.00	\$1,050	
Ground Floor						
118	Kitchen type counter with lower cabinets	15	m	\$1,200.00	\$18,000	
119	Full height storage closets	22	NO	\$1,000.00	\$22,000	
Second Floor						
120	Kitchen type counter with lower cabinets	7	m	\$1,200.00	\$8,400	
B3.13 - Specialties						\$98,250
Basement						
121	Washroom partitions					
121.1	- standard	3	NO	\$1,200.00	\$3,600	
122	Washroom accessories including:					
122.1	- toilet paper dispenser	5	NO	\$65.00	\$325	
122.2	- soap dispenser	5	NO	\$85.00	\$425	
122.3	- paper towel dispenser	2	NO	\$150.00	\$300	
122.4	- grab bars	1	NO	\$350.00	\$350	
122.5	- mirrors	5	NO	\$350.00	\$1,750	
122.6	- coat hook	5	NO	\$50.00	\$250	
123	Lockers, assumed phenolic	32	NO	\$500.00	\$16,000	
124	Interior signage (doors only)				Included in Z1.12	

No.	Description	Quant.	Unit	Rate	Sub Total	Total
<u>Ground Floor</u>						
125	Washroom partitions					
125.1	- standard	3	NO	\$1,200.00	\$3,600	
125.2	- urinal screens	2	NO	\$500.00	\$1,000	
126	Washroom accessories including:					
126.1	- toilet paper dispenser	6	NO	\$65.00	\$390	
126.2	- soap dispenser	6	NO	\$85.00	\$510	
126.3	- paper towel dispenser	4	NO	\$150.00	\$600	
126.4	- grab bars	1	NO	\$350.00	\$350	
126.5	- mirrors	6	NO	\$350.00	\$2,100	
126.6	- coat hook	6	NO	\$50.00	\$300	
127	Book security gate	4	SET	\$5,000.00	\$20,000	
128	Display case	13	m	\$2,000.00	\$26,000	
129	Interior signage (doors only)				Included in Z1.12	
<u>Second Floor</u>						
130	Washroom partitions					
130.1	- standard	4	NO	\$1,200.00	\$4,800	
130.2	- urinal screens	2	NO	\$500.00	\$1,000	
131	Washroom accessories including:					
131.1	- toilet paper dispenser	5	NO	\$65.00	\$325	
131.2	- soap dispenser	5	NO	\$85.00	\$425	
131.3	- paper towel dispenser	3	NO	\$150.00	\$450	
131.4	- grab bars	1	NO	\$350.00	\$350	
131.5	- mirrors	5	NO	\$350.00	\$1,750	
131.6	- coat hook	5	NO	\$50.00	\$250	
132	Allowance for decorative wall feature	1	LS	\$10,000.00	\$10,000	
133	Interior signage (doors only)				Included in Z1.12	
<u>Third Floor</u>						
134	Washroom accessories including:					
134.1	- toilet paper dispenser	1	NO	\$65.00	\$65	
134.2	- soap dispenser	1	NO	\$85.00	\$85	
134.3	- paper towel dispenser	1	NO	\$150.00	\$150	
134.4	- grab bars	1	NO	\$350.00	\$350	
134.5	- mirrors	1	NO	\$350.00	\$350	
134.6	- coat hook	1	NO	\$50.00	\$50	
135	Interior signage (doors only)				Included in Z1.12	
<u>B3.14 - Furniture</u>						\$0
136	NIL					
TOTAL FOR FITTINGS & EQUIP. - Fittings & Fixtures		1.00	5,702	NO	\$48.75	\$277,960
<u>B3.2 FITTINGS & EQUIPMENT - Equipment</u>						
<u>B3.21 - Equipment</u>						
137	NIL					
TOTAL FOR FITTINGS & EQUIP. - Equipment		0.00	0	m2	\$0.00	\$0

No.	Description	Quant.	Unit	Rate	Sub Total	Total
<u>B3.3 FITTINGS & EQUIPMENT - Conveying Systems</u>						
<u>B3.31 - Elevators</u>						
138	Elevator serving 4 floors	2	NO	\$250,000.00	\$500,000	
<u>B3.32 - Escalators & Moving Walks</u>						
139	NIL					
<u>B3.33 - Material Handling Systems</u>						
140	NIL					
TOTAL FOR FITTINGS & EQUIP. - Conveying Systems		1.00	5,702	m2	\$87.69	\$500,000
 C1. SERVICES - MECHANICAL						
<u>C1.1 Plumbing & Drainage</u>						
<u>C1.11 - Plumbing Fixtures</u>						\$101,750
<u>Basement</u>						
141	Commercial quality, water conserving fixtures and fittings as follows:					
141.1	- Water closets	5	NO	\$1,500.00	\$7,500	
141.2	- Lavatories	5	NO	\$1,150.00	\$5,750	
141.3	- Showers	1	NO	\$1,300.00	\$1,300	
141.4	- Sinks	1	NO	\$750.00	\$750	
142	Rough-ins for above fixtures	12	NO	\$650.00	\$7,800	
<u>Ground floor</u>						
143	Commercial quality, water conserving fixtures and fittings as follows:					
143.1	- Water closets	6	NO	\$1,500.00	\$9,000	
143.2	- Urinals	4	NO	\$1,600.00	\$6,400	
143.3	- Lavatories (Long 2 Faucet)	2	NO	\$5,000.00	\$10,000	
143.4	- Lavatories	3	NO	\$1,300.00	\$3,900	
143.5	- Janitor mop sink	1	NO	\$1,500.00	\$1,500	
143.6	- Sinks -kitchen	1	NO	\$1,000.00	\$1,000	
144	Rough-ins for above fixtures	17	NO	\$650.00	\$11,050	
<u>Second floor</u>						
145	Commercial quality, water conserving fixtures and fittings as follows:					
145.1	- Water closets	5	NO	\$1,500.00	\$7,500	
145.2	- Urinals	2	NO	\$1,200.00	\$2,400	
145.3	- Lavatories (Long 2 Faucet)	2	NO	\$5,000.00	\$10,000	
145.4	- Lavatories	1	NO	\$1,150.00	\$1,150	
145.5	- Janitor mop sink	1	NO	\$1,500.00	\$1,500	
146	Rough-ins for above fixtures	11	NO	\$650.00	\$7,150	
<u>Third floor</u>						
147	Commercial quality, water conserving fixtures and fittings as follows:					
147.1	- Water closets	1	NO	\$1,500.00	\$1,500	
147.2	- Lavatories	1	NO	\$1,150.00	\$1,150	
147.3	- Janitor mop sink	1	NO	\$1,500.00	\$1,500	
148	Rough-ins for above fixtures	3	NO	\$650.00	\$1,950	

No.	Description	Quant.	Unit	Rate	Sub Total	Total
<u>C1.12 - Domestic Water</u>						\$42,600
<u>Ground floor</u>						
149	Connection to existing domestic hot and cold water piping in vicinity	6	NO	\$600.00	\$3,600	
150	Domestic copper type 'L' hot and cold piping c/w fittings, supports and solder joints- 1/2" to 1" dia.	1	NO	\$19,000.00	\$19,000	
151	Thermal insulation to above piping	1	NO	\$5,000.00	\$5,000	
152	Isolation valves	1	NO	\$500.00	\$500	
<u>Second floor</u>						
153	Connection to existing domestic hot and cold water piping in vicinity	5	NO	\$600.00	\$3,000	
154	Domestic copper type 'L' hot and cold piping c/w fittings, supports and solder joints- 1/2" to 1" dia.	1	NO	\$9,000.00	\$9,000	
155	Thermal insulation to above piping	1	NO	\$2,000.00	\$2,000	
156	Isolation valves	1	NO	\$500.00	\$500	
Green roof :				See separate price 1		
156.1	- Allowance for water piping distribution for green roof					
156.2	- Allowance for non freeze hose bibs serving green roof					
Green roof :				See separate price 2		
156.3	- Allowance for water piping distribution for green roof					
156.4	- Allowance for non freeze hose bibs serving green roof					
<u>C1.13 - Sanitary Waste & Vent</u>						\$50,150
<u>Ground floor</u>						
157	Connection to existing sanitary piping in vicinity	3	NO	\$600.00	\$1,800	
158	Above grade cast iron sanitary drainage piping c/w joints, fittings & supports	1	LS	\$20,000.00	\$20,000	
159	Floor drains	3	NO	\$550.00	\$1,650	
160	X ray, scanning and core drilling					By G.C
161	Cleanouts and line items	1	LS	\$1,500.00	\$1,500	
<u>Second floor</u>						
162	Connection to existing sanitary piping in vicinity	1	NO	\$600.00	\$600	
163	Above grade cast iron sanitary drainage piping c/w joints, fittings & supports	1	LS	\$12,500.00	\$12,500	
164	Floor drains	4	NO	\$550.00	\$2,200	
165	X ray, scanning and core drilling					By G.C
166	Cleanouts and line items	1	LS	\$1,500.00	\$1,500	
<u>Third floor</u>						
167	Connection to existing sanitary piping in vicinity	2	NO	\$600.00	\$1,200	
168	Above grade cast iron sanitary drainage piping c/w joints, fittings & supports	1	LS	\$4,000.00	\$4,000	
169	Floor drains	4	NO	\$550.00	\$2,200	
170	X ray, scanning and core drilling					By G.C
171	Cleanouts and line items	1	LS	\$1,000.00	\$1,000	

No.	Description	Quant.	Unit	Rate	Sub Total	Total
C1.14 - Storm						\$0
	Green roof :				See separate price 1	
171.1	- Allowance for storm piping distribution for green roof					
171.2	- Allowance for roof drain serving green roof					
	Green roof :				See separate price 2	
171.3	- Allowance for storm piping distribution for green roof					
171.4	- Allowance for roof drains serving green roof					
C1.15 - Natural Gas						\$0
172	No work required					
C1.16.8 - Selective / General Demolition						\$14,600
173	Demolition of existing plumbing fixtures					
<u>Basement</u>						
174	Demolition of existing plumbing fixtures					
174.1	- Water closets	5	NO	\$350.00	\$1,750	
174.2	- Lavatories	5	NO	\$350.00	\$1,750	
174.3	- Showers	1	NO	\$350.00	\$350	
174.4	- Sinks	1	NO	\$350.00	\$350	
<u>Ground Floor</u>						
175	Demolition of existing plumbing fixtures					
175.1	- Water closets	5	NO	\$350.00	\$1,750	
175.2	- Urinals	4	NO	\$350.00	\$1,400	
175.3	- Lavatories (Long 2 Faucet)	2	NO	\$500.00	\$1,000	
175.4	- Lavatories	2	NO	\$350.00	\$700	
175.5	- Sinks -kitchen	1	NO	\$350.00	\$350	
<u>Second Floor</u>						
176	Demolition of existing plumbing fixtures					
176.1	- Water closets	5	NO	\$350.00	\$1,750	
176.2	- Urinals	2	NO	\$350.00	\$700	
176.3	- Lavatories (Long 2 Faucet)	2	NO	\$500.00	\$1,000	
176.4	- Lavatories	1	NO	\$350.00	\$350	
176.5	- Janitor mop sink	1	NO	\$350.00	\$350	
<u>Third Floor</u>						
177	Demolition of existing plumbing fixtures					
177.1	- Water closets	1	NO	\$350.00	\$350	
177.2	- Lavatories	1	NO	\$350.00	\$350	
177.3	- Janitor mop sink	1	NO	\$350.00	\$350	
C1.17 - Miscellaneous Works and General Accounts						\$31,000
178	Supervision, job set up, clean up, small tool rentals, permits and inspections, overhead / profit, etc.					
178.1	- Basement	1	NO	\$4,000.00	\$4,000	
178.2	- Ground floor	1	NO	\$15,000.00	\$15,000	
178.3	- Second floor	1	NO	\$10,000.00	\$10,000	
178.4	- Third floor	1	NO	\$2,000.00	\$2,000	
TOTAL FOR MECHANICAL - Plumbing & Drainage		1.00	5,702	m2	\$42.11	\$240,100
C1.2 Fire Protection						
C1.21 - Standpipe						\$0
179	No work required					

No.	Description	Quant.	Unit	Rate	Sub Total	Total
	<u>C1.22 - Sprinklers</u>					\$0
180	No work required					
	<u>C1.23 - Specialty Systems</u>					\$0
181	No work required					
	<u>C1.24 - Fire Extinguisher</u>					\$0
182	No work required					
	TOTAL FOR MECHANICAL - Fire Protection	0.00	0	m2	\$0.00	\$0
	<u>C1.3 Heating, Ventilation & Air Conditioning</u>					
	<u>C1.31 - Liquid Heat Transfer (Heating)</u>					\$0
183	No work required					
	<u>C1.32 - Liquid Heat Transfer (Cooling)</u>					\$3,500
	<u>Basement</u>					
184	Allowance for relocation of the existing condensing unit, fan coil unit and new refrigeration piping to suite	1	NO	\$3,500.00	\$3,500	
	<u>C1.33 - Steam and Condensate</u>					\$0
185	No work required					
	<u>C1.34 - Air Distribution</u>					\$49,750
	<u>Basement</u>					
186	Connect to existing supply / return duct	8	NO	\$250.00	\$2,000	
187	Allowance for Supply / return ductwork	1	LS	\$1,500.00	\$1,500	
188	Bypass damper BP-1	1	NO	\$2,000.00	\$2,000	
189	Cap of existing ductwork	2	NO	\$50.00	\$100	
190	Fire Damper	1	NO	\$500.00	\$500	
191	Return/ Supply air grilles /diffusers- New	3	NO	\$150.00	\$450	
192	Return/ Supply air grilles /diffusers- Relocated	8	NO	\$100.00	\$800	
	<u>Ground Floor</u>					
193	Connect to existing supply / return duct	12	NO	\$250.00	\$3,000	
194	Allowance for Supply / return ductwork	1	LS	\$5,000.00	\$5,000	
195	Cap of existing ductwork	12	NO	\$50.00	\$600	
196	Fire Damper	1	NO	\$500.00	\$500	
197	Return/ Supply air grilles /diffusers- New	4	NO	\$150.00	\$600	
198	Return/ Supply air grilles /diffusers- Relocated	8	NO	\$100.00	\$800	
199	Supply grilles Linear	12	m	\$500.00	\$6,000	

No.	Description	Quant.	Unit	Rate	Sub Total	Total
<u>Second Floor</u>						
200	Connect to existing supply / return duct	4	NO	\$250.00	\$1,000	
201	Allowance for Supply / return ductwork	1	LS	\$6,500.00	\$6,500	
202	Cap of existing ductwork	2	NO	\$50.00	\$100	
203	Return/ Supply air grilles /diffusers- New	8	NO	\$150.00	\$1,200	
204	Return/ Supply air grilles /diffusers- Relocated	3	NO	\$100.00	\$300	
<u>Third Floor</u>						
205	Allowance for Air Handling Unit HVAC-1 , 3 Ton , 200 cfm , equal to Lennox LGH036S4T	1	NO	\$10,500.00	\$10,500	
206	Allowance for Craning unit in place	1	NO	\$2,500.00	\$2,500	
207	Connect to existing supply / return duct	2	NO	\$250.00	\$500	
208	Allowance for Supply / return ductwork	1	LS	\$3,000.00	\$3,000	
209	Cap of existing ductwork	2	NO	\$50.00	\$100	
210	Return/ Supply air grilles /diffusers- Relocated	2	NO	\$100.00	\$200	
<u>C1.35 - Exhaust Systems</u>						\$17,650
<u>Basement</u>						
211	Allowance for new exhaust fan-101 in basement	1	NO	\$1,000.00	\$1,000	
212	Allowance for exhaust duct work in basement	1	LS	\$1,000.00	\$1,000	
213	Exhaust air grille	1	NO	\$150.00	\$150	
<u>Ground floor</u>						
214	Allowance for new exhaust fan-102	1	NO	\$750.00	\$750	
215	Allowance for exhaust duct work	1	LS	\$5,000.00	\$5,000	
216	Exhaust air grille	5	NO	\$150.00	\$750	
<u>Second floor</u>						
217	Allowance for exhaust duct work	1	LS	\$3,000.00	\$3,000	
218	Exhaust air grille	5	NO	\$150.00	\$750	
<u>Third floor</u>						
219	Allowance for new exhaust fan-103	1	NO	\$1,500.00	\$1,500	
220	Allowance for exhaust duct work	1	LS	\$3,000.00	\$3,000	
221	Exhaust air grille	5	NO	\$150.00	\$750	
<u>C1.37 - Support Systems and Works</u>						\$4,825
<u>C1.37.1 - Noise and Vibration Isolation</u>						\$1,200
222	Allowance for noise and vibration isolation					
222.1	- Basement	1	NO	\$300.00	\$300	
222.2	- Ground floor	1	NO	\$300.00	\$300	
222.3	- Second floor	1	NO	\$300.00	\$300	
222.4	- Third floor	1	NO	\$300.00	\$300	
<u>C1.37.2 - Mechanical Wiring and Starters</u>						\$0
223	Included in C1.41					

No.	Description	Quant.	Unit	Rate	Sub Total	Total
C1.37.3 - Balancing and Commissioning						\$2,500
224	Allowance for balancing and commissioning					
224.1	- Basement	1	NO	\$500.00	\$500	
224.2	- Ground floor	1	NO	\$500.00	\$500	
224.3	- Second floor	1	NO	\$500.00	\$500	
224.4	- Third floor	1	NO	\$1,000.00	\$1,000	
C1.37.8 - Selective Demolition						\$1,125
<u>Basement</u>						
225	No work required					
<u>Ground floor</u>						
226	Demolition of existing Grilles/ diffusers	3	NO	\$50.00	\$150	
227	Demolition of existing exhaust fan	1	NO	\$200.00	\$200	
<u>Second floor</u>						
228	Demolition of existing Grilles/ diffusers	1	NO	\$50.00	\$50	
229	Demolition of existing exhaust fan	1	NO	\$200.00	\$200	
<u>Third floor</u>						
230	Demolition of existing ductwork	1	NO	\$500.00	\$500	
231	Demolition of existing Grilles/ diffusers	1	NO	\$25.00	\$25	
C1.38 - Miscellaneous Works and General Accounts						\$12,000
232	Supervision, job set up, clean up, small tool rentals, permits and inspections, overhead / profit, etc.					
232.1	- Basement	1	NO	\$2,000.00	\$2,000	
232.2	- Ground floor	1	NO	\$4,000.00	\$4,000	
232.3	- Second floor	1	NO	\$2,000.00	\$2,000	
232.4	- Third floor	1	NO	\$4,000.00	\$4,000	
TOTAL FOR MECHANICAL - HVAC		1.00	5,702	m2	\$15.38	\$87,725
C1.4 MECHANICAL - Controls						
C1.41 - Controls and Automation						\$5,500
233	Allowance for standalone controls for new equipment					
233.1	- Air Handling unit AHU-1	1	NO	\$3,000.00	\$3,000	
233.2	- Exhaust Fan basement	1	NO	\$500.00	\$500	
233.3	- Exhaust Fan ground	1	NO	\$500.00	\$500	
233.4	- Exhaust Fan third	1	NO	\$500.00	\$500	
233.5	- By pass damper on basement level	1	NO	\$1,000.00	\$1,000	
C1.42 - Miscellaneous Works and General Accounts						\$0
234	included in rates above					
TOTAL FOR MECHANICAL - Controls		1.00	5,702	m2	\$0.96	\$5,500
				Total Mech Unit Rate	\$58.46	

No.	Description	Quant.	Unit	Rate	Sub Total	Total
C2. SERVICES - ELECTRICAL						
<u>C2.1 ELECTRICAL - Service & Distribution</u>						
<u>C2.11 - Main Service</u>						\$24,400
<i>Basement:</i>						
235	Remedial work to existing 1000A 347/600V main service to accommodate new loads including: review of circuitry; reusing and adding breakers; and, updating directories	1	LS	\$24,400.00	\$24,400	
<u>C2.12 - Emergency Power</u>						\$0
236	Not in scope of work. Life safety lighting provided through battery units and exit signage				C2.21 - Lighting	
<u>C2.13 - Distribution</u>						\$102,636
<i>Basement:</i>						
237	Modify/add power distribution equipment consisting of 347/600V distribution panel, 120/208V lighting and power panels and associated transformers	877	m2	\$18.00	\$15,786	
<i>Ground Floor:</i>						
238	Modify/add power distribution equipment consisting of 347/600V distribution panel, 120/208V lighting and power panels and associated transformers	2,538	m2	\$18.00	\$45,684	
<i>Second Floor:</i>						
239	Modify/add power distribution equipment consisting of 347/600V distribution panel, 120/208V lighting and power panels and associated transformers	1,915	m2	\$18.00	\$34,470	
<i>Third Floor:</i>						
240	Modify/add power distribution equipment consisting of 347/600V distribution panel, 120/208V lighting and power panels and associated transformers	372	m2	\$18.00	\$6,696	
<u>C2.14 - Feeders</u>						\$71,845
<i>Basement:</i>						
241	Feeders for distribution equipment using rw90 copper conductors in EMT conduit	877	m2	\$12.60	\$11,050	
<i>Ground Floor:</i>						
242	Feeders for distribution equipment using rw90 copper conductors in EMT conduit	2,538	m2	\$12.60	\$31,979	
<i>Second Floor:</i>						
243	Feeders for distribution equipment using rw90 copper conductors in EMT conduit	1,915	m2	\$12.60	\$24,129	
<i>Third Floor:</i>						
244	Feeders for distribution equipment using rw90 copper conductors in EMT conduit	372	m2	\$12.60	\$4,687	

No.	Description	Quant.	Unit	Rate	Sub Total	Total
<u>C2.15 - Motor Controls & Wiring</u>						\$85,530
<i><u>Basement:</u></i>						
245	Power connection with line and load side wiring including disconnect switch for mechanical equipment	877	m2	\$15.00	\$13,155	
<i><u>Ground Floor:</u></i>						
246	Power connection with line and load side wiring including disconnect switch for mechanical equipment	2,538	m2	\$15.00	\$38,070	
<i><u>Second Floor:</u></i>						
247	Power connection with line and load side wiring including disconnect switch for mechanical equipment	1,915	m2	\$15.00	\$28,725	
<i><u>Third Floor:</u></i>						
248	Power connection with line and load side wiring including disconnect switch for mechanical equipment	372	m2	\$15.00	\$5,580	
<u>C2.16 - Miscellaneous</u>						\$28,400
<i><u>Basement:</u></i>						
249	Remedial work to existing building grounding system to accommodate renovation	1	LS	\$9,100.00	\$9,100	
250	Cutting, patching, and coring	1	LS	\$6,500.00	\$6,500	
251	Third-party short circuit and coordination study	1	LS	\$12,800.00	\$12,800	
<u>C2.17 - Electrical Contractors Overhead</u>						\$57,583
<i><u>Basement</u></i>						
		1	LS	\$17,081.22	\$17,081	
<i><u>Ground Floor</u></i>						
		1	LS	\$21,304.36	\$21,304	
<i><u>Second Floor</u></i>						
		1	LS	\$16,074.80	\$16,075	
<i><u>Third Floor</u></i>						
		1	LS	\$3,122.62	\$3,123	
TOTAL FOR ELECTRICAL - Service & Distribution		1.00	5,702	m2	\$64.96	\$370,394
<u>C2.2 ELECTRICAL - Lighting, Devices & Heating</u>						
<u>C2.21 - Lighting</u>						\$656,476
<i>Lighting costs include the supply and installation of fixtures with associated wiring and supports</i>						
<i><u>Basement:</u></i>						
252	Round LED downlight	3	NO	\$520.00	\$1,560	
253	2' x 4' LED troffer in kitchen area	14	NO	\$600.00	\$8,400	
254	2' x 4' LED troffer in offices and public circulation areas	85	NO	\$650.00	\$55,250	
255	2' x 4' LED troffer in service area	29	NO	\$530.00	\$15,370	
256	1' x 4' LED fixture in service area	1	NO	\$520.00	\$520	
257	Emergency lighting including battery units, remote heads, and exit sign	877	m2	\$8.00	\$7,016	

No.	Description	Quant.	Unit	Rate	Sub Total	Total
<u>Ground Floor:</u>						
258	Round LED downlight	10	NO	\$520.00	\$5,200	
259	2' x 4' LED troffer in offices and public circulation areas	221	NO	\$650.00	\$143,650	
260	2' x 4' LED troffer in service area	3	NO	\$530.00	\$1,590	
261	1' x 4' LED fixture in service area	14	NO	\$520.00	\$7,280	
262	4.26m LED linear fixture	9	NO	\$1,920.00	\$17,280	
263	4.20m LED linear fixture	14	NO	\$1,890.00	\$26,460	
264	2.43m LED linear fixture	8	NO	\$1,190.00	\$9,520	
265	1.83m LED linear fixture	68	NO	\$950.00	\$64,600	
266	Emergency lighting including battery units, remote heads, and exit sign	2,538	m2	\$8.00	\$20,304	
<u>Second Floor:</u>						
267	2' x 4' LED troffer in offices and public circulation areas	190	NO	\$650.00	\$123,500	
268	2' x 4' LED troffer in service area	8	NO	\$530.00	\$4,240	
269	1' x 4' LED fixture in service area	9	NO	\$520.00	\$4,680	
270	4.25m LED linear fixture	37	NO	\$1,910.00	\$70,670	
271	Emergency lighting including battery units, remote heads, and exit sign	1,915	m2	\$8.00	\$15,320	
<u>Third Floor:</u>						
272	2' x 4' LED troffer in offices and public circulation areas	77	NO	\$650.00	\$50,050	
273	1' x 4' LED fixture in service area	2	NO	\$520.00	\$1,040	
274	Emergency lighting including battery units, remote heads, and exit sign	372	m2	\$8.00	\$2,976	
C2.22 - Branch Devices & Wiring						\$216,666
<i>Branch device costs include the supply and installation of devices with associated wiring and supports</i>						
<u>Basement:</u>						
275	20A 120V duplex receptacle, GFI	6	NO	\$247.82	\$1,487	
276	20A 120V duplex receptacle	3	NO	\$231.39	\$694	
277	15A 120V duplex receptacle	20	NO	\$226.24	\$4,525	
278	15A 120V duplex receptacle c/w separate neutral	40	NO	\$278.75	\$11,150	
279	Allowance for additional specialty/convenience receptacles and power connections c/w conduit and wire	877	m2	\$10.70	\$9,384	
280	Central low voltage lighting controls using occupancy / daylight sensors, dimmers in library, and local LV switching	877	m2	\$16.00	\$14,032	

No.	Description	Quant.	Unit	Rate	Sub Total	Total
<u>Ground Floor:</u>						
281	20A 120V duplex receptacle, GFI	5	NO	\$247.82	\$1,239	
282	20A 120V duplex receptacle	16	NO	\$231.39	\$3,702	
283	15A 120V duplex receptacle	22	NO	\$226.24	\$4,977	
284	15A 120V duplex receptacle c/w separate neutral	14	NO	\$278.75	\$3,903	
285	Allowance for additional specialty/convenience receptacles and power connections c/w conduit and wire	2,538	m2	\$10.70	\$27,157	
286	Central low voltage lighting controls using occupancy / daylight sensors, dimmers in library, and local LV switching	2,538	m2	\$16.00	\$40,608	
<u>Second Floor:</u>						
287	20A 120V duplex receptacle, GFI W/P	3	NO	\$250.23	\$751	
288	20A 120V duplex receptacle, GFI	3	NO	\$247.82	\$743	
289	20A 120V duplex receptacle	7	NO	\$231.39	\$1,620	
290	15A 120V duplex receptacle c/w separate neutral	28	NO	\$278.75	\$7,805	
291	15A 120V duplex receptacle in recessed floor box	35	NO	\$474.93	\$16,623	
292	Allowance for additional specialty/convenience receptacles and power connections c/w conduit and wire	1,915	m2	\$10.70	\$20,491	
293	Central low voltage lighting controls using occupancy / daylight sensors, dimmers in library, and local LV switching	1,915	m2	\$16.00	\$30,640	
<u>Third Floor:</u>						
294	20A 120V duplex receptacle, GFI	1	NO	\$247.82	\$248	
295	20A 120V duplex receptacle	5	NO	\$231.39	\$1,157	
296	15A 120V duplex receptacle in recessed floor box	8	NO	\$474.93	\$3,799	
297	Allowance for additional specialty/convenience receptacles and power connections c/w conduit and wire	372	m2	\$10.70	\$3,980	
298	Central low voltage lighting controls using occupancy / daylight sensors, dimmers in library, and local LV switching	372	m2	\$16.00	\$5,952	
<u>C2.23 - Heating</u>						\$0
299	Power connection with line and load side wiring for heating equipment			See C2.15 - Motor Controls & Wiring		
<u>C2.24 - Electrical Contractors Overhead</u>						\$143,325
	<u>Basement</u>	1	LS	\$12,093.17	\$12,093	
	<u>Ground Floor</u>	1	LS	\$23,905.68	\$23,906	
	<u>Second Floor</u>	1	LS	\$87,048.88	\$87,049	
	<u>Third Floor</u>	1	LS	\$20,277.27	\$20,277	
TOTAL FOR ELECTRICAL - Lighting, Devices & Heating		1.00	5,702	m2	\$178.27	\$1,016,467

No.	Description	Quant.	Unit	Rate	Sub Total	Total
<u>C2.3 ELECTRICAL - Systems & Ancillaries</u>						
<u>C2.31 - Fire Alarm System</u>						\$142,550
<i><u>Basement:</u></i>						
300	New single stage addressable fire alarm system including fire alarm control panel, annunciator panel, passive graphic, horn/strobe devices, detectors, connection to sprinkler valves...	877	m2	\$25.00	\$21,925	
<i><u>Ground Floor:</u></i>						
301	New single stage addressable fire alarm system including fire alarm control panel, annunciator panel, passive graphic, horn/strobe devices, detectors, connection to sprinkler valves...	2,538	m2	\$25.00	\$63,450	
<i><u>Second Floor:</u></i>						
302	New single stage addressable fire alarm system including fire alarm control panel, annunciator panel, passive graphic, horn/strobe devices, detectors, connection to sprinkler valves...	1,915	m2	\$25.00	\$47,875	
<i><u>Third Floor:</u></i>						
303	New single stage addressable fire alarm system including fire alarm control panel, annunciator panel, passive graphic, horn/strobe devices, detectors, connection to sprinkler valves...	372	m2	\$25.00	\$9,300	
<u>C2.32 - Security System</u>						\$85,530
<i><u>Basement:</u></i>						
304	Empty raceway infrastructure for security access control of perimeter doors and CCTV monitoring of public spaces	877	m2	\$15.00	\$13,155	
305	Supply, programming, and installation of security equipment					By Others
<i><u>Ground Floor:</u></i>						
306	Empty raceway infrastructure for security access control of perimeter doors and CCTV monitoring of public spaces	2,538	m2	\$15.00	\$38,070	
307	Supply, programming, and installation of security equipment					By Others
<i><u>Second Floor:</u></i>						
308	Empty raceway infrastructure for security access control of perimeter doors and CCTV monitoring of public spaces	1,915	m2	\$15.00	\$28,725	
309	Supply, programming, and installation of security equipment					By Others
<i><u>Third Floor:</u></i>						
310	Empty raceway infrastructure for security access control of perimeter doors and CCTV monitoring of public spaces	372	m2	\$15.00	\$5,580	
311	Supply, programming, and installation of security equipment					By Others
<u>C2.33 - Communications</u>						\$213,864
<i><u>Basement:</u></i>						
312	Wall mounted empty conduit data/voice outlet, 2 drop	12	NO	\$205.75	\$2,469	
313	Wall mounted empty conduit data outlet, 1 drop	28	NO	\$205.75	\$5,761	
314	CAT 6 cable drop	52	NO	\$410.69	\$21,356	
315	Allowance for undeveloped communication system	877	m2	\$10.00	\$8,770	

No.	Description	Quant.	Unit	Rate	Sub Total	Total
<u>Ground Floor:</u>						
316	Wall mounted empty conduit data/voice outlet, 2 drop	14	NO	\$205.75	\$2,881	
317	CAT 6 cable drop	28	NO	\$410.69	\$11,499	
318	Allowance for undeveloped communication system	2,538	m2	\$10.00	\$25,380	
<u>Second Floor:</u>						
319	Wall mounted empty conduit data/voice outlet, 2 drop	4	NO	\$205.75	\$823	
320	Wall mounted empty conduit data outlet, 1 drop	24	NO	\$205.75	\$4,938	
321	Floor mounted empty conduit data outlet, 4 drops	35	NO	\$542.71	\$18,995	
322	CAT 6 cable drop	172	NO	\$410.69	\$70,639	
323	Allowance for undeveloped communication system	1,915	m2	\$10.00	\$19,150	
<u>Third Floor:</u>						
324	Floor mounted empty conduit data outlet, 4 drops	8	NO	\$542.71	\$4,342	
325	CAT 6 cable drop	32	NO	\$410.69	\$13,142	
326	Allowance for undeveloped communication system	372	m2	\$10.00	\$3,720	
<u>C2.34 - P.A. System</u>						\$125,444
<u>Basement:</u>						
327	Empty raceway infrastructure for Public Address equipment	877	m2	\$5.00	\$4,385	
328	Supply, programming, and installation of Public Address equipment	877	m2	\$9.00	\$7,893	
329	Empty raceway infrastructure for Audio Visual equipment	877	m2	\$8.00	\$7,016	
330	Supply, programming, and installation of Audio Visual equipment				By Others	
<u>Ground Floor:</u>						
331	Empty raceway infrastructure for Public Address equipment	2,538	m2	\$5.00	\$12,690	
332	Supply, programming, and installation of Public Address equipment	2,538	m2	\$9.00	\$22,842	
333	Empty raceway infrastructure for Audio Visual equipment	2,538	m2	\$8.00	\$20,304	
334	Supply, programming, and installation of Audio Visual equipment				By Others	
<u>Second Floor:</u>						
335	Empty raceway infrastructure for Public Address equipment	1,915	m2	\$5.00	\$9,575	
336	Supply, programming, and installation of Public Address equipment	1,915	m2	\$9.00	\$17,235	
337	Empty raceway infrastructure for Audio Visual equipment	1,915	m2	\$8.00	\$15,320	
338	Supply, programming, and installation of Audio Visual equipment				By Others	
<u>Third Floor:</u>						
339	Empty raceway infrastructure for Public Address equipment	372	m2	\$5.00	\$1,860	
340	Supply, programming, and installation of Public Address equipment	372	m2	\$9.00	\$3,348	
341	Empty raceway infrastructure for Audio Visual equipment	372	m2	\$8.00	\$2,976	
342	Supply, programming, and installation of Audio Visual equipment				By Others	

