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ABBREVIATIONS

A, AMP	AMPERES
AC	ALTERNATING CURRENT
AF	AMPERE FRAME
AFC	AUTOMATED FARE COLLECTION SYSTEM
AFF	ABOVE FINISHED FLOOR
AIC	AMPERE INTERRUPTING CAPACITY
AT	AMPERE TRIP
BKR	BREAKER
C	CONDUIT
CB	CIRCUIT BREAKER
CCT	CIRCUIT
℄	CENTER LINE
CLG	CEILING
CONST	CONSTRUCTION
DISC	DISCONNECT
E	ELECTRICAL
GND	GROUND
JB	JUNCTION BOX
KAIC	THOUSAND AMPERE INTERRUPTING CAPACITY
KCMIL	THOUSAND CIRCULAR MILL
KVA	KILOVOLT AMPERE
MAX	MAXIMUM
MCA	MINIMUM CIRCUIT AMPERE
MCB	MAIN CIRCUIT BREAKER
MEZZ	MEZZANINE
MIN	MINIMUM
MLO	MAIN LUGS ONLY
NEC	NATIONAL ELECTRIC CODE
P	POLE
PH	PHASE
PNL	PANELBOARD
PRI	PRIMARY
PROP	PROPOSED
RGS	RIGID GALVANIZED STEEL
SEC	SECONDARY
SHT	SHEET
SW	SWITCH
SWBD	SWITCHBOARD
TYP	TYPICAL
U/G	UNDER GROUND
U.L.	UNDERWRITERS LABORATORIES
UON	UNLESS OTHERWISE NOTED
VOLT	VOLTAGE
W	WATT
WMATA	WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY
WP	WEATHERPROOF

DRAWING INDEX

ELECTRICAL SYMBOL LIST

- QUADRUPLEX RECEPTACLE OUTLET– 20A, 125V WALL MOUNTED.
- JUNCTION BOX – SURFACE MOUNTED ON UNISTRUT CHANNEL
- CONDUIT – CONCEALED IN UNDER FLOOR DUCT U.O.N.
- #10-3/4 / EF 3,5 — HOMERUN TO PANEL, NUMBER OF ARROWHEADS INDICATES NUMBER OF CIRCUITS. CROSS HATCHING INDICATES NUMBER OF CONDUCTORS, NUMBER INDICATES SIZE OF CONDUCTOR AND SIZE OF CONDUIT
  - ⏚ – INDICATES GROUNDING WIRE TO GROUNDING BUS AT THE PANELBOARD
  - EF 1,3 – INDICATES CIRCUIT HOME RUN PANELBOARD AND CIRCUIT NUMBER IDENTIFICATION

