GENERAL NOTES:

- 1. THE ELECTRICAL CONTRACTOR SHALL COMPLETE ALL ELECTRICAL WORK IN ACCORDANCE WITH THE RELEVANT SECTIONS FOR ITEMS OF THE EXISTING BASE BUILDING SPECIFICATIONS AND DRAWINGS TO THE SATISFACTION OF THE BUILDING OWNER. THE BASE BUILDING DOCUMENTS WILL BE MADE AVAILABLE FOR REVIEW BY THE BUILDING OWNER IF SO REQUIRED.
- 2. THE DRAWINGS FOR THE WORK OF THIS DIVISION ARE IN PART DIAGRAMMATIC, INTENDED TO CONVEY THE SCOPE OF WORK, GENERAL ARRANGEMENT AND LOCATION OF THE EQUIPMENT, APPROXIMATE SIZES AND LOCATIONS OF THE EQUIPMENT AND OUTLETS. FOLLOW THESE DRAWINGS IN EXECUTION OF THE WORK, CONSULT GENERAL CONSTRUCTION DRAWINGS TO BECOME FAMILIAR WITH ALL CONDITIONS RELATING TO THE INSTALLATION AND TO VERIFY SPACES IN WHICH THE WORK WILL BE INSTALLED. REPORT ANY DISCREPANCIES BETWEEN THE ARCHITECTURAL DRAWINGS AND THE ENGINEER'S DRAWINGS TO THE ENGINEER AND ARCHITECT PRIOR TO COMMENCING WITH THE WORK.
- 3. WHENEVER DIFFERENCES OCCUR BETWEEN PLANS AND DIAGRAMS OR SCHEMATICS, AND BETWEEN THE SPECIFICATIONS AND DRAWINGS, THE MAXIMUM CONDITION SHALL GOVERN, AND THE TENDER SHALL BE BASED ON WHICHEVER IS THE GREATER AMOUNT.
- 4. KEEP A RECORD SET OF DRAWINGS ON THE SITE ON WHICH SHALL BE CLEARLY INDICATED, THE EXACT LOCATION OF ALL OUTLETS, LUMINARIES, FEEDER RUNS, PANELS, JUNCTION BOXES, PULL BOXES, ETC. TWO COPIES OF THE RECORD DRAWINGS SHALL BE SUBMITTED TO THE ARCHITECT UPON COMPLETION OF THE PROJECT.
- 5. THE CONTRACTOR SHALL VISIT THE SITE AND EXAMINE ALL DRAWINGS CAREFULLY TO DETERMINE THE EXTENT OF RENOVATIONS IN THE EXISTING BUILDING. EXAMINE THE SITE AND TOGETHER WITH DRAWINGS TO DETERMINE AND INCLUDE IN THE TOTAL PRICE OF THE TOTAL COST OF LABOUR AND MATERIAL TO DISCONNECT, REMOVE RELOCATE, BLANK OFF, RE-ROUTE, OR MAKE SAFE ALL EXISTING CONDUITS AND WIRE, JUNCTION BOXES, LUMINARIES, AND EQUIPMENT REQUIRED.
- 6. NO ALLOWANCE WILL BE MADE FOR OBVIOUS CONSIDERATIONS WHICH MAY HAVE BEEN OVERLOOKED.
- 7. EXAMINE STRUCTURAL, MECHANICAL AND ARCHITECTURAL DRAWINGS TO ENSURE THAT THE WORK OF THIS DIVISION CAN BE SUCCESSFULLY COMPLETED WITH NO INTERFERENCES OR DISCREPANCIES.
- 8. EXAMINE THE WORK OF THE OTHER TRADES, AS THEY AFFECT THIS DIVISION, AND REPORT IMMEDIATELY TO THE ARCHITECT OR INTERIOR DESIGNER ANY DEFECT OR INTERFERENCE THAT MAY AFFECT THE WORK OF THIS DIVISION, OR THE GUARANTEE OF THIS WORK.
- 9. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING AND PAYING FOR ALL NECESSARY PERMITS AND INSPECTIONS AS REQUIRED OR REQUESTED BY THE AUTHORITIES HAVING JURISDICTION. ONCE THE ELECTRICAL WORK HAS BEEN COMPLETED AND ACCEPTED BY THE OWNER, THE ELECTRICAL CONTRACTOR SHALL PROVIDE THE OWNER WITH CERTIFICATES VERIFYING THAT THE WORK HAS BEEN COMPLETED IN ACCORDANCE WITH ALL APPLICABLE CODES, BUILDING STANDARDS, AND ALL AUTHORITIES HAVING JURISDICTION.
- 10. THE ELECTRICAL WORK SHALL BE CARRIED OUT AND PERFORMED WITH QUALITY WORKMANSHIP, TO THE SATISFACTION OF THE CONSULTANT, OWNER, AND ARCHITECT. ANY UNSATISFACTORY WORK SHALL BE RE-DONE OR REPLACED BY THIS DIVISION WITHOUT EXTRA COST TO THE OWNER
