



- SECURITY RISER NOTES**
1. ALL CONDUIT RISERS AND BACKBOXES FOR SECURITY SYSTEM SHALL BE BY ELECTRICAL CONTRACTOR AND AS RECOMMENDED BY SYSTEM SUPPLIER.
 2. SEE FLOOR PLANS FOR EXACT NUMBER OF OUTLETS.
 3. ONE RISER PER LOCATION.
 4. SUPPLY AND INSTALLATION OF DEVICES INCLUDING WIRING, BY SECURITY CONTRACTOR.
 5. MAGLOCK PERMITS BY SECURITY CONTRACTOR.
 6. COORDINATE SECURITY REQUIREMENTS FOR ELEVATOR CAMERA'S AND DEVICES PRIOR TO INSTALLATION.

- TELEPHONE/TELEVISION RISER NOTES**
1. ALL CONDUIT HOME RUNS FOR COMMUNICATION SYSTEM SHALL BE 2x27mmC. ALL CONDUITS WITHIN SUITES SHALL BE 21mmC UNLESS OTHERWISE NOTED.
 2. SEE FLOOR PLANS FOR EXACT NUMBER OF OUTLETS.
 3. WIRING BY COMMUNICATION CONTRACTOR.
 4. ALL OUTLETS FOR COMMUNICATION SYSTEM SHALL BE 4" SQUARE.

SUITES POWER PANEL SCHEDULE

DESIGNATION	MAINS	BREAKERS AND FEEDERS
SD	500A, 36, 4W OR 400A, 36, 4W	100A 2P (3C #1 RW90 FEEDERPLEX NUAL-35mmC(1-1/4") [3C-B]) OR 125A 2P (3C #2/0 RW90 FEEDERPLEX NUAL-41mmC(1-1/2") [3C-B]) - AS MARKED ON PLAN

TOTAL UNIT COUNT: 167

NOTE:

1. ALLOW FOR FIRE STOP/SMOKE SEAL AT ELECTRICAL CLOSET AND AT PANEL WITHIN SUITE.
2. SUITE'S PANELS ARE 100A UNLESS NOTED OTHERWISE.
3. SEE METERING NOTES FOR MORE INFORMATION.

- METERING NOTES**
1. ALL METERING EQUIPMENT (TRANSFORMERS, METER, METER BASES, CT'S, TEST BLOCK, AND CABINETS) ARE TO BE SUPPLIED BY OTHERS. POWER REQUIREMENTS (FUSED DISCONNECTS, SPLITTER, DISCONNECT SWITCHES, AND DATA CABLING TO BE SUPPLIED BY ELECTRICAL CONTRACTOR.
 2. DIVISION 16 TO INSTALL METERING SYSTEM AND COMPONENTS.
 3. ALLOW FOR COORDINATION WITH METERING PROVIDER PRIOR TO ROUGH-IN OF METERING SYSTEM.
 4. DIV. 16 TO PROVIDE SUITE DISTRIBUTION PANELS C/W WIRING AND ALLOW FOR INSTALLATION OF ASSOCIATED METERING EQUIPMENT (SEE NOTE #1) PROVIDED BY OTHERS.
 5. ALL CONDUITS FOR METERING EQUIPMENT BY DIV. 16.
 6. PROVIDE EMPTY PANEL, TUB OF EQUAL SIZE BESIDE SUITE DISTRIBUTION SUITE METERING SYSTEM. EMPTY PANEL TO BE PANEL FOR FUTURE SUITABLE FOR HINGED LOCKABLE DOOR.
 7. ALLOW FOR 12 CT DONUTS PER BOX, AND 2 CT DONUTS PER SUITE. PROVIDE A SEPARATE PRICE TO INSTALL DONUTS (SUPPLIED BY OTHERS) AT TIME OF SUITE FEEDER INSTALLATION.
 8. ALLOW FOR 12 CT DONUTS PER BOX, AND 2 CT DONUTS PER SUITE. CONTRACTOR TO PROVIDE AND INSTALL EMPTY METER BOX(S) TO METER SYSTEM SUPPLIER.
 9. COORDINATE THE INSTALLATION OF SUITE METERING SYSTEM WITH CLIENT. ALLOW FOR ALL COSTS ASSOCIATED WITH COORDINATION.
 10. COORDINATE THE INSTALLATION OF TAMPERPROOF CHECK METERING TO CLIENT'S APPROVAL. ALLOW FOR COORDINATION WITH SYSTEM SUPPLIER.
 11. ALL THE SD-4 PANELS ARE INDIVIDUALLY METERED, SUPPLIED AND COMMISSIONED BY METERING CONTRACTOR. PANEL INSTALLATION & COORDINATION AT SITE BY DIV.16