CONTRACT NO
14-FQ10060-CENI-24

DESIGNED C. NGO 07-14 DATE
DRAWN C. NGO 07-14 DATE
CHECKED B. IDILBI 07-14 DATE
APPROVED N/A DATE

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

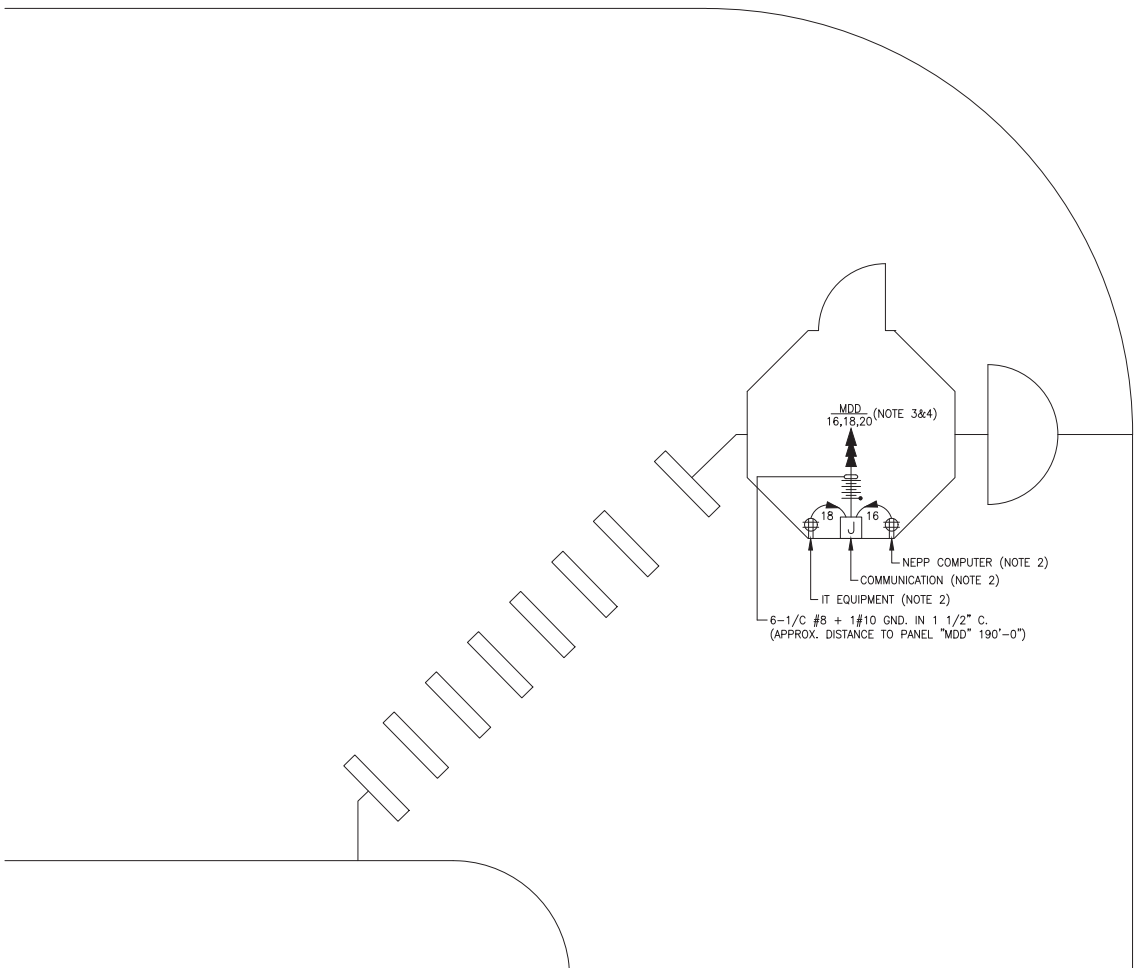
DATE	BY	DESCRIPTION

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY
DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES
OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM
APPROVED

GFP A Gannett Fleming/Parsons JOINT VENTURE
SUBMITTED
PROJECT MANAGER

NEW ELECTRONIC PAY PROGRAM (NEPP)
IN METRORAIL STATIONS
ABBREVIATIONS, DRAWING INDEX, SPECIFICATIONS & SYMBOL LIST

SCALE NOT TO SCALE
DRAWING NO. A07-E-001



MEZZANINE KIOSK - POWER

SCALE: 3/8" = 1'- 0"

DRAWING NOTES:

1. CONTRACTOR TO REFER TO SUPPLEMENTAL MEZZANINE INSPECTION REPORT, VOLUME 4 FURNISHED UNDER THIS SOLICITATION PACKAGE TO BE INFORMED THAT THE TOTAL LENGTH OF THE MULTI WIRE BRANCH CIRCUIT DEPICTED IN THE ELCTRICAL PLAN MAY EITHER CONSIST OF EXISTING POWER UNDER FLOOR DUCTS; OR IT COULD BE ALL CONDUIT RUN USING RIGID GALVANIZED STEEL CONDUITS; OR A COMBINATION OF BOTH WHICH IS RIGID GALVANIZED STEEL CONDUITS AND FLOOR DUCTS AND/OR JUST USE OF POWER FLOOR DUCT OR DEEMED REQUIRED IN THE REPORT.
2. COORDINATE WITH WMATA WHERE EXACTLY THE DUPLEX RECEPTACLE OUTLET AND JUNCTION BOX WILL BE INSTALLED IN THE KIOSK.
3. PROVIDE 3-NEW 20A, 1P CIRCUIT BREAKER AT EXISTING PANELBOARD AVAILABLE CIRCUIT BREAKER SPACES. NEW CIRCUIT BREAKERS SHALL MATCH EXISTING PANELBOARD CIRCUIT BREAKER AIC RATING. TERMINATE 2-NEW BRANCH CIRCUITS TO NEWLY INSTALLED CIRCUIT BREAKERS AND CONNECT PERMANENTLY TO QUAD RECEPTACLE OUTLETS LOCATED IN THE KIOSK. KEEP AND COILED REMAINING BRANCH CIRCUIT IN THE PANELBOARD AND INSIDE THE JUNCTION BOX AT THE KIOSK FOR FUTURE USE. UPDATE PANELBOARD DIRECTORY TO MANIFEST PANELBOARD ADDITIONAL LOADS.
4. THE REMAINING BRANCH CIRCUIT FOR FUTURE AFC FARE GATE APPLICATION SHALL BE SECURED, LABELED AND COILED AT THE KIOSK. THE LENGTH OF COILED PIGTAIL SHALL BE THE FARTHEST FARE GATE DISTANCE FROM KIOSK PLUS AN EXTRA 6'-0" CONDUCTOR.

