

NO.	ISSUE OR REVISION	DATE
1	ISSUED FOR CONSTRUCTION	2023 08 11
2	90% REVIEW	2023 08 23
3	PERMIT REVIEW	2023 09 23
4	CONSTRUCTION	2023 01 28
5		2023 08 11

YORK REGION PRS #32

53 JACOB KEFFER PARKWAY, VAUGHAN

York Region
 THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO ORDERING MATERIALS TO BE REPORTED TO THE CONSULTANT.
 570 West Street
 Scarborough, Ontario
 P. (905) 543-8331
 F. (905) 241-1536
 www.yorkregion.com

PROFESSIONAL SEAL
R. J. UJOWSKI
 LICENSED PROFESSIONAL ENGINEER
 2023/08/10
 PROVINCE OF ONTARIO

LEGEND, SCHEDULES AND DRAWING LIST

DATE: **AUGUST 2020**

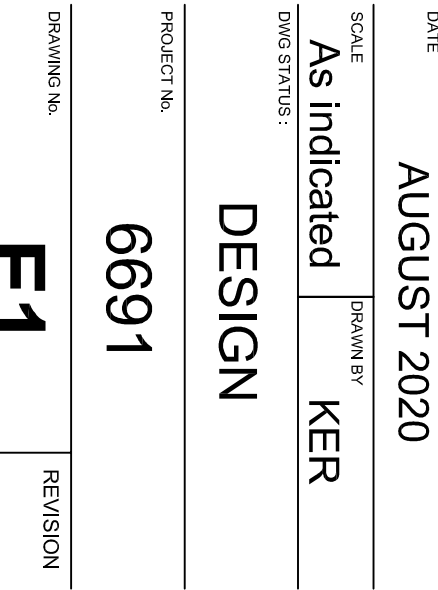
SCALE: As Indicated

DESIGNED BY: **KER**

DRAWN BY: **KER**

PROJECT NO: **6691**

DRAWING NO: **E1**



FIXTURE TYPE	DESCRIPTION	MANUFACTURER	MODEL NO.	OR EQUIVALENT BY
A	2"x4" LED RECESSED TROFFER WITH CURVED CENTRE LENS, ALUMINUM CONSTRUCTION, 3000-3500 LUMENS, 21"-23.4" WATTS.	LUMISOFT LIGHTING	EM-V-24-48-21-1-32L C135-D-120-GR	EATON METALUX HUBBELL PHILIPS, GE
B	4" LED UNDER CABINET DIMMABLE LINEAR LIGHT BAR, 9.7 WATTS, 466 LUMENS, 3000-3500K CCT, 12X DC C/W POWER SUPPLY.	GREEN IMAGE	GS-SR46-A-30-	HALO POLYBA PHILIPS, GE
C	8" SUSPENDED, DUST AND WEATHER RESISTANT, CORROSION FREE, IP 65-67 RATED LED FIXTURE, 9130 LUMENS, 67W, 3500K CCT, 120V, STAINLESS STEEL LATCHES, 90 CR, 120V.	PIONEER LIGHTING	S-10-0880-5-3500-120 -SS, 92 CR.	EATON METALUX PHILIPS GE LITHONIA
D	4" SUSPENDED LED FIXTURE, DUST AND WEATHER RESISTANT WITH HIGH IMPACT POLYCARBONATE LENS, STAINLESS STEEL LATCHES, 120V, 37W, 4838 LUMENS, 90 CR, 3500K CCT, IP67 RATED, OCCUPANCY SENSOR BUILT IN.	PIONEER LIGHTING	S-10-0880-5-3500-120 -SS-S5-OS	COOPER METALUX PRETESS COLUMBA HUBBELL, PHILIPS
F	2"x4" LED RECESSED TROFFER WITH CURVED CENTRE LENS, ALUMINUM CONSTRUCTION, 5000 LUMENS, 32 WATTS, 3500 CCT, 90 CR, 120V.	LUMISOFT LIGHTING	EM-V-24-48-39-1-55L-C135-D-120-CRI	EATON METALUX PRETESS HUBBELL G.E. HALO
G	4" LED DOWNLIGHT, WET LOCATION, WHITE REFLECTOR, WHITE TRIM, 1500 LUMENS, 14.2 WATTS, 120V, 3000K CCT, 90CR.	HALO LIGHTING	HC415010-NH412 930-41MDW	PRETESS PRESCOTTE NORBA GE
H	6" LED DOWNLIGHT, WHITE REFLECTOR AND TRIM, 750 LUMENS, 12.5 WATTS, 120V, 3500K CCT, 90 CR.	NORBA LIGHTING	NOX 563135 WW C/W HOUSING FOR NEW CONSTRUCTION	PRETESS PRESCOTTE NORBA GE
J	4" SURFACE MOUNTED LED STRIP FIXTURE WITH WIRE GUARD, 2678 LUMENS, 26 WATTS, 3500K CCT, 120V CURVED FROSTED ACRYLIC DIFFUSER.	PIONEER LIGHTING	SST-0246-3-4L-35K-120-WG	EATON METALUX PRETESS LITHONIA PHILIPS, GE
K	FULL CUT-OFF LED WALLPACK, 1997 LUMENS, 18W, 3000K CCT, 120V, DIE-CAST ALUMINUM HOUSING, BLACK COLOUR.	LUMARK	X10R-28-Y-BK	LSI HUBBELL WILLIAMS
L	4" LONG SURFACE MOUNTED NARROW EXTRUDED ALUMINUM LINEAR DIRECT LED, 1380 LUMENS, 14 WATTS, 3500K CCT, 90 CR, 120V, 0-10V DIMMING, WHITE COLOUR.	METALUMEN	RH4000-13K-4-MB-W-L2-1-SSA-7X	FOCAL POINT PAL PHILIPS
M	3.85m HIGH STEEL TAPERED (ROUND) POLE ON A 3.85m ABOVE GRADE CONCRETE BASE, POLE AND LUMINAIRE TO BE BLACK FINISH, 6028 LUMENS, 300K CCT, 59W, 120V, 15A/125V DUPLEX C/W DIMMING MOTION SENSOR. B1-U0-02, C/W DIMMING MOTION SENSOR.	COOPER LIGHTING SOLUTIONS MCGRAW EDISON	GLEON-AE-01-LED-E1 M5/DW-120	HUBBLE LSI CANLYTE
P	553mm x 394mm LED AREA LIGHTING FIXTURE ON A 3.85m HIGH STEEL TAPERED (ROUND) POLE ON A 3.85m ABOVE GRADE CONCRETE BASE, POLE AND LUMINAIRE TO BE BLACK FINISH, 5727 LUMENS, 300K CCT, 59W, 120V TYPE 4 FORWARD THROW OPTICS, BUG RATING 15A/125V DUPLEX C/W DIMMING MOTION SENSOR.	COOPER LIGHTING SOLUTIONS MCGRAW EDISON	GLEON-AE-01-LED-E1 M5/DW-L20	HUBBLE LSI CANLYTE
Q	FULL CUT-OFF LED WALLPACK, 400mm x 308mm, 3489 LUMENS, 3000K CCT, BLACK FINISH, TRF 4 OPTICS HOUSING, B1-U0-02, BLACK FINISH, TRF 4 OPTICS WILL SPILL CONTROL, C/W DIMMING MOTION SENSOR.	COOPER LIGHTING SOLUTIONS MCGRAW EDISON	GMC-AE-01-LED-E1-S14-8030 -800-BK C/W M5/DW-112	PHILIPS LSI HUBBLE
R	FULL CUT-OFF LED WALLPACK, 400mm x 308mm, 3560 LUMENS, 34 WATTS, 3000K CCT, DIECAST ALUMINUM HOUSING BUG RATING B1-U0-02, BLACK FINISH, 90 DEGREE SPILL LIGHT ELIMINATOR RIGHT C/W DIMMING MOTION SENSOR.	COOPER LIGHTING SOLUTIONS MCGRAW EDISON	GMC-AE-01-LED-E1-S18-8030 -800-BK C/W M5/DW-112	PHILIPS LSI HUBBLE

GENERAL NOTES
 1. PROVIDE ONE FSR-100 PROGRAMMING REMOTE FOR FIXTURE INTEGRATED SENSORS.

EMERGENCY LIGHTING & EXIT SCHEDULE

SYMBOL	DESCRIPTION	MANUFACTURER	MODEL NO.
EM	NEW EMERGENCY LIGHTING BATTERY PACK, 100 WATTS, 12VDC, 10 YEAR C/W	LUMACELL OR EQUAL	RG12S100/LD9
EM2/EM3	NEW EMERGENCY LIGHTING BATTERY PACK, 100 WATTS, 12VDC, 10 YEAR	LUMACELL OR EQUAL	RG12S100
q	SINGLE REMOTE HEAD, 12VDC, 5W, MR16 LED	LUMACELL OR EQUAL	QM01LD9
q	DUAL REMOTE HEAD, 12VDC, 5W, MR16 LED	LUMACELL OR EQUAL	QM02LD9
EXIT	NEW EXTRUDED ALUMINUM SELF POWERED PHOTOGRAM "RUNNING MAN" EXIT SIGN, SINGLE FACE, WALL OR CEILING MOUNT, 2 LAMPS FOR 120VAC, CSA-22.2 NO.14-1-10 LISTED AND CERTIFIED C/W NICOAD BATTERY AND BRUSHED ALUMINUM HOUSING.	LUMACELL OR EQUAL	LA2WS
EXIT	NEW EXTRUDED ALUMINUM SELF POWERED PHOTOGRAM "RUNNING MAN" EXIT SIGN, DOUBLE FACE, WALL OR CEILING MOUNT, 2 LAMPS FOR 120VAC, CSA-22.2 NO.14-1-10 LISTED AND CERTIFIED C/W NICOAD BATTERY AND BRUSHED ALUMINUM HOUSING.	LUMACELL OR EQUAL	LA1WS
WP	DUAL REMOTE HEAD, 12V DC, 5W, MR16 LED, WEATHERPROOF, NEMA 4X	LUMACELL OR EQUAL	QM02MX LD9

LEGEND OF SYMBOLS

\$	15A, 125V SINGLE POLE SWITCH
\$2	TWO POLE SWITCH
\$3	THREE WAY SWITCH
\$4	FOUR WAY SWITCH
\$5	KEY OPERATED SWITCH
\$6	DIMMER SWITCH
\$7	SWITCH C/W PILOT LIGHT
\$8	TIMER SWITCH
\$9	OCCUPANCY SENSOR SWITCH
\$10	GANG SWITCHES
\$11	DIGITAL ONE BUTTON LIGHT SWITCH, WATT STOPPER LMSW-101
\$12	DIGITAL TWO BUTTON LIGHT SWITCH, WATT STOPPER LMSW-102
\$13	DIGITAL THREE BUTTON LIGHT SWITCH, WATT STOPPER LMSW-103
\$14	DIGITAL FOUR BUTTON LIGHT SWITCH, WATT STOPPER LMSW-104
\$15	DIGITAL DIMMING WALL SWITCH, WATT STOPPER LMDM-101
\$16	PANELBOARD - SURFACE MOUNTED
\$17	PANELBOARD - RECESSED
\$18	DISCONNECT SWITCH
\$19	DISCONNECT SWITCH
\$20	TELEVISION OUTLET C/W 21mm CONDUIT
\$21	ANALOG TELEPHONE OUTLET C/W 21mm CONDUIT. (RED PHONE) TO BE INSTALLED AT 1200mm A.F.F.
\$22	TELEPHONE OUTLET C/W 21mm CONDUIT
\$23	TELEPHONE OUTLET MOUNTED AT 1500mm A.F.F. C/W 21mm CONDUIT
\$24	DATA OUTLET C/W 21mm CONDUIT
\$25	WIRELESS ACCESS POINT LOCATION WITH TAG NUMBER, C/W 21mm CONDUIT AT CEILING LEVEL.
\$26	MEDIX SAFE C/W 50mm CONDUIT
\$27	COMBINATION DATA/TELEPHONE OUTLET C/W 21mm CONDUIT
\$28	CEILING MOUNTED SPEAKER C/W 16mm CONDUIT TO LOCAL SOUND SYSTEM
\$29	MICROPHONE OUTLET C/W 16mm CONDUIT
\$30	BARRIER DOOR OPERATOR PUSH BUTTON
\$31	DOOR BUZZER SOUNDER
\$32	DOOR BUZZER PUSH BUTTON
\$33	FIRE ALARM HEAT DETECTOR, CEILING MOUNTED
\$34	FIRE ALARM HEAT DETECTOR, CEILING MOUNTED, FIXED TEMPERATURE
\$35	FIRE ALARM SMOKE DETECTOR, CEILING MOUNTED
\$36	120V, COMBINATION SMOKE & CO ALARM UNIT C/W STROBE LIGHT & BATTERY BACK UP.
\$37	FIRE ALARM CONTROL PANEL
\$38	FIRE ALARM ANNUNCIATOR PANEL
\$39	FIRE ALARM ANNUNCIATOR PANEL
\$40	MAGNETIC MOTOR STARTER
\$41	SPRINKLER PRESSURE SWITCH
\$42	FIRE ALARM ZONE LINE
\$43	FIRE ALARM CONNECTION TO SPRINKLER FLOW SWITCH.
\$44	FIRE ALARM CONNECTION TO SPRINKLER SUPERVISED VALVE
\$45	FIRE ALARM SYSTEM MANUAL PULL STATION.
\$46	FIRE ALARM STROBE
\$47	FIRE ALARM HORN/STROBE
\$48	CEILING MOUNTED LIGHTING FIXTURES
\$49	WALL MOUNTED LIGHTING FIXTURES
\$50	CEILING MOUNTED LIGHTING FIXTURES ON NIGHT LIGHTING CIRCUIT
\$51	DIRECT CONNECTION TO EQUIPMENT AS INDICATED.
\$52	JUNCTION BOX
\$53	SURFACE MOUNTED STRIP FLUORESCENT LIGHTING FIXTURE, LETTER DENOTES TYPE
\$54	CEILING MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR
\$55	REMOTE EMERGENCY LIGHTING FIXTURES, SINGLE OR DOUBLE HEAD.
\$56	EXIT SIGN
\$57	EMERGENCY LIGHTING BATTERY AND TAG NUMBER
\$58	EMERGENCY LIGHTING FIXTURES AND BATTERY WITH TAG NUMBER
\$59	COMBINATION EMERGENCY LIGHTING FIXTURE, BATTERY AND EXIT SIGN
\$60	SECURITY SYSTEM MOTION DETECTOR
\$61	TRANSFORMER
\$62	INDICATES ABOVE FINISHED FLOOR
\$63	BASEBOARD ELECTRIC HEATER SIZED AS INDICATED
\$64	FAN FORGED ELECTRIC HEATER, SIZED AS INDICATED
\$65	EQUIPMENT SO NOTED TO BE SUPPLIED WITH GROUND FAULT CIRCUIT INTERRUPT
\$66	RELAY WITH AUXILIARY CONTACTS
\$67	WIRE GUARD
\$68	TRANSFORMER
\$69	UNIT HEATER
\$70	WALL MOUNT - VERIFY HEIGHT
\$71	DENOTES WEATHERPROOF
\$72	MOTORIZED DAMPER
\$73	SPEAKER

SYMBOL	DESCRIPTION
Q	MOTOR CONNECTION (SINGLE PHASE)
Q1	MOTOR CONNECTION (THREE PHASE)
Q2	FLOOR MOUNTED DATA/TEL OUTLET
Q3	OUTLET FOR SECURITY DOOR STRIKE
Q4	OUTLET FOR SECURITY CONCEALED DOOR CONTACT
Q5	OUTER HEAD DOOR CONTACT
Q6	ARMING BUTTON
Q7	OUTLET FOR SECURITY HID CARD ACCESS READER
Q8	OUTLET FOR KEYPAD
Q9	OUTLET FOR SECURITY GLASS BREAK DETECTOR SENSOR
Q10	OUTLET FOR SECURITY MOTION SENSOR
Q11	OUTLET FOR ASSISTANCE REQUIRED BUZZER
Q12	ASSISTANCE REQUIRED LIGHT AND SOUNDER
Q13	"OCCUPIED" LIGHT
Q14	OUTLET FOR REQUEST TO EXIT
Q15	OUTLET FOR SECURITY SIREN/ALARM HORN
Q16	OUTLET FOR CLOSED CIRCUIT SECURITY CAMERA
Q17	OUTLET FOR 4/V MICROPHONE
Q18	EMERGENCY PUSH BUTTON FOR GAS SOLENOID VALVE
Q19	BELL DEARMATION POINT
Q20	CEILING MOUNT DUAL TECHNOLOGY OCCUPANCY SENSOR, WATT STOPPER LMD0-100
Q21	CEILING MOUNT PIR OCCUPANCY SENSOR, WATT STOPPER LMR0-100
Q22	CEILING MOUNT ULTRA SONIC TECHNOLOGY OCCUPANCY SENSOR, WATT STOPPER LMD0-100.
Q23	WALL CORNER MOUNT DUAL TECH OCCUPANCY SENSOR, WATT STOPPER LMDX-100
Q24	WALL MOUNT DUAL TECH OCCUPANCY SENSOR, WATT STOPPER LMDX-102.
Q25	WALL MOUNT PIR OCCUPANCY SENSOR, WATT STOPPER PW-100
Q26	DAY LIGHT SENSOR
Q27	DIGITAL ROOM CONTROLLER WITH SINGLE RELAY, WATT STOPPER LMR0-101
Q28	DIGITAL ROOM CONTROLLER WITH TWO RELAYS, WATT STOPPER LMR0-102
Q29	DIGITAL ON/OFF/0-10V DIMMING ROOM CONTROLLERS WITH ONE RELAY.
Q30	DIGITAL ON/OFF/0-10V DIMMING ROOM CONTROLLERS WITH TWO RELAYS.
Q31	DIGITAL ON/OFF/0-10V DIMMING ROOM CONTROLLERS WITH THREE RELAYS.
Q32	DUAL RELAY PANEL FOR DIGITAL LIGHTING CONTROLS COMPLETE WITH WEATHERPROOF ENCLOSURE
Q33	15A/125V DUPLEX "U" GROUND RECEPTACLE WALL MOUNTED
Q34	15A, 120V HALF SWITCHED DUPLEX RECEPTACLE.
Q35	15A, 120V RECEPTACLE MOUNTED ABOVE COUNTER.
Q36	20A, 120V T-SLOT DUPLEX RECEPTACLE
Q37	15A, 120V ISOLATED GROUND DUPLEX RECEPTACLE WITH SEPARATE NEUTRAL AND GROUND WIRE PER CIRCUIT AND MOUNTED ABOVE COUNTER
Q38	15A, 120V ISOLATED GROUND DUPLEX RECEPTACLE WITH SEPARATE NEUTRAL & GROUND WIRE PER CIRCUIT
Q39	15A, 120V DUPLEX GROUND FAULT INTERRUPTER RECEPTACLE MOUNTED ABOVE COUNTER.
Q40	RECEPTACLE MOUNTED ABOVE COUNTER
Q41	TAMPER RESISTANT RECEPTACLE
Q42	20A CEILING MOUNTED EMS SHORE CORO ASSEMBLES.
Q43	20A, 120V DUPLEX RECEPTACLE WITH USB CHARGER, TAMPER RESISTANT (SG)SINGLE GANG, DG: DOUBLE GANG, QG: QUAD GANG.
Q44	15A, 120V SINGLE RECEPTACLE.
Q45	50A, 250V 3 WIRE RANGE RECEPTACLE.
Q46	SPECIAL RECEPTACLE AS INDICATED
Q47	OUTLET FOR SECURITY SIREN/ALARM HORN
Q48	20A, 120V, T-SLOT, 1 PHASE, GROUNDED "DOUBLE" DUPLEX GROUND FAULT INTERRUPTING TYPE RECEPTACLE MOUNTED.
Q49	SPEED CONTROL FOR FAN
Q50	AUTOMATIC DOOR OPERATOR
Q51	AUTOMATIC DOOR OPERATOR PUSH BUTTON
Q52	CABLE T.V. OUTLET

- ELECTRICAL DRAWING LIST**
- E1 LEGEND, SCHEDULES AND DRAWING LIST
 - E2 ELECTRICAL SITE PLAN DETAILS (ALECTRA)
 - E3 ELECTRICAL SITE PLAN DETAILS (ALECTRA)
 - E4 POWER AND SYSTEMS PLAN AND DETAILS
 - E5 SECURITY PLAN LEGEND AND DETAILS
 - E6 LIGHTING PLAN AND DETAILS
 - E7 LIGHTING PLAN AND DETAILS
 - E8 PANEL SCHEDULES AND SCHEMATICS
 - E9 LIGHTING CONTROL SCHEMATICS
 - E10 ELECTRICAL SITE PLAN DETAILS (ALECTRA)
 - E11 ELECTRICAL SITE PLAN DETAILS (ALECTRA)
 - E12 LIGHT STUDY

THE CONTENTS OF THIS DRAWING AND SPECIFICATIONS REMAIN THE SOLE PROPERTY OF KIRKLAND ENGINEERING LTD. AND MUST BE RETURNED UPON COMPLETION OF THE WORK.

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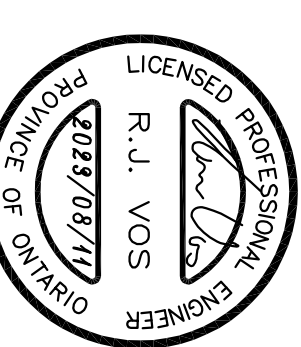
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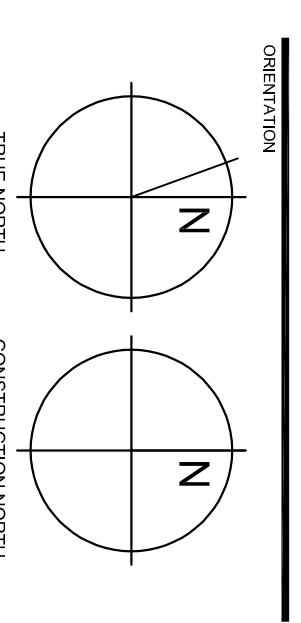
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ELECTRICAL SITE PLAN AND DETAILS



DATE: **AUGUST 2020**

SCALE: **As Indicated**

PROJECT NO.: **6691**

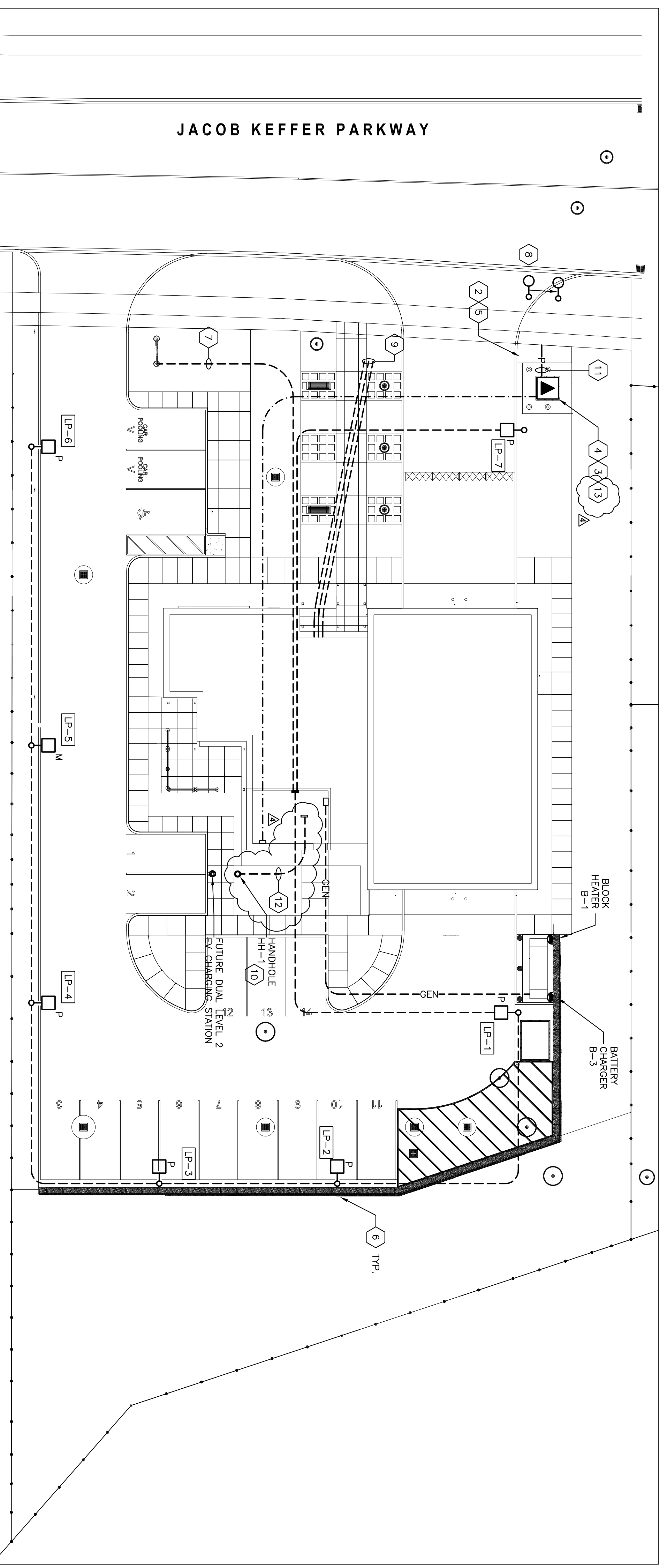
DRAWING NO.: **DESIGN**

DESIGNER: **KER**

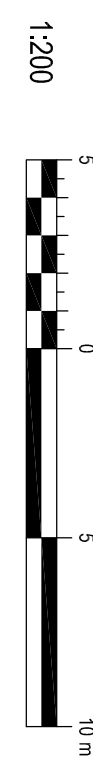
REVISION: **E2**

SITE PLAN LEGEND	
○	NEW LIGHTING POLE AND TAG NUMBER. LETTER INDICATES FUTURE TYPE.
---	NEW 120/208V, 3P, 4W UNDERGROUND SECONDARY FEEDER
---	NEW UNDERGROUND LIGHTING FEEDER
HP	NEW CUSTOMER OWNED HYDRO POLE WITH TAG NUMBER
---GEN---	UNDERGROUND GENERATOR DUCTBANK
---	NEW PRIMARY DUCT BANK

