

Addendum/Addenda

No./N°

1

Project Description / Description de projet Mississauga, Fit-Up Project		
Solicitation No./ N° de sollicitation RFP 20-58034	Project No./N° de projet IMC0248	W.O. No./N° d'ordre de travail
Departmental Representative / Représentant Ministériel	Date July 16, 2020	
Notice: This addendum shall form part of the tender documents and all conditions shall apply and be read in conjunction with the original plans and specifications.	Nota: Cet addenda fait partie intégrale des dossiers d'appel d'offres; toutes les conditions énoncées doivent être lues et appliquées en conjonction avec les plans et les devis originaux.	

1.0 Mechanical SPECIFICATIONS

1.1 Refer to Specification Section 22 050 05 Selective Demolition for Plumbing (included herein)

1.1.1 Add entire section.

1.2 Refer to Specification Section 23 050 05 Selective Demolition for Heating, Ventilation and Air Conditioning (HVAC) (included herein)

1.2.1 Add entire section.

2.0 Electrical SCHEDULES

2.1 Refer to RP-1B Schedule

2.1.1 Revisions are in bold.

2.2 Refer to RP-1C Schedule

2.2.1 Revisions are in bold.

2.3 Refer to RP-1D Schedule

2.3.1 Revisions are in bold.



3.0 ELECTRICAL DRAWINGS

3.1 Refer to E300 - LEVEL 1 (included herein)

3.1.1 Add note N-10 to read:

.1 "ELECTRICAL CONTRACTOR TO USE EXISTING INFRASTRUCTURE WITHIN LAB WALL FOR ELECTRICAL WIRING AND DATA CABLING."

3.1.2 Lab 118:

- .1 Revise 20A, 220V, 1 phase circuits, as bubbled.
 - .1 Delete one (1) from service column SC-1/ SC-1.1.
 - .2 Delete one (1) from service column SC-2/ SC-2.1.
 - .3 Delete one (1) from service column SC-2A.

3.1.3 Lab 117:

- .1 Revise 20A, 220V, 1 phase circuits, as bubbled.
 - .1 Delete one (1) from service column SC-1A.
 - .2 Delete one (1) from wall duct WD-15.

3.1.4 Lab 116:

- .1 Revise 20A, 220V, 1 phase circuits, as bubbled.
 - .1 Delete one (1) from wall duct WD-6.
 - .2 Delete one (1) from service column SC-2/ SC-2.1.
 - .3 Delete one (1) from service column SC-2A.

3.1.5 Lab 116.A:

- .1 Revise 20A, 220V, 1 phase circuits, as bubbled.
 - .1 Add one (1) to service column SC-2A.
 - .2 Delete one (1) from wall duct WD-15.

3.1.6 113.2:

1 Add surface mounted raceway, as bubbled. Surface mounted raceway provided by client. Devices and installation by electrical contractor.

3.1.7 108:

- .1 Revise location of electrical boxes to feed service column SC-2, as bubbled.
- .2 Add surface mounted raceway, as bubbled. Surface mounted raceway provided by client. Devices and installation by electrical contractor.
- .3 Revise 20A, 220V, 1 phase circuits, as bubbled.
 - 1 Delete one (1) from service column SC-1/ SC-1.1.
 - 2 Delete one (1) from service column SC-1A.
- .4 Revise 20A, 120V circuits, as bubbled.
 - .1 Add two (2) to service column SC-2/ SC-2.1.
 - .2 Add one (1) to service column SC-2A.
 - .3 Add one (1) to service column SC-1A.

3.1.8 Lab 107:

- .1 Revise 20A, 220V, 1 phase circuits, as bubbled.
 - .1 Delete one (1) from service column SC-2A.
 - .2 Delete one (1) from service column SC-1A (east).
- .2 Revise 20A, 120V circuits, as bubbled.
 - .1 Add one (1) to service column SC-2/ SC-2.1.
 - .2 Add one (1) to service column SC-2A.
- .3 Add one (1) to service column SC-1A.1.
- .4 Add one (1) to service column SC-1A.

3.1.9 107.2:

.1 Remove one (1) 20A, 120V circuit from fume hoods, as bubbled.

3.1.10 106:

.1 Revise 20A, 220V, 1 phase circuits, as bubbled.

.1 Delete one (1) from service column SC-2A.

.2 Revise 20A, 120V circuits, as bubbled.

.1 Add one (1) to service column SC-2A.

.2 Add one (1) to wall duct WD-6.

3.1.11 Lab 105:

.1 Revise 20A, 220V, 1 phase circuits, as bubbled.

.1 Delete one (1) from wall duct WD-15 (west).

.2 Delete one (1) from wall duct WD-15 (east).

End of Addendum #1

Part 1 General

1.1 SUMMARY

- .1 This Section includes requirements for selective demolition and removal of plumbing, sprinkler systems and related mechanical components and incidentals required to complete work described in this Section.