SAFETY PRECAUTION:

1. ALL WORK SHALL COMPLY WITH WMATA SAFETY RULES, AND DE-ENERGIZATION POLICIES.

CONTRACT NO. 14-FQ10060-CENI-24

DESIGNED	C. NGO	07-14 DATE
DRAWN	C. NGO	07-14 DATE
CHECKED	B. IDILBI	07-14 DATE
APPROVED	N/A	DATE

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

DATE	BY	DESCRIPTION
9-22-15	RBM	REV. 1

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES
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APPROVED

GFP A Gannett Fleming/Parsons JOINT VENTURE

SUBMITTED PROJECT MANAGER

NEW ELECTRONIC PAY PROGRAM (NEPP) IN METRORAIL STATIONS

TENLEYTOWN
MEZZANINE KIOSK - POWER

SCALE	DRAWING NO.	
AS SHOWN	A07-E-101	85

EXISTING PANEL "MDD"

AMPERES: 225	VOLTS: 120/208	MOUNTING: SURFACE
MAINS: 200A MCB	PHASE: 3	LOCATION: ROOM C206 MECH. EQUIPMENT
RATING: 10K AIC	WIRE: 4	SECTION: 1 OF 1

		CKT BKRS		CKT.		CKT.	CKT BKRS			
LOAD DESCRIPTION	KVA	AMP	POLE	NO.		NO.	POLE	AMP	KVA	LOAD DESCRIPTION
EXISTING VENDOR	0.8	20	1	1	A - -	2	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	3	- B -	4	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	5	- - C	6	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	7	A - -	8	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	9	- B -	10	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	11	- - C	12	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	13	A - -	14	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	15	- B -	16	1	20	**0.8**	**NEW KIOSK RECEPT. (IT & NEPP)**
EXISTING VENDOR	0.8	20	1	17	- - C	18	1	20	**0.8**	**NEW KIOSK RECEPT. (NEPP/SOC)**
EXISTING VENDOR	0.8	20	1	19	A - -	20	1	20	0.0	**FUTURE AFC FARE GATE**
EXISTING VENDOR	0.8	20	1	21	- B -	22	1	20	0.0	SPARE
SPARE	0.0	20	1	23	- - C	24	1	20	0.0	SPARE
EXISTING VENDOR	0.8	20	1	25	A - -	26	1	20	0.8	EXISTING VENDOR
SPARE	0.0	20	1	27	- B -	28	1	20	0.8	EXISTING VENDOR
SPARE	0.0	20	1	29	- - C	30	1	20	0.0	SPARE
EXISTING LOAD CENTER "KES"	2.9	40	3	31	A - -	32	1	20	0.0	SPARE
	2.5	-	-	33	- B -	34	1	20	0.0	SPARE
	2.5	-	-	35	- - C	36	1	20	0.0	SPARE
SPACE	0.0	-	-	37	A - -	38	-	-	0.0	SPACE
SPACE	0.0	-	-	39	- B -	40	-	-	0.0	SPACE
SPACE	0.0	-	-	41	- - C	42	-	-	0.0	SPACE

LOAD SUMMARY

LIGHTS	0.0 x 125%		0.0 KVA
RECEPTACLES, FIRST 10 KVA	10.0 x 100%		10.0 KVA
RECEPTACLES	8.0 x 50%		4.0 KVA
MISC. APPLIANCES	0.0 x 100%		0.0 KVA
LARGEST MOTOR	0.0 x 125%		0.0 KVA
MOTORS	0.0 x 100%		0.0 KVA
HEAT	3.0 x 125%		3.8 KVA
AC	4.5 x 100%		4.5 KVA
WATER HEATING	0.0 x 125%		0.0 KVA
TOTAL CONNECTED LOAD	**25.5 KVA**	**TOTAL DEMAND KVA**	**22.3 KVA**
		TOTAL DEMAND AMPS	**61.8 AMPS**
CONNECTED LOAD PHASE SUMMARY			
PHASE A:	**10.1 KVA**		
PHASE B:	**8.9 KVA**		
PHASE C:	**7.3 KVA**		