No.	Description	Quant.	Unit	Rate	Sub Total	Total
<u>C2.35 - Miscellaneous</u>						\$21,610
<i>Basement:</i>						
343	Allowance for miscellaneous system (LV system, intercom, etc...)	877	m2	\$1.50	\$1,316	
344	Provisional allowance to rework existing-to-remain conduits, wires, devices, etc...	1	LS	\$594.00	\$594	
345	Disconnect and make safe redundant electrical equipment for removal by Others	1	LS	\$315.00	\$315	
<i>Ground Floor:</i>						
346	Allowance for miscellaneous system (LV system, intercom, etc...)	2,538	m2	\$1.50	\$3,807	
347	Supply and installation of universal washroom call assistance	1	LS	\$5,031.00	\$5,031	
348	Provisional allowance to rework existing-to-remain conduits, wires, devices, etc...	1	LS	\$594.00	\$594	
349	Disconnect and make safe redundant electrical equipment for removal by Others	1	LS	\$315.00	\$315	
<i>Second Floor:</i>						
350	Allowance for miscellaneous system (LV system, intercom, etc...)	1,915	m2	\$1.50	\$2,873	
351	Provisional allowance to rework existing-to-remain conduits, wires, devices, etc...	1	LS	\$594.00	\$594	
352	Disconnect and make safe redundant electrical equipment for removal by Others	1	LS	\$315.00	\$315	
<i>Third Floor:</i>						
353	Allowance for miscellaneous system (LV system, intercom, etc...)	372	m2	\$1.50	\$558	
354	Supple and installation of barrier free call assistance	1	LS	\$4,390.00	\$4,390	
355	Provisional allowance to rework existing-to-remain conduits, wires, devices, etc...	1	LS	\$594.00	\$594	
356	Disconnect and make safe redundant electrical equipment for removal by Others	1	LS	\$315.00	\$315	
<u>C2.36 - Electrical Contractors Overhead</u>						\$113,480
<i>Basement</i>		1	LS	\$16,605.60	\$16,606	
<i>Ground Floor</i>		1	LS	\$50,609.70	\$50,610	
<i>Second Floor</i>		1	LS	\$35,429.41	\$35,429	
<i>Third Floor</i>		1	LS	\$10,835.29	\$10,835	
TOTAL FOR ELECTRICAL - Systems & Ancillaries		1.00	5,702	m2	\$123.20	\$702,478
				Total Elec Unit Rate	\$366.42	

No.	Description	Quant.	Unit	Rate	Sub Total	Total
<u>D2.1 ANCILLARY WORK - Demolition</u>						
<u>D2.11 - Demolition</u>						
<u>Basement</u>						
357	Remove and dispose the following:					
357.1	- double doors (exterior and interior)	2	NO	\$300.00	\$600	
357.2	- single doors (exterior and interior)	13	NO	\$150.00	\$1,950	
357.3	- glazed partitions	17	m2	\$50.00	\$850	
357.4	- gypsum board partitions	436	m2	\$25.00	\$10,900	
357.5	- floor finishes	810	m2	\$10.00	\$8,100	
357.6	- ceiling finishes	773	m2	\$15.00	\$11,595	
357.7	- millwork	10	m	\$75.00	\$750	
357.8	- lockers	24	NO	\$25.00	\$600	
357.9	- elevator, existing shaft to remain	1	NO	\$10,000.00	\$10,000	
357.10	- book stacks/book shelves	28	NO	\$25.00	\$700	
357.11	- loose furniture	1	LS	\$5,000.00	\$5,000	
358	Temporary partitions and hoarding	55	m2	\$130.00	\$7,150	
359	Garbage bins and dumping fees	1	LS	\$5,000.00	\$5,000	
<u>Ground Floor</u>						
360	Remove and dispose the following:					
360.1	- exterior walls	105	m2	\$100.00	\$10,500	
360.2	- exterior glazing	143	m2	\$75.00	\$10,725	
360.3	- concrete floor slab	39	m2	\$300.00	\$11,700	
360.4	- double doors (exterior and interior)	6	NO	\$300.00	\$1,800	
360.5	- single doors (exterior and interior)	39	NO	\$150.00	\$5,850	
360.6	- gypsum board partitions	1,711	m2	\$25.00	\$42,775	
360.7	- concrete low wall	22	m2	\$150.00	\$3,300	
360.8	- floor finishes	2,425	m2	\$10.00	\$24,250	
360.9	- ceiling finishes	2,188	m2	\$15.00	\$32,820	
360.10	- millwork	43	m	\$75.00	\$3,225	
360.11	- lockers	14	NO	\$25.00	\$350	
360.12	- staircase	3	NO	\$15,000.00	\$45,000	
360.13	- stair to lobby	18	m	\$150.00	\$2,700	
360.14	- toilet partitions	6	NO	\$100.00	\$600	
361	Construction hoarding to block of entrances	32	m	\$85.00	\$2,720	
362	Garbage bins and dumping fees	1	LS	\$15,000.00	\$15,000	
<u>Second Floor</u>						
363	Remove and dispose the following:					
363.1	- concrete floor slab	7	m2	\$300.00	\$2,100	
363.2	- double doors (exterior and interior)	2	NO	\$300.00	\$600	
363.3	- single doors (exterior and interior)	12	NO	\$150.00	\$1,800	
363.4	- glazed partitions	69	m2	\$50.00	\$3,450	
363.5	- gypsum board partitions	382	m2	\$25.00	\$9,550	
363.6	- floor finishes	1,850	m2	\$10.00	\$18,500	
363.7	- ceiling finishes	1,850	m2	\$15.00	\$27,750	
363.8	- millwork	11	m	\$75.00	\$825	
364	Garbage bins and dumping fees	1	LS	\$6,500.00	\$6,500	
<u>Third Floor</u>						
365	Remove and dispose the following:					
365.1	- concrete floor slab	7	m2	\$300.00	\$2,100	
365.2	- single doors (exterior and interior)	15	NO	\$150.00	\$2,250	
365.3	- glazed partitions	21	m2	\$50.00	\$1,050	
365.4	- gypsum board partitions	443	m2	\$25.00	\$11,075	
365.5	- floor finishes	354	m2	\$10.00	\$3,540	
365.6	- ceiling finishes	351	m2	\$15.00	\$5,265	
365.7	- millwork	24	m	\$75.00	\$1,800	
365.8	- loose furniture	1	LS	\$2,500.00	\$2,500	
365.9	- toilet partitions	2	NO	\$100.00	\$200	
366	Garbage bins and dumping fees	1	LS	\$3,000.00	\$3,000	

No.	Description	Quant.	Unit	Rate	Sub Total	Total
<u>D2.12 - Hazardous Materials</u>						
367	Allowances for asbestos abatement and the handling of hazardous materials					Included in Z1.12
TOTAL FOR ANCILLARY WORK - Demolition		1.00	5,702	m2	\$66.71	\$380,365
<u>D2.2 ANCILLARY WORK - Alterations</u>						
<u>D2.21 - Alterations</u>						
368	NIL					
TOTAL FOR ANCILLARY WORK - Alterations		0.00	0	m2	\$0.00	\$0
Z. GENERAL REQUIREMENTS & CONTINGENCIES						
<u>Z1.1 GENERAL REQUIREMENTS & FEES - General Requirements</u>						
<u>Z1.11 - Supervision & Labour Expenses</u>						
369	Allowance for the General Contractor's supervision & labour expenses as follows:					
369.1	- supervision and coordination of subcontractors					
369.2	- site superintendent and vehicle					
369.3	- general labour expenses					
369.4	- phased construction premium (4 phases)	1	LS	\$608,802	\$608,800	10.0%
		1	LS	\$180,000.00	\$180,000	3.0%
<u>Z1.12 - Temporary Conditions</u>						
370	Allowance for the temporary conditions provided by the General Contractor					Included in Z1.11
<u>Cash Allowances</u>						\$450,000
371	Independent inspection and testing	1	LS	\$50,000.00	\$50,000	
372	Metal book stacks	1	LS	\$100,000.00	\$100,000	
373	Interior signage	1	LS	\$25,000.00	\$25,000	
374	Window coverings	1	LS	\$50,000.00	\$50,000	
375	Asbestos abatement and the handling of hazardous materials	1	LS	\$125,000.00	\$125,000	
376	Structural modifications to suit renovation	1	LS	\$100,000.00	\$100,000	
<u>Z1.13 - Permits, Insurance & Bonds</u>						\$104,000
377	Building permit					Excluded
378	General Liability and Builder's Risk insurance	1	LS	\$43,000	\$43,000	
379	Labour & Material and Performance bonding	1	LS	\$61,000	\$61,000	
TOTAL FOR GEN. REQ'MENTS & FEES - Gen. Req'ments		1.00	5,702	m2	\$235.50	\$1,342,800

No.	Description	Quant.	Unit	Rate	Sub Total	Total
<u>Z1.2 GENERAL REQUIREMENTS & FEES - Fees</u>						
<u>Z1.21 - General Contractor's Fees</u>						
380	Allowance for the General Contractor's Fees (Head Office Overhead, Profit and Risk). (applied to measured works plus general requirements)		1 LS	\$371,541	\$372,000	5.0%
TOTAL FOR GEN. REQ'MENTS & FEES - Fees		1.00	5,702 m2	\$65.24	\$372,000	
<u>Z2.1 ALLOWANCES - Design Contingency</u>						
381	Design Contingency as a percentage of the above to cover increases in the overall scope of the design during the remaining stages of the design phase (applied to measured works plus general requirements and fees)					
381.1	- Architectural		1 LS	\$684,900	\$684,900	15.0%
381.2	- Structural		1 LS	\$19,700	\$19,700	15.0%
381.3	- Siteworks				Excluded	15.0%
381.4	- Mechanical Services		1 LS	\$64,100	\$64,100	15.0%
381.5	- Electrical Services		1 LS	\$401,700	\$401,700	15.0%
TOTAL FOR ALLOWANCES - Design Contingency		1.00	5,702 m2	\$205.26	\$1,170,400	
<u>Z2.2 ALLOWANCES - Escalation Contingency</u>						
382	Contingency for escalation that might occur between the date of the estimate and the anticipated tender date (applied to measured works plus general requirements, fees and Design Contingency)		1 LS	\$1,902,300	\$1,902,300	21.2%
TOTAL FOR ALLOWANCES - Escalation Contingency		1.00	5,702 m2	\$333.62	\$1,902,300	
<u>Z2.3 ALLOWANCES - Construction Contingency</u>						
383	Construction Contingency for post contract changes (applied to measured works plus general requirements, fees, Design Contingency and Escalation Contingency)		1 LS	\$1,087,600	\$1,087,600	10.0%
TOTAL FOR ALLOWANCES - Construction Contingency		1.00	5,702 m2	\$190.74	\$1,087,600	



ST. CATHARINES PUBLIC LIBRARY CENTRAL BRANCH RENOVATION

PHASE ONE CONCEPTUAL DESIGN

APPENDIX C - CONCEPTUAL DESIGN DRAWINGS; ARCHITECTURAL, MECHANICAL AND ELECTRICAL



ST. CATHARINES PUBLIC LIBRARY CENTRAL BRANCH RENOVATION

ISSUED FOR PHASE ONE CONCEPTUAL DESIGN AND CLASS D COSTING

ARCHITECTURAL:
WARD99 ARCHITECTS INC.

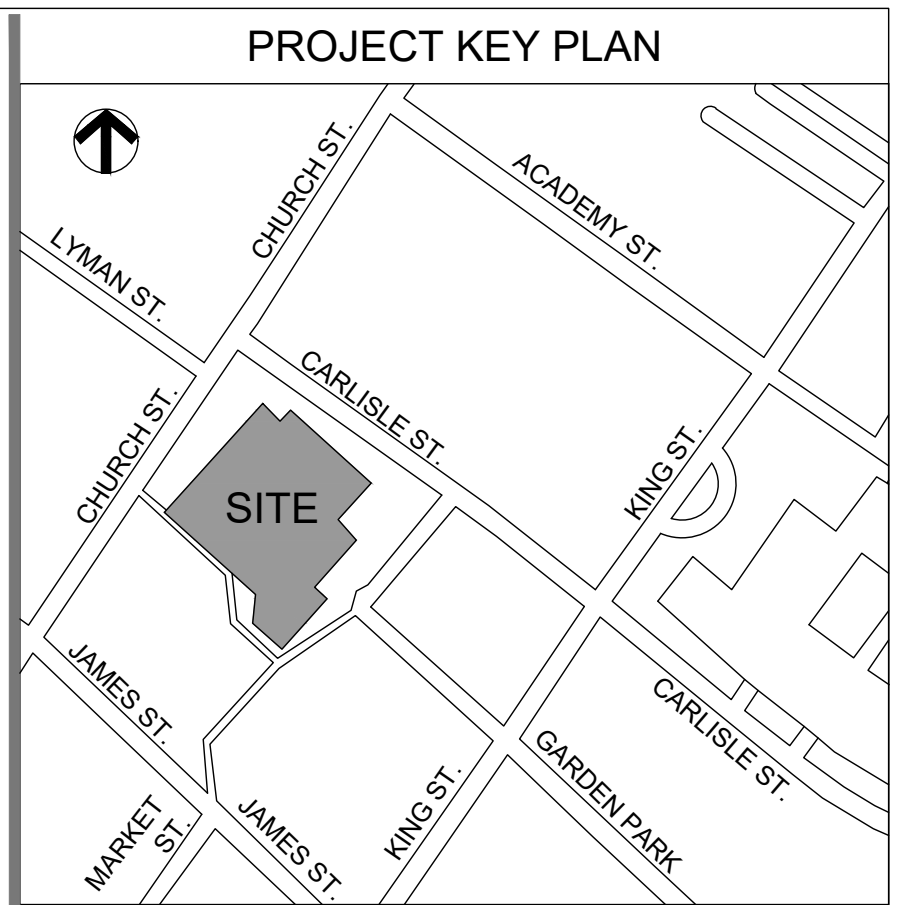
MECHANICAL:
JAIN ENGINEERS

ELECTRICAL:
JAIN ENGINEERS

- A0.0 DRAWING LIST
- A1.1 EXISTING SITE PLAN
- A2.1 EXISTING BASEMENT DEMOLITION PLAN
- A2.2 EXISTING GROUND FLOOR DEMOLITION PLAN
- A2.3 EXISTING SECOND FLOOR DEMOLITION PLAN
- A2.4 EXISTING THIRD FLOOR DEMOLITION PLAN
- A2.5 PROPOSED BASEMENT PLAN
- A2.6 PROPOSED GROUND FLOOR PLAN
- A2.7 PROPOSED SECOND FLOOR PLAN
- A2.8 PROPOSED THIRD FLOOR PLAN
- A3.1 EXISTING BASEMENT REFLECTED CEILING DEMOLITION PLAN
- A3.2 EXISTING GROUND FLOOR REFLECTED CEILING DEMOLITION PLAN
- A3.2 EXISTING SECOND FLOOR REFLECTED CEILING DEMOLITION PLAN
- A3.3 EXISTING THIRD FLOOR REFLECTED CEILING DEMOLITION PLAN
- A3.4 PROPOSED BASEMENT REFLECTED CEILING PLAN
- A3.5 PROPOSED GROUND FLOOR REFLECTED CEILING PLAN
- A3.6 PROPOSED SECOND FLOOR REFLECTED CEILING PLAN
- A3.7 PROPOSED THIRD FLOOR REFLECTED CEILING PLAN
- A4.1 DEMOLITION EXTERIOR ELEVATIONS
- A4.2 PROPOSED EXTERIOR ELEVATIONS
- A5.1 CONCEPT SECTION

- M-1.1 PROPOSED BASEMENT PLAN - PLUMBING
- M-1.2 PROPOSED GROUND FLOOR PLAN - PLUMBING
- M-1.3 PROPOSED SECOND FLOOR PLAN - PLUMBING
- M-1.4 PROPOSED THIRD FLOOR PLAN - PLUMBING
- M-2.1 PROPOSED BASEMENT PLAN - HVAC
- M-2.2 PROPOSED GROUND FLOOR PLAN - HVAC
- M-2.3 PROPOSED SECOND FLOOR PLAN - HVAC
- M-2.4 PROPOSED THIRD FLOOR PLAN - HVAC
- M-2.5 DETAILS AND SCHEDULES

- E1.0 LEGEND AND DETAILS
- E2.0 LIGHTING LAYOUT - BASEMENT LEVEL
- E2.1 LIGHTING LAYOUT - GROUND FLOOR
- E2.2 LIGHTING LAYOUT - SECOND FLOOR
- E2.3 LIGHTING LAYOUT - THIRD FLOOR
- E3.0 POWER AND SYSTEMS LAYOUT - BASEMENT LEVEL
- E3.1 POWER AND SYSTEMS LAYOUT - GROUND FLOOR
- E3.2 POWER AND SYSTEMS LAYOUT - SECOND FLOOR
- E3.3 POWER AND SYSTEMS LAYOUT - THIRD FLOOR



CLOSEST MAIN STREET INTERSECTION:
CHURCH ST. AND CARLISLE ST.

PROJECT INFORMATION

PROJECT TITLE:
ST. CATHARINES PUBLIC LIBRARY CENTRAL BRANCH INTERIOR RENOVATION

PROJECT ADDRESS:
54 CHURCH ST, ST. CATHARINES, ON L2R 7K2

OWNER:
ST. CATHARINES PUBLIC LIBRARY

OWNER'S CONTACT INFORMATION:
54 CHURCH ST, ST. CATHARINES, ON L2R 7K2

CONSULTANT:
ward99 architects inc.

CONSULTANT'S CONTACT INFORMATION:
7500 HIGHWAY 27 UNIT 27B
VAUGHAN ON L4H 0J2
TEL: 416-613-5880
EMAIL: INFO@WARD99ARCHITECTS.COM

NOTE: THIS DRAWING IS NOT TO BE SCALED. THE CONTRACTOR IS RESPONSIBLE FOR THE VERIFICATION OF ALL SITE DIMENSIONS AND FOR NOTIFYING THE ARCHITECT OF ANY SITE CONDITIONS AND SITE MEASUREMENTS THAT ARE NOT CONSISTENT WITH THE DRAWINGS.

no.	revision	date

no.	issue	date
1	Issued for Costing - Class D	Aug 26, 2022

project
ST. CATHARINES PUBLIC LIBRARY CENTRAL BRANCH INTERIOR RENOVATION

54 CHURCH ST, ST. CATHARINES, ON L2R 7K2

drawing
DRAWING LIST

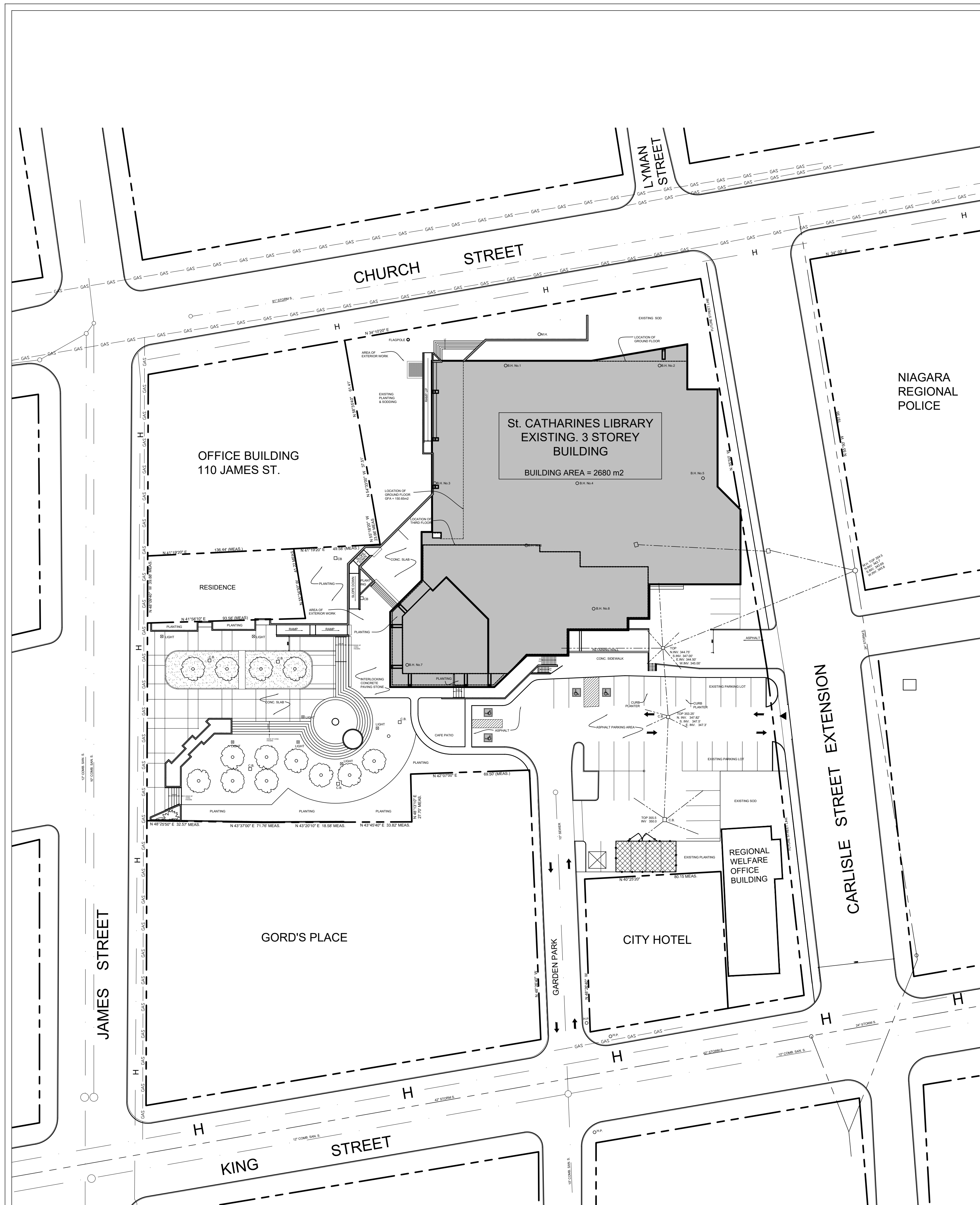
drawing scale
N/A

ward99 project number
21036 - ST. CATHARINES LIBRARY

ward99
architects

A0.0

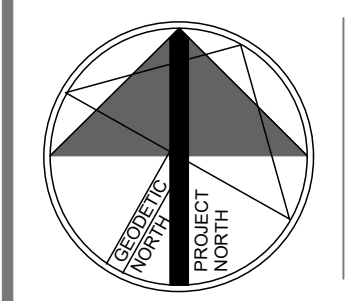
ward99 architects inc.
7500 Highway 27, Unit 27B
Vaughan ON L4H 0J2
info@ward99architects.com
416 613 5880 www.ward99architects.com



1
A1.1 EXISTING SITE PLAN
1:400

NOTE: THIS DRAWING IS NOT TO BE SCALED. THE CONTRACTOR IS RESPONSIBLE FOR THE VERIFICATION OF ALL SITE DIMENSIONS AND FOR NOTIFYING THE ARCHITECT OF ANY SITE CONDITIONS AND SITE MEASUREMENTS THAT ARE NOT CONSISTENT WITH THE DRAWINGS.

no.	revision	date



no.	issue	date
1	Issued for Costing - Class D	Aug. 26, 2022

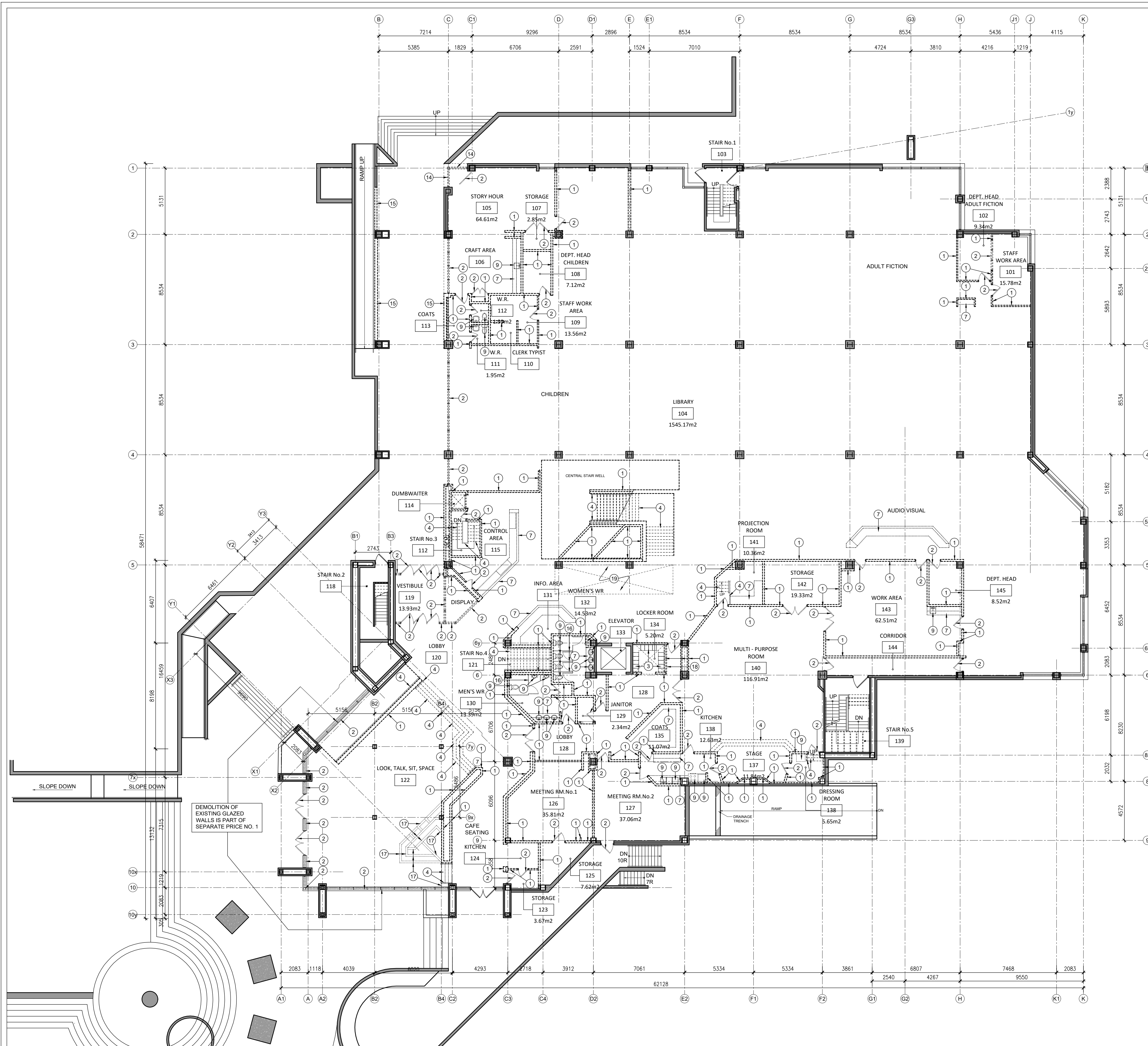
project
**ST. CATHARINES PUBLIC LIBRARY CENTRAL BRANCH
 INTERIOR RENOVATION**
 drawing
54 CHURCH ST., ST. CATHARINES, ON L2R 7K2
 drawing scale
EXISTING SITE PLAN
AS NOTED
 ward99 project number
21036 - ST. CATHARINES LIBRARY

ward99 architects drawing no.

WaRD₉₉

A1.1

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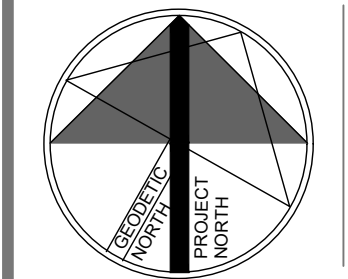


DEMOLITION FLOOR PLAN NOTES

- ① DEMOLITION FLOOR PLAN NOTE. REFER TO DRAWING 1/A2.2.
- REMOVE AND DISPOSE OF EXISTING GYPSUM BOARD FINISHED STEEL STUD PARTITION WALL IN ITS ENTIRETY. PATCH, REPAIR, MAKE GOOD AND FLUSH EXISTING CONCRETE FLOOR SLAB. EXISTING WALL ASSEMBLY AND UNDERSIDE OF EXISTING STEEL DECK. ENSURE ALL SURFACES ARE ACCEPTABLE FOR THE INSTALLATION OF NEW FINISHES AND NEW WALL CONSTRUCTION.
 - REMOVE AND DISPOSE OF EXISTING STEEL DOOR, DOOR FRAME, SCREEN FRAME, WIRED GLASS LITES AND ASSOCIATED HARDWARE IN ITS ENTIRETY.
 - REMOVE AND DISPOSE OF EXISTING LOCKERS AND ASSOCIATED FRAMING AND CONCRETE BASE. REPAIR, PATCH, MAKE GOOD AND FLUSH EXISTING CONCRETE FLOOR SLAB. ENSURE FLOOR SURFACE IS ACCEPTABLE FOR INSTALLATION OF NEW FLOOR FINISH.
 - REMOVE AND DISPOSE OF EXISTING STAIR AND EXISTING WALL MOUNTED STEEL HANDRAIL ASSEMBLY IN ITS ENTIRETY.
 - REMOVE AND DISPOSE OF EXISTING BOOK STACK/BROOK SHELVES IN THEIR ENTIRETY. OWNER TO REMOVE ALL COLLECTION MATERIALS PRIOR TO CONSTRUCTION. PATCH, REPAIR AND MAKE GOOD, FLUSH AND SMOOTH EXISTING GYPSUM BOARD WALL FINISH WHERE SHELVES ARE REMOVED FROM EXISTING WALLS.
 - ST. CATHARINES PUBLIC LIBRARY WILL REMOVE AND DISPOSE OF EXISTING LOOSE FURNITURE AND APPLIANCES. THE CONTRACTOR IS RESPONSIBLE TO UNINSTALL, REMOVE AND DISPOSE OF WALL MOUNTED ITEMS, FLOOR MOUNTED ITEMS AND CEILING MOUNTED ITEMS.
 - DEMOLISH EXISTING MILLWORK.
 - REMOVE AND DISPOSE OF EXISTING MILLWORK SHELF, WALL BOARD AND WALL UNIT. PATCH, REPAIR AND MAKE GOOD EXISTING GYPSUM BOARD FINISHED WALL IN PREPARATION FOR NEW PAINT FINISH.
 - DEMOLISH EXISTING PLUMBING FIXTURE AND APPLIANCES.
 - REMOVE EXISTING ELECTRICAL PANEL.
 - REMOVE AND DISPOSE OF EXISTING PARTITION BOARD.
 - DEMOLISH THE EXISTING BOOK RETURN TRACK.
 - DEMOLISH EXISTING ELEVATOR ASSEMBLY AND ASSOCIATED HARDWARE AND BUTTONS AND REPLACE WITH NEW ELEVATOR ASSEMBLY INCLUDING BUTTONS. REFER TO ELEVATOR SPECIFICATIONS IN THE PROJECT MANUAL AND MECHANICAL AND ELECTRICAL DOCUMENTS.
 - DEMOLISH EXISTING EXTERIOR ALUMINUM WINDOW FRAME ASSEMBLY.
 - DEMOLISH EXISTING EXTERIOR CONCRETE MASONRY UNIT WALL.
 - DEMOLISH EXISTING TOILET PARTITION.
 - DEMOLISH EXISTING CONCRETE LOW WALL.
 - DEMOLISH EXISTING CONCRETE FLOOR SLAB ASSEMBLY TO PROVIDE FOR NEW ELEVATOR SHAFT AND ELEVATOR ASSEMBLY.
 - DEMOLISH EXISTING CONCRETE FLOOR SLAB TO ACCOMMODATE NEW STAIR ASSEMBLY.

NOTE: THIS DRAWING IS NOT TO BE SCALED. THE CONTRACTOR IS RESPONSIBLE FOR THE VERIFICATION OF ALL SITE DIMENSIONS AND FOR NOTIFYING THE ARCHITECT OF ANY SITE CONDITIONS AND SITE MEASUREMENTS THAT ARE NOT CONSISTENT WITH THE DRAWINGS.

no.	revision	date



no.	issue	date
1	Issued for Costing - Class D	Aug. 26, 2022

project
**ST. CATHARINES PUBLIC LIBRARY CENTRAL BRANCH
 INTERIOR RENOVATION**

54 CHURCH ST., ST. CATHARINES, ON L2R 7K2

drawing
EXISTING GROUND FLOOR DEMOLITION PLAN

drawing scale
AS NOTED

ward99 project number
21036 - ST. CATHARINES LIBRARY

ward99 architects
 architects

drawing no.
A2.2

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1
 A2.2 EXISTING GROUND FLOOR DEMOLITION PLAN
 1:150

EXISTING GROUND FLOOR GFA = 2460.59m2

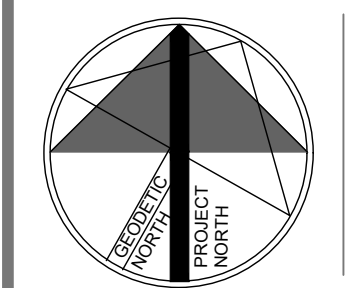
DEMOLITION FLOOR PLAN NOTES

➡ DEMOLITION FLOOR PLAN NOTE. REFER TO DRAWING 1/A2.3.

