

#### ADDENDUM

Date Issued:	July 16, 2021
Project:	Intermountain Healthcare McKay Dee PET/CT Remodel 4401 Harrison Blvd. Ogden, UT 84403
Addendum Number:	2
The Contractors submittin following addendum, cho their bids in accordance	ig proposals on the above-captioned project shall be governed by the anges and explanations to the drawings and specifications and shall submit therewith.

ltem Number	General Items Description
1	Text

Sheet Number	Drawings							
Architecture	Architectural Drawings							
Mechanical	Mechanical Drawings							
Electrical Dr	awings							
	See attached electrical addendum.							

#### Attachments:

Electrical Addendum



Mechanical Engineering Electrical Engineering Technology Engineering Lighting Design Theatre Design Fire Protection Engineering Building Commissioning

### **Electrical Addendum #02**

Date:	July 16, 2021	
Job:	McKay Dee PET CT	Remodel
Job No:	210241	

From:Peter Johansen, PE, LEED APEmail:pej@spectrum-engineers.comPhone:801-401-8422

This Addendum shall be considered part of the Contract Documents and Project Manual for the abovementioned project as though it had been issued at the same time and shall be incorporated integrally therewith. Where provisions of the following supplementary data differ from those of the original Contract Documents and Project Manual, the Addendum shall govern and take precedence.

#### **Electrical Addendum**

#### Specifications

262726 - Wiring Devices

See attached. Added information for Poke—Thru PT4.

#### Drawings

#### EP101 – Power Plan – Level 3

- 1. Feeder size to MDP changed to "22" to match one-line
- 2. Circuit MDP to be fed form EXDPA

#### EP601 – One Line Diagram

1. Added information for MDP

#### **EL601 – Fixture Schedule**

#### Th following are approved lighting substitutes:

Туре	MFG	Part
GS-2	Lithonia Lighting	EPANL 2X4 4800LM 80CRI 40K MIN10 ZT MVOLT

#### GSECTION 26 27 26 WIRING DEVICES

#### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
- 1.2 SUMMARY
  - A. Section Includes:
    - 1. Receptacles, receptacles with integral GFCI, and associated device plates.
    - 2. Twist-locking receptacles.
    - 3. USB charger devices.
    - 4. Isolated-ground receptacles.
    - 5. Hospital-grade receptacles.
    - 6. Tamper-resistant receptacles.
    - 7. Weather-resistant receptacles.
    - 8. Snap switches and wall-box dimmers.
    - 9. Floor service outlets (floor boxes) and poke-through assemblies.
    - 10. Pendant Cord Connector Devices (Drop Cords).
    - 11. Cord Reels
- 1.3 DEFINITIONS
  - A. EMI: Electromagnetic interference.
  - B. GFCI: Ground-fault circuit interrupter.
  - C. Pigtail: Short lead used to connect a device to a branch-circuit conductor.
  - D. RFI: Radio-frequency interference.
- 1.4 ADMINISTRATIVE REQUIREMENTS
  - A. Coordination:
    - 1. Receptacles for Owner-Furnished Equipment: Match plug configurations.
    - 2. Cord and Plug Sets: Match equipment requirements.
- 1.5 ACTION SUBMITTALS
  - A. Product Data: For each type of product.

- 1.6 INFORMATIONAL SUBMITTALS
  - A. Field quality-control reports.
- 1.7 CLOSEOUT SUBMITTALS
  - A. Operation and Maintenance Data: For wiring devices to include in all manufacturers' packing-label warnings and instruction manuals that include labeling conditions.

#### PART 2 - PRODUCTS

#### 2.1 MANUFACTURERS

- A. <u>Manufacturers:</u> Subject to compliance with requirements, provide products by one of the following:
  - 1. <u>Eaton (Arrow Hart)</u>.
  - 2. <u>Hubbell Incorporated; Wiring Device-Kellems</u>.
  - 3. Leviton Manufacturing Co., Inc.
  - 4. Pass & Seymour/Legrand (Pass & Seymour).
- B. Source Limitations: Obtain each type of wiring device and associated wall plate from single source from single manufacturer.

#### 2.2 GENERAL WIRING-DEVICE REQUIREMENTS

- A. Wiring Devices, Components, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- B. Comply with NFPA 70.
- C. All devices must be manufactured for use with modular plug-in connectors, shall comply with UL 2459 and shall be made with stranded building wire. Devices shall comply with the requirements in this Section.

