

LIGHTING SCHEDULE			
TAG	DESCRIPTION	CATALOGUE #	WATTS LUMENS
'A-BLC3'	POLE MOUNTED AREA LUMINAIRE WITH TYPE BLC3 DISTRIBUTION, SQUARE POLE MOUNTING, HOUSE SIDE SHIELD & TEXTURED BLACK FINISHING. @ 6.3 MH	LITHONIA LIGHTING DSX0 LED P3 30K 70CRI BLC3 MVOLT SPA DDBTXD OR EQUAL	69 6,137
'AA-T4M'	20'-0" HIGH, 4" STRAIGHT SQUARE ALUMINUM POLE, WITH LUMINAIRE ARM DRILLING PATTERN MATCHING SPECIFIED LUMINAIRE TYPE, POLE FINISHING TO MEET SELECTED LUMINAIRE COLOUR. MOUNT ON CAST IN PLACE CONCRETE STEEL REINFORCED BASE (325mm ABOVE GRADE).	DYNAPOLE: SSA4-20 OR EQUAL	
'AA-T4M'	25'-0" HIGH, 4" STRAIGHT SQUARE ALUMINUM POLE, WITH LUMINAIRE ARM DRILLING PATTERN MATCHING SPECIFIED LUMINAIRE TYPE, POLE FINISHING TO MEET SELECTED LUMINAIRE COLOUR. MOUNT ON CAST IN PLACE CONCRETE STEEL REINFORCED BASE (850mm ABOVE GRADE).	DYNAPOLE: SSA4-25 OR EQUAL	138 17,128
'B-BLC3'	POLE MOUNTED AREA LUMINAIRE WITH TYPE BLC3 DISTRIBUTION, SQUARE POLE MOUNTING, HOUSE SIDE SHIELD & TEXTURED BLACK FINISHING. @ 6.3 MH	LITHONIA LIGHTING DSX0 LED P1 30K 70CRI BLC3 MVOLT SPA DDBTXD OR EQUAL	33 3,343
'CY6'	6"Ø ARCHITECTURAL WALL LED CYLINDER (DOWN LIGHT ONLY), IP65 RATED, WITH TYPE VWD DISTRIBUTION & BLACK FINISHING.	LUMINIS SYRIOS SYP600-L120-VWD-30K-80CRI-BKT OR EQUAL	21 2,313
'DL6'	6"Ø IN CEILING RECESSED LED DOWNLIGHT, WITH 30" REFLECTOR, FOR WET LOCATIONS, IP65 RATED FROM BELOW AND ABOVE, BLACK FINISHING.	LUMINIS OCOLUS OC750-L15-F30-FLD-30K-80CRI-BKT OR EQUAL	13 1,436
'G'	DECORATIVE SIGN LIGHTS WALL MOUNT, FOR WET LOCATIONS AND CW INTEGRAL DRIVER FOR 120V, BLACK FINISHING.	HYDREL PLACER LED A P1 80CRI 30K 120V 450ES FLC CW STRAIGHT STEM OR EQUAL	11 591
'W2'	LED ARCHITECTURAL WALL SCONCE WITH T3M DISTRIBUTION TYPE, BLACK FINISHING.	WDGE2 LED P3 80CRI T3M 30K DDLBXD OR EQUAL	32 3,062
'W2B'	LED ARCHITECTURAL WALL SCONCE WITH T4M DISTRIBUTION TYPE, BLACK FINISHING.	WDGE2 LED P3 80CRI T4M 30K DDLBXD OR EQUAL	32 2997

**NOTES (RE: SITE LIGHTING):**

- THE SITE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE LOCATION OF EASEMENTS, UNDERGROUND UTILITIES AND DRAINAGE SYSTEMS PRIOR TO COMMENCING ANY UNDERGROUND INSTALLATIONS.
- THE INSTALLATION OF THE SITE LIGHTING SHALL COMPLY WITH THE LATEST EDITION OF ONTARIO ELECTRICAL SAFETY CODE. ARRANGE AND PAY ALL ELECTRICAL INSPECTION FEES AND PERMITS REQUIRED TO COMPLETE THIS PROJECT.
- ALL ELECTRICAL WORK, POLE BASES, LUMINAIRES, CONDUITS AND WIRING SHOW ON THESE DESIGN PLANS ARE TO BE INSTALLED BY ELECTRICAL CONTRACTOR.
- THE LIGHTING DESIGN IS BASED ON THE BASE MANUFACTURERS PRODUCTS. WHERE ALTERNATE MANUFACTURERS PRODUCTS ARE PROPOSED, COMPLETE PHOTOMETRIC CALCULATIONS THAT MEET OR EXCEED THE LIGHTING DESIGN CRITERIA MUST BE SUBMITTED FOR ENGINEERS REVIEW.
- ALTERNATE MANUFACTURERS PRODUCTS ARE NOT ACCEPTABLE WHEN POWER CONSUMPTION IS INCREASED SIGNIFICANTLY ENOUGH TO AFFECT THE PROPOSED ELECTRICAL DESIGN.
- ALL UNDERGROUND CONDUITS SHALL BE MINIMUM 41mm (1 1/2") TYPE DB2 PVC, DIRECT BURIED AT 600mm BFG.
- ALL UNDERGROUND WIRING SHALL BE RWU-90 COPPER INCLUDING THE INSULATED BONDING CONDUCTOR.
- WHERE SHOWN ON THE DESIGN PLANS PROVIDE A 20mmØ DIA X 3m LONG COPPER CLAD GROUND ROD ADJACENT TO POLE BASE AND CONNECT TO METAL POLE WITH BARE #8 AWG COPPER CONDUCTOR.
- CAST IN PLACE CONCRETE STEEL REINFORCED BASE FOR POLE MOUNTED LIGHTS SHALL BE CONSTRUCTED PER STRUCTURAL ENGINEER DESIGN.
- LIGHTING POLES BASES TO BE INSTALLED CLEAR OF ALL OTHER SERVICES. COORDINATE INSTALLATION WITH CIVIL CONTRACTOR AND HAVE SERVICES STAKED OUT.
- CONTRACTOR SHALL TAKE SPECIAL CARE TO ENSURE POLE CONCRETE BASES ARE POURED ABSOLUTELY VERTICAL AND LEVEL.

**PROJECT SCOPE**

NEW PRIVATE CULTURAL CLUB CROATIAN NATIONAL HOME

PREPARED FOR

'HRVATSKI NARODNI DOM'

ADDRESS

615 BARTON STREET  
STONEY CREEK  
ONTARIO

**DRAWING INDEX**

DRAWING NUMBER	DESCRIPTION
E.01	ELECTRICAL SITE PLAN AND INDEX
E.02	SITE ILLUMINATION PLAN (PHOTOMETRICS)
E.03	EXTERIORS LUMINAIRES CUT SHEETS
E.04	MAIN ELECTRICAL ROOM SERVICE LAYOUT & SLD
E.05	BASEMENT PLAN - POWER & SYSTEMS LAYOUT
E.06	BASEMENT PLAN - LIGHTING LAYOUT
E.07	GROUND FLOOR PLAN - POWER & SYSTEMS LAYOUT
E.08	GROUND FLOOR PLAN - LIGHTING LAYOUT
E.09	SECOND FLOOR PLAN - POWER & SYSTEMS LAYOUT
E.10	SECOND FLOOR PLAN - LIGHTING LAYOUT
E.11	ELECTRICAL GENERAL INSTALLATION DETAILS
E.12	PANEL SCHEDULES
E.13	ELECTRICAL SPECIFICATIONS

MOUNTING HEIGHT SCHEDULE (TO CENTER OF BOX)	
RECEPTACLE	400mm A.F.F.
TV OUTLET	400mm A.F.F.
TELEPHONE OUTLET	400mm A.F.F.
MULTI-PORT OUTLET	400mm A.F.F.
LIGHT SWITCH	1100mm A.F.F.
ELEVATOR CONTROL	1100mm A.F.F.
SECURITY PANEL	1100mm A.F.F.
POWER DOOR OPERATORS	1100mm A.F.F.
HAND DRYER	1100mm A.F.F.
THERMOSTAT	1200mm A.F.F.
FIRE ALARM PULL STATION	1200mm A.F.F.
FA WALL MTD. HORN/STROBE	2300mm A.F.F.

ABBREVIATIONS	
AFB	ABOVE FINISHED FLOOR LEVEL
AFG	ABOVE FINISHED GRADE LEVEL
BU	EMERGENCY BATTERY UNIT
C	CONDUIT
CO	CIRCUIT
CLG	CEILING
C/M	COMMUNICATION
C/W	COMPLETE WITH
FA	FIRE ALARM DEVICE
FUT	FUTURE EQUIPMENT
GND	GROUND
JB	ELECTRICAL JUNCTION BOX
NL	NOT IN CONTRACT
N/C	LIGHT CONNECTED TO NIGHT LIGHTING CIRCUIT
O/C	DEVICE INSTALLED OVER COUNTER HEIGHT
WP	DEVICE TO BE WEATHER PROOF

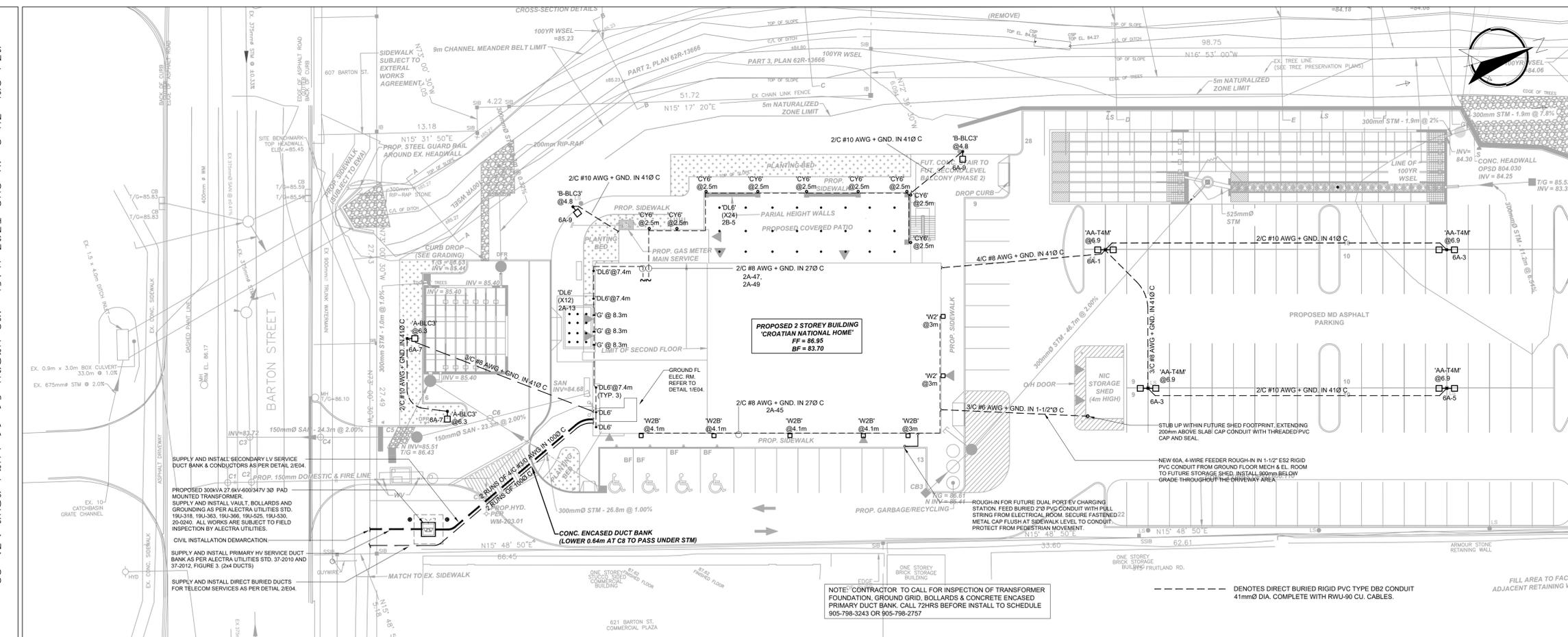
ELECTRICAL LEGEND	
	120V DUPLEX RECEPTACLE
	120V DUPLEX RECEPTACLE (GF)
	120V DUPLEX RECEPTACLE (WEATHERPROOF)
	120V DUPLEX RECEPT. (HOUSE KEEPING)
	VOICE AND DATA OUTLET (COMBO)
	CATV OUTLET (COAX)
	GLASS BREAK SENSOR
	DOOR CONTACT
	ELECTRIC STRIKE
	HEAT DETECTOR
	SMOKE DETECTOR
	WALL MOUNTED HORN STROBE
	CEILING MOUNTED HORN STROBE
	AUDIBLE DEVICE/SPEAKER
	ELECTRICAL SUPERVISED VALVE
	SPRINKLER FLOW SWITCH
	SPRINKLER PRESSURE SWITCH
	2X2' IN CEILING RECESSED LIGHT FIXTURE
	SUSPENDED LINEAR FIXTURE
	RECESSED DOWNLIGHT / PENDANT
	WALL MOUNTED LIGHT
	MAG LOCK
	POWER PACK

LIGHT POLE INFORMATION						
LUMINAIRE TAG	POLE CATALOGUE #	POLE SIZE	FIXTURE EPA (F2)	MAX EPA* (F2)	FIXTURE WEIGHT (lbs)	MAX WEIGHT* (lbs)
'A-BLC'	DYNAPOLE SSA4-20 OR EQUAL	4" SQUARE HEIGHT: 20'-0" WEIGHT: 77lbs	0.44	< 4	23	< 150
'AA-T4M'	DYNAPOLE SSA4-20 OR EQUAL	4" SQUARE HEIGHT: 25'-0" WEIGHT: 77lbs	0.88	< 4	46	< 150
'B-BLC'	DYNAPOLE SSA4-15 OR EQUAL	4" SQUARE HEIGHT: 15'-0" WEIGHT: 60lbs	0.44	< 7	23	< 150

\*MAX. LOAD IS GIVEN FOR 80 mph

**NOTES (RE: UNDERGROUND POWER SERVICE DUCT-BANKS):**

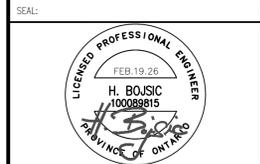
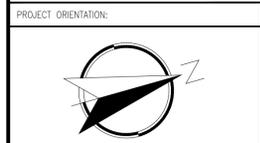
- SUPPLY AND INSTALL UNDERGROUND CONCRETE ENCASED DUCT BANKS AS INDICATED ON DESIGN PLANS. CONCRETE WORKS AS DETAILED HEREIN INCLUDING TRENCHING AND BACKFILL SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR.
- DUCT BANKS SHALL FOLLOW GENERAL ROUTE SHOWN ON THE DRAWINGS AND SHALL TERMINATE AT SPECIFIED LOCATIONS. EXACT LOCATION OF DUCT BANKS AND TERMINATING POINTS SHALL BE VERIFIED ON THE SITE WITH PROJECT MANAGER PRIOR TO COMMENCING OF WORK.
- THE DUCT BANKS SHALL CONSIST OF PARALLELED DUCTS ENCASED IN CONCRETE. THE NUMBER AND ARRANGEMENT OF DUCTS AS SHOWN ON THE DRAWINGS AND TO HORIZON UTILITIES STANDARDS.
- DUCTS SHALL BE CSA CERTIFIED TYPE 2 FOR CONCRETE ENCASEMENT AND TYPE DB2 FOR DIRECT BURIAL, WITH AN INTERNAL DIAMETER OF 100mm (4").
- BENDS SHALL GENERALLY BE AS FACTORY SUPPLIED OF APPROVED RADIUS. RADIUS OF SUCH BENDS SHALL NOT BE LESS THAN STANDARD FOR THE 100mm (4") DUCT 950mm (38").
- THE DUCT LENGTHS SHALL BE JOINED TOGETHER WITH AN APPROVED COUPLING TO PROVIDE A SOUND JOINT. ADJACENT COUPLINGS SHALL BE STAGGERED BY AT LEAST 190mm (8"). JOINT SOLVENT SHALL BE USED TO SEAL THE COUPLINGS.
- WHERE TRENCH IS DRY AND FIRM, NO BED WILL BE REQUIRED; WHERE TRENCH IS WET, SUPPLY AND INSTALL A 150mm (6") LAYER OF CRUSHED STONE IN THE BOTTOM. NO CONCRETE SHALL BE POURED IN TRENCHES CONTAINING WATER. PROVIDE DE-WATERING OF THE TRENCHES AND DUCTS WHEN REQUIRED.
- THE DUCTS SHALL BE LAID WITH A MINIMUM SPACING OF 190mm (8") CENTRE TO CENTRE, BOTH HORIZONTALLY AND VERTICALLY FOR 100mm (4") DUCTS. SPACERS SHALL BE INSTALLED ON 3.0m (10") CENTRES AND WITHIN 600mm (24") OF EACH COUPLING USED. SPACERS SHALL BE SPECIALLY FORMED OF PLASTIC. WOOD SPACERS SHALL NOT BE ALLOWED.
- NO FERROUS METAL SHALL BE INSTALLED BETWEEN PRIMARY CABLE DUCTS. RE-ENCORING SHALL BE INSTALLED ONLY NEAR THE BOTTOM OF DUCTS UNLESS SPECIFICALLY INDICATED OTHERWISE OR REQUIRED BY A LOCAL HYDRO AUTHORITY.
- WHERE THE DUCT BANK IS CONSTRUCTED OVER RECENT FILL OR UNSTABLE GROUND OR PASSES THROUGH WALLS OR FOOTINGS OR UNDER DRIVEWAYS OR PARKING LOTS, THE CONCRETE SHALL BE REINFORCED WITH 16mm (5/8") HI-BOND STEEL BARS LAID LONGITUDINALLY AT 150mm (6") LATERAL SPACING AND SET AT 2/3 THE DEPTH OF THE CONCRETE ENVELOPE BELOW THE BOTTOM ROW OF DUCTS.
- ALL REINFORCING RODS USED SHALL HAVE A MINIMUM LENGTH OF 1,800mm (6') INDIVIDUAL LENGTHS OF REINFORCING RODS ARE TO BE OVERLAPPED BY A MINIMUM OF 300mm (12").
- THE DUCTS SHALL BE ENCASED WITH MINIMUM 25 MPa CONCRETE WITH A MINIMUM COVER OF 75mm (3") ON ALL SIDES. THE CONCRETE SHALL HAVE A SLUMP OF 100mm (4") TO 150mm (6") AND BE OF PEA GRAVEL AGGREGATE.
- TERMINATION OF THE DUCTS SHALL FACILITATE THE EXTENSION OF THE DUCT BANKS BY OTHER CONTRACTORS. WHEN COMPLETED THE DUCTS SHALL BE CLEAN AND THE ENDS PLUGGED WITH DUCT PLUGS, ALSO TESTED FOR CLEARANCE BY PULLING A STEEL WIRE BRUSH AND 94m (3-1/4") MANDREL THROUGH THEIR COMPLETE LENGTH.
- DUCTS INSTALLED FOR HV CABLES, SECONDARY FEEDERS AND DUCTS LEFT AS SPARE SHALL HAVE ONE CONTINUOUS LENGTH OF 10mm (3/8") POLYETHYLENE ROPE INSTALLED IN EACH DUCT TO FACILITATE THE INSTALLATION OF THE CABLES IN THE DUCT. TERMINATION POINTS, GRADES AND ROUTE OF DUCT BANK SHALL BE CONFIRMED WITH LOCAL PUC.
- ASSUME RESPONSIBILITY TO HAVE PRIMARY SERVICE DUCTS INSPECTED BY ALECTRA (HORIZON UTILITIES) PRIOR TO POURING OF CONCRETE AND AGAIN PRIOR TO BACKFILLING. SECONDARY SERVICE DUCTS SHALL BE INSPECTED BY THE ESA INSPECTOR.
- SUPPLY AND INSTALL PLASTIC WARNING TAPE, HALFWAY BELOW FINISHED GRADE TO MARK THE LOCATION OF BURIED TELEPHONE, CABLE AND SECONDARY DUCTS.



