

File No.: 04-1000-20-2019-728

December 20, 2019

s.22(1)

Dear s.22(1)

Re: **Request for Access to Records under the Freedom of Information and Protection of Privacy Act (the "Act")**

I am responding to your request of November 18, 2019 for:

Records related to 458 West 63rd Avenue, from January 1, 2015 to November 17, 2019, specifically:

- 1. Any geotechnical reports and addendums (regarding soil, building foundations, groundwater, etc.); and**
- 2. Geotechnical field review during the construction of the building for the said property.**

All responsive records are attached.

Under section 52 of the Act, and within 30 business days of receipt of this letter, you may ask the Information & Privacy Commissioner to review any matter related to the City's response to your FOI request by writing to: Office of the Information & Privacy Commissioner, info@oipbc.bc.ca or by phoning 250-387-5629.

If you request a review, please provide the Commissioner's office with: 1) the request number (#04-1000-20-2019-728); 2) a copy of this letter; 3) a copy of your original request; and 4) detailed reasons why you are seeking the review.

Yours truly,



Barbara J. Van Fraassen, BA
Director, Access to Information & Privacy

Barbara.vanfraassen@vancouver.ca
453 W. 12th Avenue Vancouver BC V5Y 1V4

*If you have any questions, please email us at foi@vancouver.ca and we will respond to you as soon as possible. Or you can call the FOI Case Manager at 604.871.6584.

Encl.

:ma



Community Services Group
Licenses and Inspections

Certificate of Inspection

Building Permit (BP) Inspection | CP Progress Inspection

Inspection Number: BP-2017-03888-08

Inspection Date: 08 May 2018

Inspector: Name: Scott Easby, District Building Inspector **Address:** 458 W 63RD AVENUE
Office Hours: 8:30AM - 9:30AM Vancouver, BC V5X 2J4
Phone: (604) 873-7879

Contractor: Marcon Project (598) Ltd
5645 199 Street
Langley, BC V3A 1H9
Office: (604) 530-5646

Inspection Result: Performed

Comments: Excavation & shotcrete underway. CPMRs required.



GEOPACIFIC
VANCOUVER KAMLOOPS CALGARY

P 604.439.0922

F 604.439.9189

geopacific.ca

1779 W 75th Ave.

Vancouver, B.C. Canada V6P 6P2

Marcon W63 GP Ltd.
5645 - 199 Street
Langley, BC
V3A 7H9

July 4, 2017

File: 14994

Attention: Christopher Wilkinson

Re: Geotechnical Investigation Report: Proposed Residential Development

458 W 63rd Avenue, Vancouver, B.C.

1.0 INTRODUCTION

We understand that a new residential development is proposed for the above referenced site. Based on the design drawings prepared by Rositch Hemphill Architects, the development will consist of a 4-storey residential building over two levels of underground parking.

This report presents the results of our field investigation and provides geotechnical recommendations for the design and construction of the new development proposed. This report was prepared exclusively for Marcon W63 GP Ltd., for their use and for the use of others on their design and construction team and the City of Vancouver for permitting purposes.

2.0 SITE DESCRIPTION

The proposed site is located south of West 63rd Avenue and east of Cambie Street. It is bounded by West 63rd Avenue to the north, municipal lanes to the east, south and west and is presently developed with 3 single family homes with detached garages. The site slopes from the north to south with approximately 2 m of elevation change across the site.

The location of the proposed development site is shown on our Drawing No. 14994-01 following the text of this report.

3.0 FIELD INVESTIGATION

GeoPacific Consultants Ltd. conducted an investigation at the above referenced site on June 21, 2017. The site was investigated using a track mounted auger drill rig supplied and operated by On Track Drilling Inc. of Maple Ridge, B.C. At that time, four auger test holes were drilled up to a depth of 6 m below grade. Three Dynamic Cone Penetration Test (DCPT) soundings were advanced to a depth up to 4.5 m to establish relative density of the soils encountered. All the test holes were sealed immediately in accordance with the provincial abandonment requirement upon completion of logging. The site investigation was supervised and the soils encountered were logged and collected for laboratory analysis in the field by a member of our geotechnical staff.