#### 2.3 STRAIGHT-BLADE RECEPTACLES

- A. Hospital-Grade, Tamper Resistant, Duplex Convenience Receptacles, 125 V, 20 A: Comply with NEMA WD 1, NEMA WD 6 Configuration 5-20R, UL 498 Supplement sd, and FS W-C-596.
  - 1. Description: Single-piece, rivetless, nickel-plated, all-brass grounding system. Nickel-plated, brass mounting strap. Mechanical shutter system to help prevent insertion of foreign objects. Labeled shall comply with NFPA 70, "Health Care Facilities" Article, "Pediatric Locations" Section.

- B. Isolated-Ground, Duplex Convenience Receptacles, 125 V, 20 A: Comply with NEMA WD 1, NEMA WD 6 Configuration 5-20R, UL 498, and FS W-C-596.
  - 1. Description: Straight blade; equipment grounding contacts shall be connected only to the green grounding screw terminal of the device and with inherent electrical isolation from mounting strap. Isolation shall be integral to receptacle construction and not dependent on removable parts.
- C. Tamper-Resistant Convenience Receptacles, 125 V, 20 A: Comply with NEMA WD 1, NEMA WD 6 Configuration 5-20R, UL 498 Supplement sd, and FS W-C-596.
  - 1. Description: Labeled shall comply with NFPA 70, "Health Care Facilities" Article, "Pediatric Locations" Section.

#### 2.4 GFCI RECEPTACLES

- A. General Description:
  - 1. Straight blade, non-feed-through type.
  - 2. Comply with NEMA WD 1, NEMA WD 6, UL 498, UL 943 Class A, and FS W-C-596.
  - 3. Include indicator light that shows when the GFCI has malfunctioned and no longer provides proper GFCI protection.
- B. Tamper-Resistant GFCI Convenience Receptacles, 125 V, 20 A:
- C. Hospital-Grade, Tamper Resistant, Duplex GFCI Convenience Receptacles, 125 V, 20 A: Comply with NEMA WD 1, NEMA WD 6 Configuration 5-20R, UL 498 Supplement sd, and FS W-C-596.

#### 2.5 TWIST-LOCKING RECEPTACLES

A. Provide NEMA configurations as indicated on drawings.

#### 2.6 PENDANT CORD-CONNECTOR DEVICES

- A. Description:
  - 1. Matching, locking-type plug and receptacle body connector.
  - 2. NEMA WD 6 Configurations L5-20P and L5-20R, heavy-duty grade, and FS W-C-596.
  - 3. Body: Nylon, with screw-open, cable-gripping jaws and provision for attaching external cable grip.
  - 4. External Cable Grip: Woven wire-mesh type made of high-strength, galvanized-steel wire strand, matched to cable diameter, and with attachment provision designed for corresponding connector.

- 2.7 CORD REELS
  - A. <u>Manufacturers:</u> Subject to compliance with requirements, provide products by one of the following:
    - 1. Kitchen Leash by APC Group
  - B. Description:
    - 1. Molded Polypropylene Housing.
    - 2. Retracting cord with adjustable stop.
    - 3. SJOW Power cord, 10 foot; rated 200 degrees.
    - 4. Receptacles Dual Duplex NEMA 5-20R unless noted otherwise.
    - 5. Impact: UL746C
    - 6. Hose Down: CSA 6.8.2
    - 7. Strain Relief: CSA 6.4
    - 8. Flame Retardant: UL 94-94V-2
    - 9. Mounting Bracket for ceiling mount.

#### 2.8 CORD AND PLUG SETS

- A. Description:
  - 1. Match voltage and current ratings and number of conductors to requirements of equipment being connected.
  - 2. Cord: Rubber-insulated, stranded-copper conductors, with Type SOW-A jacket; with green-insulated grounding conductor and ampacity of at least 130 percent of the equipment rating.
  - 3. Plug: Nylon body and integral cable-clamping jaws. Match cord and receptacle type for connection.