CONTRACT NO.
14-FQ10060-CENI-24

DESIGNED C. NGO 07-14 DATE
DRAWN C. NGO 07-14 DATE
CHECKED B. IDILBI 07-14 DATE
APPROVED N/A DATE

REFERENCE DRAWINGS	
NUMBER	DESCRIPTION

REVISIONS		
DATE	BY	DESCRIPTION

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

DEPARTMENT OF TRANSIT INFRASTRUCTURE
AND ENGINEERING SERVICES
OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM

APPROVED

GFP A Gannett Fleming/Parsons JOINT VENTURE

SUBMITTED
PROJECT MANAGER

NEW ELECTRONIC PAY PROGRAM (NEPP) IN METRORAIL STATIONS

TENLEYTOWN
PANEL SCHEDULE

SCALE: NOT TO SCALE

DRAWING NO.: A07-E-102

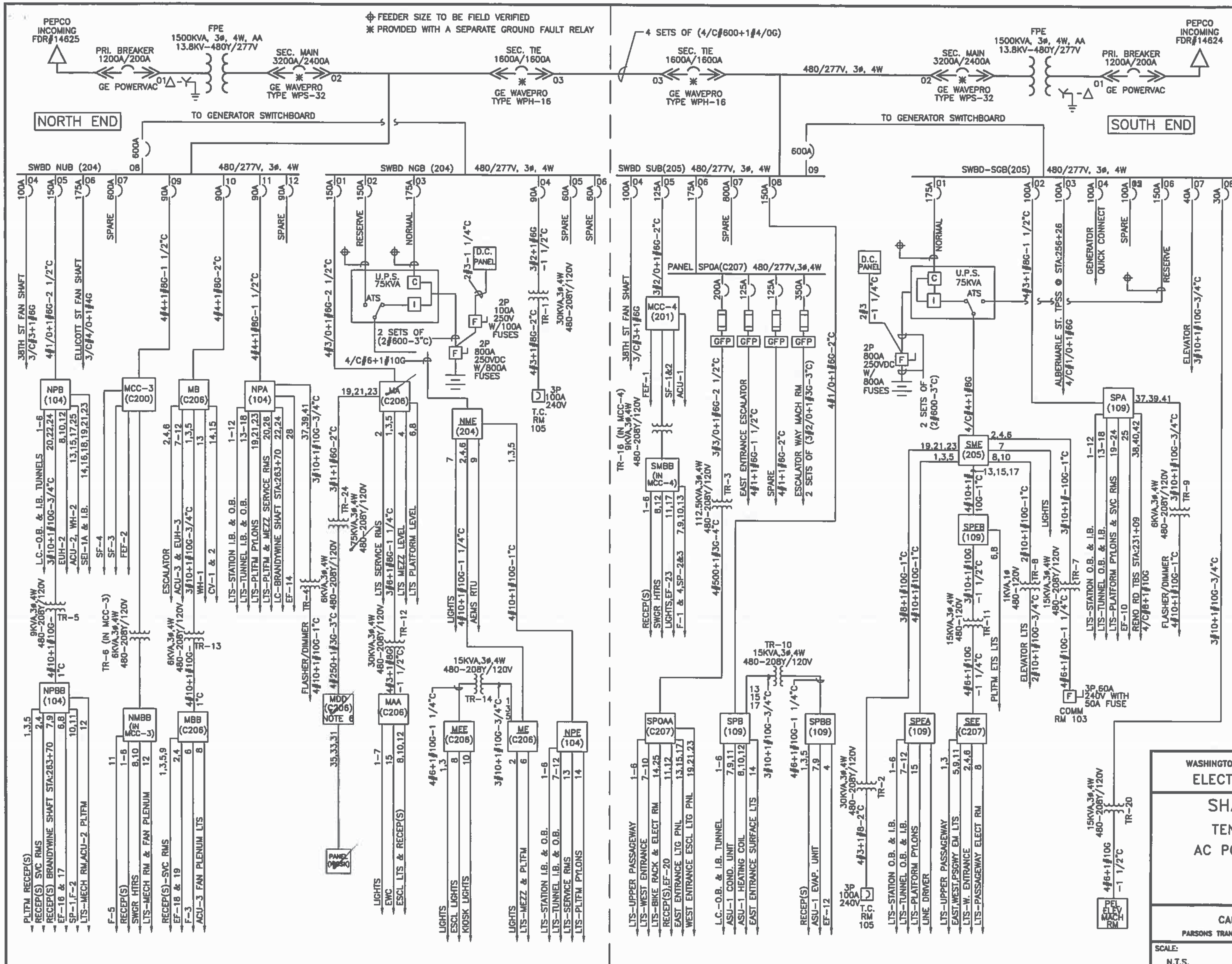
EXISTING PANEL "MDD"

