

TYPICAL APT UNIT @ 1000#

FEEDER CALCULATION FOR AN EXISTING SINGLE DWELLING UNIT BASED UPON AREA PER N.E.C. 220.83B

1000# X 3 WATTS /#	= 3.0 KW
2 CIRCUITS @ 1500 WATT	= 3.0 KW
ELECTRIC OVEN/RANGE	= 12.0 KW
DISHWASHER	= 1.0 KW
REFRIGERATOR	= 0.8 KW
MICROWAVE	= 1.0 KW
TOTAL	= 20.8 KW

1ST 8 KW @ 100%	= 8.0 KW
20.8KW - 8.0 KW = 12.8 KW @40%	= 5.1 KW
FURNACE @ 100%	= 8.0 KW
CONDENSING UNIT @ 100%	= 3.0 KW
WATER HEATER @ 100%	= 1.8 KW
DRYER @ 100%	= 5.0 KW
WASHER @ 100%	= 1.0 KW
TOTAL	= 31.9 KW

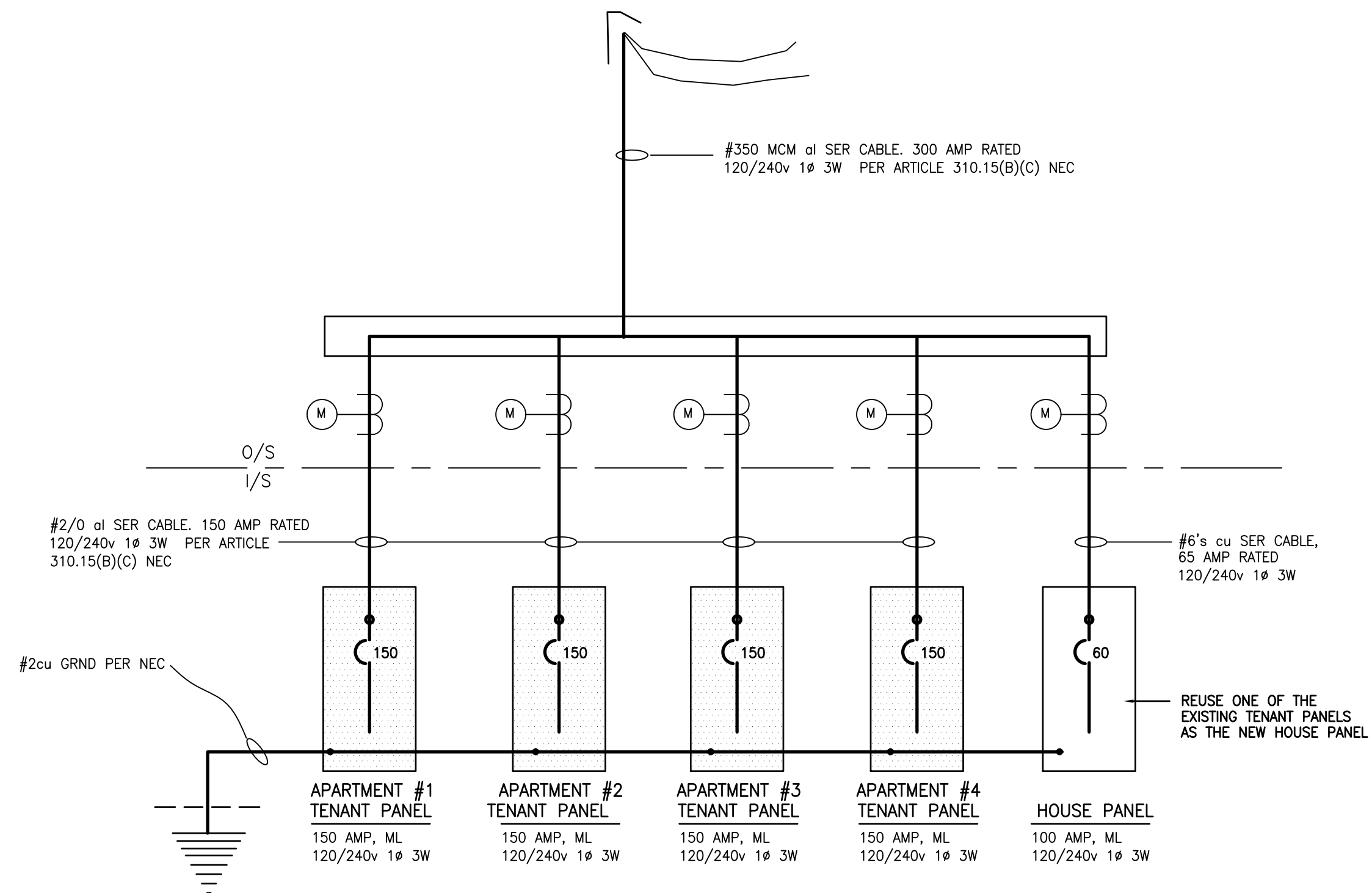
31.9 KW = 139 AMPS @ 120/240v 1# 3W
PROVIDE 150 AMP 2P FEEDER