SITE PLAN LEGEND (CONTINUED)	
▲	NEW PADMOUNTED 27.6KV - 120/208V 3 - PHASE TRANSFORMER BANK.
---	NEW UNDERGROUND BELL CONDUIT
--- <td>NEW UNDERGROUND CABLE TV CONDUIT</td>	NEW UNDERGROUND CABLE TV CONDUIT
IO	WALL MOUNTED LUMINAIRE
○	CANOPY RECESSED DOWN LIGHT

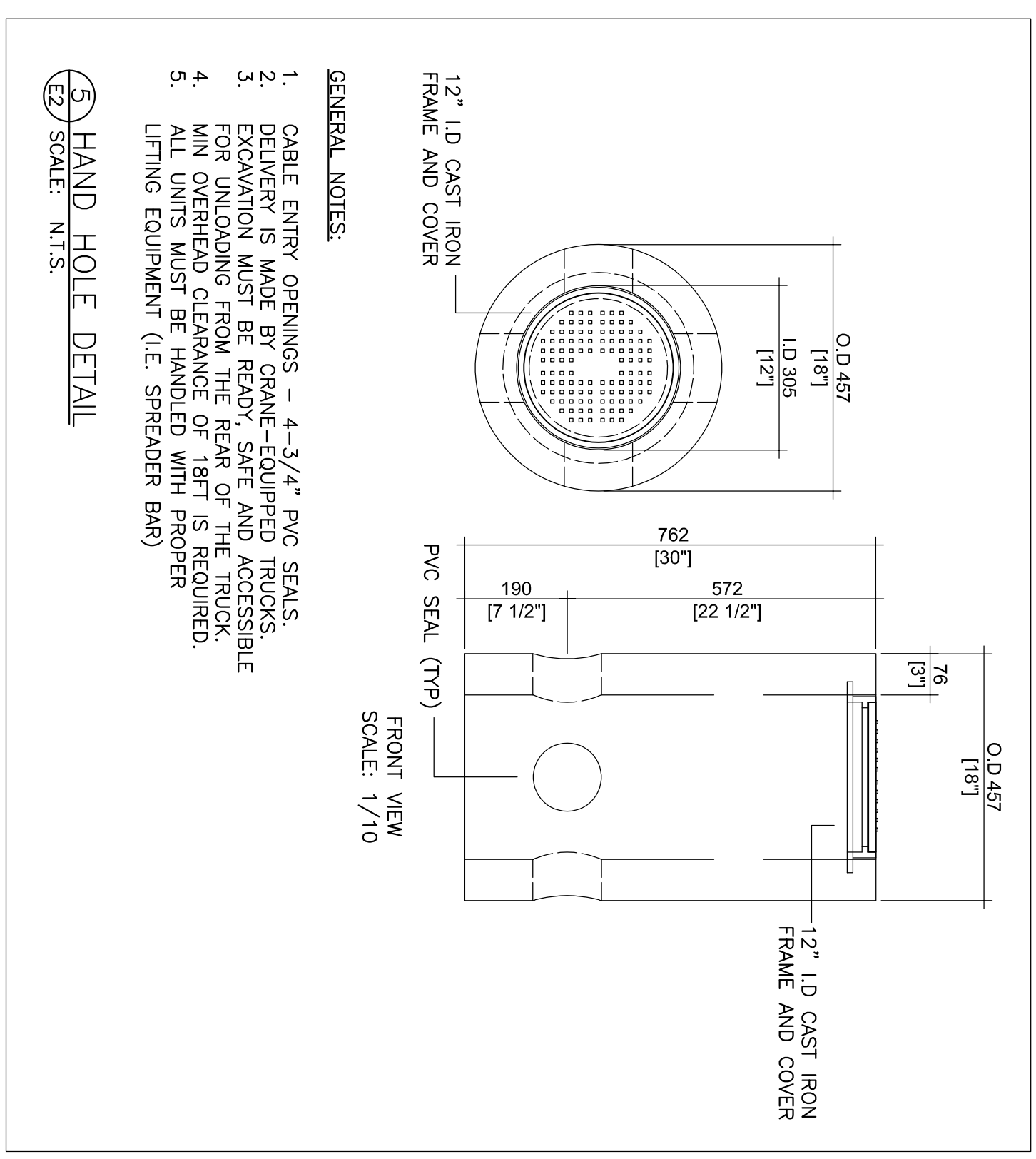
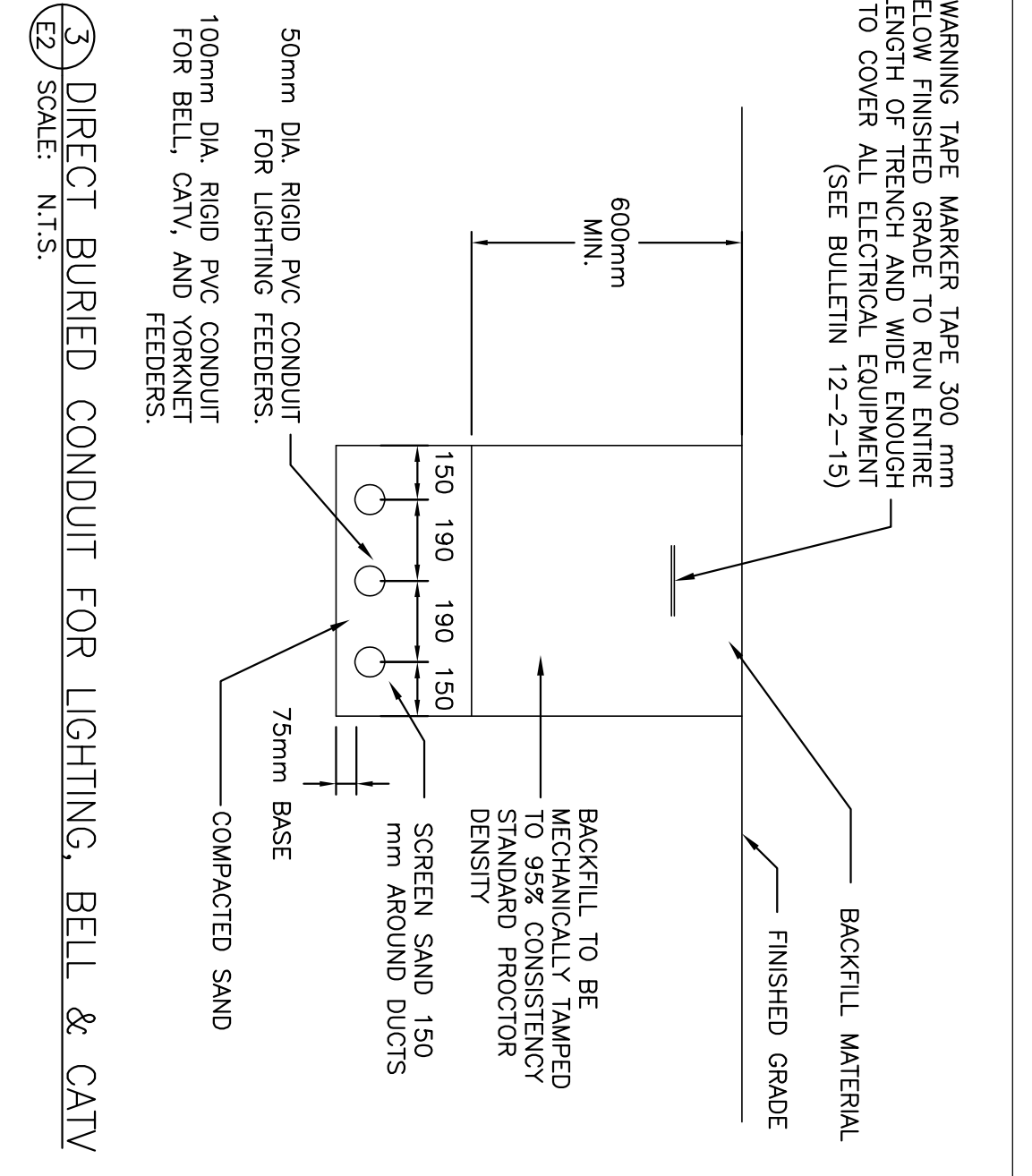
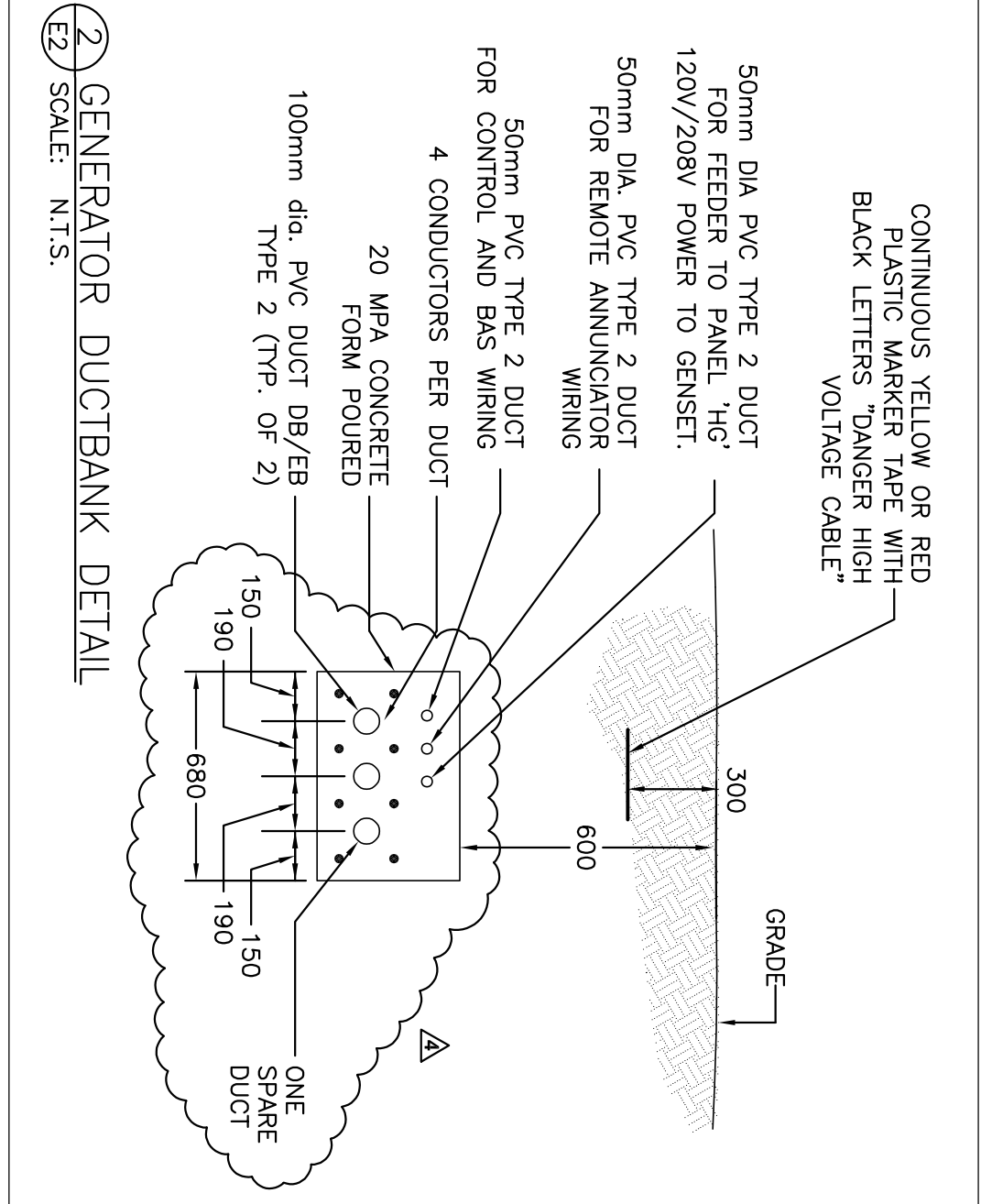
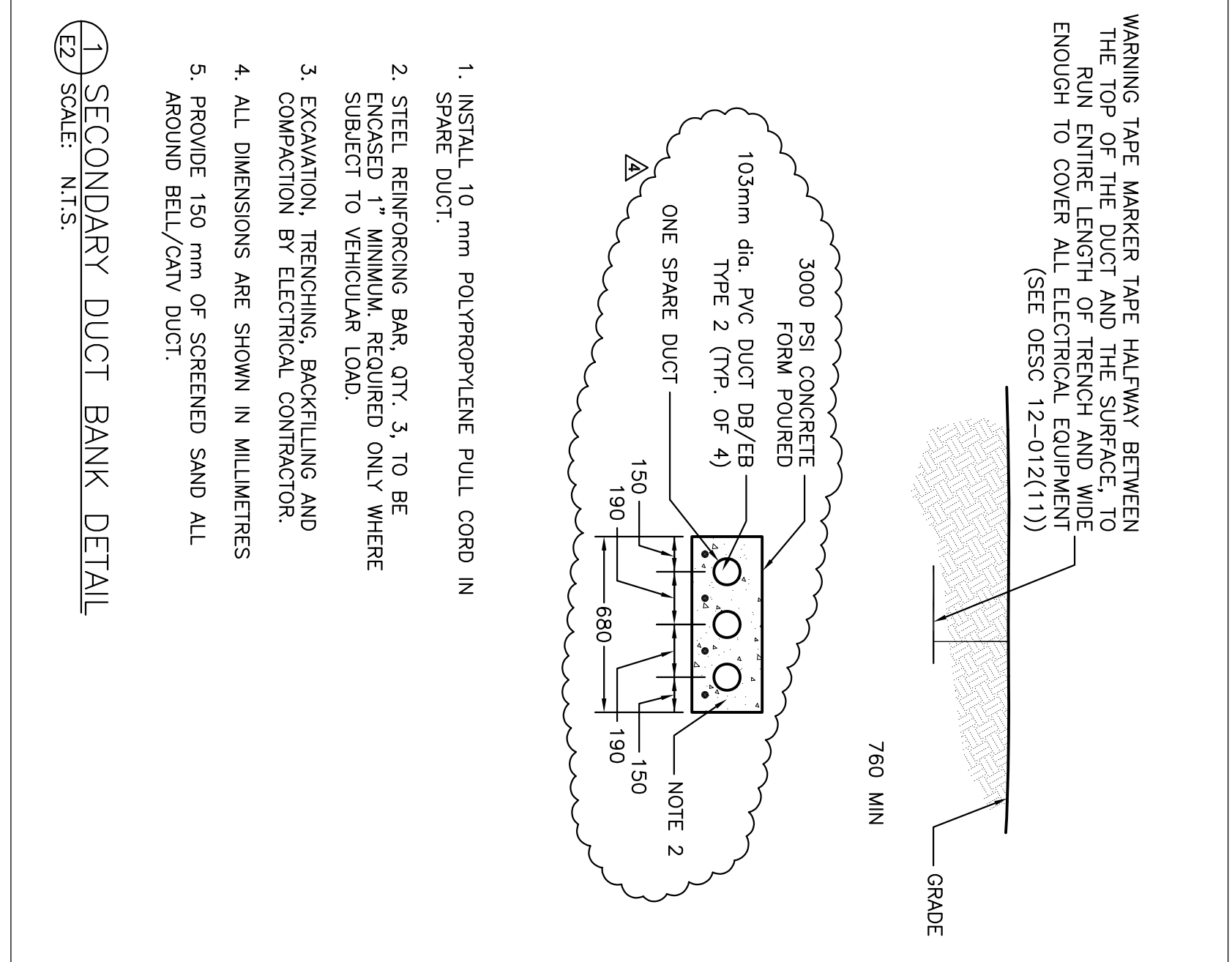


4 ELECTRICAL SITE PLAN
 E2 SCALE: N.T.S.



13 THE UTILITY (ALECTRA) WILL MAKE THE FINAL CONNECTIONS TO THE TRANSFORMER INCLUDING SUFFICIENT LENGTH TO FACILITATE CONNECTION TO THE TRANSFORMER IS PART OF THE CONTRACTOR'S SCOPE OF WORK.

- COORDINATE WORK WITH ALECTRA (1-877-963-6900 X. 25713)
- PROVIDE BOLLARDS AS PER ALECTRA DETAILS 17-106, 17-107, 17-107A, 1700320, 1700321 AS SHOWN ON DRAWING E11. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN THE LATEST VERSIONS OF THESE DETAILS FROM ALECTRA.
- PROVIDE TRANSFORMER PRECAST FOUNDATION AND GROUNDING AS PER ALECTRA DETAILS 17-308, 17-108, 17-108A, 1701004 AS SHOWN ON DRAWING E3. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN THE LATEST VERSIONS OF THESE DETAILS FROM ALECTRA.
- ALECTRA UTILITIES TO SUPPLY AND INSTALL A 3 PHASE PADMOUNTED TRANSFORMER, 150KVA, 27.6KV-120/208V
- OBTAIN APPROVAL FROM ALECTRA UTILITIES ENGINEERING TECHNICIAN FOR LOCATION OF BOLLARDS
- SEE DETAIL 8 ON ARCHITECTURAL DRAWING 42.7 FOR DETAILS OF CONCRETE POLE BASE.
- 2-41mm DIRECT BURIED RIGID PVC CONDUITS (ONE FOR POWER AND ONE FOR DATA) TO DIGITAL SIGN.
- RELOCATE MUNICIPAL DIRECT BURIED CONCRETE STREET LIGHTING POLE AS SHOWN. GENERAL CONTRACTOR SHALL COORDINATE ALL WORK WITH CITY OF VAUGHAN. RELOCATION OF LIGHT POLE IS PART OF CONTRACT SCOPE.
- PROVIDE 3-100mm DIRECT BURIED RIGID PVC CONDUITS FOR COMMUNICATIONS, BELL, CATV, AND YORKNET.
- SEE DETAIL 5 ON THIS SHEET FOR HANDHOLE.
- PROVIDE 8-102mm DUCTS CONCRETE ENGAGED FOR UNDERGROUND 27.6KV PRIMARY FEEDER TO PADMOUNTED TRANSFORMER. REFER TO CONSTRUCTION STANDARD 17-201 ON DRAWING.
- PROVIDE 53mm DIRECT BURIED RIGID PVC CONDUIT FROM PANEL 'C' TO HANDHOLE HH-1.



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53 JACOB KEFFER PARKWAY, VAUGHAN

PROJECT:

CLIENT:



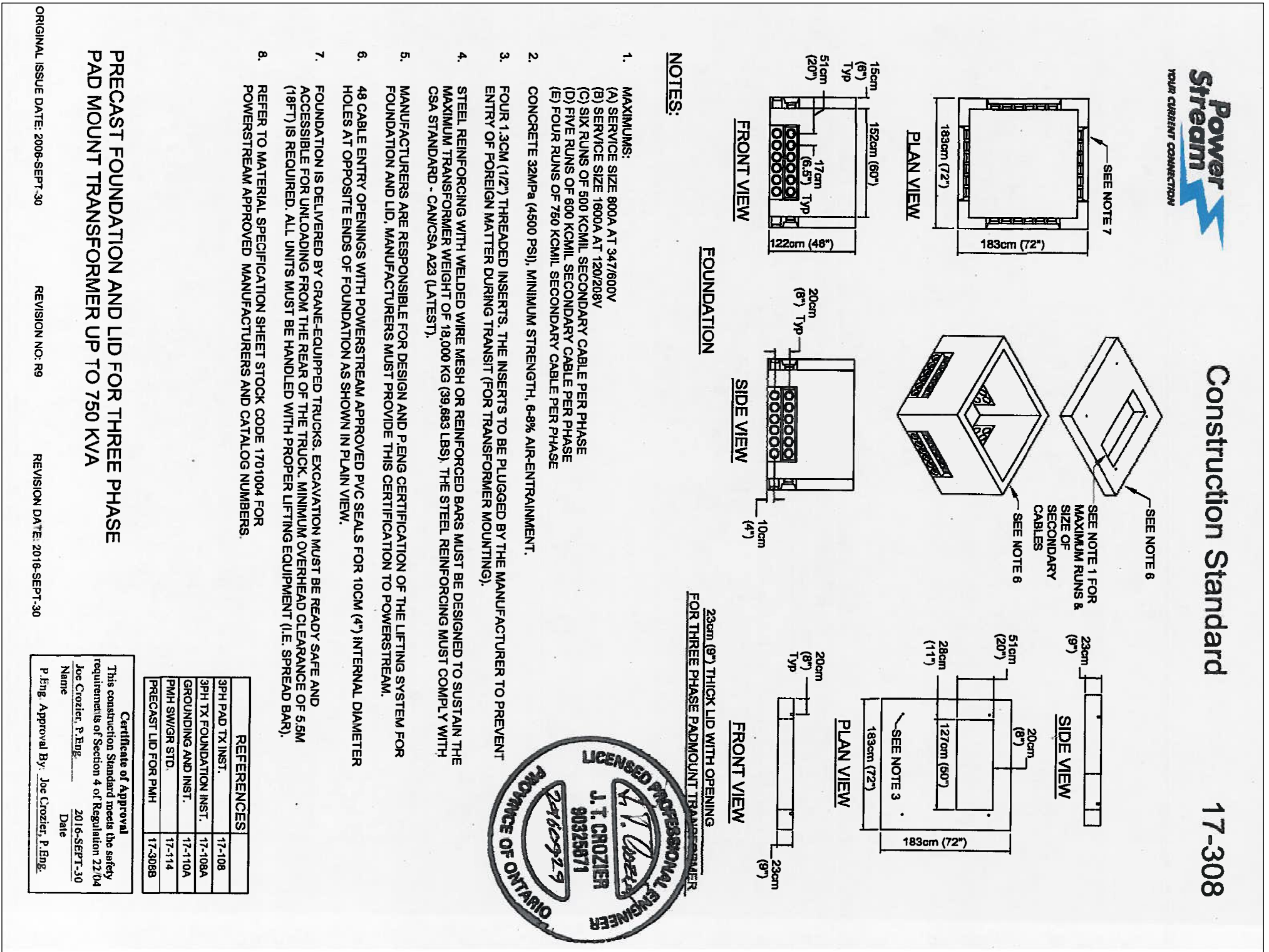
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PROFESSIONAL SEAL: R. J. VIOS, LICENSED PROFESSIONAL ENGINEER, PROVINCE OF ONTARIO, 2023/08/10

Construction Standard 17-308

PRECAST FOUNDATION AND LID FOR THREE PHASE PAD MOUNT TRANSFORMER UP TO 750 KVA



NOTES:

- MAXIMUMS:
 - (A) SERVICE SIZE 800A AT 247800V
 - (B) SERVICE SIZE 1000A AT 242400V
 - (C) FIVE RINGS OF 500 TONAL SECONDARY CABLE PER PHASE
 - (D) FOUR RINGS OF 750 TONAL SECONDARY CABLE PER PHASE
- CONCRETE 25MPa (6000 PSI), MINIMUM STRENGTH, 60% AIR ENTRAINMENT.
- FOUR 1.50M (4FT) THREADED INSERTS TO BE PLUGGED BY THE MANUFACTURER TO PREVENT ENTRY OF FOREIGN MATTER DURING TRANSIT FOR TRANSPORT/MOUNTING.
- STEEL REINFORCING WITH WELDED WIRE MESH OR REINFORCED BARS MUST BE DESIGNED TO SUSTAIN THE SERVICE WEIGHT OF THE LID AND TRANSFORMER. THE STEEL REINFORCING MUST COMPLY WITH CSA STANDARD - CAN/CSA A23.1(LATEST).
- MANUFACTURERS ARE RESPONSIBLE FOR DESIGN AND FABRICATION OF THE LIDING SYSTEM FOR FOUNDATION AND LID. MANUFACTURERS MUST PROVIDE THIS CERTIFICATION TO POWERSTREAM.
- 40 CABLE ENTRY OPENINGS WITH POWERSTREAM APPROVED PVC SEAL FOR 100MM (4") INTERNAL DIAMETER HOLES AT OPPOSITE ENDS OF FOUNDATION AS SHOWN IN PLAN VIEW.
- FOUNDATION IS DELIVERED BY GRAVE-EQUIPPED TRUCKS. DISCOUNT MUST BE READY, SAFE AND ACCESSIBLE FOR UNLOADING FROM THE REAR OF THE TRUCK. MINIMUM OVERHEAD CLEARANCE OF 6.5M (21 FT) IS REQUIRED. ALL SHIPS MUST BE EMBLISHED WITH PROPER LIGHTING AND EQUIPMENT (SEE SPREAD SHEET).
- REFER TO POWERSTREAM SPECIFICATION SHEET STOCK CODE 17101004 FOR POWERSTREAM APPROVED MANUFACTURERS AND SERVICE NUMBERS.