A set of test hole logs is presented in Appendix A. The approximate test hole locations are shown on Drawing No. 14994-01, following the text of this report. All depths are referenced from the existing ground surface at the test hole locations.

(12)

4.0 SUBSURFACE CONDITIONS

4.1 Soil Conditions

According to "Surficial Geology – Vancouver (MAP 1486A)" published by Geological Survey of Canada, this region is understood to be underlain by Vashon Drift deposits that overlies Tertiary bedrock consisting of sedimentary and basalt bedrock.

In general, the soil profile from the surface downwards consists of a thin layer of asphalt, concrete or topsoil, overlying fill comprised of loose to compact sand to sand and gravel to a depth of 0.6 to 1.2 m. This fill is underlain by a layer of sandy clay to clay extending to a depth of 1.5 to 2.4 m below grade. In TH17-02 the fill was underlain by a sandy silt extending to a depth of 1.5 m. Underlying these layers was silty sand extending to the top of the till at a depth of 2.1 to 3.0 m. Till was comprised of dense to very dense sand and extended beyond the depth of all test holes.

For a detailed description of the soil conditions encountered, please refer to Appendix A, following the text of this report. All depths are referenced from the existing ground surface at the test hole locations.

4.2 Groundwater Conditions

Groundwater is expected to be below the depth of excavation contemplated for this project. Isolated zones of perched groundwater may be encountered during the excavation, particularly during the wetter winter months.

5.0 DISCUSSION

5.1 General

We understand that the proposed development will consist of a four-storey residential building over two levels of underground parking.

Based on the information provided, and to accommodate the two levels of below grade parkade, the buildings foundations would be approximately 7 m below existing grades.

Based on the observed ground conditions, the proposed development can be constructed on conventional pad and strip foundations that are founded on native glacial till. However, if the glacial till is encountered deeper than the proposed building foundations, the fill/loose sand must be removed down to the native glacial till and replaced with lean mix concrete to support the new structure using conventional foundations.

Based on the soil characteristics observed at the site, we determine that the site will not be prone to liquefaction or strain softening during cyclic loading caused by the design earthquake as defined in the 2014 Vancouver Building By-law.

We confirm from a geotechnical point of view, that the proposed development is feasible provided that the recommendations outlined in the following sections are incorporated into the overall design and construction.

6.0 SITE RECOMMENDATIONS

6.1 Site Preparation

There is no additional site preparation required once the bulk excavation has been completed on site. Based on our site investigation we anticipate very dense glacial till at the base of the bulk excavation.

It is very important that the prepared subgrade of glacial till should be protected with lean mix concrete (unconfined compressive strength of 5.0 MPa) immediately after final trimming and geotechnical approval attained, to preserve its bearing qualities. The subgrade has to remain dry and free of ponded water prior to pouring concrete for foundations. Any soft, disturbed subgrade should be removed and replaced with the lean mix concrete beneath the foundations. Crushed gravel as described in Section 7.3 or engineered fill can be placed beneath the slab-on-grade.

“Engineered Fill” is generally defined as *clean sand to sand and gravel containing silt and clay less than 5 % by weight*, compacted in 300 mm loose lifts to a minimum of 98% of the ASTM D698 (Standard Proctor) maximum dry density at a moisture content that is within 2% of optimum for compaction.

The geotechnical engineer shall be contacted for the review of stripping and engineered fill placement and compaction.

6.2 Temporary Excavation and Shoring

Since there is insufficient room to develop open cuts due to the small size of the site and 2 levels of below grade parking proposed, interior cuts may be sloped at 4V:3H or steeper if conditions allow and if certified by a professional engineer or geoscientist.