NOTE: CONTRACTOR TO CALL FOR INSPECTION OF TRANSFORMER FOUNDATION, GROUND GRID, BOLLARDS & CONCRETE ENCASED PRIMARY DUCT BANK. CALL 72HRS BEFORE INSTALL TO SCHEDULE 905-798-3243 OR 905-798-2757

--- DENOTES DIRECT BURIED RIGID PVC TYPE DB2 CONDUIT 41mmØ DIA. COMPLETE WITH RWU-90 CU. CABLES.

**1 ELECTRICAL SITE PLAN**  
E.01 1:300



NOTES:  
ONLY LATEST APPROVED 'ISSUED FOR CONSTRUCTION' DRAWINGS TO BE USED. DRAWINGS ARE NOT TO BE SCALED.

NO.	REVISION / NOTE	DATE
5	ISSUED FOR TENDER	FEB.19.26
4	RE-ISSUED FOR PERMIT	DEC.5.25
3	RE-ISSUED FOR PERMIT	NOV.14.25
2	ISSUED FOR PERMIT	MAR.19.25
1	ISSUED FOR COORDINATION	FEB.18.25



PROJECT:  
**NEW CULTURAL CLUB CROATIAN NATIONAL HOME**

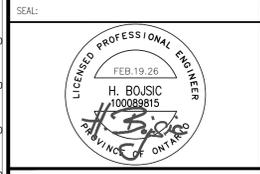
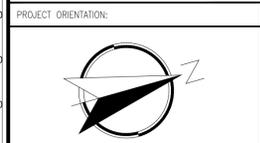
LOCATION:  
**615 BARTON STREET STONEY CREEK, ONTARIO**

DRAWING DESCRIPTION:  
**ELECTRICAL SITE PLAN AND INDEX**

CLIENT NUMBER:	TRINITYENG PROJECT NUMBER:
	M24-0355
DRAWN:	DESIGNED:
H.A.	H.B.
DATE:	APPROVED:
	H.B.

DATE: **MAY 9, 2024**

SCALE:	DRAWING NUMBER:
AS SHOWN	
DRAWING SIZE:	<b>E.01</b>
(610mmx914mm)	of 13



NOTES:  
ONLY LATEST APPROVED  
ISSUED FOR CONSTRUCTION DRAWINGS TO BE USED.  
DRAWINGS ARE NOT TO BE SCALED.

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5	ISSUED FOR TENDER	FEB.19.26
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1	ISSUED FOR COORDINATION	FEB.18.25



PROJECT:  
**NEW CULTURAL CLUB  
CROATIAN NATIONAL  
HOME**

LOCATION:  
**615 BARTON STREET  
STONEY CREEK,  
ONTARIO**

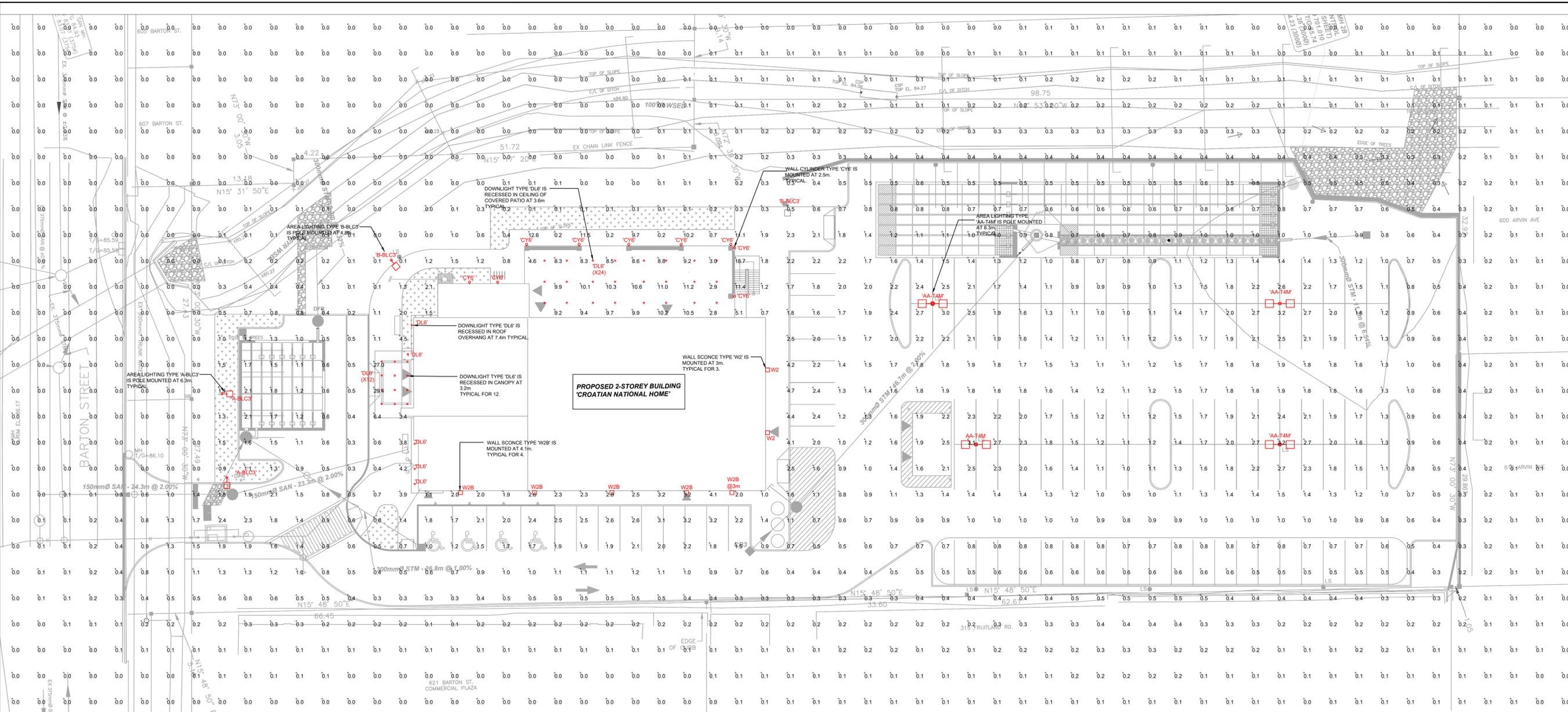
DRAWING DESCRIPTION:  
**SITE  
ILLUMINATION  
PLAN**

CLIENT NUMBER: TRINITYENG PROJECT NUMBER:  
M24-0355

DRAWN: H.A. DESIGNED: H.B. APPROVED: H.B.

DATE: MAY 9, 2024

SCALE: AS SHOWN DRAWING NUMBER:  
DRAWING SIZE: ARCH D (610mmx914mm) **E.02**  
of 13



PARKING FRONT	DRIVE	SIDEWALK FRONT	SIDEWALK BACK	PARKING SIDE	COVERED PATIO	PARKING BACK
Illuminance (Fc) Average = 1.65 Maximum = 2.1 Minimum = 1.2 Avg/Min Ratio = 1.38 Max/Min Ratio = 1.75	Illuminance (Fc) Average = 0.83 Maximum = 2.4 Minimum = 0.3 Avg/Min Ratio = 2.77 Max/Min Ratio = 8.00	Illuminance (Fc) Average = 3.94 Maximum = 29.4 Minimum = 0.1 Avg/Min Ratio = 39.40 Max/Min Ratio = 294.00	Illuminance (Fc) Average = 2.45 Maximum = 4.7 Minimum = 0.9 Avg/Min Ratio = 2.72 Max/Min Ratio = 5.22	Illuminance (Fc) Average = 2.09 Maximum = 3.2 Minimum = 1.0 Avg/Min Ratio = 2.09 Max/Min Ratio = 3.20	Illuminance (Fc) Average = 9.50 Maximum = 11.2 Minimum = 2.8 Avg/Min Ratio = 3.04 Max/Min Ratio = 4.00	Illuminance (Fc) Average = 1.29 Maximum = 3.2 Minimum = 0.4 Avg/Min Ratio = 3.23 Max/Min Ratio = 8.00

- NOTES:
- ALL CALCULATION UNITS ARE IN FOOT-CANDELS.
  - ALL EXTERIOR LIGHTING FIXTURES ARE 3000K, MIN. 80 CRI OR BETTER, MIN 70CRI OR BETTER FOR POLE LIGHTING ONLY.
  - POLE MOUNTED LIGHTS & WALL MOUNTED SCONCES / CYLINDERS ARE HAVING 0 LUX UP/LIGHT & ARE DARK SKY COMPLIANT.
  - LIGHT FIXTURE TYPE 'DL6' IS RECESSED MOUNTED IN THE CEILING OF THE BUILDING MAIN ENTRANCE AND COVERED PATIO AREA.
  - A 2.0m HIGH FENCE WAS ADDED ON THE PROPERTY LINE RUNNING THE PERIMETER OF THE ADJACENT RESIDENTIAL AND COMMERCIAL PROPERTIES.

- NOTES (RE: SITE LIGHTING):
- THE SITE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE LOCATION OF EASEMENTS, UNDERGROUND UTILITIES AND DRAINAGE SYSTEMS PRIOR TO COMMENCING ANY UNDERGROUND INSTALLATIONS.
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  - ALL UNDERGROUND CONDUITS SHALL BE MINIMUM 41mm (1 1/2") TYPE DB2 PVC, DIRECT BURIED AT 600mm BFG.
  - WHERE SHOWN ON THE DESIGN PLANS PROVIDE A 20mm DIA X 3m LONG COPPER CLAD GROUND ROD ADJACENT TO POLE BASE AND CONNECT TO METAL POLE WITH BARE #8 AWG COPPER CONDUCTOR.
  - CAST IN PLACE CONCRETE STEEL REINFORCED BASE FOR POLE MOUNTED LIGHTS SHALL BE CONSTRUCTED PER STRUCTURAL ENGINEER DESIGN.
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'AA-T4M'	POLE MOUNTED AREA LUMINAIRE WITH TYPE T4M DISTRIBUTION, BACK TO BACK SQUARE POLE MOUNTING, TEXTURED BLACK FINISHING. 20'-0" HIGH, 4" STRAIGHT SQUARE ALUMINUM POLE, WITH LUMINAIRE ARM DRILLING PATTERN MATCHING SPECIFIED LUMINAIRE TYPE. POLE FINISHING TO MEET SELECTED LUMINAIRE COLOUR, MOUNT ON CAST IN PLACE CONCRETE STEEL REINFORCED BASE (850mm ABOVE GRADE).	LITHONIA LIGHTING DSX0 LED P3 30K 70CRI T4M MVOLT SPA DDBTXD DYNAPOLE: SSA4-20 OR EQUAL	138	17,128
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'DL6'	6"Ø IN CEILING RECESSED LED DOWNLIGHT, WITH 30° REFLECTOR, FOR WET LOCATIONS, IP65 RATED FROM BELOW AND ABOVE, BLACK FINISHING.	LUMINIS OCULUS OCT50-L1L15-R30-30K-80CRI-BKT	13	1,436
'G'	DECORATIVE SIGN LIGHTS WALL MOUNT, FOR WET LOCATIONS AND C/W INTEGRAL DRIVER FOR 120V, BLACK FINISHING.	HCTREPLACER LED A P1 80CRI 30K 120V 45DEG FLC C/W STRAIGHT STEM	11	591
'W2'	LED ARCHITECTURAL WALL SCONCE WITH T3M DISTRIBUTION TYPE, BLACK FINISHING	WDGE2 LED P3 80CRI T3M 30K DDLBXL	32	3,300
'W2B'	LED ARCHITECTURAL WALL SCONCE WITH T4M DISTRIBUTION TYPE, BLACK FINISHING	WDGE2 LED P3 80CRI T3M 30K DDLBXL	32	3,370

**1 SITE ILLUMINATION PLAN**  
E.02 1:250



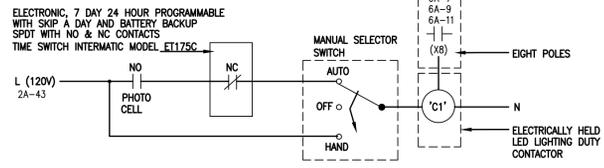
**EXTERIOR LIGHTING CONTACTORS SCHEDULE**

CONTACTOR	ITEMS CONTROLLED	CIRCUITS CONTROLLED	VOLTAGE	MINIMUM NUMBER OF SPARE	RATING	REMARKS
'C1'	SITE LIGHTING	AS SHOWN	347V	2	30A	PC-ON, TC-OFF
'C2'	BUILDING LIGHTS	AS SHOWN	120V	2	30A	PC-ON, TC-OFF

AUTOMATIC CONTROL OF EXTERIOR LIGHTS SHALL BE ACCOMPLISHED THROUGH USE OF CONTACTORS, PHOTO-ELECTRIC CONTROL AND PROGRAMMABLE TIME SWITCH.  
 IF THE PHOTOCELL IS NOT INDICATED ON THE DRAWINGS, OBTAIN THE LOCATION FROM THE CONSULTANT.  
 EACH CONTACTOR SHALL HAVE AN 'ON-OFF-AUTO' SWITCH TO PERMIT MANUAL OPERATION OF THE INDIVIDUAL CONTACTOR. CONTACTORS TO BE MINIMUM 30 AMP LED LIGHTING DUTY. TIME CLOCK TO BE DIGITAL.  
 CONTACTORS SHALL HAVE LAMACOID NAMEPLATES INDICATING THAT 120V CONTROL CIRCUIT IS SUPPLIED FROM A DIFFERENT SOURCE.

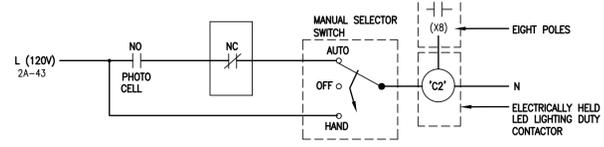
**PARKING LOT LIGHTING SYSTEM PROGRAMMING:**

(ON) BY PHOTOCELL  
 (OFF) BY TIME SWITCH AT 1:31AM  
 CONFIRM EXACT PROGRAMMING SEQUENCE W/ THE OWNER!



**BUILDING MOUNTED LIGHTING SYSTEM PROGRAMMING:**

(ON) BY PHOTOCELL  
 (OFF) BY TIME SWITCH AT 1:31AM  
 CONFIRM EXACT PROGRAMMING SEQUENCE W/ THE OWNER!

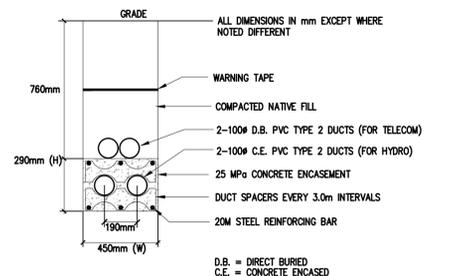


**4**  
**E.04** N.T.S. TYPICAL EXTERIOR LIGHTS CONTROL WIRING DIAGRAM

**LOADING ESTIMATION (kVA)**

LOAD DESCRIPTION	CONNECTED	DEMAND FACTOR (%)	DEMAND	
			WINTER	SUMMER
LIGHTING (EXTERIOR)	2.1	100	2.1	2.1
LIGHTING (INTERIOR)	19.2	100	19.2	19.2
KITCHEN LOADS	24.6	90	22.1	22.1
COOLERS & FREEZERS	13.8	90	12.4	12.4
HOT WATER HEATERS	4.5	90	4.1	4.1
ELEC. HEATERS	12.5	90	11.3	-
RTU UNITS	73.0	100	24.4	73.0
MAL-1 AND EF-11	12.0	100	10.6	12.0
ELEVATOR	3.0	90	2.7	2.7
PUMPS	4.9	90	4.4	4.4
MISC. LOADS	19.5	50	9.8	9.8
<b>TOTAL CONNECTED</b>	<b>189.1</b>			
<b>TOTAL DEMAND</b>			<b>123.1</b>	<b>161.8</b>