1.2 RELATED REQUIREMENTS

- .1 Section 02 41 19.13- Selective Building Demolition
- .2 Section 02 41 19.16- Selective Interior Demolition
- .3 Section 02 41 00.08 - Demolition - Minor Works
- .4 Section 02 42 00 - Removal and Salvage of Construction Materials

1.3 REFERENCE STANDARDS

- .1 CSA Group (CSA)
 - .1 CSA S350 M1980 [(R2003)], Code of Practice for Safety in Demolition of Structures.

1.4 DEFINITIONS

- .1 Demolish: Detach items from existing construction and legally dispose of items off site, unless indicated as removed and salvaged, or removed and reinstalled.
- .2 Remove and Salvage: Detach items from existing construction and deliver them to Departmental Representative ready for reuse.
- .3 Remove and Reinstall: Detach items from existing construction, prepare them for reuse, and reinstall them where indicated.
- .4 Existing to Remain: Existing items of construction that are not removed and that are not otherwise indicated as being removed and salvaged, or removed and reinstalled.

1.5 ADMINISTRATIVE REQUIREMENTS

- .1 Coordination: Coordinate work of this Section to avoid interference with work by other Sections.
- .2 Scheduling: Account for Departmental Representative's continued occupancy requirements during selective demolition with Section 02 41 19.13 - Selective Building Demolition Section 02 41 19.16 - Selective Interior Demolition and schedule staged occupancy and worksite activities.

1.6 QUALITY ASSURANCE

- .1 Regulatory Requirements: Perform work of this Section in accordance with the following:
 - .1 Provincial/Territorial Occupational Health and Safety Standards and Programs

1.7 SITE CONDITIONS

- .1 Existing Conditions: Condition of materials identified as being salvaged or demolished are based on their observed condition on date that tender is accepted.

1.8 SALVAGE AND DEBRIS MATERIALS

- .1 Demolished items become Contractor 's property and will be removed from Project site; except for items indicated as being reused, salvaged, or otherwise indicated to remain Departmental Representative's property.
- .2 Carefully remove materials and items designated for salvage and store in a manner to prevent damage or devaluation of materials in accordance with Section 02 42 00- Removal and Salvage of Construction Materials.

Part 2 Products

2.1 MATERIALS

- .1 General Patching and Repair Materials: Refer to Section 02 41 19.16 - Selective Interior Demolition for listing of patching and repair materials incidental to removal or demolition of components associated with work of this Section.
- .2 Plumbing Repair Materials: Use only new materials required for completion or repair matching materials damaged during performance of work of this Section; new materials are required to meet assembly or system characteristics as existing systems indicated to remain and carry CSA approval labels required by the Authority Having Jurisdiction.
- .3 Fire stopping Repair Materials: Use fire stopping materials compatible with existing fire stopping systems where removal or demolition work affects rated assemblies, restore to match existing fire rated performance.

Part 3 Execution

3.1 EXAMINATION

- .1 Verification of Existing Conditions: Visit site, thoroughly examine and become familiar with conditions that may affect the work of this Section before tendering the Bid; DCC Representative will not consider claims for extras for work or materials necessary for proper execution and completion of the contract that could have been determined by a site visit.

3.2 PREPARATION

- .1 Protection of Existing Systems to Remain: Protect systems and components indicated to remain in place during selective demolition operations and as follows:
 - .1 Prevent movement and install bracing to prevent settlement or damage of adjacent services and parts of existing buildings scheduled to remain.
 - .2 Notify Departmental Representative and cease operations where safety of buildings being demolished, adjacent structures or services appears to be

endangered and await additional instructions before resuming demolition work specified in this Section.

- .3 Prevent debris from blocking drainage inlets.
- .4 Protect mechanical systems that must remain in operation.
- .2 Protection of Building Occupants: Sequence demolition work so that interference with the use of the building by the Departmental Representative and users is minimized and as follows:
 - .1 Prevent debris from endangering the safe access to and egress from occupied buildings.
 - .2 Notify Departmental Representative and cease operations where safety of occupants appears to be endangered and await additional instructions before resuming demolition work specified in this Section.

3.3 EXECUTION

- .1 Demolition: Coordinate requirements of this Section with information contained in Section 02 41 19.16 - Selective Interior Demolition and as follows:
 - .1 Disconnect and cap mechanical services in accordance with requirements of local Authority Having Jurisdiction.
 - .2 Do not disrupt active or energized utilities without approval of the Consultant.
 - .3 Erect and maintain dust proof and weather tight partitions to prevent the spread of dust and fumes to occupied building areas; remove partitions when complete.
 - .4 Demolish parts of existing building to accommodate new construction and remedial work as indicated.
 - .5 At end of each day's work, leave worksite in safe condition.
 - .6 Perform demolition work in a neat and workmanlike manner:
 - .1 Remove any tools or equipment after completion of work, and leave site clean and ready for subsequent renovation work.
 - .2 Repair and restore damages caused as a result of work of this Section to match existing materials and finishes.

3.4 CLOSEOUT ACTIVITIES

- .1 Demolition Waste Disposal: Arrange for legal disposal and remove demolished materials to accredited provincial landfill site or alternative disposal site (recycle centre

END OF SECTION

General

1.1 SUMMARY

- .1 This Section includes requirements for selective demolition and removal of heating, ventilation and air conditioning systems, controls and automated automation components, and related mechanical components and incidentals required to complete work described in this Section.