- 11. THE ELECTRICAL CONTRACTOR SHALL PROVIDE THE OWNER WITH A ONE YEAR WRITTEN WARRANTY, COT AMENCING ON THE DATE OF ACCEPTANCE. THE WARRANTY SHALL COVER THE COMPLETE ELECTRICAL INSTALLATION. THE ELECTRICAL CONTRACTOR SHALL REPAIR AND/OR REPLACE ANY DEFECTS IN THE MATERIALS OR WORKMANSHIP THAT OCCUR DURING THE WARRANTY PERIOD AT A TIME CONVENIENT TO AND AT NO EXTRA COST TO THE OWNER.
- 12. PROVIDE THE BUILDING OWNER WITH ONE SET OF 'AS-BUILT' RECORD DRAWINGS PREPARED ON AUTOCAD R.14 (OR COMPATIBLE FORMAT), INCLUDING A COPY OF THE DRAWINGS ON DISKETTE. PROVIDE THE ENGINEER WITH ONE SET OF BLACK LINE PRINTS OF THE 'AS-BUILT' RECORD DRAWINGS. THESE DRAWINGS SHALL ONLY BE DELIVERED TO THE OWNER AND ARCHITECT AFTER COMPLETION OF THE WORK AFTER ALL DEFICIENCIES HAVE BEEN CORRECTED.
- 13. THE ARCHITECT SHALL HAVE THE RIGHT, AT ANY TIME, TO CHANGE THE LOCATION OF ANY OUTLET OR FLOOR BOX UP TO TEN FEET WITHOUT EXTRA COST TO THE OWNER, PROVIDED THAT NOTIFICATION OF THIS CHANGE OCCURS PRIOR TO INSTALLATION.
- 14. IN CASE EXTRA WORK OF ANY KIND IS REQUIRED, OBTAIN WRITTEN INSTRUCTIONS FROM THE ARCHITECT AND THE ENGINEER BEFORE PROCEEDING. PAYMENT WILL BE MADE AT A FAIR AND REASONABLE RATE ONLY FOR AUTHORIZED EXTRAS. IN THE CASE OF OMISSIONS, THE SAME PROCEDURE SHALL APPLY, AND A DECREASE MADE.
- 15. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR DISCONNECTING AND REMOVING ALL ELECTRICAL EQUIPMENT FROM AREAS BEING ALTERED OR DET.AOLISHED. WIRING, CONDUIT, AND ALL OTHER EQUIPMENT REQUIRED TO MAINTAIN SERVICE IN OTHER PARTS OF THE BUILDING SHALL BE TEMPORARILY SUPPORTED, RE-ROUTED, SERVICED, OR RELOCATED AS REQUIRED. OBSOLETE OR REDUNDANT CONDUITS AND CABLES SHALL BE DISCONNECTED FROM THEIR SOURCE OF SUPPLY AND REMOVED FROM THE SITE, EXCEPT THEY SHALL BE CUT-FLUSH WHERE IMBEDDED IN STRUCTURE AND THE FINISH SHALL BE PATCHED TO MATCH THE EXISTING CONDITIONS. ALL EXISTING WIRING THAT CANNOT BE REMOVED SHALL BE DISCONNECTED FROM ITS SUPPLY, BLANKED-OFF, AND OTHERWISE MADE SAFE.
- 16. SUBMIT SHOP DRAWINGS OF LUMINARIES, PANELBOARDS, AND OTHER MAJOR ELECTRICAL EQUIPMENT, AS THEY APPLY TO THIS PROJECT, OR AS REQUESTED BY ENGINEER. EACH SHOP DRAWING SHALL BE CHECKED AND STAMPED AS BEING CORRECT BY THE ELECTRICAL AND GENERAL CONTRACTOR PRIOR TO SUBMISSION TO THE ENGINEER FOR REVIEW. SHOP DRAWINGS NOT STAMPED AS SUCH WILL NOT BE REVIEWED AND WILL BE RETURNED AND DESIGNATED AS "REVISE AND RESUBMIT".
- 17. THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ANY DISRUPTION TO THE EXISTING SERVICES. ALL THE EXISTING BUILDING SERVICES MUST BE KEPT IN OPERATION AT ALL TIMES. ARRANGE WORK IN SUCH A MANNER THAT INTERRUPTIONS IN SERVICES OCCUR ONLY AT SCHEDULED TIMES, AND WITH WRITTEN PERMISSION BY THE OWNER. UNAVOIDABLE INTERRUPTIONS SHALL BE SCHEDULED WITH THE ARCHITECT AT LEAST 48 HOURS IN ADVANCE. OVERTIME WORK THAT MAY BE REQUIRED TO TIE-IN SERVICES AT NIGHT OR ON WEEKENDS SHALL BE INCLUDED IN THE TENDER AMOUNT.
- 18. ALL NEW SERVICES WHICH PENETRATE THE FLOOR SLAB OR FIRE-RATED WALLS AND CEILINGS SHALL BE INSTALLED IN RIGID STEEL CONDUIT AND SHALL BE SEALED WITH AN APPROVED, NON-SHRINK, WATERPROOF AND FIREPROOF SEALANT.