- FIRE ALARM RISER NOTES**
1. PROVIDE WIRING FOR SPRINKLER FLOW SWITCHES, PRESSURE SWITCHES AND SUPERVISED VALVES (NOT SHOWN ON ELECTRICAL DRAWINGS; EXACT LOCATIONS SHALL BE VERIFIED ON SITE) AND CONNECT TO CORRESPONDING ZONE OF FIRE ALARM SYSTEM.
 2. PROVIDE END OF LINE RESISTOR FOR EACH ZONE.
 3. SEE FLOOR PLANS FOR EXACT NUMBER AND LOCATION OF FIRE ALARM DEVICES.
 4. FIRE ALARM PULL STATIONS SHALL BE RED IN COLOR, MOUNTING HEIGHT: 1200MM AFF.
 5. SEE ALSO APPLICABLE NOTES DETAILS AND SEQUENCE OF OPERATION ON 'DETAILS' DRAWINGS.
 6. ALL F/A SIGNAL WIRING SHALL BE WIRED TO CONFORM TO CLASS 'A' STANDARDS.
 7. FIRE ALARM SPEAKER CIRCUITS TO BE CLASS A.
 8. PROVIDE SEPARATE SECOND CLASS A SIGNAL CIRCUIT PER FLOOR SO THAT ONE CIRCUIT IS FOR THE CORRIDORS AND ONE CIRCUIT IS FOR THE SUITES.
 9. ALL FIRE ALARM RECALL FROM MANUAL DEVICES AND AUTOMATICALLY INITIATED DEVICES TO BE AS PER CODE AND TSSA REQUIREMENTS.
 10. ADD CONTROL PANEL EXPANSION BOX AS PER MANUFACTURERS RECOMMENDATIONS AND SYSTEM REQUIREMENTS WITHIN PHASE 1 CAF TO HAVE A COMPLETE AND FULLY FUNCTIONAL INTEGRATED FIRE ALARM SYSTEM.
 11. ALLOW FOR ALL COSTS ASSOCIATED WITH VERIFICATION AS REQUIRED.
 12. ELECTRICAL SUPERVISION:
 - ELECTRICAL SUPERVISION OF THE AUTOMATIC SPRINKLER SYSTEM IS REQUIRED TO INDICATE A SUPERVISORY SIGNAL ON THE FIRE ALARM ANNUNCIATOR/CONTROL PANEL FOR THE FOLLOWING:
 - MOVEMENT OF A VALVE HANDLE THAT CONTROLS THE SUPPLY OF WATER TO SPRINKLERS, AND
 - LOSS OF EXCESS WATER PRESSURE REQUIRED TO PREVENT FALSE ALARMS IN A WET SYSTEM,
 - LOSS OF AIR PRESSURE IN A DRY PIPE SYSTEM,
 - LOSS OF POWER TO AN AUTOMATICALLY STARTING FIRE PUMP,
 - A TEMPERATURE APPROACHING THE FREEZING POINT IN A DRY PIPE WATER ENCLOSURE,
 - LOSS OF POWER TO A HEAT TRACING CABLE SERVING:
 - A SPRINKLER LINE, AND
 - AN EXIT OR MEANS OF EGRESS TO KEEP IT FREE FROM ICE AND SNOW