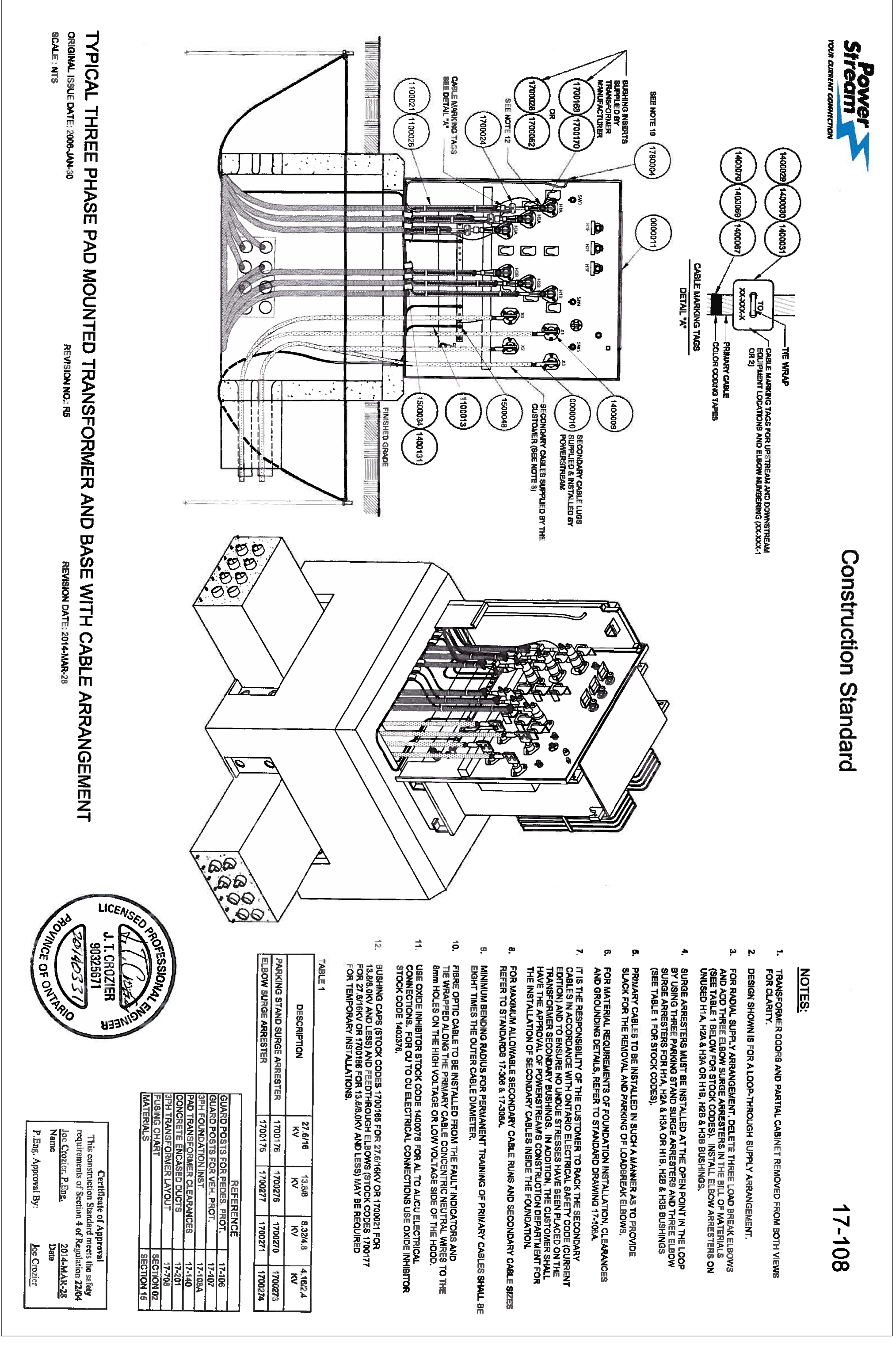
REFERENCES:

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Certificate of Approval: L. J. COZIER, 2016/08/23, 2016/08/23, 2016/08/23, 2016/08/23, 2016/08/23, 2016/08/23, 2016/08/23, 2016/08/23, 2016/08/23, 2016/08/23. P. Eng. Approval By: JAC. COZIER, P. Eng.

Construction Standard 17-108

TYPICAL THREE PHASE PAD MOUNTED TRANSFORMER AND BASE WITH CABLE ARRANGEMENT



NOTES:

- TRANSFORMER COILS AND PARTIAL CABINET REMOVED FROM BOTH VIEWS FOR CLARITY.
- DESIGN SHOWN IS FOR A LOOP-THROUGH SUPPLY ARRANGEMENT.
- FOR MAIN SUPPLY ARRANGEMENT, CABLES THREE LOAD BREAK SWINGS AND TWO THREE PHASE SWINGS ARE INSTALLED IN THE BELLY OF MAINBARS UNLESS 1/2" DIA. x 1/4" OR 3/8" DIA. x 3/8" BUSHINGS.
- SURGE ARRESTERS MUST BE INSTALLED AT THE OPEN POINT IN THE LOOP BY USING THREE PHASE SWING SURGE ARRESTERS AND THREE ELBO (SEE TABLE 1 FOR STOCK CODES).
- FOR MAINBARS, 1" DIA. x 1/4" OR 3/8" DIA. x 3/8" BUSHINGS ARE USED FOR THE REMOVAL AND PHASING OF CONSUMER ELBOWS.
- PRIMARY CABLES TO BE INSTALLED IN SUCH A MANNER AS TO PROVIDE FOR MATERIAL REQUIREMENTS OF FOUNDATION INSTALLATION, CLEARANCES AND GROUNDING DETAILS REFER TO STANDARD DRAWING 17-104.
- IT IS THE RESPONSIBILITY OF THE CUSTOMER TO PLACE THE SECONDARY CABLES IN THE BELLY OF MAINBARS IN ADDITION, THE CUSTOMER SHALL HANG SECONDARY CABLES IN SUCH A MANNER AS TO PROVIDE CLEARANCES FROM THE INSULATION OF SECONDARY CABLES INSIDE THE FOUNDATION.
- FOR MAXIMUM ALLOWABLE SECONDARY CABLE RINGS AND SECONDARY CABLE SIZES REFER TO STANDARDS 17-208 & 17-209.
- MINIMUM BENDING RADII FOR REINFORCEMENT TRAINING OF PRIMARY CABLES SHALL BE AS SHOWN IN THE OTHER CABLE DRAWING.
- THE WEIGHT OF THE TRANSFORMER SHALL BE INSTALLED FROM THE PAUL INDICATORS AND TO THE 6mm HOLES ON THE HIGH VOLTAGE OR LOW VOLTAGE SIDE OF THE HOOD.
- USE CODES IN THE STOCK CODE ABOVE FOR ALL ALUMINUM ELECTRICAL STOCK CODES ABOVE TO ELECTRICAL CONNECTIONS (SEE OTHER INVENTORY STOCK CODE ABOVE).
- RISING CABLE STOCK CODES REFER TO: 17-209 FOR 247800V, 17-208 FOR 242400V AND 17-207 FOR 124700V OR 124200V (AND LISTS) MAY BE REQUIRED FOR 124700V AND 124200V.

TABLE 1

DESCRIPTION	27218	1248	8324.8	4162.4
PAVING STAND SURGE ARRESTER	170078	170278	170270	170273
ELBOV SURGE ARRESTER	170073	170277	170271	170072

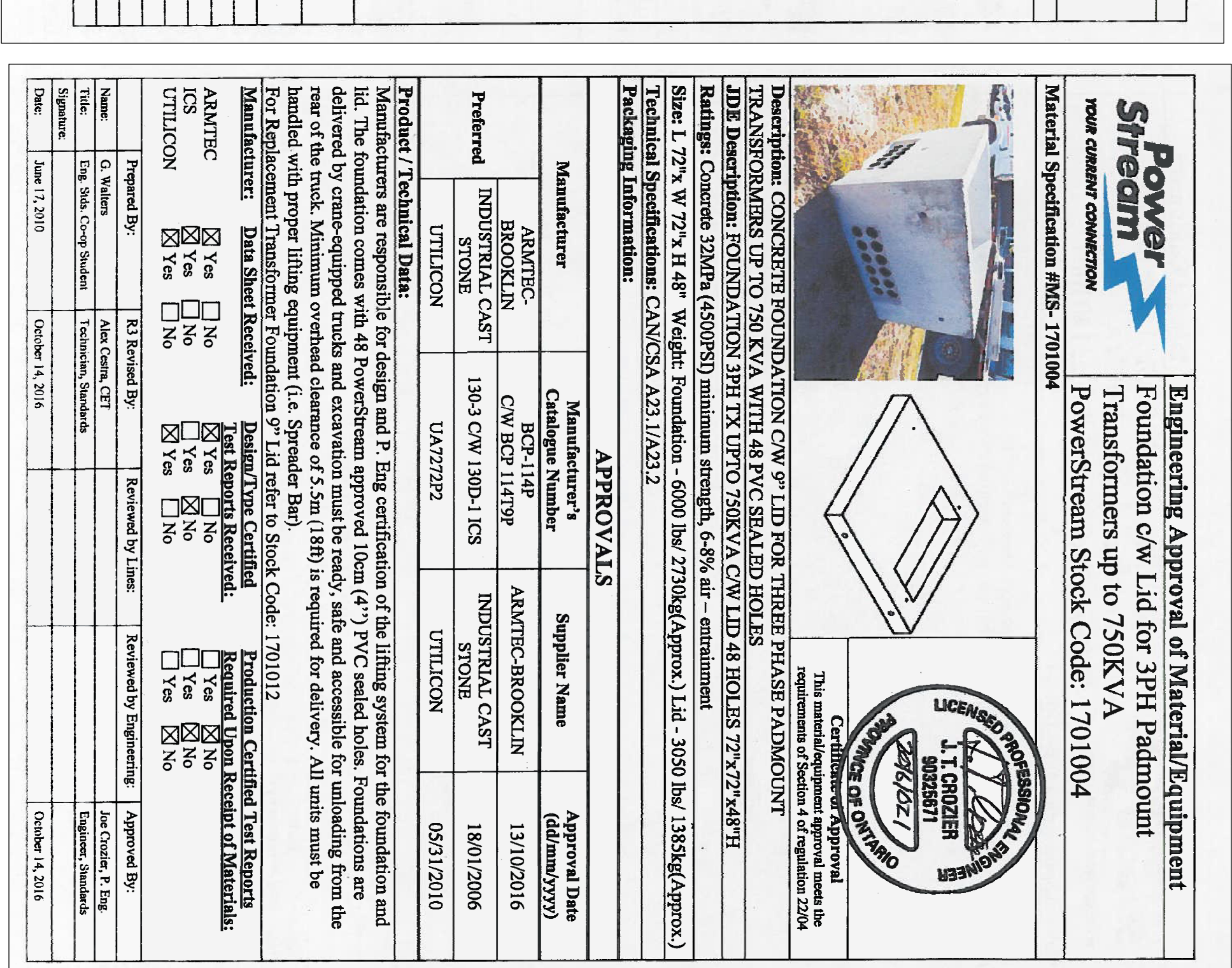
REFERENCE:

GUARD RAILS FOR REEFS, INOCT	17-06
GUARD RAILS FOR VEH, INOCT	17-07
3PH TRANSFORMER VEH, INOCT	17-08
CONCRETE FOUNDATIONS SHI	17-09
CONCRETE FOUNDATIONS SHI	17-09A
1X 1/4" ALL PIT	17-208A
SECTION 15	

Certificate of Approval: L. J. COZIER, 2016/08/23, 2016/08/23, 2016/08/23, 2016/08/23, 2016/08/23, 2016/08/23, 2016/08/23, 2016/08/23, 2016/08/23, 2016/08/23. P. Eng. Approval By: JAC. COZIER, P. Eng.

Construction Standard 17-108A

INSTALLATION OF PRECAST FOUNDATION AND GROUNDING FOR 3 PHASE TRANSFORMER



NOTES:

- TRANSFORMER LOCATION (SEE PLAN, 17-108) TO BE APPROVED BY POWERSTREAM WITH MINIMUM CLEARANCES FROM ALL SURROUNDING OBSTACLES. THE TRANSFORMER SHALL BE INSTALLED ON THE ONTARIO ELECTRICAL SAFETY CODE (CURRENT EDITION) TRANSFORMER FOUNDATION. THE FOUNDATION SHALL BE APPROVED BY POWERSTREAM VEHICLES FROM PARKING AREA, DRIVEWAY, YARD, ETC. (SEE DETAIL 17-108).
- IF THE TRANSFORMER IS TO BE INSTALLED ON A CONCRETE FOUNDATION, THE FOUNDATION SHALL BE APPROVED BY POWERSTREAM WITH MINIMUM CLEARANCES FROM ALL SURROUNDING OBSTACLES. THE FOUNDATION SHALL BE APPROVED BY POWERSTREAM VEHICLES FROM PARKING AREA, DRIVEWAY, YARD, ETC. (SEE DETAIL 17-108).
- DIGIT INSTALLATION: CUSTOMER TO SUPPLY AND INSTALL DIGITS AS FOLLOWS:
 - A) HIGH VOLTAGE (H.V.) DIGITS TO BE INSTALLED AS PER POWERSTREAM STANDARD DWG 17-201. EXACT DIGIT ROUTE AND NUMBER OF DIGITS WILL BE PROVIDED BY POWERSTREAM.
 - B) CONDUITS SHALL BE INSTALLED AS PER THE ONTARIO ELECTRICAL SAFETY CODE (CURRENT EDITION) AND INSPECTED BY ELECTRICAL SAFETY AUTHORITY.
- SECONDARY CABLES MUST BE SUPPLIED AND INSTALLED BY THE CUSTOMER AND BE TO FULL AGENCY OF THE SERVICE INSTALLATION OR AS PER ELECTRICAL SAFETY CODE REGULATIONS NUMBER AND SIZE AUTHORITY AND INDICATED ON CUSTOMER'S FINAL ELECTRICAL DRAWINGS.
- GROUNDING DETAIL: CUSTOMER TO SUPPLY AND INSTALL 1 COPPER GROUND ROBS COMPLETE WITH CORNER WELDED CONNECTIONS AND SHEET BRASS TERMINAL GROUND AS PER DETAIL 17-208.
- TO REACH TRANSFORMER GROUND BUS BAR, THE GROUND CONDUCTOR SHALL ENTER THE FOUNDATION THROUGH A DUCT FACE (DO NOT USE SPONGE HOLES).
- INSPECTOR: CUSTOMER TO SCHEDULE CONSTRUCTION AND HOLDING INSPECTIONS WITH POWERSTREAM FOUNDATION INSPECTOR FOR TRANSFORMER FOUNDATION TO BE INSTALLED PER POWERSTREAM STANDARDS STANDARD DWG 17-208.
- THE CUSTOMER CONTRACTOR MUST FOLLOW DIGIT ARRANGEMENT INSTALLATION PROCEDURE SHOWN IN DETAIL 17-208. THE CUSTOMER CONTRACTOR SHALL BE RESPONSIBLE FOR SUPPLYING AND INSTALLING ALL DIGITS FROM WATER RUNNING IN TO THE ELECTRICAL ROOM/COMPANION.
- SMALL PAVING FOR 8" IN NOTION OF EACH DIGIT 1.5m DIA. AT 90 CENTRES. ALL TO TOP OF PLATES WITH 1/2" DIA. (1" CLEAR STONE) TOP OF WITH LAYERS OF POLY-ETHYLENE OR STYROMOLAN ETC. AND A FINAL LAYER OF CONCRETE.

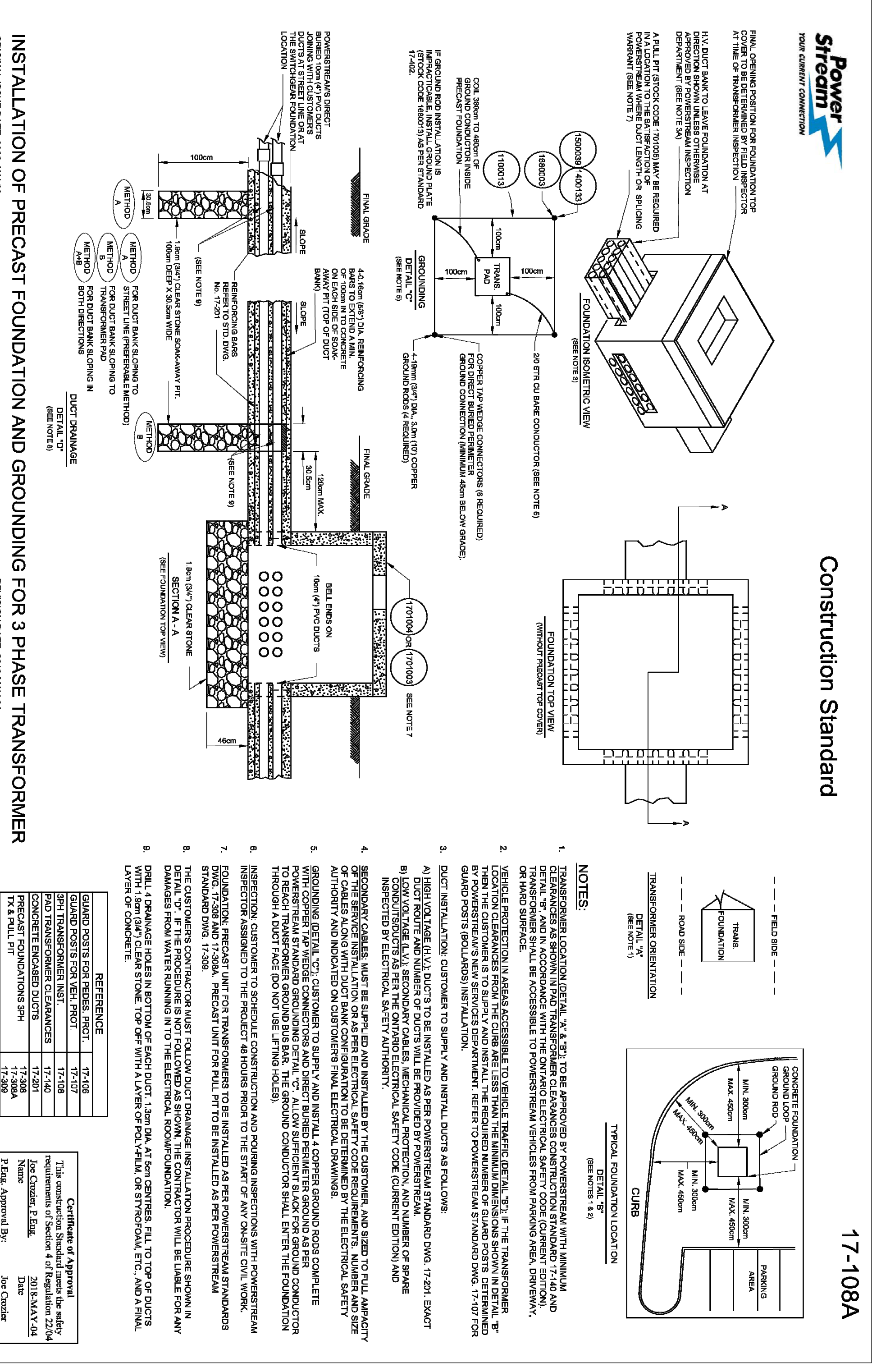
REFERENCE:

GUARD RAILS FOR REEFS, INOCT	17-06
GUARD RAILS FOR VEH, INOCT	17-07
3PH TRANSFORMER VEH, INOCT	17-08
CONCRETE FOUNDATIONS SHI	17-09
CONCRETE FOUNDATIONS SHI	17-09A
1X 1/4" ALL PIT	17-208A
SECTION 15	

Certificate of Approval: L. J. COZIER, 2016/08/23, 2016/08/23, 2016/08/23, 2016/08/23, 2016/08/23, 2016/08/23, 2016/08/23, 2016/08/23, 2016/08/23, 2016/08/23. P. Eng. Approval By: JAC. COZIER, P. Eng.

Construction Standard 17-108B

INSTALLATION OF PRECAST FOUNDATION AND GROUNDING FOR 3 PHASE TRANSFORMER



NOTES:

- TRANSFORMER LOCATION (SEE PLAN, 17-108) TO BE APPROVED BY POWERSTREAM WITH MINIMUM CLEARANCES FROM ALL SURROUNDING OBSTACLES. THE TRANSFORMER SHALL BE INSTALLED ON THE ONTARIO ELECTRICAL SAFETY CODE (CURRENT EDITION) TRANSFORMER FOUNDATION. THE FOUNDATION SHALL BE APPROVED BY POWERSTREAM VEHICLES FROM PARKING AREA, DRIVEWAY, YARD, ETC. (SEE DETAIL 17-108).
- IF THE TRANSFORMER IS TO BE INSTALLED ON A CONCRETE FOUNDATION, THE FOUNDATION SHALL BE APPROVED BY POWERSTREAM WITH MINIMUM CLEARANCES FROM ALL SURROUNDING OBSTACLES. THE FOUNDATION SHALL BE APPROVED BY POWERSTREAM VEHICLES FROM PARKING AREA, DRIVEWAY, YARD, ETC. (SEE DETAIL 17-108).
- DIGIT INSTALLATION: CUSTOMER TO SUPPLY AND INSTALL DIGITS AS FOLLOWS:
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 - B) CONDUITS SHALL BE INSTALLED AS PER THE ONTARIO ELECTRICAL SAFETY CODE (CURRENT EDITION) AND INSPECTED BY ELECTRICAL SAFETY AUTHORITY.
- SECONDARY CABLES MUST BE SUPPLIED AND INSTALLED BY THE CUSTOMER AND BE TO FULL AGENCY OF THE SERVICE INSTALLATION OR AS PER ELECTRICAL SAFETY CODE REGULATIONS NUMBER AND SIZE AUTHORITY AND INDICATED ON CUSTOMER'S FINAL ELECTRICAL DRAWINGS.
- GROUNDING DETAIL: CUSTOMER TO SUPPLY AND INSTALL 1 COPPER GROUND ROBS COMPLETE WITH CORNER WELDED CONNECTIONS AND SHEET BRASS TERMINAL GROUND AS PER DETAIL 17-208.
- TO REACH TRANSFORMER GROUND BUS BAR, THE GROUND CONDUCTOR SHALL ENTER THE FOUNDATION THROUGH A DUCT FACE (DO NOT USE SPONGE HOLES).
- INSPECTOR: CUSTOMER TO SCHEDULE CONSTRUCTION AND HOLDING INSPECTIONS WITH POWERSTREAM FOUNDATION INSPECTOR FOR TRANSFORMER FOUNDATION TO BE INSTALLED PER POWERSTREAM STANDARDS STANDARD DWG 17-208.
- THE CUSTOMER CONTRACTOR MUST FOLLOW DIGIT ARRANGEMENT INSTALLATION PROCEDURE SHOWN IN DETAIL 17-208. THE CUSTOMER CONTRACTOR SHALL BE RESPONSIBLE FOR SUPPLYING AND INSTALLING ALL DIGITS FROM WATER RUNNING IN TO THE ELECTRICAL ROOM/COMPANION.
- SMALL PAVING FOR 8" IN NOTION OF EACH DIGIT 1.5m DIA. AT 90 CENTRES. ALL TO TOP OF PLATES WITH 1/2" DIA. (1" CLEAR STONE) TOP OF WITH LAYERS OF POLY-ETHYLENE OR STYROMOLAN ETC. AND A FINAL LAYER OF CONCRETE.

REFERENCE:

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CONCRETE FOUNDATIONS SHI	17-09
CONCRETE FOUNDATIONS SHI	17-09A
1X 1/4" ALL PIT	17-208A
SECTION 15	

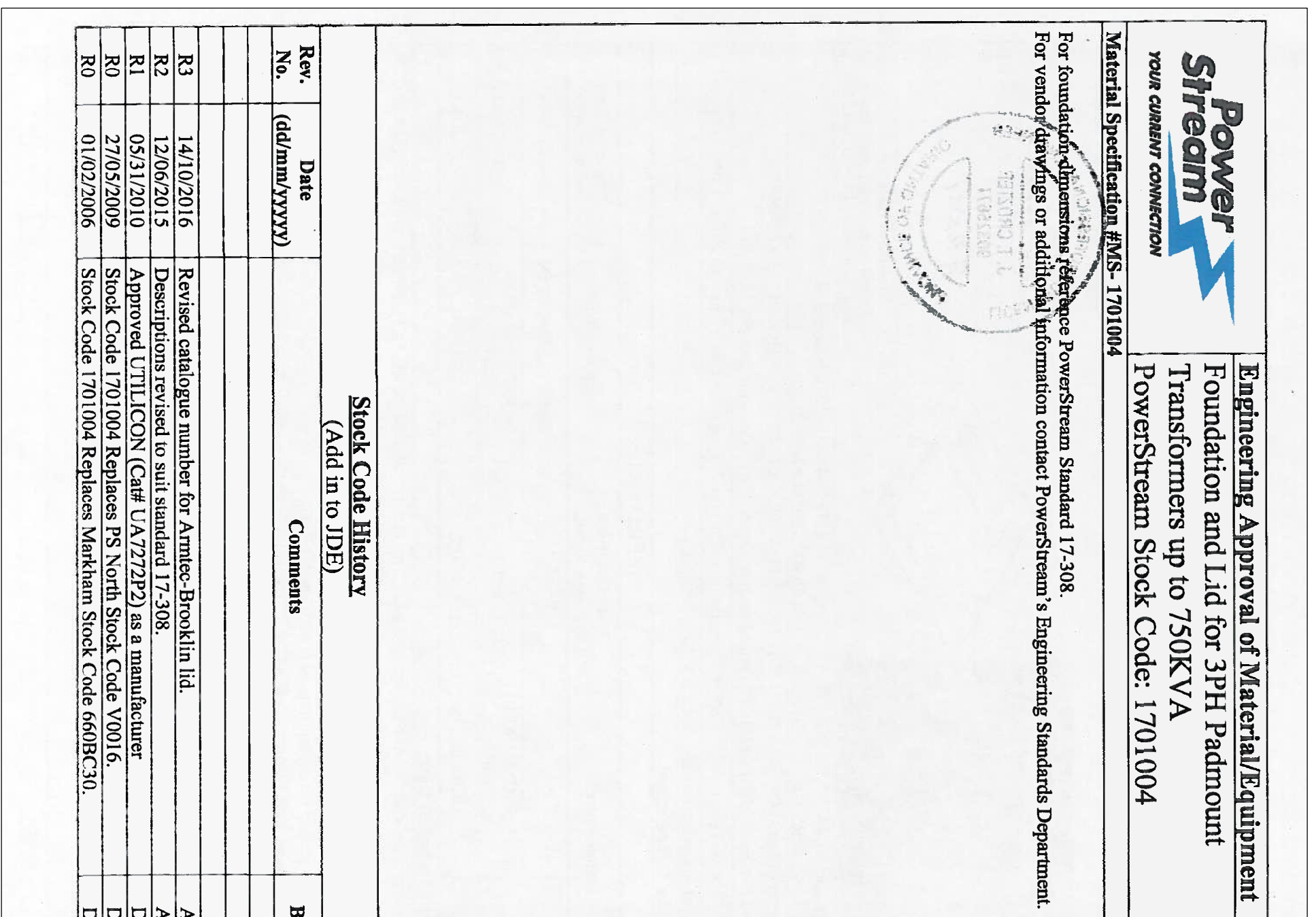
Certificate of Approval: L. J. COZIER, 2016/08/23, 2016/08/23, 2016/08/23, 2016/08/23, 2016/08/23, 2016/08/23, 2016/08/23, 2016/08/23, 2016/08/23, 2016/08/23. P. Eng. Approval By: JAC. COZIER, P. Eng.