DEMOLISH PART OF EXISTING ROOF ASSEMBLY TO PROVIDE FOR NEW TERRACE AND GREEN ROOF. PART OF SEPARATE PRICE NO. 2

NOTE: THIS DRAWING IS NOT TO BE SCALED. THE CONTRACTOR IS RESPONSIBLE FOR THE VERIFICATION OF ALL SITE DIMENSIONS AND FOR NOTIFYING THE ARCHITECT OF ANY SITE CONDITIONS AND SITE MEASUREMENTS THAT ARE NOT CONSISTENT WITH THE DRAWINGS.

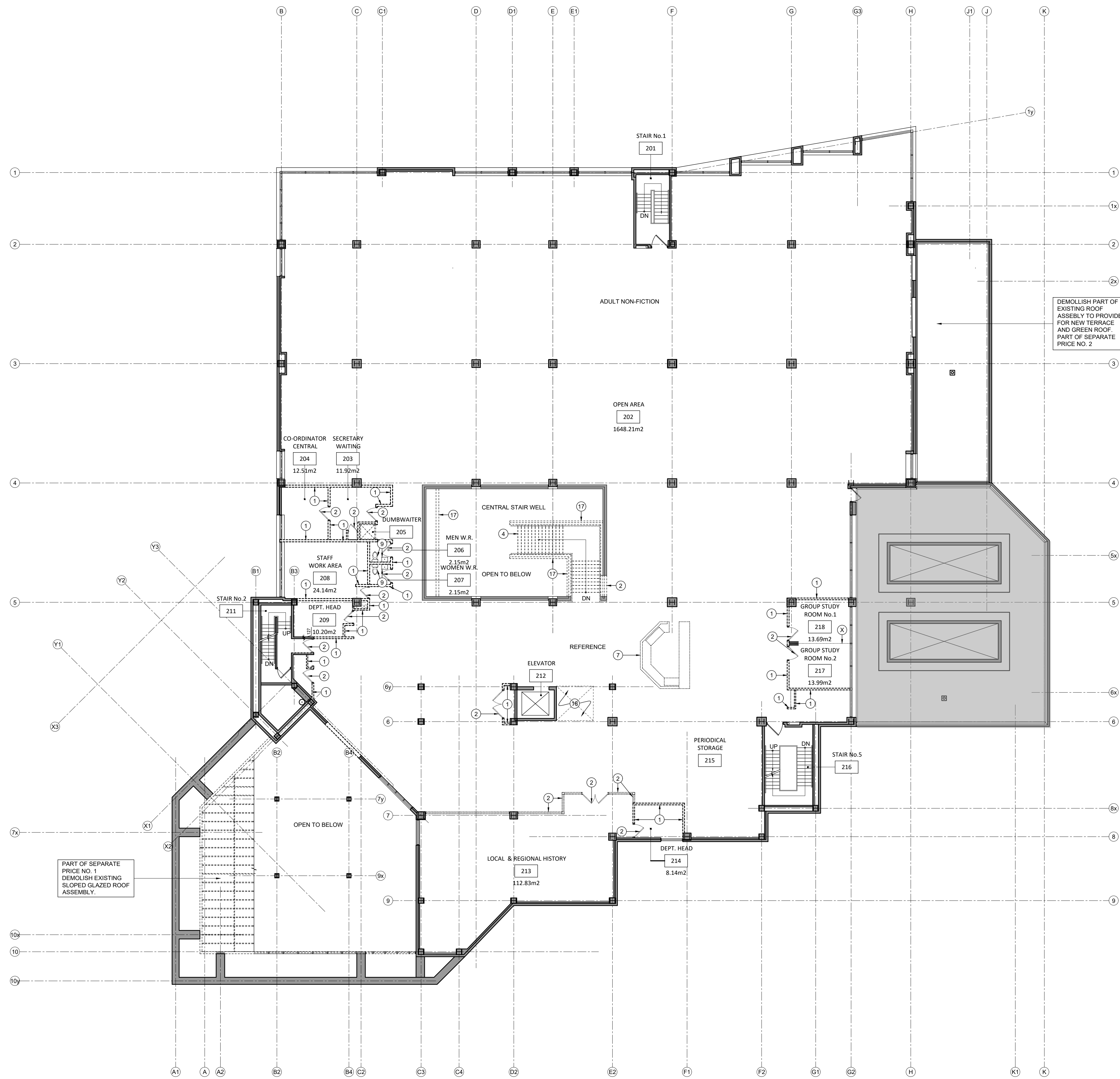
no.	revision	date



no.	issue	date
1	Issued for Costing - Class D	Aug.26, 2022

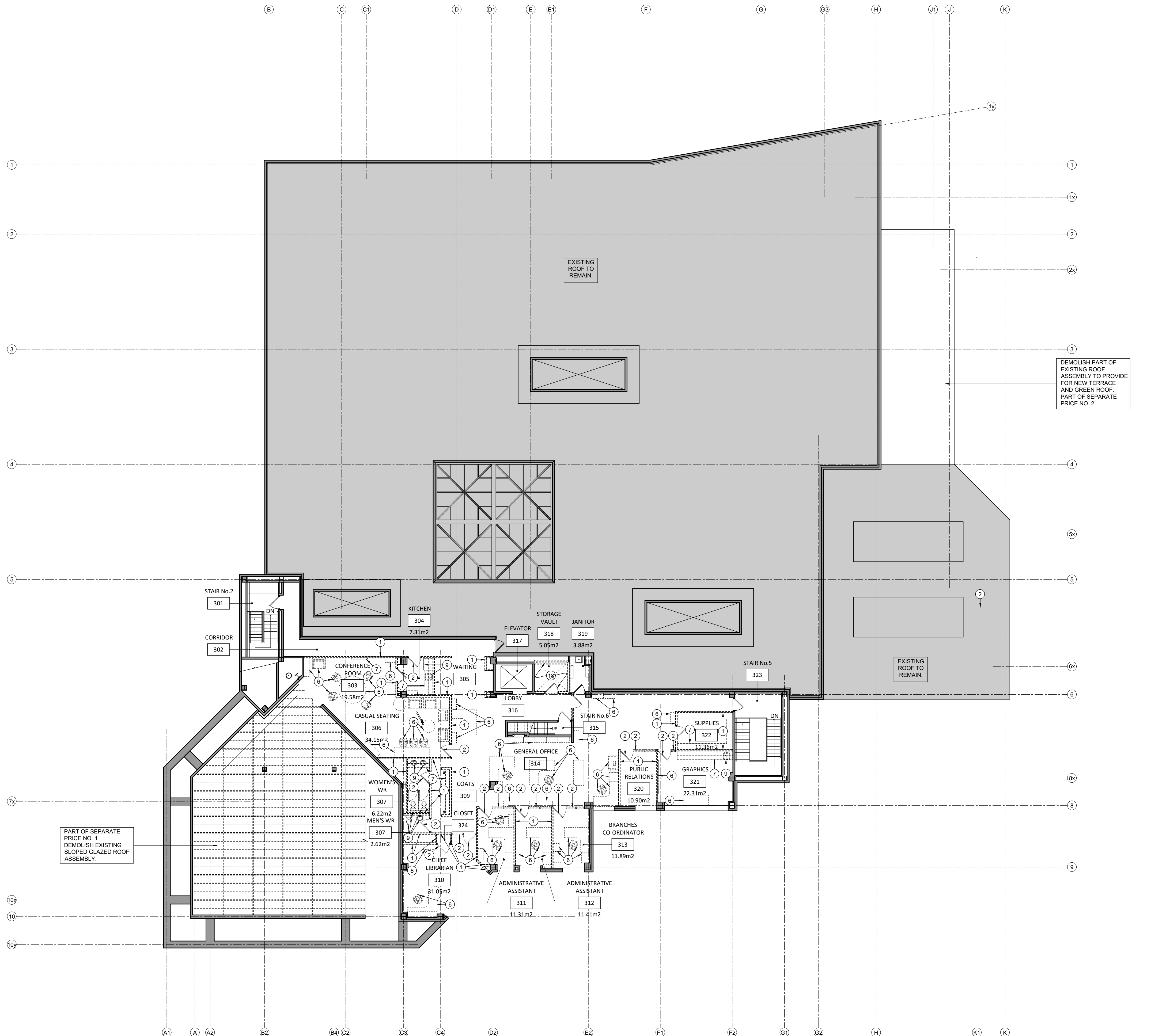
project
**ST. CATHARINES PUBLIC LIBRARY CENTRAL BRANCH
 INTERIOR RENOVATION**
 drawing
EXISTING SECOND FLOOR DEMOLITION PLAN
 drawing scale
AS NOTED
 ward99 project number
21036 - ST. CATHARINES LIBRARY

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 drawing no.
A2.3
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 416-613-9890 www.ward99architects.com



1
 A2.3 EXISTING SECOND FLOOR DEMOLITION PLAN
 1:150

EXISTING SECOND FLOOR GFA = 2024.73m2



DEMOLITION FLOOR PLAN NOTES

→ DEMOLITION FLOOR PLAN NOTE. REFER TO DRAWING 1/A2.2.

DEMOLISH PART OF EXISTING ROOF ASSEMBLY TO PROVIDE FOR NEW TERRACE AND GREEN ROOF. PART OF SEPARATE PRICE NO. 2

PART OF SEPARATE PRICE NO. 1 DEMOLISH EXISTING SLOPED GLAZED ROOF ASSEMBLY.

EXISTING ROOF TO REMAIN

EXISTING ROOF TO REMAIN

NOTE: THIS DRAWING IS NOT TO BE SCALED. THE CONTRACTOR IS RESPONSIBLE FOR THE VERIFICATION OF ALL SITE DIMENSIONS AND FOR NOTIFYING THE ARCHITECT OF ANY SITE CONDITIONS AND SITE MEASUREMENTS THAT ARE NOT CONSISTENT WITH THE DRAWINGS.

no.	revision	date

no.	issue	date
1	Issued for Costing - Class D	Aug 26, 2022

project
ST. CATHARINES PUBLIC LIBRARY CENTRAL BRANCH INTERIOR RENOVATION
 drawing
EXISTING THIRD FLOOR DEMOLITION PLAN
 drawing scale
AS NOTED
 ward99 project number
21036 - ST. CATHARINES LIBRARY

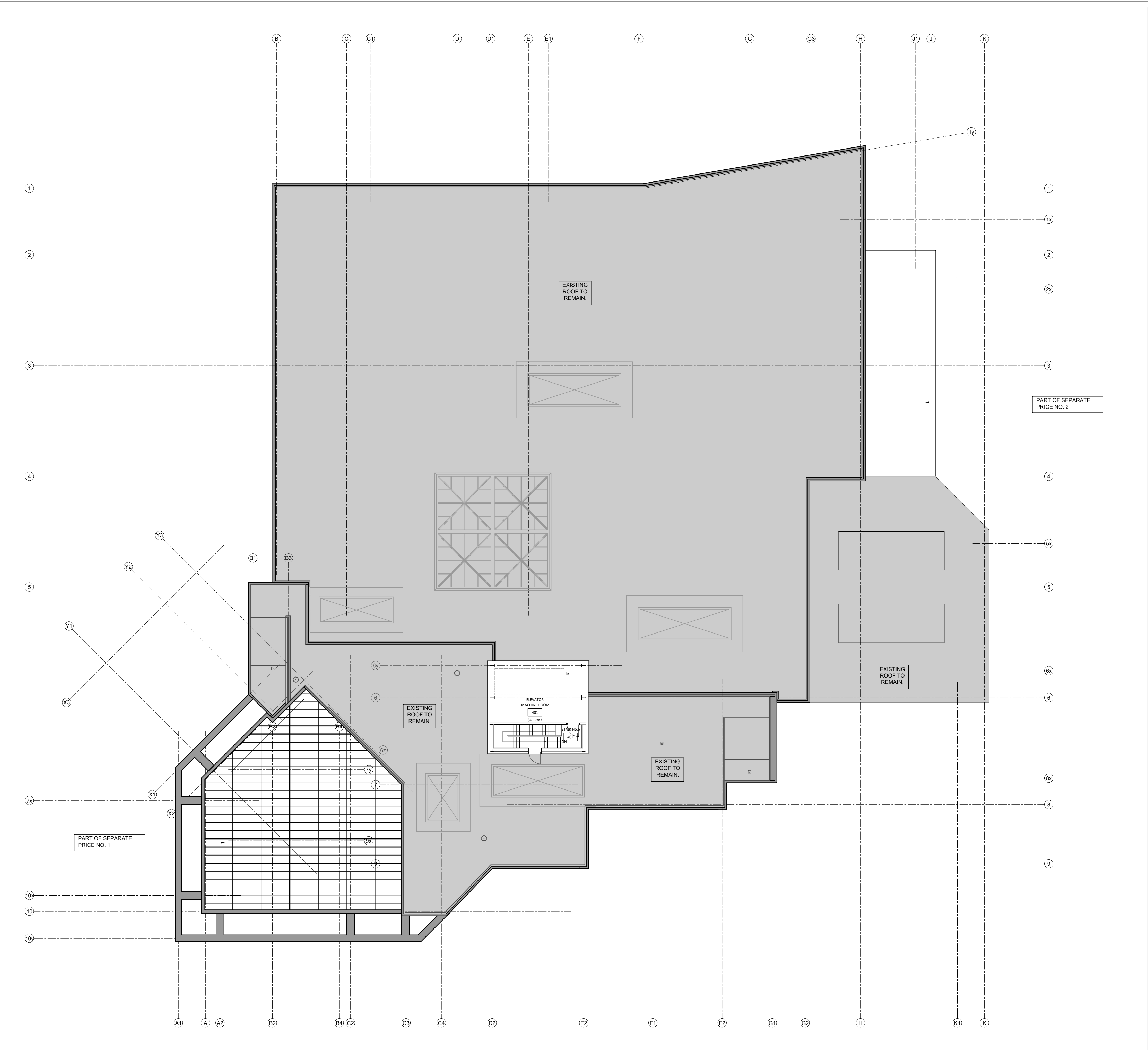
ward99 architects drawing no.

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1 **EXISTING THIRD FLOOR DEMOLITION PLAN**
 A2.4 1:150

EXISTING THIRD FLOOR GFA = 466.63m²

A2.4



DEMOLITION FLOOR PLAN NOTES

DEMOLITION FLOOR PLAN NOTE. REFER TO DRAWING 1/A2.x.

NOTE: THIS DRAWING IS NOT TO BE SCALED. THE CONTRACTOR IS RESPONSIBLE FOR THE VERIFICATION OF ALL SITE DIMENSIONS AND FOR NOTIFYING THE ARCHITECT OF ANY SITE CONDITIONS AND SITE MEASUREMENTS THAT ARE NOT CONSISTENT WITH THE DRAWINGS.

no.	revision	date

no.	issue	date
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project
**ST. CATHARINES PUBLIC LIBRARY CENTRAL BRANCH
 INTERIOR RENOVATION**

54 CHURCH ST. ST. CATHARINES, ON L2R 7K2

drawing
EXISTING ROOF DEMOLITION PLAN

drawing scale
AS NOTED

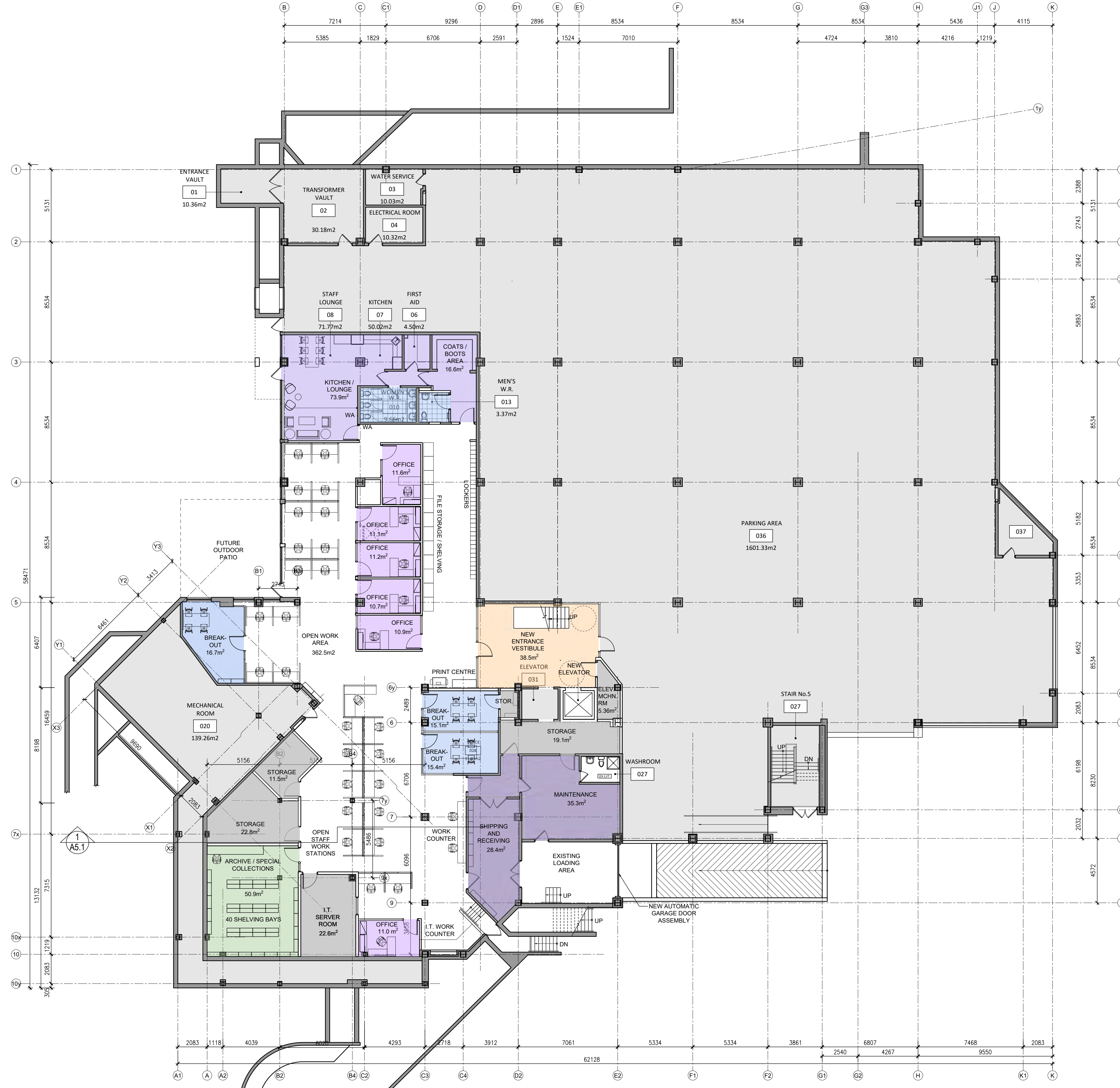
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ward99 architects drawing no.

A2.5

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1 EXISTING ROOF DEMOLITION PLAN
 A2.5 1:150



1 PROPOSED BASEMENT PLAN
A2.6 1:150

PROPOSED BASEMENT PLAN AREA = 1080.53m²
AREA OF RENOVATION = 924.55m²

NOTE: THIS DRAWING IS NOT TO BE SCALED. THE CONTRACTOR IS RESPONSIBLE FOR THE VERIFICATION OF ALL SITE DIMENSIONS AND FOR NOTIFYING THE ARCHITECT OF ANY SITE CONDITIONS AND SITE MEASUREMENTS THAT ARE NOT CONSISTENT WITH THE DRAWINGS.

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no.	issue	date
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project
**ST. CATHARINES PUBLIC LIBRARY CENTRAL BRANCH
INTERIOR RENOVATION**

54 CHURCH ST., ST. CATHARINES, ON L2R 7K2

drawing:
PROPOSED BASEMENT PLAN

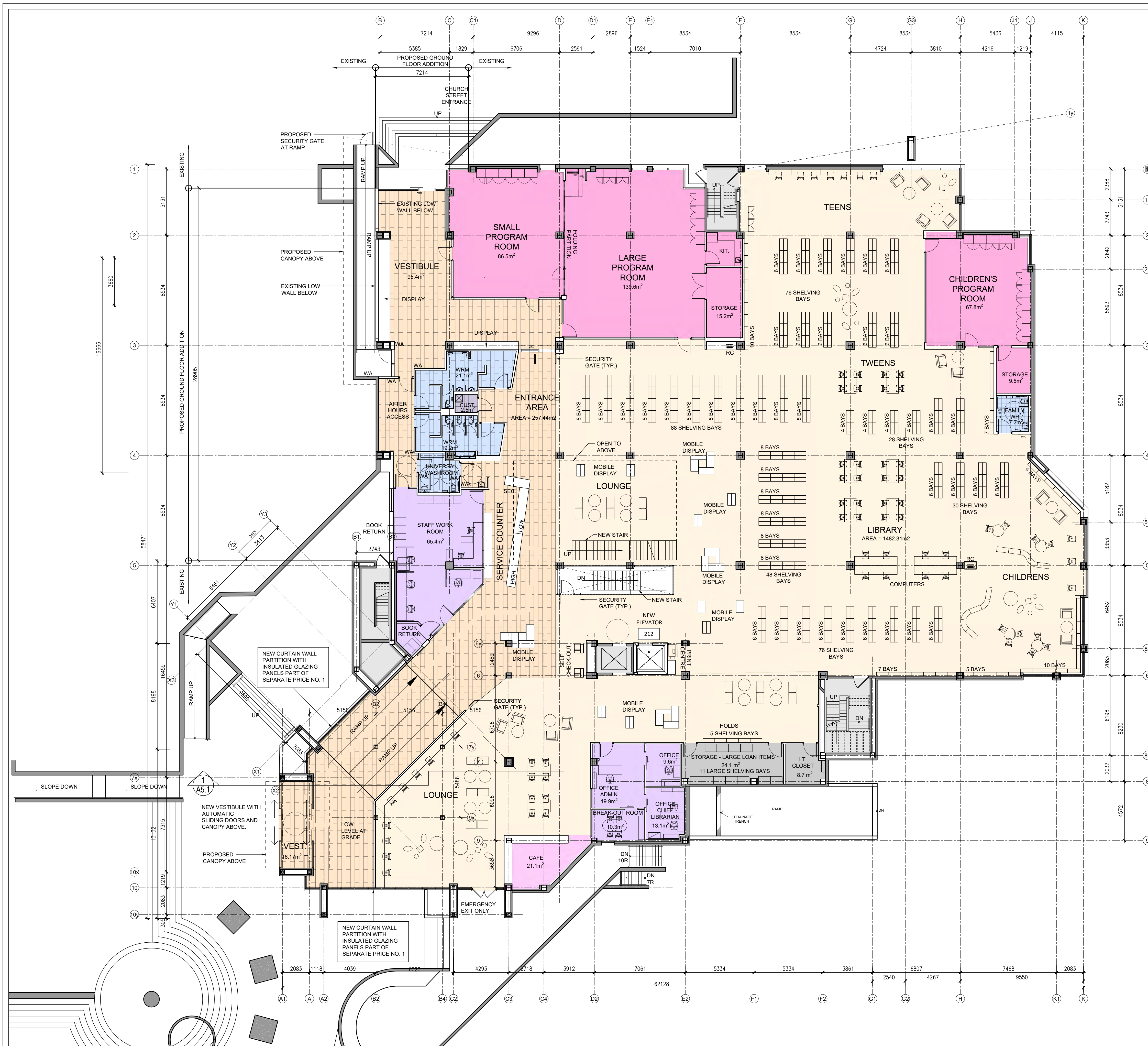
drawing scale
AS NOTED

ward99 project number
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drawing no.

A2.6



LEGEND

- LIBRARY
- STAFF OFFICES / WORK AREA
- PROGRAM ROOMS
- NEW ENTRANCE / VESTIBULE
- WASHROOMS
- CUSTODIAN ROOM
- CAFE
- STORAGE / I.T. ROOM
- EXISTING AREA TO REMAIN

NOTE: THIS DRAWING IS NOT TO BE SCALED. THE CONTRACTOR IS RESPONSIBLE FOR THE VERIFICATION OF ALL SITE DIMENSIONS AND FOR NOTIFYING THE ARCHITECT OF ANY SITE CONDITIONS AND SITE MEASUREMENTS THAT ARE NOT CONSISTENT WITH THE DRAWINGS.

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project
ST. CATHARINES PUBLIC LIBRARY CENTRAL BRANCH
 INTERIOR RENOVATION

54 CHURCH ST., ST. CATHARINES, ON L2R 7K2

drawing
PROPOSED GROUND FLOOR PLAN

drawing scale
 AS NOTED

ward99 project number
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ward99 architects drawing no.

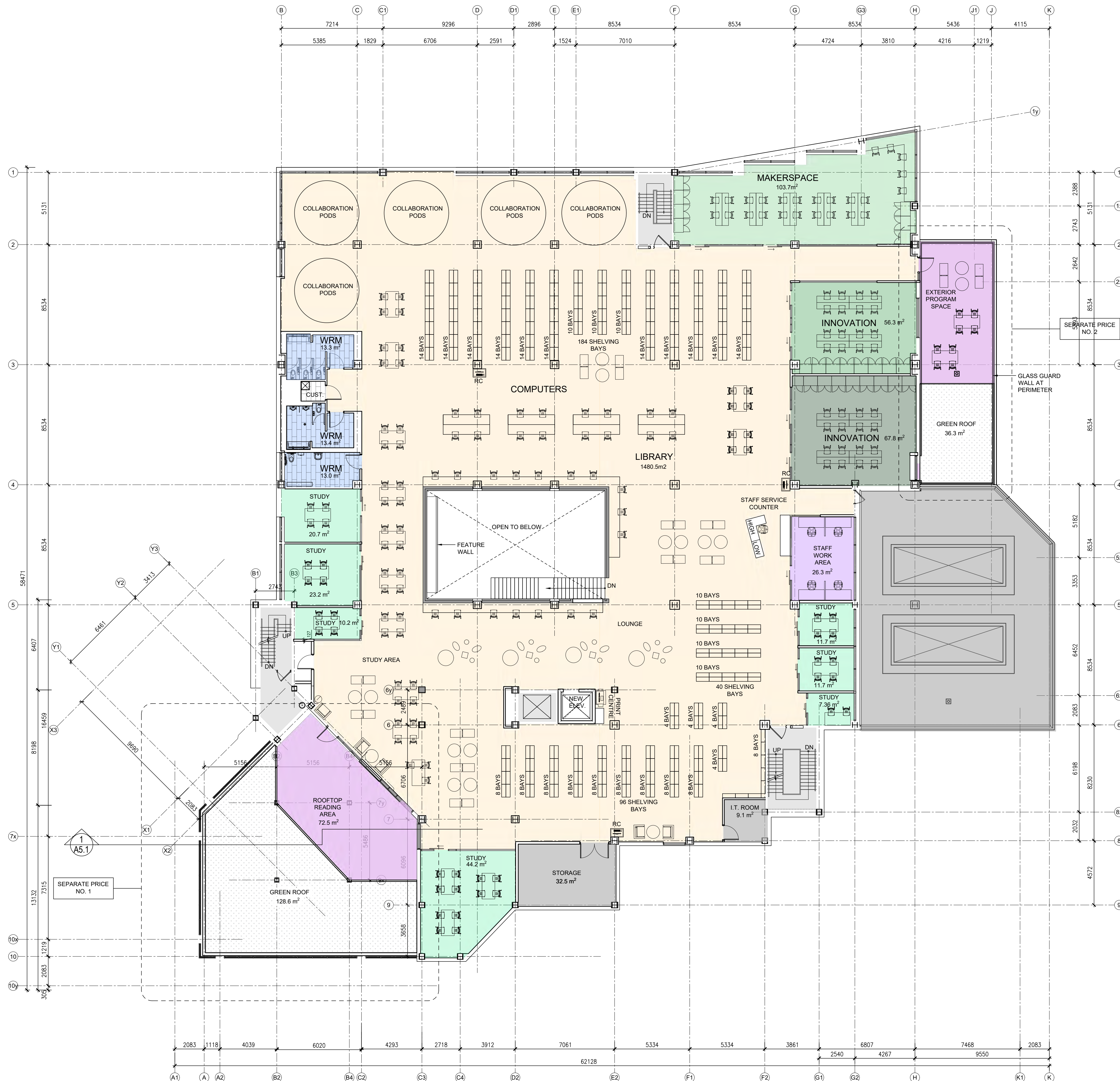
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 416-613-5880 www.ward99architects.com

A2.7

1 PROPOSED GROUND FLOOR PLAN
 A2.7 1:150

PROPOSED GROUND FLOOR AREA = 2624.74m²



SEPARATE PRICE NO. 2

SEPARATE PRICE NO. 1

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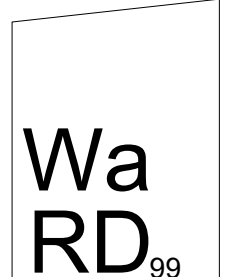
project
**ST. CATHARINES PUBLIC LIBRARY CENTRAL BRANCH
 INTERIOR RENOVATION**

54 CHURCH ST., ST. CATHARINES, ON L2R 7K2

drawing
PROPOSED SECOND FLOOR PLAN

Drawing scale
AS NOTED

ward99 project number
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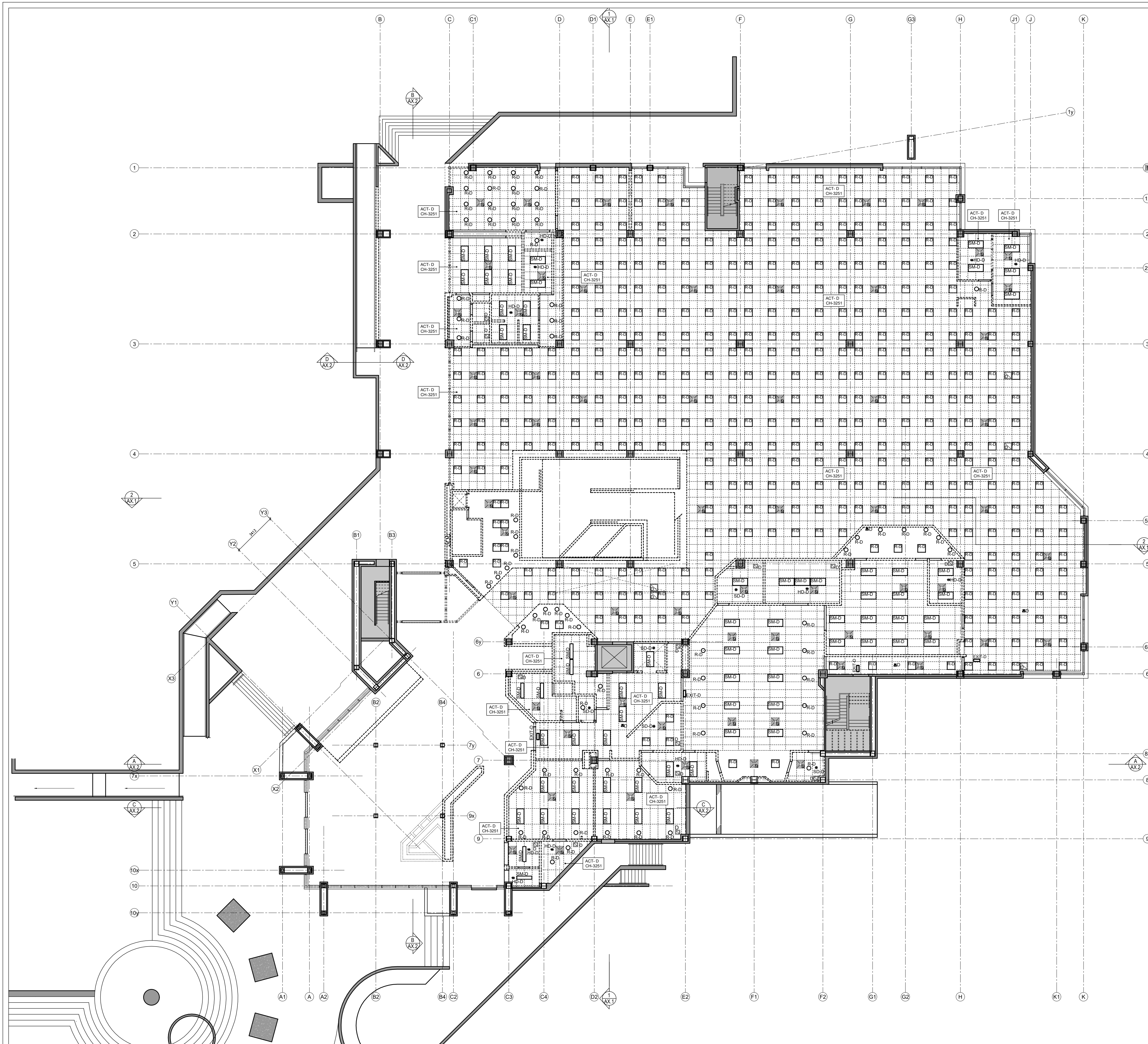
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 416 613 5800 www.ward99architects.com

drawing no.