EXISTING PANEL "MDD"

EXISTING PANEL "MDD"

CONTRACT NO.
14-FQ10060-CENI-24

DESIGNED C. NGO 07-14 DATE	REFERENCE DRAWINGS		REVISIONS				WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY	NEW ELECTRONIC PAY PROGRAM (NEPP) IN METRORAIL STATIONS
DRAWN C. NGO 07-14 DATE	NUMBER	DESCRIPTION	DATE	BY	DESCRIPTION		DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM	TENLEYTOWN PANELBOARD IMAGE
CHECKED B. IDLBI 07-14 DATE							APPROVED	SCALE: NOT TO SCALE
APPROVED N/A DATE							GFP A Connell Fleming/Parsons JOINT VENTURE SUBMITTED PROJECT MANAGER	DRAWING NO.: A07-E-301



NOTES:

1. PANEL DESIGNATION
   WEA (205)
   PANEL DESIGNATION WHEN UNDERLINED IS EMERGENCY
   ROOM NUMBER
   8 (CIRCUIT NUMBER)

2. 3#2+1#6G-2"C
   CONDUIT SIZE
   EQUIPMENT GROUNDING
   AWG OR KCMIL CIRCUIT WIRES

3. CIRCUIT BREAKERS
   DRAW OUT 1600A/1200A
   MOLDED CASE
   FRAME SIZE
   CONTINUOUS CURRENT SETTING

4. 4/C-4/0
   INDICATES MULTICONCTOR CABLE WITH 4 CONDUCTOR AND SIZE OF EACH 4/0

5. RATING AS SHOWN FOR UNINTERRUPTIBLE POWER SUPPLY CONSISTING OF RECTIFIER/CHARGER INVERTER, POWER TRANSFER SWITCH ASSOCIATED BATTERIES AND PANELBOARD.

6. PANEL FOR FARE COLLECTION EQUIPMENT.

7. ATS. -AUTOMATIC TRANSFER SWITCH
   C -CHARGER
   I -INVERTER

8. UPS MANUFACTURER: INTERNATIONAL POWER MACHINE

9. SWITHCHGEAR MANUFACTURER: GE INDUSTRIAL SYSTEMS

10. MAIN SECONDARY & TIE POWER CIRCUIT BREAKERS ARE GE TYPE WAVEPRO WITH MICROVERSATRIP (LSI) ELECTRICALLY OPERATED & EQUIPPED WITH SEPARATE GROUND FAULT RELAYS.

11. SWITCHBOARD FEEDER CIRCUIT BREAKERS ARE GE SPECTRA RMS TYPE SKL (800AF) AND SGL (600AF) WITH MICROVERSATRIP (LSIG).

12. MOLDED CASE BREAKER NAME PLATE:
    A07-NUB-09
    MCC-3
    SGL600/150AS/100RP
    STA.
    BREAKER POSITION (NORTH UTILITY BOARD #04)
    FEEDER NAME
    RATING PLUG
    SENSOR SIZE
    TYPE-FRAME SIZE

REVISIONS

DATE	BY	DESCRIPTION
03-13-07	TN	NEW REPLACED SWGRS & SWBDS

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

ELECTRICAL MAINTENANCE MAP

SHADY GROVE ROUTE
TENLEYTOWN-AU STATION
AC POWER ONE LINE DIAGRAM
(A07)