161.8 kVA IS 155.9 AMPS DEMAND AT 600V 3 PHASE SERVICE  
 SELECTED SERVICE SIZE IS 400A AT 600V 3 PHASE 4 WIRES

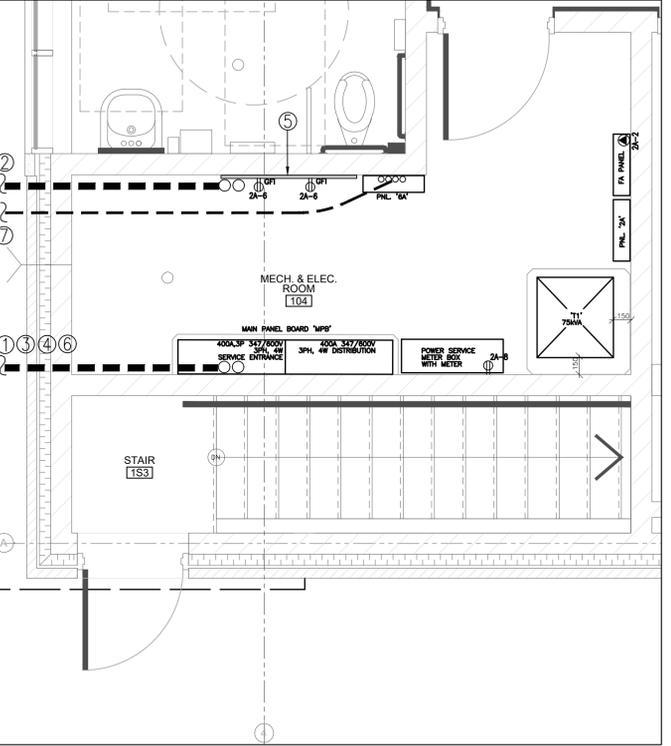


**2**  
**E.04** N.T.S. CONCRETE ENCASED SECONDARY SERVICE DUCT BANK

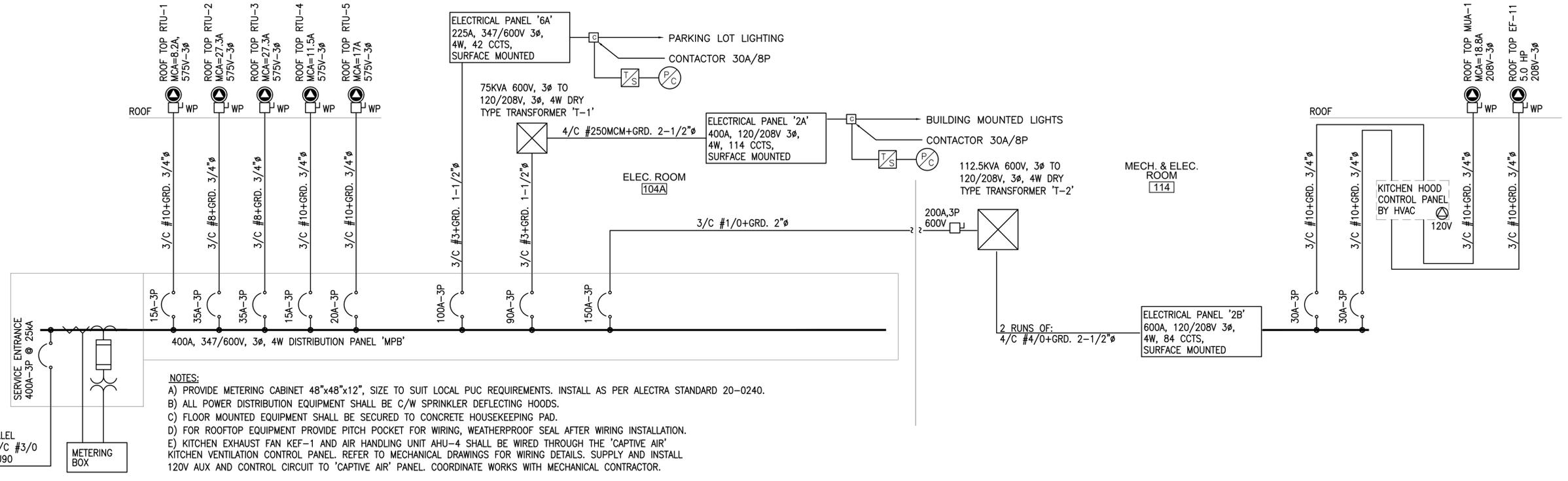
**DRAWING NOTES:**

- EXTEND NEW 2-100# CONCRETE ENCASED DUCT BANK INTO ELECTRICAL ROOM. FOR CONTINUATION REFER TO ELECTRICAL SITE PLAN. SUPPLY AND INSTALL LV SECONDARY FEEDERS: 2 PARALLEL RUNS OF 4/C #3/0 CU. RWU90 AND TERMINATE AT MAIN SERVICE PANEL BOARD 'MPB'.
- EXTEND NEW 2-100# DIRECT BURIED DUCTS FOR BUILDING TELECOMMUNICATION SERVICES INTO ELECTRICAL ROOM. FOR CONTINUATION REFER TO ELECTRICAL SITE PLAN.
- ALL UNDERGROUND INSTALLATION OF ELECTRICAL CUTS/CONDUITS SHALL COMPLY WITH THE LATEST ESA CODE RULE 12-012 (BULLETIN 12-2-15), WHICH SPECIFIES "CONTINUOUS RED PLASTIC MARKER TAPES WITH BLACK LETTERS IDENTIFYING THE POWER LINE UNDERGROUND INSTALLATION."
  - PLACED APPROXIMATELY HALF WAY BETWEEN THE INSTALLATION AND GRADE LEVEL.
  - INSTALLED COVERING THE WIDTH OF THE INSTALLATION, AND
  - WHERE MULTIPLE MARKER TAPES ARE REQUIRED TO COVER THE WIDTH OF THE INSTALATIN MARKER TAPES SHALL BE PERMITTED TO BE PLACED A MAXIMUM OF 600mm APART.
- ELECTRICAL CONTRACTOR SHALL KEEP CLEARANCE 600mm HORIZONTAL AND 300mm VERTICAL BETWEEN OTHER UNDERGROUND CIVIL SERVICES AND HYDRO DUCT BANK.
- MAIN TELECOM BACKBOARD: 4' X 8' X 3/4" FIRE RETARDANT PLYWOOD BOARD FASTENED TO WALL. SHALL BE C/W (2) 15A 120V GFCI POWER RECEPTACLES.
- OBTAIN AUTHORIZATION FOR POWER SERVICE ENERGIZATION FROM ESA INSPECTOR. COORDINATE SERVICE ENERGIZATION ACTIVITIES WITH ALECTRA UTILITIES FORCES.
- EXTEND NEW 4-41# DIRECT BURIED CONDUITS INTO ELECTRICAL ROOM FOR PARKING LOT LIGHTING. 2 CONDUITS SHALL BE OCCUPIED WITH CABLES AND 2 CONDUITS SHALL REMAIN AS SPARE.

- GENERAL NOTES:**
- INSTALL AS PER ALECTRA STANDARD 20-0240.
  - ALL SURFACE MOUNTED ELECTRICAL EQUIPMENT SHALL BE INSTALLED ON FIRE RETARDANT PLYWOOD BACKBOARD.
  - ALL FLOOR MOUNTED EQUIPMENT SHALL BE INSTALLED ON 100mm HIGH HOUSEKEEPING PAD.
  - PROVIDE FIRE RATED SEALANT AT ALL PENETRATIONS THRU FIRE RATED FLOORS, CEILINGS AND WALLS. SUBMIT SEALANT SPECIFICATION SHEET TO BUILDING ARCHITECT FOR REVIEW AND APPROVAL.
  - REVIEW LOCATION OF ALL ELECTRICAL EQUIPMENT WITH CONSTRUCTION SITE REPRESENTATIVE PRIOR TO ROUGH-IN. PREPARE & SUBMIT ELECTRICAL LAYOUT DRAWINGS TO CONSULTANT FOR REVIEW PRIOR TO RELEASE OF EQUIPMENT FOR MANUFACTURE.
  - PROVIDE SERVICE GROUNDING ELECTRODES EXTERNAL THE BUILDING AND BOND TO SERVICE ENTRANCE BREAKER (SWITCH). THE INSTALLATION MUST SUIT THE LATEST EDITION OF THE ONTARIO ELECTRICAL SAFETY CODE.
  - ALL BUILDING ELECTRICAL CABLES & CONDUITS MUST BE C/W BONDING CONDUCTOR.
  - COORDINATE WORKS WITH LOCAL PUC (ALECTRA).
  - PROVIDE METERING EQUIPMENT SHOP DRAWINGS TO LOCAL PUC METERING DEPARTMENT FOR REVIEW AND APPROVAL. REFER TO ALECTRA UTILITIES STANDARD 27-12 FOR TYPICAL SWITCHBOARD METERING 3-PHASE ARRANGEMENT.
  - ALL PENETRATIONS OF FIRE-RATED EXTERIOR AND INTERIOR WALLS FOR SECONDARY DUCTS SHALL MAINTAIN THE REQUIRED FIRE-RESISTANCE RATINGS OF THE WALL ASSEMBLY. PENETRATIONS SHALL BE SEALED USING ULC-LISTED FIRESTOP SYSTEMS COMPATIBLE WITH THE WALL CONSTRUCTION AND SERVICE TYPE.



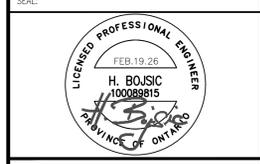
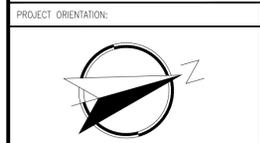
**1**  
**E.04** 1:30 GROUND FLOOR PLAN - MAIN ELECTRICAL ROOM



**NOTES:**

- PROVIDE METERING CABINET 48"x48"x12", SIZE TO SUIT LOCAL PUC REQUIREMENTS. INSTALL AS PER ALECTRA STANDARD 20-0240.
- ALL POWER DISTRIBUTION EQUIPMENT SHALL BE C/W SPRINKLER DEFLECTING HOODS.
- FLOOR MOUNTED EQUIPMENT SHALL BE SECURED TO CONCRETE HOUSEKEEPING PAD.
- FOR ROOFTOP EQUIPMENT PROVIDE PITCH POCKET FOR WIRING, WEATHERPROOF SEAL AFTER WIRING INSTALLATION.
- KITCHEN EXHAUST FAN KEF-1 AND AIR HANDLING UNIT AHU-4 SHALL BE WIRED THROUGH THE 'CAPTIVE AIR' KITCHEN VENTILATION CONTROL PANEL. REFER TO MECHANICAL DRAWINGS FOR WIRING DETAILS. SUPPLY AND INSTALL 120V AUX AND CONTROL CIRCUIT TO 'CAPTIVE AIR' PANEL. COORDINATE WORKS WITH MECHANICAL CONTRACTOR.

**3**  
**E.04** N.T.S. SINGLE LINE DIAGRAM



**NOTES:**  
 ONLY LATEST APPROVED  
 'ISSUED FOR CONSTRUCTION' DRAWINGS TO BE USED.  
 DRAWINGS ARE NOT TO BE SCALED.

NO.	REVISION / NOTE	DATE
5	ISSUED FOR TENDER	FEB.19.26
4	RE-ISSUED FOR PERMIT	DEC.5.25
3	RE-ISSUED FOR PERMIT	NOV.14.25
2	ISSUED FOR PERMIT	MAR.19.25
1	ISSUED FOR COORDINATION	FEB.18.25



**PROJECT:**  
 NEW CULTURAL CLUB  
 CROATIAN NATIONAL  
 HOME

**LOCATION:**  
 615 BARTON STREET  
 STONEY CREEK,  
 ONTARIO

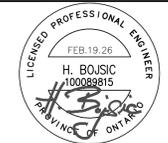
**DRAWING DESCRIPTION:**  
 MAIN ELECTRICAL  
 ROOM SERVICE  
 LAYOUT & SLD

CLIENT NUMBER:	TRINITYENG PROJECT NUMBER:	
-	M24-0355	
DRAWN:	DESIGNED:	APPROVED:
H.A.	H.B.	H.B.
DATE:	MAY 9, 2024	
SCALE:	DRAWING NUMBER:	
AS SHOWN	E.04	
DRAWING SIZE:	ARCH D (610mmx914mm)	
	of 13	

PROJECT ORIENTATION:



SEAL:



NOTES:  
ONLY LATEST APPROVED  
"ISSUED FOR CONSTRUCTION" DRAWINGS TO BE USED.  
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NO.	REVISION / NOTE	DATE
5	ISSUED FOR TENDER	FEB.19.26
4	RE-ISSUED FOR PERMIT	DEC.5.25
3	RE-ISSUED FOR PERMIT	NOV.14.25
2	ISSUED FOR PERMIT	MAR.19.25
1	ISSUED FOR COORDINATION	FEB.18.25

PREPARED FOR:



PROJECT:

**NEW CULTURAL CLUB  
CROATIAN NATIONAL  
HOME**

LOCATION:

**615 BARTON STREET  
STONEY CREEK,  
ONTARIO**

DRAWING DESCRIPTION:

**BASEMENT PLAN -  
POWER &  
SYSTEMS LAYOUT**

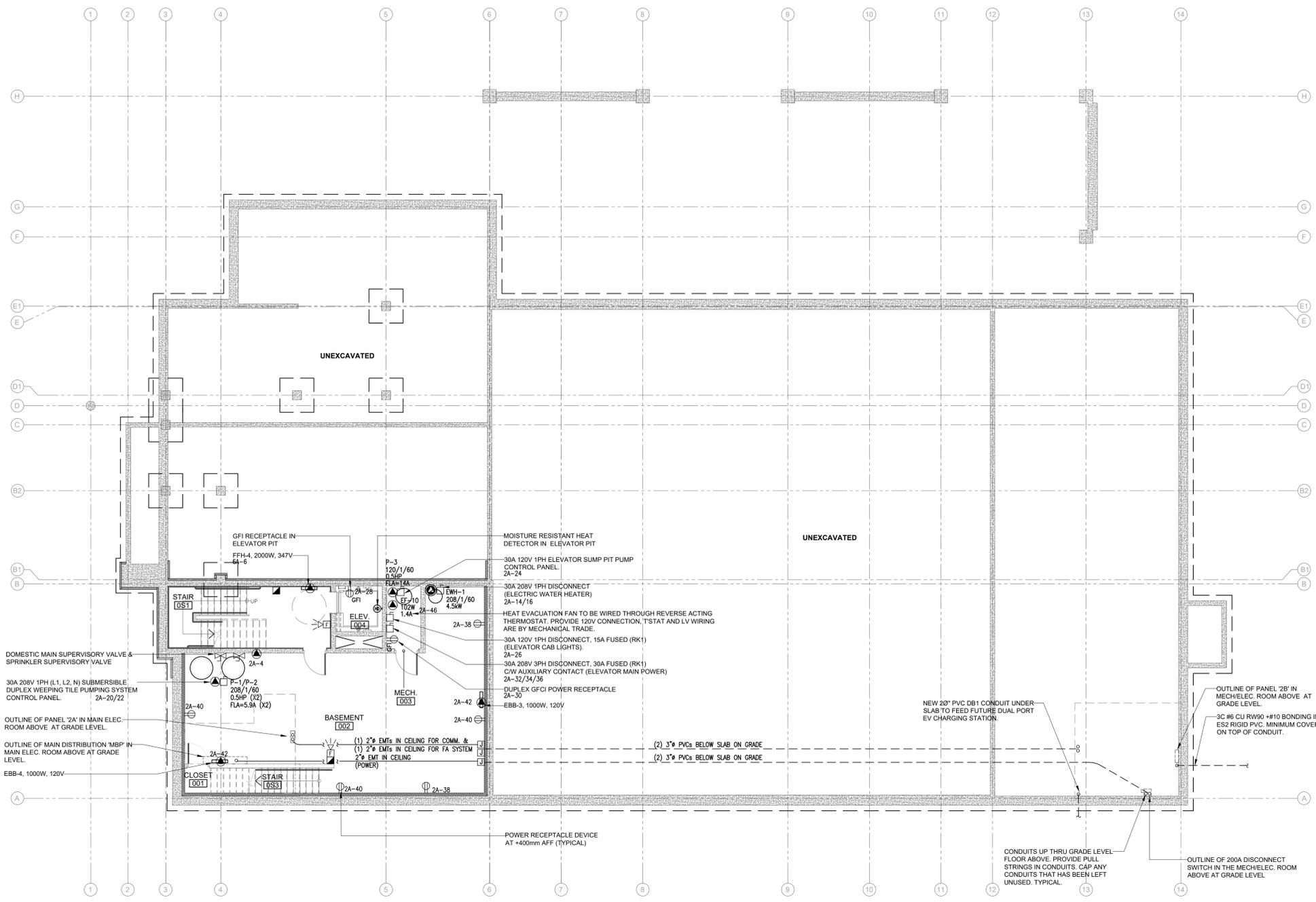
CLIENT NUMBER: TRINITYENG PROJECT NUMBER:  
M24-0355

DRAWN: H.A. DESIGNED: H.B. APPROVED: H.B.

DATE: MAY 11, 2024

SCALE: AS SHOWN DRAWING NUMBER:

DRAWING SIZE: ARCH D (610mmx914mm) **E.05**  
of 13



GENERAL NOTES:  
1. ALL ELECTRIC FAN HEATERS AND BASEBOARD HEATERS ARE TO BE SUPPLIED AND INSTALLED BY THIS CONTRACTOR. REFER TO ELECTRIC HEATER SCHEDULE ON HVAC DESIGN PLANS FOR THE EXACT MANUFACTURER AND MODEL SPECIFICATION.  
2. PROVIDE ELECTRICAL SUPERVISION OF HIGH LEVEL WATER ALARM LEVEL AT THE CONTROL CABINETS FOR WEEPING TILE PUMPS AND ELEVATOR SUMP PUMPS TO ALLOW FOR REMOTE ALARM MONITORING. PROVIDE CONNECTION TO OFF-SITE MONITORING/ BUILDING SECURITY SERVICES AGENCY.  
3. COORDINATE ROUGH-IN WORKS WITH MECHANICAL TRADE. CONFIRM THE EXACT LOCATION OF THE PLUMBING AND HVAC EQUIPMENT. INSTALL AND WIRE ALL THE LINE VOLTAGE RATED HVAC CONTROL EQUIPMENT (TSTAT, VVT, AUTO FLUSH LV TRANSFORMERS). LOW VOLTAGE RATED CONTROLS AND WIRING SHALL BE SUPPLIED AND INSTALLED BY MECHANICAL TRADE.

**1** BASEMENT PLAN - POWER & SYSTEMS LAYOUT  
E.05 1:100

PROJECT ORIENTATION:



SEAL:



NOTES:  
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'ISSUED FOR CONSTRUCTION' DRAWINGS TO BE USED.  
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5	ISSUED FOR TENDER	FEB.19.26
4	RE-ISSUED FOR PERMIT	DEC.5.25
3	RE-ISSUED FOR PERMIT	NOV.14.25
2	ISSUED FOR PERMIT	MAR.19.25
1	ISSUED FOR COORDINATION	FEB.18.25
NO.	REVISION / NOTE	DATE



PROJECT:  
**NEW CULTURAL CLUB  
CROATIAN NATIONAL  
HOME**

LOCATION:  
**615 BARTON STREET  
STONEY CREEK,  
ONTARIO**

DRAWING DESCRIPTION:  
**BASEMENT PLAN -  
LIGHTING LAYOUT**

CLIENT NUMBER: TRINITYENG PROJECT NUMBER:  
M24-0355

DRAWN: H.A. DESIGNED: H.B. APPROVED: H.B.