A2.8

1 PROPOSED SECOND FLOOR PLAN
 A2.8 1:150

EXISTING SECOND FLOOR GFA = 2024.73m2



**REFLECTED CEILING DEMOLITION
LEGEND AND NOTES**

- SM-D = UNINSTALL, REMOVE AND DISPOSE SURFACE MOUNT LIGHT. SM = EXISTING SURFACE MOUNT LIGHT FIXTURE TO REMAIN. REFER TO ELECTRICAL DRAWINGS.
- R-D = UNINSTALL, REMOVE AND DISPOSE RECESSED LIGHT FIXTURE. REFER TO ELECTRICAL DRAWINGS.
- WM-D = EXISTING WALL MOUNTED LIGHT FIXTURE TO REMAIN. WM = UNINSTALL, REMOVE AND DISPOSE WALL MOUNTED LIGHT FIXTURE. REFER TO ELECTRICAL DRAWINGS.
- EXIT-D = REMOVE AND DISPOSE OF EXISTING WALL MOUNTED SIGN. EXIT-D WM = REMOVE AND DISPOSE OF EXISTING CEILING MOUNTED SIGN. REFER TO ELECTRICAL DRAWINGS.
- WM-D = REMOVE AND DISPOSE OF EXISTING WALL MOUNTED EMERGENCY LIGHT FIXTURE. D = REMOVE AND DISPOSE OF EXISTING EMERGENCY LIGHT FIXTURE. REFER TO ELECTRICAL DRAWINGS.
- D = REMOVE AND DISPOSE OF EXISTING SUPPLY AIR GRILLE. REFER TO MECHANICAL DRAWINGS.
- WM = EXISTING RETURN AIR GRILLE TO REMAIN.
- D = DEMOLISH EXISTING RETURN AIR GRILLE. WM = EXISTING RETURN AIR GRILLE TO REMAIN. REFER TO MECHANICAL DRAWINGS.
- MS-D = DEMOLISH EXISTING MOTION SENSOR. REFER TO MECHANICAL DRAWINGS.
- FB = EXISTING FIRE BELL TO REMAIN. FB-D = UNINSTALL EXISTING FIRE BELL. REFER TO ELECTRICAL DRAWINGS. PATCH EXISTING PARTITIONS SURFACE FINISHED PARTITION AS REQUIRED TO MAKE SURFACES GOOD AND FLUSH.
- CA-D = UNINSTALL EXISTING SURFACE MOUNTED SECURITY CAMERA. REFER TO MECHANICAL DRAWINGS.
- HD-D = UNINSTALL EXISTING HEAT DETECTOR. REFER TO ELECTRICAL DRAWINGS.
- WAP-D = UNINSTALL EXISTING WIRELESS ACCESS DEVICE. REFER TO ELECTRICAL DRAWINGS.
- SD = EXISTING SMOKE DETECTOR TO REMAIN. SD-D = UNINSTALL EXISTING SMOKE DETECTOR. REFER TO ELECTRICAL DRAWINGS.
- FA-D = UNINSTALL EXISTING FIRE ALARM AND DEMOLISH ASSOCIATE CONDUIT. REFER TO ELECTRICAL DRAWINGS.
- EXACT = EXISTING SUSPENDED ACOUSTIC CEILING TILE ASSEMBLY TO REMAIN. UNINSTALL AND STORE TEMPORARILY AND REINSTATE AS REQUIRED TO COMPLETE THE WORK, INCLUDING ALL ARCHITECTURAL, STRUCTURAL, MECHANICAL AND ELECTRICAL. ACT-D = REMOVE AND DISPOSE OF EXISTING SUSPENDED ACOUSTIC CEILING TILE AND T-BAR ASSEMBLY IN ITS ENTIRETY. CH = HEIGHT FROM FINISHED FLOOR TO UNDERSIDE OF EXISTING CEILING.
- EX-GBD = EXISTING GYPSUM BOARD FINISHED SUSPENDED CEILING ASSEMBLY AND/OR BULKHEAD TO REMAIN. CREATE OPENINGS AS REQUIRED TO ACCOMMODATE NEW WORK (ARCHITECTURAL, STRUCTURAL, MECHANICAL AND ELECTRICAL) AND PATCH AND REPAIR CEILING ASSEMBLY TO ORIGINAL CONDITION AFTER WORK IS COMPLETED AND AS REQUIRED. CH = HEIGHT FROM FINISHED FLOOR TO UNDERSIDE OF EXISTING CEILING.
- GBD-D = REMOVE AND DISPOSE OF EXISTING GYPSUM BOARD FINISHED SUSPENDED CEILING ASSEMBLY AND/OR BULKHEAD IN ITS ENTIRETY OR FOR THE PORTION INDICATED ON THE DRAWINGS. CEILING IS COMPRISED OF 2 LAYERS OF 16mm TYPE X GBD ON 64mm STEEL CHANNEL FRAMING AT 400mm O.C.
- EXP = EXISTING CEILING IS EXPOSED TO ABOVE. CH - VARIES = CEILING IS SLOPED AND HEIGHT VARIES.
- EXISTING INTERIOR MASONRY (CONCRETE BLOCK) WALL HEADER ABOVE EXISTING WALL OPENING.
- EXISTING INTERIOR GYPSUM BOARD FINISHED STEEL STUD FRAMED WALL HEADER ABOVE EXISTING WALL OPENING.
- REMOVE AND DISPOSE OF EXISTING SUSPENDED ACOUSTIC CEILING TILE AND ASSOCIATED FRAMING ASSEMBLY. SIZE: 610mm X 610mm ±, 1220mm X 610mm ±. REMOVE EXISTING ELECTRICAL AND MECHANICAL FIXTURES AND FITMENTS FROM EXISTING CEILING ASSEMBLY. REFER TO MECHANICAL AND ELECTRICAL DRAWINGS FOR RELOCATION OF EXISTING FIXTURES AND PROVISION FOR NEW FIXTURES. PROVIDE NEW ACOUSTIC CEILING ASSEMBLY AS INDICATED ON PROPOSED REFLECTED CEILING PLAN LAYOUT.
- EXISTING SUSPENDED ACOUSTIC CEILING TILE AND ASSOCIATED FRAMING ASSEMBLY TO REMAIN. SIZE: 1220mm X 610mm ±. TEMPORARILY REMOVE, PROTECT AND STORE EXISTING CEILING ASSEMBLY IN ITS ENTIRETY AS REQUIRED TO COMPLETE DEMOLITION AND NEW WORK REGARDING ARCHITECTURAL, STRUCTURAL, MECHANICAL AND ELECTRICAL WORKS. TEMPORARILY UNINSTALL EXISTING MECHANICAL AND ELECTRICAL FIXTURES AND DEVICES AS REQUIRED TO COMPLETE THE WORK. REINSTALL EXISTING CEILING ASSEMBLIES AND MECHANICAL AND ELECTRICAL DEVICES AND FIXTURES AFTER COMPLETION OF ALL WORK.

NOTE: THIS DRAWING IS NOT TO BE SCALED. THE CONTRACTOR IS RESPONSIBLE FOR THE VERIFICATION OF ALL SITE DIMENSIONS AND FOR NOTIFYING THE ARCHITECT OF ANY SITE CONDITIONS AND SITE MEASUREMENTS THAT ARE NOT CONSISTENT WITH THE DRAWINGS.

no.	revision	date

no.	issue	date
1	Issued for Costing - Class D	Aug 26, 2022

project
ST. CATHARINES PUBLIC LIBRARY CENTRAL BRANCH
INTERIOR RENOVATION

54 CHURCH ST. ST. CATHARINES, ON L2R 7K2

drawing
EXISTING GROUND FLOOR REFLECTED CEILING DEMOLITION PLAN

drawing scale
AS NOTED

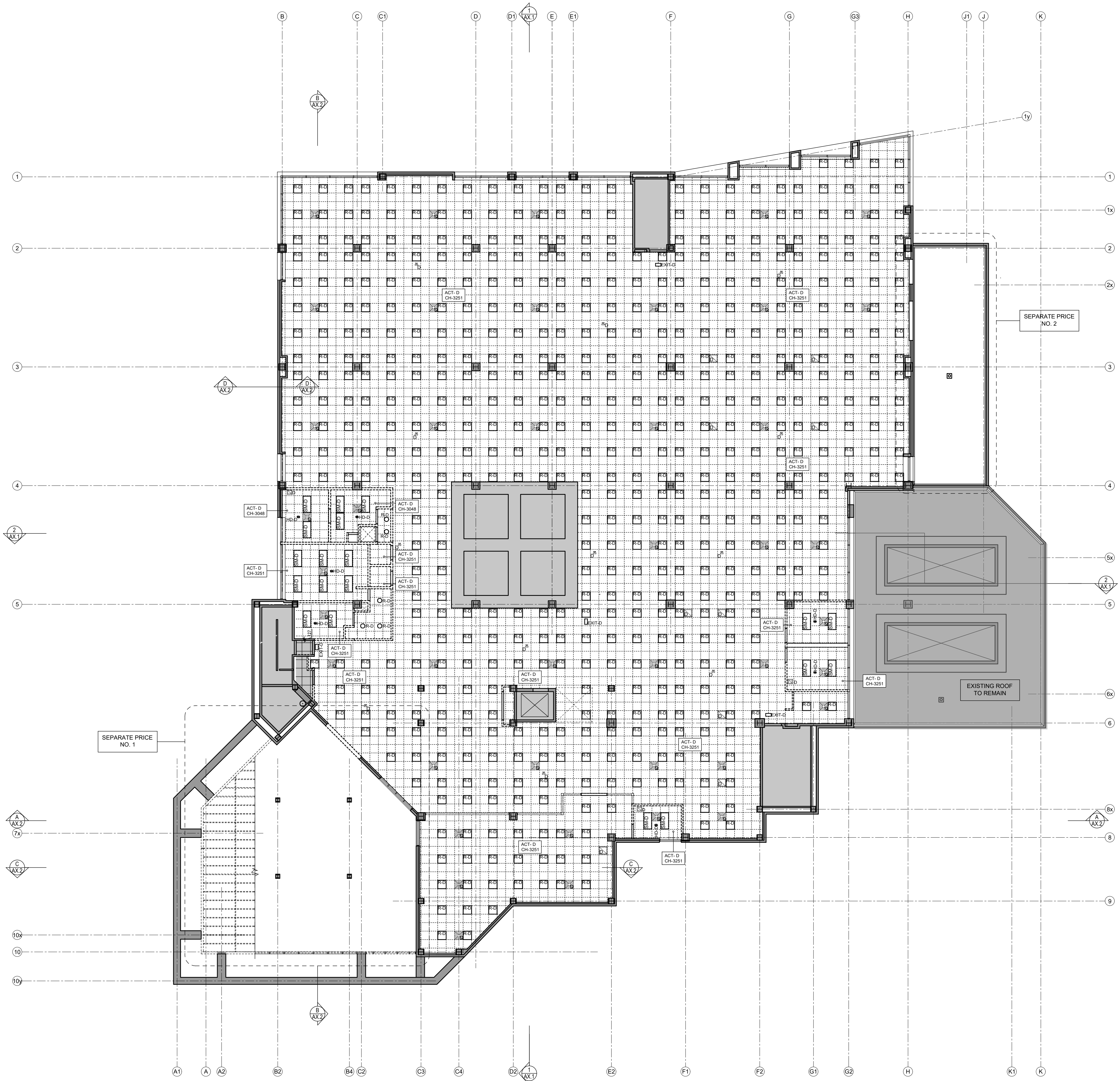
ward99 project number
21036 - ST. CATHARINES LIBRARY

drawing no.

A3.2

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416-613-9880 www.ward99architects.com

1 EXISTING GROUND FLOOR REFLECTED CEILING DEMOLITION PLAN
A3.2 1:150

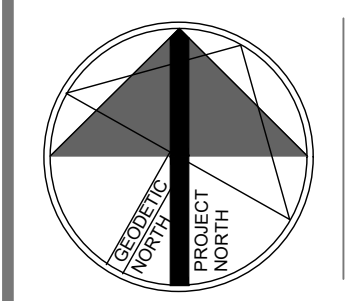


REFLECTED CEILING DEMOLITION LEGEND AND NOTES

- SM-D = UNINSTALL, REMOVE AND DISPOSE SURFACE MOUNT LIGHT.
 SM = EXISTING SURFACE MOUNT LIGHT FIXTURE TO REMAIN. REFER TO ELECTRICAL DRAWINGS.
- R-D = UNINSTALL, REMOVE AND DISPOSE RECESSED LIGHT FIXTURE. REFER TO ELECTRICAL DRAWINGS.
- WM = EXISTING WALL MOUNTED LIGHT FIXTURE TO REMAIN.
 WM-D = UNINSTALL, REMOVE AND DISPOSE WALL MOUNTED LIGHT FIXTURE. REFER TO ELECTRICAL DRAWINGS.
- EXIT-D = REMOVE AND DISPOSE OF EXISTING WALL MOUNTED SIGN.
 EXIT-D WM = REMOVE AND DISPOSE OF EXISTING CEILING MOUNTED SIGN. REFER TO ELECTRICAL DRAWINGS.
- WM-D = REMOVE AND DISPOSE OF EXISTING WALL MOUNTED EMERGENCY LIGHT FIXTURE.
 D = REMOVE AND DISPOSE OF EXISTING EMERGENCY LIGHT FIXTURE. REFER TO ELECTRICAL DRAWINGS.
- EXISTING SUPPLY AIR GRILLE TO REMAIN.
- D = REMOVE AND DISPOSE OF EXISTING SUPPLY AIR GRILLE. REFER TO MECHANICAL DRAWINGS.
- EXISTING RETURN AIR GRILLE TO REMAIN.
- WM = EXISTING RETURN AIR GRILLE TO REMAIN.
- D = DEMOLISH EXISTING RETURN AIR GRILLE.
 WM = EXISTING RETURN AIR GRILLE TO REMAIN. REFER TO MECHANICAL DRAWINGS.
- MS-D = DEMOLISH EXISTING MOTION SENSOR. REFER TO MECHANICAL DRAWINGS.
- FB = EXISTING FIRE BELL TO REMAIN.
 FB-D = UNINSTALL EXISTING FIRE BELL. REFER TO ELECTRICAL DRAWINGS. PATCH EXISTING PARTITIONS SURFACE FINISHED PARTITION AS REQUIRED TO MAKE SURFACES GOOD AND FLUSH.
- CA-D = UNINSTALL EXISTING SURFACE MOUNTED SECURITY CAMERA. REFER TO MECHANICAL DRAWINGS.
- HD-D = UNINSTALL EXISTING HEAT DETECTOR. REFER TO ELECTRICAL DRAWINGS.
- WAP-D = UNINSTALL EXISTING WIRELESS ACCESS DEVICE. REFER TO ELECTRICAL DRAWINGS.
- SD = EXISTING SMOKE DETECTOR TO REMAIN.
 SD-D = UNINSTALL EXISTING SMOKE DETECTOR. REFER TO ELECTRICAL DRAWINGS.
- FA-D = UNINSTALL EXISTING FIRE ALARM AND DEMOLISH ASSOCIATE CONDUIT. REFER TO ELECTRICAL DRAWINGS.
- EXACT = EXISTING SUSPENDED ACOUSTIC CEILING TILE ASSEMBLY TO REMAIN. UNINSTALL AND STORE TEMPORARILY AND REINSTATE AS REQUIRED TO COMPLETE THE WORK, INCLUDING ALL ARCHITECTURAL, STRUCTURAL, MECHANICAL AND ELECTRICAL.
 ACT-D = REMOVE AND DISPOSE OF EXISTING SUSPENDED ACOUSTIC CEILING TILE AND T-BAR ASSEMBLY IN ITS ENTIRETY.
 CH = HEIGHT FROM FINISHED FLOOR TO UNDERSIDE OF EXISTING CEILING.
- EX-GBD = EXISTING GYPSUM BOARD FINISHED SUSPENDED CEILING ASSEMBLY AND/OR BULKHEAD TO REMAIN. CREATE OPENINGS AS REQUIRED TO ACCOMMODATE NEW WORK (ARCHITECTURAL, STRUCTURAL, MECHANICAL AND ELECTRICAL) AND PATCH AND REPAIR CEILING ASSEMBLY TO ORIGINAL CONDITION AFTER WORK IS COMPLETED AND AS REQUIRED. CH = HEIGHT FROM FINISHED FLOOR TO UNDERSIDE OF EXISTING CEILING.
 GBD-D = REMOVE AND DISPOSE OF EXISTING GYPSUM BOARD FINISHED SUSPENDED CEILING ASSEMBLY AND/OR BULKHEAD IN ITS ENTIRETY OR FOR THE PORTION INDICATED ON THE DRAWINGS. CEILING IS COMPRISED OF 2 LAYERS OF 16mm TYPE X GBD ON 64mm STEEL CHANNEL FRAMING AT 400mm O.C.
- EXP = EXISTING CEILING IS EXPOSED TO ABOVE.
 CH - VARIES = CEILING IS SLOPED AND HEIGHT VARIES.
- EXISTING INTERIOR MASONRY (CONCRETE BLOCK) WALL HEADER ABOVE EXISTING WALL OPENING.
- EXISTING INTERIOR GYPSUM BOARD FINISHED STEEL STUD FRAMED WALL HEADER ABOVE EXISTING WALL OPENING.
- REMOVE AND DISPOSE OF EXISTING SUSPENDED ACOUSTIC CEILING TILE AND ASSOCIATED FRAMING ASSEMBLY.
 SIZE: 610mm X 610mm ±, 1220mm X 610mm ±.
 REMOVE EXISTING ELECTRICAL AND MECHANICAL FIXTURES AND FITMENTS FROM EXISTING CEILING ASSEMBLY. REFER TO MECHANICAL AND ELECTRICAL DRAWINGS FOR RELOCATION OF EXISTING FIXTURES AND PROVISION FOR NEW FIXTURES. PROVIDE NEW ACOUSTIC CEILING ASSEMBLY AS INDICATED ON PROPOSED REFLECTED CEILING PLAN LAYOUT.
- EXISTING SUSPENDED ACOUSTIC CEILING TILE AND ASSOCIATED FRAMING ASSEMBLY TO REMAIN. SIZE: 1220mm X 610mm ±. TEMPORARILY REMOVE, PROTECT AND STORE EXISTING CEILING ASSEMBLY IN ITS ENTIRETY AS REQUIRED TO COMPLETE DEMOLITION AND NEW WORK REGARDING ARCHITECTURAL, STRUCTURAL, MECHANICAL AND ELECTRICAL WORKS. TEMPORARILY UNINSTALL EXISTING MECHANICAL AND ELECTRICAL FIXTURES AND DEVICES AS REQUIRED TO COMPLETE THE WORK. REINSTALL EXISTING CEILING ASSEMBLIES AND MECHANICAL AND ELECTRICAL DEVICES AND FIXTURES AFTER COMPLETION OF ALL WORK.

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1	Issued for Costing - Class D	Aug. 26, 2022



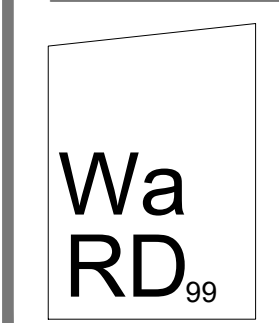
project
ST. CATHARINES PUBLIC LIBRARY CENTRAL BRANCH INTERIOR RENOVATION

54 CHURCH ST., ST. CATHARINES, ON L2R 7K2

drawing
EXISTING SECOND FLOOR REFLECTED CEILING DEMOLITION PLAN

drawing scale
AS NOTED

ward99 project number
 21036 - ST. CATHARINES LIBRARY

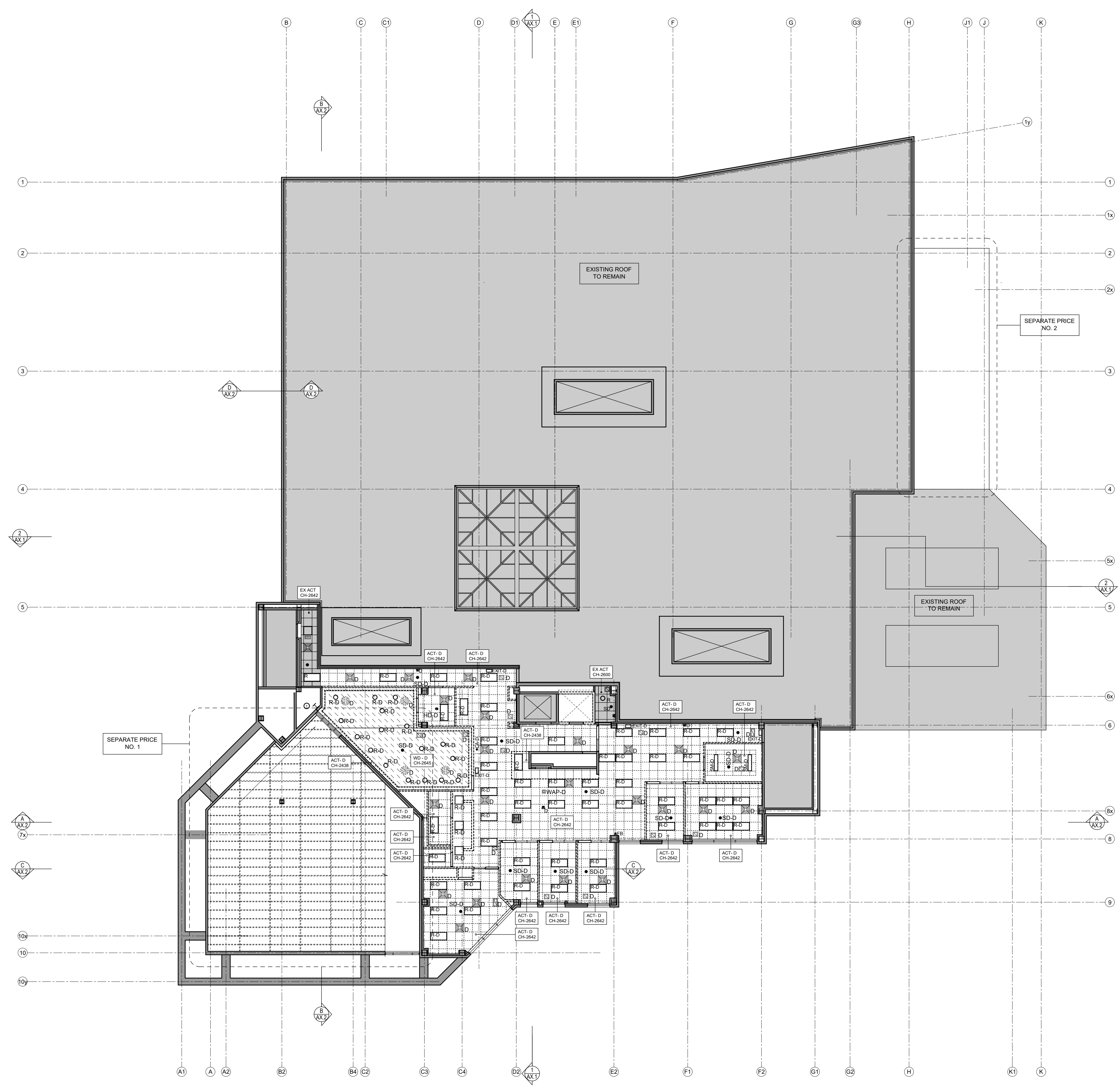


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drawing no.
A3.3

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1 **EXISTING SECOND FLOOR REFLECTED CEILING DEMOLITION PLAN**
 A3.3 1:150



REFLECTED CEILING DEMOLITION LEGEND AND NOTES

- SM-D = UNINSTALL, REMOVE AND DISPOSE SURFACE MOUNT LIGHT. SM = EXISTING SURFACE MOUNT LIGHT FIXTURE TO REMAIN. REFER TO ELECTRICAL DRAWINGS.
- R-D = UNINSTALL, REMOVE AND DISPOSE RECESSED LIGHT FIXTURE. REFER TO ELECTRICAL DRAWINGS.
- WM = EXISTING WALL MOUNTED LIGHT FIXTURE TO REMAIN. WM-D = UNINSTALL, REMOVE AND DISPOSE WALL MOUNTED LIGHT FIXTURE. REFER TO ELECTRICAL DRAWINGS.
- EXIT-D = REMOVE AND DISPOSE OF EXISTING WALL MOUNTED SIGN. EXIT-D WM = REMOVE AND DISPOSE OF EXISTING CEILING MOUNTED SIGN. REFER TO ELECTRICAL DRAWINGS.
- WM-D = REMOVE AND DISPOSE OF EXISTING WALL MOUNTED EMERGENCY LIGHT FIXTURE. D = REMOVE AND DISPOSE OF EXISTING EMERGENCY LIGHT FIXTURE. REFER TO ELECTRICAL DRAWINGS.
- D = REMOVE AND DISPOSE OF EXISTING SUPPLY AIR GRILLE. REFER TO MECHANICAL DRAWINGS.
- WM = EXISTING RETURN AIR GRILLE TO REMAIN.
- D = DEMOLISH EXISTING RETURN AIR GRILLE. WM = EXISTING RETURN AIR GRILLE TO REMAIN. REFER TO MECHANICAL DRAWINGS.
- MS-D = DEMOLISH EXISTING MOTION SENSOR. REFER TO MECHANICAL DRAWINGS.
- FB = EXISTING FIRE BELL TO REMAIN. FB-D = UNINSTALL EXISTING FIRE BELL. REFER TO ELECTRICAL DRAWINGS. PATCH EXISTING PARTITIONS SURFACE FINISHED PARTITION AS REQUIRED TO MAKE SURFACES GOOD AND FLUSH.
- CA-D = UNINSTALL EXISTING SURFACE MOUNTED SECURITY CAMERA. REFER TO MECHANICAL DRAWINGS.
- HD-D = UNINSTALL EXISTING HEAT DETECTOR. REFER TO ELECTRICAL DRAWINGS.
- WAP-D = UNINSTALL EXISTING WIRELESS ACCESS DEVICE. REFER TO ELECTRICAL DRAWINGS.
- SD = EXISTING SMOKE DETECTOR TO REMAIN. SD-D = UNINSTALL EXISTING SMOKE DETECTOR. REFER TO ELECTRICAL DRAWINGS.
- FA-D = UNINSTALL EXISTING FIRE ALARM AND DEMOLISH ASSOCIATE CONDUIT. REFER TO ELECTRICAL DRAWINGS.
- EX-ACT = EXISTING SUSPENDED ACOUSTIC CEILING TILE ASSEMBLY TO REMAIN. UNINSTALL AND STORE TEMPORARILY AND REINSTATE AS REQUIRED TO COMPLETE THE WORK, INCLUDING ALL ARCHITECTURAL, STRUCTURAL, MECHANICAL AND ELECTRICAL. ACT-D = REMOVE AND DISPOSE OF EXISTING SUSPENDED ACOUSTIC CEILING TILE AND T-BAR ASSEMBLY IN ITS ENTIRETY. CH = HEIGHT FROM FINISHED FLOOR TO UNDERSIDE OF EXISTING CEILING.
- EX-GBD = EXISTING GYPSUM BOARD FINISHED SUSPENDED CEILING ASSEMBLY AND/OR BULKHEAD TO REMAIN. CREATE OPENINGS AS REQUIRED TO ACCOMMODATE NEW WORK (ARCHITECTURAL, STRUCTURAL, MECHANICAL AND ELECTRICAL) AND PATCH AND REPAIR CEILING ASSEMBLY TO ORIGINAL CONDITION AFTER WORK IS COMPLETED AND AS REQUIRED. CH = HEIGHT FROM FINISHED FLOOR TO UNDERSIDE OF EXISTING CEILING.
- GBD-D = REMOVE AND DISPOSE OF EXISTING GYPSUM BOARD FINISHED SUSPENDED CEILING ASSEMBLY AND/OR BULKHEAD IN ITS ENTIRETY OR FOR THE PORTION INDICATED ON THE DRAWINGS. CEILING IS COMPRISED OF 2 LAYERS OF 16mm TYPE X GBD ON 64mm STEEL CHANNEL FRAMING AT 400mm O.C.
- EXP = EXISTING CEILING IS EXPOSED TO ABOVE. CH - VARIES = CEILING IS SLOPED AND HEIGHT VARIES.
- EXISTING INTERIOR MASONRY (CONCRETE BLOCK) WALL HEADER ABOVE EXISTING WALL OPENING.
- EXISTING INTERIOR GYPSUM BOARD FINISHED STEEL STUD FRAMED WALL HEADER ABOVE EXISTING WALL OPENING.
- REMOVE AND DISPOSE OF EXISTING SUSPENDED ACOUSTIC CEILING TILE AND ASSOCIATED FRAMING ASSEMBLY. SIZE: 610mm X 610mm ±, 1220mm X 610mm ±. REMOVE EXISTING ELECTRICAL AND MECHANICAL FIXTURES AND FITMENTS FROM EXISTING CEILING ASSEMBLY. REFER TO MECHANICAL AND ELECTRICAL DRAWINGS FOR RELOCATION OF EXISTING FIXTURES AND PROVISION FOR NEW FIXTURES. PROVIDE NEW ACOUSTIC CEILING ASSEMBLY AS INDICATED ON PROPOSED REFLECTED CEILING PLAN LAYOUT.
- EXISTING SUSPENDED ACOUSTIC CEILING TILE AND ASSOCIATED FRAMING ASSEMBLY TO REMAIN. SIZE: 1220mm X 610mm ±. TEMPORARILY REMOVE, PROTECT AND STORE EXISTING CEILING ASSEMBLY IN ITS ENTIRETY AS REQUIRED TO COMPLETE DEMOLITION AND NEW WORK REGARDING ARCHITECTURAL, STRUCTURAL, MECHANICAL AND ELECTRICAL WORKS. TEMPORARILY UNINSTALL EXISTING MECHANICAL AND ELECTRICAL FIXTURES AND DEVICES AS REQUIRED TO COMPLETE THE WORK. REINSTALL EXISTING CEILING ASSEMBLIES AND MECHANICAL AND ELECTRICAL DEVICES AND FIXTURES AFTER COMPLETION OF ALL WORK.
- WD-D = REMOVE AND DISPOSE OF EXISTING WOOD PANEL FINISHED SUSPENDED CEILING ASSEMBLY AND/OR BULKHEAD IN ITS ENTIRETY. CH - VARIES = CEILING IS SLOPED AND HEIGHT VARIES.

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1	Issued for Costing - Class D	Aug. 26, 2022

project
ST. CATHARINES PUBLIC LIBRARY CENTRAL BRANCH INTERIOR RENOVATION

54 CHURCH ST., ST. CATHARINES, ON L2R 7K2

drawing
EXISTING THIRD FLOOR REFLECTED CEILING DEMOLITION PLAN

drawing scale
AS NOTED

ward99 project number
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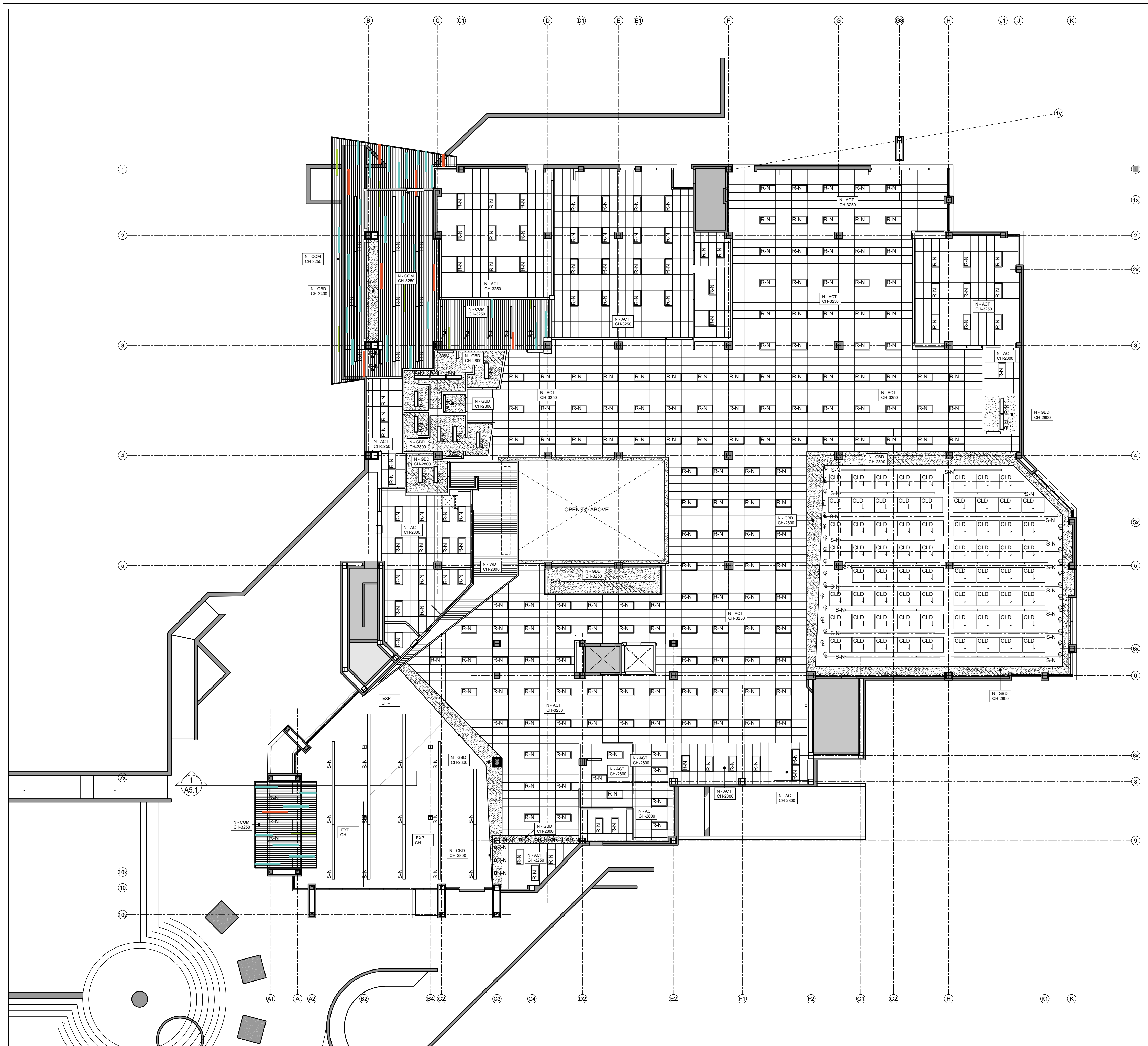
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A3.4

1
A3.4 EXISTING THIRD FLOOR REFLECTED CEILING DEMOLITION PLAN
 1:150



REFLECTED CEILING PLAN NOTES

- NEW SUSPENDED ACOUSTIC CEILING TILE AND ASSOCIATED FRAMING ASSEMBLY. SIZE: 610mm X 1220mm OR
- NEW GYPSUM BOARD CEILING OR BULKHEAD AND ASSOCIATED FRAMING ASSEMBLY.
- EXISTING SUSPENDED ACOUSTIC CEILING TILE AND ASSOCIATED FRAMING ASSEMBLY. SIZE: 610mm X 1220mm ±. INSTALL NEW CEILING TILE FINISH, WHERE EXISTING ELECTRICAL AND MECHANICAL FIXTURES AND FITMENTS ARE INDICATED AS TO BE REMOVED. REMOVE EXISTING SUSPENDED CEILING ASSEMBLY AS REQUIRED TO COMPLETE DEMOLITION AND NEW WORK. REINSTALL CEILING ASSEMBLY ONCE WORK IS COMPLETE.
- EXISTING ACOUSTIC CEILING TILE AND HEIGHT FROM FINISHED FLOOR TO UNDERSIDE OF EXISTING CEILING.
- NEW ACOUSTIC CEILING TILE AND HEIGHT FROM FINISHED FLOOR TO UNDERSIDE OF NEW CEILING.
- NEW GYPSUM BOARD CEILING AND/OR BULKHEAD AND HEIGHT FROM FINISHED FLOOR TO UNDERSIDE OF NEW CEILING.
- NEW WOOD GRILLE CEILING FINISH AND/OR BULKHEAD AND HEIGHT FROM FINISHED FLOOR TO UNDERSIDE OF NEW CEILING.
- NEW COMPOSITE CEILING PANEL CLADDING (TRESPA) AND HEIGHT FROM FINISHED FLOOR TO UNDERSIDE OF NEW CEILING.
- NEW EXPOSED PAINTED FINISH STEEL DECK.
- NEW RECESSED LIGHT FIXTURE. REFER TO ELECTRICAL DRAWINGS.
- NEW SUSPENDED LIGHT FIXTURE. REFER TO ELECTRICAL DRAWINGS.
- NEW WALL MOUNTED LIGHT FIXTURE. REFER TO ELECTRICAL DRAWINGS.
- NEW SUSPENDED ACOUSTIC CLOUD CEILING.