Engineering Approval of Material/Equipment

Foundation and Lid for 3PH Padmount Transformers up to 750KVA
PowerStream Stock Code: 1701004

Material Specification #MS- 1701004

For foundation dimensions reference PowerStream Standard 17-308
For vendor drawings or additional information contact PowerStream's Engineering Standards Department.



REVISED CATALOGUE NUMBER FOR AMTREC-BROOKLIN LTD.
DESCRIPTIONS REVISED TO SUIT STANDARD 17-308.
APPROVED UTILICON (PART UA72722) AS A MANUFACTURER.
STOCK CODE 1701004 REPLACES PS NORTH STOCK CODE V0016.
STOCK CODE 1701004 REPLACES MARKHAM STOCK CODE 6608C30.

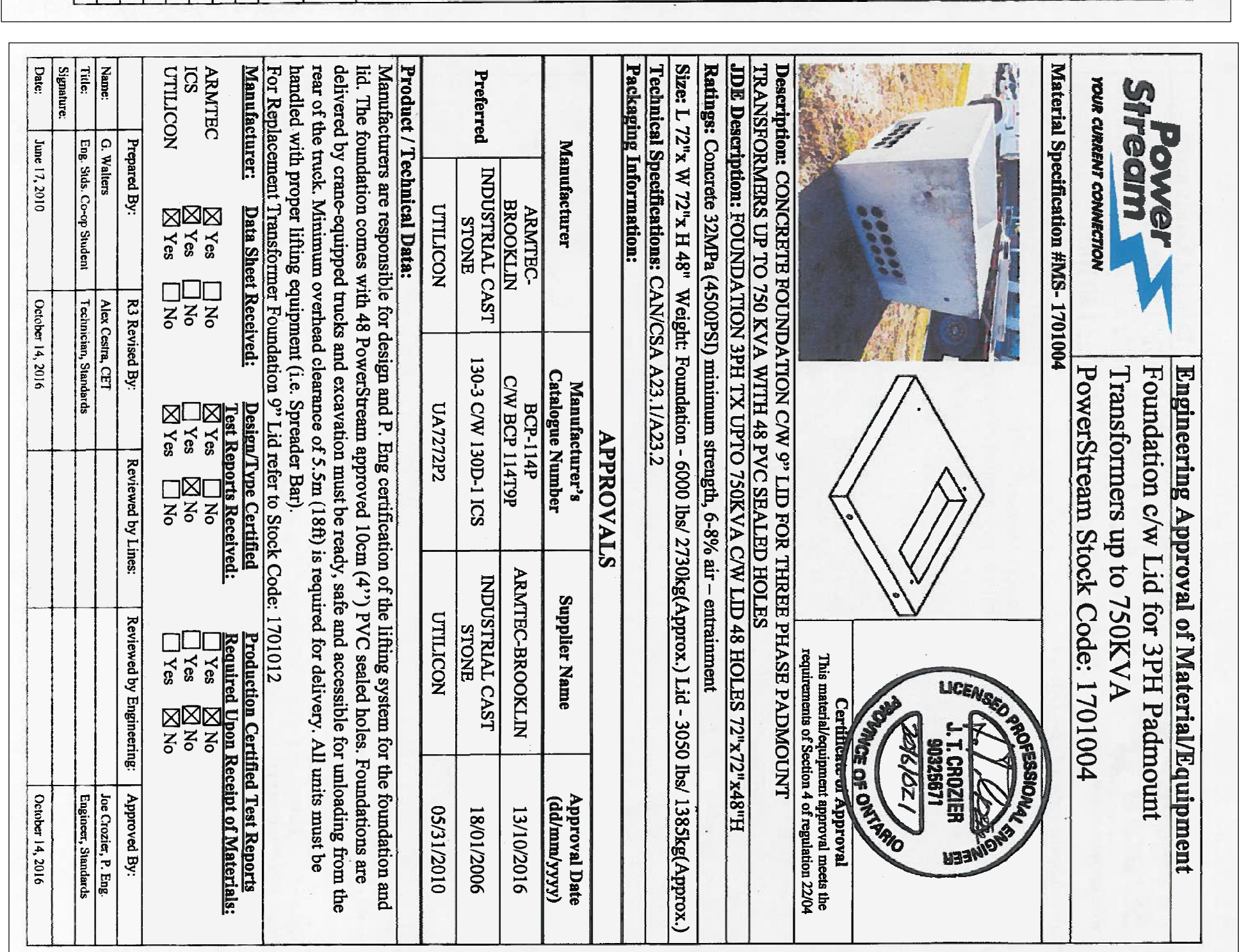
Rev.	Date	Comments	By:
R3	14/10/2016	Revised catalogue number for Amtrek-Brooklin Ltd.	AC
R2	12/06/2015	Descriptions revised to suit standard 17-308.	AC
R1	05/31/2010	Approved UTILICON (Part UA72722) as a manufacturer.	DD
RO	27/05/2009	Stock Code 1701004 Replaces PS North Stock Code V0016.	DD
RO	01/07/2006	Stock Code 1701004 Replaces Markham Stock Code 6608C30.	DD

Engineering Approval of Material/Equipment

Foundation c/w Lid for 3PH Padmount Transformers up to 750KVA
PowerStream Stock Code: 1701004

Material Specification #MS- 1701004

For foundation dimensions reference PowerStream Standard 17-308
For vendor drawings or additional information contact PowerStream's Engineering Standards Department.



DESIGNATION: CONCRETE FOUNDATION C/W LID FOR THREE PHASE PADMOUNT TRANSFORMERS UP TO 750 KVA WITH 48 PVC REINFORCED HOLES.
TRANSPORTERS: FOUNDATION 3PH TX UP TO 750KVA C/W LID 48 HOLES 72"x72"x48"RH.
RATING: Concrete 25MPa (4500PSI) minimum strength, 6-8% air - entrainment.
Size: L 72" x W 72" x H 48" Weight: Foundation: 6000 lbs/ 2730kg (Approx.) Lid: 3050 lbs/ 1385kg (Approx.)
Technical Specification: CAN/CSA A23.1/A23.2.

APPROVALS

Manufacturer	Manufacturer's Catalogue Number	Supplier Name	Approval Date
AMTREC-BROOKLIN INDUSTRIAL CAST STONE	CW/BCT 11413P	AMTREC-BROOKLIN INDUSTRIAL CAST STONE	13/10/2016
UTILICON	UA727222	UTILICON	18/01/2006

Product / Technical Data:

Manufacturers are responsible for design and P. Eng certification of the lifting system for the foundation and lid. The foundation comes with 48 PowerStream approved 10cm (4") PVC sealed holes. Foundations are delivered by crane-equipped trucks and excavation must be ready, safe and accessible for unloading from the rear of the truck. Minimum overhead clearance of 5.5m (18ft) is required for delivery. All units must be handled with proper lifting equipment (i.e. spreader bar).

For Replacement Transformer Foundation "P" Lid refer to Stock Code: 1701012

Manufacturer Data Sheet Reference:

Manufacturer	Data Sheet Reference	Product/Type Certified	Foundation Certified	Foundation Certified Test Report
AMTREC-BROOKLIN	CW/BCT 11413P	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No
UTILICON	UA727222	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No

REFERENCES:

EN 12410	EN 12410
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Certificate of Approval: L. J. COZIER, 2016/08/23, 2016/08/23, 2016/08/23, 2016/08/23, 2016/08/23, 2016/08/23, 2016/08/23, 2016/08/23, 2016/08/23, 2016/08/23. P. Eng. Approval By: JAC. COZIER, P. Eng.

ELECTRICAL SITE PLAN DETAILS (ALECTRA)

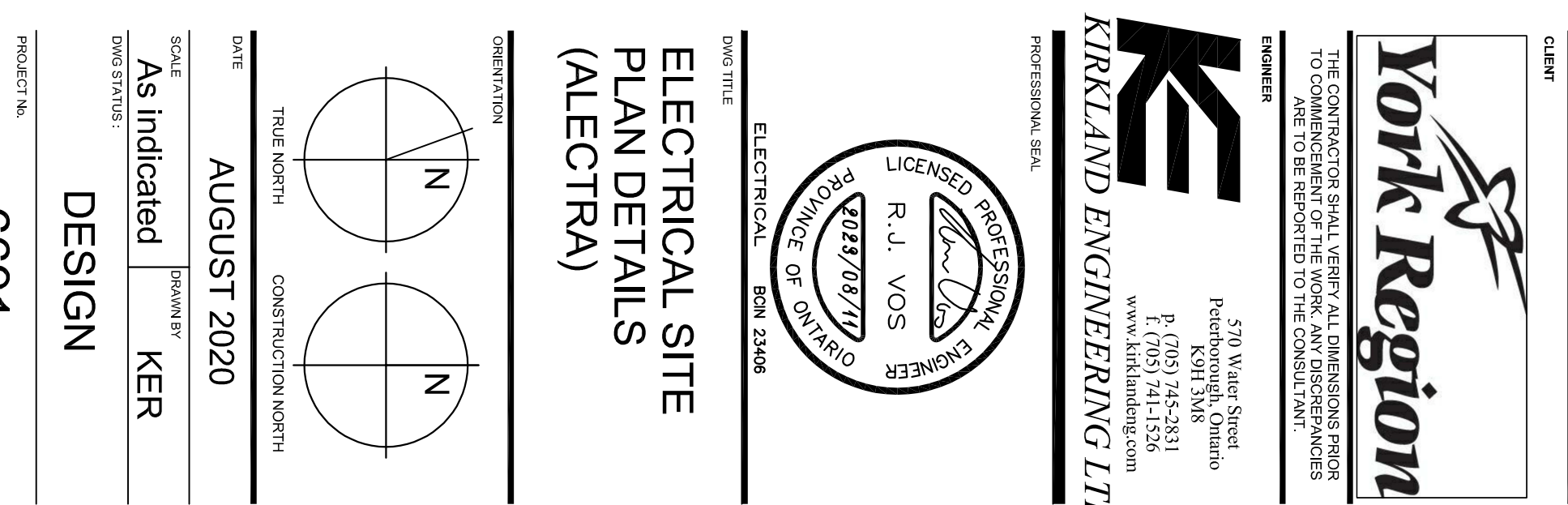
DATE: AUGUST 2020

SCALE: As Indicated

DRAWN BY: KER

PROJECT NO: 6691

REVISION: E3



NO.	ISSUE OR REVISION	DATE
1	ISSUED FOR PERMIT	2021 08 03
2	60% REVIEW	2021 08 03
3	90% REVIEW	2021 09 23
	PERMIT	2022 01 28
	CONSTRUCTION	2022 08 11

YORK REGION PRS #32

53 JACOB KEFFER PARKWAY, VAUGHAN

PROJECT: POWER AND SYSTEMS PLAN AND DETAILS

CLIENT: YORK REGION

CONTRACTOR: YORK REGION PROFESSIONAL ENGINEERS INC.

DATE: AUGUST 2020

SCALE: AS INDICATED

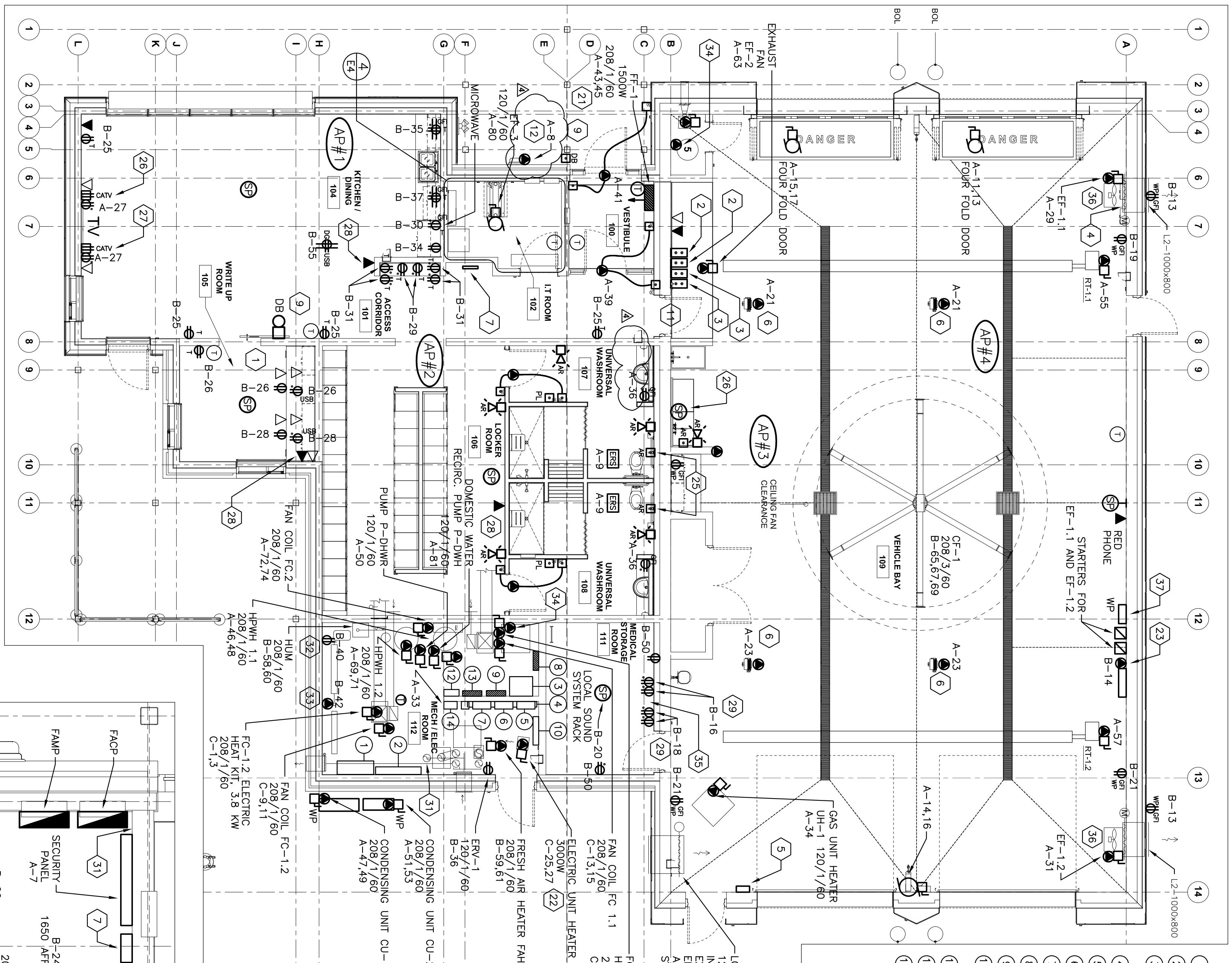
DESIGNER: KER

PROJECT NO.: 6691

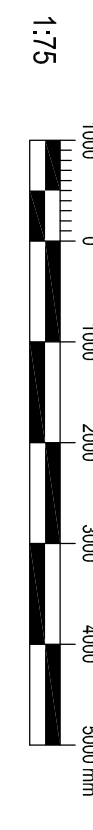
REVISION: E4

ELECTRICAL ROOM EQUIPMENT LIST

- DISTRIBUTION PANEL DP-1
- UTILITY METERING CABINET
- AUTOMATIC TRANSFER SWITCH ATS-1
- SPLITTER SP-2
- DISCONNECT FOR PANEL 'A'
- DISCONNECT FOR PANEL 'B'
- DISCONNECT FOR PANEL 'C'
- PANEL 'A'
- PANEL 'B'
- PANEL 'C'
- DIGITAL SUB METER DSM-1
- PANEL 'C'
- PANEL 'C'
- BAS PANEL

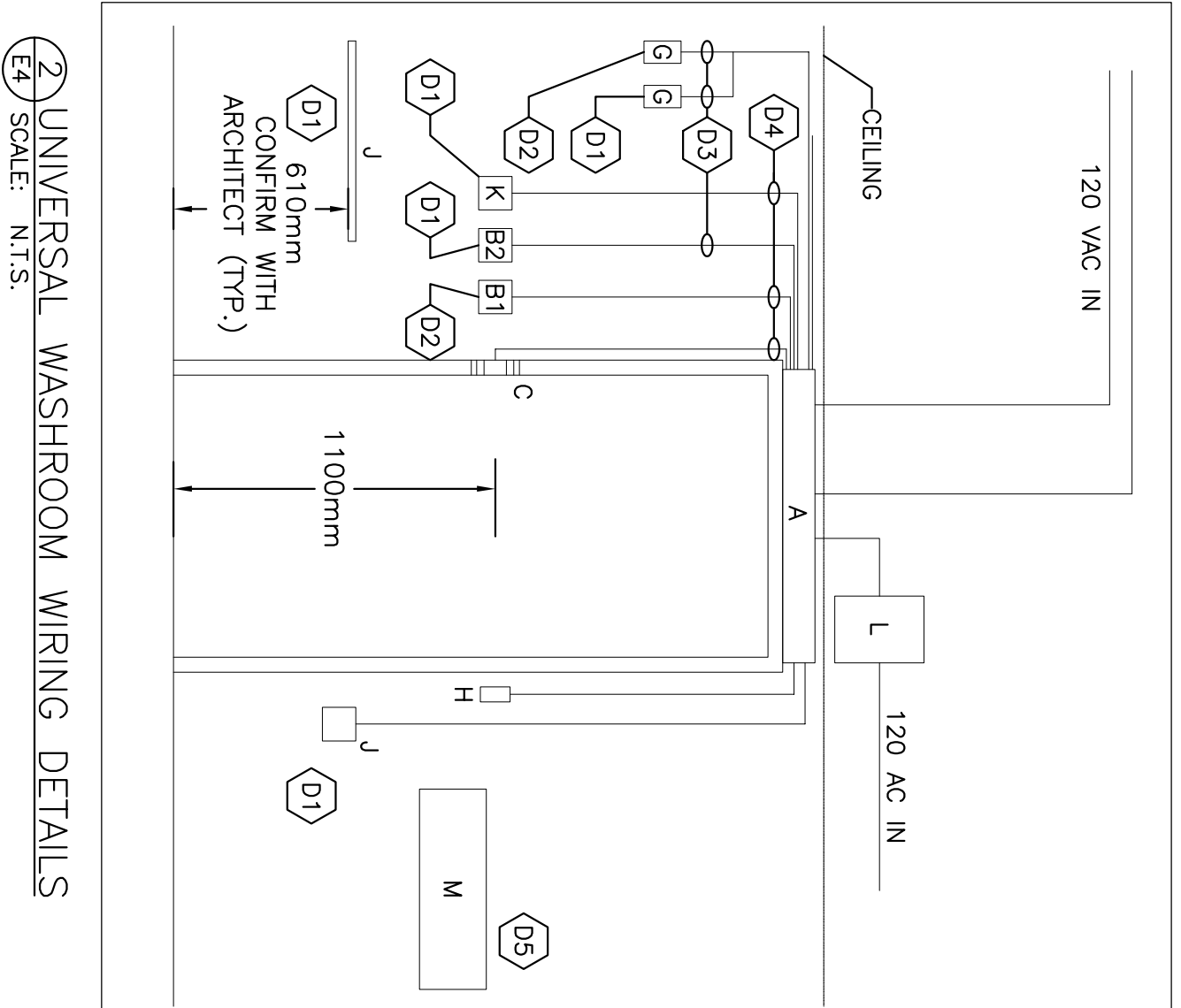
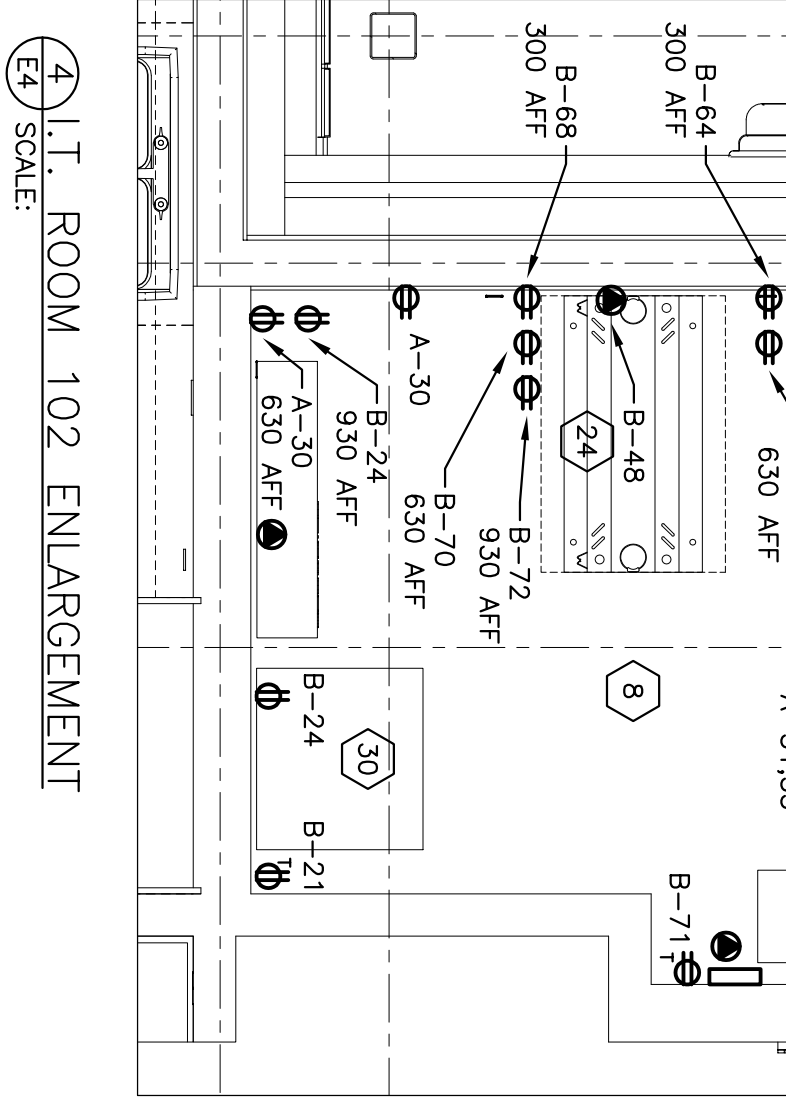


POWER PLAN

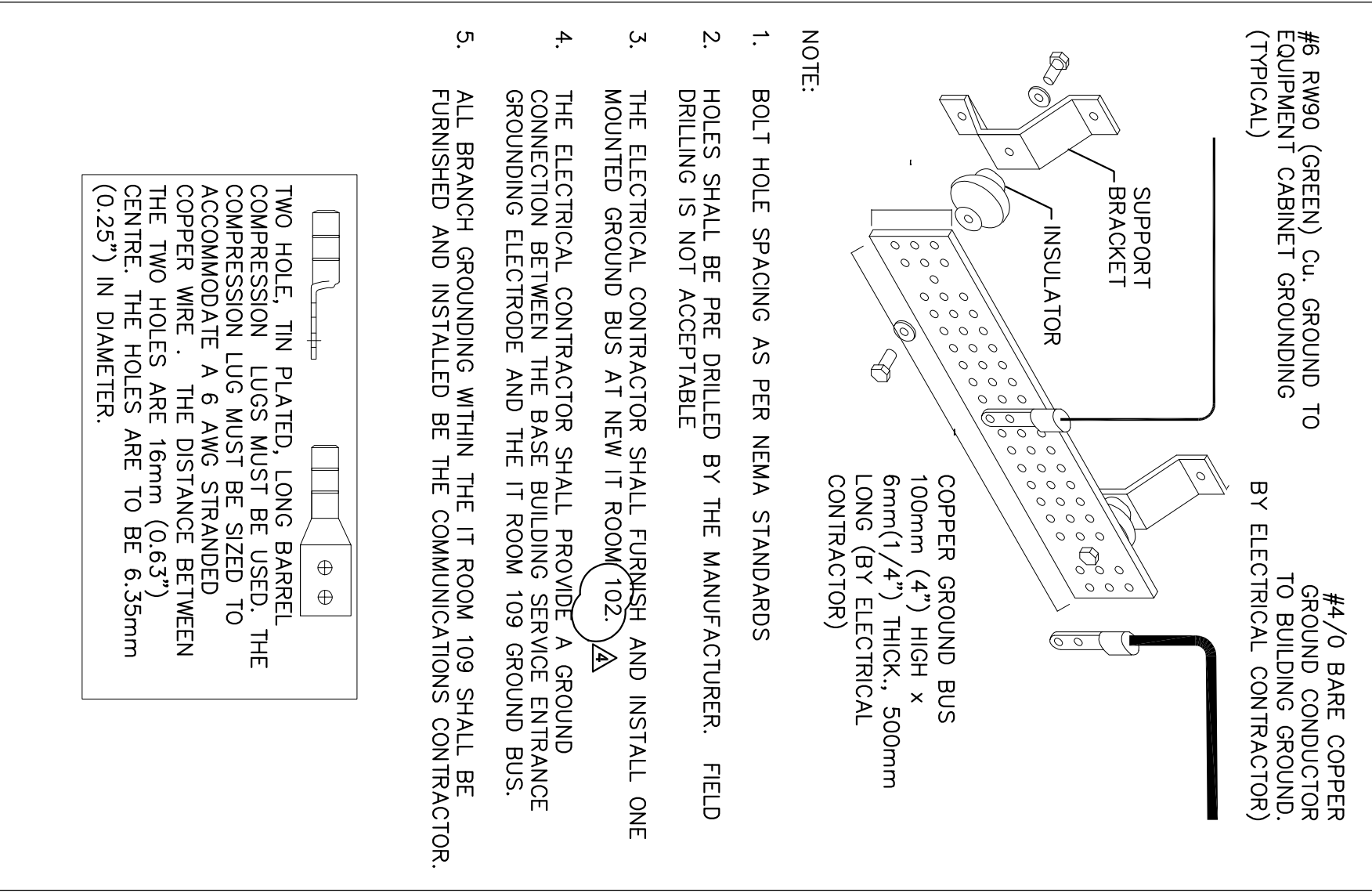


GENERAL NOTES
A. REFER TO DRAWING ES FOR SECURITY PLAN.