DATE: MAY 11, 2024

SCALE: AS SHOWN DRAWING NUMBER:  
ARCH D (610mmx914mm) **E.06**  
of 13

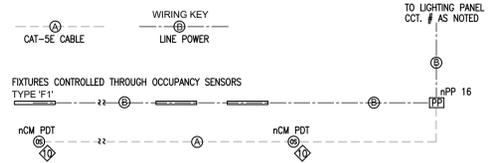
SCHEDULE OF BUILDING INTERIOR LIGHTING FIXTURES					
FIXTURE TYPE	DESCRIPTION & SPECIFICATION	LUMENS	WATTS	COLOUR TEMP.	DIMMING
1A-30	VOLUMETRIC RECESSED LED LIGHTING 2'x4'. LITHONIA LIGHTING CAT. #2BL14-RB-30L-ADP-LP835-WH	3,188	22.5W	3000K	N/A
1A-40	VOLUMETRIC RECESSED LED LIGHTING 2'x4'. LITHONIA LIGHTING CAT. #2BL14-RB-40L-ADP-LP835-WH	4,197	30.5W	3000K	0-10V 10% r/LIGHT INTERFACE
1B1	RECESSED 1'x4' LED TROFFER C/W/ACRYLIC LENS. LITHONIA LIGHTING CAT. #GTL-4-40L-A19-LP835	3,876	34.1W	3500K	N/A
1B4	RECESSED 2'x4' LED TROFFER C/W/ACRYLIC LENS. LITHONIA LIGHTING CAT. #ZGL-4-48L-A19-LP835	4,777	36W	3500K	N/A
1C8	6" ROUND RECESSED DOWNLIGHT. JUNO INDY CAT. #L6-17LM-30K-G4-80CRI-HW-WH	1,847	15.8W	3000K	0-10V 10% dim/LED
1C8	6" ROUND RECESSED DOWNLIGHT. JUNO INDY CAT. #L8-23LM-30K-G4-80CRI-HW-WH	2,486	23.5W	3000K	0-10V 10% dim/LED
1F1	48" LONG LED STRIP LIGHT WITH SYMMETRIC REFLECTOR. ACUITY BRANDS CAT. #ZL10-L48-SMR-30L-30K-80CRI-WH	3,966	30W	3000K	N/A
1F2	48" LONG LED STRIP LIGHT, FOR DAMP LOCATION. ACUITY BRANDS CAT. #CSS-L48-40L-40K-80CRI	4,000	35W	4000K	N/A
1F2-WG	THE SAME AS TYPE 'F2' COMPLETE WITH WIRE GUARD.	4,000	35W	4000K	N/A
1F3	48" LONG LED STRIP LIGHT, VAPOR TIGHT ACUITY BRANDS CAT. #CSVT-L48-5000LM-MVOLT-80CRI	5,000	42W	4000K	N/A
1V	COVE LIGHTING - MARKLINE 101 LLP 65FT MSL4 M100ADJUC1 80CRI 35K 600LMF 15X300EG MINI Z1	77LM/W	8W/FT	3500K	0-10V
1P	PENDANT LIGHTS - TBC WITH ARCHITECT	-	125W	3000K	LINE VOLTAGE (120V) DIMMER SWITCH
1Q	SMALLER PENDANT LIGHTS - TBC WITH ARCHITECT	-	50W	3000K	LINE VOLTAGE (120V) DIMMER SWITCH

SCHEDULE OF BUILDING EXTERIOR LIGHTING FIXTURES					
1C8	6" ROUND WALL CYLINDER DOWNLIGHT, FOR WET LOCATION. LUMINIS CAT. #SYP600-L1L20-VMD-BK1-30K-80CRI	2,249	21W	3000K	N/A
1C8	6" ROUND RECESSED DOWNLIGHT, FOR WET LOCATION. LUMINIS CAT. #OC750-L1L15-R30-BK1-30K-80CRI	1,436	13W	3000K	N/A
1V	DECORATIVE SIGN LIGHT, FOR WET LOCATION. HYDREL PLACER LED A P1 80CRI 30K 120V 450EG FLC C/W STRAIGHT STEM	591	11W	3000K	N/A
1W	LED ARCHITECTURAL WALL SCONCE WITH T3M DISTRIBUTION TYPE. WDG2 LED P3 80CRI T3M 30K D08T1XD.	3,300	32W	3000K	N/A
1W	LED ARCHITECTURAL WALL SCONCE WITH T4M DISTRIBUTION TYPE. WDG2 LED P3 80CRI T4M 30K D08T1XD.	3,370	32W	3000K	N/A

SCHEDULE OF EMERGENCY LIGHTING FIXTURES		
<b>BATTERY UNITS:</b>		
1BU-X	BATTERY UNIT SHALL BE LUMACELL CAT. # RC12S SERIES 12V - 144WH CAPACITY C/W TWO MR16 LED 12V-6W HEADS (OR EQUAL BY EMERGLITE, STANPRO OR BEGHELLI). UNITS SHALL BE RATED FOR 10 YEARS LIFE BATTERY. UNITS SHALL BE PLUG-IN TYPE WITH SEALED PURE LEAD BATTERY. THE CHARGER SHALL BE COMPLETELY AUTOMATIC, SOLID STATE TYPE BROWN OUT FEATURE, CAPABLE OF FULLY RECHARGING BATTERY IN 24 HOURS. TRANSFER DEVICE SHALL AUTOMATICALLY SWITCH LOAD ON AT POWER FAILURE AND OFF ON RETURN OF NORMAL POWER. UNITS SHALL HAVE LOW VOLTAGE DISCONNECT FEATURE. TO BE C/W WALL MOUNTING SHELF OR A BRACKET.	
<b>REMOTE HEADS:</b>		
1DEM1	SINGLE OR DOUBLE DECORATIVE REMOTE HEADS SHALL BE LUMACELL CAT. # DR SERIES 12V MR16 LED 6W. EMERGENCY LIGHTING REMOTE HEADS SHALL BE WHITE. HEADS SHALL BE FIELD TILTED AT 30°.	
1DEM2	SINGLE OR DOUBLE REMOTE HEADS SHALL BE LUMACELL CAT. # MOM SERIES 12V MR16 LED 4W. EMERGENCY LIGHTING REMOTE HEADS SHALL BE WHITE. HEADS SHALL BE FIELD TILTED AT 30°.	
<b>EXIT SIGN:</b>		
1XC	SINGLE OR DOUBLE FACE AS PER DRAWINGS, UNIVERSAL MOUNTED LED SIGN 'GREEN RUNNING MAN', EXTRUDED ALUMINUM COMBO UNIT, WHITE FINISH. TO BE C/W TWO MR16 12V-6W BUILT IN LED EMERGENCY HEADS & 12V 50W BATTERY UNIT WHERE SHOWN ON THE DRAWINGS. LUMACELL CAT. #AC SERIES OR EQUAL.	
1XC	FREEZER/FRIDGE LED EXIT SIGN RATED FOR COLD STORAGE APPLICATIONS. TO BE C/W NEMA 4X AND NSF RATING. TO INCLUDE THERMOSTATIC BATTERY HEATER. EQUAL TO SVX SERIES.	

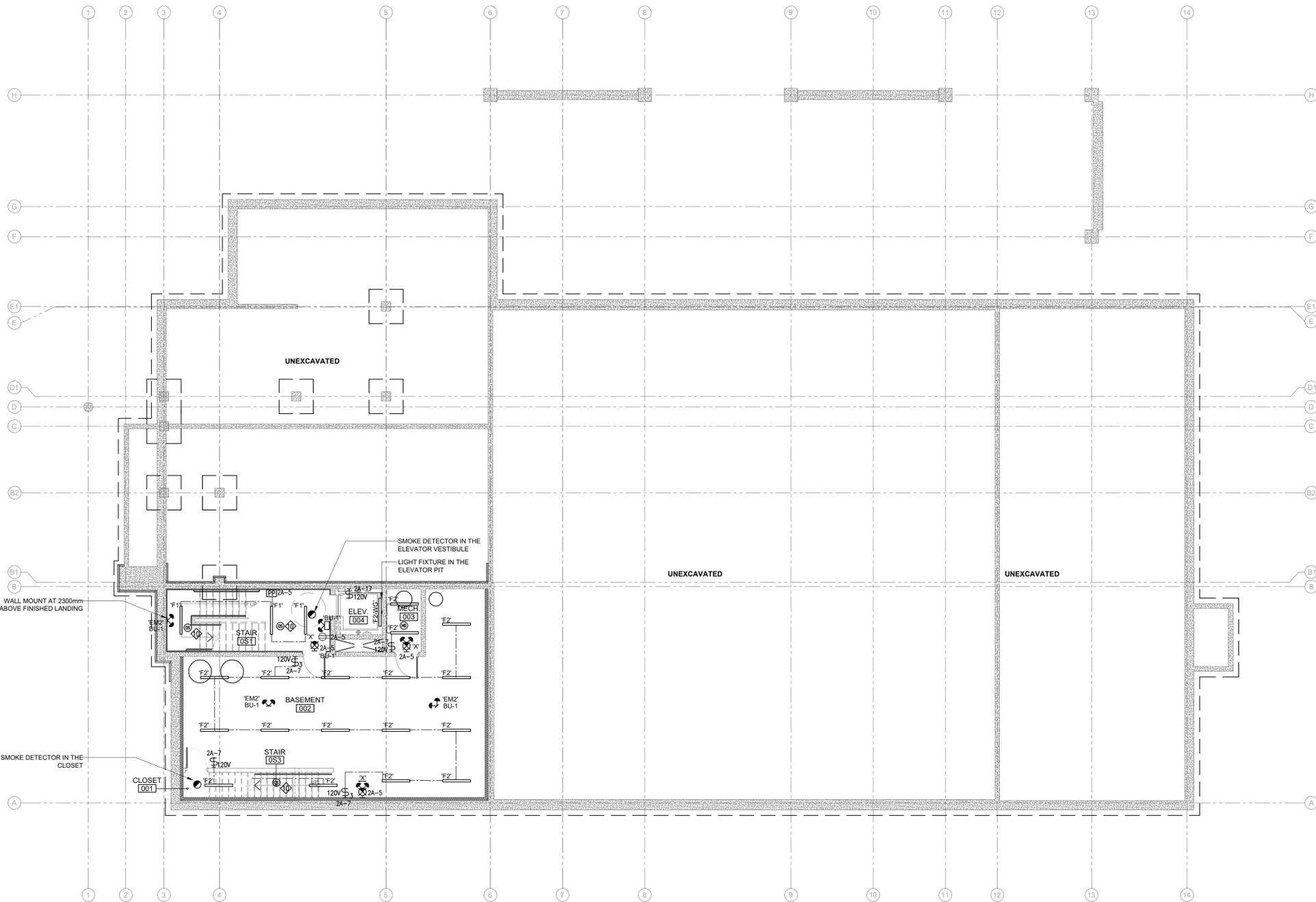
LIGHTING CONTROLS SPECIFICATIONS		
1OCM	nOCM PNT XX R/B	CEILING MOUNTED OCCUPANCY SENSOR, DUAL-TECHNOLOGY: PIR / MICROPHONICS SMALL MOTION 360°, OR LARGE MOTION 360° COMPLETE WITH (2) RJ-45 nLIGHT NETWORK PORTS.
1OCM	nOCM PNT XX R/B ADCX	CEILING MOUNTED OCCUPANCY SENSOR, DUAL-TECHNOLOGY: PIR / MICROPHONICS COMPLETE WITH AUTOMATIC DIMMING CONTROL (PHOTOCELL) AND (2) RJ-45 nLIGHT NETWORK PORTS.
1OPDMA	nOPDMA	LOW VOLTAGE, WALL MOUNTED SINGLE GANG LIGHT SWITCH: ON/OFF + RAISE/LOWER
1OPDMA	nOPDMA DX	LOW VOLTAGE, WALL MOUNTED SINGLE GANG LIGHT DIMMER SWITCH: ON/OFF + RAISE/LOWER
1OS	nWSX PNT LV NL	LOW VOLTAGE, WALL MOUNTED SINGLE GANG, DUAL TECHNOLOGY OCCUPANCY LIGHT SWITCH WITH INTEGRATED NIGH LIGHT. ON/OFF
1OS	nWSX PNT LV DX	LOW VOLTAGE, WALL MOUNTED SINGLE GANG, DUAL TECHNOLOGY OCCUPANCY & DIMMER SWITCH ON/OFF + RAISE/LOWER
1PP16	nPP16 EFP nPS 80 EZ	POWER AND RELAY PACK POWER PACK WITH 0-10V DIMMING OUTPUT

- PROVIDE ALL ROOMS WITH A LOW VOLTAGE NETWORK BASED LIGHTING CONTROL SYSTEM CONSISTING OF ONE OR MORE LIGHTING CONTROL COMPONENTS AS NOTED ON THE DESIGN PLANS. ROOM LIGHTING CONTROL SHALL BE DEDICATED TO THE SPACE CONTROLLED. EACH CONTROLLED SPACE SHALL BE EQUIPPED WITH AT LEAST ONE DEDICATED ROOM LIGHTING CONTROL SYSTEM.
- LOW VOLTAGE NETWORK WIRING SHALL BE PLENUM INSTALLATION RATED CAT SE CABLING. THE MANUFACTURER RECOMMENDATION IS TO USE ONLY NON-BOODED CAT5E CABLE.
- POWER AND RELAY PACK DEVICES SHALL BE INSTALLED ABOVE ACCESSIBLE CEILING AT MAIN ENTRY DOOR OF SPACES CONTROLLED. THESE DEVICES MAY NOT BE EXPLICITLY SHOWN ON THE LIGHTING PLAN DRAWINGS, BUT ARE REQUIRED FOR THE SYSTEM TO FUNCTION PROPERLY, AND SHALL BE PROVIDED AS PART OF THIS WORK.
- LIGHTING FIXTURES COMPLETED WITH BATTERY PACK AND ACT AS AN EMERGENCY LIGHTING SHALL BE DIMMED AND SWITCHED ON/OFF TOGETHER WITH THE GENERAL LIGHTS. THESE LIGHTS SHALL BECOME FULLY ILLUMINATED UPON THE LOSS OF THE NORMAL POWER SUPPLY OR THE ACTIVATION OF EMERGENCY LIGHTING TEST SWITCH. LOCATE EMERGENCY LIGHTING TEST SWITCH(ES) IN MAIN ELECTRICAL ROOM AND LABEL ACCORDINGLY.
- IN GENERAL, ROOMS AND SPACES WITH WINDOWS TO THE EXTERIOR SHALL UTILIZE DAYLIGHT HARVESTING SENSORS FOR FULL RANGE DIMMING DAYLIGHT HARVESTING. DAYLIGHT SENSORS SHALL BE CALIBRATED SO THE PROGRAMMABLE SET POINT VALUE IS 500 LUX (50FC) AT THE WORK SURFACE UNLESS OTHERWISE NOTED.
- REFER TO MANUFACTURER'S INSTALLATION INSTRUCTIONS PRIOR TO ROUGH IN.
- CONTRACTOR IS RESPONSIBLE FOR PROPER SENSITIVITY AND TIME DELAY SETTINGS FOR LIGHTING CONTROL PRODUCTS, FOLLOWING THE MANUFACTURER'S RECOMMENDED PLACEMENT AND FIELD VERIFICATION OF CIRCUITS WITH RESPECT TO POWER PACK PLACEMENT.
- CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFICATION OF REQUIRED NUMBER OF POWER PACKS:
  - ONE POWER PACK IS REQUIRED PER EACH CONTROLLED CIRCUIT.
  - EACH POWER PACK CAN SUPPLY UP TO 150mA. REFER TO INSTALLATION GUIDE FOR MAXIMUM NUMBER OF SENSORS CONNECTED TO POWER PACK.
  - IF MULTIPLE CIRCUITS ARE TO BE CONTROLLED BY A SINGLE SENSOR, AUXILIARY RELAYS MAY BE USED IN CONJUNCTION WITH THE POWER PACK.



NOTES:  
1. EXACT QUANTITIES OF THE LTG. FIXTURES AND LTG. CONTROL DEVICES PER LIGHTING LAYOUT

**2 TYP. LIGHTING CONTROL WIRING  
E.06 NTS AUTO ON/OFF**



**1 BASEMENT PLAN - LIGHTING LAYOUT  
E.06 1:100**

PROJECT ORIENTATION:



SEAL:



NOTES:  
ONLY LATEST APPROVED  
'ISSUED FOR CONSTRUCTION' DRAWINGS TO BE USED.  
DRAWINGS ARE NOT TO BE SCALED.

NO.	REVISION / NOTE	DATE
5	ISSUED FOR TENDER	FEB.19.26
4	RE-ISSUED FOR PERMIT	DEC.5.25
3	RE-ISSUED FOR PERMIT	NOV.14.25
2	ISSUED FOR PERMIT	MAR.19.25
1	ISSUED FOR COORDINATION	FEB.18.25



PROJECT:  
**NEW CULTURAL CLUB  
CROATIAN NATIONAL  
HOME**

LOCATION:  
**615 BARTON STREET  
STONEY CREEK,  
ONTARIO**

DRAWING DESCRIPTION:  
**GROUND FLOOR  
PLAN - POWER &  
SYSTEMS LAYOUT**

CLIENT NUMBER: TRINITYENG PROJECT NUMBER:  
M24-0355

DRAWN: H.A. DESIGNED: H.B. APPROVED: H.B.