Shoring will be required for the bulk excavation. Vertical cuts may be supported with the use of a shotcrete membrane tied back with post-tensioned soil anchors. Testing of all soil anchors will be required to ensure that each safely meets its required design capacity. A GeoPacific representative must be on-site for all soil anchor testing.

Light to moderate seepage during the wetter months should be expected due to the formation of perched water tables. We expect that groundwater inflows can be controlled with conventional sumps and sump pumps.

The geotechnical engineer shall be contacted for the review of shoring installation and temporary excavations.

7.0 BUILDING RECOMMENDATIONS

7.1 Foundations and Bearing Capacity

Based on the design drawings provided and our test hole information, we envisage that the new building foundations will be constructed on the native glacial till layer.

We recommend that the foundations placed on the glacial till layer can be designed using a serviceability limit state (SLS) bearing pressure of 500 kPa, and a factored ultimate limit state (ULS) bearing pressure of 800 kPa for use under transient loading such as those by wind and earthquakes.

We expect that the settlement of foundations designed as recommended should be within the normally acceptable limits of 25 mm maximum and up to about 20 mm differential over a 10 m span.

Irrespective of bearing pressures, foundations should not be less than 450 mm in width for strip foundations and not less than 600 mm in width for square or rectangular foundations, with minimum cover depth of 450 mm below grade for frost protection.

All foundations subgrade must be reviewed by a geotechnical engineer prior to footing construction.

7.2 Seismic Design of Foundations

The subgrade conditions underlying the site may be classified as **Site Class C** as defined in Table 4.1.8.4.A. of the 2014 Vancouver Building By-law. The peak ground acceleration on firm ground for this site is 0.486 g (National Resources Canada, site coordinates: 49.213 degrees north, 123.116 degrees west).

7.3 Slab-On-Grade Floors Preparation

All loose and disturbed materials should be removed from floor areas as a part of the preparation for the new floor slab on grade. The floor slab should be underlain by a minimum of 150 mm of 19 mm clear crushed gravel fill to inhibit upward migration of moisture beneath the slab.

The crushed gravel fill should be compacted to a minimum of 98% of the ASTM D698 (Standard Proctor) maximum dry density at a moisture content that is within 2% of optimum for compaction.

7.4 Site and Foundation Drainage Systems

A perimeter drainage system will be required for the below grade structure to prevent the development of water pressure on the foundation walls and the basement floor slabs. Groundwater flows are expected to be moderate, likely about 0.1 litre/minute per lineal meter of the site. This flow rate should be confirmed at the time of construction.

7.5 Earth Pressures on Foundation Walls

Earth pressures against the foundation walls are dependent on factors such as, available lateral restraint along the wall, surcharge loads, backfill materials, compaction of the backfill and drainage conditions.

The foundation wall is expected to be partially yielding and fully restrained between the parking floors and backfilled with a free draining granular soil. The foundation walls will likely be constructed against a synthetic flat drain placed against the shoring wall.

We recommend that the foundation walls be designed to resist the following lateral earth pressures:

- | | |
|----------|---|
| Static: | Triangular soil pressure distribution of $4.5 H$ kPa, where H is equal to the total wall height in metres. |
| Seismic: | Inverted triangular soil pressure distribution of $2 H$ kPa, where H is equal to the total wall height in metres. |

The preceding loading recommendations assume that the parkade walls would be fully enveloped by a continuous flat drain, ensuring a drained cavity around the perimeter of the parkade. We expect that the perimeter drainage system will be connected to the synthetic drainage material and sufficiently lower the groundwater level such that hydrostatic pressures against the foundation walls are eliminated.

The geotechnical engineer should be contacted for the review of all backfill materials and procedures.

7.6 Utility Design and Installation

Site utilities will be required beneath the slabs-on-grade. The design of these systems must consider the locations and elevations of the foundations. The service trenches and excavations required for the installation of the underground pipes, vaults and/or manholes must be located outside of a 1.5:1 (H:V) slope measured downward from the edge of adjacent foundations.