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project
ST. CATHARINES PUBLIC LIBRARY CENTRAL BRANCH INTERIOR RENOVATION

54 CHURCH ST. ST. CATHARINES, ON L2R 7K2

drawing
PROPOSED GROUND FLOOR REFLECTED CEILING PLAN

drawing scale
AS NOTED

ward99 project number
21036 - ST. CATHARINES LIBRARY

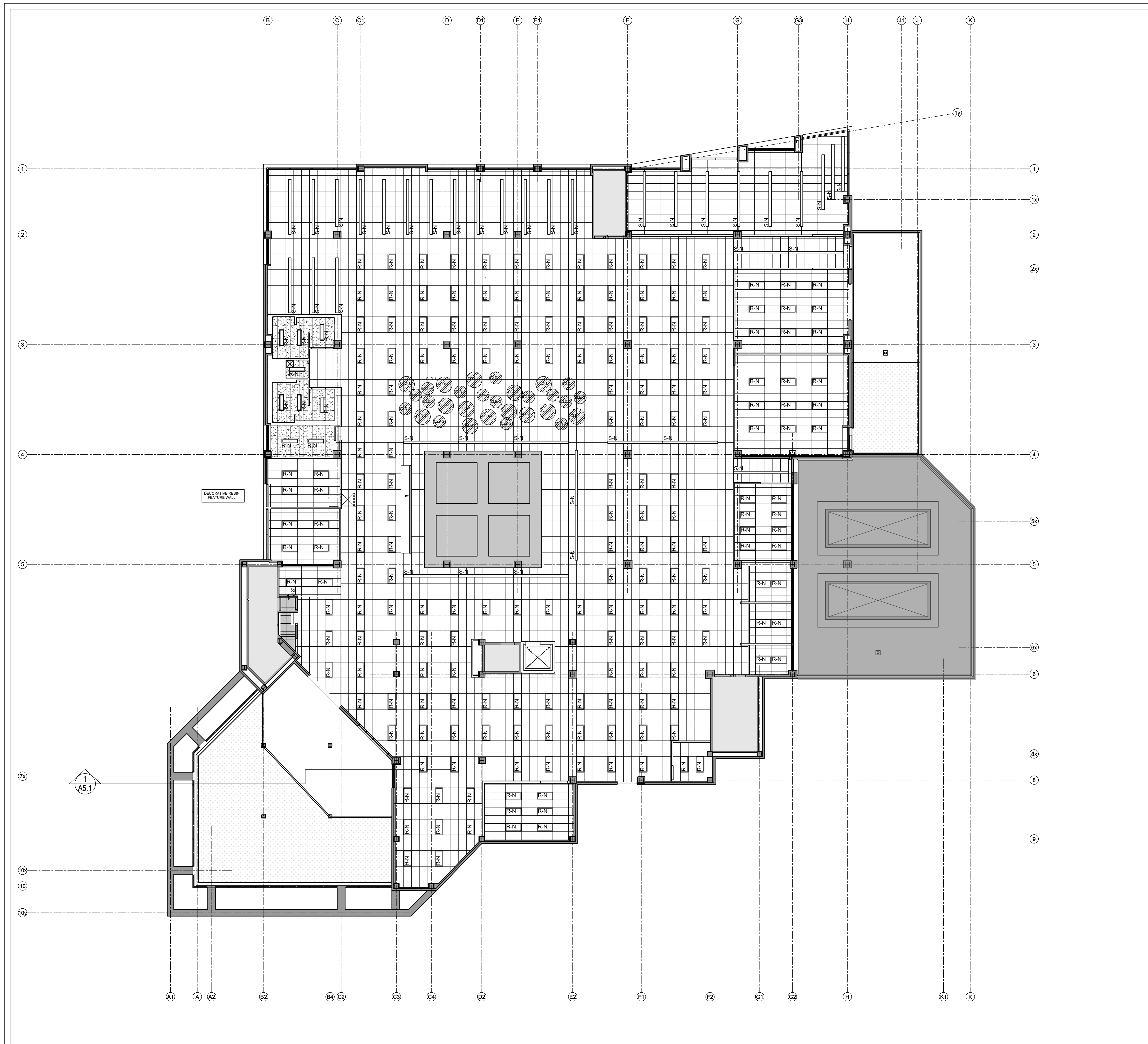
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A3.6

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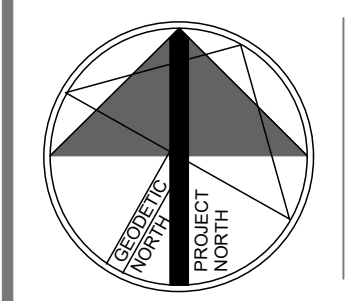
1 PROPOSED GROUND FLOOR REFLECTED CEILING PLAN
A3.6 1:150



REFLECTED CEILING PLAN NOTES

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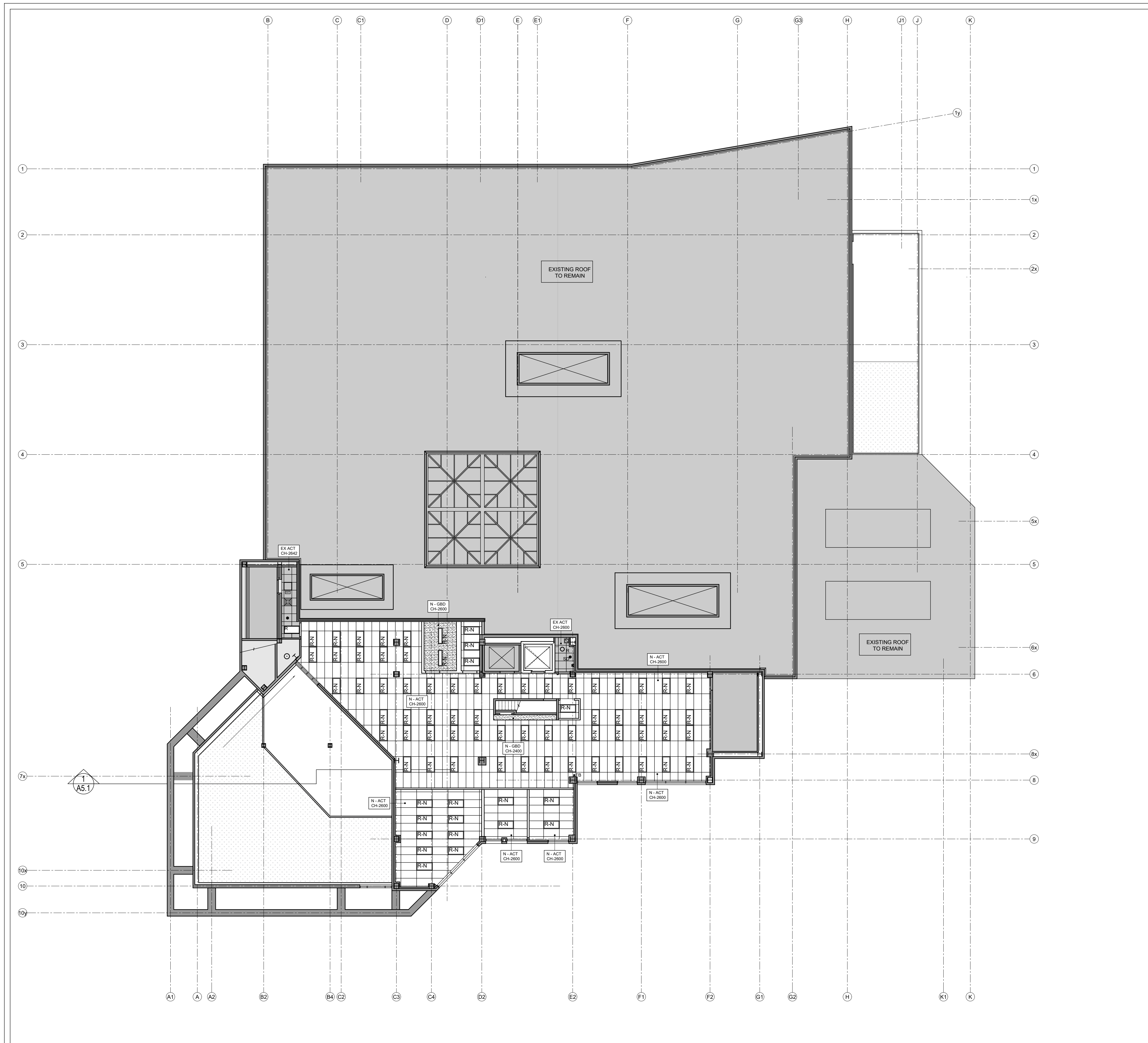
project
**ST. CATHARINES PUBLIC LIBRARY CENTRAL BRANCH
 INTERIOR RENOVATION**
 54 CHURCH ST., ST. CATHARINES, ON L2R 7K2
 drawing
PROPOSED SECOND FLOOR REFLECTED CEILING PLAN
 drawing scale
AS NOTED
 ward99 project number
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A3.7

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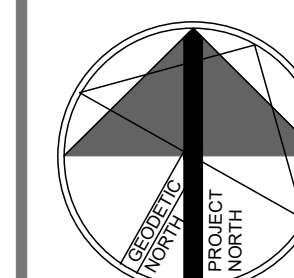
1 PROPOSED SECOND FLOOR REFLECTED CEILING PLAN
 A3.7 1:150



1 PROPOSED THIRD FLOOR REFLECTED CEILING PLAN
A3.8 1:150

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project
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INTERIOR RENOVATION

54 CHURCH ST., ST. CATHARINES, ON L2R 7K2

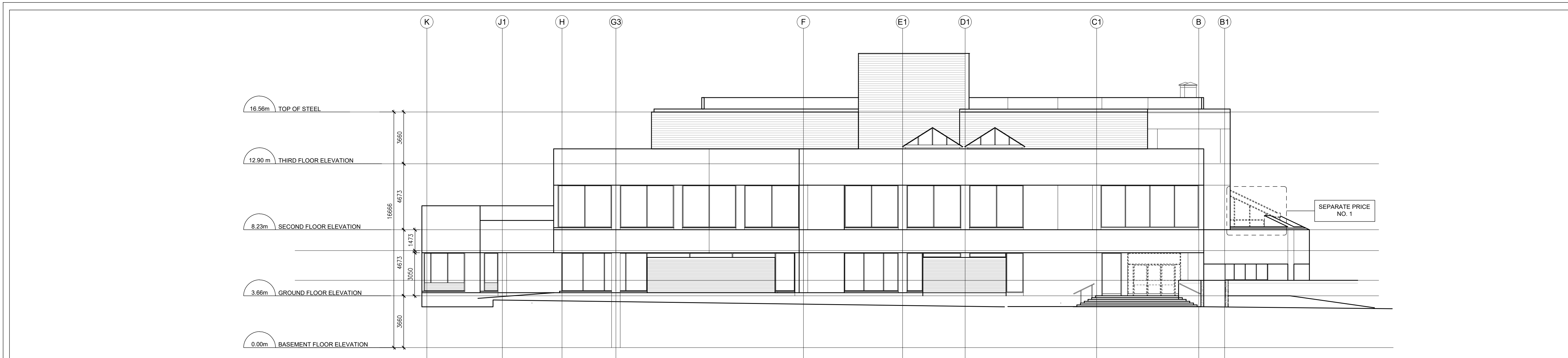
drawing
PROPOSED THIRD FLOOR REFLECTED CEILING PLAN

drawing scale
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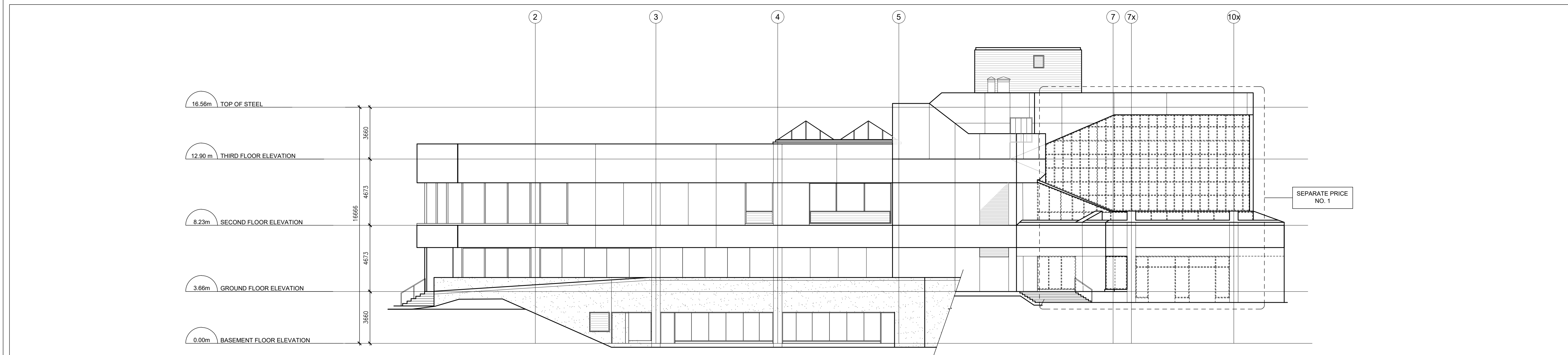
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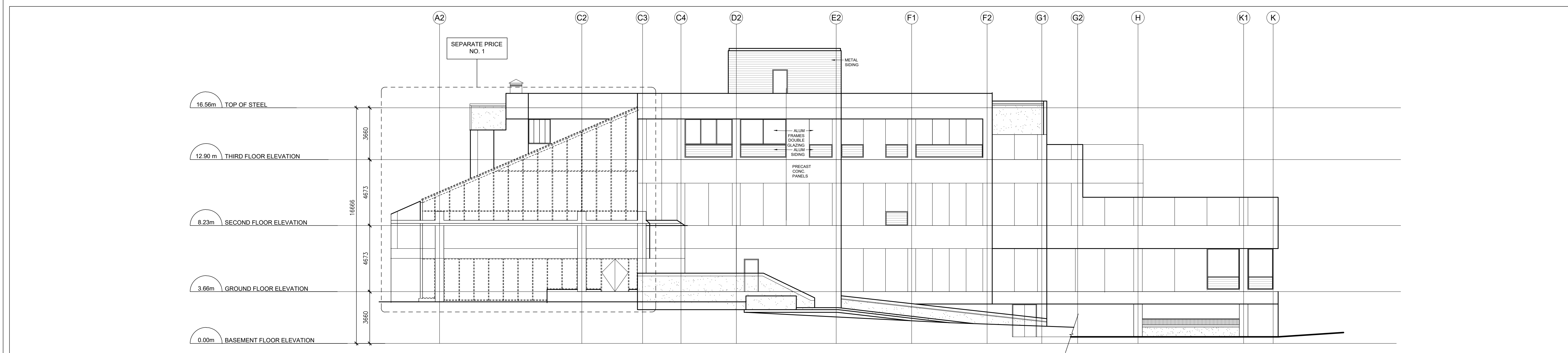
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3 DEMOLITION NORTH WEST ELEVATION
A4.1 1:150



2 DEMOLITION SOUTH WEST ELEVATION
A4.1 1:150



1 DEMOLITION SOUTH EAST ELEVATION
A4.1 1:150

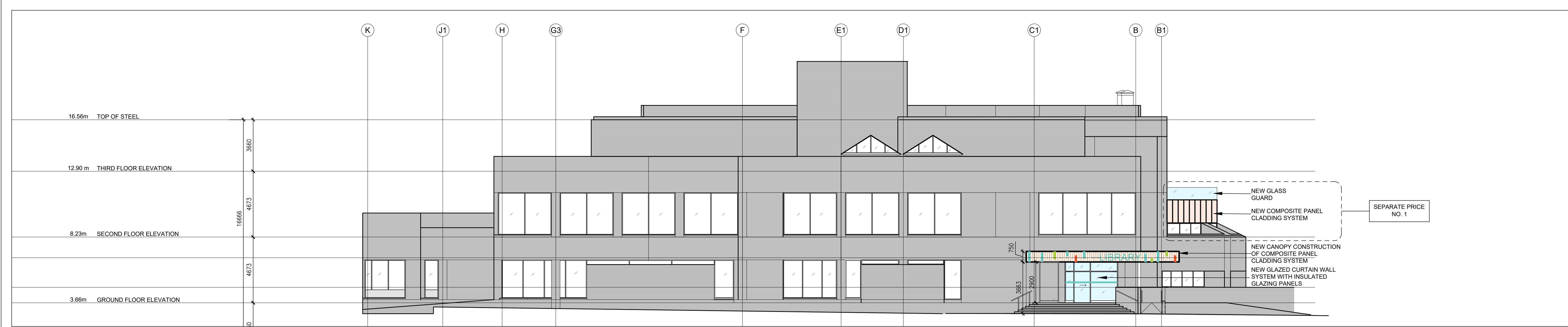
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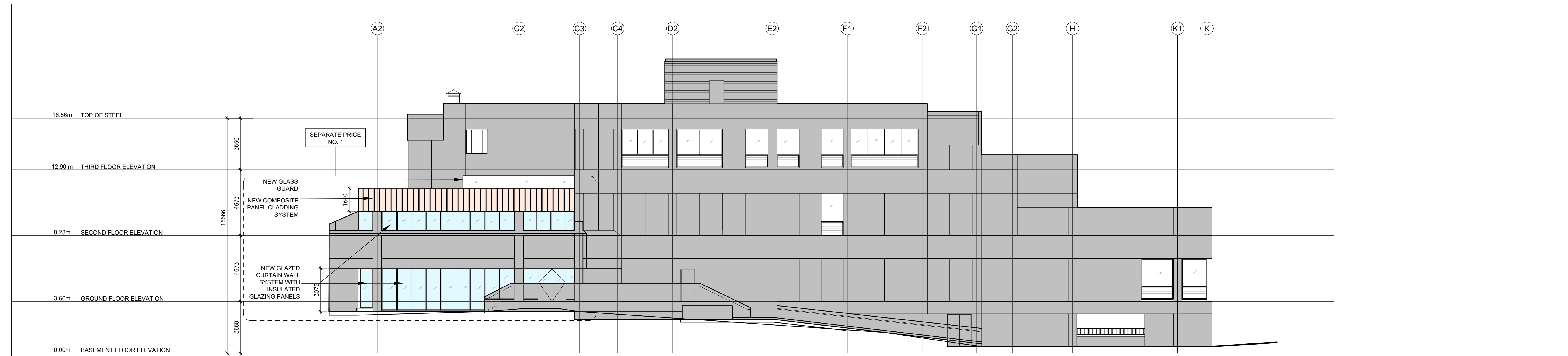
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project
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INTERIOR RENOVATION
54 CHURCH ST, ST. CATHARINES, ON L2R 7K2
drawing
DEMOLITION EXTERIOR ELEVATIONS
drawing scale
AS NOTED
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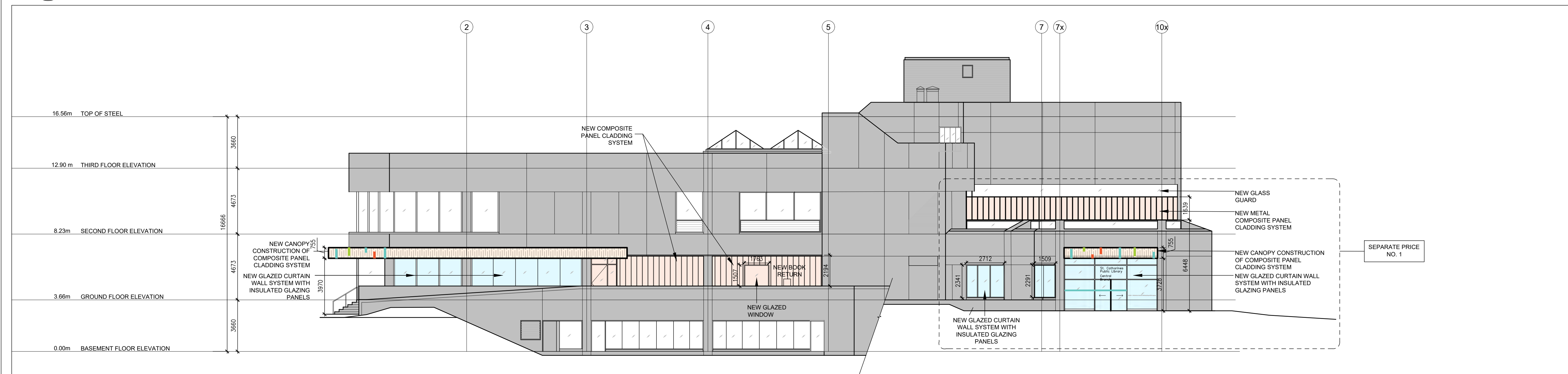
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3 PROPOSED NORTH ELEVATION
A4.2 1:150



2 PROPOSED SOUTH ELEVATION
A4.2 1:150



1 PROPOSED WEST ELEVATION
A4.2 1:150

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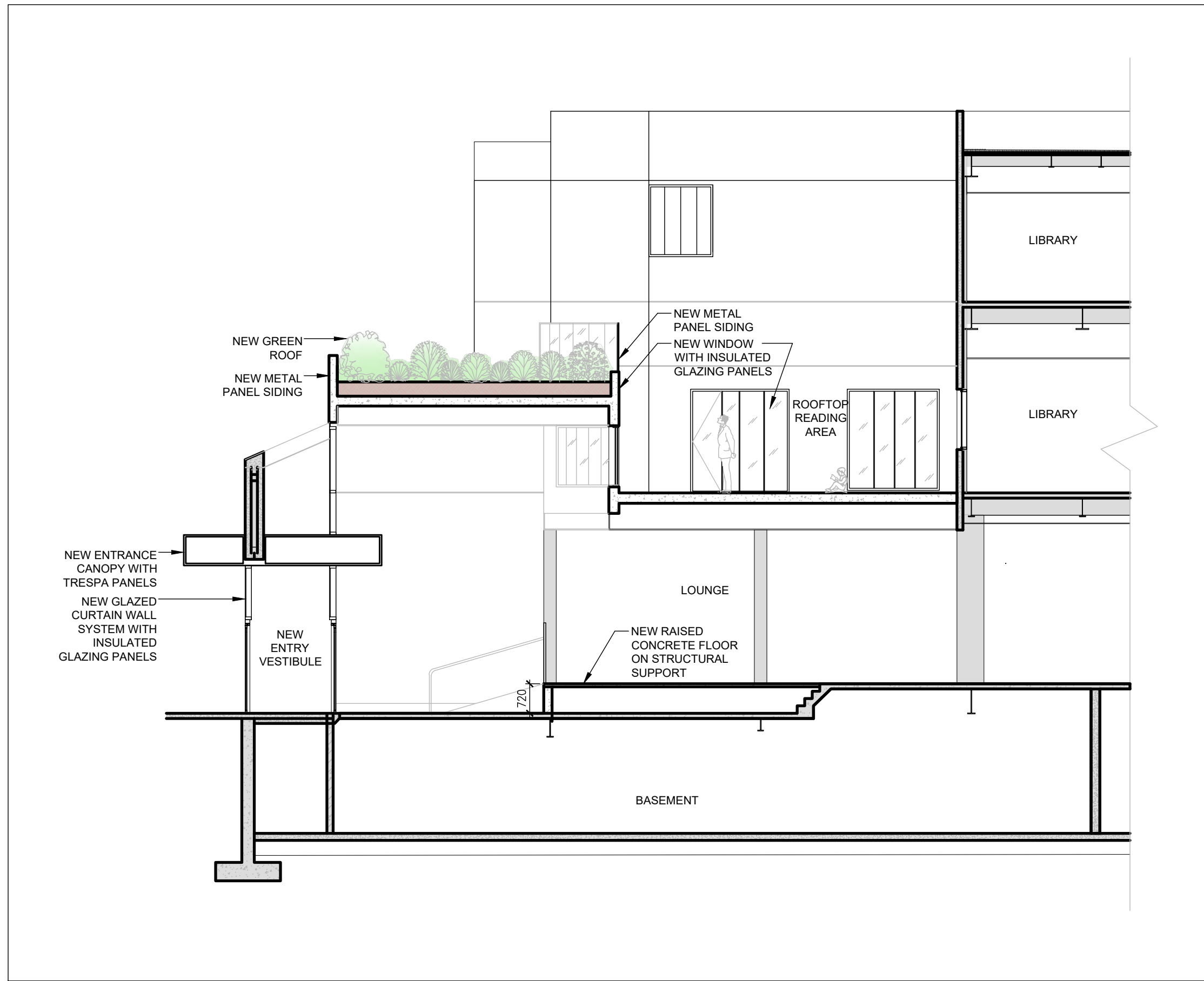
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ST. CATHARINES PUBLIC LIBRARY CENTRAL BRANCH
INTERIOR RENOVATION
54 CHURCH ST., ST. CATHARINES, ON L2R 7K2
drawing
PROPOSED EXTERIOR ELEVATIONS
drawing scale
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drawing no.
A4.2



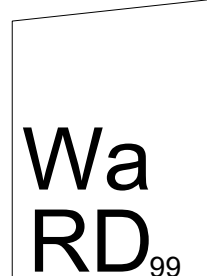
1 PROPOSED WEST ELEVATION
A5.1 1:150

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project
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 INTERIOR RENOVATION**
 54 CHURCH ST., ST. CATHARINES, ON L2R 7K2
 drawing:
PROPOSED EXTERIOR ELEVATIONS
 drawing scale
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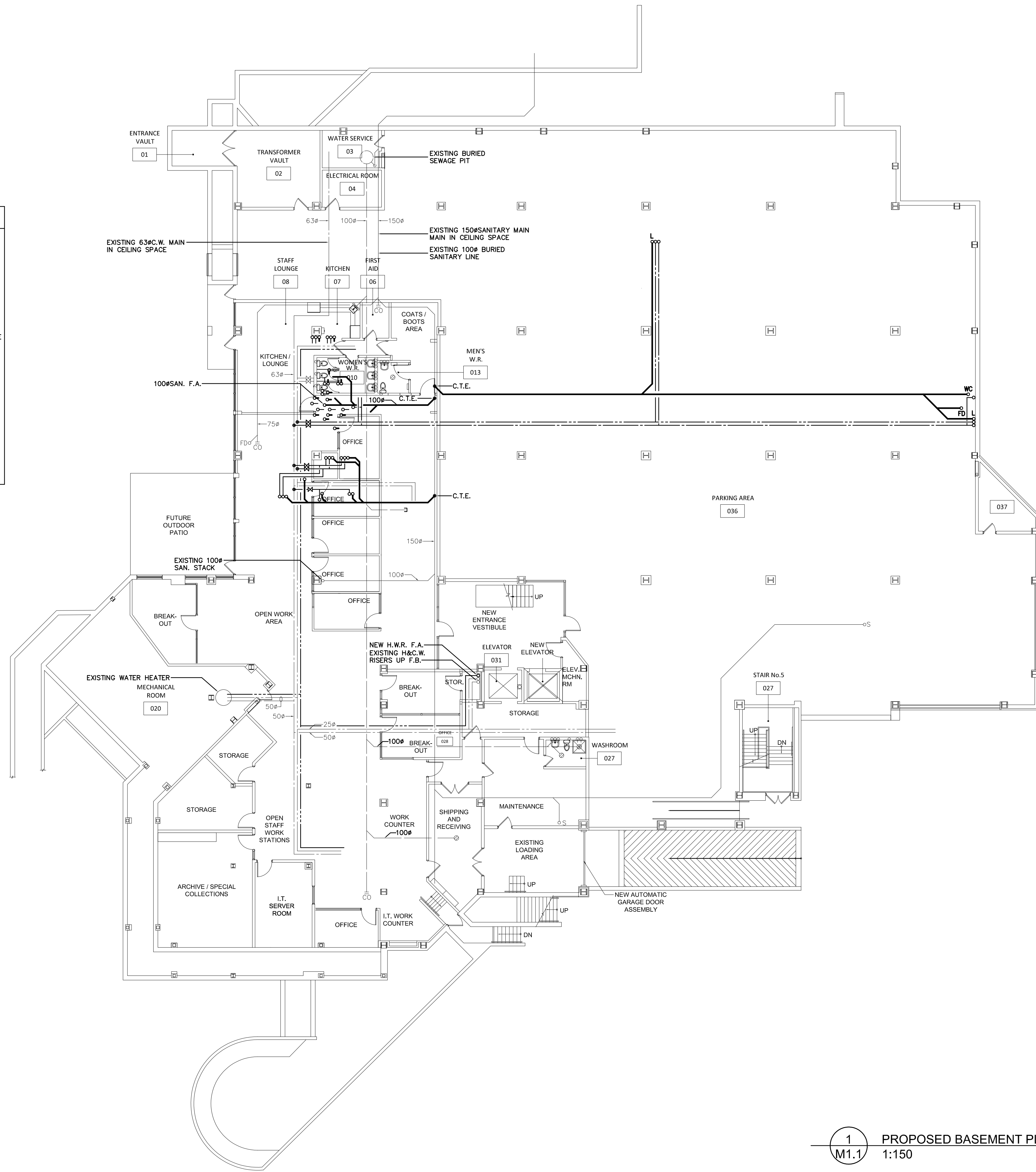


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drawing no.

A5.1

PLUMBING & DRAINAGE LEGEND	
	SANITARY DRAIN (ABOVE GRADE)
	SANITARY DRAIN (BELOW GRADE)
	STORM DRAIN (ABOVE GRADE)
	STORM DRAIN (BELOW GRADE)
	VENT LINE
	DOMESTIC COLD WATER LINE
	DOMESTIC HOT WATER LINE
	DOMESTIC RECIRCULATION LINE
	GAS LINE
	TEMPERED WATER LINE
	HIGH TEMPERATURE HOT WATER LINE
	HIGH TEMPERATURE HOT WATER RECIRCULATION LINE
	CLEANOUT
	FLOOR DRAIN
	FUNNEL FLOOR DRAIN
	GATE VALVE
	CHECK VALVE
	GLOBE VALVE
	UNION
	BACKFLOW PREVENTER
	FIRE EXTINGUISHER
	FIRE EXTINGUISHER & CABINET
	TRAP, VENT & PRIME
	RAINWATER LEADER
	FLOOR DRAIN (T.V. AND P.)
	CONNECT TO EXISTING
	B.F.P.
	F.E. & CAB
	T.V.&P.
	R.W.L.
	F.D.
	C.T.E.