DATE: MAY 11, 2024

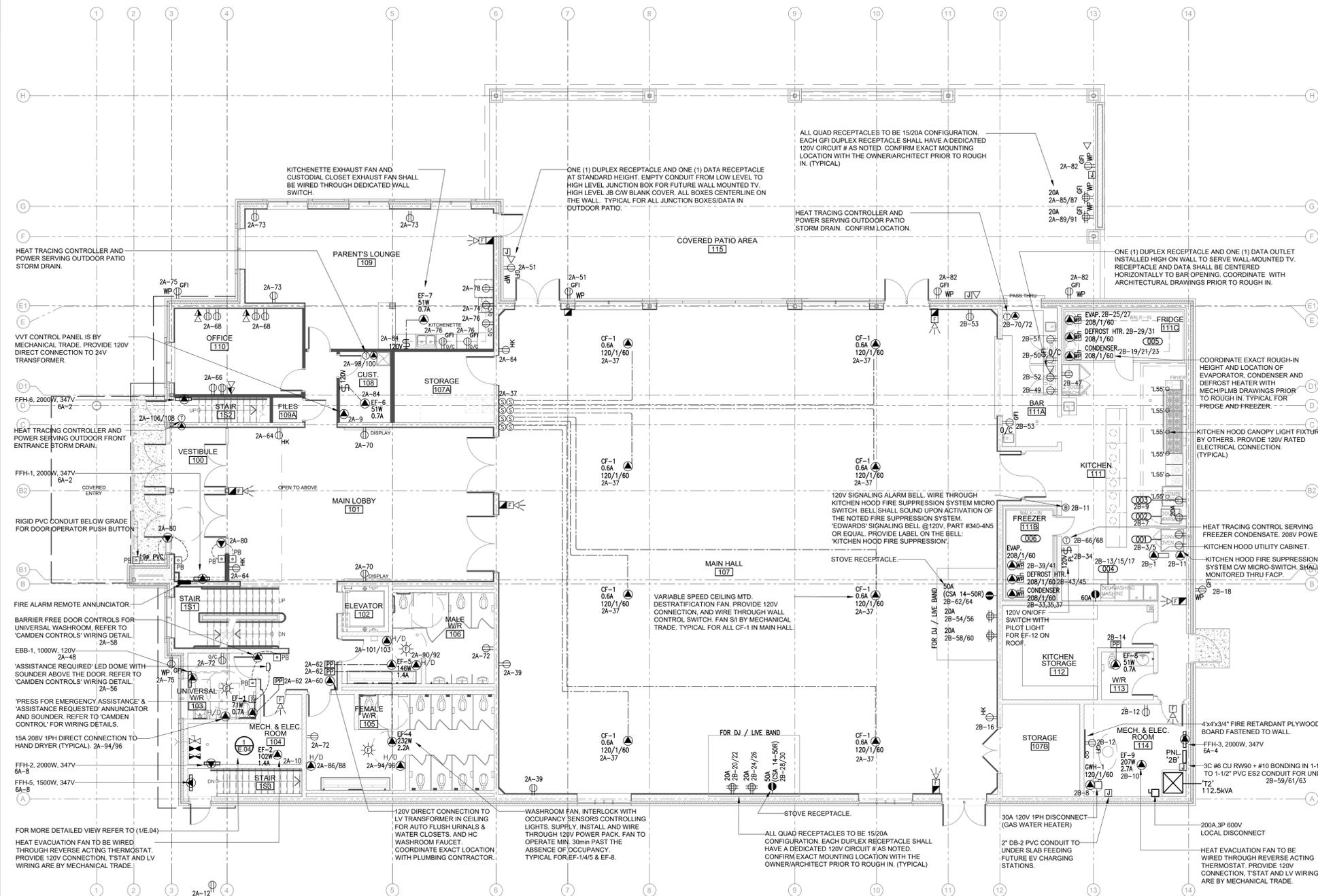
SCALE: AS SHOWN DRAWING NUMBER:  
E.07  
DRAWING SIZE:  
ARCH D  
(610mmx914mm)  
of 13

**KITCHEN EQUIPMENT SCHEDULE**

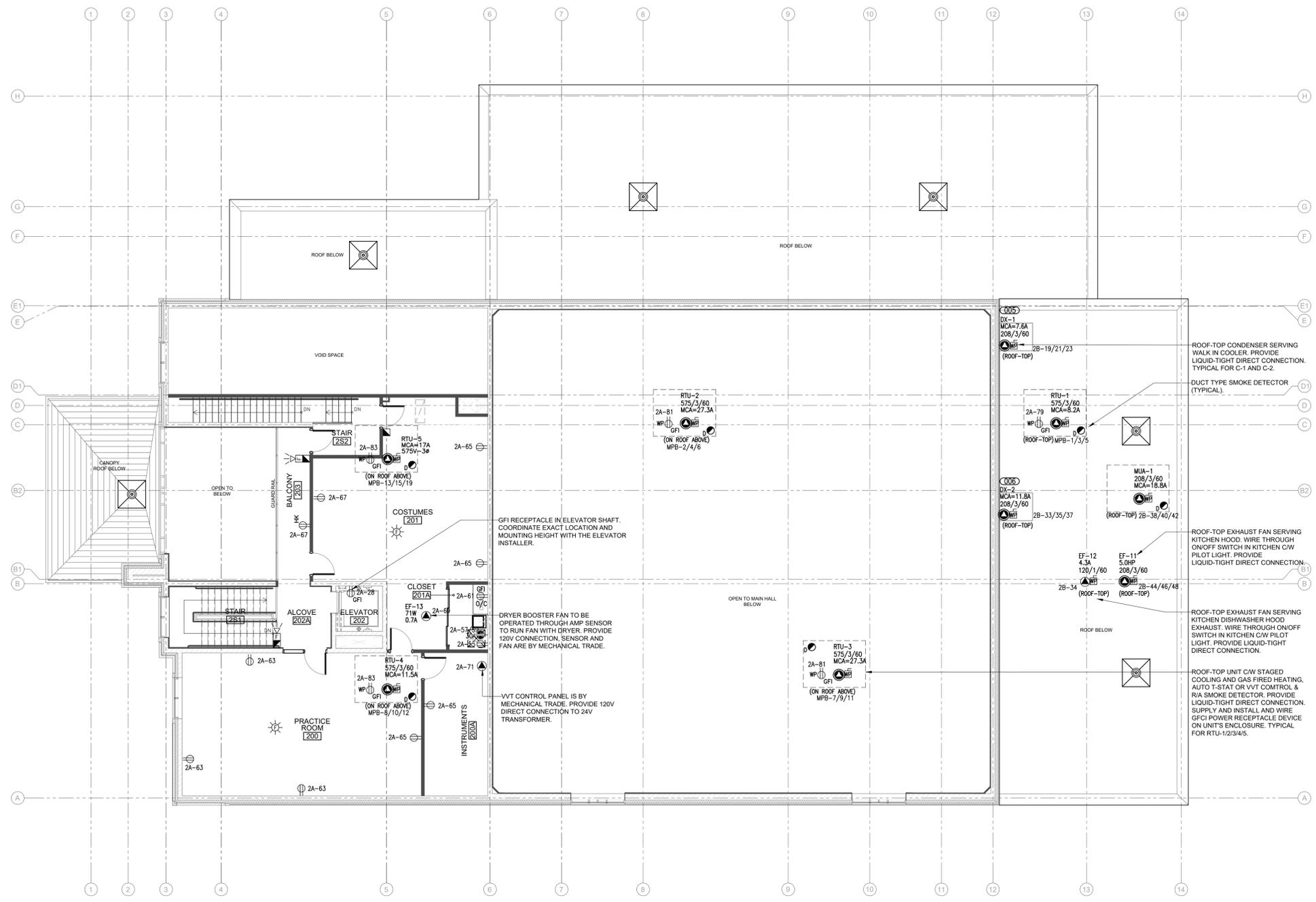
ITEM NO.	DESCRIPTION & SPECIFICATION	VOLTS	PH	AMP	WATTS	HP	ELECTRICAL CONNECTION
001	CONVECTION OVEN, GAS	120	1	(2) 9.8		(2) 3/4	(2) CSA 5-15P RECEPTACLES
002	MOBILE HEATED CABINET	120	1	16.7	2,000		CSA 5-20P RECEPTACLE
003	COMBI STEAMER, GAS	120	1		1,300		CSA 5-15P RECEPTACLE
004	DISHWASHING MACHINE	208	3	52.5	7.1kW BOOSTER 5.4kW HEATER	2.0HP WASH PUMP	CSA 15-60R 3P 4W RECEPTACLE. SUPPLY AND INSTALL 1200mm LONG CORD & RIGHT ANGLED PLUG.
005	BEER COOLER	CONDENSER 208 3 6.3 EVAPORATOR 208 1 0.6 DEFROST HEATERS 208 1 4.8				(2) 0.9HP	MCA=7.6A, MOP=15A 60W MCA=6.0, MOP=15A GFCI
006	WALK IN FREEZER	CONDENSER 208 3 9.6 EVAPORATOR 208 1 0.9 DEFROST HEATERS 208 1 9.9				(2) 2.0HP	MCA=11.8, MOP=20A 90W MCA=12.4, MOP=15A GFCI

**KITCHEN EQUIPMENT GENERAL WIRING REQUIREMENTS:**

- REQUEST FOR KITCHEN LAYOUT PLANS FROM THE KITCHEN CONSULTANT OR ARCHITECT & CONFIRM EXACT POWER CONNECTION REQUIREMENTS INCLUDING THE RECEPTACLE LOCATION & MOUNTING HEIGHT PRIOR TO START ROUGHING IN. REPORT TO CONSULTANT IMMEDIATELY UPON DISCOVERING ANY DISCREPANCIES WITH THESE PLANS. ALLOW TO CHANGE LOCATION OF RECEPTACLES AND DIRECT CONNECTIONS AT NO EXTRA COST PROVIDING DISTANCE OF WIRING DOES NOT EXCEED MORE THAN 4'-0".
- RUN A DEDICATED 100% RATED NEUTRAL CONDUCTOR FOR EACH CIRCUIT, COMMON NEUTRALS WILL NOT BE ACCEPTED.
- FIELD SUPPLY AND INSTALL A MINIMUM 6'-0" LONG FLEXIBLE CORD C/W MATING PLUG FOR THE SPECIFIED RECEPTACLE TO ALL KITCHEN EQUIPMENT THAT FIELD INSTALLATION OF THIS CABLE IS NECESSARY. VERIFY THAT EACH PIECE OF EQUIPMENT IS SERVICED THROUGH THE CORRECT VOLTAGE, AMPERAGE, AND NUMBER OF PHASES AS IDENTIFY ON ITS NAMEPLATE AND PROVIDE AS REQUIRED.
- ALL EXPOSED WIRING IN DISHWASHER AREA SHALL BE SEAL-TIGHT FLEX.
- SUPPLY AND INSTALL ALL WIRING AND INTERCONNECTIONS FOR A COMPLETE OPERATING SYSTEM AS PER WALK IN FREEZER / COOLER MANUFACTURER'S DIRECTIONS.
- SUPPLY ON EACH MOTOR DRIVEN APPLIANCE OR ELECTRICAL EATING UNIT, SUITABLE CONTROL SWITCH OR STARTER OF PROPER TYPE AND IN ACCORD WITH ONTARIO ELECTRICAL SAFETY CODE WHEREVER SUCH EQUIPMENT IS NOT SO BUILT, UNLESS OTHERWISE NOTED.
- PROVIDE INSTALLATION AND FIELD WIRING OF ALL MOTOR STARTERS AND DISCONNECT SWITCHED FOR HVAC EQUIPMENT. MOTOR STARTERS AND SWITCHED TO BE SUPPLIED BY MECHANICAL TRADE.
- ALL 3-PHASE ELECTRICAL EQUIPMENT SHALL BE CHECKED FOR CORRECT ROTATION OF MOTORS.







**1** SECOND FLOOR PLAN - POWER & SYSTEMS LAYOUT  
E.09 1:100

PROJECT ORIENTATION:



SEAL:



NOTES:  
ONLY LATEST APPROVED  
"ISSUED FOR CONSTRUCTION" DRAWINGS TO BE USED.  
DRAWINGS ARE NOT TO BE SCALED.

NO.	REVISION / NOTE	DATE
5	ISSUED FOR TENDER	FEB. 19.26
4	RE-ISSUED FOR PERMIT	DEC. 5.25
3	RE-ISSUED FOR PERMIT	NOV. 14.25
2	ISSUED FOR PERMIT	MAR. 19.25
1	ISSUED FOR COORDINATION	FEB. 18.25

PREPARED FOR:



PROJECT:  
**NEW CULTURAL CLUB  
CROATIAN NATIONAL  
HOME**

LOCATION:  
**615 BARTON STREET  
STONEY CREEK,  
ONTARIO**

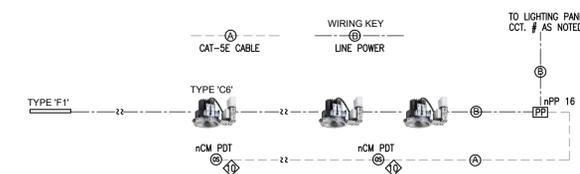
DRAWING DESCRIPTION:  
**SECOND FLOOR  
PLAN - POWER &  
SYSTEMS  
LAYOUT**

CLIENT NUMBER: - TRINITYENG PROJECT NUMBER: M24-0355

DRAWN: H.A. DESIGNED: H.B. APPROVED: H.B.

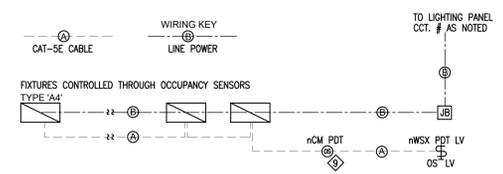
DATE: MAY 11, 2024

SCALE: AS SHOWN DRAWING NUMBER: E.09  
DRAWING SIZE: ARCH D (610mmx914mm) of 13



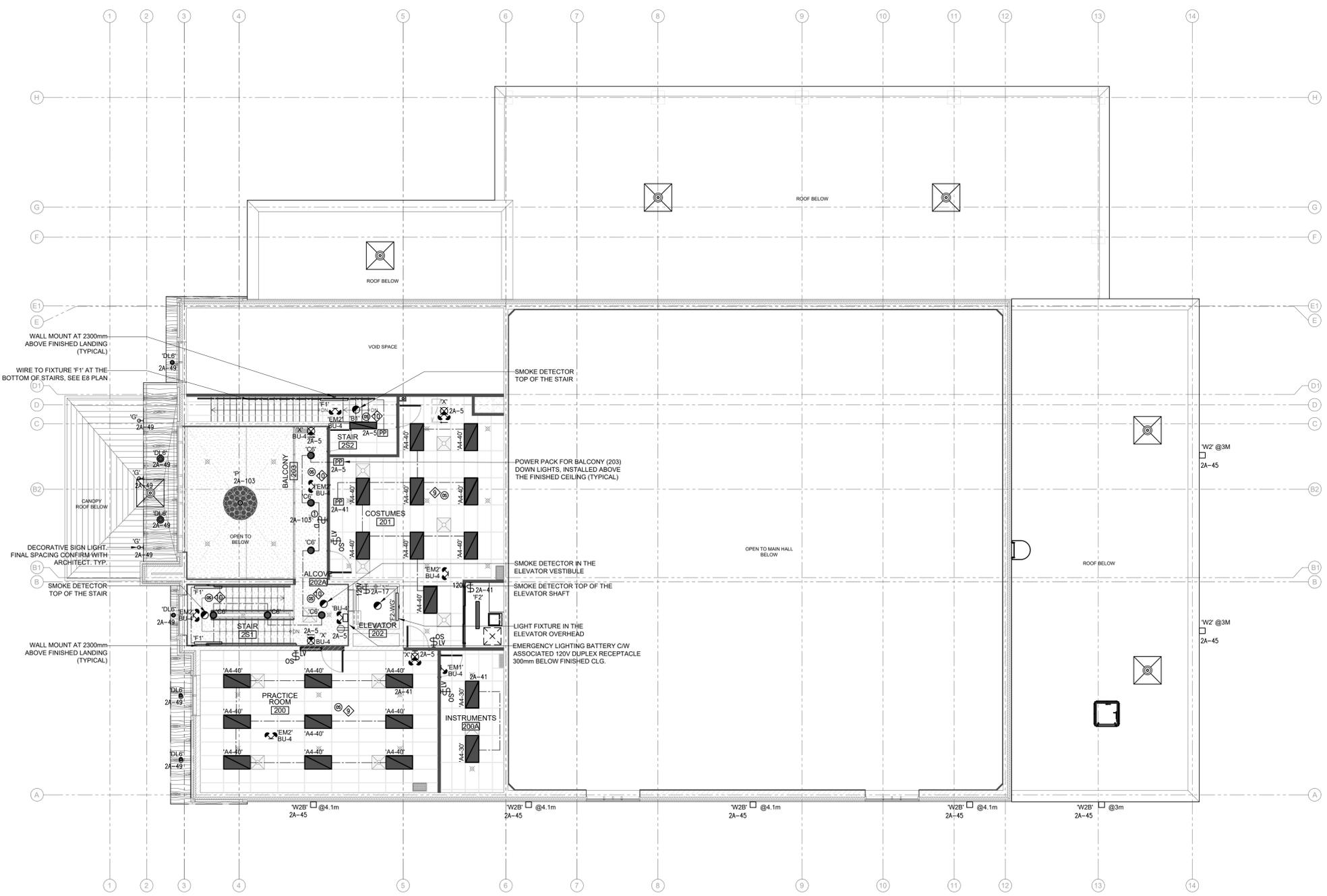
NOTES:  
 1. EXACT QUANTITIES OF THE LTG. FIXTURES AND LTG. CONTROL DEVICES PER LIGHTING LAYOUT

**2**  
**E.10** NTS  
**TYP. LIGHTING CONTROL WIRING  
 AUTO ON/OFF  
 BALCONY AND STAIRS**



NOTES:  
 1. EXACT QUANTITIES OF THE LTG. FIXTURES AND LTG. CONTROL DEVICES PER LIGHTING LAYOUT  
 2. TYPE 'A4' ORDERED WITH A-LT OPTION

**3**  
**E.10** NTS  
**TYP. LIGHTING CONTROL WIRING  
 AUTO ON/OFF  
 PRACTICE ROOM**



**1**  
**E.10** 1:100  
**SECOND FLOOR PLAN - LIGHTING LAYOUT**

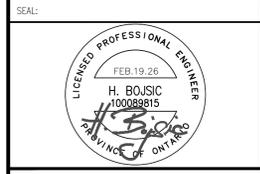
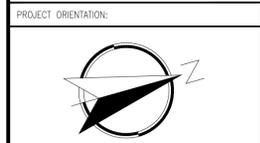
SCHEDULE OF BUILDING INTERIOR LIGHTING FIXTURES					
FIXTURE TYPE	DESCRIPTION & SPECIFICATION	LUMENS	WATTS	COLOUR TEMP.	DIMMING
'A4-30'	VOLUMETRIC RECESSED LED LIGHTING 2'x4', LITHONIA LIGHTING CAT. #ZBL14-RB-30L-ADP-LP835-WH	3,188	22.5W	3000K	N/A
'A4-40'	VOLUMETRIC RECESSED LED LIGHTING 2'x4', LITHONIA LIGHTING CAT. #ZBL14-RB-40L-ADP-LP835-WH	4,197	30.5W	3000K	0-10V 10% HUIGH INTERFACE
'B1'	RECESSED 1'x4' LED TROFFER C/W ACRYLIC LENS, LITHONIA LIGHTING CAT. #07L-4-40L-A19-LP835	3,876	34.1W	3500K	N/A
'B4'	RECESSED 2'x4' LED TROFFER C/W ACRYLIC LENS, LITHONIA LIGHTING CAT. #207L-4-48L-A19-LP835	4,777	36W	3500K	N/A
'C6'	6" ROUND RECESSED DOWNLIGHT, JUNO INDY CAT. #L6-17LM-30K-G4-80CRI-HW-WH	1,847	15.8W	3000K	0-10V 10% 456LED
'C8'	8" ROUND RECESSED DOWNLIGHT, JUNO INDY CAT. #L8-23LM-30K-G4-80CRI-HW-WH	2,486	23.5W	3000K	0-10V 10% 456LED
'F1'	48" LONG LED STRIP LIGHT WITH SYMMETRIC REFLECTOR, ACUTY BRANDS CAT. #ZL1D-L48-5MR-30L-30K-80CRI-WH	3,966	30W	3000K	N/A
'F2'	48" LONG LED STRIP LIGHT, FOR DAMP LOCATION, ACUTY BRANDS CAT. #ZSS-L48-40L-40K-80CRI	4,000	35W	4000K	N/A
'F2-WG'	THE SAME AS TYPE 'F2' COMPLETE WITH WIRE GUARD.	4,000	35W	4000K	N/A
'F3'	48" LONG LED STRIP LIGHT, VAPOR TIGHT, ACUTY BRANDS CAT. #ZSVI-L48-5000LM-MVOLT-80CRI	5,000	42W	4000K	N/A
'L'	COVE LIGHTING - MARKLINE 101 LLP 65FT MSL4 M100ADJCI 80CRI 35K 600LMF 15X30DEG MINI ZT	77LM/W	8W/FT	3500K	0-10V
'P'	PENDANT LIGHTS - TBC WITH ARCHITECT	-	125W	3000K	LINE VOLTAGE (120V) DIMMER SWITCH
'V'	SMALLER PENDANT LIGHTS - TBC WITH ARCHITECT	-	50W	3000K	LINE VOLTAGE (120V) DIMMER SWITCH