- 19. ALL WORK SHALL BE SCHEDULED AND COORDINATED TO AVOID INTERFERENCES WITH OTHER TRADES DURING AND AFTER CONSTRUCTION.
- 20. PROVIDE TEMPORARY ELECTRICAL POWER FOR THE WORK OF THIS DIVISION AND OTHER TRADES AS REQUIRED BY THE GENERAL CONTRACTOR OR OWNER.

WORK IN EXISTING BUILDING

- THE WORK AS SPECIFIED OR INDICATED INCLUDES REVISIONS TO THE EXISTING BUILDING AND ITS RELATED SYSTEMS. WHERE INTERFACING COMPONENTS AND EQUIPMENT ARE REQUIRED TO COMPLETE THE WORK, INCLUDE THESE IN THE TENDER AMOUNT REGARDLESS OF WHETHER THEY ARE INDICATED ON THE PLANS. ENSURE THAT ALL SUCH COMPONENTS ARE FULLY COMPATIBLE WITH THE EXISTING BASE-BUILDING SYSTEMS.
- 2. OBTAIN WRITTEN APPROVAL FROM BUILDING OWNER TO PENETRATE ANY STRUCTURAL SURFACES OR FLOOR SLABS. THE CONTRACTOR SHALL REPLACE OR REPAIR ANY ITEMS WHICH ARE DAMAGED DUE TO THIS WORK, AT NO EXTRA COST TO THE BUILDING OWNER.
- CAREFULLY EXAMINE THE SITE AND CONDITIONS OF THE PROPOSED WORK TOGETHER WITH THE WORK OF ALL OTHER TRADES AND INCLUDE IN THE TENDER AMOUNT ALL ASSOCIATED COSTS SUCH AS; CUTTING, PATCHING. RE-ROUTING AND REPOSITIONING OF ELECTRICAL EQUIPMENT AND WIRING THAT ARE NECESSARY TO ACCOMMODATE THE ARCHITECTURAL RENOVATIONS AND ELECTRICAL SYSTEMS INDICATED. NO EXTRAS WILL BE ALLOWED FOR THE RELOCATING OR REPOSITIONING OF EXISTING ELECTRICAL SERVICES THAT WERE EXPOSED, OR KNOWN TO EXIST, AT THE TIME OF TENDER.
- NEW CONDUITS AND OTHER NEW SERVICES SHALL BE CAREFULLY 5. ROUTED SO THAT THEY DO NOT INTERFERE WITH ANY EXISTING INSTALLATIONS. ANY EXISTING CONDUITS. CABLE TRAYS. BUS DUCTS. OR OTHER SERVICES THAT INTERFERE WITH THE NEW INSTALLATION SHALL BE RELOCATED UNDER THIS CONTRACT.
- REMOVE AND/OR RELOCATE EXISTING LUMINARIES, CONDUIT AND METERING SPECIFICATION: WIRING, WIRING DEVICES, AND OTHER EQUIPMENT AS NECESSARY TO ACCOMMODATE THE NEW CONSTRUCTION INCLUDING NEW CEILING ELECTRICAL METERING SYSTEM FOR TENANT SUBMETERING AND PARTITION LAYOUTS. EXISTING CONDUIT, WIRING AND ELECTRICAL OUTLETS THAT ARE NOT BEING REUSED SHALL BE CUT BACK IN AN APPROVED MANNER SO THAT THE FINISHED WORK IS CLEAN AND NEAT IN APPEARANCE. PATCH SURFACE TO MATCH EXISTING.
- 7. ALL BASE-BUILDING LUMINARIES, TRANSFORMERS, PANELBOARDS, AND DISCONNECT SWITCHES WHICH ARE REMOVED SHALL BE HANDED OVER TO THE BUILDING OWNER. SUCH EQUIPMENT SHALL BE DELIVERED TO THE BUILDING OWNER'S SITE STORAGE AREAS AS DIRECTED BY TENANT AT NO EXTRA COST. DELIVERY TO OFF-SITE BUILDING OWNER'S STORAGE AREAS SHALL BE EXTRA TO THE CONTRACT AND SHALL BE ARRANGED BETWEEN THE CONTRACTOR AND BUILDING OWNER.
- REMAINING REMOVED EQUIPMENT AND MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE UPON COMPLETION OF THE WORK, UNLESS NOTED OTHERWISE. THE CONSTRUCTION SITE SHALL BE KEPT CLEAN AND ANY DEBRIS OR CONSTRUCTION MATERIAL SHALL BE REMOVED FROM THE SITE 1. THROUGHOUT THE CONSTRUCTION PERIOD AND ON COMPLETION OF REFER TO THE ELECTRICAL SPECIFICATIONS SECTIONS FOR: THE WORK AS DIRECTED BY THE OWNER'S AND TENANT'S RESPECTIVE REPRESENTATIVE.

9. BRANCH CIRCUIT WIRING SHALL BE AS FOLLOWS:

- 1200 WATTS MAXIMUM ON 15A-1P CIRCUIT BREAKER (AT 120 VOLT) 9.1. 9.2. USE #12AWG FOR RUNS UP TO 21 METRES
- 9.3. USE #10AWG FOR RUNS BETWEEN 21 METRES UP TO 36 METRES
- 10. ALL CONDUCTORS SHALL BE STRANDED OR SOLID COPPER SIZED AS 2.1. SHOWN WITH TYPE R90, X-LINK INSULATION AND A MINIMUM WIRE SIZE OF #12AWG (20 AMP RATED). ALL WIRING IN CEILINGS AND PARTITIONS SHALL BE IN ET.AT CONDUIT. ALL WIRING IN SLAB SHALL BE IN RIGID 2.2. STEEL CONDUIT. ARMOURED CABLE MAY BE PERMITTED FOR DOWN DROPS FROM JUNCTION BOXES TO LUMINARIES AND IN PARTITIONS. UNLESS PROHIBITED BY CODE OR BUILDING STANDARDS. ARMOURED CABLE SHALL NOT BE USED IN ANY EXPOSED AREAS, UNLESS SPECIFICALLY NOTED.
- METERS TO BE COMPLETE WITH A LIQUID CRYSTAL DISPLAY (LCD) TO 11. ACCESS PANELS MAY BE PROVIDED IN CEILINGS WHERE JUNCTION 2.4. ACCESS ALL MEASUREMENTS AND PERFORM INSTALLATION VERIFICATION BOXES CANNOT BE LOCATED IN ACCESSIBLE LOCATIONS PROVIDED AND PHASE DIAGNOSTICS. THAT APPROVAL HAS BEEN OBTAINED FROM THE ARCHITECT