All excavations and trenches must conform to the latest Occupational Health and Safety Regulation supplied by the Worker Compensation Board of British Columbia.

Any excavation in excess of 1.2 m in depth requiring man-entry must be reviewed by a professional geotechnical engineer.

8.0 DESIGN AND CONSTRUCTION REVIEWS

The preceding sections provide recommendations for the design and construction of the proposed townhouse development. We have recommended the review of certain aspects of the design and construction. It is important that these reviews are carried out to ensure that our intentions have been adequately communicated. It is also important that any contractors working on the site review this document prior to commencing their work.

It is the responsibility of the contractors working on-site to inform GeoPacific a minimum of 24 hours in advance that a field review is required. In summary, reviews are required by geotechnical engineer for the following portions of the work.

- | | |
|--------------------|--|
| 1. Excavation | Review of temporary cut slopes. |
| 2. Shoring | Review of shoring installation and anchor testing. |
| 3. Engineered Fill | Review of fill materials and compaction. |
| 4. Foundation | Review of foundation subgrade. |
| 5. Slab on-grade | Review of subgrade and under slab fill materials and compaction. |
| 6. Backfill | Review of backfill materials and placement against foundation walls and decommissioning of any shoring on City property. |

9.0 CLOSURE

This report has been prepared exclusively for Marcon W63 GP Ltd. for the purpose of providing preliminary geotechnical recommendations for the design and construction of the new residential development described herein. The report remains the property of GeoPacific Consultants Ltd. and unauthorized use, or duplication of this report is prohibited.

We are pleased to be of assistance to you on this project and we trust that our comments and recommendations are both helpful and sufficient for your current purposes. If you would like further details or would like clarification of any of the above, please contact us.

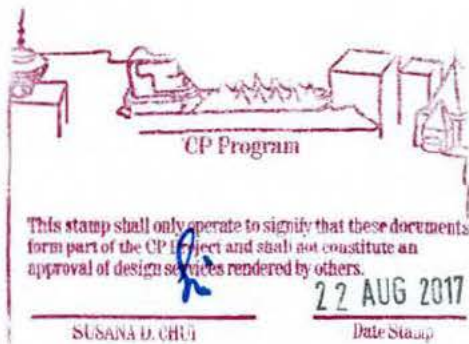
For:
GeoPacific Consultants Ltd.



JUL 05 2017

Matt Krystofiak, B.A.Sc.
EIT

Matt Kokan, M.A.Sc., P.Eng.
Principal





LEGEND:

△ TH17-XX - TEST HOLE (TH) LOCATION

SITE PLAN

*TEST HOLE LOCATIONS ARE APPROXIMATE

REFERENCE:



GEOPACIFIC
VANCOUVER EAHLOODES CALGARY

1779 W. 75th Avenue
Vancouver, B.C. V6P 6P2
P 604.439.0922
F 604.439.9889

DATE:	JUNE 28, 2017		
DRAWN BY:	APPROVED BY:	REVIEWED BY:	
R.J.	M.J.K.	M.K.	
SCALE:	AS SHOWN		

RESIDENTIAL DEVELOPMENTS
458 WEST 63 AVENUE, VANCOUVER, BC
TEST HOLE SITE PLAN

FILE NO.:	14994	REVISIONS:
DWG. NO.:	14994-01	
		A.
		B.
		C.

APPENDIX A – Test Hole Logs

Test Hole Log: TH17-01

File: 14994

Project: W63 Residential Development

Client: Marcon W63 GP Ltd.