SCHEDULE OF BUILDING EXTERIOR LIGHTING FIXTURES					
'C16'	6" ROUND WALL CYLINDER DOWNLIGHT, FOR WET LOCATION, LUMINIS CAT. #S1P600-L1L20-WD-BKT-30K-80CRI	2,249	21W	3000K	N/A
'D16'	6" ROUND RECESSED DOWNLIGHT, FOR WET LOCATION, LUMINIS CAT. #OC750-L1L15-R30-BKT-30K-80CRI	1,436	13W	3000K	N/A
'V'	DECORATIVE SIGN LIGHT, FOR WET LOCATION, HYDREL PLACER LED A P1 80CRI 30K 120V 45DEG FLC C/W STRAIGHT STEM	591	11W	3000K	N/A
'W'	LED ARCHITECTURAL WALL SCONCE WITH T3M DISTRIBUTION TYPE, WIDEZ LED P3 80CRI T3M 30K DOBTKD.	3,300	32W	3000K	N/A
'W2'	LED ARCHITECTURAL WALL SCONCE WITH T4M DISTRIBUTION TYPE, WIDEZ LED P3 80CRI T4M 30K DOBTKD.	3,370	32W	3000K	N/A

SCHEDULE OF EMERGENCY LIGHTING FIXTURES	
<b>BATTERY UNITS:</b>	
'BU-1'	BATTERY UNIT SHALL BE LUMACELL CAT. # R0125 SERIES 12V - 144WH CAPACITY C/W TWO MR16 LED 12V-6W HEADS OR EQUAL BY EMERULITE, STAMPED OR BEGHELLI. UNITS SHALL BE RATED FOR 10 YEARS LIFE BATTERY. UNITS SHALL BE PLUG-IN TYPE WITH SEALED PURE LEAD BATTERY. THE CHARGER SHALL BE COMPLETELY AUTOMATIC, SOLID STATE TYPE BROWN OUT FEATURE, CAPABLE OF FULLY RECHARGING BATTERY IN 24 HOURS. TRANSFER DEVICE SHALL AUTOMATICALLY SWITCH LOAD ON AT POWER FAILURE AND OFF ON RETURN OF NORMAL POWER. UNITS SHALL HAVE LOW VOLTAGE DISCONNECT FEATURE. TO BE C/W WALL MOUNTING SHELF OR A BRACKET.
<b>REMOTE HEADS:</b>	
'DEM1'	SINGLE OR DOUBLE DECORATIVE REMOTE HEADS SHALL BE LUMACELL CAT. # DR SERIES 12V MR16 LED 6W. EMERGENCY LIGHTING REMOTE HEADS SHALL BE WHITE. HEADS SHALL BE FIELD TILTED AT 30°.
'DEM2'	SINGLE OR DOUBLE REMOTE HEADS SHALL BE LUMACELL CAT. # MQM SERIES 12V MR16 LED 4W. EMERGENCY LIGHTING REMOTE HEADS SHALL BE WHITE. HEADS SHALL BE FIELD TILTED AT 30°.
<b>EXIT SIGN:</b>	
'XS'	SINGLE OR DOUBLE FACE AS PER DRAWINGS, UNIVERSAL MOUNTED LED SIGN "GREEN RUNNING MAN", EXTRUDED ALUMINUM COMBO UNIT, WHITE FINISH. TO BE C/W TWO MR16 12V-6W BUILT IN LED EMERGENCY HEADS & 12V 50W BATTERY UNIT WHERE SHOWN ON THE DRAWINGS. LUMACELL CAT. #LAC SERIES OR EQUAL.
'XF'	FREEZER/FRIDGE LED EXIT SIGN RATED FOR COLD STORAGE APPLICATIONS. TO BE C/W NEMA 4X AND NSF RATING. TO INCLUDE THERMOSTATIC BATTERY HEATER. EQUAL TO SIXX SERIES.

LIGHTING CONTROLS SPECIFICATIONS		
DEVC	nLIGHT MODEL#	DESCRIPTION
'OS'	nCM PDT XX RB	CEILING MOUNTED OCCUPANCY SENSOR, DUAL-TECHNOLOGY: PIR / MICROPHONICS COMPLETE WITH (2) RJ-45 nLIGHT NETWORK PORTS.
'OS'	nCM PDT XX RB ADCX	CEILING MOUNTED OCCUPANCY SENSOR, DUAL-TECHNOLOGY: PIR / MICROPHONICS COMPLETE WITH AUTOMATIC DIMMING CONTROL (PHOTOCELL) AND (2) RJ-45 nLIGHT NETWORK PORTS.
'S'	nPDMA	LOW VOLTAGE, WALL MOUNTED SINGLE GANG LIGHT SWITCH: ON/OFF.
'S'	nPDMA DX	LOW VOLTAGE, WALL MOUNTED SINGLE GANG LIGHT DIMMER SWITCH: ON/OFF + RAISE/LOWER.
'OS'	nWSX PDT LV NL	LOW VOLTAGE, WALL MOUNTED SINGLE GANG TECHNOLOGY OCCUPANCY LIGHT SWITCH WITH INTEGRATED NIGHT LIGHT: ON/OFF.
'OS'	nWSX PDT LV DX	LOW VOLTAGE, WALL MOUNTED SINGLE GANG, DUAL TECHNOLOGY OCCUPANCY & DIMMER SWITCH ON/OFF + RAISE/LOWER.
'PP'	nPP16 ETP nS 80 EZ	POWER AND RELAY PACK POWER PACK WITH 0-10V DIMMING OUTPUT.

- PROVIDE ALL ROOMS WITH A LOW VOLTAGE NETWORK BASED LIGHTING CONTROL SYSTEM CONSISTING OF ONE OR MORE LIGHTING CONTROL COMPONENTS AS NOTED ON THE DESIGN PLANS. ROOM LIGHTING CONTROL SHALL BE DEDICATED TO THE SPACE CONTROLLED. EACH CONTROLLED SPACE SHALL BE EQUIPPED WITH AT LEAST ONE DEDICATED ROOM LIGHTING CONTROL SYSTEM.
- LOW VOLTAGE NETWORK WIRING SHALL BE PLENUM INSTALLATION RATED CAT 5E CABLING. THE MANUFACTURER RECOMMENDATION IS TO USE ONLY NON-BOOED CAT5E CABLE.
- POWER AND RELAY PACK DEVICES SHALL BE INSTALLED ABOVE ACCESSIBLE CEILING AT MAIN ENTRY DOOR OF SPACES CONTROLLED. THESE DEVICES MAY NOT BE EXPLICITLY SHOWN ON THE LIGHTING PLAN DRAWINGS, BUT ARE REQUIRED FOR THE SYSTEM TO FUNCTION PROPERLY, AND SHALL BE PROVIDED AS PART OF THIS WORK.
- LIGHTING FIXTURES COMPLETED WITH BATTERY PACK AND ACT AS AN EMERGENCY LIGHTING SHALL BE DIMMED AND SWITCHED ON/OFF TOGETHER WITH THE GENERAL LIGHTS. THESE LIGHTS SHALL BECOME FULLY ILLUMINATED UPON THE LOSS OF THE NORMAL POWER SUPPLY OR THE ACTIVATION OF EMERGENCY LIGHTING TEST SWITCH. LOCATE EMERGENCY LIGHTING TEST SWITCH(ES) IN MAIN ELECTRICAL ROOM AND LABEL ACCORDINGLY.
- IN GENERAL, ROOMS AND SPACES WITH WINDOWS TO THE EXTERIOR SHALL UTILIZE DAYLIGHT HARVESTING SENSORS FOR FULL RANGE DIMMING DAYLIGHT HARVESTING. DAYLIGHT SENSORS SHALL BE CALIBRATED SO THE PROGRAMMABLE SET POINT VALUE IS 500 LUX (50FC) AT THE WORK SURFACE UNLESS OTHERWISE NOTED.
- REFER TO MANUFACTURER'S INSTALLATION INSTRUCTIONS PRIOR TO ROUGH IN.
- CONTRACTOR IS RESPONSIBLE FOR PROPER SENSITIVITY AND TIME DELAY SETTINGS FOR LIGHTING CONTROL PRODUCTS, FOLLOWING THE MANUFACTURER'S RECOMMENDED PLACEMENT AND FIELD VERIFICATION OF CIRCUITS WITH RESPECT TO POWER PACK PLACEMENT.
- CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFICATION OF REQUIRED NUMBER OF POWER PACKS:
  - ONE POWER PACK IS REQUIRED PER EACH CONTROLLED CIRCUIT.
  - EACH POWER PACK CAN SUPPLY UP TO 1500mA. REFER TO INSTALLATION GUIDE FOR MAXIMUM NUMBER OF SENSORS CONNECTED TO POWER PACK.
  - IF MULTIPLE CIRCUITS ARE TO BE CONTROLLED BY A SINGLE SENSOR, AUXILIARY RELAYS MAY BE USED IN CONJUNCTION WITH THE POWER PACK.



NOTES:  
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NO.	REVISION / NOTE	DATE
5	ISSUED FOR TENDER	FEB. 19.26
4	RE-ISSUED FOR PERMIT	DEC. 5.25
3	RE-ISSUED FOR PERMIT	NOV. 14.25
2	ISSUED FOR PERMIT	MAR. 19.25
1	ISSUED FOR COORDINATION	FEB. 18.25



PROJECT:  
**NEW CULTURAL CLUB  
 CROATIAN NATIONAL  
 HOME**

LOCATION:  
**615 BARTON STREET  
 STONEY CREEK,  
 ONTARIO**

DRAWING DESCRIPTION:  
**SECOND FLOOR  
 PLAN - LIGHTING  
 LAYOUT**

CLIENT NUMBER:	TRINITYENG PROJECT NUMBER:
	<b>M24-0355</b>
DRAWN:	DESIGNED:
H.A.	H.B.
DATE:	APPROVED:
	H.B.
SCALE:	DRAWING NUMBER:
AS SHOWN	<b>E.10</b>
DRAWING SIZE: ARCH D (610mmx914mm)	of 13



CKT	CIRCUIT DESCRIPTION	TRIP (A)	POLES	LOAD [kVA]			POLES	TRIP (A)	CIRCUIT DESCRIPTION	CKT
				A	B	C				
1	PARKING LOT LIGHTS	20	1	0.14	2.00		1	15	FAN HEATER FFH-3 GR. FL. MECH. RM.	2
3	PARKING LOT LIGHTS	20	1		0.27	2.00	1	15	FAN HEATER FFH-4 BASEMENT	4
5	PARKING LOT LIGHTS	20	1			0.14	2.00	1	FAN HEATER FFH-2 & FFH-5	6
7	PARKING LOT LIGHTS	20	1	0.07	3.50		1	15	FAN HEATER FFH-6 STAIRS	8
9	PARKING LOT LIGHTS	20	1		0.14	2.00	1	15	SPARE	10
11	SPARE	20	1				1	15	SPARE	12
13										14
15										16
17										18
19										20
21										22
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67										68
69										70
71										72
73										74
75										76
77										78
79										80
81										82
83										84
<b>TOTAL LOAD (kVA)</b>				5.71	4.41	2.14				
<b>TOTAL AMPS</b>				16.5	12.7	6.2				

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL ID TAG: 6A
LIGHTING	0.8 kVA	100%	0.8 kVA	VOLTS: 347/600V 3 PHASE 4 WIRES
MOTOR		100%		AMPS: 225A
HEATERS	11.5 kW	100%	11.5 kVA	MAIN BREAKER: N/A
MISC.		50%		MAIN LUGS ONLY: YES
				MOUNT TYPE: SURFACE
				ENCLOSURE TYPE: SPRINKLER PROOF
<b>PANEL TOTALS</b>	<b>TOTAL CONNECTED</b>	<b>DEMAND FACTOR</b>	<b>TOTAL DEMAND</b>	<b>DEMAND CURRENT AT 600V 3 PHASE</b>
	<b>12.3 kVA</b>	<b>100%</b>	<b>12.3 kVA</b>	<b>11.8 A</b>

NOTES:

CKT	CIRCUIT DESCRIPTION	TRIP (A)	POLES	LOAD [kVA]			POLES	TRIP (A)	CIRCUIT DESCRIPTION	CKT
				A	B	C				
1	EMERGENCY LIGHTING	15	1	1.20	1.00		1	15	FIRE ALARM PANEL	2
3	EMERGENCY LIGHTING	15	1		1.20	0.10		1	SPRINKLER SYS. SUPERVISORY	4
5	EM LTS / LTS STAIRS & BALCONY	15	1			1.20	1.00	1	TELECOM SERVICE	6
7	BASEMENT LEVEL LIGHTS	15	1	0.70	0.50			1	ELEC. RM. RECEPTACLE	8
9	MAIN FL. VVT CONTROL PANEL	15	1		0.30	0.20		1	ELEC. & MECH. RM. EF-2	10
11	VESTIBULE/MAIN LOBBY LIGHTS	15	1			0.30	0.50	1	SPARE	12
13	LIGHTS IN ENTRANCE CANOPY	15	1	0.20	2.25			2	30 EWH-1 HOT WATER HEATER	14
15	OFFICE/LOUNGE RM. LIGHTS	15	1		0.50	2.25		2	30	16
17	ELEVATOR SHAFT LIGHTS	15	1			0.10	0.00	1	15 SPARE	18
19	MAIN HALL DOWNLIGHTS	15	1	0.50	1.60			2	20 P1/2 WEEPING TILE PUMPS	20
21	MAIN HALL DOWNLIGHTS	15	1		0.60	1.60		2	20	22
23	MAIN HALL DOWNLIGHTS	15	1			0.45	1.60	1	20 P3 ELEVATOR SUMP PUMP	24
25	MAIN HALL COVE LIGHTS	20	1	1.70	0.10			1	15 ELEVATOR CAB LIGHTS	26
27	MAIN HALL COVE LIGHTS	20	1		1.70	0.50		1	15 ELEVATOR PIT RECEPTACLE	28
29	MAIN HALL COVE LIGHTS	20	1			1.70	0.50	1	15 MECHANICAL ROOM RECEPTACLE	30
31	MAIN HALL PENDANTS	20	1	1.80	1.00			3	30 ELEVATOR MAIN POWER	32
33	MAIN HALL PENDANTS	20	1		1.80	1.00		3	30	34
35	MAIN HALL PENDANTS	20	1			1.80	1.00	3	30	36
37	MAIN HALL CEILING FANS	15	1	0.58	0.50			1	15 BASEMENT RECEPTACLES	38
39	MAIN HALL RECEPTACLES	15	1		0.50	0.50		1	15 BASEMENT RECEPTACLES	40
41	2ND FLOOR LIGHTS	15	1			0.60	2.00	1	25 BASEMENT EBB-3/4	42
43	EXTERIOR LIGHTING ALIX. CCT.	15	1	0.20	0.00			1	15 SPARE	44
45	WALLPACKS TYPE 'W2'	15	1		0.20	0.10		1	15 BASEMENT MECH RM. EF-10	46
47	WALL CYLINDERS TYPE 'CY'	15	1		0.20	1.00		1	15 WASHROOM HEATER EBB-1	48
49	TYPE 'DL6' AND TYPE 'G' LIGHTS	15	1	0.10	2.00			1	15 SPARE	50
51	PATIO AREA RECEPTACLES 'WEST'	15	1		0.70	0.00		1	15 SPARE	52
53	SPARE	15	1			0.00	0.50	1	15 SPARE	54
55	2ND FLOOR WASHER	15	1	0.80	0.10			1	15 ASSISTANCE FOR UNIV. WRM.	56
57	2ND FLOOR DRYER	30	2		1.50	0.30		1	15 DOOR OPENER UNIV. WRM.	58
59						1.50	0.50	1	15 URINALS, WATER CLOSETS, FAUCET	60
61	2ND FLOOR CLOSET RECEPTACLE	15	1	0.50	0.45			1	15 WRM EXHAUST FANS EF-1/4/5	62
63	2ND FLOOR RECEPTACLE	15	1		0.50	1.50		1	20 HOUSE KEEPING RECEPTACLES	64
65	2ND FLOOR RECEPTACLE	15	1			0.50	0.50	1	15 OFFICE RECEPTACLES	66
67	2ND FLOOR RECEPTACLE	15	1	0.50	0.80			1	15 OFFICE RECEPTACLES	68
69	DRYER BOOSTER FAN EF-13	15	1		0.10	1.00		1	15 MAIN LOBBY DISPLAY	70
71	2ND FL. VVT CONTROL PANEL	15	1			0.20	0.70	1	15 WASHROOM RECEPTACLES	72
73	LUNGE RECEPTACLES	15	1	0.50	0.50			1	15 KITCHENETTE MICROWAVE OVEN	74
75	OUTDOOR FRONT RCPT. GFI	15	1		0.50	0.90		1	15 KITCHENETTE RECEPTACLES	76
77	SPARE	15	1		0.00	0.50		1	15 KITCHENETTE FRIDGE	78
79	RTU-1 GFI RECEPTACLE	15	1	0.25	0.50			1	15 VESTIBULE DOOR OPENERS	80
81	RTU-2/3 GFI RECEPTACLE	15	1		0.50	0.70		1	15 PATIO AREA RECEPTACLES 'EAST'	82
83	RTU-4/5 GFI RECEPTACLE	15	1			0.50	0.10	1	15 EXHAUST FANS EF-7/8	84
85	RCPT. IN COVERED PATIO (DJ)	20	1	1.50	0.70			2	15 WASHROOM HANDDRYER	86
87	RCPT. IN COVERED PATIO (DJ)	20	1		1.50	0.70		2	15	88
89	RCPT. IN COVERED PATIO (DJ)	20	1			1.50	0.70	2	15 WASHROOM HANDDRYER	90
91	RCPT. IN COVERED PATIO (DJ)	20	1	1.50	0.70			2	15 WASHROOM HANDDRYER	92
93	WASHROOM HAND DRYER	20	2		0.70	0.70		2	15 WASHROOM HANDDRYER	94
95	SPARE	15	1			0.70	0.70	2	15	96
97	SPARE	15	1	1.50				2	20 HEAT TRACING STORM DRAIN - COVERED PATIO - CUSTODIAN	98
99	MAIN LOBBY PENDANT	15	1		0.70	1.50		2	15 WASHROOM HAND DRYER	100
101	MAIN LOBBY COVE LIGHTS	20	1			1.70	0.70	2	15	94
103	2ND FLOOR LOBBY PENDANT	15	1	0.60	0.70			2	15	96
105						1.50		2	20 HEAT TRACING STORM DRAIN FRONT CANOPY - STAIRS 152	106
107										108
109										110
111										112
113										114
<b>TOTAL LOAD (kVA)</b>				28.03	28.55	26.95				
<b>TOTAL AMPS</b>				233.6	237.9	224.6				