1.2 RELATED REQUIREMENTS

- .1 Section 02 41 19.13- Selective Building Demolition
- .2 Section 02 41 19.16- Selective Interior Demolition
- .3 Section 22 05 05- Selective Demolition for Plumbing
- .4 Section 26 05 05- Selective Demolition for Electrical

1.3 REFERENCE STANDARDS

- .1 CSA Group (CSA)
 - .1 CSA S350 M1980 (R2003), Code of Practice for Safety in Demolition of Structures.

1.4 DEFINITIONS

- .1 Demolish: Detach items from existing construction and legally dispose of items off site, unless indicated as removed and salvaged, or removed and reinstalled.
- .2 Remove: Planned deconstruction and disassembly of electrical items from existing construction including removal of conduit, junction boxes, cabling and wiring from electrical component to panel taking care not to damage adjacent assemblies designated to remain; legally dispose of items off site, unless indicated as removed and salvaged, or removed and reinstalled.
- .3 Remove and Salvage: Detach items from existing construction and deliver them to Departmental Representative ready for reuse.
- .4 Remove and Reinstall: Detach items from existing construction, prepare them for reuse, and reinstall them where indicated.
- .5 Existing to Remain: Existing items of construction that are not removed and that are not otherwise indicated as being removed and salvaged, or removed and reinstalled.
- .6 Hazardous Substances: Dangerous substances, dangerous goods, hazardous commodities and hazardous products may include asbestos, mercury and lead, PCB's, poisons, corrosive agents, flammable substances, radioactive substances, or other material that can endanger human health or wellbeing or environment if handled improperly as defined by the Federal Hazardous Products Act (RSC 1985) including latest amendments.

1.5 ADMINISTRATIVE REQUIREMENTS

- .1 Coordination: Coordinate work of this Section to avoid interference with work by other Sections.

- .2 Scheduling: Account for Departmental Representative's continued occupancy requirements during selective demolition with Section [02 41 19.13 - Selective Building Demolition] Section [02 41 19.16 - Selective Interior Demolition] and schedule staged occupancy and worksite activities.

1.6 QUALITY ASSURANCE

- .1 Regulatory Requirements: Perform work of this Section in accordance with the following
 - .1 Provincial/Territorial Workers' Compensation Boards/Commissions
 - .2 Provincial/Territorial Occupational Health and Safety Standards and Programs

1.7 SITE CONDITIONS

- .1 Existing Conditions: Condition of materials identified as being salvaged or demolished are based on their observed condition on date that tender is accepted.

1.8 SALVAGE AND DEBRIS MATERIALS

- .1 Demolished items become Contractor 's property and will be removed from Project site; except for items indicated as being reused, salvaged, or otherwise indicated to remain Departmental Representative's property.
- .2 Carefully remove materials and items designated for salvage and store in a manner to prevent damage or devaluation of materials in accordance with Section 02 42 00- Removal and Salvage of Construction Materials.

Part 2 Products

2.1 MATERIAL

- .1 General Patching and Repair Materials: Refer to Section 02 41 19.16 - Selective Interior Demolition for listing of patching and repair materials incidental to removal or demolition of components associated with work of this Section.
- .2 HVAC Repair Materials: Use only new materials required for completion or repair matching materials damaged during performance of work of this Section; new materials are required to meet assembly or system characteristics as existing systems indicated to remain and carry CSA approval labels required by the Authority Having Jurisdiction.
- .3 Fire stopping Repair Materials: Use fire stopping materials compatible with existing fire stopping systems where removal or demolition work affects rated assemblies, restore to match existing fire rated performance.

Part 3 Execution

3.1 EXAMINATION

- .1 Verification of Existing Conditions: Visit site, thoroughly examine and become familiar with conditions that may affect the work of this Section before tendering the Bid; Departmental Representative will not consider claims for extras for work or materials

necessary for proper execution and completion of the contract that could have been determined by a site visit.

3.2 PREPARATION

- .1 Protection of Existing Systems to Remain: Protect systems and components indicated to remain in place during selective demolition operations and as follows:
 - .1 Prevent movement and install bracing to prevent settlement or damage of adjacent services and parts of existing buildings scheduled to remain.
 - .2 Notify Consultant and cease operations where safety of buildings being demolished, adjacent structures or services appears to be endangered and await additional instructions before resuming demolition work specified in this Section.
 - .3 Prevent debris from blocking drainage inlets.
 - .4 Protect mechanical systems that must remain in operation.
- .2 Protection of Building Occupants: Sequence demolition work so that interference with the use of the building by the Departmental Representative and users is minimized and as follows:
 - .1 Prevent debris from endangering the safe access to and egress from occupied buildings.
 - .2 Notify Departmental Representative and cease operations where safety of occupants appears to be endangered and await additional instructions before resuming demolition work specified in this Section.

