NON - POWER - LIMITED FIRE ALARM CIRCUITS (NPLFA)

INDUSTRY REFERENCE SKETCHES 1/10 THRU 10/10

REVISED: 7.06.2011

AS REVIEWED BY MR. DONALD GOTTFRIED
NEW YORK CITY DEPARTMENT OF BUILDINGS

SKETCH #1

Sketch #1 depicts a service arrangement for a Fire Alarm Service Switch.

a- Is this an acceptable wiring arrangement?
b- For a 30A Fire Alarm Service Switch may the Grounding Electrode Conductor be sized for 30A and a # 10 awg wire be used?

SKETCH #2

Sketch #2 depicts a service arrangement for a Fire Alarm Service Switch and a Multi-Story Fire Alarm Power Riser

a- Is this an acceptable wiring arrangement?

SKETCH #3

Sketch #3 depicts a service arrangement for a Fire Alarm Service Switch at 265/460v and a step down transformer indicating the bonding of the neutral at the transformer.

a- Is this an acceptable wiring arrangement?

SKETCH #4

Sketch #4 depicts a service arrangement for a Fire Alarm Service Switch at 265/460v and a step down transformer indicating the bonding of the neutral at the Fire Alarm disconnect on the load side of the transformer.

a- Is this an acceptable wiring arrangement?

SKETCH #5

Sketch #5 depicts a service arrangement for a Fire Alarm Service Switch and a dedicated 3-Pole Automatic Transfer Switch.

a- Is this an acceptable wiring arrangement?

SKETCH #6

Sketch #6 depicts a service arrangement for a Fire Alarm Service Switch and a dedicated 4-Pole Automatic Transfer Switch.

a- Is this an acceptable wiring arrangement?

SKETCH #7

Sketch #7 depicts a service arrangement for a Dedicated Fire Alarm ATS in a building with Multiple Emergency Generators.

a- Is this an acceptable wiring arrangement?

SKETCH #8

Sketch #8 depicts a service arrangement for a Dedicated Fire Alarm ATS in a building with Multiple Emergency Generators.

a- Is this an acceptable wiring arrangement?

SKETCH #9

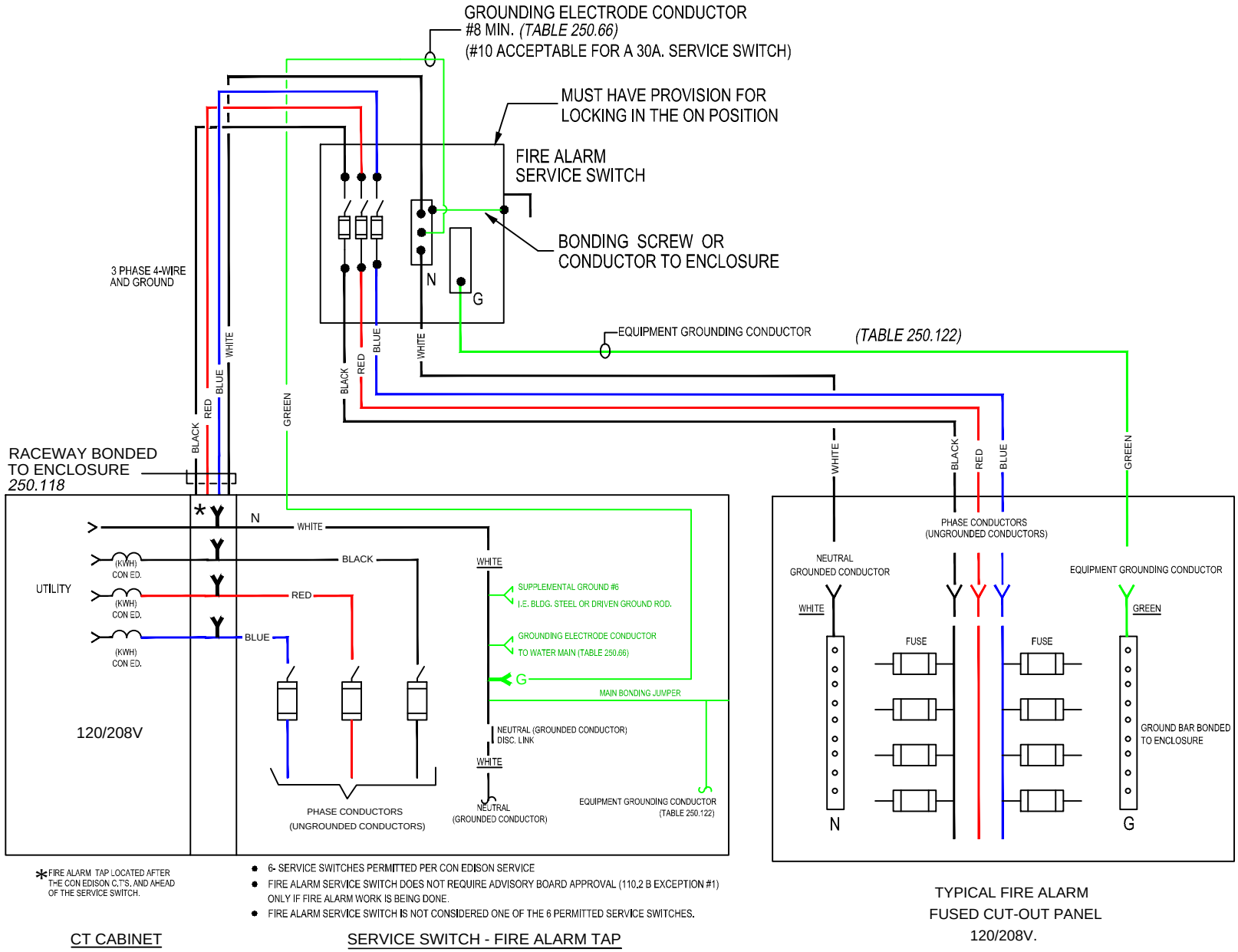
Sketch #9 depicts a service arrangement for a Dedicated Fire Alarm ATS in a building with Multiple Emergency Generators and a Paralleling Switchboard.

a- Is this an acceptable wiring arrangement?