FIRE ALARM SCHEDULE NOTES

1. PROVIDE ON-OFF-AUTO SELECTOR SWITCHES IN ANNUNCIATOR PANEL FOR REMOTE CONTROL OF MUA'S, GARAGE EXHAUST FANS, PRESSURIZATION FANS, AND CONTROL FOR ALL ELEVATOR AND STAIR PRESSURIZATION AS WELL AS THE MECH AREA AIRFLOW EXHAUST SYSTEM.
2. PROVIDE FAN SHUT-DOWN RELAYS TO DE-ENERGIZE ALL SUPPLY AIR FANS ON FIRE ALARM.
3. ELEVATOR RECALL ADJACENT CENTRAL FACILITY.
4. ELEVATOR INTERCOM ADJACENT CENTRAL FACILITY.
5. REFER TO MECHANICAL DRAWINGS FOR LOCATION OF SUPERVISED VALVES.
6. SYSTEM TO CONFORM WITH O.B.C. SECTION 3.2.4.16 AND TO LOCAL AUTHORITY HAVING JURISDICTION.
7. ALL AUDIBLE SIGNAL WIRING TO CONFORM TO CLASS 'A' SPECIFICATIONS.
8. IN SUITE WHERE APPLICABLE THE SPEAKERS SHALL BE CAPABLE TO BE SILENCED AS REQUIRED BY CODES OR THE EQUIPMENT SHALL BE IN ACCORDANCE WITH OBC 3.2.4.19(13).

ELECTRICALLY SUPERVISED VALVE SCHEDULE

SUPERVISED VALVE NO.	SYSTEM	LOCATION
(S.V.#1)	INCOMING FIRE MAIN ISOLATION	SPRINKLER ROOM
(S.V.#2)	INCOMING FIRE MAIN ISOLATION	SPRINKLER ROOM
(S.V.#3)	PRIVATE HYDRANT ISOLATION	SPRINKLER ROOM
(S.V.#4)	FIRE PUMP MAIN ISOLATION	SPRINKLER ROOM
(S.V.#5)	FIRE PUMP SUCTION	SPRINKLER ROOM
(S.V.#6)	FIRE PUMP DISCHARGE	SPRINKLER ROOM
(S.V.#7)	FIRE PUMP BY-PASS	SPRINKLER ROOM
(S.V.#8)	FIRE PUMP BY-PASS	SPRINKLER ROOM
(S.V.#9)	FIRE PUMP TEST HEADER	SPRINKLER ROOM
(S.V.#10)	WET SPRINKLER AND FSP COMBINATION MAIN	SPRINKLER ROOM
(S.V.#11)	DRY SPRINKLER SYSTEM P-1 NORTH	SPRINKLER ROOM
(S.V.#12)	DRY SPRINKLER SYSTEM P-1 NORTH	SPRINKLER ROOM
(S.V.#13)	DRY SPRINKLER SYSTEM P-1 CENTRE	SPRINKLER ROOM
(S.V.#14)	DRY SPRINKLER SYSTEM P-1 SOUTH	SPRINKLER ROOM
(S.V.#15)	FIRE STANDPIPE RISER-1	P1 LEVEL
(S.V.#16)	FIRE STANDPIPE RISER-2	P1 LEVEL
(S.V.#17)	FIRE STANDPIPE RISER-3	P1 LEVEL
(S.V.#18)	FIRE STANDPIPE RISER-4	P1 LEVEL
(S.V.#19)	FIRE STANDPIPE RISER-5	P1 LEVEL
(S.V.#20)	FHC IN PARKING	P1 LEVEL
(S.V.#21)	FHC IN PARKING	P1 LEVEL
(S.V.#22)	FHC IN PARKING	P1 LEVEL
(S.V.#23)	FHC IN PARKING	P1 LEVEL
(S.V.#24)	FHC IN PARKING	P1 LEVEL
(S.V.#25)	SPRINKLER SYSTEM ON GROUND FL. (SOUTH PART)	GROUND FLOOR
(S.V.#26)	SPRINKLER SYSTEM ON 2ND LEVEL (SOUTH PART)	2ND LEVEL
(S.V.#27)	SPRINKLER SYSTEM ON 3RD LEVEL (SOUTH PART)	3RD LEVEL
(S.V.#28)	SPRINKLER SYSTEM ON 4TH LEVEL (SOUTH PART)	4TH LEVEL
(S.V.#29)	SPRINKLER SYSTEM ON 5TH LEVEL (SOUTH PART)	5TH LEVEL
(S.V.#30)	SPRINKLER SYSTEM ON 6TH LEVEL (SOUTH PART)	6TH LEVEL
(S.V.#31)	SPRINKLER SYSTEM ON 7TH LEVEL (SOUTH PART)	7TH LEVEL
(S.V.#32)	SPRINKLER SYSTEM ON GROUND FL. (NORTH PART)	GROUND FLOOR
(S.V.#33)	SPRINKLER SYSTEM ON 2ND LEVEL (NORTH PART)	2ND LEVEL
(S.V.#34)	SPRINKLER SYSTEM ON 3RD LEVEL (NORTH PART)	3RD LEVEL
(S.V.#35)	SPRINKLER SYSTEM ON 4TH LEVEL (NORTH PART)	4TH LEVEL
(S.V.#36)	SPRINKLER SYSTEM ON 5TH LEVEL (NORTH PART)	5TH LEVEL
(S.V.#37)	SPRINKLER SYSTEM ON 6TH LEVEL (NORTH PART)	6TH LEVEL
(S.V.#38)	SPRINKLER SYSTEM ON 7TH LEVEL (NORTH PART)	7TH LEVEL
(S.V.#39)	SPRINKLER SYSTEM ON MECHANICAL PENTHOUSE	PENTHOUSE
(S.V.#40)	SPRINKLER RISER IN GARAGE CHUTE	