3.3 EXECUTION

- .1 Demolition: Coordinate requirements of this Section with information contained in Section 02 41 19.16 - Selective Interior Demolition and as follows:
 - .1 Disconnect and cap gas supply and electrical services in accordance with requirements of local Authority Having Jurisdiction.
 - .2 Do not disrupt active or energized utilities without approval of the DCC Representative.
 - .3 Erect and maintain dust proof and weather tight partitions to prevent the spread of dust and fumes to occupied building areas; remove partitions when complete.
 - .4 Demolish parts of existing building to accommodate new construction and remedial work as indicated.
 - .5 At end of each day's work, leave worksite in safe condition.
 - .6 Perform demolition work in a neat and workmanlike manner:
 - .1 Remove any tools or equipment after completion of work, and leave site clean and ready for subsequent renovation work.
 - .2 Repair and restore damages caused as a result of work of this Section to match existing materials and finishes.

3.4 CLOSEOUT ACTIVITIES

- .1 Demolition Waste Disposal: Arrange for legal disposal and remove demolished materials to accredited provincial landfill site or alternative disposal site (recycle centre) END OF SECTION

End Of Section

PANEL: RP-1B
 PROJECT NAME: NRC MISSISSAUGA
 PROJECT #: 16158.E.000

LOCATION: LAB CORRIDOR 119
 FED FROM: PP-1A



TYPE/ INFO	DESCRIPTION	D.F [%]	CONN. LOAD [W]	DEMAND LOAD [W]	BKR [A]	CCT NO.	Φ	CCT NO.	BKR [A]	DEMAND LOAD [W]	CONN. LOAD [W]	D.F [%]	DESCRIPTION	TYPE/ INFO
REC	Auto Flush/Auto Faucet/Soap Dispenser	100	300	300	20	1	A	2	20	300	300	100	Lab Lighting	LTS
REC	Spare	100			20	3	B	4	20			100	Spare	
REC	Receptacles - Lab Support 106.2	100	300	300	20	5	C	6	20			100	Spare	
REC	Receptacles - Lab Support 106.2	100	300	300	20	7	A	8	20			100	Spare	
REC	Receptacles - Lab Support 106.2	100	300	300	20	9	B	10	20	300	300	100	Receptacles - Lab Entry 106.1	GFCI
REC	Receptacles - Lab Support 106.2	100	300	300	20	11	C	12	20	300	300	100	Receptacles - Lab Entry 106.1	GFCI
REC	Lab Receptacle - 106	100	300	300	20	13	A	14	20	300	300	100	Receptacles - Housekeeping	GFCI
REC	Lab Receptacle - 106	100	300	300	20	15	B	16	20			100	Spare	
REC	Lab Receptacle - 106	100	300	300	20	17	C	18	20	150	150	100	Gas Shut Off	
REC	Lab Receptacle - 106	100	300	300	20	19	A	20	15	180	180	100	Motorized Blinds	D.C
REC	Lab Receptacle - 106	100	300	300	20	21	B	22				100	Space	
REC	Lab Receptacle - 106	100	300	300	20	23	C	24	20	300	300	100	Lab Receptacle - 106	REC
REC	Lab Receptacle - 106	100	300	300	2P	25	A	26	20	300	300	100	Lab Receptacle - 106	REC
REC	Lab Receptacle - 106	100	300	300	20	27	B	28	20	300	300	100	Lab Receptacle - 106	REC
REC	Lab Receptacle - 106	100	300	300	20	29	C	30	20	300	300	100	Lab Receptacle - 106	REC
REC	Lab Receptacle - 106	100	300	300	20	31	A	32	2P	300	300	100	Lab Receptacle - 106	REC
REC	Lab Receptacle - 106	100	300	300	2P	33	B	34	20	300	300	100	Lab Receptacle - 106	REC
REC	Lab Receptacle - 106	100	300	300	20	35	C	36	2P	300	300	100	Lab Receptacle - 106	REC
	Space	100				37	A	38	20	300	300	100		REC
	Space	100				39	B	40				100	Space	
	Space	100				41	C	42				100	Space	

PANEL OPTIONS:		LOAD A [KW]:	3.48	PHASE VOLTAGE [V]:	120
<input type="checkbox"/> 2 :CSA ENCLOSURE RATING	<input type="checkbox"/> FLUSH	LOAD B [KW]:	2.4	LINE VOLTAGE [V]:	208
<input type="checkbox"/> FEED THROUGH	<input checked="" type="checkbox"/> SURFACE	LOAD C [KW]:	3.15	PHASE:	3Φ
<input type="checkbox"/> SUB-FEED	<input checked="" type="checkbox"/> BOLT-ON BREAKER	TOTAL [KW]:	9.03	WIRE:	4
<input type="checkbox"/> MAIN BREAKER	<input type="checkbox"/> SPD	CURRENT A [A]:	29	MAINS [A]:	225
<input type="checkbox"/> 200% RATED NEUTRAL BUS		CURRENT B [A]:	20	MAIN BREAKER [A]:	
<input type="checkbox"/> ISOLATED GROUND BUS		CURRENT C [A]:	26	I.C. [kA]:	10