- PROVIDE 120V DIRECT CONNECTION FOR ELECTRONIC TRAP PRIMER. USE CIRCUIT B-14.
- PROVIDE 200mm x 300mm RULL BOX HIGH ON WALL FOR L1. CABLES RUN TWO 50mm SURFACE MOUNTED CONDUITS FROM THIS BOX TO THE L1. ROOM. SEE DETAIL 5 ON ARCHITECTURAL DRAWING A3.5.
- EXHAUST FANS EF-1.1 AND EF-1.2 ARE CONTROLLED BY HIGH RELAY OPERATED BY GAS DETECTION SYSTEM. INSTALL WIRING FOR A COMPLETE AND FUNCTIONING SYSTEM. INTERLOCK FANS WITH LOUVER L-2. SEE DETAIL 3 ON DRAWING E6.
- VEHICLE BAY EXHAUST FAN CONTROL PANEL.



- GENERAL NOTES**
- HARDWARE SUPPLIER IS RESPONSIBLE TO VERIFY CABLE LENGTH FOR EACH DOOR PRIOR TO FURNISHING. HARDWARE SUPPLIER SHALL PROVIDE ITEMS 'A' TO 'M'.
 - DOOR MANUFACTURER IS RESPONSIBLE TO PROTECT PLUG CONNECTORS AND CABLE DURING SHIPPING STORAGE AND INSTALLATION.
 - THE RISER DIAGRAM ILLUSTRATES ELECTRICAL COMPONENTS AT THE DOOR.
 - COORDINATE WITH HARDWARE AND DOOR SCHEDULE FOR HANDLING DOOR TYPE AND RELATED HARDWARE.
 - DIVISION 26 TO SUPPLY AND TERMINATE 120 VAC AT EMERGENCY PUSH BUTTON - ASSISTANCE REQUIRED.
 - DIVISION 26 TO PROVIDE CONDUIT WITH LOW VOLTAGE WIRING AS INDICATED.
 - DIVISION 26 TO SUPPLY SINGLE GANG BACK BOXES AT DEVICE LOCATIONS.
 - REFER TO DETAIL 3 ON DRAWING B.1 FOR EXACT LOCATIONS OF DEVICES.
 - WASHROOM PANIC BUTTONS TO BE CONNECTED TO THE SECURITY SYSTEM AND INTERCOM PANEL IN CANADA. THESE TO BE MONITORED BY THE MONITORING OF CANADA.
 - SECURITY CONTRACTOR TO WORK WITH FMC TO CONNECT THE MONITORING EQUIPMENT TO THE BOSCH PANEL FOR WASHROOM PANIC.
- DETAIL NOTES**
- INTERIOR
 - EXTERIOR
 - #18 IN 16mm
 - #18 IN 16mm
 - SIGN 'IN THE EVENT OF AN EMERGENCY PUSH EMERGENCY BUTTON AND AUDIBLE AND VISUAL SIGNAL WILL ACTIVATE'
 - PROVIDE POWER FOR AMBULANCE SHORE POWER CORD ASSEMBLY.
 - BELL DEMARCATION LOCATION IN L1. ROOM 109.
 - ON ALL WALLS OF THE L1. ROOM PROVIDE 2440mm HIGH x 21mm THICK FIRE RATED PLYWOOD BACKBOARD MADE FROM 100 PERCENT FSC CERTIFIED WOOD. LOW VOLTAGE SYSTEMS SUCH AS VOICE, DATA, INTERCOM, ROUTING-IN FOR LOW VOLTAGE OUTLETS.
 - PROVIDE A FULLY OPERATIONAL DOOR BUZZER AS PER MANUFACTURER'S INSTRUCTION INCLUDING BUT NOT LIMITED TO THE FOLLOWING:
PROVIDE DOOR BUZZER, PUSH BUTTON, CONDUITS, COVERS/PLATES AND CABLES AND ASSOCIATED COMPONENTS AS REQUIRED AND/OR AS SHOWN ON THE DRAWINGS FOR A FULLY OPERATIONAL SYSTEM. PUSH BUTTON SHALL BE 24V. COMPACT. STRAP MOUNTED. SUITABLE FOR FLUSH MOUNTING IN A STANDARD GANG BOX. EDWARDS PART #654.
DOOR BUZZER SHALL BE 24 VOLT AC. COMPACT. STRAP MOUNTED. SUITABLE FOR FLUSH MOUNTING IN A STANDARD GANG BOX. EDWARDS PART #792.
TRANSFORMER SHALL BE 24 VOLT 20VA OUTPUT RATING COMPLETE WITH PLATE TO BE PRETYPED ENCLOSED MOUNTING OF THE TRANSFORMER IN A STANDARD TWO-GANG OUTLET BOX. TRANSFORMER SHALL BE EDWARDS #590 SERIES COMPLETE WITH A #593 PLATE.
ALL WIRING SHALL BE RUN IN 16mm DIAMETER CONDUIT UNLESS OTHERWISE NOTED.
FROM L1. ROOM #109 PROVIDE THE FOLLOWING EMPTY CONDUITS:
A) 53mm CONDUIT TO THE WRITE UP ROOM 106.
B) 53mm CONDUIT FROM THE PLYWOOD BACKBOARD TO THE ROOF FOR A SATELLITE RADIO SYSTEM. COORDINATE EXACT LOCATION ON SITE FOR ROOF STUB UP LOCATION.
 - EXTERIOR RECEPTACLES SHUT-OFF SWITCH.
 - PROVIDE POWER TO DEFIBRILLATOR. COORDINATE REQUIREMENTS WITH DEFIBRILLATOR SUPPLIER. COORDINATE WITH OTHER TRADES FOR INSTALLATION OF CEILING FAN. PROVIDE 21mm CONDUIT FROM SPEED SUPPLY AND INSTALL POWER, DATA AND COAX CABLE. PROVIDE 53mm CONDUIT BETWEEN THE TWO T.V.'S FOR HDMI CABLE. REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS AND EXACT LOCATIONS.
 - REFER TO DETAIL 1 ON DRAWING A4.3
 - REFER TO DETAIL 2 ON DRAWING A4.3
 - UTILITY 7-JAW METEIRBASE. SEE ALECTRA /PS STANDARDS 25-220/25-230.
 - BAS PANEL
 - INTERLOCK MOTORIZED DAMPER WITH EXHAUST FAN EF-1.
 - INDOOR UNIT A/C-2 IS FED FROM OUTDOOR UNIT CU-2.
 - FORCE FLOW HEATER FHH-1 IS SUPPLIED BY MECHANICAL CONTRACTOR AND INSTALLED BY ELECTRICAL CONTRACTOR. ELECTRICAL CONTRACTOR TO PROVIDE CLASS 2-120VAC TO 24VAC TRANSFORMER AND 120VAC/24VAC RELAY FOR HEATER CONTROL SYSTEM. WIRING BELOW 50V IS BY MECHANICAL CONTRACTOR.
 - ELECTRIC UNIT HEATER EUH-1 IS SUPPLIED BY MECHANICAL CONTRACTOR AND INSTALLED BY ELECTRICAL CONTRACTOR.
 - PROVIDE 120V POWER TO NOZ/CO CONTROL PANEL.
 - PROVIDE L520 RECEPTACLE FOR THE APC2200 UPS BY THE NETWORK RACK ON THE WALL. CONFIRM EXACT LOCATION WITH YORK REGION REPRESENTATIVE.
 - ASSISTANCE REQUIRED PANIC STRIP TO BE TIED INTO SECURITY SYSTEM AND MONITORED THROUGH HIRCH INTERCOM PANEL AS WELL AS INCLUDED ON LEVEL GRAPHIC.
 - SPEAKER MOUNTED ON THE WALL.
 - PROVIDE COAX CABLE TO TOP AND BOTTOM CAVY OUTLETS. RUN COAX CABLE TO L1. ROOM MOH PHONE.
 - PROVIDE DUPLEX RECEPTACLES HIGH ON WALL FOR MEDISAFES. COORDINATE WITH MEDISAFE INSTALLER. SEE DETAIL 5 ON ARCHITECTURAL DRAWING A3.5.
 - MINISTRY OF HEALTH BOX PA SYSTEM.
 - PROVIDE GROUND BAR IN L1. ROOM AND MEGH/ELEC ROOM.
 - COORDINATE WITH SPRINKLER CONTRACTOR FOR DRY SPRINKLER AIR COMPRESSOR ELECTRICAL REQUIREMENTS. PROVIDE POWER FOR SPRINKLER EXCESS PRESSURE PUMP. COORDINATE WITH SPRINKLER INSTALLER.



- NOTES:**
- BOLT HOLE SPACING AS PER NEMA STANDARDS
 - HOLETS SHALL BE PRE DRILLED BY THE MANUFACTURER. FIELD DRILLING IS NOT ACCEPTABLE
 - THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL ONE MOUNTED GROUND BUS AT NEW IT ROOM 102.
 - THE ELECTRICAL CONTRACTOR SHALL PROVIDE A GROUND CONNECTION BETWEEN THE BASE BUILDING SERVICE ENTRANCE AND THE IT ROOM 109 GROUND BUS.
 - ALL BRANCH GROUNDING WITHIN THE IT ROOM 109 SHALL BE FURNISHED AND INSTALLED BE THE COMMUNICATIONS CONTRACTOR.
- TWO HOLE, 7M PLATED, LONG BARREL, COMPRESSION LUGS MUST BE USED. THE COMPRESSION LUGS MUST BE SIZED TO ACCOMMODATE A 6 AWG STRANDED COPPER WIRE. THE TWO HOLES ARE 16 (0.637) IN DIAMETER. THE HOLES ARE TO BE 6.35mm (0.25") IN DIAMETER.**

L1. ROOM 102 AND ELECTRICAL ROOM 112 GROUNDING BAR DETAIL

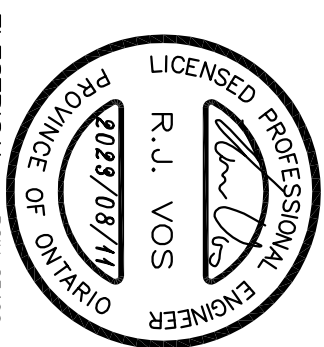
- SCALE N.T.S.
- NOTES**
- REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATION OF POWER, PHONE AND VOICE/DATA RECEPTACLES.
 - FOUR-FOLD DOOR OPEN/CLOSE PUSH BUTTONS.
 - SECTIONAL DOOR OPEN/CLOSE PUSH BUTTONS.
 - MAIN CONTROL PANEL FOR FOUR-FOLD DOORS. PROVIDE ALL POWER WIRING, CONTROL WIRING, OUTLETS, DISCONNECTS, AND FUSES. COORDINATE WITH OTHER TRADES AND FOLLOW MANUFACTURER'S AND SYSTEM SUPPLIER'S INSTRUCTIONS. ALL RECEPTIVE HARDWARE FOR FOUR-FOLD DOORS WILL BE SUPPLIED BY THE GENERAL CONTRACTOR.
 - CONTROL PANEL FOR OVERHEAD SECTIONAL DOOR. PROVIDE ALL POWER WIRING, CONTROL WIRING, OUTLETS, DISCONNECTS, AND FUSES. PROVIDE ALL REQUIRED MATERIALS AND LABOUR FOR A FULLY OPERATIONAL SYSTEM. COORDINATE WITH OTHER TRADES AND FOLLOW MANUFACTURER'S AND SYSTEM SUPPLIER'S INSTRUCTIONS. ALL RECEPTIVE HARDWARE FOR OVERHEAD SECTIONAL DOORS WILL BE SUPPLIED BY THE GENERAL CONTRACTOR.

NO.	ISSUED FOR	DATE
1	ISSUED FOR	2021 08 07
2	60% REVIEW	2021 08 03
3	90% REVIEW	2022 09 23
4	PERMIT	2022 01 28
5	TENDER	2023 03 08
6	CONSTRUCTION	2023 08 11

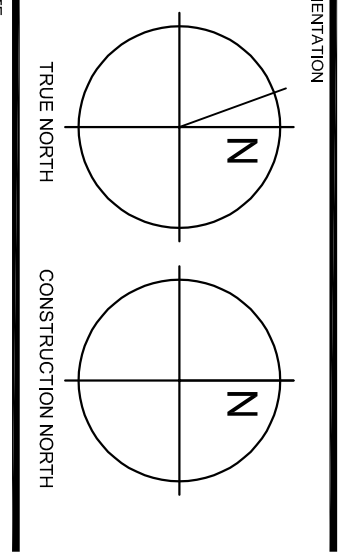
YORK REGION PRS #32

53 JACOB KEFFER PARKWAY, VAUGHAN

York Region
 THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO THE START OF CONSTRUCTION AND SHALL REPORT TO THE CONSULTANT.
 570 West Street
 Scarborough, Ontario
 P. (709) 743-8311
 F. (709) 741-1536
 www.kirklandeng.com



**SECURITY PLAN
 LEGEND AND
 DETAILS**



DATE: **AUGUST 2020**

SCALE: **As Indicated**

PROJECT NO: **6691**

DESIGN

DESIGNED BY: **KER**

DRAWN BY: **KER**

REVISION: **E5**

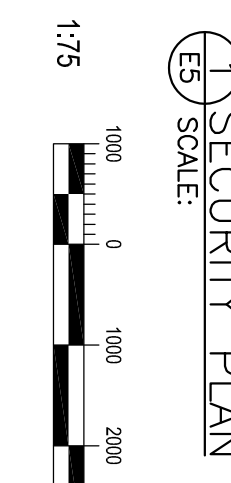
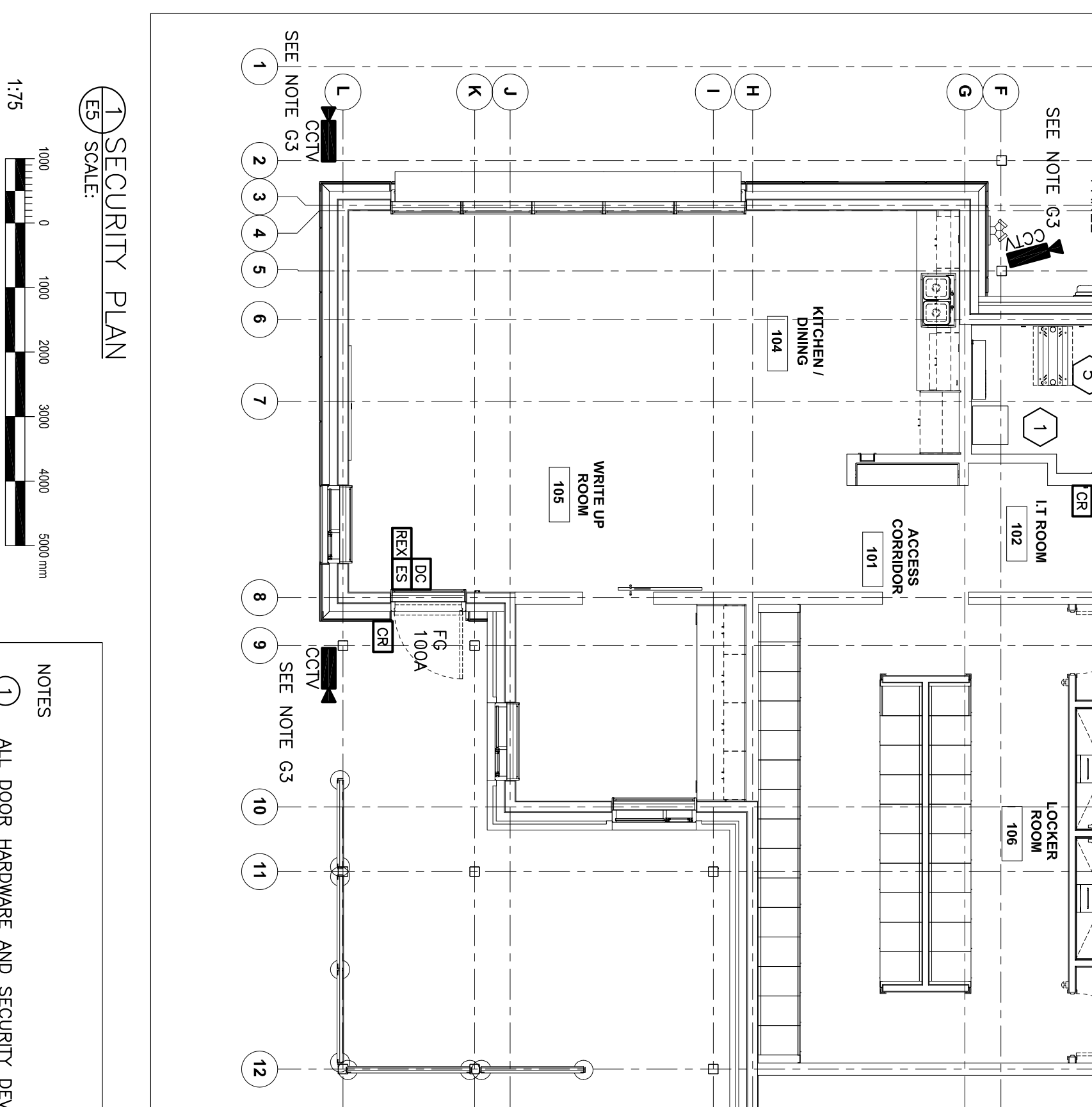
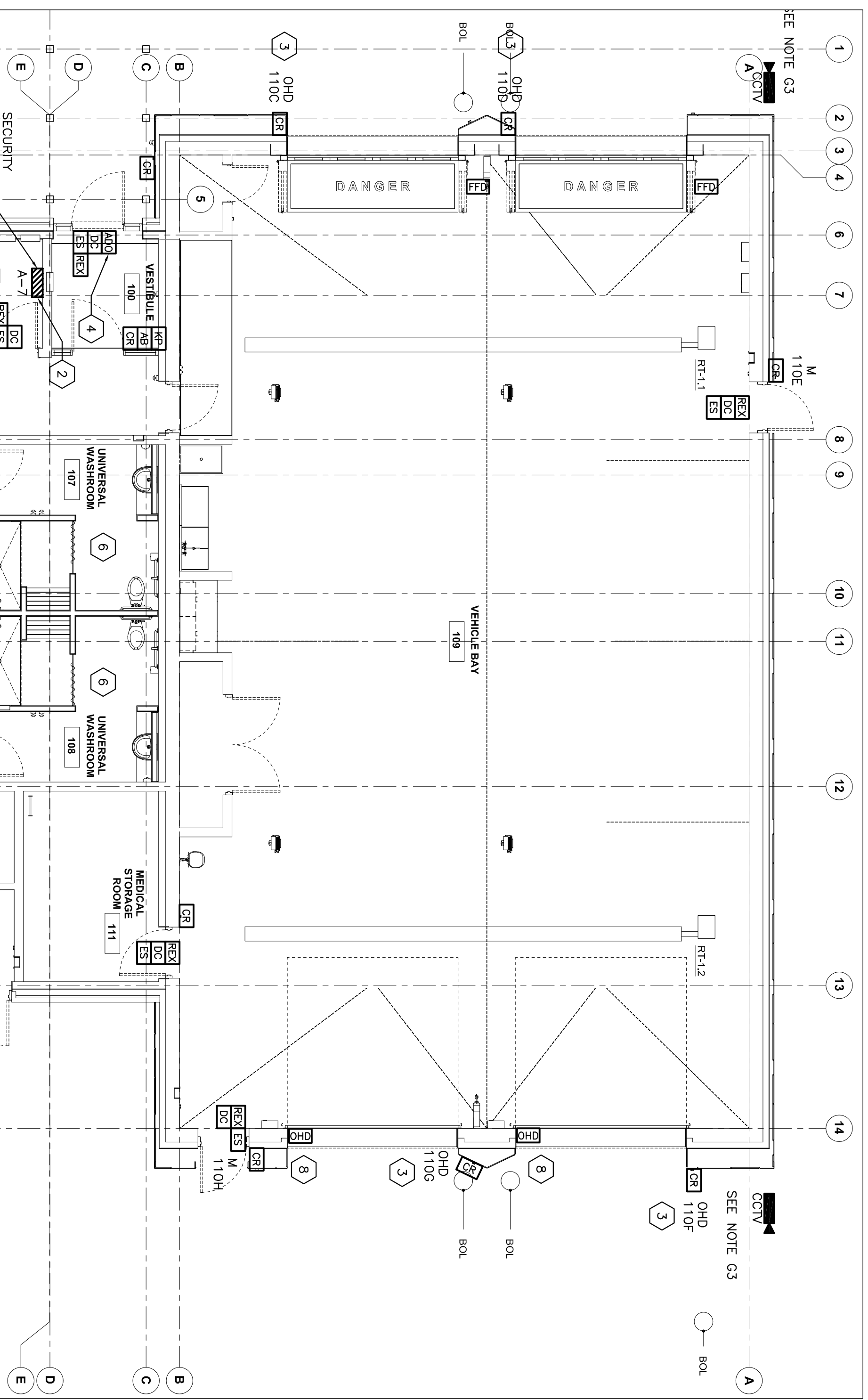
SYMBOLS	DESCRIPTION
ES	OUTLET FOR SECURITY DOOR STRIKE
DC	OUTLET FOR SECURITY CONCEALED DOOR CONTACT
AD	OVERHEAD DOOR CONTACT
AB	ARMING BUTTON
CR	OUTLET FOR SECURITY HID CARD ACCESS READER
ENL	LENEL CONTROL PANEL
EX	OUTLET FOR REQUEST TO EXIT
CCV	OUTLET FOR CLOSED CIRCUIT SECURITY CAMERA
AD	AUTOMATIC DOOR OPENER
FD	FOUR FOLD DOOR CONTACT

DRAWING NOTES

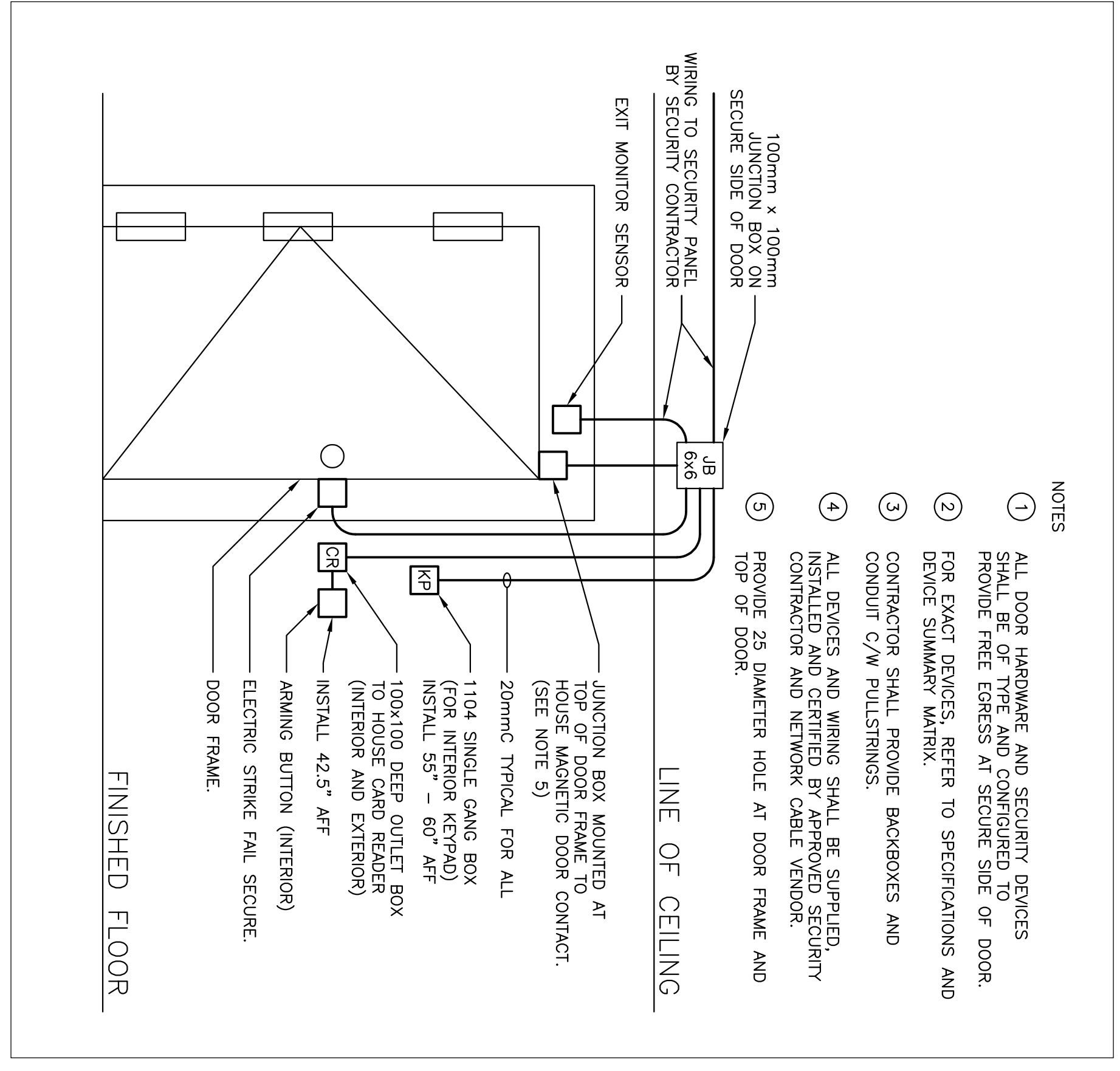
- 1 PROVIDE DEPICATED 120VAC RECEPTACLE FOR SECURITY SYSTEM. USE CIRCUIT A-7.
- 2 PROVIDE FIRE RATED PLYWOOD BACKBOARD FOR SECURITY PANELS. SEE ARCHITECTURAL DRAWINGS.
- 3 OVERHEAD DOOR AND FOUR FOLD DOOR CARD READERS TO OPEN AND CLOSE DOORS ON VALID CARD READ.
- 4 SECURITY CONTRACTOR TO PROVIDE SEQUENCING BOARD AND INTEGRATE CARD ACCESS WITH AUTOMATIC DOOR OPENER.
- 5 NETWORK CABLING CONTRACTOR TO PROVIDE 5 NETWORK DROPS IN THE SECURITY CABINETS IN I.I. ROOM 102.
- 6 WASHBOARD PANIC BUTTONS IN I.I. ROOM 102. THE SECURITY SYSTEM AND INTRUSION PANEL IN ORDER TO BE MONITORED BY FIRE MONITORING OF CANADA.
- 7 CAMERA ON CORNER OF BUILDING AT LOCATION NOTED TO BE AXIS 3719-PL-E.
- 8 OVERHEAD DOOR CONTACTS TO BE MOUNTED A MINIMUM OF 12 INCHES ABOVE FINISHED FLOOR.

GENERAL NOTES

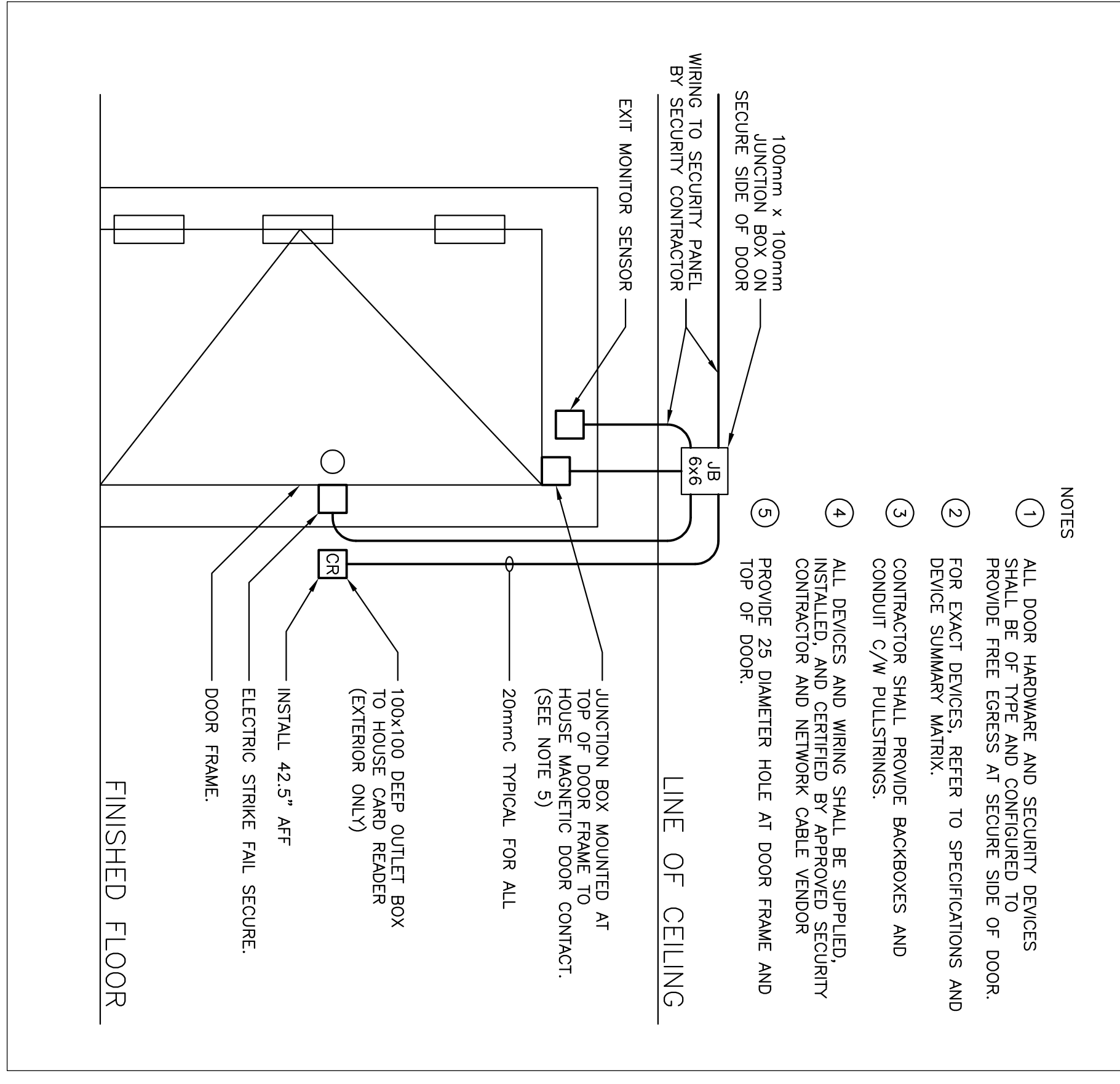
- G1 SECURITY CONTRACTOR TO WORK WITH YORK REGION TO VERIFY ALL ACCESS TO THE LIVE DEVELOPMENT ENVIRONMENT AND PRODUCTION ENVIRONMENT.
- G2 SECURITY CONTRACTOR TO WORK WITH FMC TO CONNECT THE MONITORING EQUIPMENT TO THE BOSCH PANEL FOR WASHBOARD PANEL.
- G3 SECURITY CONTRACTOR TO INCLUDE MILESTONE SOFTWARE AND LICENSING IN THEIR PRICE REQUIRE FOR THE CCV SYSTEM.
- G4 SECURITY CONTRACTOR TO SUPPLY AND INSTALL ELECTRIC STRIKES ON ALL GARD ACCESS DOORS.



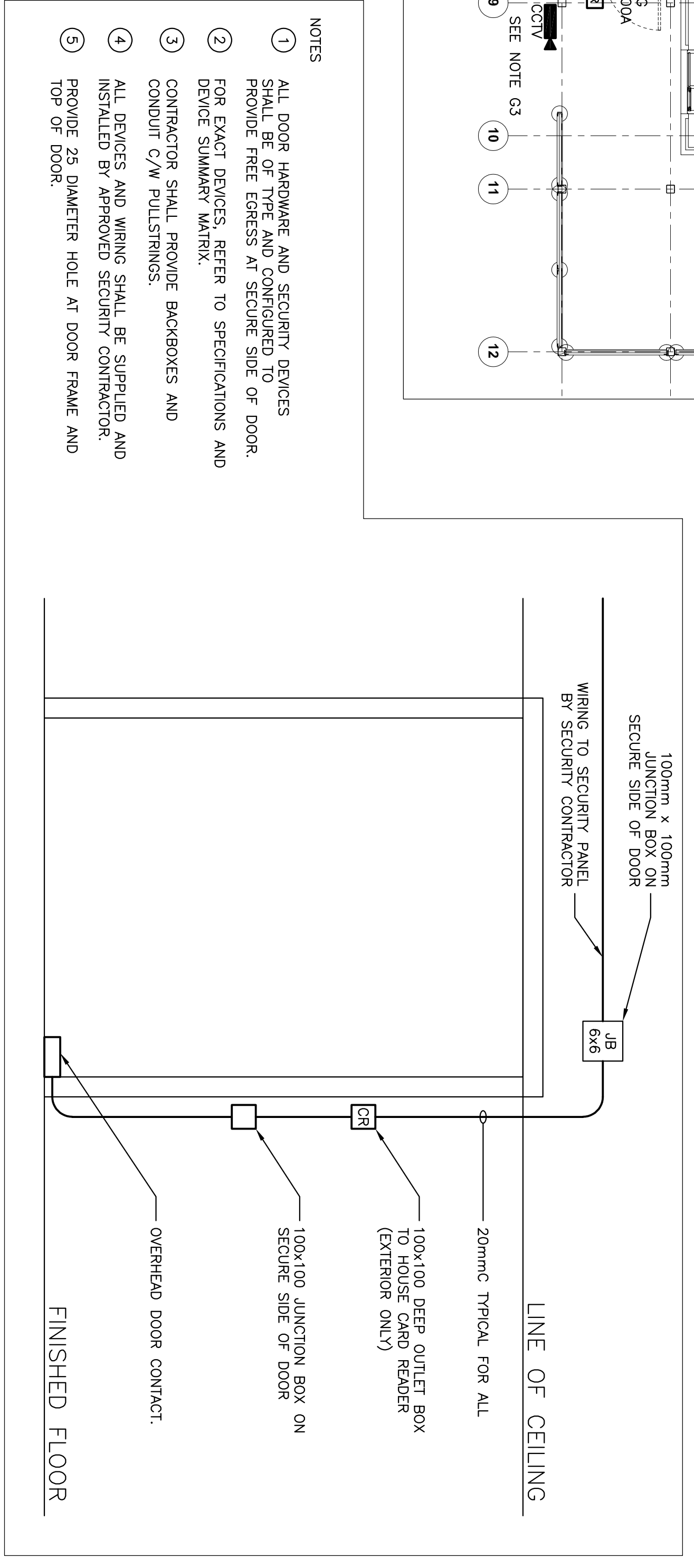
1 SECURITY PLAN
 SCALE: N.T.S.



2 ARMING/DISARMING ENTRY SINGLE DOOR DETAIL
 SCALE: N.T.S.



3 SECONDARY ENTRY SINGLE DOOR DETAIL
 SCALE: N.T.S.



4 OVERHEAD GARAGE DOOR AND FOUR FOLD DOOR WITH ACCESS CONTROL DETAIL
 SCALE: N.T.S.

NO.	ISSUED FOR	DATE
1	60% REVIEW	2021 08 03
2	90% REVIEW	2021 09 23
3	PERMIT	2022 01 26
	CONSTRUCTION	2023 08 11

YORK REGION PRS #32

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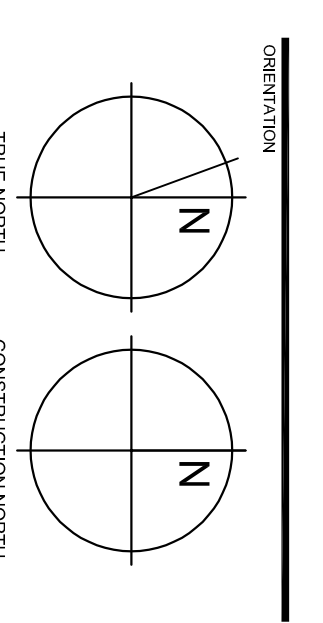
PROJECT:



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 PROFESSIONAL ENGINEER
 570 Ward Street
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 P. (416) 291-8331
 F. (416) 291-1536
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LIGHTING PLAN AND DETAILS



DATE: **AUGUST 2020**

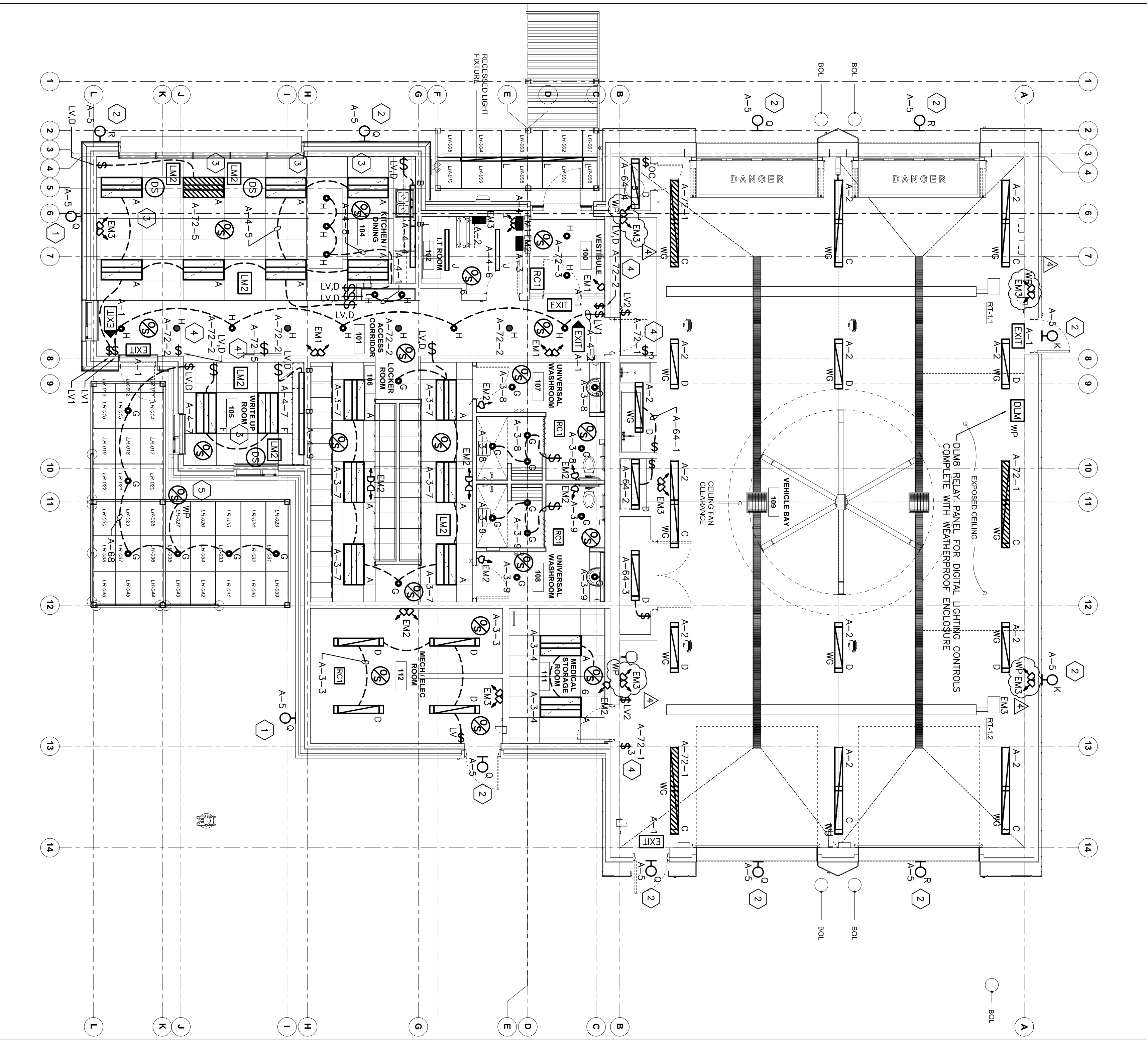
SCALE: As Indicated
 DRAWN BY: KER
 DESIGN

PROJECT NO.: **6691**
 DRAWING NO.: **E6**

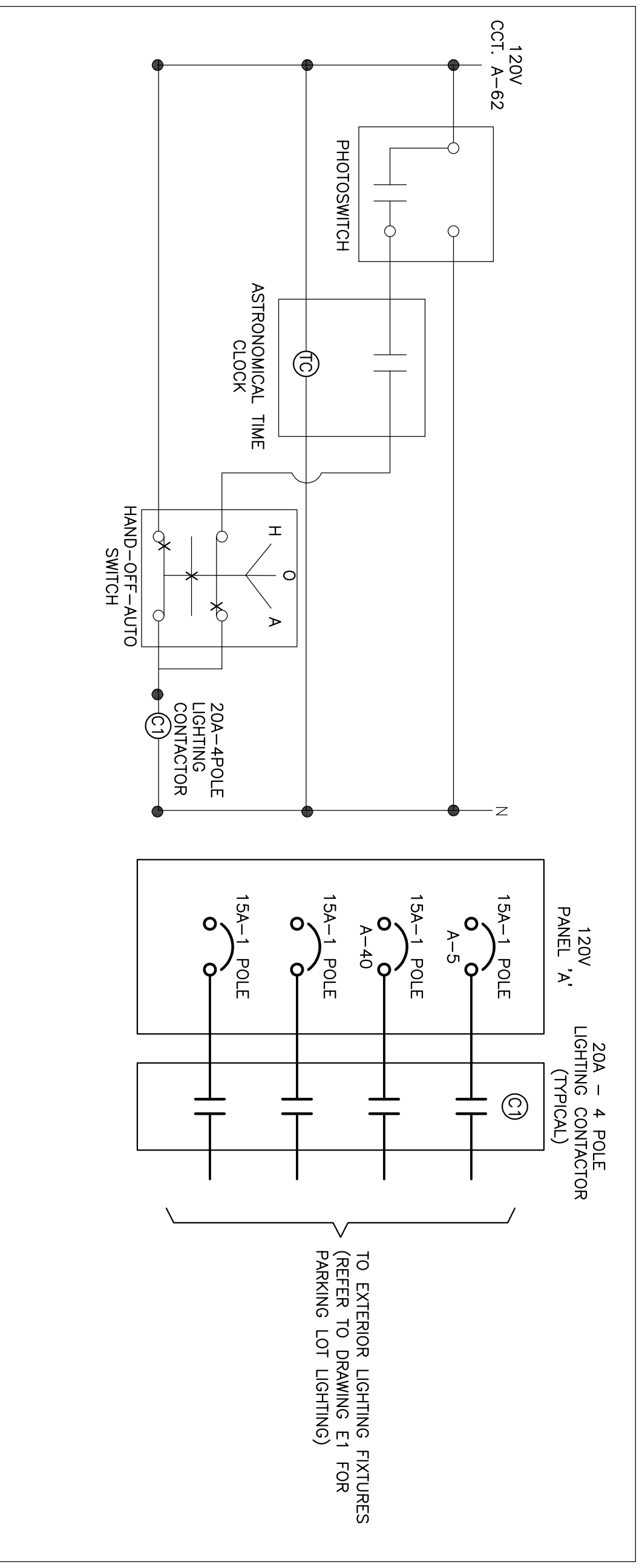
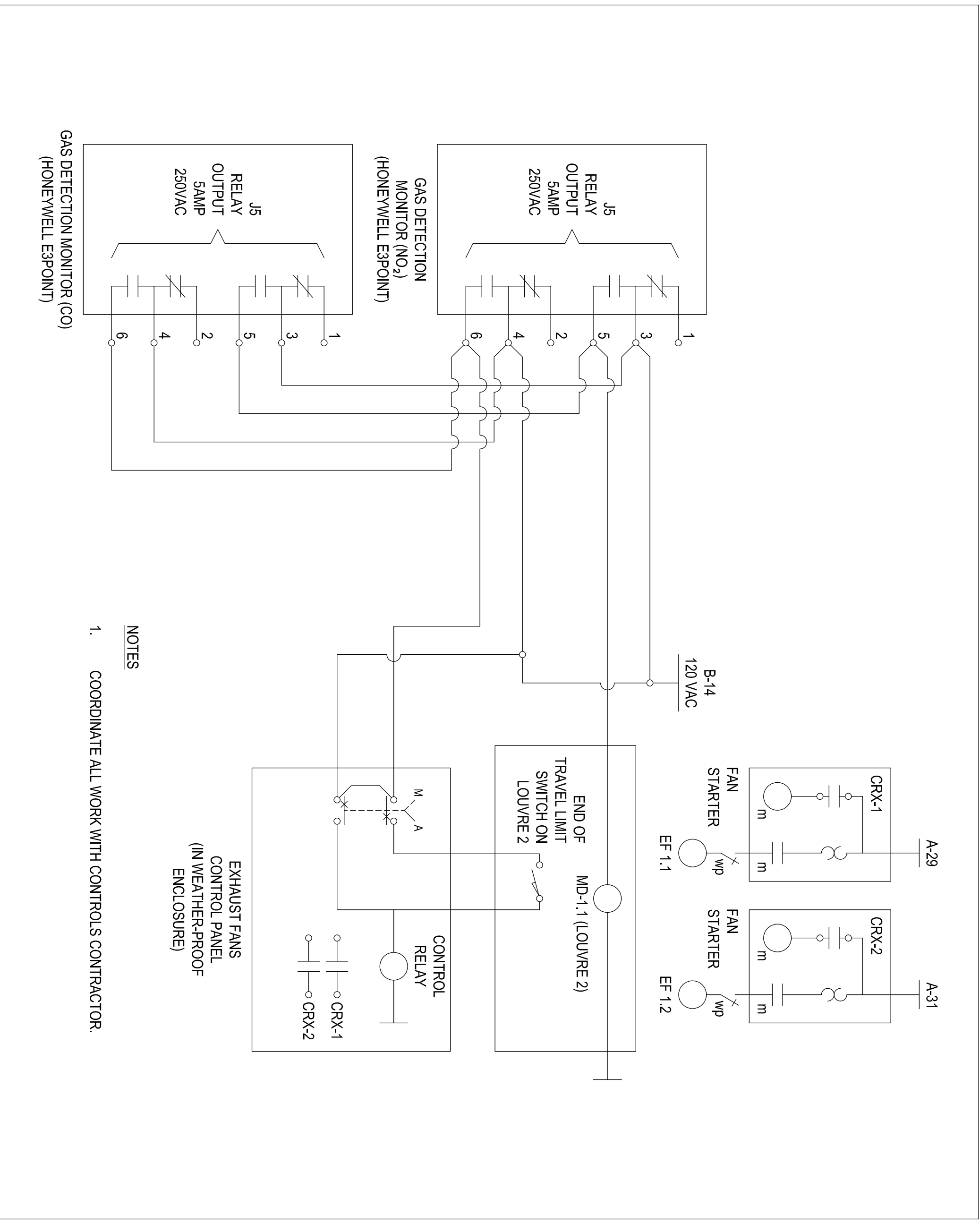
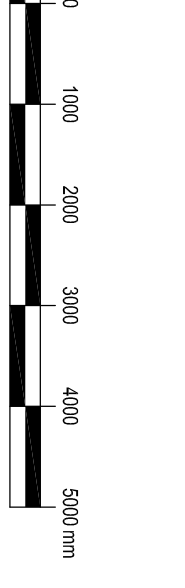
- DRAWING NOTES**
- 1 MOUNTING HEIGHT 3.1m
 - 2 MOUNTING HEIGHT 3.8m
 - 3 FIXTURES INDICATED WHICH ARE NEXT TO WINDOWS SHALL BE CONTROLLED BY DAYLIGHT SENSOR.
 - 4 SWITCH FOR NIGHT LIGHTING CIRCUIT.
 - 5 PATIO LIGHTS SHALL BE TURNED ON BY MANUAL LOW VOLTAGE SWITCH AND OFF BY OCCUPANCY SENSOR AFTER NO ACTIVITY HAS BEEN DETECTED FOR A TIME OF NO LONGER THAN 15 MINUTES.

GENERAL NOTES

- 1 REFER TO DRAWING E5 FOR SECURITY PLAN.



1 LIGHTING PLAN
 SCALE: 1/75



2 EXTERIOR LIGHTING CONTROL DETAILS
 SCALE: N.T.S.

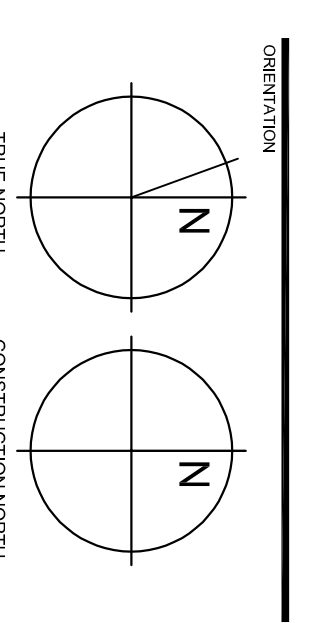
NO.	ISSUE OR REVISION	DATE
1	ISSUED FOR PERMIT	2023 08 07
2	60% REVIEW	2023 08 03
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4	PERMIT	2023 01 26
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6	CONSTRUCTION	2023 08 11

PROJECT: **YORK REGION PRS #32**
 53 JACOB KEFFER PARKWAY, VAUGHAN

York Region
 PROFESSIONAL ENGINEER
 R. J. VOS
 2023/08/17
 PROVINCE OF ONTARIO

KIRKLAND ENGINEERING LTD.
 570 West Street
 Peterborough, Ontario
 P. (705) 744-8351
 F. (705) 744-1536
 www.kirklandeng.com

DATE: **AUGUST 2020**
 DRAWN BY: **KER**
 CHECKED BY: **KER**

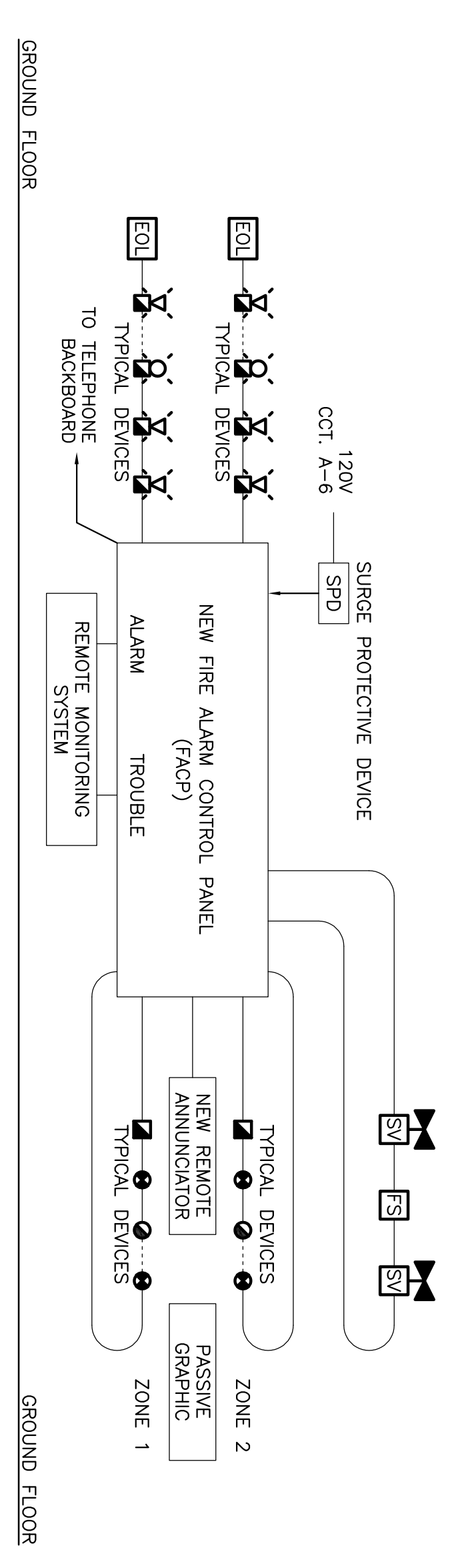


PROJECT NO. **6691**
 DRAWING NO. **E7**
 DESIGN

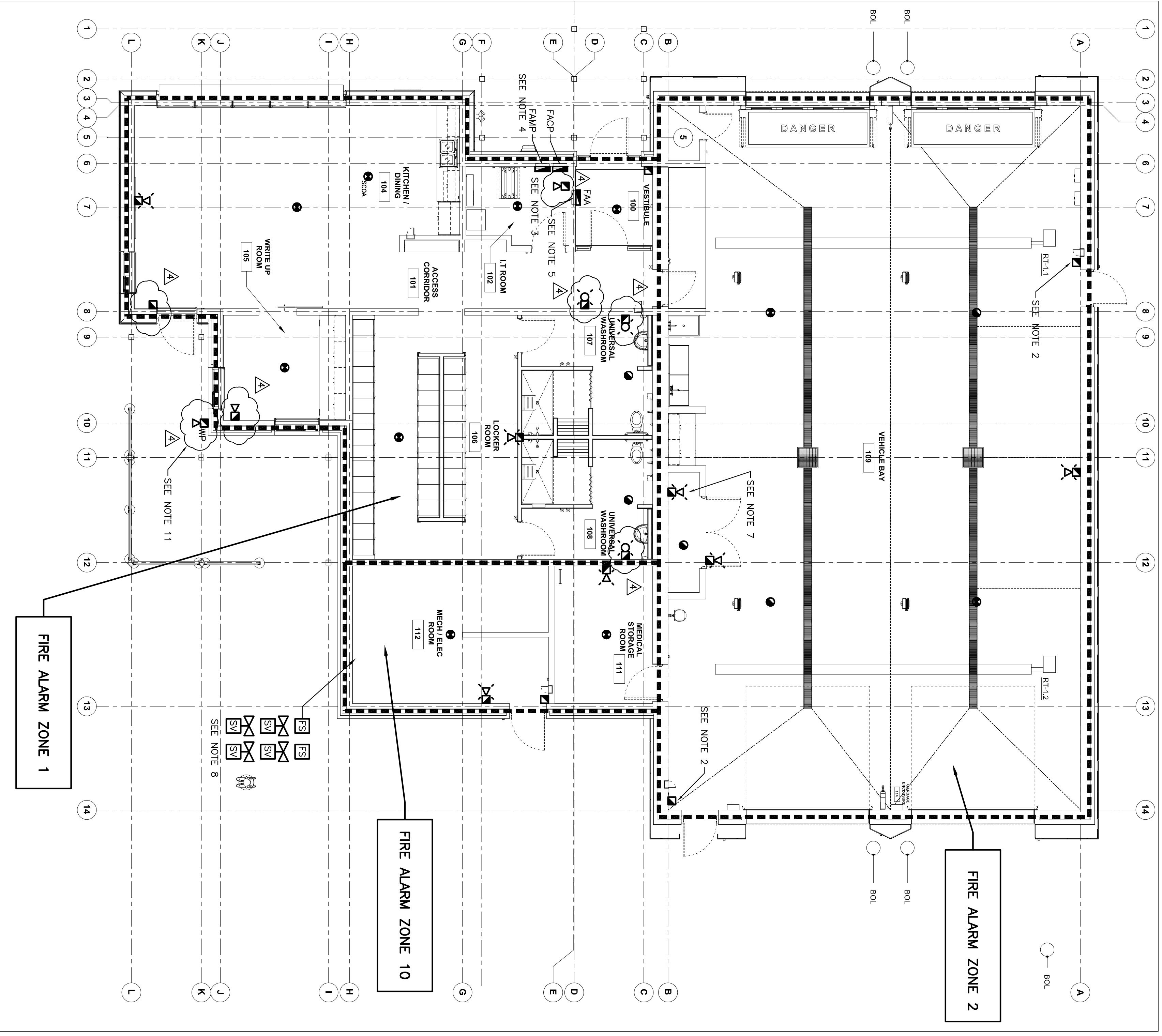
F/A ZONE	SPRINKLER ZONE	TROUBLE ZONE	DESCRIPTION
1			EMS CREW AREA
2			EMS VEHICLE BAY
		3	GENERATOR ALARM
		4	WET SPRINKLER FLOW SWITCH
		5	WET SPRINKLER SUPERVISED VALVE
		6	DRY SPRINKLER FLOW SWITCH
		7	DRY SPRINKLER SUPERVISED VALVE
		8	BACK FLOW PREVENTER SUPERVISED VALVE
		9	BACK FLOW PREVENTER SUPERVISED VALVE
10			MECHANICAL/ELECTRICAL ROOM

- NOTES**
- PROVIDE FIRE ALARM PASSIVE GRAPHIC NEXT TO FIRE ALARM ANNUNCIATOR.
 - IN VEHICLE BAY'S PROVIDE PLASTIC COVERS WITH LOCAL HORNS FOR PULL STATIONS.
 - PROVIDE DEDICATED 120V, 15A CIRCUIT FOR FIRE ALARM CONTROL PANEL.
 - PROVIDE DEDICATED 120V, 15A CIRCUIT FOR FIRE ALARM MONITORING EQUIPMENT WHICH WILL BE PROVIDED BY YORK REGION.
 - PROVIDE 21mm EMT CONDUIT FROM FIRE ALARM ANNUNCIATOR TO I.T. ROOM 109.
 - TROUBLE FOR GENERATOR ALARM TO RESET AUTOMATICALLY AFTER THE GENERATOR GOES BACK TO AUTO AFTER RUNNING.
 - MOUNT HORN/STROBE ON WALL ABOVE METAL CEILING.
 - OBTAIN A LIST OF SPRINKLER DEVICES FROM THE SPRINKLER CONTRACTOR TO BE CONNECTED TO THE FIRE ALARM SYSTEM.
 - WHERE FIRE PROTECTION AND LIFE SAFETY SYSTEMS, AND SYSTEMS WITH FIRE PROTECTION AND LIFE SAFETY FUNCTIONS, ARE INTEGRATED WITH EACH OTHER, THE SYSTEMS SHALL BE TESTED AS A WHOLE IN ACCORDANCE WITH CAN/ULC-51001, "INTEGRATED SYSTEMS TESTING OF FIRE PROTECTION AND LIFE SAFETY SYSTEMS TO VERIFY THAT THE SYSTEMS HAVE BEEN PROPERLY INTEGRATED." THE TESTING SHALL BE PERFORMED BY A QUALIFIED ENGINEER LICENSED IN THE PROVINCE OF ONTARIO AND CERTIFIED BY ULC FOR PERFORMING THIS TYPE OF WORK.
 - PROVIDE CAN/ULC-5561 RATED DUAL FIRE ALARM MONITORING SYSTEM. SYSTEM SHALL BE A TCO DSC MODEL NO. H532-512-TLIC OR APPROVED EQUIVALENT.
 - PROVIDE WEATHERPROOF HORN OUTSIDE AT COVERED PATIO.

- RISER DIAGRAM NOTES**
- REFER TO FLOOR PLANS FOR EXACT QUANTITY OF DEVICES.
 - WIRING AND CONDUIT SIZE TO BE AS PER MANUFACTURER'S RECOMMENDATIONS.
 - PROVIDE LINE ISOLATION MODULES AS REQUIRED BY CODE.



FIRE ALARM RISER DIAGRAM - SIMPLIFIED
 SCALE: N.T.S.



FIRE ALARM PLAN
 SCALE: 1/75

ISSUE OR REVISION		DATE
NO.	ISSUED FOR	DATE
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YORK REGION PRS #32

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 2023/08/17
 PROVINCE OF ONTARIO

PANEL SCHEDULES AND SINGLE LINE DIAGRAM

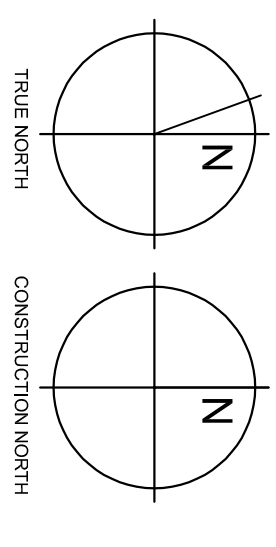
DATE: AUGUST 2020

SCALE: As Indicated

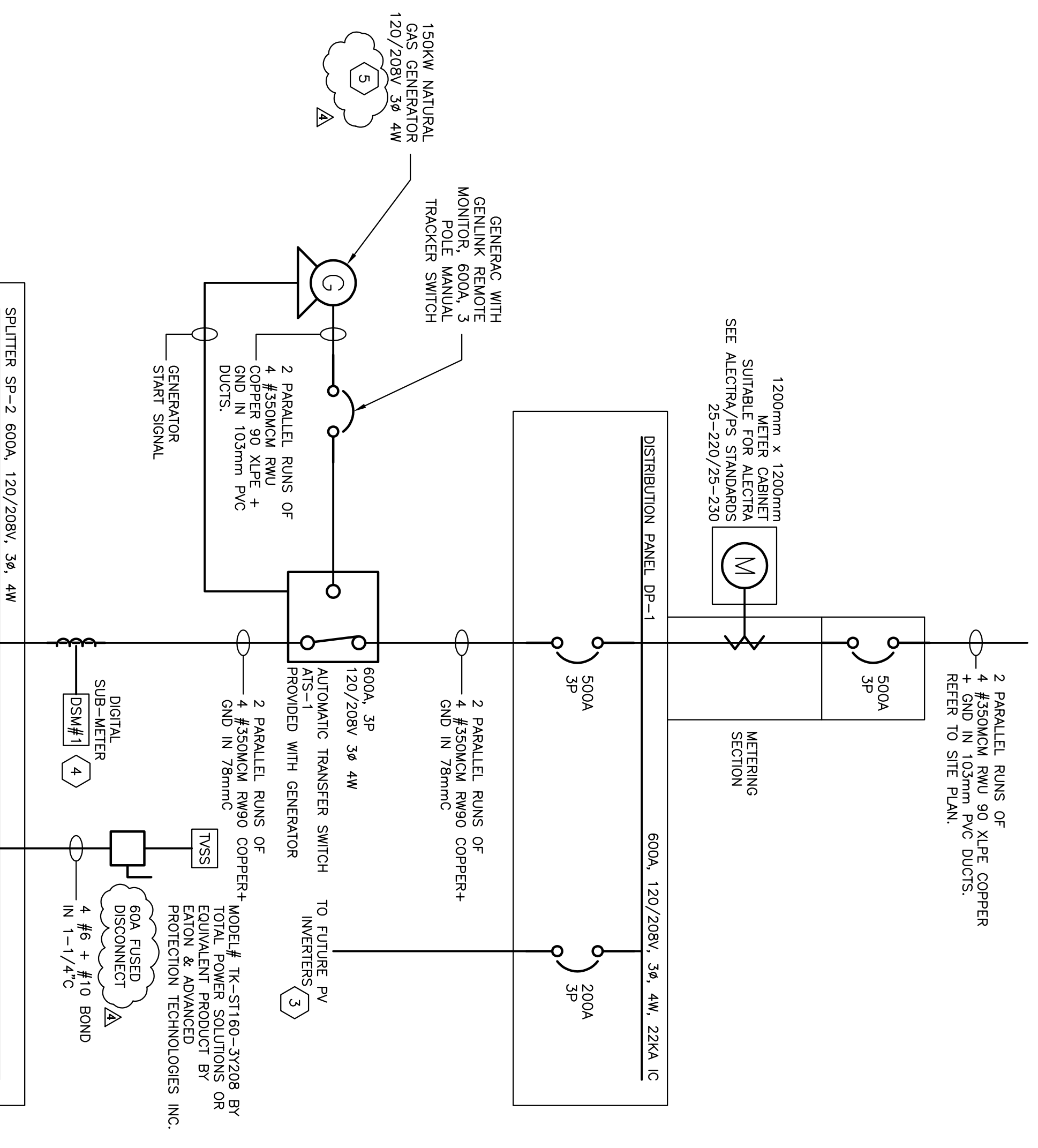
PROJECT NO.: 6691

DRAWING NO.: E8

DESIGNER: KER



PROJECT NO.: 6691
 DRAWING NO.: E8



- NOTES**
- 1 PROVIDE DIGITAL SUB METER. SEE SPECIFICATIONS FOR DETAILS.
 - 2 NOTE NOT USED.
 - 3 THE DISTRIBUTION SYSTEM AS DESIGNED CAN ACCOMMODATE 57.6 KW OF INVERTER GENERATOR CAPACITY IN THE FUTURE.
 - 4 PROVIDE NETWORK CABLE PER ITS SPECIFICATIONS.
 - 5 GENERATOR MUST HAVE A FLOATING NEUTRAL AS DETAILED IN ESA BULLETIN 10-10-*. RULE 2-100, RULE 10-210.

NEW PANEL 'C'
 120/208V, 3 PHASE, 4 WIRE, 225A BUS, 60 CIRCUIT, BOLT-ON BREAKERS 10 KA IC

DESCRIPTION	LOAD	BKR	CCT	CCT BKR	LOAD	DESCRIPTION
ELECTRIC VEHICLE #1	3.5	40A	5	2	3.5	ELECTRIC VEHICLE
CHARGING STATION #1	1.9	25A	5	4	1.9	CHARGING STATION #1
ELECTRIC VEHICLE #2	3.5	40A	5	6	3.5	ELECTRIC VEHICLE
CHARGING STATION #2	1.9	25A	5	8	1.9	CHARGING STATION #2
ELECTRIC VEHICLE #3	3.5	40A	5	10	3.5	ELECTRIC VEHICLE
CHARGING STATION #3	1.9	25A	5	12	1.9	CHARGING STATION #3
FUTURE VEHICLE BAY #1	5.0	70A	5	14	5.0	FUTURE VEHICLE BAY
FUTURE VEHICLE BAY #2	5.0	70A	5	16	5.0	FUTURE VEHICLE BAY
FUTURE VEHICLE BAY #3	5.0	70A	5	18	5.0	FUTURE VEHICLE BAY
FUTURE VEHICLE BAY #4	5.0	70A	5	20	5.0	FUTURE VEHICLE BAY
CONDENSER #1	0.6	15A	3	22	0.6	CONDENSER #1
CONDENSER #2	0.6	15A	3	24	0.6	CONDENSER #2
FAN COIL #1	0.6	15A	3	26	0.6	FAN COIL #1
FAN COIL #2	0.6	15A	3	28	0.6	FAN COIL #2
FUTURE VEHICLE BAY	0.6	15A	3	30	0.6	FUTURE VEHICLE BAY
FUTURE VEHICLE BAY	0.6	15A	3	32	0.6	FUTURE VEHICLE BAY
FUTURE VEHICLE BAY	0.6	15A	3	34	0.6	FUTURE VEHICLE BAY
FUTURE VEHICLE BAY	0.6	15A	3	36	0.6	FUTURE VEHICLE BAY
FUTURE VEHICLE BAY	0.6	15A	3	38	0.6	FUTURE VEHICLE BAY
FAN COIL #4	0.6	15A	3	40	0.6	FAN COIL #4
ELECTRIC UNIT HEATER EHV-1	1.5	20A	3	42	1.5	ELECTRIC UNIT HEATER EHV-1
SPARE	0.1	15A	3	44	0.1	SPARE
SPARE	0.1	15A	3	46	0.1	SPARE
SPARE	0.1	15A	3	48	0.1	SPARE
SPARE	0.1	15A	3	50	0.1	SPARE
SPARE	0.1	15A	3	52	0.1	SPARE
SPARE	0.1	15A	3	54	0.1	SPARE
SPARE	0.1	15A	3	56	0.1	SPARE
SPARE	0.1	15A	3	58	0.1	SPARE

PANEL 'A'
 120/208V, 3 PHASE, 4 WIRE, 225A BUS, 72 CIRCUIT, BOLT-ON BREAKERS 10KA IC

DESCRIPTION	LOAD	BKR	CCT	CCT BKR	LOAD	DESCRIPTION
EMERGENCY LIGHT/EXIT (***)	0.2	15A	1	2	0.2	EMERGENCY LIGHT/EXIT (***)
LIGHTING	0.4	15A	3	4	0.4	LIGHTING
LIGHTING	0.5	15A	5	6	0.5	LIGHTING
SECURITY SYSTEM (***)	0.2	15A	7	8	0.2	SECURITY SYSTEM (***)
EMERGENCY RESPONSE SYSTEM(***)	x	15A	9	10	x	EMERGENCY RESPONSE SYSTEM(***)
FOUR FOLD DOOR MOTOR	1.4	20A	11	12	1.4	FOUR FOLD DOOR MOTOR
FOUR FOLD DOOR MOTOR	1.4	20A	13	14	1.4	FOUR FOLD DOOR MOTOR
FOUR FOLD DOOR MOTOR	1.4	20A	15	16	1.4	FOUR FOLD DOOR MOTOR
FOUR FOLD DOOR MOTOR	1.4	20A	17	18	1.4	FOUR FOLD DOOR MOTOR
SPARE	0.2	15A	19	20	0.2	SPARE
EMS SHORE COORD REEL REC. (*)	1.5	20A	21	22	1.5	EMS SHORE COORD REEL REC. (*)
EMS SHORE COORD REEL REC. (*)	1.5	20A	23	24	1.5	EMS SHORE COORD REEL REC. (*)
EMS SHORE COORD REEL REC. (*)	1.5	20A	25	26	1.5	EMS SHORE COORD REEL REC. (*)
EMS SHORE COORD REEL REC. (*)	1.5	20A	27	28	1.5	EMS SHORE COORD REEL REC. (*)
EF-1 EXHAUST FAN	0.5	15A	29	30	0.5	EF-1 EXHAUST FAN
EF-2 EXHAUST FAN	0.5	15A	31	32	0.5	EF-2 EXHAUST FAN
WOMEN'S W/R DOOR OPERATOR	0.5	15A	33	34	0.5	WOMEN'S W/R DOOR OPERATOR
MEN'S W/R DOOR OPERATOR	0.5	15A	35	36	0.5	MEN'S W/R DOOR OPERATOR
VESTIBULE DOOR OPERATOR	0.5	15A	37	38	0.5	VESTIBULE DOOR OPERATOR
VESTIBULE DOOR OPERATOR	0.5	15A	39	40	0.5	VESTIBULE DOOR OPERATOR
FORCE FLOW HTR, FFH-1	0.75	15A	41	42	0.75	FORCE FLOW HTR, FFH-1
CONDENSING UNIT	3.74	45A	43	44	3.74	CONDENSING UNIT
CONDENSING UNIT	3.74	45A	45	46	3.74	CONDENSING UNIT
CONDENSING UNIT	3.74	45A	47	48	3.74	CONDENSING UNIT
CONDENSING UNIT	3.74	45A	49	50	3.74	CONDENSING UNIT
CONDENSING UNIT	3.74	45A	51	52	3.74	CONDENSING UNIT
CONDENSING UNIT	3.74	45A	53	54	3.74	CONDENSING UNIT
CONDENSING UNIT	3.74	45A	55	56	3.74	CONDENSING UNIT
CONDENSING UNIT	3.74	45A	57	58	3.74	CONDENSING UNIT
CONDENSING UNIT	3.74	45A	59	60	3.74	CONDENSING UNIT
CONDENSING UNIT	3.74	45A	61	62	3.74	CONDENSING UNIT
CONDENSING UNIT	3.74	45A	63	64	3.74	CONDENSING UNIT
CONDENSING UNIT	3.74	45A	65	66	3.74	CONDENSING UNIT
CONDENSING UNIT	3.74	45A	67	68	3.74	CONDENSING UNIT
CONDENSING UNIT	3.74	45A	69	70	3.74	CONDENSING UNIT
CONDENSING UNIT	3.74	45A	71	72	3.74	CONDENSING UNIT

PANEL 'B'
 120/208V, 3 PHASE, 4 WIRE, 225A BUS, 72 CIRCUIT, BOLT-ON BREAKERS 10KA IC

DESCRIPTION	LOAD	BKR	CCT	CCT BKR	LOAD	DESCRIPTION
GENERATOR BLOCK HEATER	1.5	20A	1	2	1.5	GENERATOR BLOCK HEATER
GENERATOR BATTERY CHARGER	1.0	15A	3	4	1.0	GENERATOR BATTERY CHARGER
SPARE	x	15A	5	6	x	SPARE
SPARE	x	15A	7	8	x	SPARE
SPARE	x	15A	9	10	x	SPARE
RECEPTACLE (*)	1.0	20A	13	14	1.0	RECEPTACLE (*)
RECEPTACLE (*)	1.0	20A	15	16	1.0	RECEPTACLE (*)
RECEPTACLE (*)	1.0	20A	17	18	1.0	RECEPTACLE (*)
RECEPTACLE (*)	1.0	20A	19	20	1.0	RECEPTACLE (*)
RECEPTACLE (*)	1.0	20A	21	22	1.0	RECEPTACLE (*)
RECEPTACLE (*)	1.0	20A	23	24	1.0	RECEPTACLE (*)
RECEPTACLE (*)	1.0	20A	25	26	1.0	RECEPTACLE (*)
RECEPTACLE (*)	1.0	20A	27	28	1.0	RECEPTACLE (*)
RECEPTACLE (*)	1.0	20A	29	30	1.0	RECEPTACLE (*)
RECEPTACLE RUNWAY	1.0	20A	31	32	1.0	RECEPTACLE RUNWAY
RECEPTACLE RUNWAY	1.0	20A	33	34	1.0	RECEPTACLE RUNWAY
SPARE	x	20A	35	36	x	SPARE
KITCHEN COUNTER RECEPTACLE	1.0	20A	37	38	1.0	KITCHEN COUNTER RECEPTACLE
KITCHEN COUNTER RECEPTACLE	1.0	20A	39	40	1.0	KITCHEN COUNTER RECEPTACLE
KITCHEN COUNTER RECEPTACLE	1.0	20A	41	42	1.0	KITCHEN COUNTER RECEPTACLE
RECEPTACLE (*)	1.0	20A	43	44	1.0	RECEPTACLE (*)
RECEPTACLE (*)	1.0	20A	45	46	1.0	RECEPTACLE (*)
KITCHEN COUNTER RECEPTACLE	1.0	20A	47	48	1.0	KITCHEN COUNTER RECEPTACLE
KITCHEN COUNTER RECEPTACLE	1.0	20A	49	50	1.0	KITCHEN COUNTER RECEPTACLE
RECEPTACLE (*)	1.0	20A	51	52	1.0	RECEPTACLE (*)
RECEPTACLE (*)	1.0	20A	53	54	1.0	RECEPTACLE (*)
RECEPTACLE (*)	1.0	20A	55	56	1.0	RECEPTACLE (*)
RECEPTACLE (*)	1.0	20A	57	58	1.0	RECEPTACLE (*)
RECEPTACLE (*)	1.0	20A	59	60	1.0	RECEPTACLE (*)
RECEPTACLE (*)	1.0	20A	61	62	1.0	RECEPTACLE (*)
RECEPTACLE (*)	1.0	20A	63	64	1.0	RECEPTACLE (*)
RECEPTACLE (*)	1.0	20A	65	66	1.0	RECEPTACLE (*)
RECEPTACLE (*)	1.0	20A	67	68	1.0	RECEPTACLE (*)
RECEPTACLE (*)	1.0	20A	69	70	1.0	RECEPTACLE (*)
RECEPTACLE (*)	1.0	20A	71	72	1.0	RECEPTACLE (*)

PANEL SCHEDULES
 EB SCALE N.T.S.

NO.	ISSUED FOR	DATE
1	90% REVIEW	2021 08 03
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3	PERMIT	2022 01 28
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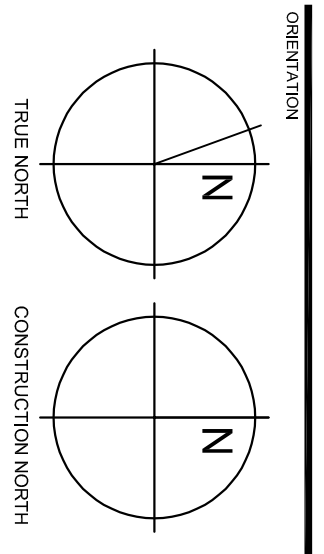
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 www.kirklandeng.com

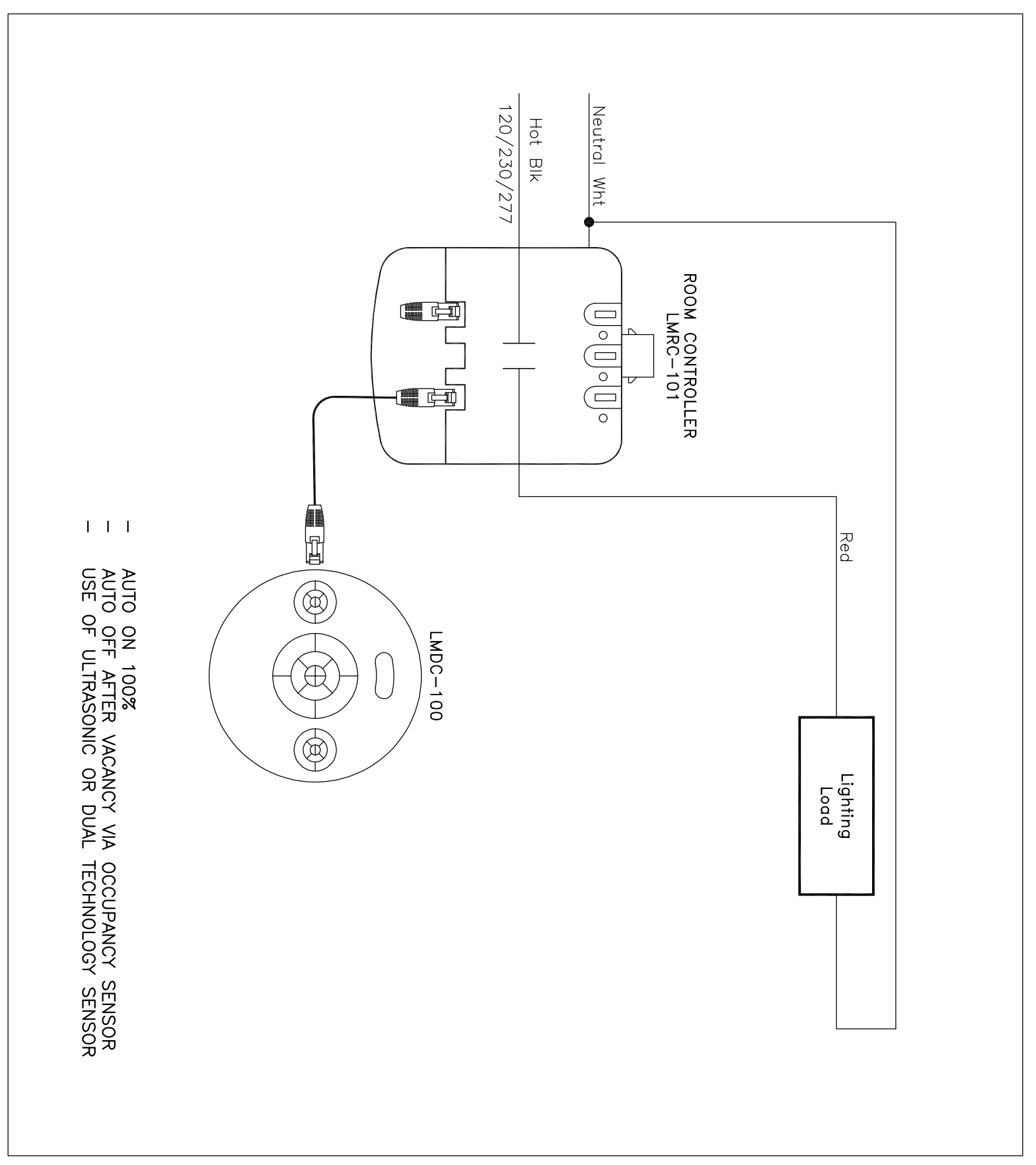


KIRKLAND ENGINEERING LTD.
 PROFESSIONAL SEAL
 DATE: _____
 ELECTRICAL - EBN 2408



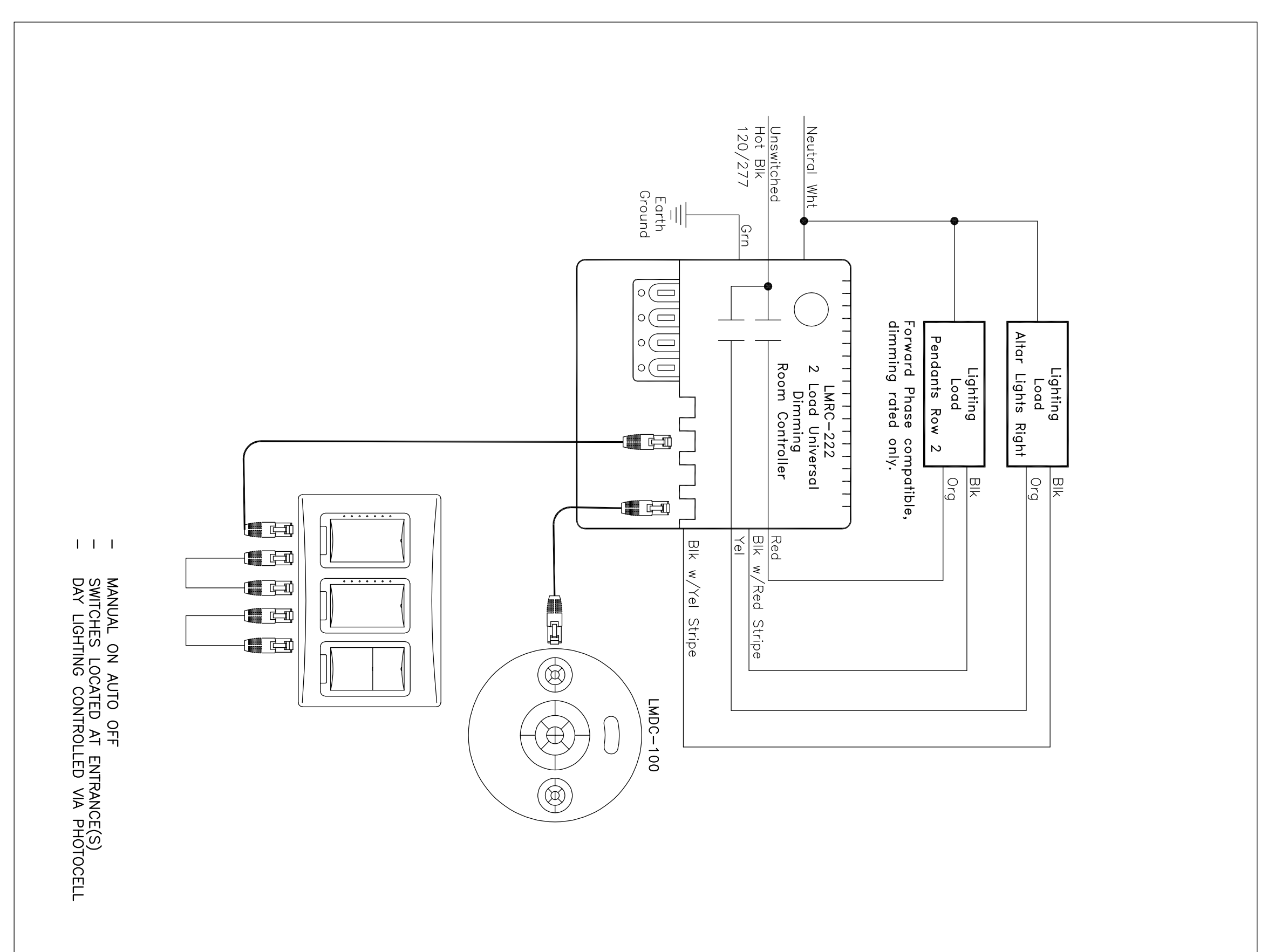
DATE: **AUGUST 2020**
 SCALE: **As Indicated**
 DRAWN BY: **KER**
 DESIGN

PROJECT NO. **6691**
 DRAWING NO. **E9**

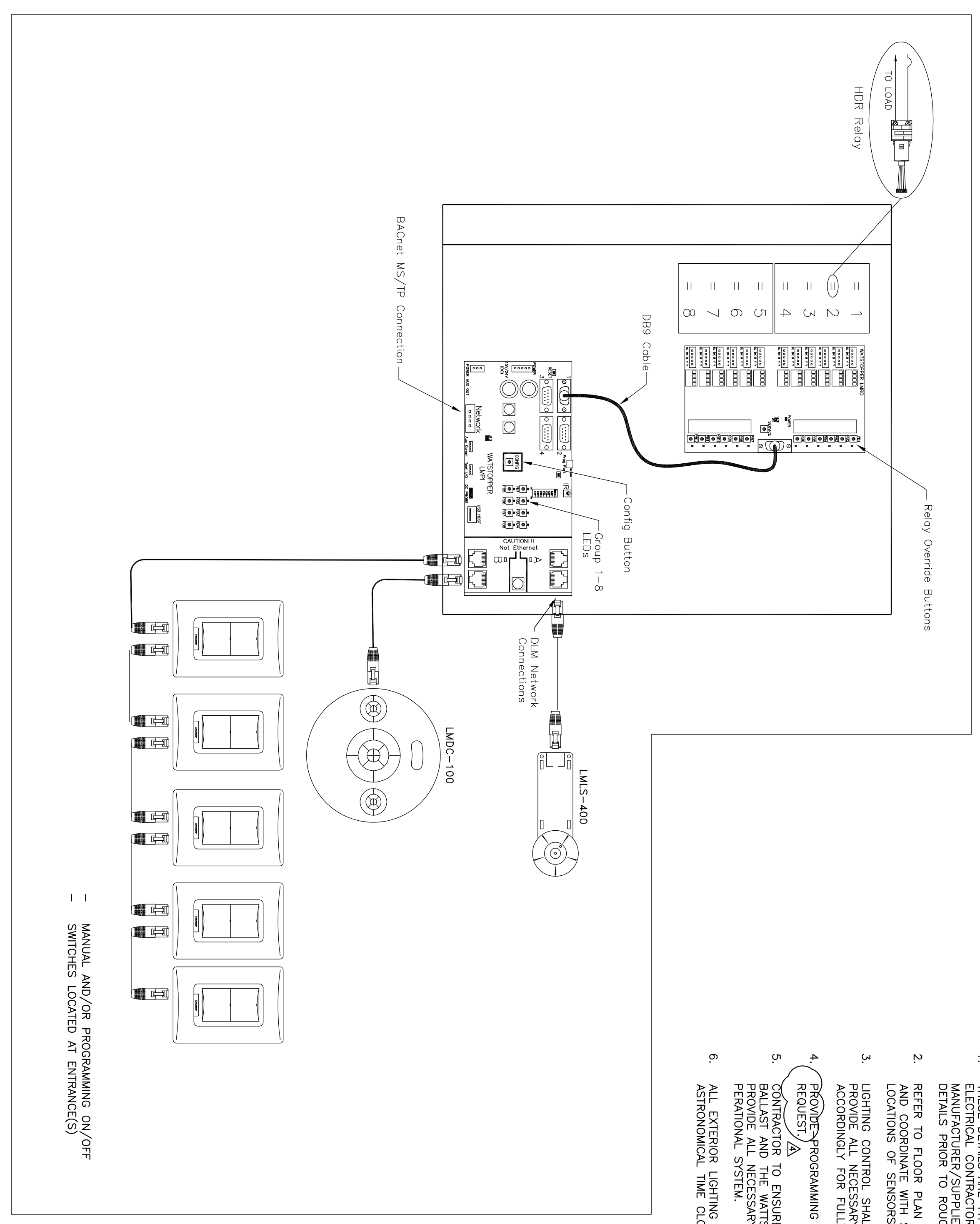


2 WASHROOMS
 SCALE N.T.S.

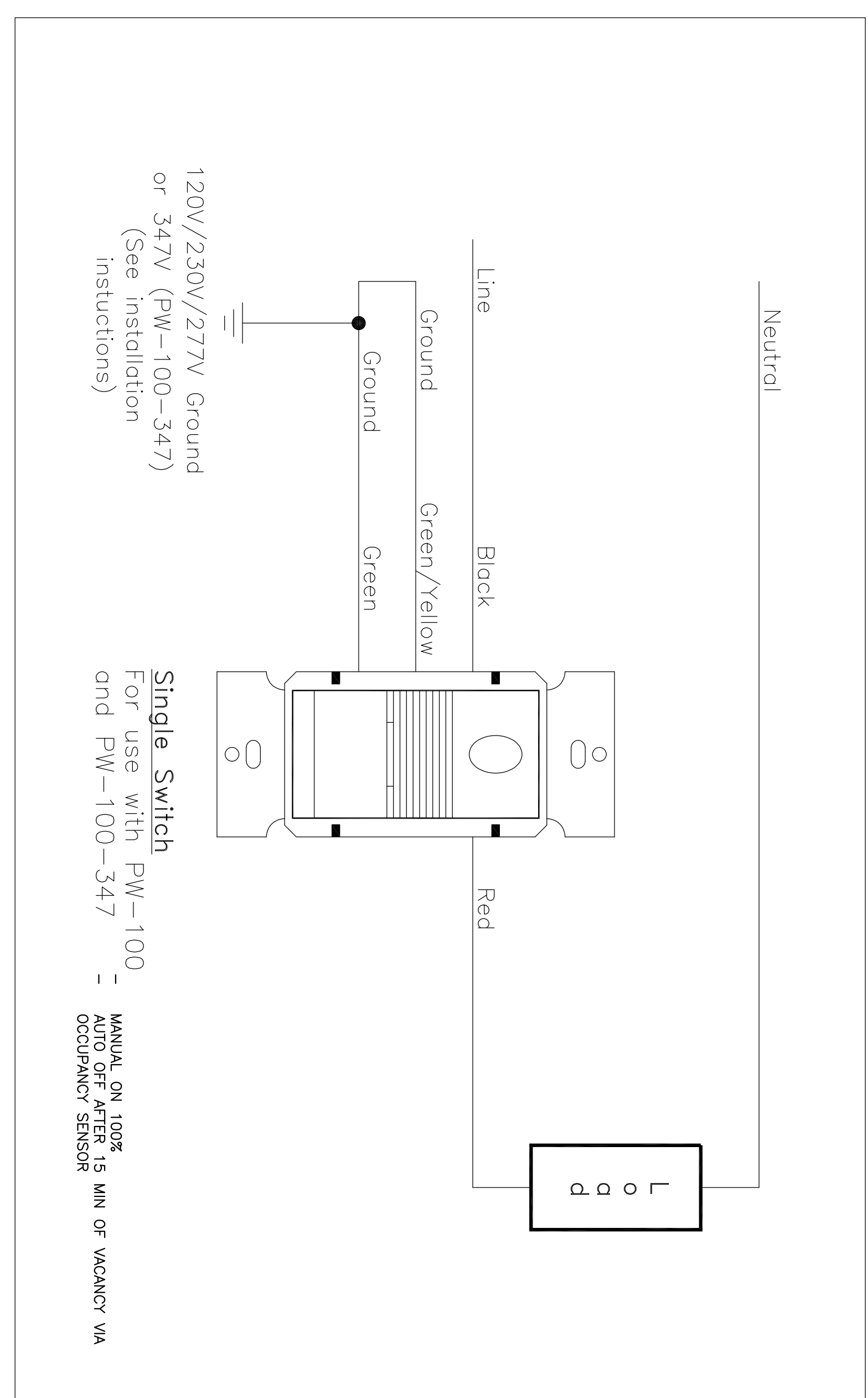
- NOTES:
- THESE DETAILS ARE TYPICAL SCHEMATIC FOR INDICATION PURPOSE ONLY. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH LIGHTING CONTROL MANUFACTURER/SUPPLIER FOR ONE INVOICING AND INSTALLATION DETAILS PRIOR TO ROUGH IN FOR FULL OPERATIONAL SYSTEM.
 - REFER TO FLOOR PLAN FOR QUANTITIES AND TYPES OF DEVICES REQUIRED AND COORDINATE WITH SYSTEM SUPPLIER/MANUFACTURER FOR EXACT LOCATIONS OF SENSORS PRIOR TO ROUGH IN.
 - LIGHTING CONTROL SHALL BE PROVIDED IN ACCORDANCE WITH ASHRAE 90.1, PROVIDE ALL NECESSARY MATERIAL AND LABOUR REQUIRED TO COMPLETE ACCORDINGLY FOR FULLY OPERATIONAL SYSTEM.
 - PROVIDE PROGRAMMING AND SCHEDULING AS PER CLIENT'S REQUEST.
 - CONTRACTOR TO ENSURE COMPATIBILITY BETWEEN THE DIMMING BALLAST AND THE WAITSTOPPER DIMMING CONTROLLER. PROVIDE ALL NECESSARY MATERIAL AND LABOUR FOR FULLY OPERATIONAL SYSTEM.
 - ALL EXTERIOR LIGHTING TO BE CONTROLLED BY PHOTOCELL AND ASTRONOMICAL TIME CLOCK WITH SMALL OFFSETS.



3 COMMON SPACES (RELAY PANEL) (LOUNGE/KITCHEN, WRITE UP ROOM)
 SCALE N.T.S.



4 APPARATUS BAY
 SCALE N.T.S.



5 STORAGE ROOMS
 SCALE N.T.S.

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NO.	ISSUE OR REVISION	DATE	BY
1	ISSUED FOR PERMIT	2012 08 03	JAC
2	90% REVIEW	2012 09 23	JAC
3	CONSTRUCTION	2022 08 11	JAC

PROJECT: **YORK REGION PRS #32**
53 JACOB KEFFER PARKWAY, VAUGHAN

York Region
 THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION AND SHALL BE RESPONSIBLE FOR THE CONSTRUCTION.
 DIMENSIONS TO FACE UNLESS OTHERWISE SPECIFIED.
 DIMENSIONS TO FACE UNLESS OTHERWISE SPECIFIED.
 DIMENSIONS TO FACE UNLESS OTHERWISE SPECIFIED.

PROFESSIONAL SEAL
 R. J. VOS
 LICENSED PROFESSIONAL ENGINEER
 2023/08/17
 PROVINCE OF ONTARIO

ELECTRICAL SITE PLAN DETAILS (ALECTRA)
 DATE: **AUGUST 2020**
 SCALE: As Indicated
 DRAWN BY: **KER**
 PROJECT NO.: **6691**

E10
 REVISION

PowerStream
Construction Standard
25-200

NOTES:
 1. THE METER CABINET SIZE SHALL BE 1225mm(W) X 725mm(H) X 305mm(D) AND SHALL BE MOUNTED TO A CONCRETE FOUNDATION. THE METER CABINET SHALL BE BORED 850 FROM PERM PERMITS.
 2. SECONDARY CABLE TO BE LAPPED 12" MIN UP THE METER CABINET REAR.
 3. LINE & LOAD ENTRY POINTS ARE RESTRICTED TO OPPOSITE ENDS OF THE METER CABINET BOTTOM 1/3 OF CABINET ONLY.

CERTIFICATE OF APPROVAL
 This construction Standard meets the safety requirements of Section 4 of Regulation 210/4 of the Electrical Code, 2013 (M.S.E.C.).
 Name: **Jac Coetzee, P. Eng.**
 Date: **2013 MAY 12**
 P. Eng. Approved By: **Jac Coetzee, P. Eng.**

PowerStream
Construction Standard
17-140

NOTES:
 1. FINAL GRADE WITHIN THE RESTRICTED OPERATIONAL CLEARANCE ZONE (SHOWN AS HATCHED ZONES ABOVE) MUST NOT BE ALTERED. EXCESS ROADS/ROADS TO REMAIN CLEAR OF ALL SHRUBS AND TREES. WHEN THE APPARATUS IS POSITIONED WITHIN THE HATCHED ZONE, THE ZONE WITHIN OR ABOVE MUST REMAIN CLEAR OF, INCLUDING BUT NOT LIMITED TO, PREFERRED SURFACE COATING WITHIN THE MATCHED ZONES IS LAW (SEEDED OR SOD) AND WITH PRIOR WRITTEN CONSENT OF POWERSTREAM GRAVEL AND/OR PAVED WITH ASPHALT OR PAVERS OR A CONCRETE FINISH MAY BE PERMITTED.
 2. EXCESS ROADS/ROADS MUST REMAIN PERMANENTLY CLEAR OF ALL OBSTRUCTIONS.

CERTIFICATE OF APPROVAL
 This construction Standard meets the safety requirements of Section 4 of Regulation 210/4 of the Electrical Code, 2013 (M.S.E.C.).
 Name: **Jac Coetzee, P. Eng.**
 Date: **2011 JUN 23**
 P. Eng. Approved By: **Jac Coetzee, P. Eng.**

PowerStream
Construction Standard
17-202

NOTES:
 1. EXCAVATION FOR CABLES AT POLE TO BE TAKEN TO BOTTOM OF DOOT BANK. BACKFILL TO FINISH GRADE WITH BRICK SHIM.
 2. IF CUSTOMER SUPPLIES, INSTALLS AND MAINTAINS PRIMARY OR SECONDARY CABLES, THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS WITH THE REQUIREMENTS OF ONTARIO ELECTRICAL SAFETY CODE (CURRENT EDITION), CONTACT POWERSTREAM NEW SERVICES DEPARTMENT FOR ANY ADDITIONAL REQUIREMENTS TO THESE NOTES.
 3. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS SPECIFIED.

REFERENCES:
 SECTION 17
 SECTION 17
 SECTION 17
 SECTION 17
 SECTION 17
 SECTION 17
 SECTION 17
 SECTION 17
 SECTION 17

CERTIFICATE OF APPROVAL
 This construction Standard meets the safety requirements of Section 4 of Regulation 210/4 of the Electrical Code, 2013 (M.S.E.C.).
 Name: **Jac Coetzee, P. Eng.**
 Date: **2013 MAR 15**
 P. Eng. Approved By: **Jac Coetzee, P. Eng.**

PowerStream Inc.
Construction Standard
17-201

STANDARD ARRANGEMENT FOR CONCRETE ENCASED DUCTS IN AN UNDISTURBED AREA
 ORIGINAL ISSUE DATE: 2006-MAR-30
 REVISION NO.: R2
 REVISION DATE: 2012-MAR-15

TABLE 1
ROYAL PIPE NONBOND SPACERS OR EQUIVALENT APPROVED BY POWERSTREAM (SEE NOTES 5, 6, 7, & 11)

ITEM NO.	HORIZONTAL DIMENSION (mm) (mm)	VERTICAL DIMENSION (mm) (mm)	HORIZONTAL DIMENSION (mm) (mm)	VERTICAL DIMENSION (mm) (mm)	NUMBER OF VENTS
A (FIGURE 2)	102 (4")	102 (4")	197 (6.6")	197 (6.6")	2, 3 or 4
B (FIGURE 3)	102 (4")	78 (3")	193 (7.2")	102 (4")	2

NOTES:
 1. THE CONTRACTOR SHALL VERIFY AND MAINTAIN APPROVED DUCTS TO PERMIT THE INSTALLATION OF THE CABLES BY POWERSTREAM.
 2. ALL DUCTS SHALL BE CONCRETE ENCASED. CONCRETE SHALL BE 25 MPa (3600 PSI) STRENGTH CONCRETE WITH C&G STANDARD G-22 FIBRE. THE DUCTS SHALL BE CAST WITH C&G STANDARD G-22 FIBRE. ALL DUCTS SHALL BE CAST WITH C&G STANDARD G-22 FIBRE.
 3. THE DUCT BANK SHALL BE AT LEAST 150mm BELOW THE FINISHED GRADE.
 4. THE DUCT BANK SHALL BE CONCRETE ENCASED WITH 20% GRADE CONCRETE. THE NUMBER AND SIZE OF DUCTS SHALL BE AS SPECIFIED IN THE DRAWINGS. THE NUMBER AND SIZE OF DUCTS SHALL BE AS SPECIFIED IN THE DRAWINGS.
 5. ALL DUCTS SHALL BE CONCRETE ENCASED. CONCRETE SHALL BE 25 MPa (3600 PSI) STRENGTH CONCRETE WITH C&G STANDARD G-22 FIBRE. THE DUCTS SHALL BE CAST WITH C&G STANDARD G-22 FIBRE.
 6. TWO SPACERS FOR 50mm OF DUCT THINNESS SHALL BE USED.
 7. USE SPACER BLOCKS WITH 30mm HORIZONTAL AND 30mm VERTICAL SPACING. THE SPACERS SHALL BE CAST WITH 20% GRADE CONCRETE WITH C&G STANDARD G-22 FIBRE. THE SPACERS SHALL BE CAST WITH 20% GRADE CONCRETE WITH C&G STANDARD G-22 FIBRE.
 8. THE DUCT BANKS SHALL BE JOINED TOGETHER WITH AN APPROVED JOINT TO RECEIVE A SODD AND WATERPROOF JOINT. THE JOINTS IN ADJACENT DUCTS SHALL BE STAGGERED.
 9. THE DUCTS SHALL HAVE AN EVEN SLOPE IN ONE DIRECTION OF NOT LESS THAN 1:100. THE SLOPE SHALL BE TOWARD THE STREET.
 10. THE DUCTS SHALL BE ENCASED WITH 20% GRADE CONCRETE WITH A MINIMUM OF 50mm CLEARANCE BETWEEN THE DUCTS. THE DUCTS SHALL BE ENCASED WITH 20% GRADE CONCRETE WITH A MINIMUM OF 50mm CLEARANCE BETWEEN THE DUCTS.
 11. THE DUCT BANK SHALL BE CONCRETE ENCASED. CONCRETE SHALL BE 25 MPa (3600 PSI) STRENGTH CONCRETE WITH C&G STANDARD G-22 FIBRE. THE DUCTS SHALL BE CAST WITH C&G STANDARD G-22 FIBRE.
 12. ALL DUCTS SHALL BE CONCRETE ENCASED. CONCRETE SHALL BE 25 MPa (3600 PSI) STRENGTH CONCRETE WITH C&G STANDARD G-22 FIBRE. THE DUCTS SHALL BE CAST WITH C&G STANDARD G-22 FIBRE.
 13. ALL DUCTS SHALL BE CONCRETE ENCASED. CONCRETE SHALL BE 25 MPa (3600 PSI) STRENGTH CONCRETE WITH C&G STANDARD G-22 FIBRE. THE DUCTS SHALL BE CAST WITH C&G STANDARD G-22 FIBRE.
 14. WHERE IT IS REQUIRED THAT THE CONTRACTOR SHALL USE NON-BONDING DUCTS, THE CONTRACTOR SHALL USE NON-BONDING DUCTS WITH A MINIMUM OF 50mm CLEARANCE BETWEEN THE DUCTS. THE DUCTS SHALL BE ENCASED WITH 20% GRADE CONCRETE WITH C&G STANDARD G-22 FIBRE.
 15. THE CONTRACTOR SHALL VERIFY AND MAINTAIN APPROVED DUCTS TO PERMIT THE INSTALLATION OF THE CABLES BY POWERSTREAM.
 16. THE CONTRACTOR SHALL VERIFY AND MAINTAIN APPROVED DUCTS TO PERMIT THE INSTALLATION OF THE CABLES BY POWERSTREAM.
 17. THE CONTRACTOR SHALL VERIFY AND MAINTAIN APPROVED DUCTS TO PERMIT THE INSTALLATION OF THE CABLES BY POWERSTREAM.
 18. THE CONTRACTOR SHALL VERIFY AND MAINTAIN APPROVED DUCTS TO PERMIT THE INSTALLATION OF THE CABLES BY POWERSTREAM.
 19. ALL DIMENSIONS IN MM UNLESS OTHERWISE SPECIFIED.
 20. DIMENSIONS TO FACE UNLESS OTHERWISE SPECIFIED.