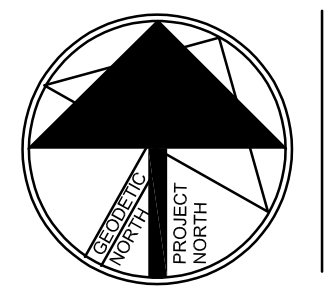


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 Tel: 905 285 9900, Fax: 905 567 5246
 Email : mail@jainconsultants.com

22-237

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no.	revision	date



no.	issue	date
T	Issued for Costing - Class D	Aug.26, 2022

project
 ST. CATHARINES PUBLIC LIBRARY CENTRAL BRANCH
 INTERIOR RENOVATION

54 CHURCH ST. ST. CATHARINES, ON L2R 7K2

drawing
 PROPOSED BASEMENT PLAN - PLUMBING

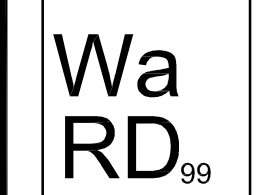
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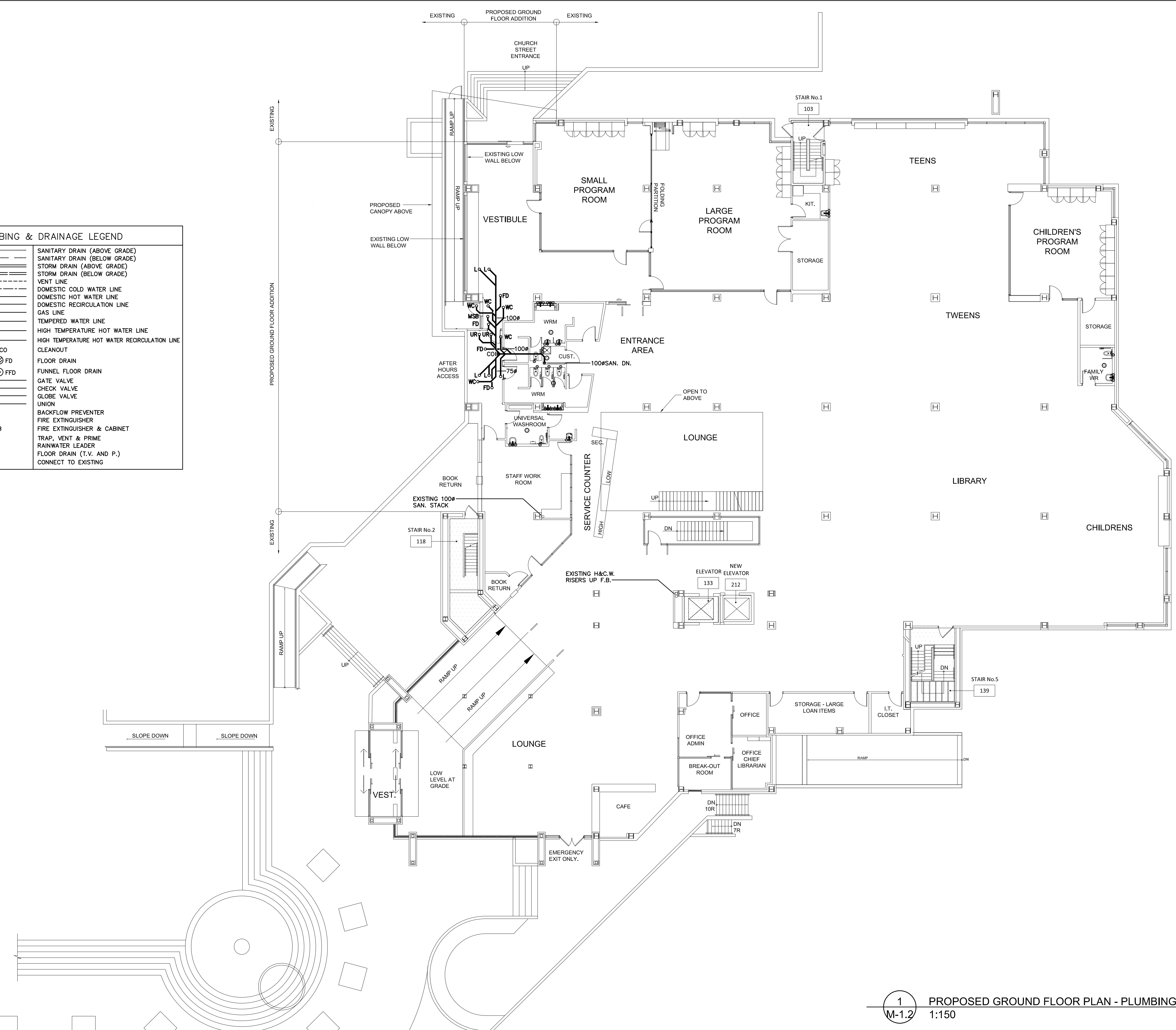


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M1.1

1
 M1.1 PROPOSED BASEMENT PLAN - PLUMBING
 1:150

PLUMBING & DRAINAGE LEGEND	
	SANITARY DRAIN (ABOVE GRADE)
	SANITARY DRAIN (BELOW GRADE)
	STORM DRAIN (ABOVE GRADE)
	STORM DRAIN (BELOW GRADE)
	VENT LINE
	DOMESTIC COLD WATER LINE
	DOMESTIC HOT WATER LINE
	DOMESTIC RECIRCULATION LINE
	GAS LINE
	TEMPERED WATER LINE
	HIGH TEMPERATURE HOT WATER LINE
	HIGH TEMPERATURE HOT WATER RECIRCULATION LINE
	CLEANOUT
	FLOOR DRAIN
	FUNNEL FLOOR DRAIN
	GATE VALVE
	CHECK VALVE
	GLOBE VALVE
	UNION
	BACKFLOW PREVENTER
	FIRE EXTINGUISHER
	FIRE EXTINGUISHER & CABINET
	TRAP, VENT & PRIME
	RAINWATER LEADER
	FLOOR DRAIN (T.V. AND P.)
	CONNECT TO EXISTING
	B.F.P.
	F.E.
	F.E. & CAB
	T.V.&P.
	R.W.L.
	F.D.
	C.T.E.



1 M-1.2 PROPOSED GROUND FLOOR PLAN - PLUMBING
1:150

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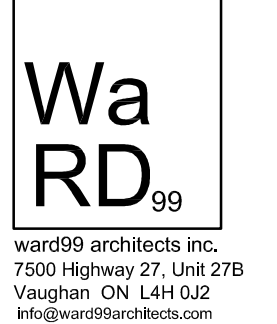
project
ST. CATHARINES PUBLIC LIBRARY CENTRAL BRANCH
INTERIOR RENOVATION

54 CHURCH ST. ST. CATHARINES, ON L2R 7K2

drawing
PROPOSED GROUND FLOOR PLAN - PLUMBING

drawing scale
AS NOTED

ward99 project number
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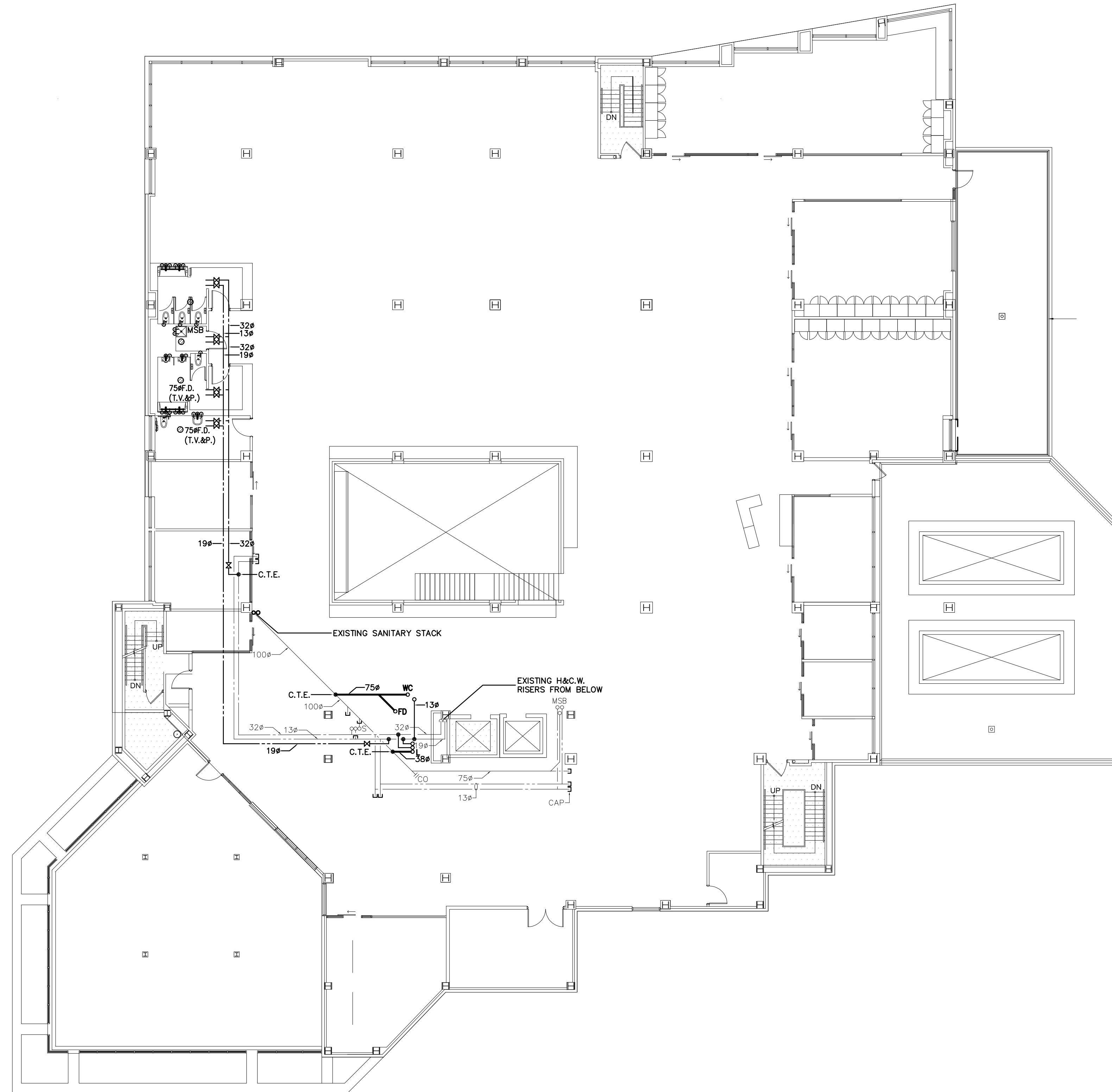


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Vaughan ON L4H 0J2
info@ward99architects.com
416 613 5880 www.ward99architects.com

drawing no.

M-1.2

PLUMBING & DRAINAGE LEGEND	
	SANITARY DRAIN (ABOVE GRADE)
	SANITARY DRAIN (BELOW GRADE)
	STORM DRAIN (ABOVE GRADE)
	STORM DRAIN (BELOW GRADE)
	VENT LINE
	DOMESTIC COLD WATER LINE
	DOMESTIC HOT WATER LINE
	DOMESTIC RECIRCULATION LINE
	GAS LINE
	TEMPERED WATER LINE
	HIGH TEMPERATURE HOT WATER LINE
	HIGH TEMPERATURE HOT WATER RECIRCULATION LINE
	CLEANOUT
	FLOOR DRAIN
	FUNNEL FLOOR DRAIN
	GATE VALVE
	CHECK VALVE
	GLOBE VALVE
	UNION
	BACKFLOW PREVENTER
	FIRE EXTINGUISHER
	FIRE EXTINGUISHER & CABINET
	TRAP, VENT & PRIME
	RAINWATER LEADER
	FLOOR DRAIN (T.V. AND P.)
	CONNECT TO EXISTING
	B.F.P.
	F.E.
	F.E. & CAB
	T.V.&P.
	R.W.L.
	F.D.
	C.T.E.



1 PROPOSED SECOND FLOOR PLAN - PLUMBING
M-1.3 1:150

Jain

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22-237

NOTE: THIS DRAWING IS NOT TO BE SCALED. THE CONTRACTOR IS RESPONSIBLE FOR THE VERIFICATION OF ALL SITE DIMENSIONS AND FOR NOTIFYING THE ARCHITECT OF ANY SITE CONDITIONS AND SITE MEASUREMENTS THAT ARE NOT CONSISTENT WITH THE DRAWINGS.

no.	revision	date

no.	issue	date
T	Issued for Costing - Class D	Aug.26, 2022

project
**ST. CATHARINES PUBLIC LIBRARY CENTRAL BRANCH
INTERIOR RENOVATION**

54 CHURCH ST. ST. CATHARINES, ON L2R 7K2

drawing
PROPOSED SECOND FLOOR PLAN - PLUMBING

drawing scale
AS NOTED

ward99 project number
21036 - ST. CATHARINES LIBRARY

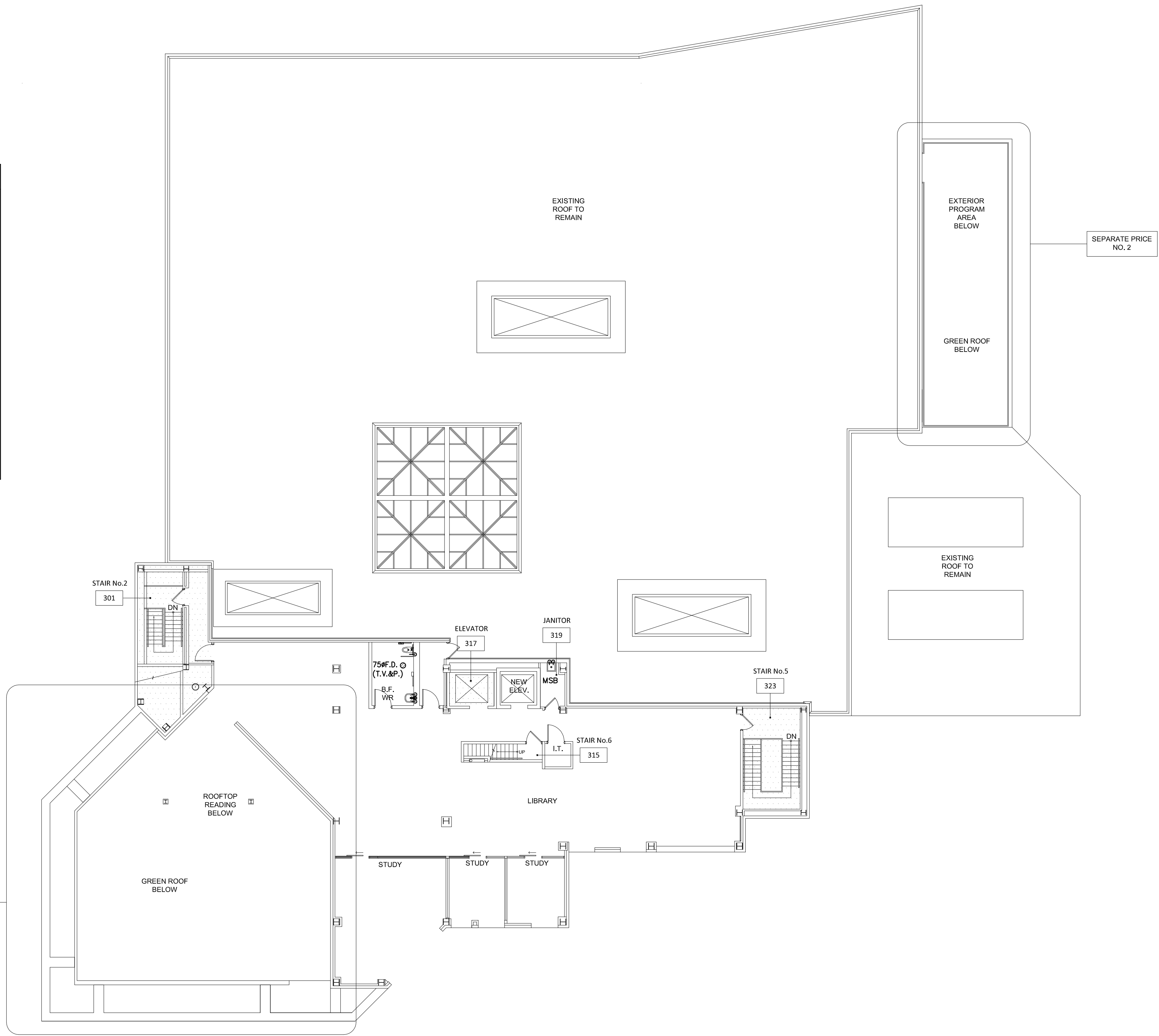
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drawing no.

M-1.3

PLUMBING & DRAINAGE LEGEND	
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	GAS LINE
	TEMPERED WATER LINE
	HIGH TEMPERATURE HOT WATER LINE
	HIGH TEMPERATURE HOT WATER RECIRCULATION LINE
	CLEANOUT
	FLOOR DRAIN
	FUNNEL FLOOR DRAIN
	GATE VALVE
	CHECK VALVE
	GLOBE VALVE
	UNION
	B.F.P. BACKFLOW PREVENTER
	F.E. FIRE EXTINGUISHER
	F.E. & CAB FIRE EXTINGUISHER & CABINET
	T.V.&P. TRAP, VENT & PRIME
	R.W.L. RAINWATER LEADER
	F.D. FLOOR DRAIN (T.V. AND P.)
	C.T.E. CONNECT TO EXISTING



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no.	issue	date
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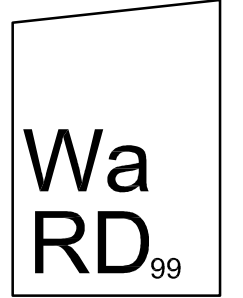
project
 ST. CATHARINES PUBLIC LIBRARY CENTRAL BRANCH
 INTERIOR RENOVATION

54 CHURCH ST. ST. CATHARINES, ON L2R 7K2

drawing
 PROPOSED THIRD FLOOR PLAN - PLUMBING

drawing scale
 AS NOTED

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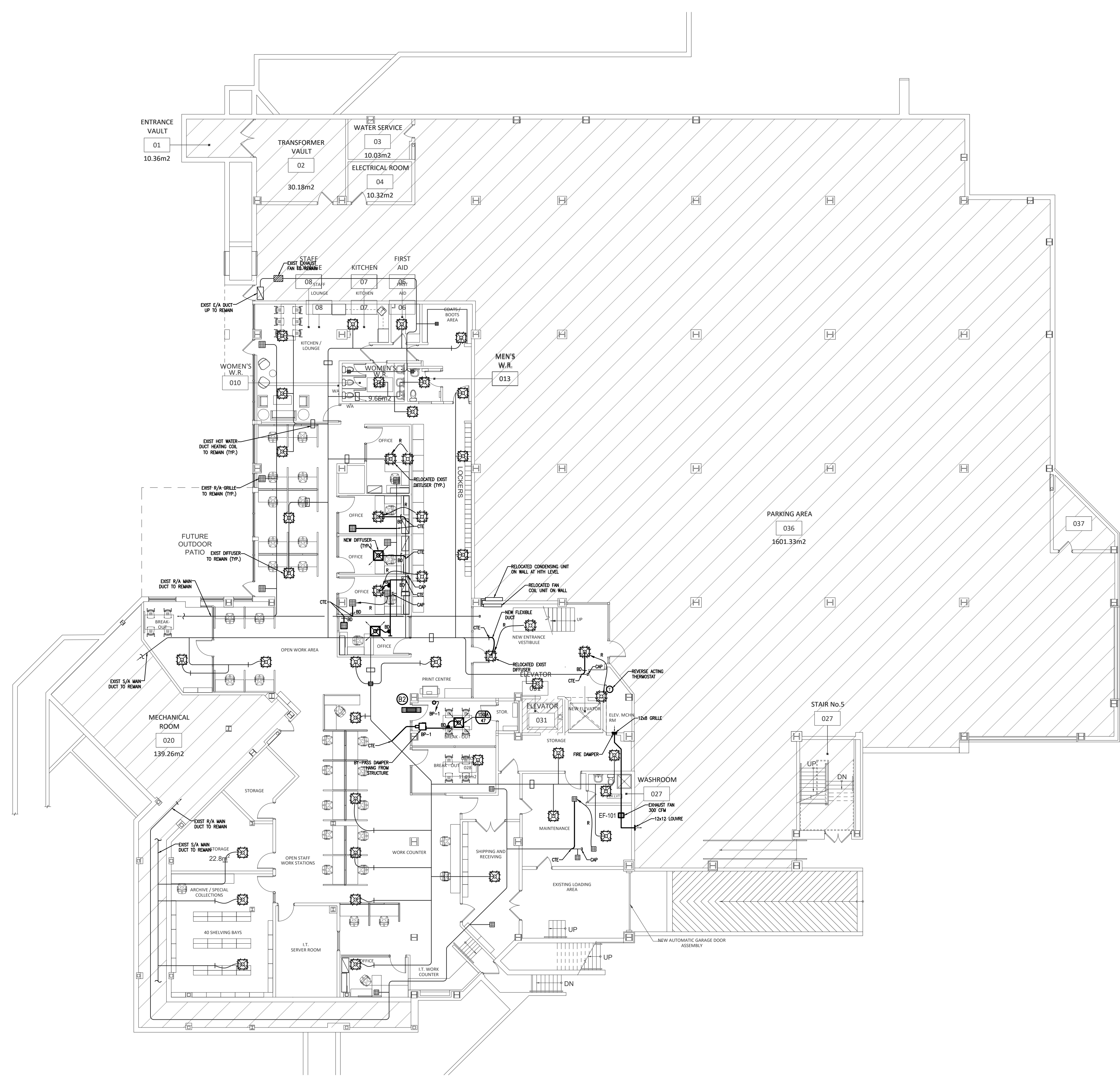
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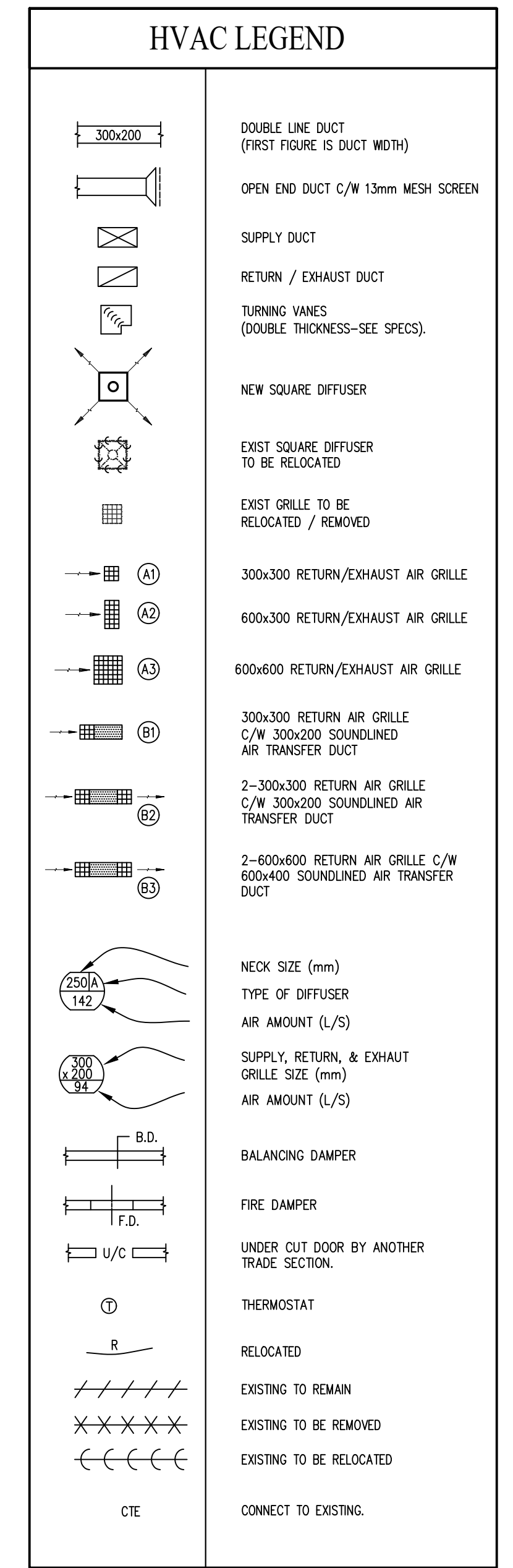
M-1.4

1 PROPOSED THIRD FLOOR PLAN - PLUMBING
 M-1.4 1:150

NOTE: THIS DRAWING IS NOT TO BE SCALED. THE CONTRACTOR IS RESPONSIBLE FOR THE VERIFICATION OF ALL SITE DIMENSIONS AND FOR NOTIFYING THE ARCHITECT OF ANY SITE CONDITIONS AND SITE MEASUREMENTS THAT ARE NOT CONSISTENT WITH THE DRAWINGS.



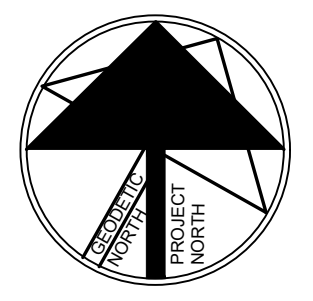
BASEMENT FLOOR PLAN - HVAC LAYOUT
SCALE: 1:150



no.	Issued for	issue	date
1	Issued for		SEP 16, 2022

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ST. CATHARINES PUBLIC LIBRARY CENTRAL BRANCH
INTERIOR RENOVATION

54 CHURCH ST., ST. CATHARINES, ON L2R 7K2

drawing
PROPOSED BASEMENT PLAN - HVAC

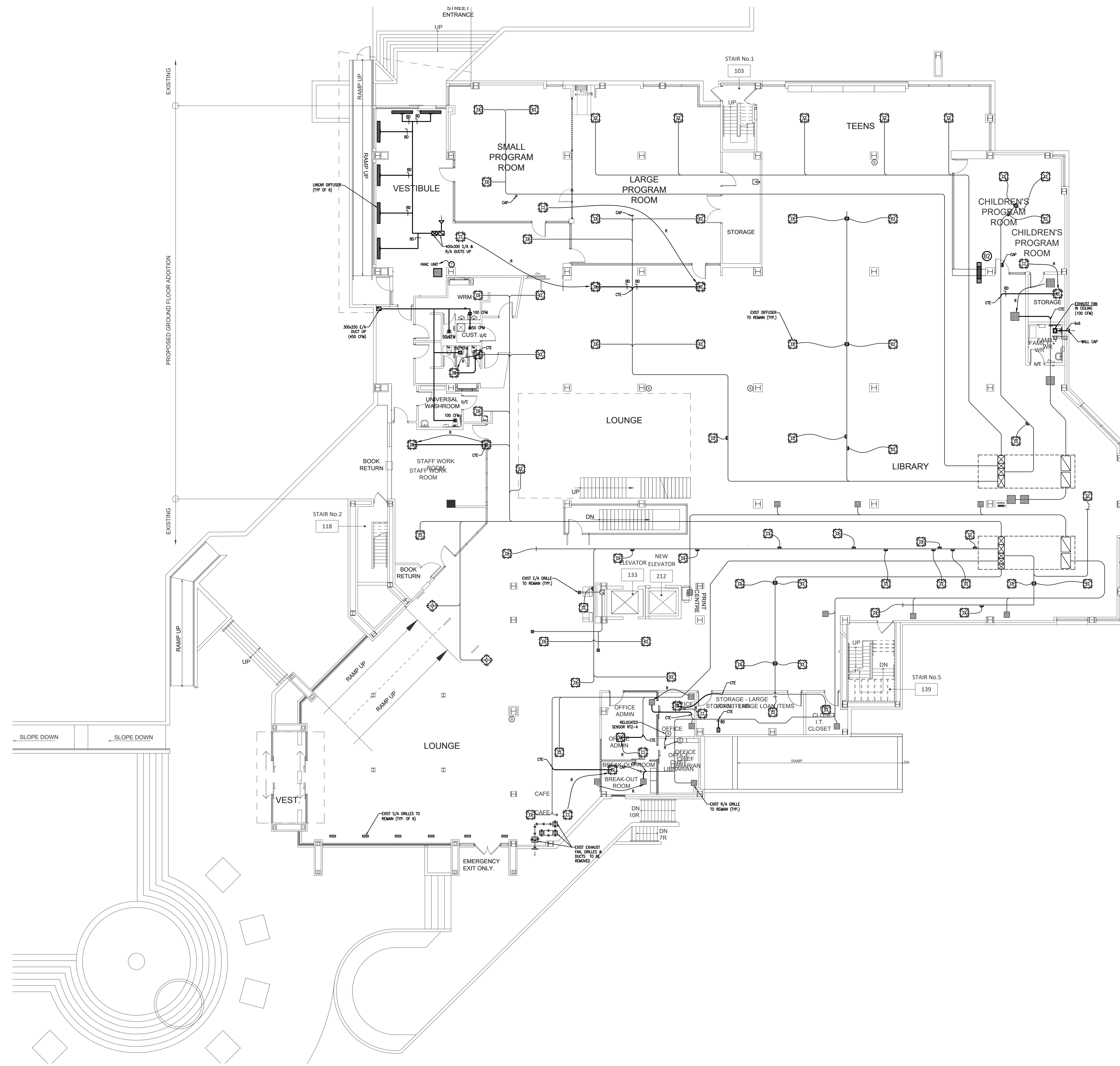
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drawing no.

M2.1

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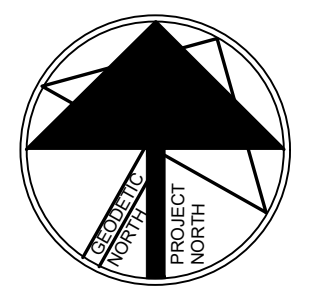


GROUND FLOOR PLAN - HVAC LAYOUT
SCALE: 1:150

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INTERIOR RENOVATION

54 CHURCH ST., ST. CATHARINES, ON L2R 7K2

drawing
PROPOSED GROUND FLOOR PLAN - HVAC

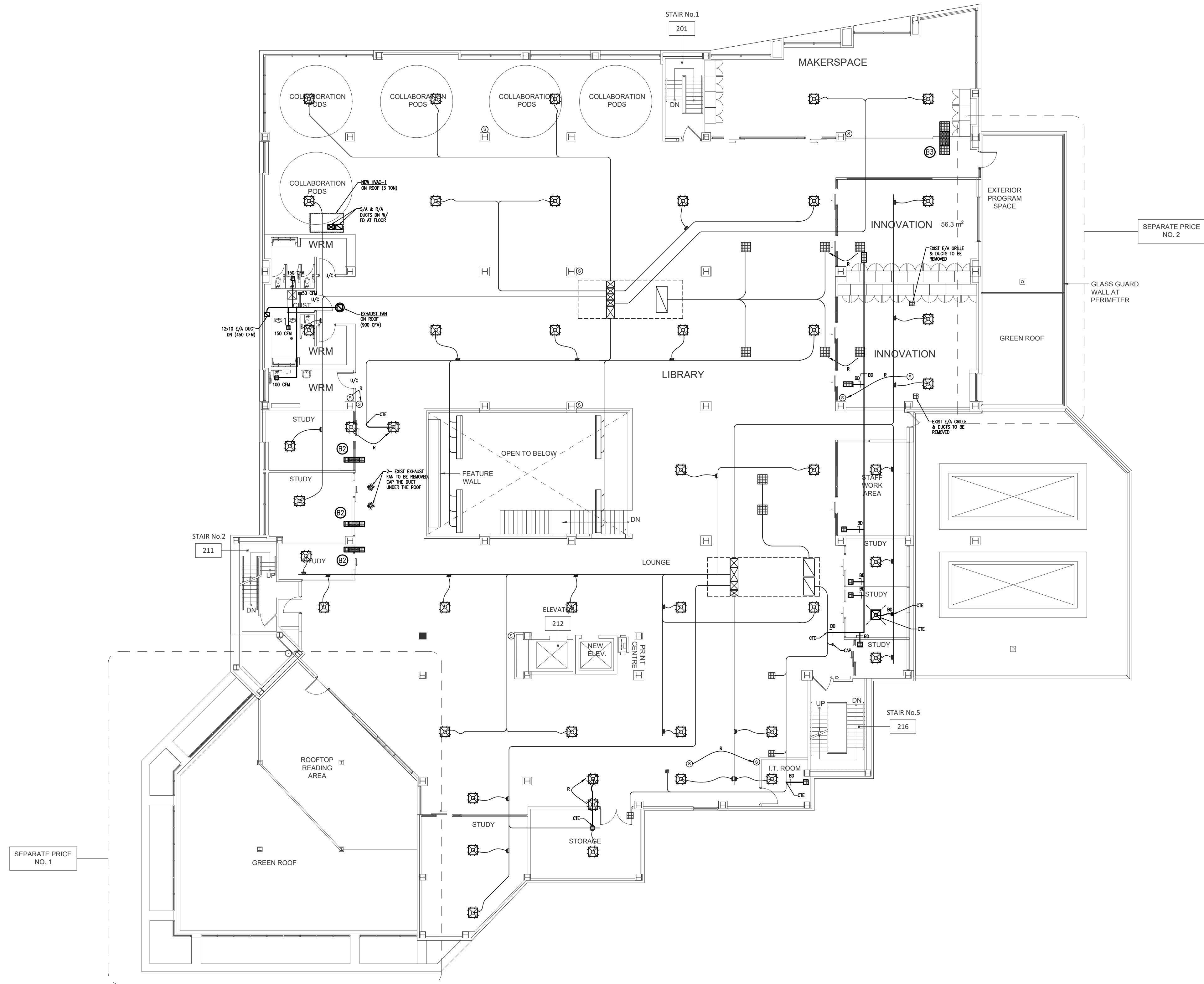
drawing scale
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drawing no.