CAPITAL IMPROVEMENT PROGRAM

PARSONS TRANSPORTATION GROUP - CAPITAL TRANSIT CONSULTANTS

SCALE:	DRAWING No.	
N.T.S.	MM-A-E19	88

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AF	AMPERE FRAME
AFC	AUTOMATED FARE COLLECTION SYSTEM
AFF	ABOVE FINISHED FLOOR
AIC	AMPERE INTERRUPTING CAPACITY
AT	AMPERE TRIP
BKR	BREAKER
C	CONDUIT
CB	CIRCUIT BREAKER
CCT	CIRCUIT
℄	CENTER LINE
CLG	CEILING
CONST	CONSTRUCTION
DISC	DISCONNECT
E	ELECTRICAL
GND	GROUND
JB	JUNCTION BOX
KAIC	THOUSAND AMPERE INTERRUPTING CAPACITY
KCMIL	THOUSAND CIRCULAR MILL
KVA	KILOVOLT AMPERE
MAX	MAXIMUM
MCA	MINIMUM CIRCUIT AMPERE
MCB	MAIN CIRCUIT BREAKER
MEZZ	MEZZANINE
MIN	MINIMUM
MLO	MAIN LUGS ONLY
NEC	NATIONAL ELECTRIC CODE
P	POLE
PH	PHASE
PNL	PANELBOARD
PRI	PRIMARY
PROP	PROPOSED
RGS	RIGID GALVANIZED STEEL
SEC	SECONDARY
SHT	SHEET
SW	SWITCH
SWBD	SWITCHBOARD
TYP	TYPICAL
U/G	UNDER GROUND
U.L.	UNDERWRITERS LABORATORIES
UON	UNLESS OTHERWISE NOTED
VOLT	VOLTAGE
W	WATT
WMATA	WASHINGTON METROPOLITIAN AREA TRANSIT AUTHORITY
WP	WEATHERPROOF

DRAWING INDEX

ELECTRICAL SYMBOL LIST

- QUADRUPLEX RECEPTACLE OUTLET– 20A, 125V WALL MOUNTED.
- J — JUNCTION BOX – SURFACE MOUNTED ON UNISTRUT CHANNEL
- CONDUIT – CONCEALED IN UNDER FLOOR DUCT U.O.N.
- #10-3/4 / EF 3,5 — HOMERUN TO PANEL, NUMBER OF ARROWHEADS INDICATES NUMBER OF CIRCUITS. CROSS HATCHING INDICATES NUMBER OF CONDUCTORS, NUMBER INDICATES SIZE OF CONDUCTOR AND SIZE OF CONDUIT
  - ⏚ – INDICATES GROUNDING WIRE TO GROUNDING BUS AT THE PANELBOARD
  - EF 1,3 – INDICATES CIRCUIT HOME RUN PANELBOARD AND CIRCUIT NUMBER IDENTIFICATION