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- 12. ALL ELECTRICAL EQUIPMENT SHALL BE CSA OR CULC LISTED AND SHALL BEAR THE CSA OR CULC STAMP AND BE OF COMMERCIAL GRADE.
- 13. ALL ELECTRICAL EQUIPMENT SHALL OPERATE WITHOUT OBJECTIONABLE NOISE OR VIBRATION AND SHALL BE RECTIFIED TO THE OWNER'S SATISFACTION.
- 14. EXPOSED COVER PLATES SHALL BE INSTALLED AFTER FINAL PAINTING, FLUSH WITH THE WALL
- 15. LOCAL SWITCHES SHALL BE 20 AMP-RATED, SPECIFICATION GRADE, VOLTAGE AS INDICATED. EXACT LOCATION AND MOUNTING HEIGHT TO 3. METERS BE COORDINATED WITH ARCHITECT OR INTERIOR DESIGNER PRIOR TO ROUGHING-IN. MOUNTING HEIGHT MUST CONFIRM TO BUILDING CODE 3.1. REQUIREMENTS FOR BARRIER- FREE ACCESSIBILITY.
- 16. DUPLEX RECEPTACLES SHALL BE 120VOLT, 15 OR 20 AMP-RATED, SPECIFICATION GRADE, UNLESS OTHERWISE NOTED. VERIFY EXACT LOCATION, MOUNTING HEIGHT, AND COLOUR WITH ARCHITECT PRIOR TO INSTALLATION.
- 17. ALL GROUNDING SHALL CONFORM TO THE CANADIAN ELECTRICAL CODE AND LOCAL AUTHORITY REQUIREMENTS.
- 18. EXISTING PANELBOARD DIRECTORIES SHALL BE REPLACED WITH NEW TYPE-WRITTEN DIRECTORIES WHICH REFLECT THE LATEST REVISIONS. EXISTING PANELBOARDS WITHOUT DIRECTORIES AND NEW PANELBOARDS SHALL BE PROVIDED WITH TYPE-WRITTEN DIRECTORIES, WITH LABELING BASED ON ROOM NUMBERS AND/OR LOCATION.
- 19. NEW PANELBOARDS SHALL MATCH BASE-BUILDING STANDARDS WITH CIRCUITS AS INDICATED ON THE PLANS. CIRCUIT BREAKERS SHALL BE BOLT-ON TYPE ONLY. ALL NEW PANELBOARDS SHALL HAVE 5. METER MEASUREMENTS LOAD-BALANCED FEEDERS AND BRANCH CIRCUITS.
- 20. DISCONNECT SWITCHES SHALL BE OF "QUICK-MAKE/QUICK-BREAK" TYPE, AND OF SAME MANUFACTURE AS BASE-BUILDING EXISTING UNITS WHERE PRACTICAL.
- 21. FUSES SHALL BE GOULD-SHAWMUT, DUAL-ELEMENT TYPE, SIZED AS NOTE ON THE DRAWINGS.

1.0 GENERAL

PLEASE NOTE THAT THE METER SYSTEM CAN BE SCALED TO INCLUDE WATER, GAS OR THERMAL ENERGY METERING. SYSTEM CAN ALSO BE USED FOR ENERGY MANAGEMENT OR LEED EBOM PURPOSES.

REFERENCES

22. PROVIDE ENGRAVED LAMICOID NAMEPLATES ON ALL MAJOR ELECTRICAL EQUIPMENT IDENTIFYING; EQUIPMENT NAME, VOLTAGE, PHASE, CURRENT RATING, DESTINATION, AND USE. LETTERING SHALL BE WHITE, MINIMUM 1/4" HIGH ON A BLACK BACKGROUND.

DATA CONDUIT SYSTEM

- THE DATA SYSTEM SHALL CONSIST OF A COMPLETE CONDUIT SYSTEM, PULL BOXES, OUTLETS, AND CATEGORY Se WIRING - TERMINATIONS AND JACKS BY OTHERS.
- 2. PROVIDE A 3/4" DIAMETER CONDUIT FROM EACH DATA OUTLET IN PARTITION WALL AND TERMINATE CONDUIT AT MEZZANINE LEVEL TELECOM RACK
- PROVIDE DATA OUTLET BOXES AND PLATES AS REQUIRED.
- 4. WALL MOUNTED DATA OUTLETS SHALL CONSIST OF A SINGLE-GANG BOX, COMPLETE WITH COVER PLATE AS REQUIRED.

FIRE STOP

- 1. WHERE A FIRE SEPARATION IS PIERCED BY A RACEWAY OR CABLE, ANY OPENINGS AROUND THE RACEWAY OR CABLE SHALL BE PROPERLY CLOSED OR SEALED IN COMPLIANCE WITH THE NATIONAL BUILDING CODE OF CANADA. 2. OPTICAL FIBRE CABLES AND ELECTRICAL WIRES AND CABLES IN
- TOTALLY ENCLOSED NONCOMBUSTIBLE RACEWAYS ARE PERMITTED TO PENETRATE AN ASSEMBLY REQUIRED TO HAVE A FIRE-RESISTANCE RATING.