FIRE ALARM SCHEDULE

ALARM ZONES	
CCT #	DESCRIPTION
1	PARKING GARAGE - P1 (1 ZONE PER LEVEL)
2	ELEVATOR LOBBY - P1 (1 ZONE PER LEVEL)
3	SPARE
4	MAIN ELECTRICAL ROOM - P1 LEVEL
5	SUB-ELECTRICAL ROOM #1 - P1 LEVEL
6	SUB-ELECTRICAL ROOM #2 - P1 LEVEL
7	COMMUNICATION ROOM - P1 LEVEL
8	MECHANICAL ROOM - P1 LEVEL
9	GARAGE ROOM - P1 LEVEL
10	GARAGE LOADING AREA - P1 LEVEL
11	SPARE
12-17	1ST FLOOR
18	2ND FLOOR TO 7TH FLOOR
19	MECHANICAL PENTHOUSE
20	GENERATOR ROOM
21	PENTHOUSE ELECTRICAL ROOM
22	ELEVATOR MACHINE ROOM
23	ELEVATOR SHUNT
24	FRESH AIR UNIT DUCT DETECTOR MECH PENTHOUSE
25	STAR 'A' UPPER STAIR
26	STAR 'A' TOP OF UPPER STAIR
27	STAR 'A' LOWER STAIR
28	STAR 'A' TOP OF LOWER STAIR
29	STAR 'B' UPPER STAIR
30	STAR 'B' TOP OF UPPER STAIR
31	STAR 'B' LOWER STAIR
32	STAR 'B' TOP OF LOWER STAIR
33	STAR 'C' TOP OF STAIR
34	MAIN SPRINKLER FLOW ALARM
35	SPRINKLER SYSTEM ON 2ND LEVEL FLOW ALARM (SOUTH PART)
36	GROUND FLOOR SOFT AREA SPRINKLER FLOW ALARM
37	PARKING GARAGE LEVEL-1 LOADING AREA FLOW ALARM
38	WET SPRINKLER LINE TO GROUND FLOOR AMENITY FLOW ALARM
39	WET SPRINKLER LINE TO GARAGE ROOM FLOW ALARM
40	WET SPRINKLER LINE TO GROUND FLOOR COMMON FLOW ALARM
41	WET SPRINKLER LINE TO SECOND FLOOR COMMON FLOW ALARM
42	SPRINKLER SYSTEM ON GROUND FL. FLOW ALARM (SOUTH PART)
43	SPRINKLER SYSTEM ON 2ND LEVEL FLOW ALARM (SOUTH PART)
44	SPRINKLER SYSTEM ON 3RD LEVEL FLOW ALARM (SOUTH PART)
45	SPRINKLER SYSTEM ON 4TH LEVEL FLOW ALARM (SOUTH PART)
46	SPRINKLER SYSTEM ON 5TH LEVEL FLOW ALARM (SOUTH PART)
47	SPRINKLER SYSTEM ON 6TH LEVEL FLOW ALARM (SOUTH PART)
48	SPRINKLER SYSTEM ON 7TH LEVEL FLOW ALARM (SOUTH PART)
49	SPARE
50	SPARE
51	SPARE
52	SPRINKLER SYSTEM ON GROUND FL. FLOW ALARM (NORTH PART)
53	SPRINKLER SYSTEM ON 2ND LEVEL FLOW ALARM (NORTH PART)
54	SPRINKLER SYSTEM ON 3RD LEVEL FLOW ALARM (NORTH PART)
55	SPRINKLER SYSTEM ON 4TH LEVEL FLOW ALARM (NORTH PART)
56	SPRINKLER SYSTEM ON 5TH LEVEL FLOW ALARM (NORTH PART)
57	SPRINKLER SYSTEM ON 6TH LEVEL FLOW ALARM (NORTH PART)
58	SPRINKLER SYSTEM ON 7TH LEVEL FLOW ALARM (NORTH PART)
59	SPARE
60	SPARE
61	SPARE
62	SPRINKLER RISER IN GARAGE CHUTE FLOW ALARM
63	SPARE 25K