SKETCH #10

Sketch #10 depicts a service arrangement for a Sub-System Fire Alarm Fused Cut-Out.

a- Is this an acceptable wiring arrangement?



*FIRE ALARM TAP LOCATED AFTER THE CON EDISON C.T'S. AND AHEAD OF THE SERVICE SWITCH.

- 6- SERVICE SWITCHES PERMITTED PER CON EDISON SERVICE
- FIRE ALARM SERVICE SWITCH DOES NOT REQUIRE ADVISORY BOARD APPROVAL (110.2 B EXCEPTION #1) ONLY IF FIRE ALARM WORK IS BEING DONE.
- FIRE ALARM SERVICE SWITCH IS NOT CONSIDERED ONE OF THE 6 PERMITTED SERVICE SWITCHES.

CT CABINET

SERVICE SWITCH - FIRE ALARM TAP

TYPICAL FIRE ALARM
FUSED CUT-OUT PANEL
120/208V.

120/208V

- SERVICE SWITCH MUST BE RATED FOR AVAILABLE FAULT CURRENT AT SERVICE POINT.
- ALL NPLFA DISTRIBUTION DEVICES AND PULL BOXES MUST BE LABELED AND PAINTED RED.
- ALL CONDUIT TO BE RMC, IMC, OR MI CABLE. *(760.46)*
- RMC MAY BE RGS OR ALUMINUM

G GROUND BAR (TYPICAL) BONDED TO ENCLOSURE

N ISOLATED NEUTRAL BAR (TYPICAL)