EV CHARGING STATIONS

1. EV CHARGING STATIONS SHALL BE LEVITION LEVEL 2 FREE STANDING MODEL NO. CPHU2/CPMEX OR APPROVED EQUAL., 32 AMP DRAW, 208 V1 -PHASE, MAXIMUM CIRCUIT BREKER SIZE 40A. 2P. SEE DETAILS ON DWG E-0.03A.

SYSTEM TO COLLECT DATA ON TENANT ELECTRICAL CONSUMPTION. METERS TO COMMUNICATE DATA TO CENTRAL POINT(S) AND BE REMOTELY ACCESSIBLE BY OPERATIONS TEAM, ACCOUNTING, LEED CONSULTANT, ETC.

SYSTEM TO INCLUDE 4 COMPONENTS:

•	ELECTRICAL METERING EQUIPMENT:	SECTION 2	
•	COMMUNICATIONS INFRASTRUCTURE	SECTION 3	
•	DATA COLLECTION AND REPORTING SOFTWARE:	SECTION 4	
•	EXECUTION OF SUPPLY. INSTALLATION AND INTEGRAT	ION:	SECTION

- GENERAL REQUIREMENTS
- DRAWINGS, APPROVALS AND ALTERNATES
- CONDUIT WIRE AND CABLE
- DISTRIBUTION PANELS AND SYSTEM OPERATING VOLTAGES FOR METERS CANADIAN ELECTRICAL CODE AND ELECTRICAL INSPECTIONS

2. ELECTRICAL SUB-METERING EQUIPMENT

- MANUFACTURER: THE METERS ARE TO BE QUADLOGIC CONTROLS CORPORATION METERS OR APPROVED EQUIVALENT TO CONSIST OF REVENUE GRADE, MEASUREMENT CANADA APPROVED, DIGITAL METERING EQUIPMENT. METERS MUST BE TESTED, SEALED AND VERIFIED TO MEASUREMENT CANADA STANDARDS. FOR MULTI-METER
- TECHNOLOGY, MEET MEASUREMENT CANADA S-E-04 REQUIREMENTS FOR THE INSTALLATION AND VERIFICATION OF MULTI-CUSTOMER METERS. 2.3. THE METERS MUST BE CAPABLE OF REMOTE COMMUNICATIONS, USING AT LEAST ONE OF THE COMMUNICATIONS OPTIONS, LISTED IN SECTION 3
- 2.5. ALL METERS TO HAVE BACKUP STORAGE POWER TO KEY COMPONENTS SO THAT NO DATA IS LOST DURING POWER OUTAGES. THE SYSTEM SHALL CONTINUE TO FUNCTION AFTER RESUMPTION OF POWER. DATA TO BE RETAINED FOR 8500 HOURS WITH A 20-YEAR SHELF LIFE. FAILURE OF THE BUILDING ELECTRICAL NORMAL POWER SYSTEM SHALL NOT RESULT IN LOSS OF DATA AND WILL NOT REQUIRE MANUAL RESTARTING OF THE METERING SYSTEM.
 - METERS TO HAVE ABILITY TO COLLECT PULSE INPUTS FROM OTHER UTILITY METERS, INCLUDING WATER, GAS, THERMAL, STEAM, ETC WARRANTY: METERS SHALL HAVE A MANUFACTURER'S WARRANTY OF 3 YEARS

- MINICLOSET-5C MULTI-METER, 120/240, 12-2 METERS OR 24-1 METERS RSM-5 OR RSM-5C SINGLE METER 120/240, 120/208, 277/480, 347/600, OR 600 DELTA. FOR APPLICATIONS WITH REMOTE CURRENT TRANSFORMERS ONLY.
- S20 SOCKET METER (WHEN METER BASES ARE AVAILABLE) 120/240 200 AMP SELF CONTAINED METER, CONFIGURED IN 4, 5, 7. FOR APPLICATIONS WITH REMOTE CURRENT TRANSFORMERS UTILIZE13 JAW .1-10 AMP METER C/W METER BASE AND SHORTING BLOCK.

4. CURRENT TRANSFORMERS

- SOLID CORE: 5 AMP SECONDARY CTS. MUST BE MEASUREMENT CANADA AND CSA APPROVED. ALL TENANT METERS MUST USE SOLID-CORE CURRENT TRANSFORMERS
- SPLIT CORE: 0.1 AMP OR 5 AMP SECONDARY CTS, MUST BE CSA APPROVED. CAN ONLY BE USED FOR KEY-LOAD OR ENERGY MANAGEMENT METERING

ENERGY MANAGEMENT PARAMETERS: KWH AND KW DEMAND STANDARD. ALL OTHER PARAMETERS ARE OPTIONAL

KWHR	REAL CONSUMPTION
KW	AVERAGE DEMAND
KVA	APPARENT DEMAND
KVARH	REACTIVE CONSUMPTION
KVAR	REACTIVE DEMAND
VOLTAGE	PHASE TO NEUTRAL FOR EACH PHASE
AMPS	INSTANTANEOUS AMPERAGE FOR EACH PHASE