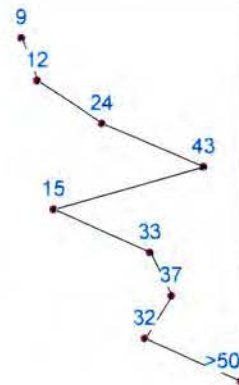
Site Location: 458 West 63 Ave, Vancouver



GEOPACIFIC
CONSULTANTS

1779 West 75th Avenue, Vancouver, BC, V6P 6P2
Tel: 604-439-0922 Fax: 604-439-9189

INFERRED PROFILE				Moisture Content (%)	DCPT (blows per foot) 10 20 30 40	Groundwater / Well	Remarks
Depth	Symbol	SOIL DESCRIPTION	Depth (m)/Elev (m)				
0		Ground Surface	0.0				
0		Topsoil	0.0				
1			-0.8				
2		Sand (Fill)	0.8				
3			-1.2	7.3%			
4		Clay	1.2				
5		Greyish brown, stiff, moist					
6			-2.4	18.9%			
7			2.4				
8		Silty Sand	-2.4				
9		Brown medium-fine silty sand with trace gravel, moist, very dense	2.4				
10			-3.0	12.1%			
11		Sand (Till)	3.0				
12		Grey medium sand with some silt and trace gravel, very dense, slightly moist					
13							
14				10.0%			
15							
16							
17							
18							
19				10.2%			
20			-6.1				
21		End of Borehole	6.1				
22							
23							
24							
25							



FC = 38.1%

Logged: MK

Method: Track Mounted Auger

Date: 6/21/2017

Datum: Ground Level

Figure Number: 1

Page: 1 of 1

Test Hole Log: TH17-02

File: 14994

Project: W63 Residential Development

Client: Marcon W63 GP Ltd.

Site Location: 458 West 63 Ave, Vancouver



GEOPACIFIC
CONSULTANTS

1779 West 75th Avenue, Vancouver, BC, V6P 6P2
Tel: 604-439-0922 Fax: 604-439-9189

INFERRED PROFILE				Moisture Content (%)	DCPT (blows per foot) 10 20 30 40	Groundwater / Well	Remarks
Depth	Symbol	SOIL DESCRIPTION	Depth (m)/Elev (m)				
0 ft m 0		Ground Surface	0.0				
		Concrete (6 inches)	0.0				
1		Sand (Fill)					
2		Brown coarse sand with some gravel	-0.6				
3		Sandy Silt	0.6				
4		Light brown sandy silt, very stiff, moist		17.2%			
5			-1.5				
6		Silty Sand	1.5				
7		Reddish brown silty sand, some trace gravel, dense, moist					
8							
9			-2.7				
10		Sand (Till)	2.7	13.7%			
11		Grey fine till sand with some silt and trace gravel, dense, slightly moist					
12							
13				11.7%			
14							
15							
16							
17				10.9%			
18							
19							
20			-6.1				
21		End of Borehole	6.1				
22							
23							
24							
25							

FC = 23.2%

Logged: MK

Method: Track Mounted Auger

Date: 6/21/2017

Datum: Ground Level

Figure Number: 2

Page: 1 of 1

Test Hole Log: TH17-03

File: 14994

Project: W63 Residential Development

Client: Marcon W63 GP Ltd.

Site Location: 458 West 63 Ave, Vancouver



GEOPACIFIC
CONSULTANTS

1779 West 75th Avenue, Vancouver, BC, V6P 6P2
Tel: 604-439-0922 Fax: 604-439-9189

INFERRED PROFILE				Moisture Content (%)	DCPT (blows per foot) 10 20 30 40	Groundwater / Well	Remarks
Depth	Symbol	SOIL DESCRIPTION	Depth (m)/Elev (m)				
0		Ground Surface	0.0				
0		Asphalt (6 inches)	0.0				
1		Sand and Gravel (Fill)	-0.6				
2		Sandy Clay	0.6				
3		Reddish brown clay with some sand, stiff, moist	-1.5	23.6%			
4			1.5				
5		Silty Sand	-2.3	11.8%			
6		Brownish grey fine silty sand, dense, moist	2.3				
7							
8		Silty Sand (Till)					
9		Grey fine till sand with some trace gravel and silt, very dense, slightly moist		12.1%			
10							
11							
12							
13				11.3%			
14							
15							
16							
17							
18				13.2%			
19							
20			-6.1				
21		End of Borehole	6.1				
22							
23							
24							
25							

Logged: MK

Method: Track Mounted Auger

Date: 6/21/2017

Datum: Ground Level

Figure Number: 3

Page: 1 of 1

Test Hole Log: TH17-04

File: 14994

Project: W63 Residential Development

Client: Marcon W63 GP Ltd.