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL ID TAG: 2A
LIGHTING	21.8 kVA	100%	21.8 kVA	VOLTS: 120/208V 3 PHASE 4 WIRES
PUMPS	4.8 kVA	100%	4.8 kVA	AMPS: 400A
HANDDRYERS	11.2 kVA	70%	7.8 kVA	MAIN BREAKER: N/A
HOT WATER HEATER	4.5 kVA	90%	4.0 kVA	MAIN LUGS ONLY: YES
ELEVATOR MAIN POWER	3.0 kVA	100%	3.0 kVA	MOUNT TYPE: SURFACE
ELECTRIC HEATERS	3.0 kVA	90%	2.7 kVA	ENCLOSURE TYPE: SPRINKLER PROOF
MISC.	29.23 kVA	50%	14.6 kVA	
<b>PANEL TOTALS</b>	<b>TOTAL CONNECTED</b>	<b>DEMAND FACTOR</b>	<b>TOTAL DEMAND</b>	<b>DEMAND CURRENT AT 208V 3 PHASE</b>
	<b>77.53 kVA</b>	<b>81%</b>	<b>60.7kVA</b>	<b>168.7 A</b>

NOTES:

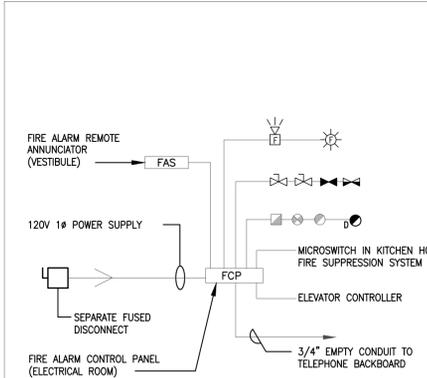
CKT	CIRCUIT DESCRIPTION	TRIP (A)	POLES	LOAD [kVA]			POLES	TRIP (A)	CIRCUIT DESCRIPTION	CKT	
				A	B	C					
1	KITCHEN HOOD UTILITY CABINET	15	1	1.40	0.50		1	15	EMERGENCY LIGHTING	2	
3	001 COMBI OVEN	15	1		1.20	0.70		1	15 KITCHEN LIGHTS	4	
5	001 COMBI OVEN	15	1			1.20	0.40	1	15 COVERED PATIO LIGHTS	6	
7	002 DOUBLE WARMER	20	1	2.00	0.20			1	15 GAS WATER HEATER GHW-1	8	
9	003 COMBI WARMER	15	1		1.20	0.20		1	15 M&E ROOM LIGHTS & FAN EF-9	10	
11	KIT. HOOD FIRE SURPRESS. AUX.	15	1			0.10	0.20	1	15 M&E ROOM RECEPTACLE	12	
13				6.30	0.30			1	15 STAFF WRM. LIGHTS & FAN EF-8	14	
15	004 DISHWASHER	60	3		6.30	0.50		1	15 HOUSEKEEPING RECEPTACLES	16	
17						6.30	0.50	1	15 EXTERIOR GFI RECEPTACLES	18	
19				0.80	1.50			1	20 RCPT. IN MAIN HALL (DJ)	20	
21	005 BEER COOLER CONDENSER	15	3		0.80	1.50		1	20 RCPT. IN MAIN HALL (DJ)	22	
23						0.80	1.50	1	20 RCPT. IN MAIN HALL (DJ)	24	
25	005 BEER COOLER EVAPORATOR	15	2	0.10	1.50			1	20 RCPT. IN MAIN HALL (DJ)	26	
27					0.10	3.00		2	40 RCPT. IN MAIN HALL (DJ)	28	
29	005 BEER COOLER DEFROST	15 GFI	2	0.60	1.40		0.60	3.00		30	
31					1.40	0.51		1	15 PROJECTOR IN MAIN HALL	32	
33	006 W/IN FREEZER CONDENSER	20	3		1.40	1.40		1	15 DISHWASHER HOOD EF-12	34	
35				1.40	1.80		1.40		1	15 SPARE	36
37	006 W/IN FREEZER EVAPORATOR	15	2		0.10	1.80		3	30 KITCHEN MAKE UP AIR UNIT MAU-1	38	
39						0.10	1.80			40	
41	006 W/IN FREEZER DEFROST	15 GFI	2	1.10	1.80			3	30 KITCHEN HOOD EXHAUST FAN EF-11	42	
43					1.10	1.80				44	
45	2 DOOR REACH IN FRIDGE	15	1			0.90	1.80			46	
47	BAR FRIDGE	15	1	0.50	0.50			1	15 BAR GFI RECEPTACLE	48	
49	BAR FRIDGE	15	1		0.50	0.30		1	15 BAR TV RECEPTACLE	50	
51	BAR FRIDGE	15	1			0.25	1.50	1	20 RCPT. IN MAIN HALL (DJ)	52	
53	BAR GFI RECETACLE	15	1	0.50	1.50			1	20 RCPT. IN MAIN HALL (DJ)	54	
55	CAPTIVE AIR CONTROL CCT.	15	1	0.50	1.50			1	20 RCPT. IN MAIN HALL (DJ)	56	
57	SPARE	15	1			1.50		1	20 RCPT. IN MAIN HALL (DJ)	58	
59							7.20	1.50	1	20 RCPT. IN MAIN HALL (DJ)	60
61	STORAGE SHED (FUTURE)	60	3	7.20	3.00			2	40 RCPT. IN MAIN HALL (DJ)	62	
63						7.20	3.00			64	
65	EMERGENCY LTG FRIDGE & FREEZ	15	1			0					

ELECTRICAL SPECIFICATIONS:

1. GENERAL REQUIREMENTS:
1.1 COMPLY WITH ALL DIVISION 1 GENERAL CONDITIONS.
1.2 OBTAIN ALL APPROVALS FROM PUBLIC AUTHORITIES HAVING JURISDICTION BEFORE COMMENCING WORK AND PAY ALL INSPECTION FEES AND ALL PERMITS...
1.3 DO NOT REDUCE THE STANDARDS ESTABLISHED BY THE DRAWINGS AND SPECIFICATIONS BY APPLYING ANY OF THE CODES REFERRED TO HEREIN.
1.4 PROVIDE ALL NECESSARY UNDERGROUND RACEWAYS AS REQUIRED BY HYDRO PUC IN ACCORDANCE WITH THEIR SPECIFICATIONS...
1.5 PROVIDE PROOF OF PUBLIC LIABILITY AND PROPERTY DAMAGE INSURANCE COVERAGE AND AMOUNT. SUBMIT WITH TENDER.
2. DRAWINGS:
2.1 DRAWINGS AND SPECIFICATION INDICATE THE EXTEND OF DESIGN ONLY. THESE DRAWINGS ARE DIAGRAMMATIC ONLY AND DO NOT SHOW ALL CONSTRUCTION DETAILS...
2.2 ANY DISCREPANCIES BETWEEN DRAWINGS AND/OR SPECIFICATIONS MUST BE REFERRED TO THE CONSULTANT BEFORE ANY AFFECTED WORK IS COMMENCED.
2.3 PREPARE ANY LARGER SCALE WORKING DRAWINGS WHICH MAY BE REQUIRED BY THE EXAMINING AUTHORITIES...
2.4 ELECTRICAL DRAWINGS SHALL NOT BE USED FOR EQUIPMENT LAYOUT. DO NOT SCALE ELECTRICAL DRAWINGS; OBTAIN ALL DIMENSIONS FROM ARCHITECTURAL DISCIPLINE.
3. ENSURE THAT ALL ELECTRICAL EQUIPMENT SUPPLIED BY OTHER TRADES IS SUITABLE FOR THE RESPECTIVE VOLTAGE, CONFIRM POWER REQUIREMENTS OF ALL OWNER SUPPLIED EQUIPMENT.
4. ALL CUTTING AND PATCHING REQUIRED FOR THE WORK OF THIS DIVISION SHALL BE CARRIED OUT BY THIS DIVISION. NO CHASING BLOCK WORK WILL BE ALLOWED...
5. COMPLY WITH MANUFACTURE INSTALLATION INSTRUCTIONS FOR EQUIPMENT AND MATERIAL SUPPLIED...
6. ELECTRICAL EQUIPMENT, FIXTURES, AND OUTLETS SHALL BE COORDINATED WITH EQUIPMENT, FURNITURE, WORK STATIONS AND ARCHITECTURAL REFLECTED CEILING PLANS AND ELEVATIONS...
7. BE RESPONSIBLE AND PAY FOR ANY DAMAGE TO THE BUILDING INCURRED BY WORK OF THIS DIVISION.
8. SUBMIT SHOP DRAWINGS FOR REVIEW AND RECORDS.
9. BASIC METALS AND MATERIALS:
9.1 ALL MATERIALS USED SHALL BE SUITABLE FOR THEIR APPLICATION...
9.2 ALL MATERIALS USED THROUGHOUT SHALL BE NEW, OF BEST QUALITY C.S.A. APPROVED AND OF ONE MANUFACTURE...
9.3 PROVIDE ALL CONDUIT, WRING, BOXES, SWITCHES, OUTLETS, DEVICES, ETC., AS REQUIRED...
9.4 ELECTRICAL BOXES FOR SUPPORT OF EXTERIOR OR WALL LIGHT FIXTURES SHALL BE WATER TYPE, COMPLETE WITH POINT SUPPORT...
9.5 ALL LIGHT FIXTURES SHALL BE INDEPENDENTLY SUPPORTED FROM FINISHED DRY WALL...
9.6 ANY LUMINAIRE INSTALLED IN SUSPENDED CEILING SHALL BE WIRED BY A FLEXIBLE CORD NOT EXCEEDING 3m IN LENGTH.
9.7 PROVIDE ALL HANGERS, INSERTS, AND SUPPORTS OF APPROVED TYPES REQUIRED FOR THE WORK OF THIS DIVISION...
9.8 ALL SAFETY SWITCHES SHALL BE 'HEAVY DUTY' RATED.
10. CONDUITS:
10.1 ALL CONDUIT SHALL BE RIGID STEEL THICK WALLED OR EMT THINWALL WITH STEEL SET SCREW COUPLINGS AND CONNECTORS...
10.2 CONNECTORS TO ELECTRICAL PANELS, FIRE ALARM PANEL, SWITCHBOARDS, ETC., HEAD-MAIN EQUIPMENT SHALL BE COMPLETE WITH RAIN TIGHT CONNECTORS...
10.3 CONDUITS SHALL NOT BE SUSPENDED FROM THE ROOF DECK...
11. WIRING:
11.1 ALL WIRING SHALL BE MINIMUM #12 GAUGE COPPER, EXCEPT AS OTHERWISE NOTED...
11.2 MINIMUM SIZE WIRING FOR DC WIRING SHALL BE #10 GAUGE...
11.3 ALL WIRING SHALL BE SIZED COMPLIANT WITH 75°C RATED EQUIPMENT...
11.4 UNDERGROUND WIRING FEEDERS AND BRANCH WIRES SHALL BE RWJ RATED FOR DIRECT BURIAL...
11.5 FREE WIRE RUNS THROUGH DROP CEILING USING AS MECHANICAL HVAC PLENUM SPACE MUST BE PLENUM RATED (F16 RATED).
12. GROUNDING:
12.1 PROVIDE BONDING WIRES WITH ALL FEEDERS INCLUDING TENANT SERVICES...
12.2 PROVIDE ALL REQUIRED BONDING AS REQUIRED BY CODE.
12.3 PROVIDE MAIN GROUND TO ESA APPROVAL...
12.4 MECHANICAL TRADER WIRING: PROVIDE ALL CONDUIT, WIRING, SPLITTERS, OUTLET BOXES AND DISCONNECT SWITCHES AS SHOWN...
12.5 CLEARLY MARK ALL EXPOSED CONDUIT, PULL BOXES, JUNCTION BOXES, ETC., TO INDICATE THE NATURE OF THE SERVICE.
16. ALL LIGHTING AND POWER CIRCUITS TO MEET CODES AND LATEST NETA MANUAL...
17. PROVIDE LAMACOD NAMEPLATES FOR ALL DISTRIBUTION EQUIPMENT...
18. CONTRACTOR TO ENSURE THAT THE ELECTRICAL SYSTEMS ARE FUNCTIONAL AND IN GOOD WORKING ORDER...
19. AS-BUILT DRAWINGS:
19.1 AFTER COMPLETION OF THE WORK, PROVIDE THE LANDLORD AND TENANT WITH A SET OF REPRODUCIBLE 'AS-BUILT' RECORD DRAWINGS...
19.2 AFTER COMPLETION OF WORK, PROVIDE THE FOLLOWING DOCUMENTS:
-CERTIFICATE OF FIRE ALARM SYSTEM VERIFICATION;
-CERTIFICATE OF ELECTRICAL SAFETY AUTHORITY INSPECTION;
-EMERGENCY LIGHTING VERIFICATION REPORT;
-POWER DISTRIBUTION PANELS LOAD BALANCING REPORT.