#### 2.9 TOGGLE SWITCHES

- A. Comply with NEMA WD 1, UL 20, and FS W-S-896.
- B. Switches, 120/277 V, 20 A:
  - 1. Single Pole and Three Way:
    - a. <u>Manufacturers:</u> Subject to compliance with requirements, provide products by one of the following:
      - 1) <u>Eaton (Arrow Hart)</u>.
      - 2) <u>Hubbell Incorporated; Wiring Device-Kellems</u>.
      - 3) <u>Leviton Manufacturing Co., Inc</u>.
      - 4) Pass & Seymour/Legrand (Pass & Seymour).
- C. Key-Operated Switches, 120/277 V, 20 A:
  - 1. Description: Single pole, with factory-supplied key in lieu of switch handle.
- D. Momentary Contact Switches: 2-Button, Single Pole, Low-voltage switch, mounts in standard single gang ring.

E. Key-Operated, Single-Pole, Double-Throw, Momentary-Contact, Center-off Switches: 120/277 V, 20 A; for use with mechanically held lighting contactors, with factory-supplied key in lieu of switch handle.

#### 2.10 WALL-BOX DIMMERS

- A. Dimmer Switches: Modular, full-wave, solid-state units with integral, quiet on-off switches, with audible frequency and EMI/RFI suppression filters.
- B. Control: Continuously adjustable slider; with single-pole or three-way switching. Comply with UL 1472.
- C. Incandescent Lamp Dimmers: 120 V; control shall follow square-law dimming curve. On-off switch positions shall bypass dimmer module for off.
  - 1. These shall be used to control power modules driving large quantity of LED drivers using 0-10VDC control signals. This interface shall operate either 120 or 277 volt circuits, 200 ma rating.
- D. LED Dimmer Switches: Modular; compatible with LED drivers; trim potentiometer to adjust low-end dimming used where "LR" is shown, otherwise full range of 1% to 100% light or as noted. This dimmer shall operate either 120 or 277 volt circuits, 28 ma minimum rating.
- 2.11 WALL PLATES
  - A. Single and combination types shall match corresponding wiring devices.
    - 1. Plate-Securing Screws: Metal with head color to match plate finish.
    - 2. Material for Finished Spaces, except Operating Rooms and Food Service Kitchen: Smooth, high-impact thermoplastic.
    - 3. Material for Operating Rooms and Food Service Kitchen: 0.035-inch- (1-mm-) thick, satin-finished, Type 302 stainless steel.
    - 4. Material for Unfinished Spaces: Galvanized steel.
    - 5. Material for Damp Locations: Cast aluminum with spring-loaded lift cover, and listed and labeled for use in wet and damp locations.
  - B. Wet-Location, Weatherproof Cover Plates: NEMA 250, complying with Type 3R, weather-resistant, die-cast aluminum with lockable, weatherproof-in-use cover.

#### 2.12 FLOOR SERVICE FITTINGS

- A. <u>Manufacturers:</u> Subject to compliance with requirements, provide products by the following:
  - 1. <u>Wiremold / Legrand</u>.
- B. Type: Modular, flush-type, dual- or multi- service units suitable for wiring method used.
- C. Compartments: Barrier separates power from voice and data communication cabling.

- D. Service Plate: Round, die-cast aluminum with satin finish.
- E. Power Receptacle: NEMA WD 6 Configuration 5-20R, gray finish, unless otherwise indicated.
- F. Voice and Data Communication Outlet: Two modular, keyed, color-coded, RJ-45 jacks for UTP cable complying with requirements in owner's Section 27 00 00 requirements.
- G. Description by Device Type:

FB1	Flush, Dual Service, Furniture Feed. One .75" conduit	Legrand EFBFF
	for power and One 2" conduit for data cabling. See	Hubbell
	plans for circuits and data drops. Finish selected by	CFB2G30/2GCFFCVR
	architect.	
FB4	Flush, Dual Service, one piece finish flange. Four	Legrand EFG45S
	gang capacity. One .75" conduit for power and one	Hubbell
	2" conduit for data cabling. See plans for circuits	CFB2G30/24GCCVR
	and data drops. Finish selected by architect.	
FB6	Flush, Dual Service, one piece finish flange. Six gang	Legrand EFB6S Evolution
	capacity. One .75" conduit for power and one 2"	Hubbell
	conduit for data cabling. See plans for circuits and	CFB6G30/610GCCVR
	data drops. Finish selected by architect.	
FB8	Flush, Dual Service, one piece finish flange. Eight	Legrand EFB8S Evolution
	gang capacity. One .75" conduit for power and one	
	2" conduit for data cabling. See plans for circuits	
	and data drops. Finish selected by architect.	
FB10	Flush, Dual Service, one piece finish flange. Ten gang	Legrand EFB10S Evolution
	capacity. One .75" conduit for power and one 2"	Hubbell
	conduit for data cabling. See plans for circuits and	CFB10G30/610GCCVR
	data drops. Finish selected by architect.	
FB11	Flush single service floor box suitable for the wiring	Legrand
	method used. NEMA 5-20R duplex receptacle with	880MS(CS)/817/828
	brushed aluminum flange and cover plate. Hinged	Hubbell B2431/S3825
	receptacle covers. Housing material shall be	
	stamped steel above grade and cast iron at grade.	
	Provide appropriate carpet and tile flanges.	

#### 2.13 POKE-THROUGH ASSEMBLIES

- A. <u>Manufacturers:</u> Subject to compliance with requirements, provide products by the following:
  - 1. <u>Wiremold / Legrand</u>.
- B. Description:
  - 1. Factory-fabricated and -wired assembly of below-floor junction box with multichanneled, through-floor raceway/firestop unit and detachable matching floor service-outlet assembly.
  - 2. Comply with UL 514 scrub water exclusion requirements.
  - 3. Size: Selected to fit cored holes in floor and matched to floor thickness.
  - 4. Fire Rating: Unit is listed and labeled for fire rating of floor-ceiling assembly.
  - 5. Closure Plug: Arranged to close unused cored openings and reestablish fire rating of floor.
- C. Description by Device Type:

PT1	Flush, Dual Service, 4" Diameter Furniture Feed	Legrand 4FFATC
	Poke-Thru. One piece finish flange. One .75"	Hubbell
	conduit for power, One 1.5" conduit for data	PT73FFS/FRF3
	cabling. See plans for circuits and data drops.	
	Finish selected by architect.	
PT4	Flush, Dual Service Capable, 4"Diameter Poke-	Legrand 4AT
	Thru. One .75" conduit for power, one 1.5" conduit	Evolution
	for data cabling. Two Gang Capacity. See plans	Hubbell \$1R4PT
	for circuits and data drops. Receptacles shall be	
	NEMA 5-20R, Finish selected by architect.	
PT3/	Flush, Dual Service Capable, 6"Diameter Poke-	Legrand 6AT
PT6	Thru. One .75" conduit for power, one 1.5" conduit	Evolution
	for data cabling. Three Gang Capacity. See plans	Hubbell \$1R6PT
	for circuits and data drops. Receptacles shall be	
	NEMA 5-20R, Finish selected by architect.	
PT8	Flush, Dual Service Capable, 8"Diameter Poke-	Legrand 8AT
	Thru. One .75" conduit for power, one 2" conduit	Evolution
	for data cabling. Five Gang Capacity. See plans	Hubbell \$1R8PT
	for circuits and data drops. Receptacles shall be	
	NEMA 5-20R, Finish selected by architect.	
PT10	Flush, Dual Service Capable, 10"Diameter Poke-	Legrand 10AT
	Thru. One .75" conduit for power, one 2" conduit	Evolution
	for data cabling. Eight Gang Capacity. See plans	Hubbell \$1R10PT
	for circuits and data drops. Receptacles shall be	
	NEMA 5-20R, Finish selected by architect.	

- 2.14 FINISHES
  - A. Device Color:
    - 1. Wiring Devices Connected to Normal Power System: Gray in Food Service Kitchen. As selected by Architect in other finished spaces unless otherwise indicated or required by NFPA 70 or device listing.
    - 2. Wiring Devices Connected to Essential Power System: Red.
    - 3. Isolated-Ground Receptacles: Orange.
  - B. Wall Plate Color: For plastic covers, match device color.