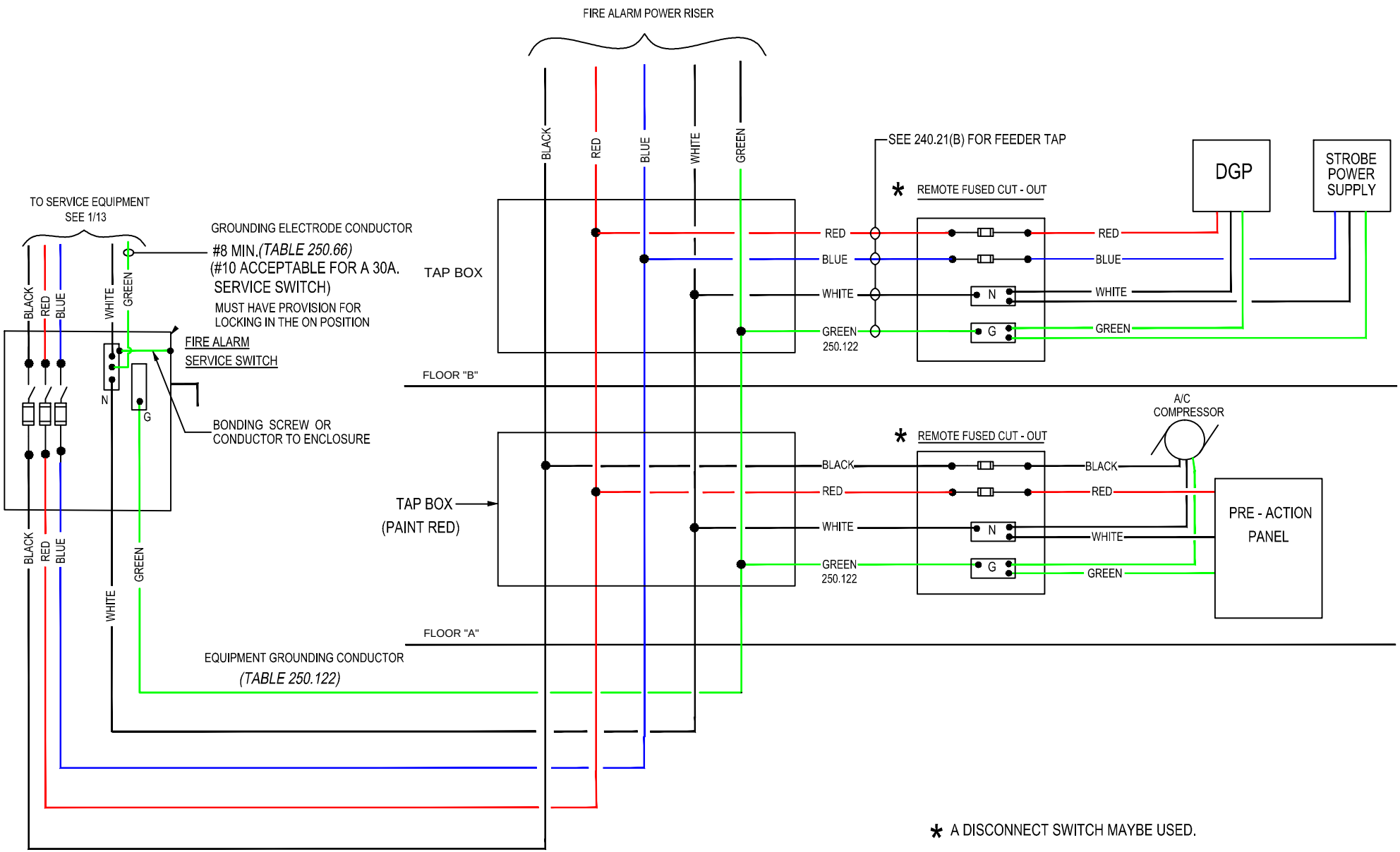
FUSE

TYPICAL FIRE ALARM SERVICE SWITCH 120/208

INDUSTRY REFERENCE SKETCH: 1 / 10

7/06/11

1/13 THRU 3/13 AS REVIEWED BY MR. DONALD GOTTFRIED



- FUSE SIZE IN FIRE ALARM SERVICE SWITCH AND REMOTE FIRE ALARM CUT-OUTS MUST COORDINATE.
- RISER CONDUCTORS MUST BE CONTINUOUS OR SPLICED AT A LISTED TERMINAL DEVICE
- A LISTED DEVICE MUST BE USED FOR TAPPING FEEDER CONDUCTOTRS.
- ALL CONDUIT TO BE RMC, IMC, OR MI CABLE. *(760.46)*
- ALL NPLFA DISTRIBUTION DEVICES AND PULL BOX COVERS MUST BE LABELED AND PAINTED RED.

G GROUND BAR (TYPICAL) BONDED TO ENCLOSURE

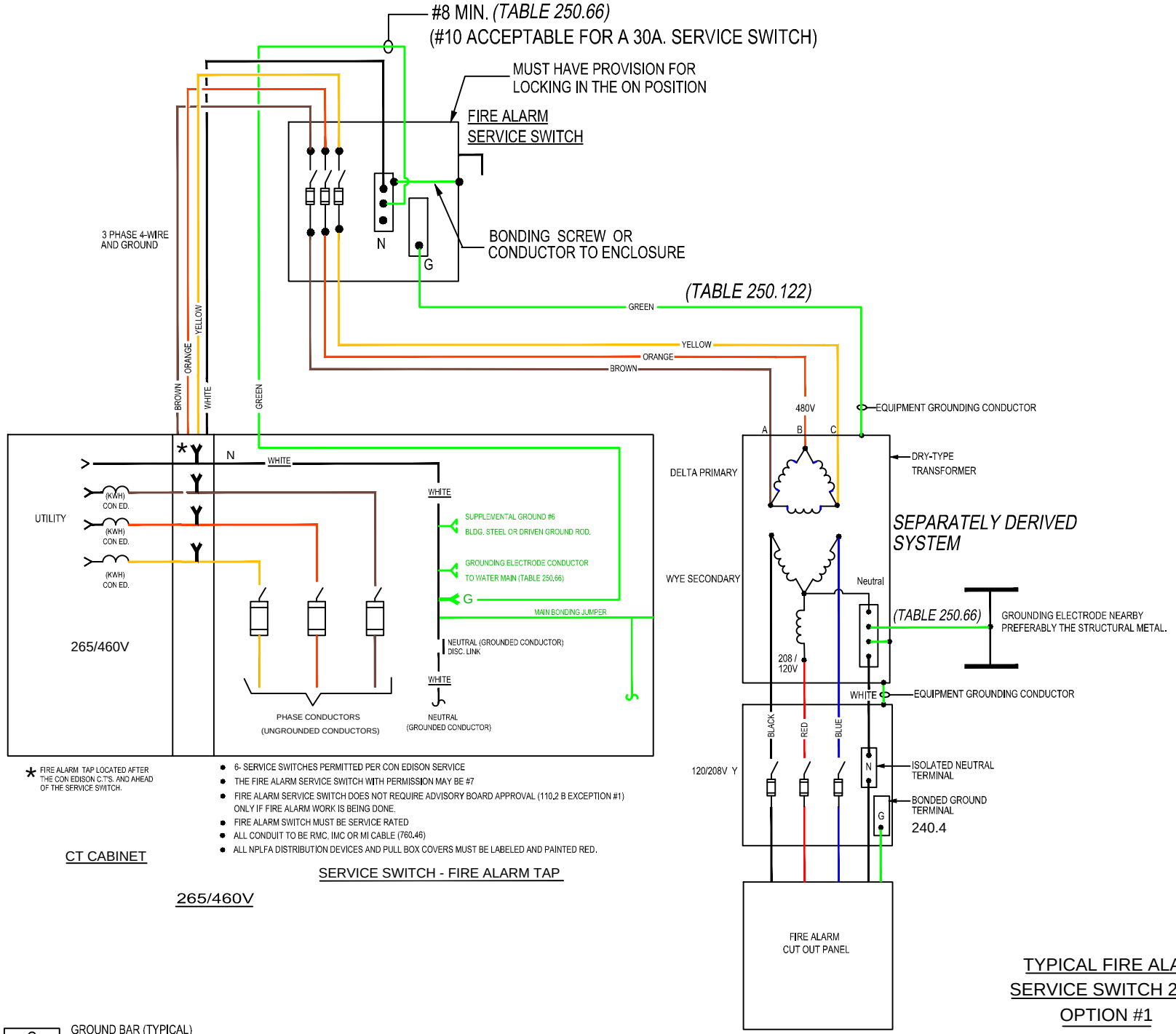
N ISOLATED NEUTRAL BAR (TYPICAL)