.1.	RS485 4-WIRE COMMUNICATIONS NETWORK: VIA A TWISTED SHIELDED 4-WIRE (2 SEPARATE PAIRS) DAISY-CHAINED BETWEEN ALL METERS IN CONDUIT. SUPPLIED AND INSTALLED BY ELECTRICAL CONTRACTOR. DATA-LOOP MUST TERMINATE IN A DEVICE CAPABLE OF DATA STORAGE AND WITH REMOTE ACCESS	7. 7.1
.2.	CONNECTION TO DATA ACQUISITION SERVER: RS485 2-WIRE MODBUS (TWISTED SHIELDED PAIR #18 AWG) OR PULSE OUTPUT TO OBVIUS ACQUISUITE 8812(S) OR EQUIVALENT. IP CONNECTION MADE AVAILABLE TO	7.2
	ACQUISUITE	7.3
4	DATA COLLECTION AND REPORTING SOFTWARE OPTIONS ALL METER DATA MUST COLLECTED VIA THE COMMUNICATION	7.4
	INFRASTRUCTURE AND REPORTED THROUGH ONE OR MORE OF THE FOLLOWING SOFTWARE OPTIONS. AT A MINIMUM, 15 MINUTE INTERVAL	7.5
	(CONSULTANT) PLEASE CHOOSE ONE OR MORE OF THE FOLLOWING DATA REPORTING OPTIONS	8. 3
5	METERCONNEX LITE (RECOMMENDED). PROVIDE QMC METERCONNEX WEB-BASED REPORTING SOFTWARE. GRAPHING AND EXPORTATION OF METER DATA OF METER DATA AVAILABLE ON-LINE. TENANT INTERFACE IS ALSO AVAILABLE.NO UPFRONT COSTS. CONTRACT LENGTH NEGOTIABLE	8.1.
6	S-E-04 FOR MULTI-METER TECHNOLOGY, MEET MEASUREMENT CANADA S-E-04 REQUIREMENTS FOR THE INSTALLATION AND VERIFICATION OF MULTI-CUSTOMER METERS.	9.1.
7	QMC REPRESENTATIVES SHALL DEMONSTRATE OPERATION OF THE SYSTEM AS FOLLOWS:	10 \
	-METER READINGS AT THE METER	10.
	-PHASE DIAGNOSTICS -PROVIDE MANUAL OF INSTALLED SYSTEM.	10.1
		10.2
8	QMC METERING SOLUTIONS TO PROVIDE TRAINING AND SOFTWARE MANUAL FOR OWNER'S STAFF OF SELECTED REPORTING SYSTEM	10.3
		11. F
		11.1
		11.2

11.4. QMC REPRESENTATIVES SHALL DEMONSTRATE OPERATION OF THE SYSTEM AS FOLLOWS: -METER READINGS AT THE METER

EXECUTION

SITE VISIT AND DESIGN

- METER SUPPLIER, PROPERTY OPERATORS, CONTRACTOR AND ENGINEER (IF APPLICABLE) TO REVIEW TENANT ELECTRICAL DISTRIBUTION ALL ELECTRICAL DISTRIBUTION DRAWINGS AND TENANT DESCRIPTORS SHOULD EB MADE AVAILABLE PRIOR TO OR DURING THE SITE VISIT DESIGN AND BUDGET METER SYSTEM ACCORDING TO SITE-SPECIFIC ELECTRICAL DISTRIBUTION, EXISTING EQUIPMENT, PROPERTY NEEDS AND BUDGETARY CONSIDERATIONS ELECTRICAL CONTRACTOR OR OTHER PARTY TO CONDUCT CIRCUIT
- TRACING IF REQUIRED

SHOP DRAWINGS

SUBMIT QUADLOGIC INSTALLATION AND SHOP DRAWINGS AND METERING SYSTEM DATA TO MEET THE SPECIFICATIONS:

- SYSTEM RISER, ONE LINE AND PANEL WIRING DIAGRAM
- MANUFACTURER'S SYSTEM AND COMMUNICATIONS CONNECTION DIAGRAM • INFORMATION ON SELECTED REPORTING SOFTWARE
- SHOP DRAWINGS TO BE REVIEWED BY OWNER, GENERAL CONTRACTOR, ELECTRICAL ENGINEER, AND ELECTRICAL CONTRACTOR.

WIRING AND CONNECTIONS

- ALL WIRING IN CONDUIT TO ONTARIO ELECTRICAL CODE. REFER TO QUADLOGIC INSTALLATION DRAWINGS.
- METERING POINTS SHOWN ON ELECTRICAL SINGLE LINE DRAWINGS. PROVIDE A DEDICATED TELEPHONE LINE OR IP CONNECTION AT POINT OF CENTRAL DATA COLLECTION FOR REMOTE METER READING AND DIAGNOSTICS OF THE SYSTEM.

FIELD VERIFICATION, ACCEPTANCE & TRAINING

- INSTALLATION CONTRACTOR TO PROVIDE "AS BUILT" MARKED UP QUADLOGIC "RECORD OF METERING INSTALLATION" SHEET(S) INDICATING EACH METER, SERIAL NO., ADDRESS, CROSS REFERENCE, METERED TENANT(S) AND CT RATIO. INFORMATION TO BE FORWARDED TO QUADLOGIC METER TECHNICIAN PRIOR TO FIELD VERIFICATION.
- 2. QUADLOGIC'S REPRESENTATIVE SHALL VERIFY, ADJUST AND TEST THE SYSTEM. VERIFICATION TO BE CARRIED OUT WITH THE ASSISTANCE OF THE ELECTRICAL CONTRACTOR. UPON COMPLETION, QUADLOGIC WILL ISSUE A "CERTIFICATE OF ACCEPTANCE" TO THE OWNER, ELECTRICAL CONSULTANT AND CONTRACTOR. MEASUREMENT CANADA CERTIFICATES WILL ALSO BE PROVIDED TO THE PROPERTY AND SUBMITTED TO MEASUREMENT CANADA.
- 11.3. S-E-04 FOR MULTI-METER TECHNOLOGY, MEET MEASUREMENT CANADA S-E-04 REQUIREMENTS FOR THE INSTALLATION AND VERIFICATION OF MULTI-CUSTOMER METERS.
 - -PHASE DIAGNOSTICS
 - -PROVIDE MANUAL OF INSTALLED SYSTEM.
- 11.5. QMC METERING SOLUTIONS TO PROVIDE TRAINING AND SOFTWARE MANUAL FOR OWNER'S STAFF OF SELECTED REPORTING SYSTEM