SERVICE ENTRANCE CALCULATIONS

4 UNITS @ (31.9 KW X 1.1 SAFETY) = 140.4 KW
140.4 KW X 45% DEMAND (TABLE 220.84 N.E.C.) = 63.1 KW

63.1 KW APARTMENT LOADS
2.0 KW HOUSE LOADS @ 100%
65.1 KW TOTAL

65.1 KW TOTAL = 270 AMPS @ 120/240v 1# 3W
PROVIDE A 275 AMP 120/240v 1# 3W SERVICE



ELECTRICAL RISER DIAGRAM

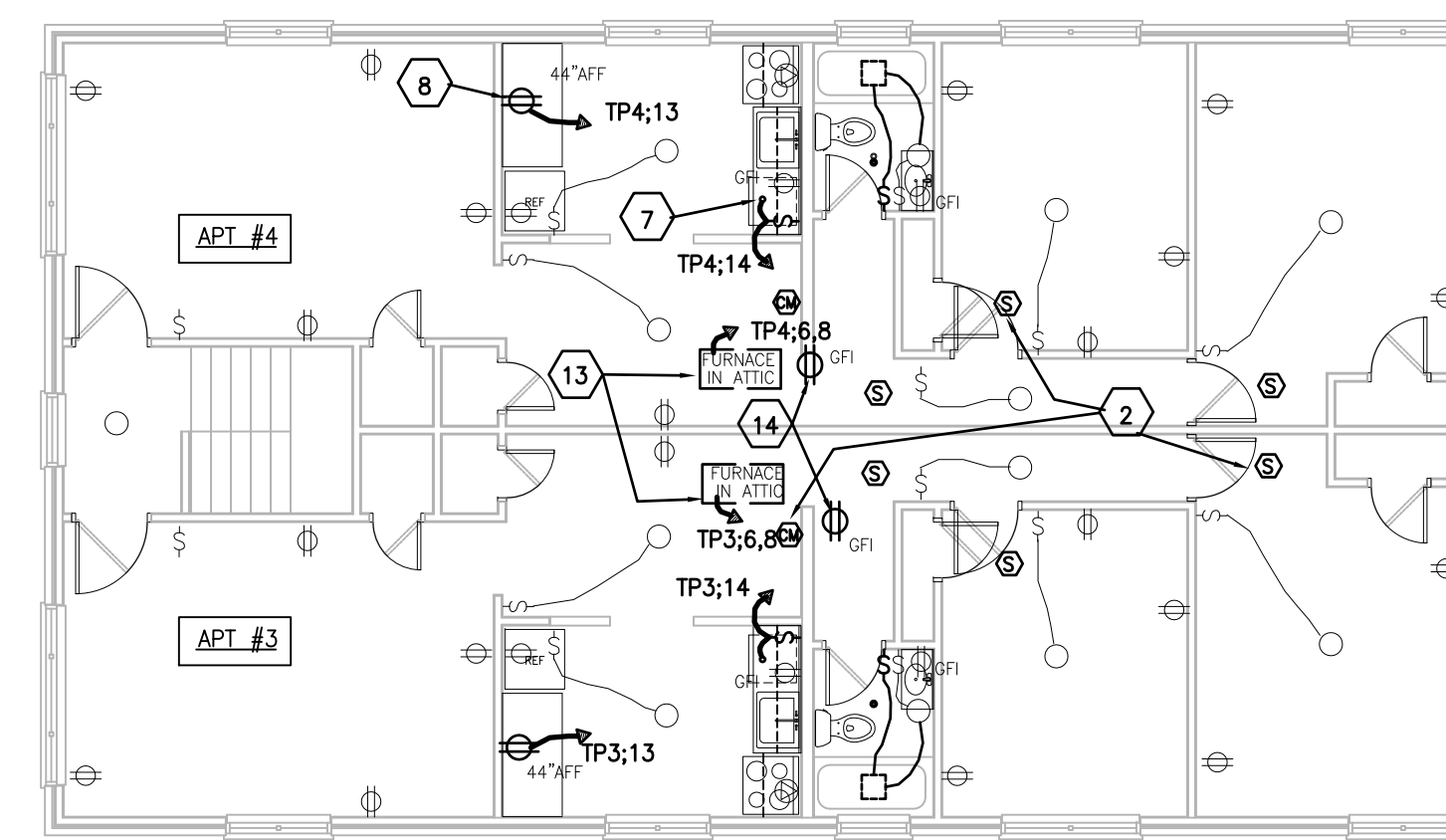
PANEL	APARTMENT	PANEL	rating:
load served	LOAD KW	TRIP AMP	150 AMP 120/240v 1# 3W
OVEN / RANGE	4.3	50	
REFRIGERATOR	0.8	20	
COUNTER OUTLET	1.5	20	
COUNTER OUTLET	1.5	20	
LIGHTS	1.0	20	
NEW COUNTER OUTLET	1.0	20	
TOTAL	16.4	14.6	