FUSE

MULTI-STORY FIRE ALARM POWER RISER

INDUSTRY REFERENCE SKETCH: 2 / 10

7/06/11

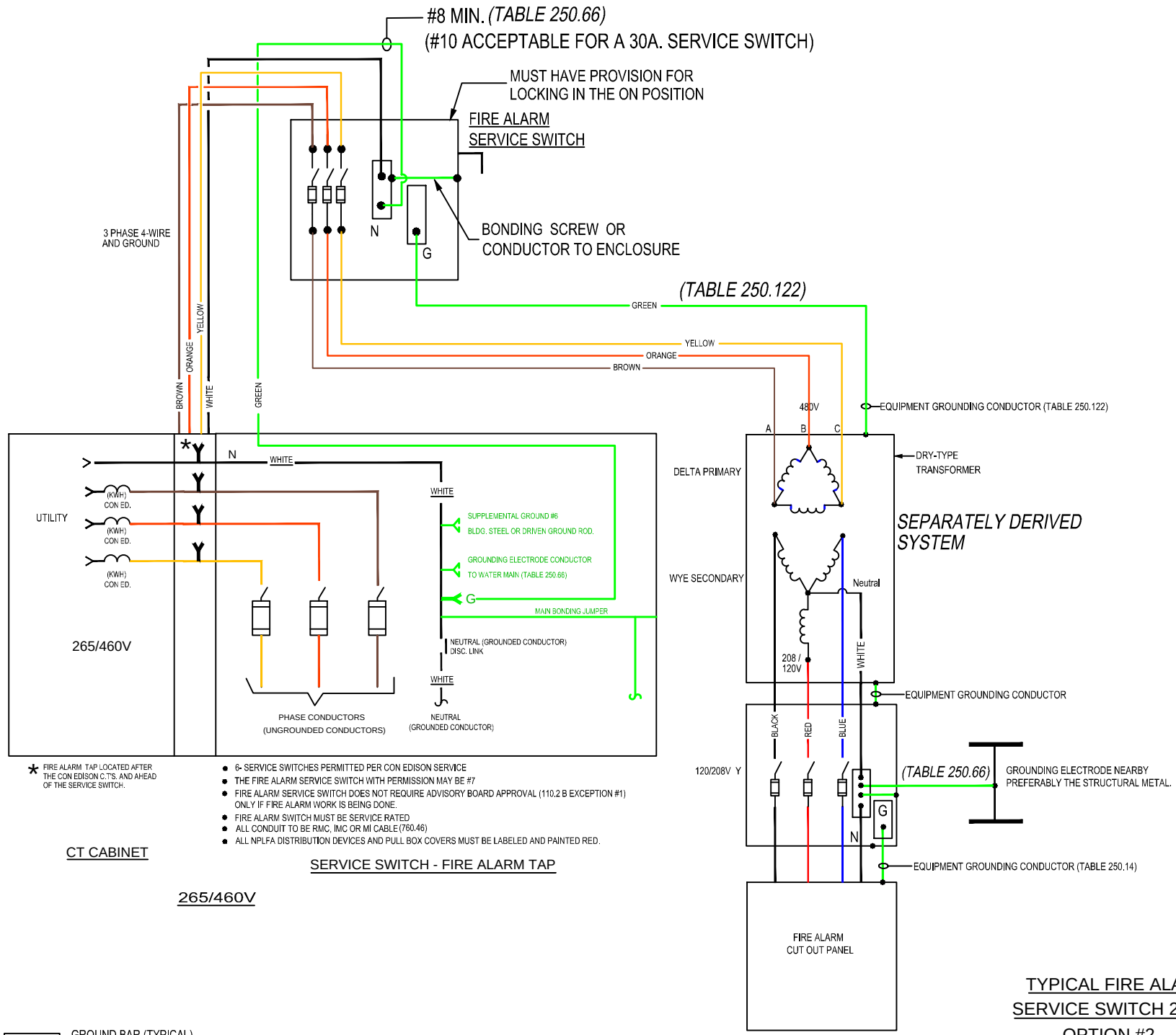


TYPICAL FIRE ALARM SERVICE SWITCH 265/460V OPTION #1

" GROUNDING ELECTRODE CONNECTION AT TRANSFORMER"