LEGEND:			NOTES:	
BAS-Building Automation System	R.C-Relay Controlled	LTS-Lighting	1. Panel Enclosure To Be Sprinklerproof.	
GFCI-Ground Fault Circuit Interrupter	M-Motor	HID-High Intensity Discharge Lighting Breaker	2. Panels greater than 66 circuits to be double tub.	
AFCI-Arc Fault Circuit Interrupter	D.F-Demand Factor		3. Surge Protection Device (SPD) to be in a separate barriered enclosure with separate cover.	
SPD - Surge Protection Device	REC-Receptacle	D.C-Direct Connection	4. Terminate circuits for BAS in 4"x4" junction box 10' from panel.	
BLO-Breaker Lock-On Device				

PANEL: RP-1C
 PROJECT NAME: NRC MISSISSAUGA
 PROJECT #: 16158.E.000

LOCATION: LAB CORRIDOR 119
 FED FROM: PP-1A



TYPE/ INFO	DESCRIPTION	D.F [%]	CONN. LOAD [W]	DEMAND LOAD [W]	BKR [A]	CCT NO.	Φ	CCT NO.	BKR [A]	DEMAND LOAD [W]	CONN. LOAD [W]	D.F [%]	DESCRIPTION	TYPE/ INFO
REC	Lab Receptacle - 108	100	300	300	2P	1	A	2	20	300	300	100	Lab Lighting	LTS
REC		100	300	300	20	3	B	4	20	300	300	100	Lab Lighting	LTS
REC	Lab Receptacle - 108	100	300	300	2P	5	C	6	20	300	300	100	Lab Receptacle - 107	REC
REC		100	300	300	20	7	A	8	20	300	300	100	Lab Receptacle - 107	REC
REC	Lab Receptacle - 107	100	300	300	20	9	B	10	20	300	300	100	Lab Receptacle - 107	REC
REC	Lab Receptacle - 107	100	300	300	20	11	C	12	20	300	300	100	Receptacles - Lab Entry 107.1	GFCI
REC	Lab Receptacle - 107	100	300	300	2P	13	A	14	20	300	300	100	Receptacles - Lab Entry 107.1	GFCI
REC		100	300	300	20	15	B	16	20	300	300	100	Receptacles - Characterization Lab (GFCI)	GFCI
REC	Lab Receptacle - 107	100	300	300	20	17	C	18	20	300	300	100	Receptacles - Characterization Lab (GFCI)	GFCI
REC	Lab Receptacle - 107	100	300	300	20	19	A	20	20	150	150	100	Gas Shut Off	
REC	Lab Receptacle - 107	100	300	300	2P	21	B	22	20	300	300	100	Auto Flush/Auto Faucet/Soap Dispenser	
REC		100	300	300	20	23	C	24	15	360	360	100	Motorized Blinds	D.C
REC	Lab Receptacle - 108	100	300	300	20	25	A	26	15	180	180	100	Motorized Blinds	D.C
REC	Lab Receptacle - 108	100	300	300	20	27	B	28	20	300	300	100	Lab Receptacle - 108	D.C
REC	Lab Receptacle - 108	100	300	300	20	29	C	30	20	300	300	100	Receptacles - Lab Support 107.2	REC
REC	Lab Receptacle - 108	100	300	300	2P	31	A	32	20	300	300	100	Receptacles - Lab Support 107.2	REC
REC		100	300	300	20	33	B	34	3P	300	300	100		
REC	Lab Receptacle - 108	100	300	300	20	35	C	36	↓	300	300	100	Fume Hood 208V Equipment	D.C
REC	Lab Receptacle - 108	100	300	300	20	37	A	38	30	300	300	100	Receptacles - Lab Support 107.2	
REC	Lab Receptacle - 108	100	300	300	20	39	B	40	20	300	300	100	Receptacle - Housekeeping	REC
REC	Lab Receptacle - 107	100	300	300	20	41	C	42	3P	300	300	100		
REC	Lab Receptacle - 108	100	300	300	20	43	A	44	↓	300	300	100	Fume Hood 208V Equipment	D.C
REC	Lab Receptacle - 107	100	300	300	20	45	B	46	30	150	150	100	Receptacles - Lab Support 107.2	
REC	Lab Receptacle - 107	100	300	300	2P	47	C	48	20	300	300	100	Lab Receptacle - 107	REC
REC		100	300	300	20	49	A	50	20	300	300	100	Receptacles - Lab Support 107.2	REC
REC	Lab Receptacle - 107	100	300	300	20	51	B	52	20	300	300	100	Receptacles - Lab Support 107.2	REC
REC	Lab Receptacle - 107	100	300	300	20	53	C	54	20	300	300	100	Receptacles - Lab Support 107.2	REC
REC	Lab Receptacle - 107	100	300	300	20	55	A	56	20	300	300	100	Lab Receptacle - 107	REC
REC	Lab Receptacle - 107	100	300	300	2P	57	B	58	20	300	300	100	Lab Receptacle - 107	REC
REC		100	300	300	20	59	C	60	20	300	300	100	Lab Receptacle - 107	REC