M2.2

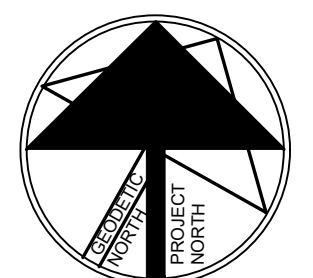
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SECOND FLOOR PLAN - HVAC LAYOUT
SCALE: 1:150

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ST. CATHARINES PUBLIC LIBRARY CENTRAL BRANCH
INTERIOR RENOVATION

54 CHURCH ST., ST. CATHARINES, ON L2R 7K2

drawing
PROPOSED SECOND FLOOR PLAN - HVAC

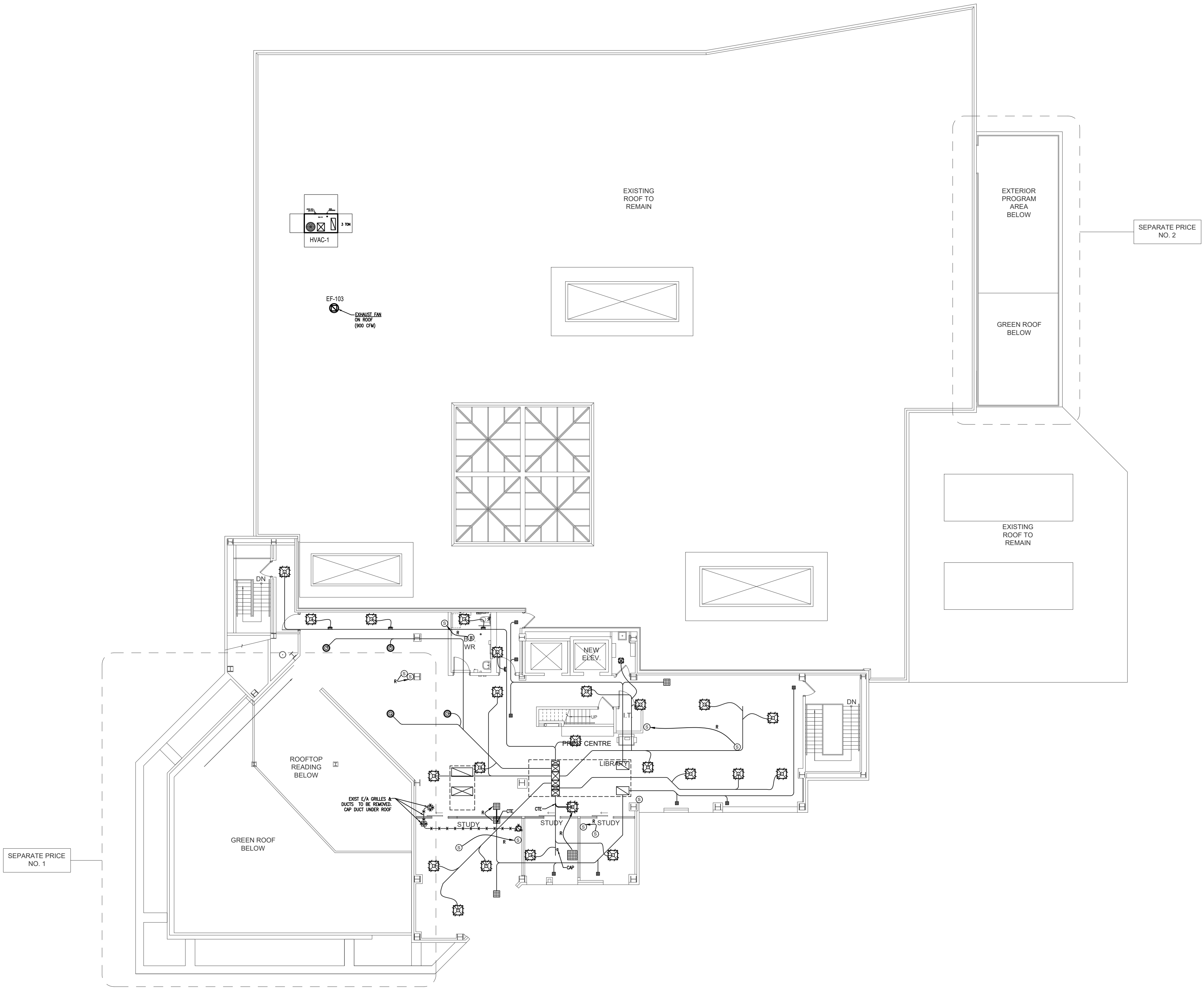
drawing scale
AS NOTED

ward99 project number
21036 - ST. CATHARINES LIBRARY

drawing no.

M2.3

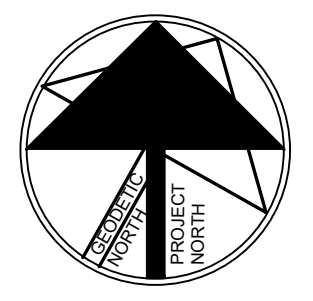
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THIRD FLOOR PLAN - HVAC LAYOUT
SCALE: 1:150

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ST. CATHARINES PUBLIC LIBRARY CENTRAL BRANCH
INTERIOR RENOVATION

54 CHURCH ST., ST. CATHARINES, ON L2R 7K2

drawing
PROPOSED THIRD FLOOR PLAN - HVAC

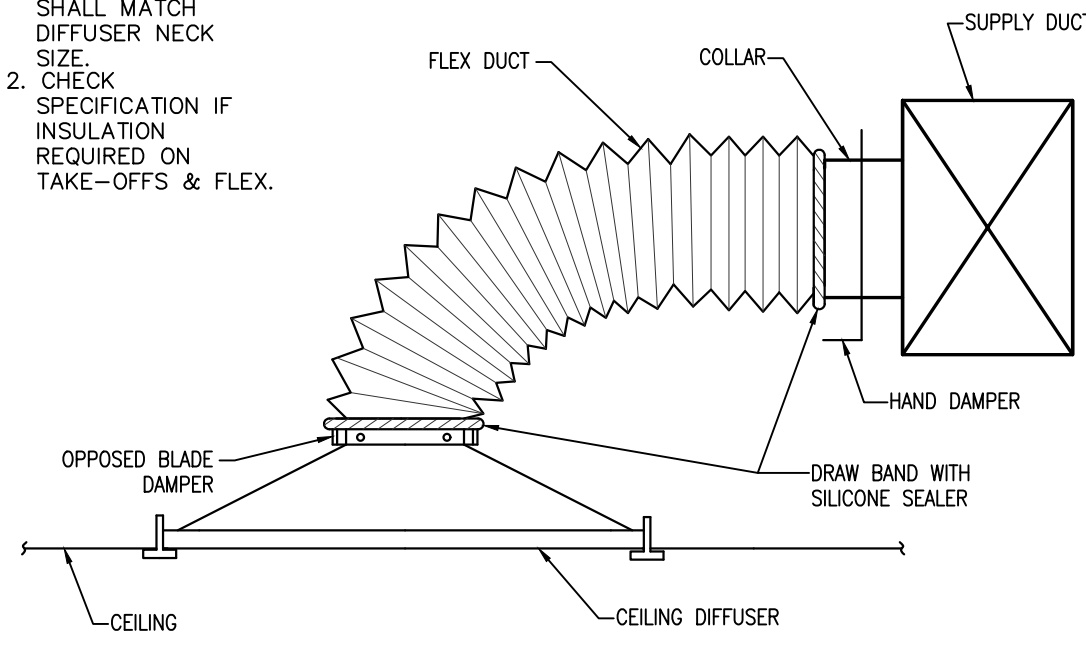
drawing scale
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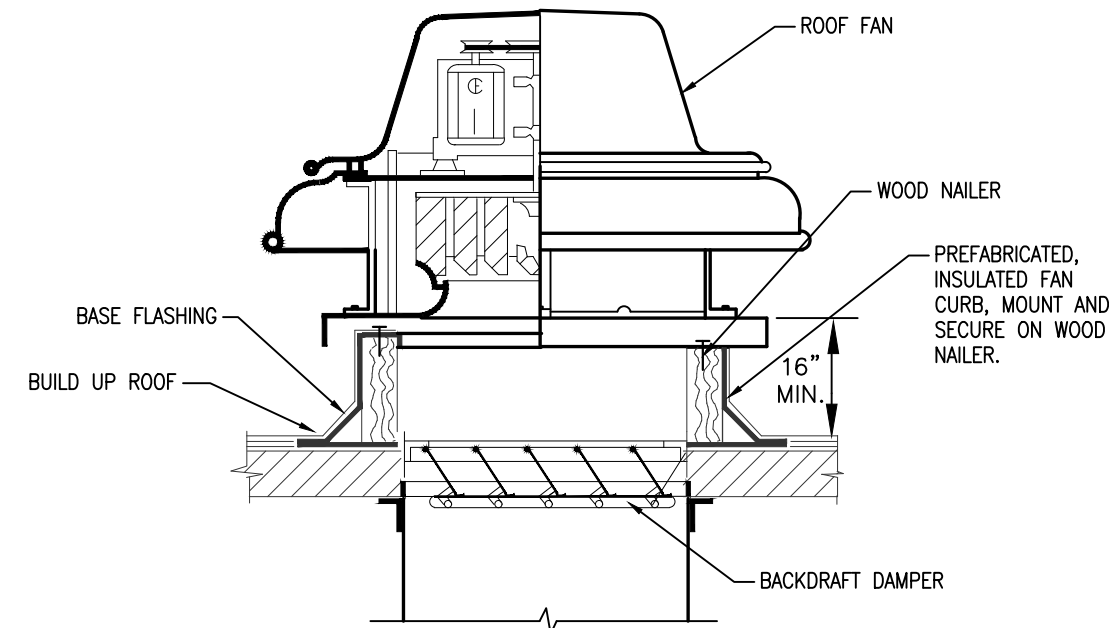
M2.4

NOTE:
 1. MAX. FLEX DUCT LENGTH IS 1800mm. FLEX DUCT SIZE SHALL MATCH DIFFUSER NECK SIZE.
 2. CHECK SPECIFICATION IF INSULATION REQUIRED ON TAKE-OFFS & FLEX.

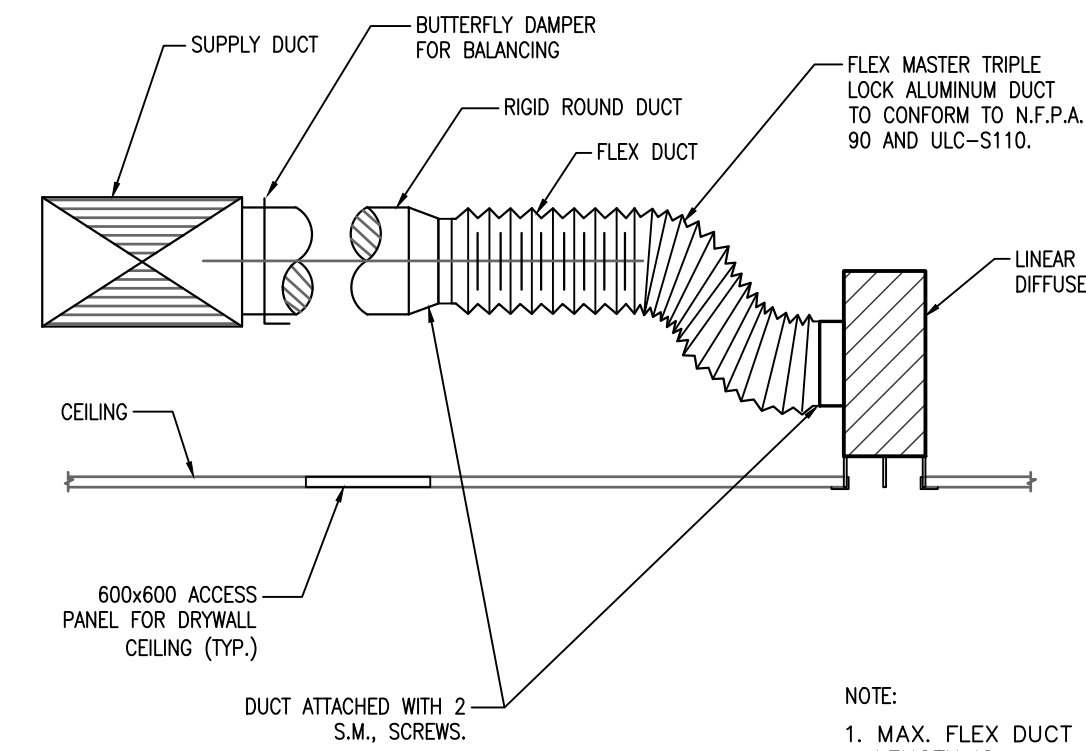


TYPICAL DIFFUSER CONNECTION
 N.T.S.

SECURE FAN BASE TO CURB
 MIN. 2 LOCATIONS EACH SIDE
 AND ON 150 CENTERS FOR
 CURBS OVER 450X450

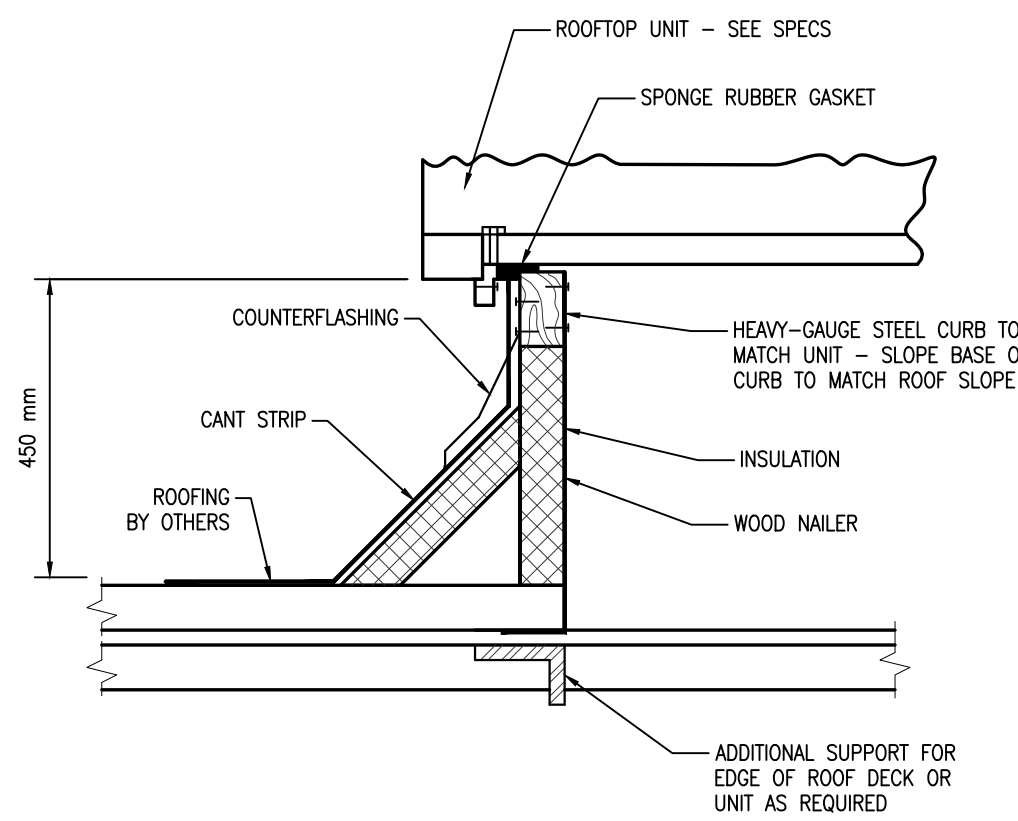


ROOF FAN MOUNTING DETAIL
 N.T.S.



NOTE:
 1. MAX. FLEX DUCT LENGTH IS 3000mm. FLEX DUCT SIZE SHALL MATCH DIFFUSER NECK SIZE.

TYPICAL LINEAR DIFFUSER CONNECTION
 N.T.S.



ROOFTOP EQUIPMENT CURB DETAIL
 N.T.S.

ROOFTOP UNIT SCHEDULE

UNIT NO.	SERVICE & LABEL	MAKE & MODEL	AIR FLOW CFM	ESP inWC	COOLING PERFORMANCE		HEATING PERFORMANCE (GAS FIRED)		ELECTRICAL DATA			FRESH AIR L/S	APPROX. WEIGHT (KG)	REMARKS
					GROSS COOLING CAPACITY (MBH/KW)	NET COOLING CAPACITY (MBH/KW)	INPUT (MBH/KW)	OUTPUT (MBH/KW)	MAX. FUSE SIZE	MCA	POWER SUPPLY			
HVAC-1	VESTIBULE	LENNOX LGH03654T	1200	0.5	35.8/10.5	34.8/10.2	105/30.8	84/24.6	30	22	208/3/60	-	400	

EXHAUST FAN SCHEDULE

UNIT TAG	SERVICE AREA	VOLUME FLOW CFM	E.S.P. inWC	SPEED RPM	MOTOR HP	MOTOR WATTS	POWER SUPPLY V/PH/Hz	MAKE	MODEL	REMARKS
EF-101	ELECTRICAL ROOM BASEMENT	300	0.25	1550	-	130	120/1/60	PENN BARRY	ZEPHYR Z8H	
EF-102	NEW FAMILY WASHROOM GROUND FLOOR	100	0.25	1550	-	79	120/1/60	PENN BARRY	ZEPHYR Z5H	
EF-103	NEW WASHROOMS GROUND & SECOND FLOORS	900	0.5	1000	1/4	-	120/1/60	PENN BARRY	DOMEX DX11B	

NOTE:
 1. DIVISION 15 SHALL SUPPLY STARTER AND DIVISION 16 SHALL INSTALL STARTERS AND DIVISION 16 SHALL SUPPLY & INSTALL DISCONNECT SWITCHES.

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22-237

project
 ST. CATHARINES PUBLIC LIBRARY CENTRAL BRANCH
 INTERIOR RENOVATION

54 CHURCH ST., ST. CATHARINES, ON L2R 7K2

drawing
 DETAILS & SCHEDULES

drawing scale

AS NOTED

ward99 project number

21036 - ST. CATHARINES LIBRARY

drawing no.

M2.5

LEGEND

- FLUORESCENT OR LED LIGHT FIXTURE - LETTER DENOTES TYPE
INCANDESCENT, LED, FLUORESCENT OR HD CEILING FIXTURE - LETTER DENOTES TYPE
INCANDESCENT, LED, FLUORESCENT OR HD CEILING FIXTURE ON 24/7 NIGHT LIGHT CIRCUIT FED FROM GENERATOR POWER. ALSO TO OPERATE AS EMERGENCY LIGHT FIXTURE.
LIGHT STANDARD
INCANDESCENT, FLUORESCENT, LED OR HD WALL FIXTURE - LETTER DENOTES TYPE
EMERGENCY LIGHTING TYPE 1 (SINGLE HEAD)& TYPE 2 (DOUBLE HEADS), LED, 24V, 7W PER HEAD, BAGHELLI# B1M-WR16-LED-7W/HEAD-24V OR READY-LITE
EMERGENCY LIGHTING TYPE 1 (SINGLE HEAD)& TYPE 2 (DOUBLE HEADS), LED, 24V, 7W PER HEAD, BAGHELLI# S1A SERIES-WR16-LED-7W/HEAD-WEATHERPROOF OR READY-LITE
EMERGENCY LIGHTING BATTERY UNIT, 24V, 720W (BAGHELLI#NOVA-W-24-720W OR READY-LITE), SUITABLE FOR 120V INPUT VOLTAGE UNLESS NOTED OTHERWISE.
EXIT LIGHT FIXTURE WALL OR CEILING MOUNTED, PICTORAM TYPE - SHADED AREA DENOTES FACE
STANDARD 15A 120V 1P DUPLEX RECEPTACLE UNLESS NOTED OTHERWISE.
STANDARD DUPLEX RECEPTACLE MOUNTED ABOVE COUNTER.
G.F.I DUPLEX RECEPTACLE.
G.F.I DUPLEX RECEPTACLE MOUNTED ABOVE COUNTER.
STANDARD 15A 120V 1P QUAD RECEPTACLE
15A QUAD, RECEPTACLE WITH SEPARATE NEUTRAL AND GROUND WIRE PER CIRCUIT. 'TR' DENOTES TAMPER RESISTANT.
15A STANDARD DUPLEX RECEPTACLE WITH SEPARATE NEUTRAL AND GROUND WIRE PER CIRCUIT.
CEILING MOUNTED DUPLEX RECEPTACLE
15A/20A T-SLOT RECEPTACLE ON 20A CIRCUIT.
120V, 15A CEILING MOUNTED EXTENSION CORD REEL, C/W DUPLEX RECEPTACLE AND OUTLET BOX (HUBBELL# HBL45123R + HBL52520T) C/W SUPPORTING SYSTEM. CO-ORDINATE ON SITE FOR EXACT LOCATION/ MORE INFORMATION AND PROCEED ACCORDINGLY.
3-POLE, 250V RECEPTACLE NEMA L6-20P FOR WHEEL BALANCER
3-POLE, 250V RECEPTACLE I6-30P FOR TYRE CHANGER & BRAKE LATHE
3-POLE, 250V OUTLET NEMA L6-20P FOR AUTOMOBILE EQUIPMENT
3-POLE, 250V RECEPTACLE 14-20R FOR UPS RACK
3-POLE, 250V RECEPTACLE 14-30R FOR DRYER
3-POLE, 250V RECEPTACLE 14-50R FOR RANGE/EV CHARGING
3-POLE, 250V RECEPTACLE 6-50R FOR MACHINES
600V, 30A, 3P RECEPTACLE FOR HIGH PRESSURE WASH PUMPS
SPECIAL OUTLET AS NOTED
SINGLE POLE LINE VOLTAGE LIGHT SWITCH UNLESS NOTED OTHERWISE.
KEY OPERATED SWITCH
THREE WAY LINE VOLTAGE LIGHT SWITCH
FOUR WAY LIGHT SWITCH
LINE VOLTAGE DIMMER SWITCH COMPATIBLE WITH RESPECTIVE LIGHT FIXTURES
1-BUTTON LOW VOLTAGE DLM TYPE LIGHT SWITCH (TYP.) UNLESS NOTED OTHERWISE.
4-BUTTON LOW VOLTAGE DLM TYPE LIGHT SWITCH (TYP.).
DIGITAL DIMMER SWITCH COMPATIBLE WITH RESPECTIVE LIGHT FIXTURES
ELECTRIC HEATING UNIT, NO. DENOTES TYPE
DOOR OPERATOR PUSH BUTTON UNLESS NOTED OTHERWISE
REQUEST TO EXIT DEVICE
EXISTING HEATER
PANELBOARD
MOTOR STARTER. LETTER F DENOTES FLUSH MTD, P= PILOT LIGHT, S= SURFACE MTD. EF-3 = EQUIPMENT CONTROLLED BY STARTER
DISCONNECT SWITCH - WP DENOTES WEATHERPROOF
COMBINATION MOTOR STARTER AND DISCONNECT
MOTOR OUTLET AS NOTED
MOTOR & DISCONNECT SWITCH TO SUIT
RECESSED P.A. SPEAKER CEILING MOUNTED. REFER SCHEMATIC DIAGRAMS FOR MORE INFORMATION.
RECESSED P.A. SPEAKER RECESSED, WALL MOUNTED. REFER SCHEMATIC DIAGRAMS FOR MORE INFORMATION.
SURFACE MOUNTED P.A. SPEAKER. REFER SCHEMATIC DIAGRAMS FOR MORE INFORMATION.
EXTERIOR TYPE P.A. SPEAKER, WALL MOUNTED. REFER SCHEMATIC DIAGRAMS FOR MORE INFORMATION.
MICROPHONE OUTLET
WATT STOPPER LMX-100 OCCUPANCY/VACANCY SENSOR, DUAL TECH WALL CORNER MOUNT C/W ROOM CONTROLLERS AS REQUIRED. LIGHTING CONTROL TO BE MANUAL-ON, AUTO-OFF.
WATT STOPPER DW-100-120 DUAL TECHNOLOGY WALLSWITCH SENSOR LINE VOLTAGE, AUTO-ON, AUTO-OFF.
WATT STOPPER LMX-100 OCCUPANCY SENSOR, ULTRA SONIC CEILING MOUNT C/W ROOM CONTROLLERS AS REQUIRED.
WALL MOUNTED DUAL TECHNOLOGY TWO RELAY LINE VOLTAGE OCCUPANCY SENSOR. WATT STOPPER DW-200-120. MANUAL-ON, AUTO-OFF.
WATT STOPPER LMX-100 OCCUPANCY/VACANCY SENSOR, DUAL TECH CEILING MOUNT, 360 DEGREES C/W ROOM CONTROLLERS AS REQUIRED. LIGHTING CONTROL TO BE MANUAL-ON, AUTO-OFF.
WATT STOPPER LMX-100 OCCUPANCY/VACANCY SENSOR, DUAL TECH CEILING MOUNT, 360 DEGREES C/W ROOM CONTROLLERS AS REQUIRED. LIGHTING CONTROL TO BE AUTO-ON, AUTO-OFF.
WATT STOPPER LML-500 OPEN LOOP DAYLIGHT SENSOR.
CLOCK (12" DIA, SEMI FLUSH, 120V)
CEILING MOUNTED A/V OUTLET FOR PROJECTOR
VIA MONITOR OUTLET C/W 41 mm.C. TO CEILING MOUNTED AV OUTLET.
CABLE TV OUTLET C/W 41MM CONDUIT UPTO SERVER ROOM
RECESSED FLOOR BOX C/W COVER (COVER TO SUIT TYPE OF FLOOR FINISH, VERIFY ON SITE FOR THE FLOOR FINISH) AND DEVICES AS PER LAYOUT DWGS. WIREMOLD RFB-SS SERIES, FINISH TO ARCHITECT SELECTION.

LEGEND

- FLUSH FLOOR MOUNTED FLOORBOX C/W COVER (TO SUIT FLOOR, VERIFY ON SITE FOR THE FLOOR FINISH PRIOR TO ORDERING). WIREMOLD, FIRE RATED, POKE THROUGH, EVOLUTION TYPE, RAT SERIES C/W DEVICES AS INDICATED ON FLOOR PLANS & COVER TO SUIT TYPES OF FLOORS. THE FLOOR BOX SHALL BE FED FROM CEILING SPACES OF FLOOR BELOW VIA FIRE RATED CONDUITS/SLEEVES REFER ARCHITECTURAL DRAWINGS FOR TYPE OF FLOORS AND PROCEED ACCORDINGLY. COVER FINISH OF ALL FLOOR BOXES TO BE AS PER ARCHITECT SELECTION.
EMERGENCY PUSH BUTTON (CAMDEN 5/8") MUSHROOM, STAINLESS STEEL FACEPLATE, PUSH/PULL, "PRESS FOR ASSISTANCE"; CM-450R/12) OF CALL FOR ASSISTANCE SYSTEM (CALL FOR ASSISTANCE SYSTEM SHALL BE CAMDEN# CX-WE10). THE EMERGENCY PUSH BUTTON SHALL BE MOUNTED ON A SINGLE GANG BOX. REFER FLOOR PLAN DWGS. FOR MORE INFORMATION.
SINGLE GANG LED ANNUNCIATOR C/W SOUNDER. "ASSISTANCE REQUIRED" (CAMDEN CM-AFS0150) OF CALL FOR ASSISTANCE SYSTEM (CALL FOR ASSISTANCE SYSTEM SHALL BE CAMDEN# CX-WE10). REFER FLOOR PLAN DWGS. FOR MORE INFORMATION.
SINGLE GANG DOME LIGHT WITH SOUNDER. "ASSISTANCE REQUIRED" (CAMDEN: CM-AFT4050) OF CALL FOR ASSISTANCE SYSTEM (CALL FOR ASSISTANCE SYSTEM SHALL BE CAMDEN# CX-WE10). REFER FLOOR PLAN DWGS. FOR MORE INFORMATION.
FIRE ALARM MANUAL STATION C/W PLASTIC COVER WITH LOCAL HORN - LETTERS W0 DENOTES C/W WIREGUARD
AUTOMATIC FIRE DETECTOR RATE OF RISE 1.35 DEG. F. UNLESS NOTED OTHERWISE - NUMBER DENOTES ZONE, LETTER G DENOTES GUARD AUTOMATIC FIRE DETECTOR RATE OF RISE TEMPERATURES NOTED FIRE ALARM HORN. 'S' DENOTES C/W STROBE LIGHT, WG - WIRE GUARD
PHOTO ELECTRIC SMOKE DETECTOR
FIRE ALARM DUCT TYPE SMOKE DETECTOR
END-OF-LINE RESISTOR
FIRE ALARM HORN. 'S' DENOTES C/W STROBE LIGHT.
FIRE ALARM STROBE.
TELEPHONE OUTLET C/W 21mm EMT CONDUIT TO ACCESSIBLE CEILING SPACE IN NEAREST CORRIDOR AT SECOND FLOOR.
TELEPHONE/DATA OUTLET C/W 21mm EMT CONDUIT TO ACCESSIBLE CEILING SPACE IN NEAREST CORRIDOR AT SECOND FLOOR. NUMBER DENOTES NUMBER OF DROPS.
DATA OUTLET C/W 21mm EMT CONDUIT TO ACCESSIBLE CEILING SPACE IN NEAREST CORRIDOR AT SECOND FLOOR. NUMBER DENOTES NUMBER OF DROPS.
CEILING MOUNTED WIRELESS ACCESS POINT CONSISTING OF A DATA DROP C/W 27MM CONDUIT TO ACCESSIBLE CEILING SPACE IN NEAREST CORRIDOR AT SECOND FLOOR.
DOOR ELECTRIC STRIKE
KEY OVERRIDE SWITCH TO OVERRIDE ELECTRIC STRIKE
SECURITY KEY PAD C/W 18MM CONDUIT SECURITY PANEL IN I.T. ROOM.
CARD READER C/W 18MM CONDUIT TO DOOR ACCESS PANEL VIA A JUNCTION BOX IN NEAREST ACCESSIBLE CEILING SPACE
CCTV CAMERA C/W 27mm CONDUIT TO ACCESSIBLE CEILING SPACE IN NEAREST CORRIDOR AT SECOND FLOOR
CCTV MONITOR C/W 27mm CONDUIT UPTO DVR PANEL/CCTV RACK
SECURITY SYSTEM- MOTION SENSOR, WALL MOUNTED C/W 27MM CONDUIT TO SECURITY PANEL VIA A JUNCTION BOX IN NEAREST ACCESSIBLE CEILING SPACE.
DOOR HOLD OPEN DEVICE C/W CONDUIT AND WIRING
SECURITY SYSTEM DOOR/OVERHEAD CONTACT C/W 18MM CONDUIT UPTO SECURITY PANEL VIA A JUNCTION BOX IN ACCESSIBLE CEILING SPACE.
SECURITY SYSTEM ROOF HATCH DOOR CONTACT C/W 27MM CONDUIT UPTO SECURITY PANEL VIA A JUNCTION BOX IN ACCESSIBLE CEILING SPACE.
SECURITY SYSTEM OVERHEAD DOOR CONTACT C/W 27MM CONDUIT UPTO SECURITY PANEL VIA A JUNCTION BOX IN ACCESSIBLE CEILING SPACE.
PUSH BUTTON FOR DOOR BELL
DOOR BELL
ARMING BUTTON C/W 27MM CONDUIT UPTO CABLE TRAY IN NEAREST CORRIDOR
SECURITY SYSTEM BUZZER C/W 27MM CONDUIT UPTO CABLE TRAY IN NEAREST CORRIDOR
PHOTOCELL.
THERMOSTAT
ACKNOWLEDGE BUTTON-FIRE ALERT SYSTEM.
COUNTDOWN CLOCK-FIRE ALERT SYSTEM.
MAINTAINED TWIST RELEASE RED COLORED MUSHROOM KEYLESS TYPE EMERGENCY PUSH BUTTON FOR SHUT DOWN OF POWER FOR GAS SOLENOID VALVE IN CASE OF EMERGENCY. PROVIDE SUITABLE LABEL ON THE PUSH BUTTON.
WALL MOUNTED J-HOOK IN CEILING
33 MM(2") CONDUIT SLEEVE THRU WALL ABOVE CEILING
SPEED CONTROLLER OF CEILING FAN
HMT DENOTES DOMESTIC HOT WATER TANK
RH DENOTES RANGE HOOD
RG DENOTES RANGE
DW DENOTES DISHWASHER
MW DENOTES MICROWAVE
MD DENOTES MOTORIZED DAMPER
PT DENOTES HEAT PIPE TRACING
WG DENOTES WIRE GUARD
FACP DENOTES FIRE ALARM CONTROL PANEL
DO DENOTES DOOR OPERATOR
FSE DENOTES FREEZE
FZR DENOTES FREEZER
EFC DENOTES POWER FOR ELECTRONIC FAUCET/PLUMBING FIXTURES
F.A.A.P. DENOTES LED TYPE OF FIRE ALARM ANNUNCIATOR PANEL C/W PASSIVE GRAPHICS
ATS DENOTES AUTOMATIC TRANSFER SWITCH
H.D. DENOTES HEAT DETECTOR
S.D. DENOTES SMOKE DETECTOR
P.S. DENOTES PULL STATION
CUH DENOTES CABINET UNIT HEATER
UH DENOTES UNIT HEATER
WH DENOTES WEAHER
DR DENOTES DRYER
WP DENOTES WEATHER PROOF.
VVT DENOTES VARIABLE VOLUME TEMPERATURE.
HD DENOTES HAND DRYER
CUH DENOTES CABINET UNIT HEATER
A/V DENOTES AUDIO/VISUAL SYSTEM
VC DENOTES LOCAL VOLUME CONTROL OF P.A. SPEAKERS
M&V DENOTES METERING & VERIFICATION SYSTEM
O/H DOOR DENOTES OVERHEAD DOOR
CF-1 DENOTES CEILING FAN#1 (TYP.)

LEGEND (CONTD.)