Site Location: 458 West 63 Ave, Vancouver



GEOPACIFIC
CONSULTANTS

1779 West 75th Avenue, Vancouver, BC, V6P 6P2
Tel: 604-439-0922 Fax: 604-439-9189

INFERRED PROFILE				Moisture Content (%)	DCPT (blows per foot) 10 20 30 40	Groundwater / Well	Remarks
Depth	Symbol	SOIL DESCRIPTION	Depth (m)/Elev (m)				
0 ft m 0		Ground Surface	0.0				
1		Topsoil	0.0		7		
2		Sand and Gravel (Fill)	-0.3		7		
3			0.3		11		
4		Sandy Clay	-0.9		12		
5		Reddish brown clay with some sand, stiff, moist	0.9	23.5%	12		
6		Sandy Clay	-1.5		17		
7		Rusty brown clay with some sand, very stiff, moist	1.5		36		
8		Silty Sand (Till)	-2.1	22.8%	47		
9		Grey fine till sand with some trace gravel and silt, dense, moist	2.1		32		FC = 41.6%
10				12.5%	30		
11					25		
12		Sand (Till)	-3.7		46		
13		Grey till sand with gravel rounded gravel, damp, very dense, slightly moist	3.7	11.1%	44		
14					45		
15					>50		Less sand from 15-20
16							
17				12.4%			
18							
19			-6.1				
20		End of Borehole	6.1				
21							
22							
23							
24							
25							

Logged: MK

Method: Track Mounted Auger

Date: 6/21/2017

Datum: Ground Level

Figure Number: 4

Page: 1 of 1

BUILDING BY-LAW 2014 – CITY OF VANCOUVER**SCHEDULE B**Forming Part of Subsection 2.2.7, Div. C of the
Building By-lawBP-2017-03888Building Permit No.
(for Building Official's use)**ASSURANCE OF PROFESSIONAL DESIGN AND
COMMITMENT FOR FIELD REVIEW**

- Notes: (i) This letter must be submitted prior to the commencement of *construction* activities of the components identified below. A separate letter must be submitted by each *registered professional of record*.
- (ii) This letter is endorsed by: Architectural Institute of B.C., Association of Professional Engineers and Geoscientists of B.C.
- (iii) In this letter the words in italics have the same meaning as in the Building By-law.

To: *The Chief Building Official*Re: Reside

Name of Project (Print)

458 West 63rd Avenue

Address of Project (Print)

Legal Description of Project (Print)

The undersigned hereby gives assurance that the design of the
(initial those of the items listed below that apply to this *registered professional of record*. All the disciplines will not necessarily be employed on every project.)

_____ **ARCHITECTURAL**

_____ **STRUCTURAL**

_____ **MECHANICAL**

_____ **PLUMBING**

_____ **FIRE SUPPRESSION SYSTEMS**

_____ **ELECTRICAL**

 L **GEOTECHNICAL — temporary**

 Z **GEOTECHNICAL — permanent**

July 19, 2017

Date

components of the plans and supporting documents prepared by this *registered professional* in support of the application for the *building permit* as outlined below substantially comply with the Building By-law and other applicable enactments respecting safety except for *construction* safety aspects.

The undersigned hereby undertakes to be responsible for *field reviews* of the above referenced components during *construction* as indicated on the "SUMMARY OF DESIGN AND FIELD REVIEW REQUIREMENTS" below.



1 of 4

R.
CRP's Initials

This stamp shall only operate to signify that these documents form part of the CP Project and shall not constitute an approval of design services rendered by others.