PANEL OPTIONS:	
<input type="checkbox"/> 2 :CSA ENCLOSURE RATING	<input type="checkbox"/> FLUSH
<input type="checkbox"/> FEED THROUGH	<input checked="" type="checkbox"/> SURFACE
<input type="checkbox"/> SUB-FEED	<input checked="" type="checkbox"/> BOLT-ON BREAKER
<input type="checkbox"/> MAIN BREAKER	<input type="checkbox"/> SPD
<input type="checkbox"/> 200% RATED NEUTRAL BUS	

LOAD A [KW]: 6.03
 LOAD B [KW]: 6.15
 LOAD C [KW]: 6.36
 TOTAL [KW]: 18.5
 CURRENT A [A]: 50

PHASE VOLTAGE [V]: 120
 LINE VOLTAGE [V]: 208
 PHASE: 3Φ
 WIRE: 4
 MAINS [A]: 225
 MAIN BREAKER [A]:

PANEL: RP-1D
 PROJECT NAME: NRC MISSISSAUGA
 PROJECT #: 16158.E.000

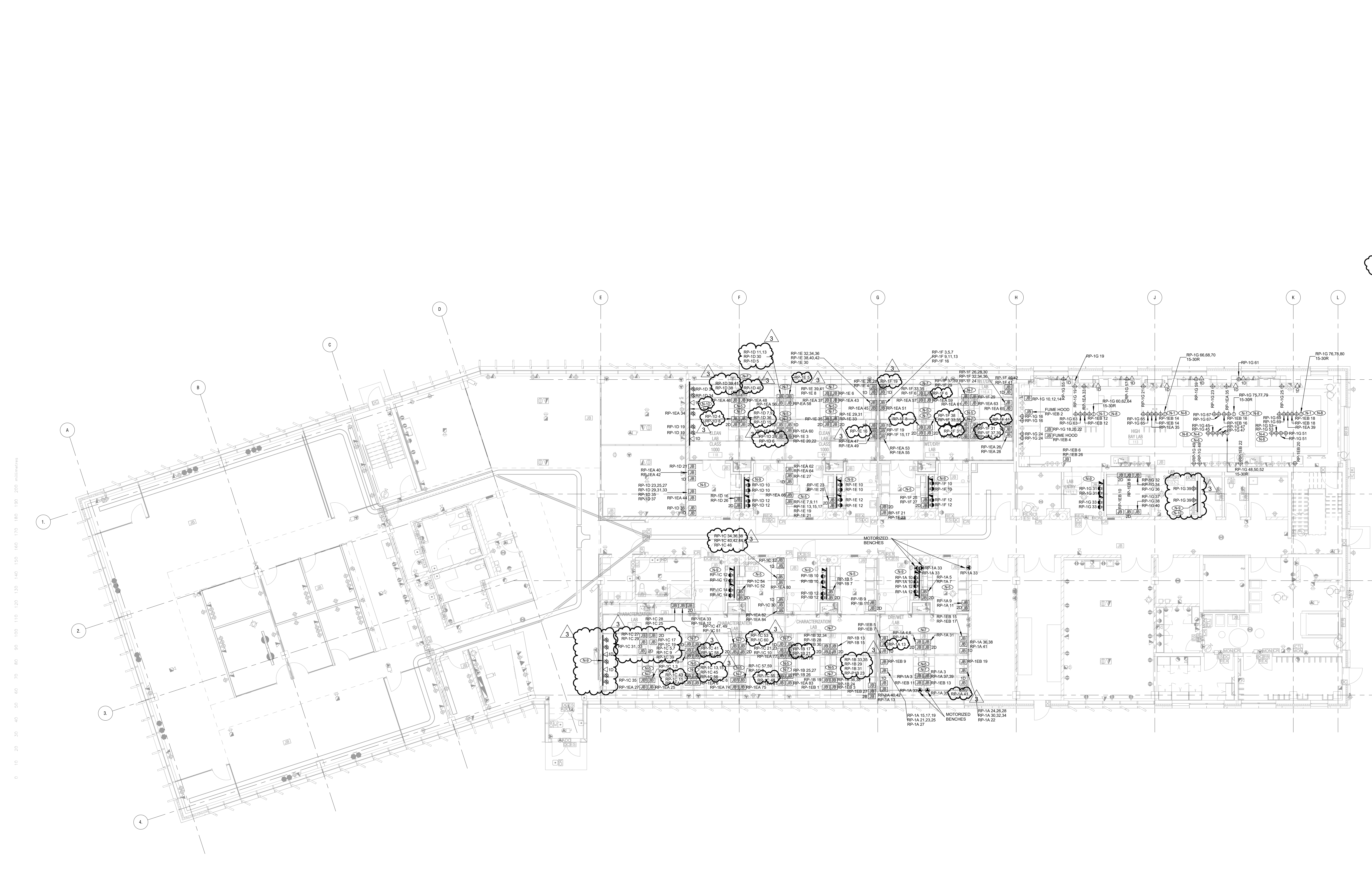
LOCATION: Lab Corridor 119
 FED FROM: PP-1A