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THE CONTRACTOR MUST VERIFY AND ACCEPT RESPONSIBILITY FOR ALL DIMENSIONS AND CONDITIONS ON SITE AND MUST NOTIFY RCEL OF ANY VARIATIONS FROM THE INFORMATION CONTAINED WITHIN.

RCEL IS NOT RESPONSIBLE FOR THE ACCURACY OF THE SURVEY, ELEVATIONS, STRUCTURAL MECHANICAL, ELECTRICAL ETC. SHOWN ON THIS DRAWING. REFER TO THE APPROPRIATE ENGINEERING DRAWINGS PRIOR TO PROCEEDING WITH THE WORK.

ALL WORK MUST CONFORM TO ALL APPLICABLE CODES AND REQUIREMENTS OF THE AUTHORITIES HAVING JURISDICTION.

JNLESS OTHERWISE NOTED, NO INVESTIGATION HAS BEEN CARRIED OUT OR REPORTED ON BY RCEL WITH RESPECT TO THE ENVIRONMENTAL CONDITION OF THE EXISTING SITE AND STRUCTURES.

<u>NO.</u>	MM/DD/YYYY	DESCRIPTION
А	04/18/2023	ISSUED FOR SPA

APPROVED BY	MG
BOPROFESS BUDY M. GREEN	MONAL CHONNER
CLIENT	
FORMAT LAK ICON ARC	ESHORE LP
PROJECT	
42 LAKESH OAKVILLE,	ORE BLVD. ONTARIO
42 LAKESH OAKVILLE,	ORE BLVD. ONTARIO
42 LAKESH OAKVILLE, TITLE ELECTRICAL SPECIFIC	ORE BLVD. ONTARIO SITE PLAN ATIONS
42 LAKESH OAKVILLE, TITLE ELECTRICAL SPECIFIC DISCIPLINE	ORE BLVD. ONTARIO SITE PLAN ATIONS ELECTRICAL
42 LAKESH OAKVILLE, TITLE ELECTRICAL SPECIFIC DISCIPLINE PROJECT NUMBER	ORE BLVD. ONTARIO SITE PLAN ATIONS ELECTRICAL 2181A-22
TITLE ELECTRICAL SPECIFIC DISCIPLINE PROJECT NUMBER DATE	ORE BLVD. ONTARIO SITE PLAN ATIONS ELECTRICAL 2181A-22 04/06/2023
42 LAKESHOOAKVILLE, TITLE ELECTRICAL SPECIFIC DISCIPLINE PROJECT NUMBER DATE DRAWN BY	ORE BLVD. ONTARIO SITE PLAN ATIONS ELECTRICAL 2181A-22 04/06/2023 DR
42 LAKESHOOAKVILLE, TITLE ELECTRICAL SPECIFIC DISCIPLINE PROJECT NUMBER DATE DRAWN BY DESIGNED BY	ORE BLVD. ONTARIO SITE PLAN ATIONS ELECTRICAL 2181A-22 04/06/2023 DR DR
42 LAKESHOOAKVILLE, TITLE ELECTRICAL SPECIFIC DISCIPLINE PROJECT NUMBER DATE DRAWN BY DESIGNED BY CHECKED BY	ORE BLVD. ONTARIO SITE PLAN ATIONS ELECTRICAL 2181A-22 04/06/2023 DR DR MG
TITLE ELECTRICAL SPECIFIC DISCIPLINE PROJECT NUMBER DATE DRAWN BY DESIGNED BY CHECKED BY E-00	ORE BLVD. ONTARIO SITE PLAN ATIONS ELECTRICAL 2181A-22 04/06/2023 DR DR MG
TITLE TITLE ELECTRICAL SPECIFIC DISCIPLINE PROJECT NUMBER DATE DRAWN BY DESIGNED BY CHECKED BY E-000 REVISION NO.	ORE BLVD. ONTARIO SITE PLAN ATIONS ELECTRICAL 2181A-22 04/06/2023 DR DR MG 1