22 AUG 2017

SUSANA D. CHUI

Date Stamp

Schedule B - Continued

BP-2017-03888

Building Permit No.
(for Building Official's use)

458 West 63rd Avenue

Project Address

Geotechnical

Discipline

The undersigned also undertakes to notify the *Chief Building Official* in writing as soon as possible if the undersigned's contract for *field review* is terminated at any time during *construction*.

I certify that I am a *registered professional* as defined in the Building By-law.

Matt J. Kokan, P. Eng.

Registered Professional's Name (Print)

1779 West 75th Avenue

Address (Print)

Vancouver B.C. V6P 6P2

604-439-0922

Phone No.



(Professional's Seal and Signature)

July 19, 2017

Date

(If the *Registered Professional of Record* is a member of a firm, complete the following.)

I am a member of the firm GeoPacific Consultants Ltd.

and I sign this letter on behalf of the firm

(Print name of firm)

Note: The above letter must be signed by a *registered professional of record*, who is a *registered professional*. The Building By-law defines a *registered professional* to mean

- (a) a person who is registered or licensed to practise as an architect under the Architects Act, or
- (b) a person who is registered or licensed to practise as a professional engineer under the Engineers and Geoscientists Act.



This stamp shall only operate to signify that these documents form part of the CP Project and shall not constitute an approval of design services rendered by others.

SUSANA D. CHUI

2-2 AUG 2017
Date Stamp

2 of 4

CRP's Initials

Schedule B - Continued

BP-2017-03888

Building Permit No.
(for Building Official's use)

458 West 63rd Avenue

Project Address

Geotechnical

Discipline

SUMMARY OF DESIGN AND FIELD REVIEW REQUIREMENTS

(Initial applicable discipline below and cross out and initial only those items not applicable to the project.)

ARCHITECTURAL

- 1.1 Fire resisting assemblies
- 1.2 Fire separations and their continuity
- 1.3 Closures, including tightness and operation
- 1.4 Egress systems, including access to exit within suites and floor areas
- 1.5 Performance and physical safety features (guardrails, handrails, etc.)
- 1.6 Structural capacity of architectural components, including anchorage and seismic restraint
- 1.7 Sound control
- 1.8 Landscaping, screening and site grading
- 1.9 Provisions for firefighting access
- 1.10 Access requirements for persons with disabilities
- 1.11 Elevating devices
- 1.12 Functional testing of architecturally related fire emergency systems and devices
- 1.13 Development Permit and conditions therein
- 1.14 Interior signage, including acceptable materials, dimensions and locations
- 1.15 Review of all applicable shop drawings
- 1.16 Interior and exterior finishes
- 1.17 Dampproofing and/or waterproofing of walls and slabs below grade
- 1.18 Roofing and flashings
- 1.19 Wall cladding systems
- 1.20 Condensation control and cavity ventilation
- 1.21 Exterior glazing
- 1.22 Integration of building envelope components
- 1.23 Environmental separation requirements (Part 5)
- 1.24 Building envelope, Part 10 requirements



July 19, 2017

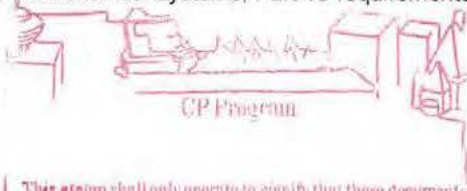
Date

STRUCTURAL

- 2.1 Structural capacity of structural components of the building, including anchorage and seismic restraint
- 2.2 Structural aspects of deep foundations
- 2.3 Review of all applicable shop drawings
- 2.4 Structural aspects of unbonded post-tensioned concrete design and construction

MECHANICAL

- 3.1 HVAC systems and devices, including high building requirements where applicable
- 3.2 Fire dampers at required fire separations
- 3.3 Continuity of fire separations at HVAC penetrations
- 3.4 Functional testing of mechanically related fire emergency systems and devices
- 3.5 Maintenance manuals for mechanical systems
- 3.6 Structural capacity of mechanical components, including anchorage and seismic restraint
- 3.7 Review of all applicable shop drawings
- 3.8 Mechanical systems, Part 10 requirements



3 of 4

CRP's Initial

This stamp shall only operate to signify that these documents form part of the CP Project and shall not constitute an approval of design services rendered by others.