INDUSTRY REFERENCE SKETCH: 3 / 10

7/06/11

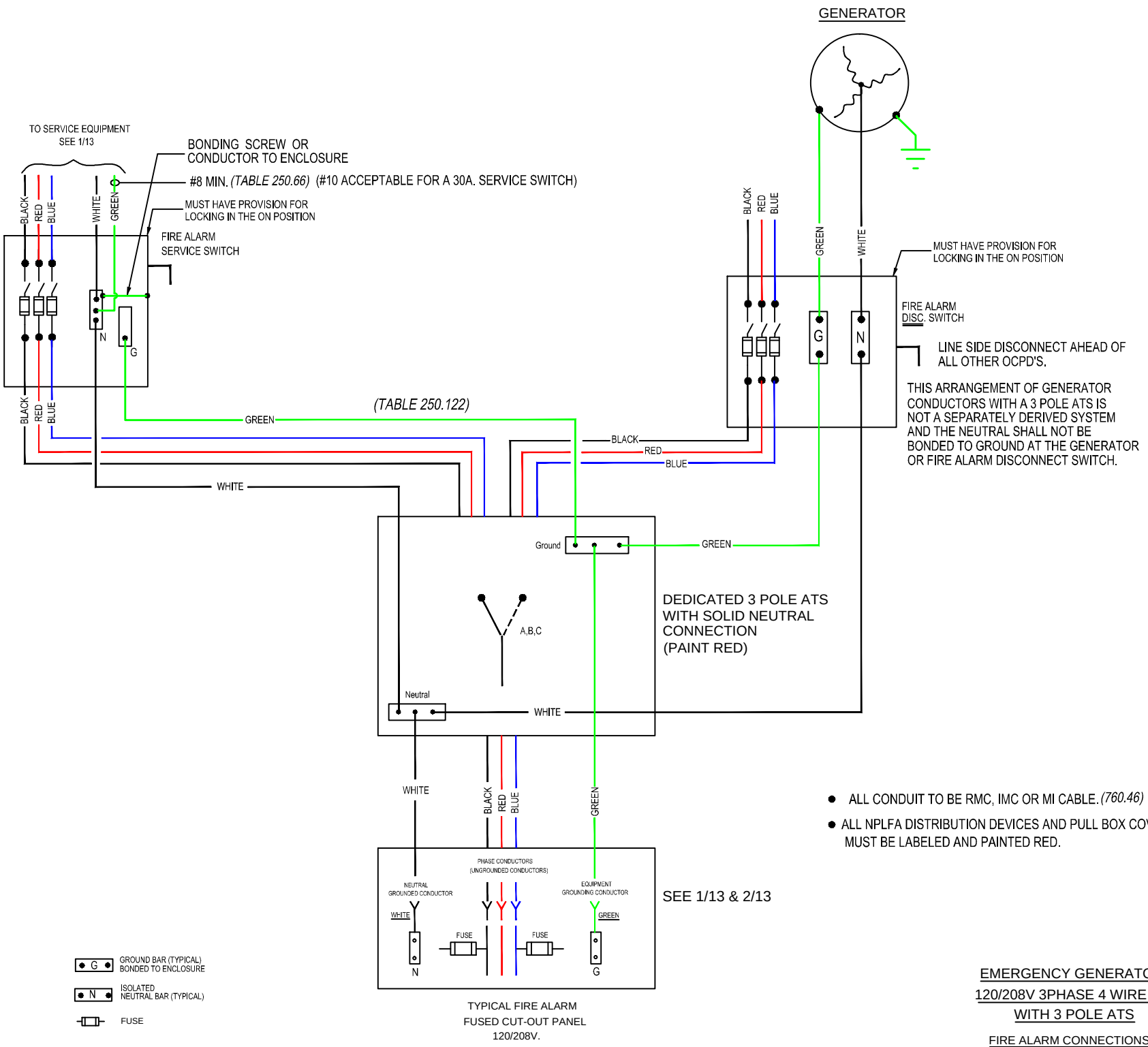


TYPICAL FIRE ALARM SERVICE SWITCH 265/460V OPTION #2

" GROUNDING ELECTRODE CONNECTION AT THE FIRST DISCONNECTING MEANS"

INDUSTRY REFERENCE SKETCH: 4 / 10

7/06/11



TYPICAL FIRE ALARM
FUSED CUT-OUT PANEL
120/208V.

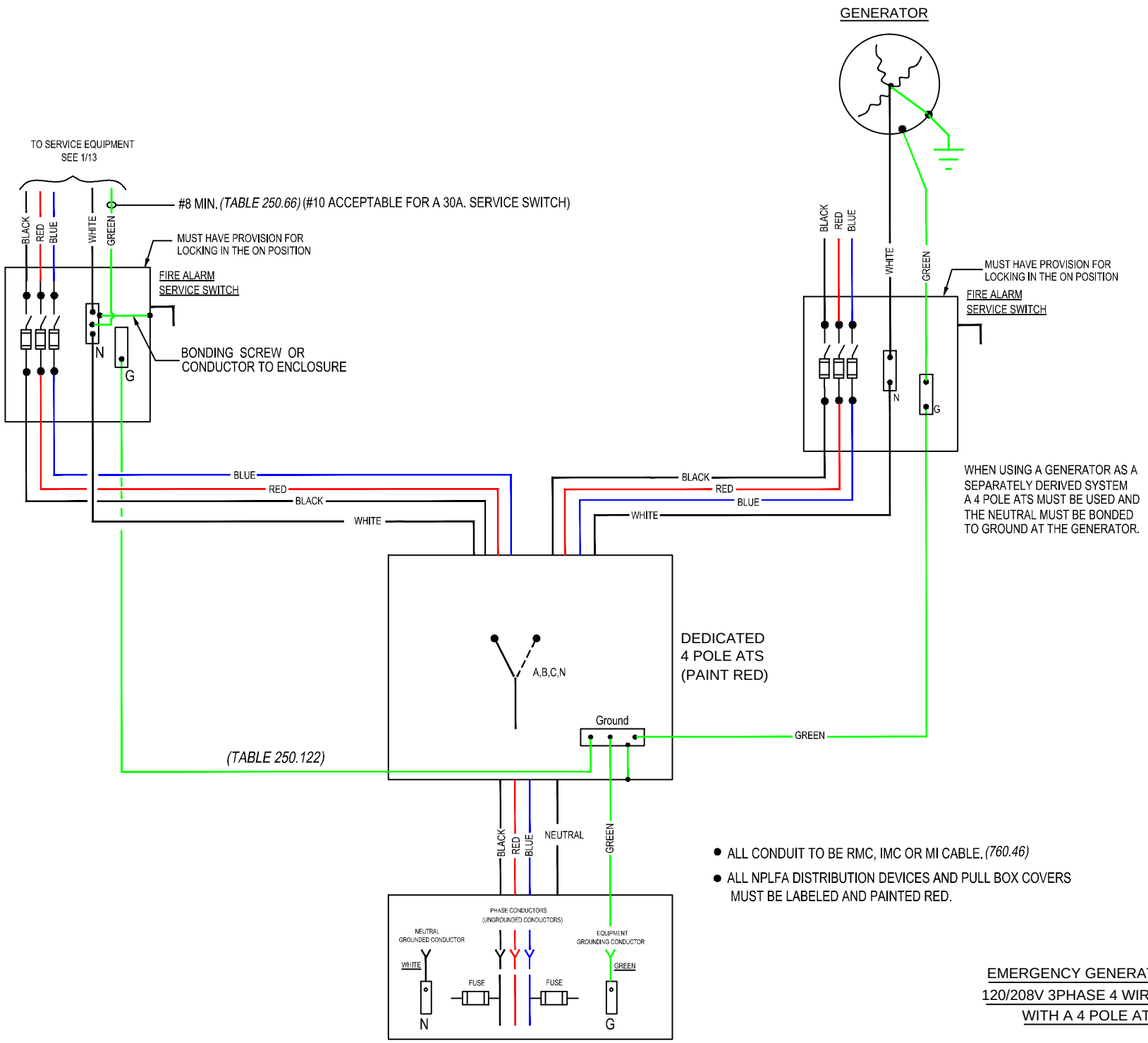
- ALL CONDUIT TO BE RMC, IMC OR MI CABLE. *(760.46)*
- ALL NPLFA DISTRIBUTION DEVICES AND PULL BOX COVERS MUST BE LABELED AND PAINTED RED.