#### PART 3 - EXECUTION

- 3.1 INSTALLATION
  - A. Comply with NECA 1, including mounting heights listed in that standard, unless otherwise indicated.
  - B. Coordination with Other Trades:
    - 1. Protect installed devices and their boxes. Do not place wall finish materials over device boxes and do not cut holes for boxes with routers that are guided by riding against outside of boxes.
    - 2. Keep outlet boxes free of plaster, drywall joint compound, mortar, cement, concrete, dust, paint, and other material that may contaminate the raceway system, conductors, and cables.
    - 3. Install device boxes in brick or block walls so that the cover plate does not cross a joint unless the joint is troweled flush with the face of the wall.
    - 4. Install wiring devices after all wall preparation, including painting, is complete.
  - C. Conductors:
    - 1. Do not strip insulation from conductors until right before they are spliced or terminated on devices.
    - 2. Strip insulation evenly around the conductor using tools designed for the purpose. Avoid scoring or nicking of solid wire or cutting strands from stranded wire.
    - 3. The length of free conductors at outlets for devices shall meet provisions of NFPA 70, Article 300, without pigtails.
    - 4. Existing Conductors:
      - a. Cut back and pigtail, or replace all damaged conductors.
      - b. Straighten conductors that remain and remove corrosion and foreign matter.
      - c. Pigtailing existing conductors is permitted, provided the outlet box is large enough.
  - D. Device Installation:
    - 1. Replace devices that have been in temporary use during construction and that were installed before building finishing operations were complete.
    - 2. Keep each wiring device in its package or otherwise protected until it is time to connect conductors.

- 3. Do not remove surface protection, such as plastic film and smudge covers, until the last possible moment.
- 4. Connect devices to branch circuits using pigtails that are not less than 6 inches (152 mm) in length.
- 5. When there is a choice, use side wiring with binding-head screw terminals. Wrap solid conductor tightly clockwise, two-thirds to three-fourths of the way around terminal screw.
- 6. Use a torque screwdriver when a torque is recommended or required by manufacturer.
- 7. When conductors larger than No. 12 AWG are installed on 15- or 20-A circuits, splice No. 12 AWG pigtails for device connections.
- 8. Tighten unused terminal screws on the device.
- 9. When mounting into metal boxes, remove the fiber or plastic washers used to hold device-mounting screws in yokes, allowing metal-to-metal contact.
- 10. All 120 volt receptacles to be hospital grand tamper resistant.
- E. Receptacle Orientation:
  - 1. Install ground pin of vertically mounted receptacles up, and on horizontally mounted receptacles to the right.
  - 2. Install hospital-grade receptacles in patient-care areas with the ground pin or neutral blade at the top.
- F. Device Plates: Do not use oversized or extra-deep plates. Repair wall finishes and remount outlet boxes when standard device plates do not fit flush or do not cover rough wall opening.
- G. Dimmers:
  - 1. Install dimmers within terms of their listing.
  - 2. Install unshared neutral conductors on line and load side of dimmers according to manufacturers' device listing conditions in the written instructions.
  - 3. Install 0-10VDC control wiring in conduit with power wiring. Use conductors with insulation equivalent to insulation of power wiring.
- H. Arrangement of Devices: Unless otherwise indicated, mount flush, with long dimension vertical and with grounding terminal of receptacles on top. Group adjacent switches under single, multigang wall plates.
- I. Adjust locations of floor boxes and pokethroughs to suit arrangement of partitions and furnishings.

#### 3.2 GFCI RECEPTACLES

A. Install non-feed-through-type GFCI receptacles where protection of downstream receptacles is not required.

#### 3.3 IDENTIFICATION

A. Comply with Section 260553 "Identification for Electrical Systems."

B. Identify each receptacle with panelboard identification and circuit number. Use hot, stamped, or engraved machine printing with black-filled lettering on face of plate, and durable wire markers or tags inside outlet boxes.