2 POLE CONCRETE BASE DETAIL E-002 SCALE: 1:150



1 SITE PLAN PHOTOMETRICS E-002 SCALE: 1:150



1	[†] .1	[†] 0.1	[†] 0.1	[†] 0.1	[†] 0.0	[†] 0.0	[†] 0.0	[†] 0.0	
1	⁺0.∂	[†] 0.3	[†] 0.2	[†] 0.2	[†] 0.1	[†] 0.0	[†] 0.0	[†] 0.0	
0	[†] 0.7	[†] 0.8	[†] 0.7	[†] 0.4	[†] 0.2	[†] 0.1	[†] .0	⁺ 0.0	
0	1.7	⁺ 2.3	1.5	ð.7	[†] 0.2	[†] 0.1	[†] .0	⁺ 0.0	
	3.8	[‡] 4.8	[‡] .1	1.0	[†] .3	[†] 0.1	[†] .0	⁺ 0.0	
ľ	[†] .0	t.0	[†] .0	[†] 0.7	[†] 0.2	[†] .0	[†] .0	⁺ 0.0	
		MH: 3	3.405 0.0	[†] 0.0	[†] 0.0	[†] 0.0	[†] .0	⁺ 0.0	
			0.0	[†] 0.0	[†] 0.0	[†] 0.0	[†] .0	⁺ 0.0	
			ō.o	[†] 0.0	[†] 0.0	[†] 0.0	[†] .0	⁺ 0.0	
			∎ ō.o	[†] 0.0	[†] 0.0	[†] 0.0	[†] .0	[†] 0.0	
			[†] .0	⁺ 0.0	[†] 0.0	⁺ 0.0	⁺ 0.0	⁺ 0.0	
			∎ ō.o	[†] 0.0	[†] 0.0	[†] 0.0	[†] 0.0	⁺ 0.0	
			•.0	[†] 0.0	⁺ 0.0	[†] 0.0	[†] 0.0	⁺ 0.0	
			[†] .0	⁺ 0.0	⁺ 0.0	⁺ 0.0	[†] .0	⁺ 0.0	
			[†] .0	⁺ 0.0	[†] 0.0	[†] 0.0	[†] .0	⁺ 0.0	
			[†] .0	[†] 0.0	[†] 0.0	[†] 0.0	[†] .0	⁺ 0.0	
			∛0.0	[†] 0.0	[†] 0.0	[†] 0.0	[†] .0	⁺ 0.0	Ш
		[*] 0.0	[†] 0.0	⁺ 0.0	[†] 0.0	[†] 0.0	⁺ 0.0	⁺ 0.0	Ŕ
			[†] .0	⁺ 0.0	[†] 0.0	[†] 0.0	[†] 0.0	⁺ 0.0	
		⁺ 0.0	[†] 0.0	⁺ 0.0	⁺ 0.0	⁺ 0.0	[†] .0	⁺ 0.0	
		⁺ 0.0	[†] 0.0	[†] 0.0	[†] 0.0	⁺ 0.0	ō.0	⁺ 0.0	2
		[†] 0.0	[†] 0.0	[†] 0.1	[†] 0.0	[†] 0.0	ø.o	⁺ 0.0	コ
		I.3	1.8	⁺ 0.3	[†] 0.1	[†] 0.0	[†] 0.0	⁺ 0.0	Ĭ
6	\$.7	* 8.4	: 3.5 2.1	*0.4	[†] 0.2	[†] 0.1	[†] 0.0	⁺ 0.0	ຈ
3	5.3	÷6.9	⁺ 2.6	[†] 0.5	[†] 0.2	[†] 0.1	[†] 0.0	[†] 0.0	Ξ
4	* 3.9	4.7	2.8	[†] 0.5	[†] 0.1	⁺ 0.0	[†] .0	[†] 0.0	<u>ບ</u>
6	3.0	⁺ 3.5	⁺ 2.4	[†] 0.6	[†] 0.1	[†] 0.0	t.0	[†] 0.0	
2	⁺ 2.5	⁺ 2.7	[‡] 2.0	[†] 0.6	[†] 0.1	±0.0	[†] .0	⁺ 0.0	
1	⁺ 2.3	[‡] 2.5	1.8	0.4	*0.1	[†] 0.0	t.0	[†] 0.0	
1	⁺ 2.2	[‡] 2.6	[‡] 2.0	[†] 0.3	[†] 0.1	[†] 0.1	[†] .0	[†] 0.0	
7	[‡] 2.4	* 3. 1	1.9 L1	[†] 0.2	[†] 0.1	[†] 0.1	ō.0	⁺ 0.0	
0	2.8	*3.2	мн: 5. 1.5	4 0.3	[†] 0.1	[†] 0.1	[†] .0	[†] 0.0	
4		*3.4	1.5	[†] 0.1	[†] 0.1	[†] 0.0	[†] .0	[†] 0.0	
3		1 .0	[†] 0.6	[†] 0.2	[†] 0.1	[†] 0.1	[†] .0	⁺ 0.0	
5	0.4	0.4	[†] 0.3	[†] .2	[†] 0.1	[†] 0.0	[†] 0.0	[†] 0.0	
0	[†] 0.0	⁺ 0.0	[†] 0.0	[†] .0	[†] 0.0	[†] 0.0	[†] 0.0	[†] .0	
0	[†] 0.0	⁺ 0.0	[†] 0.0	[†] .0	[‡] 0.0	⁺ 0.0	[†] 0.0	⁺ 0.0	

+									
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	A 04/18/2023 ISSUED FOR SPA								
	APPROVED BY MG								
	12 milering St								
	S M. GREENHILL								
	35 7.8								
	OF THEE OF DIS PE								
	FORMAT LAKESHORE LP								
	PROJECT								
	42 LAKESHORE BLVD.								
	OAKVILLE, ONTARIO								
	TITLE								
	ELECTRICAL SITE PLAN PHOTOMETRICS								
	DISCIPLINE ELECTRICAL								
	PROJECT NUMBER 2181A-22 DATE 04/06/2022								
	DRAWN BY DR								
	DRAWN BY DR DESIGNED BY DR								
	DRAWN BY DR DESIGNED BY DR CHECKED BY MG								
	DRAWN BY DR DESIGNED BY DR CHECKED BY MG E-002								

REVISION NO.

SCALE: 1:150