19. OPERATION AND MAINTENANCE MANUALS:
19.1 PROVIDE TWO (2) - SETS OF OPERATION AND MAINTENANCE MANUALS LIMITED TO THE FOLLOWING INFORMATION:
19.2 OPERATIONS AND MAINTENANCE MANUALS SHALL INCLUDE, BUT NOT LIMITED TO, THE FOLLOWING INFORMATION:
-NAMES AND ADDRESS OF LOCAL SUPPLIERS FOR THE ITEMS INCLUDED.
-TECHNICAL DATA, PRODUCT DATA, SUPPLEMENTED BY BULLETINS, COMPONENT ILLUSTRATIONS, EXPLODED VIEWS, TECHNICAL DESCRIPTION OF ITEMS, AND PARTS LIST
-THE CONSULTANTS REVIEWED SHOP DRAWINGS
-CERTIFICATE(S) OF ACCEPTANCE FROM THE AUTHORITIES INSPECTION DEPARTMENT
-SYSTEM VERIFICATION REPORTS AND CERTIFICATE(S) FOR FIRE ALARM COMPONENTS
-LOAD BALANCE REPORT AND WIRING MEGGER TESTING REPORT
-WRITTEN GUARANTEE
-COORDINATION STUDY
-CONTACT INFORMATION
-ELECTRICAL SAFETY INSPECTION REPORT
19.3 OPERATION AND MAINTENANCE MANUALS SHALL FORM A COMPLETE DOCUMENTATION FOR THE SUBJECTED ELECTRICAL INSTALLATION...
20. PROJECT SUBSTANTIAL COMPLETION AND CLOSURE:
20.1 AFTER THE WORK IS COMPLETED, GIVE A WRITTEN GUARANTEE FOR ONE (1) YEAR COVERING WORKMANSHIP AND MATERIALS...
20.2 PROVIDE OWN LIST OF OUTSTANDING AND DEFICIENT WORK PRIOR TO REQUEST FOR SUBSTANTIAL COMPLETION.
20.3 CLEAN AND TEST ALL EQUIPMENT BEFORE FINAL ACCEPTANCE IS GIVEN FOR THE WORK.
20.4 ARRANGE FOR FINAL ELECTRICAL INSPECTION BY ELECTRICAL CONSULTANT FOR TWO WEEKS PRIOR TO COMPLETION OF WORK.
21. VALUATION OF CHANGES:
21.1 PROVIDE COMPLETE BREAKDOWN OF MATERIAL, LABOUR, OVERHEAD, PROFIT, ETC., WHEN SUBMITTED QUOTATIONS FOR CHANGE NOTICES ON THIS PROJECT.
21.2 THE HOURLY LABOUR RATE SHALL BE INCLUSIVE OF ALL CHARGES FOR SUPERVISION, VARIABLE LABOUR FACTORS, HAND TOOLS, PATROL BUREAUS, HEIGHT FACTORS, WARRANTIES, STORAGE, RENTALS, ADDITIONAL BONDING, PARKING, CLEAN-UP, AS-BUILD DRAWINGS, HOISTING, FREIGHT AND DELIVERY...
21.3 THE LABOUR HOURS SHALL BE BASED ON THE LATEST ISSUE OF THE NATIONAL ELECTRICAL CONTRACTORS ASSOCIATION (NECA) LABOUR UNITS...
21.4 THE MATERIAL PRICES SHALL BE BASED ON THE CURRENT NATIONAL PRICES SYSTEM (NPS) CATALOGUE LESS APPLICABLE TRADE DISCOUNTS.
22. IT/COMMUNICATIONS SYSTEMS:
22.1 SUPPLY AND INSTALL THE REQUIRED DUCTBANK, AN EMPTY RACEWAY SYSTEM COMPLETE WITH CONDUITS, PULLBOXES, PANELS, OUTLET BOXES, COVER PLATES, SUITABLE FOR THE INSTALLATION OF IT AND COMMUNICATIONS CABLES AND ASSOCIATED EQUIPMENT...
22.2 RACEWAYS SHALL BE RIGID, GALVANIZED STEEL CONDUIT WHERE EXPOSED TO MECHANICAL INJURY...
22.3 ALL DATA OUTLETS SHALL BE WIRED WITH CAT5E CABLEING AND TERMINATED AT BOTH ENDS...
22.4 PVC DUCT SHALL BE USED FOR UNDERGROUND SERVICE ENTRANCE.
22.5 PROVIDE A 120V POWER OUTLET ADJACENT TO THE IT EQUIPMENT LOCATIONS FOR UTILITY COMPANY'S STEP DOWN TRANSFORMER.
22.6 UNLESS OTHERWISE SHOWN, STEEL PULLBOXES SHALL BE INSTALLED EVERY 30m OR LESS OF STRAIGHT CONDUIT RUN...
22.7 A #6 GROUND WIRE SHALL BE RUN FROM THE TELEPHONE SERVICE PANEL TO SERVICE GROUND TO PROVIDE A GROUND FOR THE TELEPHONE SYSTEM.
23. DISTRIBUTION FEEDERS:
23.1 ALL PHASES AND NEUTRALS SHALL BE IDENTIFIED AND MAINTAINED IN THEIR CORRECT ORDER...
23.2 FEEDERS SHALL BE SIZED AS DETAILED. SUBSTITUTION OF FEEDERS EITHER IN MATERIAL OR ROUTING WILL NOT BE PERMITTED...
23.3 ALL FEEDERS SHALL BE BALANCED UNDER FULL LOAD CONDITIONS...
23.4 MEASURE PHASE VOLTAGES AT LOADS AND ADJUST TRANSFORMER TAPNS WITHIN 2% OF RATED VOLTAGE OF EQUIPMENT.
23.5 SUBMIT, AT COMPLETION OF WORK, REPORT LISTING PHASE AND NEUTRAL CURRENTS OF PANEL, BOARDS, DRY-CORE TRANSFORMERS...
24. ELECTRICAL EQUIPMENT ENCLOSURE RATINGS:
24.1 EQUIPMENT SHALL BE NEMA 1 RATED WHEN INDOOR AND NEMA 3R WHEN OUTDOOR...
25. ELECTRICAL PANEL BOARDS:
25.1 EACH PANELBOARD SHALL BE COMPLETE WITH A KEY LOCKABLE HINGED DOOR AND A CIRCUIT DIRECTORY...
25.2 THE CIRCUIT BREAKERS SHALL BE CONNECTED TO THE PANEL BY BOLTED CONNECTIONS...
25.3 EXTERIOR COVER PLATES SHALL BE METAL IN-USE COVERS...
26. COVER PLATES:
26.1 COVER PLATES FOR RECEPTACLES, SWITCHES, PILOT LIGHTS, TELEPHONE OUTLETS AND OTHER DEVICES...
26.2 WEATHERPROOF COVER PLATES SHALL BE DIE-CAST COPPER RESISTANT ALUMINIUM TYPE...
26.3 EXTERIOR COVER PLATES SHALL BE METAL IN-USE COVERS...
26.4 PLATES FOR SURFACE MOUNTED CAST BOXES SHALL BE GALVANIZED FORMED STEEL TYPE.
26.5 COVER PLATES FOR FLUSH MOUNTED EQUIPMENT SHALL BE SUPPLIED OF QUALITY AND PERFORMANCE SPECIFIED BY THE MANUFACTURER...
26.6 COVER PLATES SHALL NOT CARRY MANUFACTURER'S NAME.
26.7 COVER PLATES OF QUALITY SPECIFIED SHALL BE PASS AND SEYMOUR, BRYANT LEVITON, SMITH AND STONE, OR HARVEY HUBBELL.
27. LIGHT SWITCHES:
27.1 SWITCHES SHALL BE, UNLESS OTHERWISE NOTED, BRYANT QUIET TYPE WITH WHITE SPECIFICATION GRADE FOR 120V AND HEAVY DUTY GRADE FOR 347V.
27.2 LIGHT SWITCHES OF QUALITY AS MANUFACTURED BY BRYANT, P. AND S. ARROW HART, LEVITON AND HUBBELL, SHALL BE CONSIDERED AS ACCEPTABLE AS SPECIFIED ALTERNATES.
27.3 DIMMERS SHALL BE LUTRON SPECIFICATION GRADE OR APPROVED ALTERNATE...
27.4 WHERE LIGHTING BRANCH CIRCUIT WIRING CROSSES POWER WIRING, CONDUCTORS SHALL NOT BE INSTALLED IN THE SAME RACEWAY OR ENCLOSURE...
28. RECEPTACLES:
28.1 RECEPTACLES SHALL BE, UNLESS OTHERWISE NOTED, U-GROUND TYPE, WHITE SCREW TERMINAL TYPE.
28.2 RECEPTACLES SHALL BE SPECIFICATION GRADE.
28.3 ROOFTOP AHU MOUNTED RECEPTACLES SHALL BE CFCI RATED, CONDUIT WORK FOR THIS APPLICATION SHALL BE CONCEALED...
29. DISTRIBUTION COORDINATION, SHORT CIRCUIT STUDY AND COMMISSIONING REPORT:
29.1 PROVIDE A DISTRIBUTION COORDINATION, SHORT CIRCUIT AND ARC FLASH STUDY TO CONFIRM THAT ALL EQUIPMENT OFFERED IS SUITABLY RATED FOR THIS PROJECT...
29.2 CONTRACTOR SHALL OBTAIN ALL DATA AS REQUIRED BY THE POWER SYSTEM STUDIES...
29.3 PROVIDE ALL REQUIRED ARC FLASH LABELS AS PER Z462. LABELS SHALL COMPLY WITH Q3 STANDARD LABEL.
29.4 ALLOW TO FULLY COMMISSION THE SWITCHGEAR AND AT THE END OF THE PROJECT...
29.5 PROVIDE AN ARC FLASH STUDY AND PROVIDE ARC FLASH RATING LABELS ON ALL ELECTRICAL DISTRIBUTION EQUIPMENT AND PANELS.
30. AUTOMATIC CONTROL OF EXTERIOR LIGHTS:
30.1 CONTACTORS, PHOTO-ELECTRIC CONTROLS AND TIME SWITCHES SHALL BE USED TO CONTROL THE EXTERIOR LIGHTING INCLUDING PRIMARY POLE LIGHTING.
30.2 IF THE PHOTOCELL IS NOT INDICATED ON THE DRAWINGS, OBTAIN THE LOCATION FROM THE CONSULTANT.
30.3 THE PHOTO-ELECTRIC CELL AND TIME CLOCKS SHALL BE WIRED SO AS TO CONTROL A LIGHTING CONTACTOR...
30.4 CONTACTORS SHALL HAVE LAMACOD NAMEPLATES INDICATING THAT CONTROL CIRCUIT IS SUPPLIED FROM A DIFFERENT SOURCE...
31. SERVICE ENTRANCE BOARD:
31.1 THE SERVICE ENTRANCE BOARD SHALL CONSIST OF A COMPLETELY METAL ENCLOSED FREE-STANDING STRUCTURE...
31.2 BUS WORK SHALL BE SILVER-PLATED COPPER, BRACED WITH WITHSTAND AVAILABLE SHORT CIRCUIT ON THE SYSTEM...
31.3 FUSES PROVIDED SHALL BE CLASS J OR L MADE BY BUSHMANN.
31.4 THE MAIN SWITCH COMPARTMENT SHALL CONTAIN BREAKER OF TYPE, FRAME, AND SIZE OR FUSED DISCONNECT SWITCH...
31.5 MAIN SWITCH OR BREAKERS SHALL BE EQUIPPED WITH GROUND FAULT RELAYS...
31.6 WHERE SPECIFIED ON THE DRAWINGS LSG BREAKERS THESE SHALL BE FULLY ADJUSTABLE/ACROSS ALL REGIONS...
31.7 THE CURRENT TRANSFORMER COMPARTMENT, WHERE REQUIRED, SHALL HAVE A REMOVABLE STEEL MOUNTING PLATE...
31.8 THE ENTIRE PANEL, BUSWORK AND CONNECTIONS SHALL BE TO THE UTILITIES APPROVAL...
31.9 SWITCHBOARD SHALL BE VERMIN PROOF, SPRINKLER-PROOF AND ON A 4" HIGH CONCRETE HOUSEKEEPING PAD.
31.10 SERVICE ENTRANCE BOARD SHALL HAVE A MINIMUM OF 50KA (AIC) RATING @ 208V 3Ø OR 25KA (AIC) RATING @ 600V 3Ø.
31.11 SWITCHBOARD AND ELECTRICAL PANELBOARDS: EATON, SQUARE D, AND SEMENS.
32. LOCKABLE HINGED SPARE FUSE CABINET:
32.1 PROVIDE A LOCKABLE HINGED SPARE FUSE CABINET IN EACH ELECTRICAL ROOM...
33. TRANSFORMERS:
33.1 DRY TYPE DISTRIBUTION TRANSFORMERS SHALL BE INDOOR AIR COOLED TYPE RATED 3Ø PHASE 60 CYCLE, OF KVA RATING SHOWN ON THE DRAWINGS...
33.2 THE SOUND LEVEL IN DECIBELS SHALL BE IN ACCORDANCE WITH NEMA TRI CURRENT STANDARDS...
33.3 THE COMPLETED ASSEMBLY SHALL BE PAINTED WITH A PRIMER COAT AND A FINISH COAT OF ASA#61 GRAY...
33.4 TRANSFORMERS SHALL BE C/W SPRINKLER DEFLECTING HOOD AS REQUIRED TO MEET LOCAL AND ELECTRICAL SAFETY CODES.
33.5 LV TRANSFORMER: REX, MARCUS, HAMMOND POWER SOLUTIONS, DELTA, BEMAG.
34. METERING CABINETS:
34.1 METERING CABINETS SHALL BE OF SIZE SHOWN ON DRAWING OR AS REQUIRED WITH REMOVABLE STEEL METER MOUNTING PLATE...
34.2 THE CABINET SHALL BE MOUNTED ON THE WALL AS SHOWN ON THE DRAWINGS...
34.3 THE CONTRACTOR SHALL CONFIRM METERING REQUIREMENTS WITH LOCAL HYDRO METERING DEPARTMENT...
35. ADDITIONAL PROJECT REQUIREMENTS:
35.1 PROVIDE ALL REQUIRED NEUTRAL WIRES TO METER AS PER LOCAL HYDRO'S REQUIREMENT.
35.2 CONFIRM ALL LOCATIONS AND OUTLETS PRIOR TO INSTALLATION...
35.3 PROVIDE ALL CONCRETE WORK REQUIRED FOR ELECTRICAL WORK...
35.4 SUPPLY AND INSTALL ALL UNDERGROUND DUCTS WHERE INDICATED...
35.5 POWER SERVICE DUCTS TO BE PVC TYPE D62 CSA APPROVED AND TO BE SLOPED FROM BUILDING TO STREET.
35.6 PROVIDE AN UNDERGROUND 100mm DRAIN PIPE FROM EACH PADMOUNT TRANSFORMER...
35.7 TWO (2) - CABLE PULLING EYES ARE TO BE INSTALLED ABOVE CABLE DUCTS ON CEILING AND OVER DOORS...
36. INTERRUPTION AND CONTINUATION OF SERVICES:
36.1 INTERRUPTION OF ELECTRICAL SERVICES SHALL OCCUR ONLY BY PRE ARRANGEMENT...
36.2 INTERRUPTIONS SHALL ONLY OCCUR DURING PREMIUM TIME PERIODS...
36.3 WORK IDENTIFIED TO BE CARRIED OVER BY LOCAL HYDRO UTILITY SHALL BE COMPLETED WITH ASSISTANCE...
37. CUTTING THROUGH STRUCTURAL FLOOR/CEILING ASSEMBLY:
37.1 - LOCATION AND METHOD OF CUTTING OPENINGS IN STRUCTURAL FLOORS, WALLS & CEILING/ROOF ASSEMBLY MUST BE APPROVED BY THE STRUCTURAL ENGINEER...
37.2 - OPENINGS AROUND ELEVATORS, RACEWAYS PENETRATIONS THROUGH FIRE RATED WALLS, PARTITIONS, FLOORS OR CEILING...
37.3 - ALLOWABLE SPACING BETWEEN TWO ADJACENT OPENINGS SHALL BE CONFIRMED WITH STRUCTURAL ENGINEER...
37.4 - APPLY FLEXIBLE FIRESTOP SEALANT BY HILTI OR EQUIVALENT PRODUCT AS DIRECTED BY THE ARCHITECT.

38. SEISMIC RESTRAINT:
38.1 PROVIDE ALL MATERIALS AND LABOUR NECESSARY TO SUPPLY AND INSTALL SEISMIC RESTRAINTS AND ANCHORAGE FOR ALL ELECTRICAL EQUIPMENT INCLUDING, BUT NOT LIMITED TO: SUSPENDED LIGHT FIXTURES, CONDUITS, RACEWAYS, BUS DUCTS, ETC., TO CONFIRM WITH LOCAL BUILDING CODE AND ALL OTHER APPLICABLE REGULATIONS.
38.2 CONTRACTOR SHALL RETAIN AND PAY FOR A REGISTERED SEISMIC ENGINEER TO DESIGN AND INSPECT THE SEISMIC RESTRAINTS...
38.3 THE SEISMIC ENGINEER RETAINED BY CONTRACTOR SHALL PROVIDE FOR THE FOLLOWING:
37.3.1 SIGNED AND SEALED LETTERS OF ASSURANCE OF PROFESSIONAL DESIGN AND COMMITMENT FOR FIELD REVIEW AND SUMMARY OF DESIGN AND FIELD REVIEW AS REQUIRED BY AUTHORITIES HAVING JURISDICTION.
37.3.2 CERTIFIED DETAILED DRAWINGS OF SEISMIC RESTRAINTS.
37.3.3 DETAILED SPECIFICATION FOR SEISMIC RESTRAINTS.
37.3.4 WRITTEN REPORTS OF SITE REVIEWS.
37.3.5 SIGNED AND SEALED LETTER OF ASSURANCE OF PROFESSIONAL REVIEW AND COMPLIANCE.
38.4 THE CONTRACTOR SHALL COOPERATE WITH THE SEISMIC ENGINEER AND PROMPTLY SUPPLY SUCH INFORMATION INCLUDING WEIGHTS OF EQUIPMENT AND BASE FRAME OR MOUNTING PLATE LAYOUTS...
38.5 CONTRACTORS AND SEISMIC RESTRAINT ENGINEER SHALL NOTE SPECIFIC STRUCTURAL DESIGN AND CONSTRUCTION REQUIREMENTS FOR THIS BUILDING...
39. FIRE ALARM SYSTEM:
39.1 PROVIDE ALL MATERIALS AND LABOUR NECESSARY TO SUPPLY AND INSTALL NEW FIRE ALARM SYSTEM...
39.2 CONTRACTOR SHALL RETAIN AND PAY FOR A CFAA CERTIFIED FIRE ALARM SYSTEM INSTALLER...
39.3 ALL WIRING TO BE FAS RATED CABLE, CSA APPROVED, AND TO MEET MANUFACTURER INSTALLATION REQUIREMENTS...
39.4 PROVIDE SHOP DRAWINGS OF ALL THE FA SYSTEM COMPONENTS...
39.5 INSTALL FIRE ALARM SYSTEM AND DEVICES PER CAN/ULC-5524-6 AND VERIFY COMPLETE SYSTEM PER CAN/ULC-5537-04...
39.6 PROVIDE CONNECTION OF THE FIRE ALARM SYSTEM TO LOCAL FIRE DEPARTMENT OR ULC LISTED OFF-SITE CENTRAL MONITORING AGENCY...
39.7 FIRE ALARM SYSTEM PANEL SHALL BE C/W INTEGRAL BATTERY CAPABLE OF PROVIDING a) SUPERVISORY POWER FOR MIN. 24 HR, AND b) IMMEDIATELY FOLLOWING, EMERGENCY POWER UNDER FULL LOAD TEST FOR MIN. 30 MIN.
39.8 ALL MOUNTING BOX AND JUNCTION BOX COVERS AND INTERIORS SHALL BE PAINTED RED...
39.9 COORDINATE FIRE ALARM INSTALLATION WORKS WITH THE ELEVATOR INSTALLER...
39.10 PROVIDE MINIMUM 20% SPARE ZONES FOR SUPERVISORY, ALARM INITIATION ZONES AND SIGNAL CIRCUITS.
39.11 DEMONSTRATE SYSTEM OPERATION IN THE PRESENCE OF AUTHORITY HAVING JURISDICTION...
39.12 PROVIDE SYSTEM O&M DOCUMENTATION TO THE OWNER.
39.13 PROVIDE ON-SITE TRAINING TO THE BUILDING OPERATION PERSONNEL.
39.14 COORDINATE MOUNTING LOCATIONS OF SYSTEM DEVICES WITH OTHER TRADES IN THE FIELD.



NOTES (RE: FIRE ALARM)

- A) FIRE ALARM SYSTEM SHALL BE A SINGLE STAGE ADDRESSABLE SYSTEM AS MANUFACTURED BY MIRMCO, GE SECURITY, SIMPLEX OR NOTIFIER. ALL FA SYSTEM EQUIPMENT SHALL BE SUPPLIED BY A SINGLE MANUFACTURER.
B) PROVIDE WIRING FOR ALL SPRINKLER FLOW SWITCHES, SUPERVISED VALVES AND LOW PRESSURE SWITCHES, ETC. AND CONNECT IN THE PROPER ZONES. VERIFY EXACT REQUIREMENTS, QUANTITIES & LOCATIONS WITH SPRINKLER CONTRACTOR PRIOR TO ORDERING OF FIRE ALARM EQUIPMENT.
C) SPRINKLER SYSTEM AND FIRE ALARM MONITORING SHALL COMPLY WITH CAN/ULC-5559-04 REQUIREMENTS. FIRE ALARM CONTROL PANEL SHALL HAVE ALL NECESSARY PROVISIONS TO COMPLY WITH THE ABOVE. PROVIDE 3 FORM 'C' CONTACTS (1 FOR ALARM, 1 FOR TROUBLE, AND 1 FOR SUPERVISORY).
D) FOR EXACT QUANTITY AND LOCATION OF DEVICES, REFER TO FLOOR PLANS.
E) FIRE DETECTORS WITHIN THE ELEVATOR SHAFT AND ELEVATOR LOBBIES SHALL INITIATE AUTOMATIC RECALL FEATURE OF THE ELEVATOR TO THE RECALL LEVEL. PROVIDE ALL NECESSARY RELAYS AND INTERCONNECTING TO ACCOMMODATE THIS FEATURE. COORDINATE WORK WITH THE ELEVATOR INSTALLER.
F) FIRE ALARM SYSTEM SHALL BE AS SINGLE STAGE ADDRESSABLE BY MIRMCO, EDWARDS, SIMPLEX OR NOTIFIER. ALL EQUIPMENT TO BE SUPPLIED BY A SINGLE MANUFACTURER.
G) KITCHEN HOOD FIRE SUPPRESSION SYSTEM SHALL BE MONITORED THROUGH FIRE ALARM SYSTEM.
H) CONNECT DUCT-TYPE DETECTOR RELAY TO RTU'S UNIT TO SHUT DOWN UPON THE ACTINATION OF THE DUCT-TYPE SMOKE DETECTOR. TYPICAL.

FIRE ALARM ZONING SCHEDULE

Table with 5 columns: NO., ALARM, SUPERVISORY, ANCILLARY, DESCRIPTION. Rows include Manual Station - Basement, Main Floor, 2nd Floor, Sprinkler Flow Switch - Basement, Main Floor, Elevator Pit - Heat Detector, Top of Elevator Shaft - Smoke Detector, Elevator Lobby (B, FL.) - Smoke Detector, Elevator Lobby (M, FL.) - Smoke Detector, Machine Room Basement - Heat Detector, Closet in Basement - Smoke Detector, Main Elec. & Mech. Room Grnd Fl. - Smoke Detector, Mech./Elec. Room Grnd. Floor - Smoke Detector, Top of the Stair - Smoke Detector, Roof Top Unit RTU-1 to RTU-5 - Duct Smoke Detector, Kitchen Hood Fire Suppression System, Sprinkler Supervisory Valve, Sprinkler Low Pressure, Domestic Main Supervisory Valve, Spare, Elevator Recall, Roof Top Unit RTU-1 to RTU-5 - Stop.



PROJECT ORIENTATION:



SEAL:



NOTES: ONLY LATEST APPROVED 'ISSUED FOR CONSTRUCTION' DRAWINGS TO BE USED. DRAWINGS ARE NOT TO BE SCALED.

Table with 2 columns: NO., REVISION / NOTE, DATE. Contains revision history for the drawing.

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PREPARED FOR:



PROJECT:

NEW CULTURAL CLUB CROATIAN NATIONAL HOME

LOCATION:

615 BARTON STREET STONEY CREEK, ONTARIO

DRAWING DESCRIPTION:

ELECTRICAL SPECIFICATION

CLIENT NUMBER: TRINITYENG PROJECT NUMBER: M24-0355

DRAWN: H.A. DESIGNED: H.B. APPROVED: H.B.

DATE: MAY 11, 2024

SCALE: AS SHOWN DRAWING NUMBER: ARCH D (610mmx914mm)

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