EMERGENCY GENERATOR
120/208V 3PHASE 4 WIRE SYSTEM
WITH 3 POLE ATS

FIRE ALARM CONNECTIONS

INDUSTRY REFERENCE SKETCH: 5 / 10

7/06/11



- ALL CONDUIT TO BE RMC, IMC OR MI CABLE. *(760.46)*
- ALL NPLFA DISTRIBUTION DEVICES AND PULL BOX COVERS MUST BE LABELED AND PAINTED RED.

TYPICAL FIRE ALARM
FUSED CUT-OUT PANEL
120/208V.

EMERGENCY GENERATOR
120/208V 3PHASE 4 WIRE SYSTEM
WITH A 4 POLE ATS

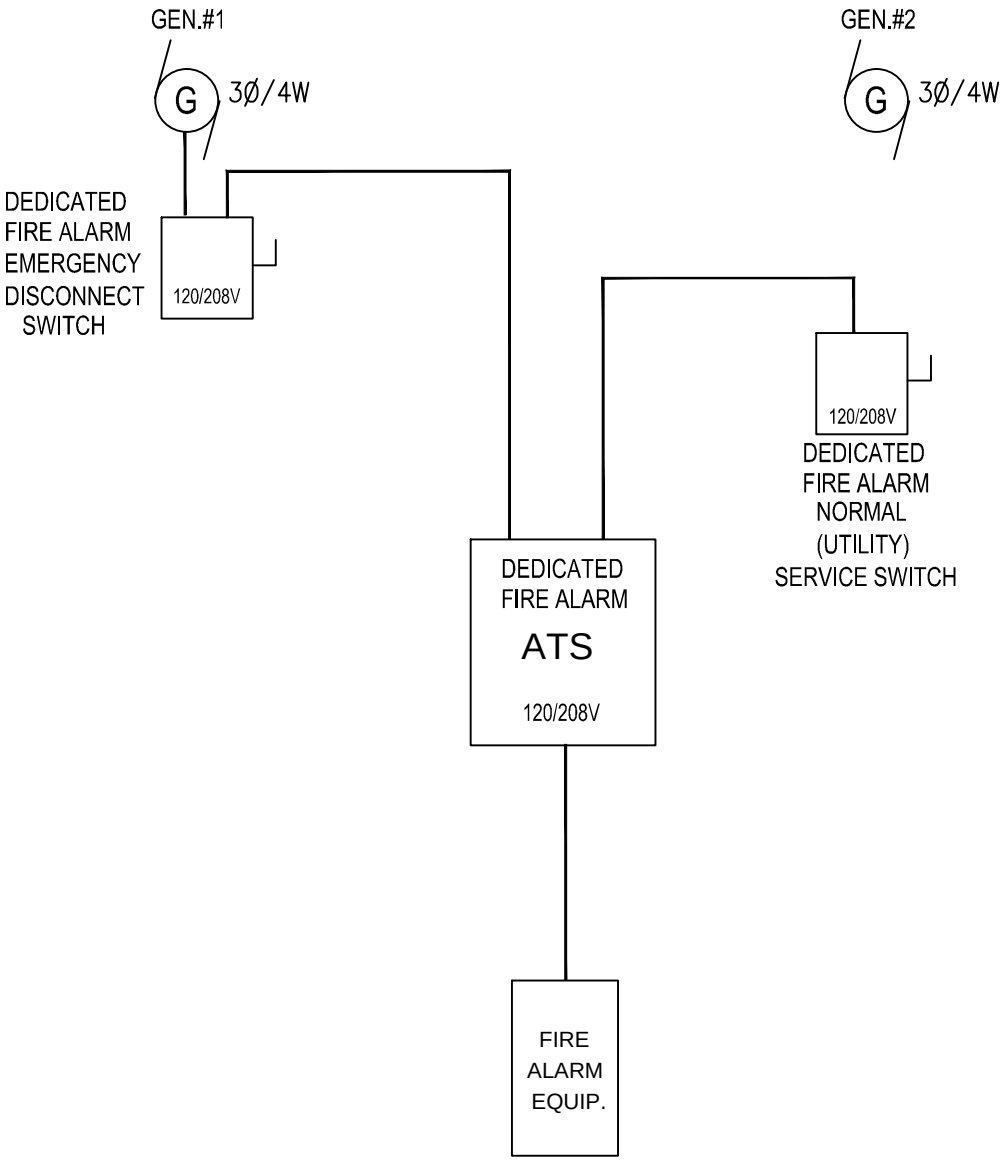
FIRE ALARM CONNECTIONS

INDUSTRY REFERENCE SKETCH: 6 / 10

7/06/11

MULTIPLE EMERGENCY GENERATORS

NON - PARALLELED



- ALL CONDUIT TO BE RMC, IMC OR MI CABLE *(760.46)*
- ALL NPLFA DISTRIBUTION DEVICES AND PULL BOX COVERS MUST BE LABELED AND PAINTED RED.