A.I.C. RATING: 10 K
MOUNTING: SURFACE
REMARKS: QO BREAKERS
150 AMP 2P MAIN CB
ARC FAULT BREAKER

PANEL	HOUSE PANEL	rating:	
load served	LOAD KW	TRIP AMP	100 AMP 120/240v 1# 3W
HOUSE LIGHTS	0.5	20	
HOUSE LIGHTS	0.5	20	
TOTAL	1.0	1.0	

A.I.C. RATING: 10 K
MOUNTING: FLUSH
REMARKS: QO BREAKERS
60 AMP 2P MAIN CB

LIGHT FIXTURE NOTE:
ALL LIGHT FIXTURES IN THE BUILDING SHALL BE CHANGED OUT;
PROVIDE A \$3000 LIGHT FIXTURE ALLOWANCE FOR THIS PROJECT.



ELECTRICAL LEGEND

- HOME RUN TO POWER PANEL OR SWITCHBOARD
- ⊞ EXISTING SWITCH
- ⊞ SWITCH MTD. 42" AFF
- ⊞ 3-WAY SWITCH MTD. 42" AFF
- ⊞ EXISTING OUTLET TO REMAIN
- ⊞ NEW OUTLET, MTD. 12" AFF OR AS NOTED
- GFI GROUND FAULT INTERRUPTION
- POWER PANEL
- REMOVED FIXTURE
- NEW LIGHT FIXTURE AT EXISTING BOX
- NEW LIGHT FIXTURE
- e LETTER INDICATING SWITCHING OF FIXTURE OR EQUIPMENT
- ⊞ SMOKE DETECTOR
- ⊞ CARBON MONOXIDE DETECTOR
- ⊞ EMERGENCY LIGHTS
- ⊞ COMBINATION EXIT & EMERGENCY LIGHT W/ EGRESS LIGHT AT EXTERIOR

GENERAL ELECTRICAL NOTES

- ALL ELECTRICAL MATERIAL, DEVICES, AND EQUIPMENT SHALL BEAR "U.L." LABELS AND SHALL BE INSTALLED PER THE 2008 "N.E.C." AND PER THE LOCAL INSPECTION BUREAU'S REQUIREMENTS.
- ALL MATERIAL, DEVICES, AND EQUIPMENT SHALL BE GROUNDED PER THE "N.E.C."
- ALL EXTERIOR WIRING SHALL BE IN RIGID CONDUIT OR SCHEDULE 40 P.V.C. CONDUITS.
- VERIFY ALL EQUIPMENT LOADS, LOCATIONS, AND PANELBOARD SCHEDULES PRIOR TO ROUTING CONDUITS, PULLING WIRE, AND INSTALLING BREAKERS AND ELECTRICAL DEVICES.
- SEE INTERIOR AND EXTERIOR ARCHITECTURAL ELEVATIONS FOR PLACEMENT OF FIXTURES, CONDUITS, AND ACCESSORIES. COORDINATE WITH EQUIPMENT/FURNITURE PLACEMENT.
- TYPICAL LIGHTING & POWER CIRCUITS SHALL BE 2, #12's cu & #12 GRND NM-B WIRED FROM 20 AMP 1P CB, UNLESS NOTED OTHERWISE.
- REMOVE ALL ELECTRICAL WORK & DEVICES THAT ARE NOT A PART OF THE FINISHED WORK.