SUSANA D CHUI

22 AUG 2017

Date Stamp

Schedule B - Continued

BP-2017-03 888

Building Permit No.
(to Building Official's use)

458 West 63rd Avenue

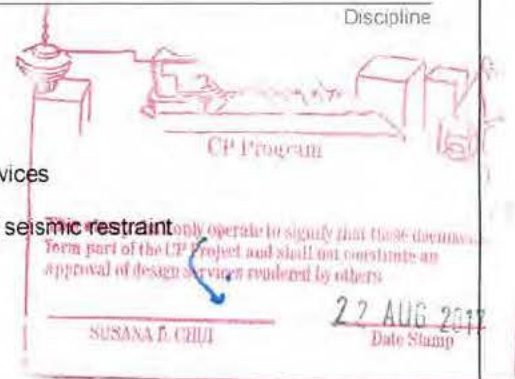
Project Address

Geotechnical

Discipline

PLUMBING

- 4.1 Roof drainage systems
- 4.2 Site and foundation drainage systems
- 4.3 Plumbing systems and devices
- 4.4 Continuity of fire separations at plumbing penetrations
- 4.5 Functional testing of plumbing related fire emergency systems and devices
- 4.6 Maintenance manuals for plumbing systems
- 4.7 Structural capacity of plumbing components, including anchorage and seismic restraint
- 4.8 Review of all applicable shop drawings
- 4.9 Plumbing systems, Part 10 requirements

**FIRE SUPPRESSION SYSTEMS**

- 5.1 Suppression system classification for type of occupancy
- 5.2 Design coverage, including concealed or special areas
- 5.3 Compatibility and location of electrical supervision, ancillary alarm and control devices
- 5.4 Evaluation of the capacity of city (municipal) water supply versus system demands and domestic demand, including pumping devices where necessary
- 5.5 Qualification of welder, quality of welds and material
- 5.6 Review of all applicable shop drawings
- 5.7 Acceptance testing for "Contractor's Material and Test Certificate" as per NFPA Standards
- 5.8 Maintenance program and manual for suppression systems
- 5.9 Structural capacity of sprinkler components, including anchorage and seismic restraint
- 5.10 For partial systems — confirm sprinklers are installed in all areas where required
- 5.11 Fire Department connections and hydrant locations
- 5.12 Fire hose standpipes
- 5.13 Freeze protection measures for fire suppression systems
- 5.14 Functional testing of fire suppression systems and devices

ELECTRICAL

- 6.1 Electrical systems and devices, including high building requirements where applicable
- 6.2 Continuity of fire separations at electrical penetrations
- 6.3 Functional testing of electrical related fire emergency systems and devices
- 6.4 Electrical systems and devices maintenance manuals
- 6.5 Structural capacity of electrical components, including anchorage and seismic restraint
- 6.6 Clearances from buildings of all electrical utility equipment
- 6.7 Fire protection of wiring for emergency systems
- 6.8 Review of all applicable shop drawings
- 6.9 Electrical systems, Part 10 requirements

GEOTECHNICAL — Temporary

- 7.1 Excavation
- 7.2 Shoring
- 7.3 Underpinning
- 7.4 Temporary construction dewatering

GEOTECHNICAL — Permanent

- 8.1 Bearing capacity of the soil
- 8.2 Geotechnical aspects of deep foundations
- 8.3 Compaction of engineered fill
- 8.4 Structural considerations of soil, including slope stability and seismic loading
- 8.5 Backfill
- 8.6 Permanent dewatering
- 8.7 Permanent underpinning



(Professional's Seal and Signature)

July 19, 2017

Date

CRP's Initials