#### 3.4 FIELD QUALITY CONTROL

- A. Perform the following tests and inspections with the assistance of a factory-authorized service representative:
  - 1. In healthcare facilities, prepare reports that comply with recommendations in NFPA 99.
  - 2. Test Instruments: Use instruments that comply with UL 1436.
  - 3. Test Instrument for Convenience Receptacles: Digital wiring analyzer with digital readout or illuminated digital-display indicators of measurement.
- B. Tests for Convenience Receptacles:
  - 1. Line Voltage: Acceptable range is 105 to 132 V.
  - 2. Percent Voltage Drop under 15-A Load: A value of 6 percent or higher is unacceptable.
  - 3. Ground Impedance: Values of up to 2 ohms are acceptable.
  - 4. GFCI Trip: Test for tripping values specified in UL 1436 and UL 943.
  - 5. Using the test plug, verify that the device and its outlet box are securely mounted.
  - 6. Tests shall be diagnostic, indicating damaged conductors, high resistance at the circuit breaker, poor connections, inadequate fault current path, defective devices, or similar problems. Correct circuit conditions, remove malfunctioning units and replace with new ones, and retest as specified above.
- C. Test straight-blade convenience outlets in patient-care areas for the retention force of the grounding blade according to NFPA 99. Retention force shall be not less than 4 oz. (115 g).
- D. Wiring device will be considered defective if it does not pass tests and inspections.
- E. Prepare test and inspection reports.

#### END OF SECTION









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# 1) PARTIAL ONE LINE DIAGRAM



## ⊖SHEET KEYNOTES

1. GROUNDING CONDUCTOR IS THE SAME SIZE AS CURRENT CARRYING CONDUCTORS.

2. MDP2 BY GE.

3. CABLE PROVIDED BY GE.

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7] <sub>A</sub> 8]∧								
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<u>4</u> A	150	2	4	3/0	4	1/0	4	2,7
<u>э</u> д 6д	175 175	2 2.50	3 4	4/0 4/0	4	1/0 1/0	2	2,7
7 <sub>A</sub>	200	2.50 3	3 ⊿	250	4 4	1/0	2	2,7
<u>9</u> A	230	2.50	3	300	2	1/0	1/0	2,7
0 <sub>A</sub> 1 <sub>A</sub>	230 250	3	4 3	300 350	2 2	1/0 2/0	1/0 1/0	2,7 2,7
$2_A$	250	3	4	350	2	2/0	1/0	2,7
9 <u>A</u> 4 <u>A</u>	310	4	4	500	1	3/0	1/0	2,7
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0 <sub>A</sub> 1,	500 620	2 EA 3	4	350 500	1/0 3/0	300 300	3/0 3/0	2,4,7 2 4 7
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# COPPER CONDUCTOR AND CONDUIT SCHEDULE

SUBSCRIPT (NOTE 5)

(E.G.)5

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		нн	CONDUIT	CONDU		NOTE 1)			
SYM	AMP	AMPS	SIZE	QTY	SIZE	G	IG/HH	SE	NOTES
(1)	20	-	.75	2	12	12	12	8	2
2)	20	-	.75	3	12	12	12	8	2,3
3)	20	24	.75	4	12	12	12	8	2,3
4)	30	-	.75	2	10	10	10	8	2
5)	30	-	.75	3	10	10	10	8	2
6)	30	32	.75	4	10	10	10	8	2
7)	40	-	1	2	8	10	8	6	2
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10	55	-	1	2	6	10	8	4	2
11	55	-	1	3	6	10	8	4	2
12	55	60	1.25	4	6	10	8	4	2
13	70	-	1	2	4	8	4	2	2
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15	70	76	1.20	4	4	8	4	2	2
10	85		1.20	2	3	8	3	2	2
17	85		1.20	3	3	8	3	2	2
10	85	- 02	1.25		3	8	3	2	2
	05	52	1.25	7	2	Q Q	2	2	2
20	95 QF	-	1.20	<u>з</u>	2	υ Ω	2	2	2
20	90	104	1.50	4	2 1	0	2	2	2
20	130	-	1.50	3	1	6	2	2	2
	150	110	1.50	4	1/0	0	2	2 1/0	2
23	150	-	2	3	1/0	6	2	1/0	2
24)	150	136	2	4	1/0	6	2	1/0	2
10	175	-	2	3	2/0	6	2	2/0	2
20	175	156	2	4	2/0	6	2	2/0	2
2/)	200	-	2	3	3/0	6	2	2/0	2
28	200	180	2.50	4	3/0	6	2	2/0	2
29	230	-	2.50	3	4/0	4	2	2/0	2
30	230	208	2.50	4	4/0	4	2	2/0	2
31)	255	-	2.50	3	250	4	1	2/0	2
32	255	232	2.50	4	250	4	1	2/0	2
33	310	-	3	3	350	3	1/0	3/0	2
34)	310	280	3	4	350	3	1/0	3/0	2
35)	380	-	3.50	3	500	3	3/0	3/0	2
36)	380	344	4	4	500	3	3/0	3/0	2
37)	400	-	2 EA 2	3	3/0	3	3/0	3/0	2
38	400	360	2 EA 2.50	4	3/0	3	3/0	3/0	2
39	510	-	2 EA 2.50	3	250	1	4/0	3/0	2
10	510	464	2 EA 3	4	250	1	4/0	3/0	2
41	620	-	2 EA 3	3	350	1/0	4/0	3/0	2,4
12	620	560	2 EA 3	4	350	1/0	4/0	3/0	2,4
43	760	-	2 EA 3.50	3	500	1/0	4/0	3/0	2,4
44)	760	688	2 EA 4	4	500	1/0	4/0	3/0	2,4
45	855	-	3 EA 3	3	300	2/0	4/0	3/0	2,4
46	855	768	3 EA 3	4	300	2/0	4/0	3/0	2,4
47	1000	-	3 EA 3.50	3	400	2/0	4/0	3/0	4
48	1000	912	3 EA 3.50	4	400	2/0	4/0	3/0	4
49	1140	-	3 EA 4	3	500	3/0	4/0	3/0	4
50	1140	1032	3 EA 4	4	500	3/0	4/0	3/0	4
51	1240	-	4 EA 3	3	350	3/0	4/0	3/0	4
52	1240	1120	4 EA 3	4	350	3/0	4/0	3/0	4
53	1675	1520	5 EA 4	4	400	4/0	4/0	4/0	4
54)	2010	1824	6 EA 4	4	400	250	250	250	4
55	2660	2408	7 EA 4	4	500	350	350	350	4
56	3040	2752	8 EA 4	4	500	500	500	500	4
57	4180	3784	11 EA 4	4	500	500	500	500	4
58	-	-	5 EA 4	-	-	-	-	-	6
59	-	-	5	-	-	-	-	-	6