TYPE/ INFO	DESCRIPTION	D.F [%]	CONN. LOAD [W]	DEMAND LOAD [W]	BKR [A]	CCT NO.	Φ	CCT NO.	BKR [A]	DEMAND LOAD [W]	CONN. LOAD [W]	D.F [%]	DESCRIPTION	TYPE/ INFO
REC	Auto Flush/Auto Faucet/Soap Dispenser	100	300	300	20	1	A	2	20	300	300	100	Lab Lighting	LTS
REC	Spare	100	300	300	20	3	B	4	20	300	300	100	Lab Receptacle - 118	REC
REC	Lab Receptacle - 118	100	300	300	20	5	C	6	20	300	300	100	Lab Receptacle - 118	REC
REC	Lab Receptacle - 118	100	300	300	2P	7	A	8	20	300	300	100	Lab Receptacle - 118	REC
REC		100	300	300	20	9	B	10	20	300	300	100	Receptacles - Lab Entry 118.1	GFCI
REC	Lab Receptacle - 118	100	300	300	2P	11	C	12	20	300	300	100	Receptacles - Lab Entry 118.1	GFCI
REC		100	300	300	20	13	A	14	20	300	300	100	Receptacles - Housekeeping	GFCI
REC	Lab Receptacle - 118	100	300	300	20	15	B	16	20	300	300	100	Receptacles - Lab Support 118.2	REC
REC	Spare	100	300	300	20	17	C	18	20	150	150	100	Gas Shut Off	D.C
REC	Lab Receptacle - 118	100	300	300	20	19	A	20	15	360	360	100	Motorized Blinds	D.C
REC	Receptacles - Lab Support 118.2	100	300	300	20	21	B	22	15	360	360	100	Motorized Blinds	D.C
D.C	Fume Hood 208V Equipment Lab Support 118.2	100	300	300	3P	23	C	24	20	300	300	100	Receptacle - Housekeeping	REC
		100	300	300	↓	25	A	26	20	300	300	100	Receptacles - Lab Support 118.2	REC
		100	300	300	30	27	B	28	20	300	300	100	Receptacles - Lab Support 118.2	REC
REC	Fume Hood 208V Equipment Lab Support 118.2	100	300	300	3P	29	C	30	20	300	300	100	Lab Receptacle - 118	REC
REC		100	300	300	↓	31	A	32	20	300	300	100	Lab Receptacle - 118	REC
REC		100	300	300	30	33	B	34	20	300	300	100	Lab Receptacle - 118	REC
D.C	Fume Hood Receptacle - Lab Support 118.2	100	150	150	20	35	C	36	20	300	300	100	Receptacles - Lab Support 118.2	REC
REC	Fume Hood Receptacle - Lab Support 118.2	100	150	150	20	37	A	38	20	300	300	100	Lab Receptacle - 118	REC
REC	Lab Receptacle - 118	100	300	300	2P	39	B	40	20	300	300	100	Lab Receptacle - 118	REC
REC		100	300	300	20	41	C	42				100		REC

PANEL OPTIONS:		LOAD A [KW]:	4.11	PHASE VOLTAGE [V]:	120
<input type="checkbox"/> 2	CSA ENCLOSURE RATING	LOAD B [KW]:	4.26	LINE VOLTAGE [V]:	208
<input type="checkbox"/>	FLUSH	LOAD C [KW]:	3.6	PHASE:	3Φ
<input checked="" type="checkbox"/>	FEED THROUGH	TOTAL [KW]:	12	WIRE:	4
<input checked="" type="checkbox"/>	SURFACE	CURRENT A [A]:	34	MAINS [A]:	225
<input checked="" type="checkbox"/>	SUB-FEED	CURRENT B [A]:	36	MAIN BREAKER [A]:	
<input checked="" type="checkbox"/>	BOLT-ON BREAKER	CURRENT C [A]:	30	I.C. [kA]:	10
<input type="checkbox"/>	MAIN BREAKER				
<input type="checkbox"/>	SPD				
<input type="checkbox"/>	200% RATED NEUTRAL BUS				
<input type="checkbox"/>	ISOLATED GROUND BUS				

LEGEND:		NOTES:	
BAS-Building Automation System	R.C-Relay Controlled	LTS-Lighting	1. Panel Enclosure To Be Sprinklerproof.
GFCI-Ground Fault Circuit Interrupter	M-Motor	HID-High Intensity Discharge Lighting Breaker	2. Panels greater than 66 circuits to be double tub.
AFCI-Arc Fault Circuit Interrupter	D.F-Demand Factor		3. Surge Protection Device (SPD) to be in a separate barriered enclosure with separate cover.
SPD - Surge Protection Device	REC-Receptacle	D.C-Direct Connection	4. Terminate circuits for BAS in 4"x4" junction box 10' from panel.
BLO-Breaker Lock-On Device			