TROUBLE ZONES

CCT #	DESCRIPTION
1	MAIN INCOMING SPRINKLER LINE LOSS OF PRESSURE - 1
2	MAIN INCOMING SPRINKLER LINE LOSS OF PRESSURE - 2
3	FIRE PUMP EMERGENCY DISCONNECT 'OFF'
4	FIRE ALARM SYSTEM TROUBLE
5	FIRE PUMP-LOSS OF POWER
6	FIRE PUMP RUNNING
7	FIRE PUMP PHASE REVERSAL INDICATOR
8	GEN-SET-COMMON TROUBLE
9	GENERATOR BREAKER 'OFF'
10	GENERATOR RUNNING
11	LOSS OF PRESSURE IN INCOMING GAS LINE FOR GENSET
12	LOSS OF PRESSURE OF GAS LINE TO GENSET
13	FIRE LINES TRACING POWER LOSS
14	COMPRESSOR LOSS OF AIR
15	COMPRESSOR LOSS OF POWER
16-17	DRY SPRINKLER LOSS OF AIR PRESSURE IN P1 PARKING LEVEL
18	JOCKEY PUMP LOSS OF POWER
19	TRANSFER SWITCH #10 NOT IN 'AUTO'
20	TRANSFER SWITCH #20 NOT IN 'AUTO'
21	TRANSFER SWITCH #30 NOT IN 'AUTO'
22	TRANSFER SWITCH #40 NOT IN 'AUTO'
23	EMERGENCY DISCONNECT #15 'OFF'
24	EMERGENCY DISCONNECT #20 'OFF'
25	EMERGENCY DISCONNECT #30 'OFF'
26	EMERGENCY DISCONNECT #40 'OFF'
27	LOW TEMP. T-STAT IN MECHANICAL ROOM - P1 LEVEL
28	HIGH CO LEVEL DETECTION IN MECHANICAL PENTHOUSE
29	HIGH CO LEVEL DETECTION IN PARKING GARAGE
30	PIPE TRACING PANEL EF LOSS OF POWER
31	SPARE 25K

02 CM REVISED AS PER ESA COMMENTS AND FOR CLARIFICATION 2016-05-19

01 CM ISSUED FOR TENDER 2016-03-15

NO. BY DESCRIPTION DATE

REVISIONS

This drawing is an instrument of service, is provided by and is the property of United Engineering Inc. The contractor must verify and accept responsibility for all dimensions and requirements of the authorities having jurisdiction. This drawing is not to be scaled, all symbols are graphic representations only.

United Engineering Inc.
Mechanical Electrical Consulting Engineers
3245 Keele Street, Suite 105,
Toronto, Ontario, M3J 1M6
Tel: (416) 398 1999, Fax: (416) 398 1933

POWER, COMMUNICATION, SECURITY AND FIRE ALARM RISER DIAGRAMS

PROPOSED RESIDENTIAL DEVELOPMENT
25 BAKER HILL BLVD.

ROYAL PINE HOMES
STOUFFVILLE, ONTARIO

DRAWN CM CHECKED MG SCALE N.T.S.
DATE PROJECT DRAWING
SEPT. 2015 14-016 OF 12