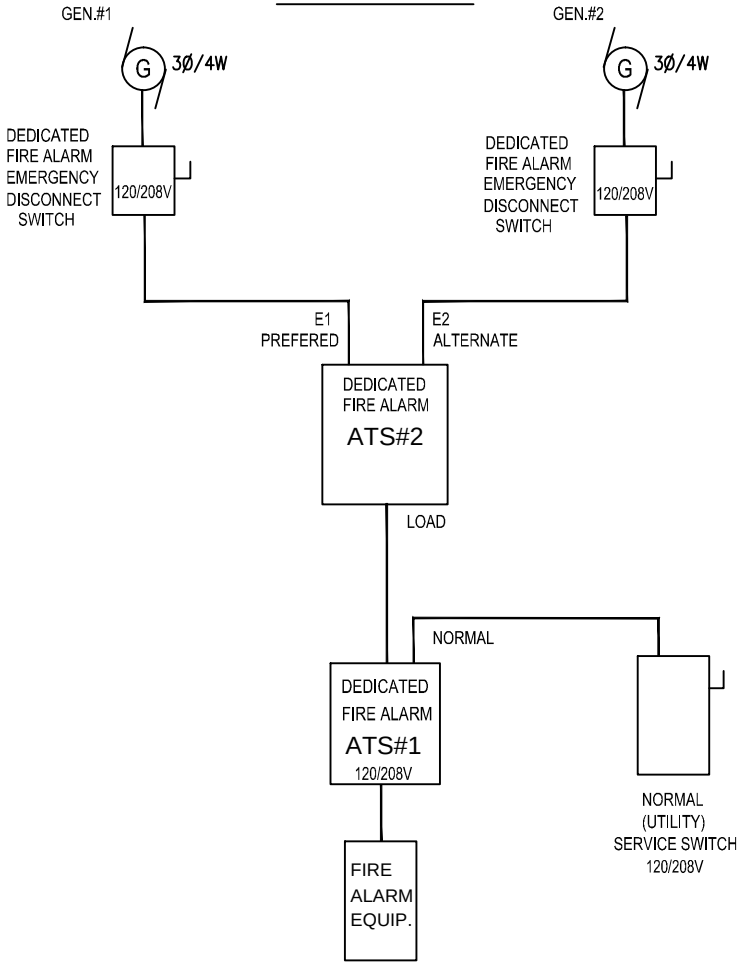
FIRE ALARM EMERGENCY CONNECTIONS
TWO OR MORE NON - PARALLELED GENERATING SOURCES WITH A FIRE ALARM CONNECTION TO A SINGLE GENERATOR SOURCE.

INDUSTRY REFERENCE SKETCH: 7 / 10

7/06/11

MULTIPLE EMERGENCY GENERATORS

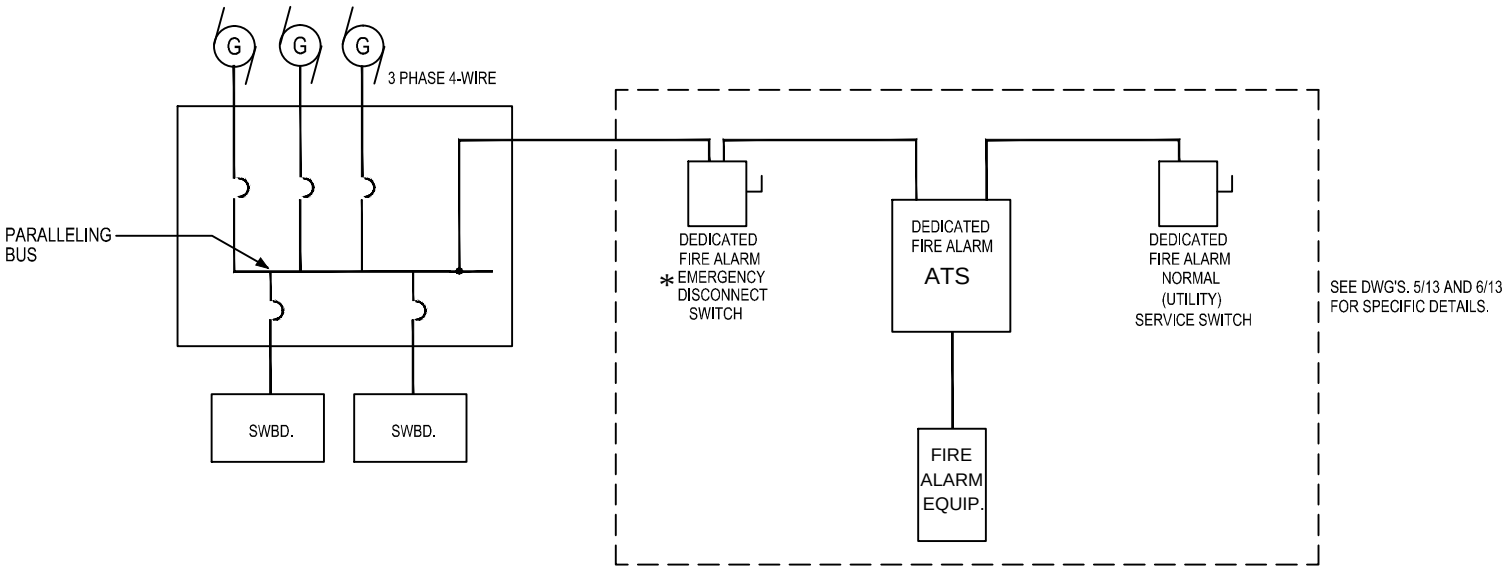
NON - PARALLELED



- ALL CONDUIT TO BE RMC, IMC OR MI CABLE *(760.46)*
- ATS#1 SHALL HAVE PROVISION FOR STARTING BOTH EMERGENCY GENERATORS ON LOSS OF POWER.
- ALL NPLFA DISTRIBUTION DEVICES AND PULL BOX COVERS MUST BE LABELED AND PAINTED RED.