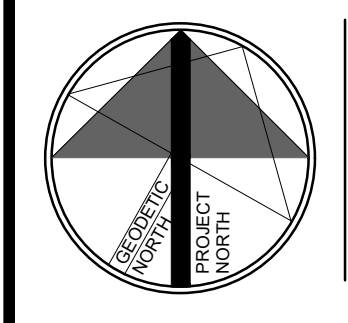
- TRF. DENOTES TRANSFORMER
FC-1 DENOTES FAN COIL#1 (TYP.)
FSA DENOTES FIRE STATION ALERT SYSTEM
LVMSP DENOTES LV MASTER SWITCH PANEL
1A-1 DENOTES EQUIPMENT FED FROM PANEL '1A' AND BREAKER #1
1A-2.1 DENOTES EQUIPMENT FED FROM PANEL '1A' AND BREAKER #2 AND CONTROLLED BY SWITCH #1
1A-3.R1 DENOTES EQUIPMENT FED FROM PANEL '1A' AND BREAKER #3 AND CONTROLLED VIA RELAY-R1.
1A-5/7.R2(2P) DENOTES EQUIPMENT FED FROM PANEL '1A' AND 2-POLE BREAKER #5/7 AND CONTROLLED VIA 2-POLE RELAY-R2.
DETAIL 1 ON DRAWING E101
NOTE PERTAINING TO SPECIFIC ITEM OR AREA
NOTES FOR LEGEND:
1. THE WEATHERPROOF RECEPTACLES SHALL BE PROVIDED WITH COVER PLATES SUITABLE FOR NET LOCATIONS WHETHER OR NOT A PLUG IS INSERTED INTO THE RECEPTACLE (N-USE COVER PLATE) AND MARKED # EXTRA DUTY# AS PER RULE 26-702(2) OF OESC.
2. 'T' INDICATED BESIDE SYMBOL OF A DUPLEX RECEPTACLE DENOTES THAT THE RECEPTACLE SHALL BE T-SLOT ON 20A CIRC.
3. 'N' INDICATED BESIDE SYMBOL OF A DEVICE DENOTES THAT THE DEVICE SHALL BE CEILING MOUNTED.
4. 'TR' INDICATED BESIDE SYMBOL OF A DUPLEX RECEPTACLE DENOTES THAT THE RECEPTACLE SHALL BE TAMPER RESISTANT TYPE OF RECEPTACLE.

GENERAL NOTES:

- ELECTRICAL CONTRACTOR SHALL REFER TO ARCHITECTURAL & MECHANICAL DRAWINGS FOR ALL SCOPE OF WORK OF ELECTRICAL CONTRACTOR WHICH ARE RELATED TO OTHER TRADES.
PROVIDE EACH ITEM MENTIONED OR INDICATED OF QUALITY AND SUBJECT TO QUALIFICATIONS NOTED; PERFORM ACCORDING TO CONDITIONS STATED EACH OPERATIONS STATED, EACH OPERATION PRESCRIBED; AND PROVIDE THEREFORE ALL LABOR, MATERIAL, EQUIPMENT, INCIDENTALS AND SERVICES REQUIRED TO COMPLETE THE INSTALLATION.
EXAMINE THE SITE, EXISTING EQUIPMENT AND THE LOCAL CONDITIONS AFFECTING THE WORK UNDER THIS CONTRACT. NO ALLOWANCE WILL BE MADE SUBSEQUENTLY FOR ANY OBVIOUS CONSIDERATIONS OVERLOOKED.
SCHEDULE AND COORDINATE ALL WORK WITH OTHER TRADES.
CONTRACTOR SHALL BALANCE CIRCUIT LOADS AS CLOSELY AS POSSIBLE.
REFER TO MECHANICAL DRAWINGS AND COORDINATE WITH MECHANICAL CONTRACTOR FOR EXACT LOCATION OF EQUIPMENT & DEVICES PRIOR TO ROUGH IN.
ALL ELECTRICAL INSTALLATIONS SHALL BE RECESSED/CONCEALED INSTALLATIONS WHEREVER POSSIBLE; OTHERWISE PROVIDE WIREMOLD STEEL SURFACE MOUNTED RACEWAY C/W SURFACE MOUNTED OUTLETS.
PROVIDE FIRE ALARM VERIFICATION REPORT & CERTIFICATE FOR THE COMPLETE FIRE ALARM SYSTEM AS REQUIRED BY AUTHORITIES.
CONTRACTOR SHALL PERFORM VOLTAGE DROP CALCULATIONS FOR ALL BRANCH CIRCUITS (LIGHTING AS WELL AS POWER) AND SHALL MAINTAIN VOLTAGE DROP WITHIN PERMISSIBLE LIMITS AS PER OESC REQUIREMENTS AND PROVIDE PROPER WIRE SIZES ACCORDINGLY PRIOR TO COMMENCING OF ROUGH-IN INSTALLATION. THE VOLTAGE DROP CALCULATIONS SHALL BE BASED ON MAXIMUM CIRCUIT AMPACITY.
IN CASE OF NON-ACCESSIBLE CEILING, ALL WIRING UPTO ELECTRICAL DEVICES SHALL BE DONE IN CONDUITS TO SUIT APPLICATION TO FACILITATE MAINTENANCE.
ELECTRICAL CONTRACTOR SHALL MAKE SUITABLE ARRANGEMENTS TO MAKE ALL THE ELECTRICAL DEVICES AS ACCESSIBLE TO FACILITATE MAINTENANCE. NO ELECTRICAL DEVICE SHALL BE INSTALLED IN SUCH A WAY THAT IT IS UN-ACCESSIBLE AT ANY STAGE FOR MAINTENANCE. CO-ORDINATE ON SITE AND PROCEED ACCORDINGLY.
ROOM CONTROLLERS OF LMC-200 SERIES FOR LIGHTING CONTROL HAVE CONNECTIONS AT ITS BACK ACCORDINGLY. THIS TYPE OF ROOM CONTROLLERS ARE REQUIRED TO BE MOUNTED ON A BACKBOX. THE DEPTH OF THIS BACKBOX IS REQUIRED TO BE 2.5" DEEP. THEREFORE THE DEPTH OF THE RECESSED BACKBOXES (FOR MOUNTING ROOM CONTROLLERS) WHEREVER APPLICABLE SHALL BE SELECTED TO SUIT APPLICATION.
PROVIDE LABELING OF ELECTRICAL POWER OUTLETS AND RECEPTACLES THROUGHOUT THE ENTIRE BUILDING TO PROVIDE IDENTIFICATION OF ELECTRICAL CIRCUITS. THE LABEL SHALL INDICATE 'NAME OF PANEL & CCT.# FED TO THE OUTLET/RECEPTACLE.
PROVIDE CONDUITS AND BACK BOXES FOR LIGHTING CONTROL DEVICES TO SUIT APPLICATIONS AND AS PER MANUFACTURER'S RECOMMENDATIONS.
ALL LIGHTING CONTROL WIRING IN CASE OF CAT CABLING SYSTEM, SHALL BE PROVIDED IN CONDUITS EXCEPT FOR T-BAR CEILING APPLICATIONS WHERE FT6 CABLES (PLENUM RATED) SHALL BE PROVIDED.
ALL EMPTY CONDUITS SHALL BE PROVIDED C/W PULL WIRES.
PROVIDE SINGLE HEAD J-HOOKS OF 2" DIA. SUSPENDED FROM SLAB IN THE CEILING SPACE OF ALL ROOMS & BOTH SIDES OF CORRIDORS UNDER SCOPE OF WORK. PROVIDE J-HOOKS EVERY 2 FEET AND SUSPENDED BELOW ANY PIPING, MECHANICAL DUCTS ETC. NO RUN OF LOOSE CABLE FROM CONDUIT STAB UP SHALL EXCEED 10 FEET TO FIRST J-HOOK. PROVIDE QUANTITY OF J-HOOKS TO SUIT FOR FULL COVERAGE THROUGHOUT COMPLETE FLOOR AREAS UNDER SCOPE OF WORK.
ALL RECEPTACLES FED FROM EMERGENCY POWER GENERATOR (RECEPTACLES FED FROM PANELS WHICH ARE FED FROM GENERATOR POWER) SHALL BE RED IN COLOR.
PROVIDE #10 AWG WIRING FOR ALL EXTERIOR LIGHTING CIRCUITS.
ALL ELECTRICAL INSTALLATIONS SHALL BE RECESSED/CONCEALED INSTALLATIONS WHEREVER POSSIBLE; OTHERWISE PROVIDE WIREMOLD STEEL SURFACE MOUNTED RACEWAY C/W SURFACE MOUNTED OUTLETS. CO-ORDINATE WITH CONSULTANTS PRIOR TO INSTALLATION.
IDENTIFY THE SCOPE OF WORK FOR REMOVAL OF THE CEILING TILES TO GENERAL CONTRACTOR FOR PRICING PURPOSE. DURING TENDER PERIOD, ELECTRICAL CONTRACTOR SHALL CO-ORDINATE AND INFORM THE GENERAL CONTRACTOR FOR THE REMOVAL OF EXISTING CEILING AND FLOORS FOR THE SAKE OF EXTENDING/REMOVING ELECTRICAL SERVICES FROM THE EXISTING BUILDING AND FOR ALL THE RENNOVATION/UPGRADATION WORK REQUIRED IN THE EXISTING BUILDING.
WHEREVER NEW BREAKERS/DISCONNECT SWITCHES ARE REQUIRED TO BE ADDED IN EXISTING SWITCHBOARDS/DISTRIBUTION PANELS/PANELS AS INDICATED ON THE DRAWINGS, ELECTRICAL CONTRACTOR SHALL MODIFY, RETROFIT AND RE-CONFIGURE EXISTING RESPECTIVE SWITCHBOARD / DISTRIBUTION PANEL/PANEL IN ORDER TO ALLOW FOR THE INSTALLATION OF THE NEW REQUIRED/INDICATED CIRCUIT BREAKERS/DISCONNECT SWITCHES WITHIN THE EXISTING ELECTRICAL PANEL. CONTRACTOR SHALL VERIFY ON SITE FOR THE SCOPE AND EXTENT OF WORK AND SHALL CO-ORDINATE WITH PANEL MANUFACTURER FOR MORE DETAILS AND THEN PROCEED ACCORDINGLY; CONTRACTOR SHALL PROVIDE ALL NECESSARY MATERIALS (INCLUDING BUT NOT LIMITED TO: CUSTOM MADE PARTS, BUS ASSEMBLY, BRACKETS HARDWARE ETC.), LABOR ETC. FOR FULLY OPERATIONAL SYSTEM. THE NEW BREAKERS/DISCONNECT SWITCHES TO BE ADDED SHALL BE FROM THE SAME MANUFACTURER AS EXISTING. KA RATING OF THE NEW BREAKERS/DISCONNECT SWITCHES SHALL MATCH EXISTING OR NEXT HIGHER AVAILABLE VALUE.
ALL THE TRANSFORMERS SHOWN ON THE DRAWINGS SHALL HAVE COPPER WINDINGS WITH CLASS OF INSULATION AS CLASS-B (80 DEGREES CELCIUS).
RECEPTACLE FOR MICROWAVE NEED NOT BE A GFI TYPE IN CASE THE MICROWAVE IS TO BE INSTALLED IN DEDICATED MILLWORK FOR THE MICROWAVE.

NOTE: THIS DRAWING IS NOT TO BE SCALED. THE CONTRACTOR IS RESPONSIBLE FOR THE VERIFICATION OF ALL SITE DIMENSIONS AND FOR NOTIFYING THE ARCHITECT OF ANY SITE CONDITIONS AND SITE MEASUREMENTS THAT ARE NOT CONSISTENT WITH THE DRAWINGS.

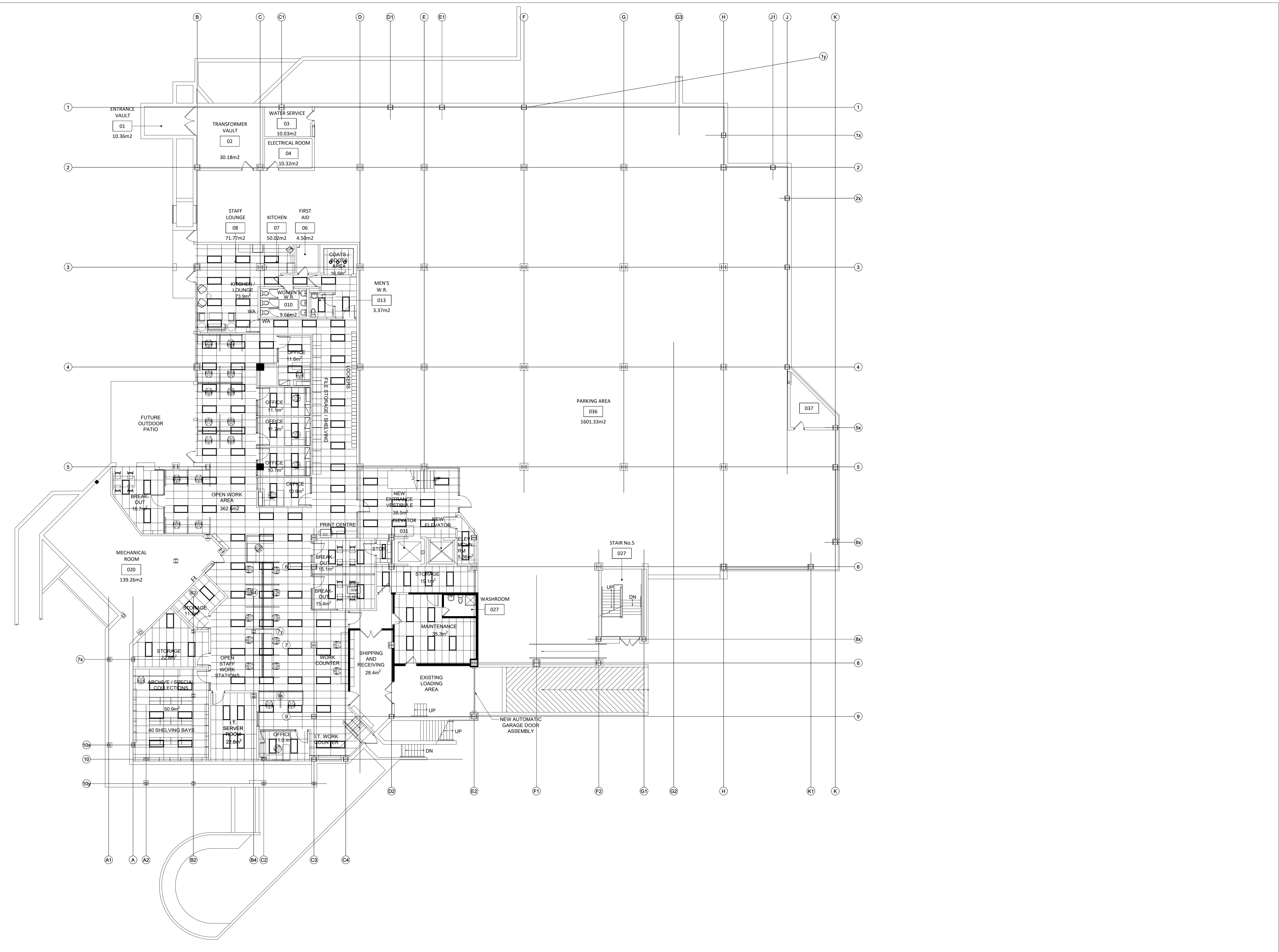
Table with 3 columns: no., issue, date. Contains revision information for schematic drawings dated SEP 16 22.



project
ST. CATHARINES PUBLIC LIBRARY CENTRAL BRANCH
INTERIOR RENOVATION
54 CHURCH ST., ST. CATHARINES, ON L2R 7K2
LEGEND & DETAILS
drawing scale drawn by checked by
N.T.S. CV RH
ward99 project number
21036 - ST. CATHARINES LIBRARY
drawing no.

Jain
7405 East Danbro Crescent, 2nd Floor
Mississauga, Ontario, L5N 6P8
Tel: 905 265 9900, Fax: 905 967 5246
Email: mail@jainconsultants.com

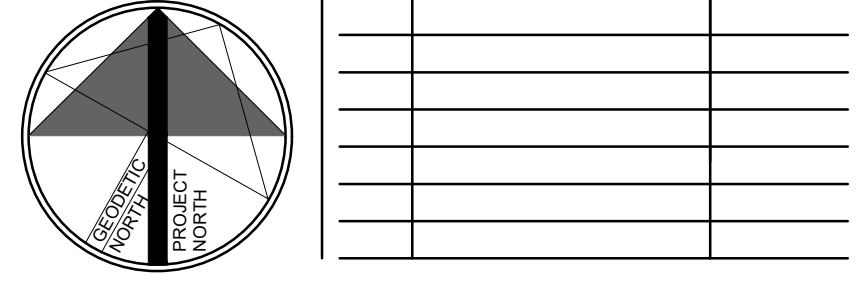
E1.0




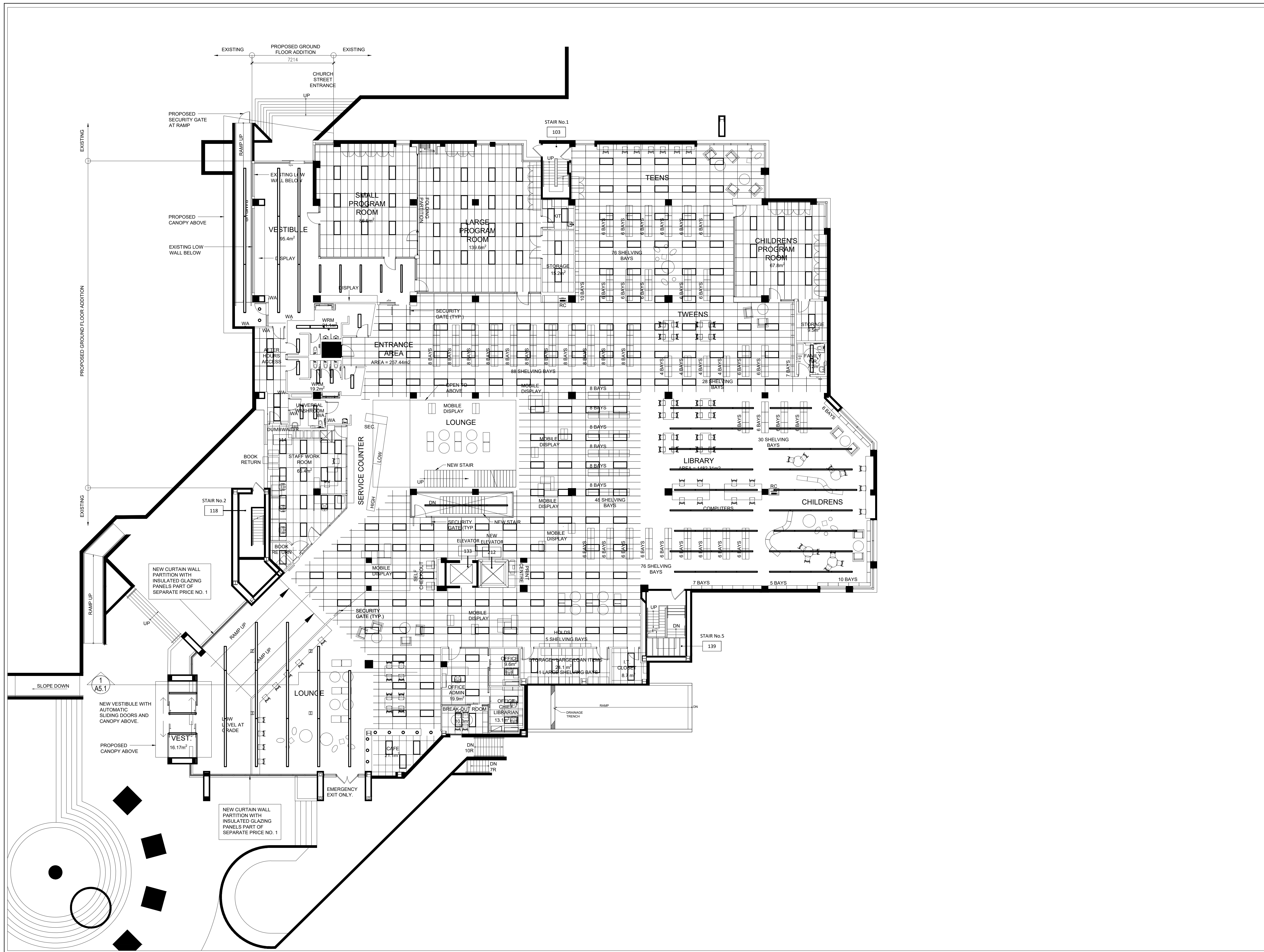
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no.	issue	date
1	SCHEMATIC DRAWINGS	SEP.16.22

project
ST. CATHARINES PUBLIC LIBRARY CENTRAL BRANCH INTERIOR RENOVATION
 54 CHURCH ST., ST. CATHARINES, ON L2R 7K2
 drawing
LIGHTING LAYOUT-BASEMENT LEVEL
 drawing scale 1:150 drawn by CV checked by RH
 ward99 project number
 21036 - ST. CATHARINES LIBRARY

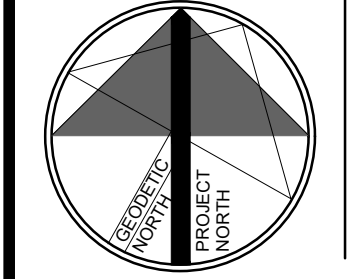



 drawing no.
E2.0
 7405 East Danbro Crescent, 2nd Floor
 Mississauga, Ontario L5N 6P8
 Tel: 905 285 9900, Fax: 905 967 5246
 Email: mail@jainconsultants.com



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no.	issue	date
1	SCHEMATIC DRAWINGS	SEP.16.22



project
ST. CATHARINES PUBLIC LIBRARY CENTRAL BRANCH INTERIOR RENOVATION
 54 CHURCH ST., ST. CATHARINES, ON L2R 7K2
 drawing
LIGHTING LAYOUT-GROUND FLOOR
 drawing scale drawn by checked by
 1:150 CV RH
 ward99 project number
 21036 - ST. CATHARINES LIBRARY

Jain drawing no.
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 Mississauga, Ontario, L5N 6P8
 Tel: 905 285 9900, Fax: 905 967 5246
 Email: mail@jainconsultants.com

E2.1



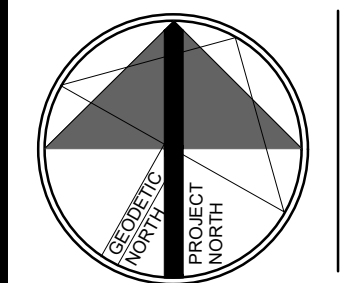
SEPARATE PRICE NO. 1

SEPARATE PRICE NO. 2

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no.	issue	date
1	SCHEMATIC DRAWINGS	SEP.16.22

22-237



project
ST. CATHARINES PUBLIC LIBRARY CENTRAL BRANCH
INTERIOR RENOVATION

54 CHURCH ST., ST. CATHARINES, ON L2R 7K2

drawing
LIGHTING LAYOUT-SECOND FLOOR

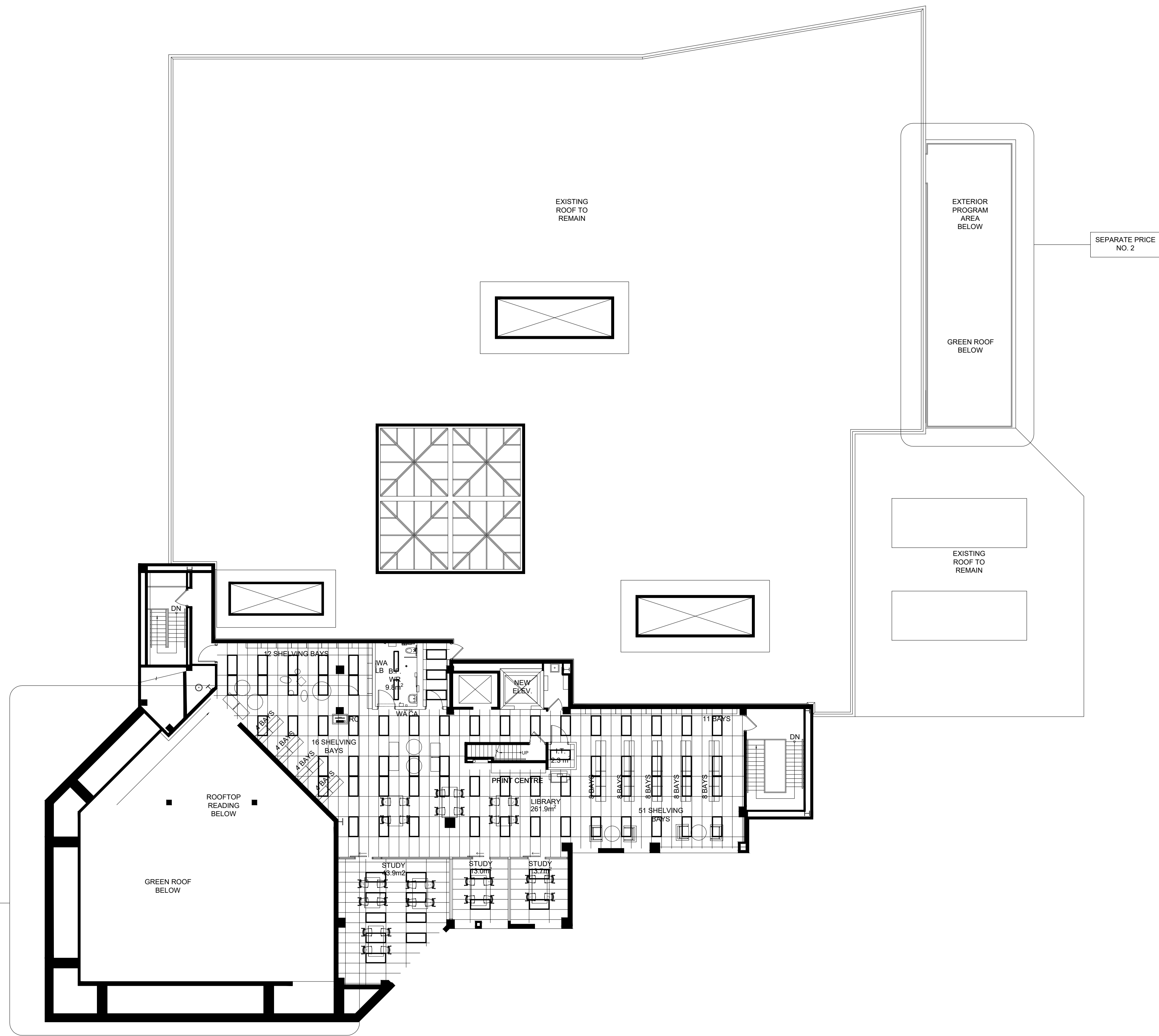
drawing scale drawn by checked by
1:150 CV RH

ward99 project number
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drawing no.

E2.2



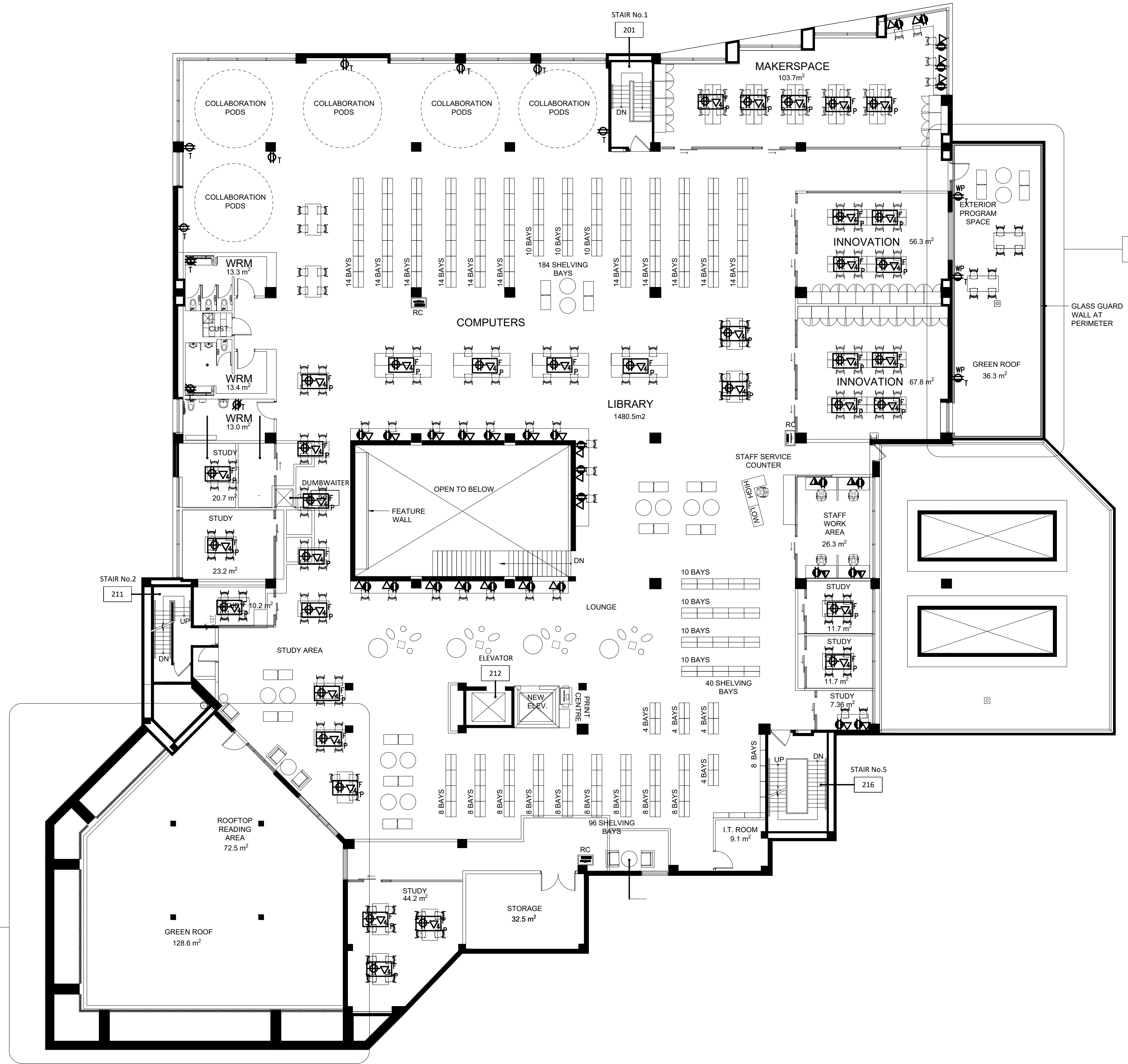
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no.	issue	date
1	SCHEMATIC DRAWINGS	SEP.16.22

project
ST. CATHARINES PUBLIC LIBRARY CENTRAL BRANCH INTERIOR RENOVATION
 54 CHURCH ST., ST. CATHARINES, ON L2R 7K2
 drawing
LIGHTING LAYOUT-THIRD FLOOR
 drawing scale drawn by checked by
 1:150 CV RH
 ward99 project number
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drawing no.
E2.3



SEPARATE PRICE NO. 1

SEPARATE PRICE NO. 2

GLASS GUARD WALL AT PERIMETER

NOTE: THIS DRAWING IS NOT TO BE SCALED. THE CONTRACTOR IS RESPONSIBLE FOR THE VERIFICATION OF ALL SITE DIMENSIONS AND FOR NOTIFYING THE ARCHITECT OF ANY SITE CONDITIONS AND SITE MEASUREMENTS THAT ARE NOT CONSISTENT WITH THE DRAWINGS.

no.	issue	date
1	SCHEMATIC DRAWINGS	SEP.16.22

project
ST. CATHARINES PUBLIC LIBRARY CENTRAL BRANCH
INTERIOR RENOVATION

54 CHURCH ST. ST. CATHARINES, ON L2R 7K2

drawing
POWER & SYSTEMS LAYOUT-SECOND FLOOR

drawing scale drawn by checked by
1:150 CV RH

ward99 project number
21036 - ST. CATHARINES LIBRARY



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drawing no.
E3.2





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PHASE ONE CONCEPTUAL DESIGN
NORTH EXTERIOR VIEW TO NEW ENTRANCE FROM CHURCH STREET





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PHASE ONE CONCEPTUAL DESIGN
NORTH EXTERIOR BUILDING VIEW





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PHASE ONE CONCEPTUAL DESIGN
WEST EXTERIOR BUILDING VIEW





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PHASE ONE CONCEPTUAL DESIGN
WEST EXTERIOR BUILDING VIEW TO MAIN ENTRANCE





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PHASE ONE CONCEPTUAL DESIGN
WEST EXTERIOR BUILDING VIEW





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PHASE ONE CONCEPTUAL DESIGN
WEST EXTERIOR BUILDING VIEW





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PHASE ONE CONCEPTUAL DESIGN
WEST EXTERIOR BUILDING VIEW





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PHASE ONE CONCEPTUAL DESIGN
NORTH-WEST VIEW TO MAIN ENTRANCE





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PHASE ONE CONCEPTUAL DESIGN
EXTERIOR VIEW OF NEW ROOFTOP READING AREA





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PHASE ONE CONCEPTUAL DESIGN
INTERIOR VIEW OF CHILDREN'S AREA





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PHASE ONE CONCEPTUAL DESIGN
INTERIOR VIEW OF GROUND FLOOR LOUNGE TOWARDS NEW SERVICE COUNTER





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PHASE ONE CONCEPTUAL DESIGN
INTERIOR VIEW OF SECOND FLOOR LOUNGE TOWARDS NEW INNOVATION ROOMS