1. CONDUCTORS SHOWN ARE SHOWN FOR EACH CONDUCT WITH MODIFICATIONS AS NOTED IN NOTE 5. ALL CONDUCTORS SHOWN ARE THWN UNLESS OTHERWISE NOTED.

 PROVIDE EQUIPMENT GROUND CONDUCTORS PER TABLE 250-122 WHEN CIRCUIT BREAKERS ARE SIZED GREATER THAN AMPERE RATING SHOWN IN TABLE.

 PROVIDE #10 NEUTRALS FOR MULTIWIRE BRANCH CIRCUITS SERVING COMPUTERS.

4. GROUND (G) CONDUCTOR MAY BE DELETED ON SERVICE ENTRANCE CONDUCTORS.

5. SYMBOL SUBSCRIPTS:

"2N": INCLUDE TWO NEUTRAL CONDUCTORS SIZED AS SCHEDULED FOR PHASE AND NEUTRAL CONDUCTORS WHERE THE CONDUCTOR IS #1/0 OR LARGER. INCLUDE A SINGLE 200% RATED CONDUCTOR THAT IS TWICE THE AMPACITY OF THE SCHEDULED PHASE AND NEUTRAL CONDUCTOR WHERE THE CONDCUTOR IS BELOW #1/0 IN SIZE.

"FG" FULL SIZE GROUND, SIZE EQUIPMENT GROUNDING CONDUCTOR TO BE SAME SIZE AS THE PHASE CONDUCTORS.

"HH": NEUTRAL CURRENTS EXIST DUE TO HIGH HARMONIC "NONLINEAR" LOADS. CURRENT CARRYING CONDUCTORS DERATED ACCORDINGLY. PROVIDE THE IG/HH SIZE FOR THE EQUIPMENT GROUNDING CONDUCTOR.

"IG": INCLUDE IG (INSULATED/ISOLATED GROUND CONDUCTOR) SCHEDULED ALONG WITH THE GROUND OF EQUIPMENT GROUND CONDUCTOR.

"SE": SUBSTITUTE "SE" CONDUCTOR FOR "G" CONDUCTOR SHOWN, WHICH IS SIZED FOR THE GROUNDING OF THE SECONDARY OF THE SEPARATELY DERIVED SYSTEM.
6. RACEWAY ONLY. CONDUCTORS PROVIDED BY UTILITY.







EP601