1 LEVEL 1 - POWER AND SYSTEMS
1 : 100

- GENERAL NOTES**
- ONLY CONDUITS, CABLES, DEVICES AND SERVICES SERVING EXPLOSION PROOF AREAS SHALL ENTER THESE SPACES.
 - ALL LIGHT FIXTURES, DEVICES, CONDUITS, CONNECTS, ETC. INSTALLED IN EXPLOSION PROOF AREAS SHALL BE BOMB, STRANDY AND EXPLOSION PROOF IN ACCORDANCE TO THE NBC, CSA AND IEC AND RATED FOR USE IN CLASS I ENVIRONMENT.
 - ELECTRICAL CONTRACTOR TO PROVIDE CONDUITS TO ENCLOSE ALL CORNER CABLES. PROVIDE SUFFICIENT CONDUIT TO MEET THE QUANTITY OF DATA CABLE SHOWN. PROVIDE MINIMUM CONDUIT SIZE FOR EACH DATA ROUTING LOCATION.
 - ELECTRICAL CONTRACTOR TO COORDINATE ON SITE WITH EXISTING PANEL SCHEDULES FOR AVAILABLE SPACES/SPACES PER PANEL.
 - ELECTRICAL CONTRACTOR TO USE EXISTING INFRASTRUCTURE WHERE POSSIBLE.
 - ELECTRICAL CONTRACTOR IS RESPONSIBLE OF REVIEWING SITE CONDITIONS/EXISTING INSTALLATION PRIOR BIDDING.
- DRAWING NOTES**
- CONTRACTOR TO PROVIDE UNDER COUNTER HEIGHT NORMAL POWER RECEPTACLES. EMERGENCY POWER RECEPTACLES AND DATA ON EAST WALL FOR CONNECTION TO LAB WORKSTATIONS. DEVICES SHALL BE INSTALLED ORIGINALLY TO KEEP CONDUITS AS TIGHT AS POSSIBLE TO EACH OTHER. REFER TO EXISTING INSTALLATION.
 - HIGH BAY LAB AND FLAMMABLE STORAGE ROOMS ARE EXPLOSION PROOF WITH A CLASS 2 HAZARDOUS ZONE DESIGNATION. ALL DEVICES WITHIN THIS ROOM ARE TO BE EXPLOSION PROOF. DEVICES ARE TO BE CLASS 2 FOR HAZARDOUS ENVIRONMENTS AS PER NBC.
 - ALL PANELBOARDS LOCATED IN CORRIDORS SHALL BE RECESSED. SURFACE MOUNTED CONDUITS ARE NOT ACCEPTABLE UNLESS LOCATED IN SERVICE ROOMS OR CONCEALED BEHIND FINISHED CEILING AND WALLS.
 - CONTRACTOR TO PROVIDE COUNTER HEIGHT NORMAL POWER RECEPTACLES, EMERGENCY POWER RECEPTACLES AND DATA ON LAB BENCHES LOCATIONS. COORDINATE WITH EXISTING DEVICES.
 - ELECTRICAL CONTRACTOR TO MAKE FINAL POWER CONNECTION TO FUMHOODS. SERVICE DUCTS FOR WORK STATIONS AND SERVICE COLLARS FOR LAB BENCHES. SERVICE DUCTS AND COLLARS PROVIDED AND INSTALLED BY OTHERS.
 - ELECTRICAL CONTRACTOR TO RE-WIRE EXISTING RECEPTACLE.
 - ELECTRICAL CONTRACTOR TO PROVIDE NORMAL POWER, EMERGENCY POWER AND DATA CABLES IN CEILING MOUNTED BOXES FOR CONNECTION TO LAB WORKSTATIONS. PROVIDE MULTIPLE BOXES OF GAS RATED BARRIERS BETWEEN SERVICES.
 - NEW CONDUITS WITHIN HIGH BAY LABS TO BE SURFACE MOUNTED. ELECTRICAL CONTRACTOR TO ENSURE CONDUITS RUN BELOW CRANE AND CRANE RAILING. REFER TO SPECIFICATION SECTION 20.05.04 ITEM 3.3 FOR SURFACE CONDUIT INSTALLATION INSTRUCTIONS.
 - SURFACE MOUNTED RACKETS PROVIDED BY CLIENT. DEVICES AND INSTALLATION INSTRUCTIONS.
 - ELECTRICAL CONTRACTOR TO USE EXISTING INFRASTRUCTURE WITHIN LAB WALL FOR ELECTRICAL WIRING AND DATA CABLEING.

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No.	Description	Date
3	ISSUED FOR ADD-E-01 (LABORATORY)	2020-07-08
2	RE ISSUED FOR TENDER (LABORATORY)	2020-06-22
1	ISSUED FOR TENDER (LABORATORY)	2020-02-07

No metric drawings.
Verify all dimensions and conditions on site and immediately notify the Department Representative if any discrepancies.

Project title:
NRC - MISSISSAUGA RESEARCH AND DEVELOPMENT PILOT PLANT FACILITY

LEVEL 1 - POWER AND SYSTEMS

Drawn by: B.S.
Designed by: B.S.
Approved by: S.A.

Project date: 2017-12-15
Date du projet:

Project number: PWGSC# R.07954.001 S+A #19158.E.000
no. du projet: