TRANSFORMER SCHEDULE

TYPE	PRIMARY			KVA	SECONDARY			DRY-TYPE LIQUID FILLED
	VOLT	PHASE	WIRE		VOLT	PHASE	WIRE	
TX-S1	600V	3∅	3W	650	208V	3∅	4W	DRY-TYPE
TX-S2	600V	3∅	3W	650	208V	3∅	4W	DRY-TYPE
TX-S3	600V	3∅	3W	600	208V	3∅	4W	DRY-TYPE

NOTES:

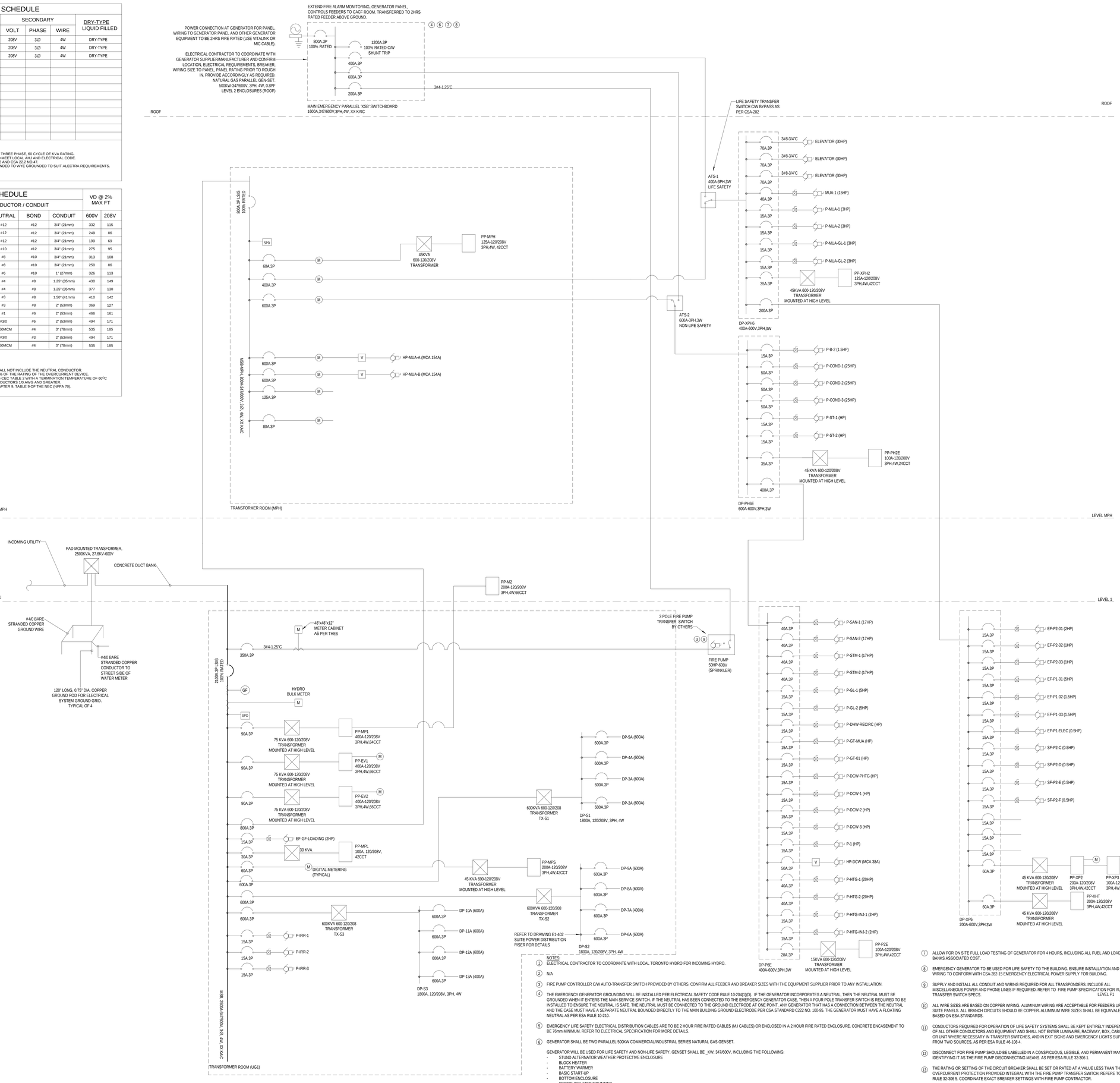
- DRY-TYPE SHALL BE INDOOR AIR-COOLED TYPE RATED FOR THREE PHASE, 60 CYCLE OF KVA RATING.
- ENCLOSURE SHALL BE SPRINKLER-PROOF AS REQUIRED TO MEET LOCAL AHJ AND ELECTRICAL CODE.
- ALL TRANSFORMERS SHALL CONFORM TO LATEST CSA 802.2 AND CSA 22.2 NO.47.
- ALL 27.6KV PRIMARY TRANSFORMERS SHALL BE WYE GROUNDED TO WYE GROUNDED TO SUIT ALECTRA REQUIREMENTS.

3-PHASE FEEDER SCHEDULE

AMPACITY	PARALLEL (SETS)	CONDUCTOR / CONDUIT				VD @ 2% MAX FT	
		PHASE	NEUTRAL	BOND	CONDUIT	600V	208V
15 A	1	3#12	#12	#12	3/4" (21mm)	332	115
20 A	1	3#12	#12	#12	3/4" (21mm)	249	86
25 A	1	3#12	#12	#12	3/4" (21mm)	199	69
30 A	1	3#10	#10	#12	3/4" (21mm)	275	95
40 A	1	3#8	#8	#10	3/4" (21mm)	313	108
50 A	1	3#8	#8	#10	3/4" (21mm)	250	86
60 A	1	3#6	#6	#10	1" (27mm)	326	113
70 A	1	3#4	#4	#8	1.25" (35mm)	430	149
80 A	1	3#4	#4	#8	1.25" (35mm)	377	130
90 A	1	3#3	#3	#8	1.50" (41mm)	410	142
100 A	1	3#3	#3	#8	2" (53mm)	369	127
125 A	1	3#1	#1	#6	2" (53mm)	466	161
200 A	1	3#3/0	#3/0	#6	2" (53mm)	494	171
250 A	1	3#250MCM	#250MCM	#4	3" (78mm)	535	185
400 A	2	3#3/0	#3/0	#3	2" (53mm)	494	171
500 A	2	3#250MCM	#250MCM	#4	3" (78mm)	535	185

NOTES:

- FEEDER SCHEDULE TAGS OMITTING THE CHARACTER 'N' SHALL NOT INCLUDE THE NEUTRAL CONDUCTOR.
- COLTAGE DROP (VD) CALCULATED BASED ON 0.9 PF AND 80% OF THE RATING OF THE OVERCURRENT DEVICE.
- ALL FEEDERS ARE BASED ON COPPER CONDUCTORS USING CEC TABLE 2 WITH A TERMINATION TEMPERATURE OF 60°C FOR CONDUCTORS LESS THAN 1/0 AWG AND 75OC FOR CONDUCTORS 1/0 AWG AND GREATER.
- THE CONDUCTOR CHARACTERISTICS ARE TAKEN FROM CHAPTER 9, TABLE 9 OF THE NEC (NFPA 70).



NOTES:

1. ELECTRICAL CONTRACTOR TO COORDIANTE WITH LOCAL TORONTO HYDRO FOR INCOMING HYDRO.
2. N/A
3. FIRE PUMP CONTROLLER C/W AUTO-TRANSFER SWITCH PROVIDED BY OTHERS. CONFIRM ALL FEEDER AND BREAKER SIZES WITH THE EQUIPMENT SUPPLIER PRIOR TO ANY INSTALLATION.
4. THE EMERGENCY GENERATOR GROUNDING WILL BE INSTALLED PER ELECTRICAL SAFETY CODE RULE 10-204(1)(D). IF THE GENERATOR INCORPORATES A NEUTRAL, THEN THE NEUTRAL MUST BE GROUNDED WHEN IT ENTERS THE MAIN SERVICE SWITCH. IF THE NEUTRAL HAS BEEN CONNECTED TO THE EMERGENCY GENERATOR CASE, THEN A FOUR POLE TRANSFER SWITCH IS REQUIRED TO BE INSTALLED TO ENSURE THE NEUTRAL IS SAFE. THE NEUTRAL MUST BE CONNECTED TO THE GROUND ELECTRODE AT ONE POINT. ANY GENERATOR THAT HAS A CONNECTION BETWEEN THE NEUTRAL AND THE CASE MUST HAVE A SEPARATE NEUTRAL BOUNDED DIRECTLY TO THE MAIN BUILDING GROUND ELECTRODE PER CSA STANDARD C222 NO. 100-95. THE GENERATOR MUST HAVE A FLOATING NEUTRAL AS PER ESA RULE 10-210.
5. EMERGENCY LIFE SAFETY ELECTRICAL DISTRIBUTION CABLES ARE TO BE 2 HOUR FIRE RATED CABLES (MI CABLES) OR ENCLOSED IN A 2 HOUR FIRE RATED ENCLOSURE. CONCRETE ENCASEMENT TO BE 76mm MINIMUM. REFER TO ELECTRICAL SPECIFICATION FOR MORE DETAILS.
6. GENERATOR SHALL BE TWO PARALLEL 500KW COMMERCIAL/INDUSTRIAL SERIES NATURAL GAS GENSET.

   GENERATOR WILL BE USED FOR LIFE SAFETY AND NON-LIFE SAFETY. GENSET SHALL BE _KW, 347/600V, INCLUDING THE FOLLOWING:
   - STUND ALTERNATOR WEATHER PROTECTIVE ENCLOSURE
   - BLOCK HEATER
   - BATTERY WARMER
   - BASIC START-UP
   - BOTTOM ENCLOSURE
   - SPRING ISOLATED MOUNTING
   - LOAD CENTER
7. ALLOW FOR ON SITE FULL LOAD TESTING OF GENERATOR FOR 4 HOURS, INCLUDING ALL FUEL AND LOAD BANKS ASSOCIATED COST.
8. EMERGENCY GENERATOR TO BE USED FOR LIFE SAFETY TO THE BUILDING. ENSURE INSTALLATION AND WIRING TO CONFORM WITH CSA-282-15 EMERGENCY ELECTRICAL POWER SUPPLY FOR BUILDING.
9. SUPPLY AND INSTALL ALL CONDUIT AND WIRING REQUIRED FOR ALL TRANSPONDERS. INCLUDE ALL MISCELLANEOUS POWER AND PHONE LINES IF REQUIRED. REFER TO FIRE PUMP SPECIFICATION FOR AUTO-TRANSFER SWITCH SPECS. LEVEL P1
10. ALL WIRE SIZES ARE BASED ON COPPER WIRING. ALUMINUM WIRING ARE ACCEPTABLE FOR FEEDERS UP TO SUITE PANELS. ALL BRANCH CIRCUITS SHOULD BE COPPER. ALUMINUM WIRE SIZES SHALL BE EQUAVALENT BASED ON ESA STANDARDS.
11. CONDUCTORS REQUIRED FOR OPERATION OF LIFE SAFETY SYSTEMS SHALL BE KEPT ENTIRELY INDEPENDENT OF ALL OTHER CONDUCTORS AND EQUIPMENT AND SHALL NOT ENTER LUMINAIRE, RACEWAY, BOX, CABINET OR UNIT WHERE NECESSARY IN TRANSFER SWITCHES, AND IN EXIT SIGNS AND EMERGENCY LIGHTS SUPPLIED FROM TWO SOURCES, AS PER ESA RULE 46-108 4.
12. DISCONNECT FOR FIRE PUMP SHOULD BE LABELLED IN A CONSPICUOUS, LEGIBLE, AND PERMANENT MANNER IDENTIFYING IT AS THE FIRE PUMP DISCONNECTING MEANS. AS PER ESA RULE 32-306 1.
13. THE RATING OR SETTING OF THE CIRCUIT BREAKER SHALL BE SET OR RATED AT A VALUE LESS THAN THE OVERCURRENT PROTECTION PROVIDED INTEGRAL WITH THE FIRE PUMP TRANSFER SWITCH. REFERE TO ESA RULE 32-306 5. COORDINATE EXACT BREAKER SETTINGS WITH FIRE PUMP CONTRACTOR.
14. A BONDING CONDUCTOR SIZED ACCORDING TO TABLE 16 SHALL BE INSTALLED BETWEEN THE GENERATOR AND THE TRANSFER SWITCH, AS PER ESA RULE 10-614.

CONTRACTOR SHALL CHECK ALL DIMENSIONS ON THE WORK AND REPORT ANY DISCREPANCY TO THE CONSULTANT BEFORE PROCEEDING. THIS DRAWING IS NOT TO BE USED FOR CONSTRUCTION UNTIL AUTHORIZED IN WRITING BY CONSULTANT.

KEY PLAN

REVISION		
NO.	DATE	DESCRIPTION

HAMMERSCHLAG & JOFFE INC.
43 Leonhill Road, Toronto, Ontario
Canada M3B 2T8
T: (416) 444-9263
F: (416) 444-1463
E: dwg@hampf.com

SEAL :

PROJECT :
1315 BOUGH BEECHES BOULEVARD

SHEET CONTENTS :
DISTRIBUTION RISER DIAGRAM

PROJECT NUMBER : 26-000-066
DRAWING SCALE : N.T.S.
DRAWN BY : SS | CHECKED BY : | DATE: JAN 2025
SHEET NO : E400 | REV :

DISTRIBUTION RISER DIAGRAM
N:\26\26-000-066 Mid-066 Apartment Building (1315 Bough Beeches, Mississauga)\Drawing\Electrical\Revit\ ONLY FOR SUZ\26-000-066-HAJ-ELEC-BLOCK C-R2023_detached.rvt
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