ELECTRICAL PROJECT DESCRIPTION

FURNISH AND INSTALL ALL LABOR AND MATERIAL REQUIRED FOR THE ELECTRICAL ALTERATION OF THE SINGLE FAMILY RESIDENCE. COORDINATE WORK WITH THE GENERAL CONTRACTOR AND HIS SUB-CONTRACTORS. OBTAIN THE REQUIRED WORK PERMIT AND INSPECTIONS FOR A COMPLETE PROJECT; THE COMPLETED PROJECT WILL BE A LIKE NEW FACILITY.

ELECTRICAL CONSTRUCTION NOTES

- INSTALL A NEW 300 AMP, 120/240v ELECTRIC SERVICE AND WEATHER HEAD; REUSE THE EXISTING METERS FROM INSIDE TO A POSITION ON ON THE OUTSIDE OF THE BUILDING. ROUTE SERVICE TO NEW BREAKER PANELS WITH MAINS ON THE INSIDE OF THE BUILDING (SEE THE ELECTRICAL RISER) AND GROUND PER NEC.
- FURNISH AND INSTALL NEW 120 VOLT INTER-WIRED SMOKE AND CARBON MONOXIDE DETECTORS WITH BATTERY BACK-UP. WIRE WITH 2, #14's & 3, #14's & #14 GRND NM-B FROM A 15 AMP 1P C.B. WITH A LOCK-ON DEVICE.
- REUSE CIRCUIT(S) THAT ORIGINALLY FED GFI OUTLET & LIGHTS IN THE ORIGINAL BATHROOM FOR THE REMODELED BATHROOM; MOUNT GFI OUTLET AT 44" AFF; WIRE WITH 2, #12's & #12 GRND NM-B.
- REMOVE AND REPOSITION DEVICES (OUTLETS, WALL SWITCHES, & LIGHT FIXTURES) IN BEDROOMS AS SITE CONDITIONS DICTATE; WIRE WITH 2, #12's & #12 GRND NM-B WIRING.
- REUSE CIRCUIT(S) THAT ORIGINALLY FED LIGHTS IN HALLWAY; WIRE WITH 2, #12's & #12 GRND NM-B. REPOSITION WALL SWITCHES AS SITE CONDITIONS DICTATE.
- WIRE NEW RANGE HOOD EXHAUST FAN FROM THE ORIGINAL EXHAUST FAN CIRCUIT OR AN AGACENT CIRCUIT.
- PROVIDE A DEDICATED 20 AMP CIRCUIT WITH TOGGLE SWITCH DISCONNECT FOR THE NEW DISHWASHER; WIRE WITH 2, #12's & #12 GRND NM-B FROM A 20 AMP 1P CB.
- PROVIDE A DEDICATED 20 AMP CIRCUIT WITH OUTLET FOR A NEW FLUSH MOUNTED COUNTER OUTLET @ 44" AFF; WIRE WITH 2, #12's & #12 GRND NM-B.
- PROVIDE A GFI/WP OUTLET TO SERVICE THE HVAC EQUIPMENT; WIRE WITH 2, #12's & #12 GRND NM-B FROM THE HOUSE PANEL FROM A 20 AMP 1P CB.
- RECONNECT THE NEW CONDENSING UNITS INSTALLED BY THE HVAC CONTRACTOR; REUSE THE EXISTING DISCONNECTS.
- PROVIDE A DEDICATED 15 AMP CIRCUIT FOR A FUTURE AUTOMATIC DOOR OPENER. VERIFY THE LOCATION IN THE FIELD; WIRE WITH 2, #14's & #14 GRND FROM A 15 AMP 1P CB.
- REPOSITION THE EXISTING ELECTRIC DOOR BELLS FOR THE 4 APARTMENTS AS A RESULT OF THE LOBBY AREA.
- PROVIDE 45 AMP 240v DEDICATED CIRCUITS FOR THE NEW FURNACES; WIRE WITH 3, #8's & #10 GRND NM-B FROM 45 AMP 2P CB'S; EACH FURNACE IS ALREADY PROVIDED WITH A DISCONNECT.
- PROVIDE A GFI OUTLET WIRED FROM AN EXISTING TENANT CIRCUIT TO SERVICE THE FURNACE.