FIRE ALARM EMERGENCY OPTIONAL CONNECTIONS
TWO OR MORE NON - PARALLELED GENERATING SOURCES WITH A FIRE ALARM CONNECTION TO TWO GENERATOR SOURCES.

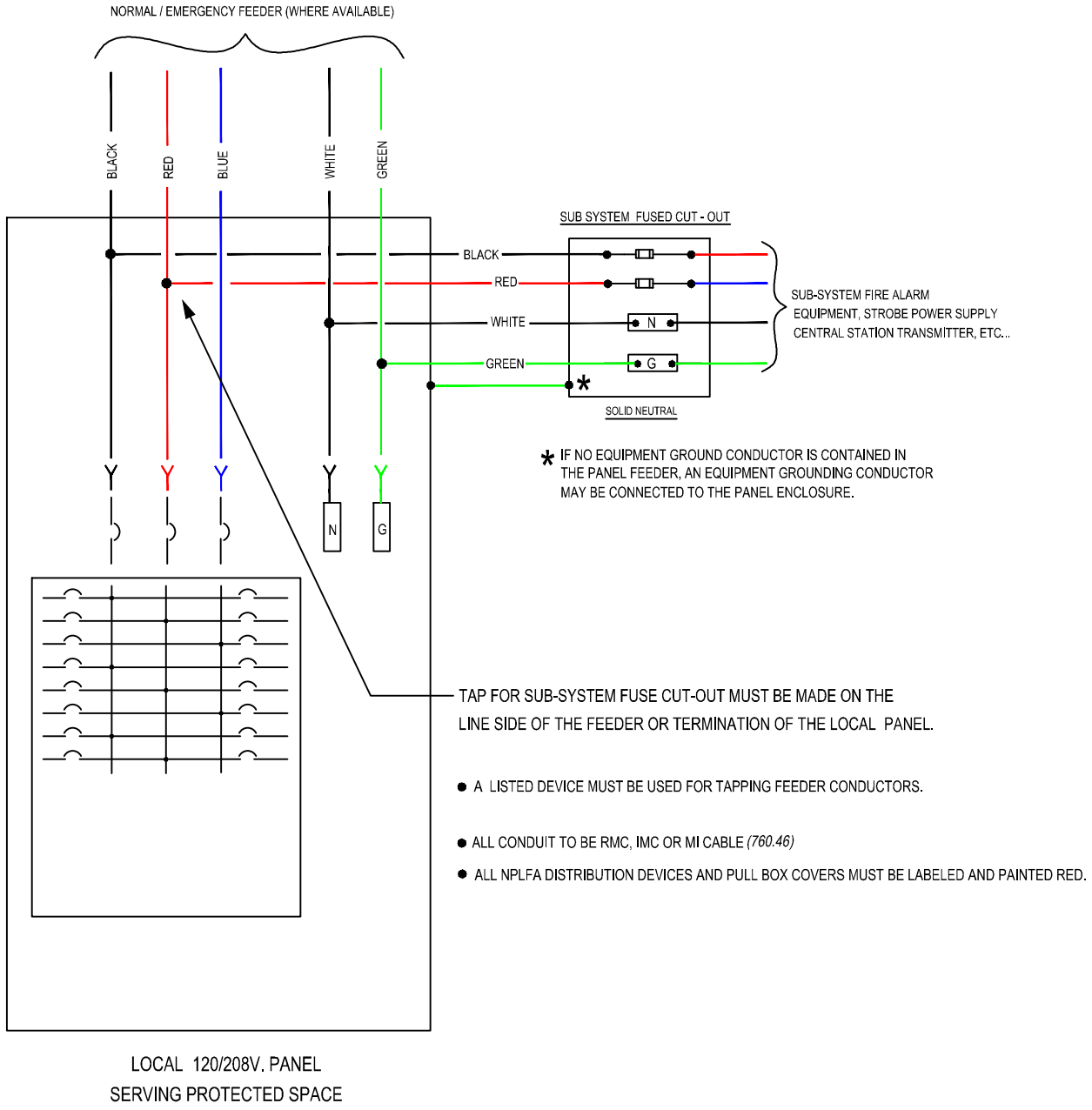
MULTIPLE EMERGENCY GENERATORS WITH PARALLELING SWITCHGEAR



* DOES NOT REQUIRE A SERVICE SWITCH CONFIGURATION.

- ALL CONDUIT TO BE RMC, IMC OR MI CABLE *(760.46)*
- ALL NPLFA DISTRIBUTION DEVICES AND PULL BOX COVERS MUST BE LABELED AND PAINTED RED.

FIRE ALARM EMERGENCY CONNECTIONS
TO A PARALLELED GENERATOR SOURCE.



- A LISTED DEVICE MUST BE USED FOR TAPPING FEEDER CONDUCTORS.
- ALL CONDUIT TO BE RMC, IMC OR MI CABLE *(760.46)*
- ALL NPLFA DISTRIBUTION DEVICES AND PULL BOX COVERS MUST BE LABELED AND PAINTED RED.

G GROUND BAR (TYPICAL) BONDED TO ENCLOSURE

N ISOLATED NEUTRAL BAR (TYPICAL)

FUSE

BUILDING SUB-SYSTEM FIRE ALARM FUSED CUT-OUT

INDUSTRY REFERENCE SKETCH: 10 / 10

7/06/11