CONTRACT NO.
14-FQ10060-CENI-24

DESIGNED	C. NGO	07-14	DATE
DRAWN	C. NGO	07-14	DATE
CHECKED	B. IDILBI	07-14	DATE
APPROVED	N/A		DATE

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

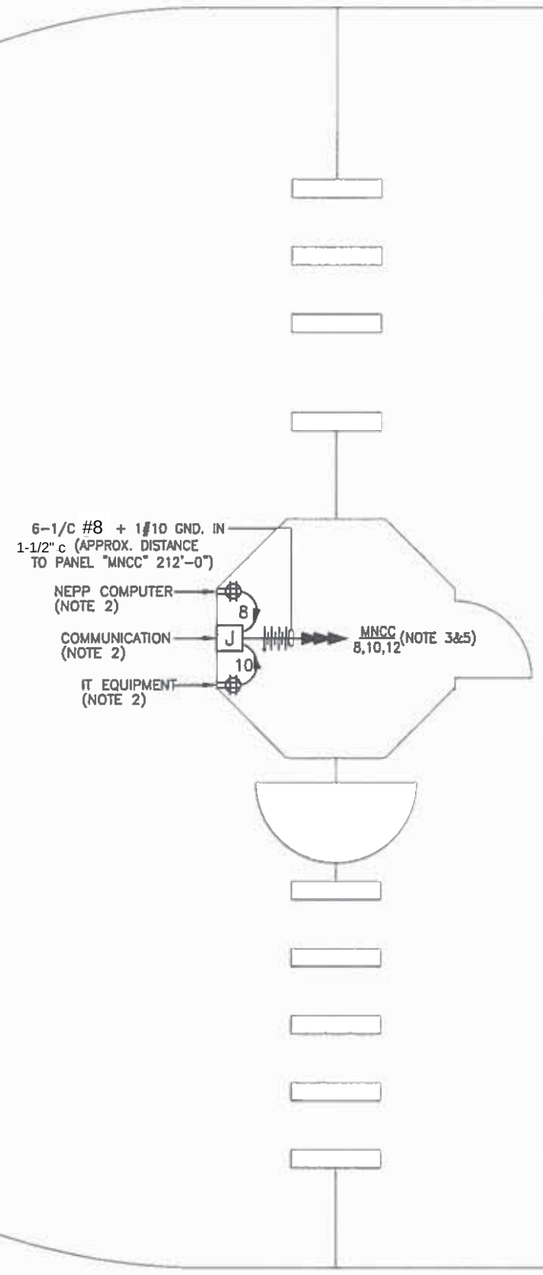
DATE	BY	DESCRIPTION

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY
DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES
OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM
APPROVED

GFP A Gannett Fleming/Parsons JOINT VENTURE
SUBMITTED
PROJECT MANAGER

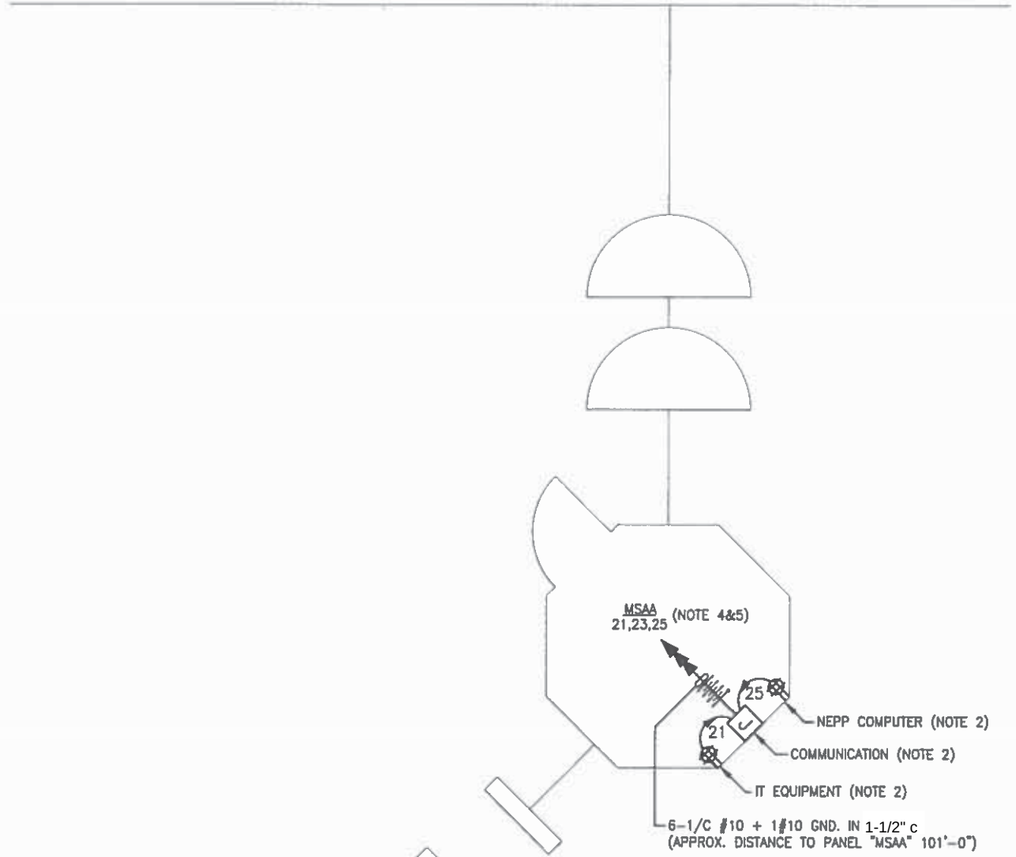
NEW ELECTRONIC PAY PROGRAM (NEPP) IN METRORAIL STATIONS
ABBREVIATIONS, DRAWING INDEX, SPECIFICATIONS & SYMBOL LIST

SCALE: NOT TO SCALE
DRAWING NO.: A08-E-001



NORTH MEZZANINE KIOSK - POWER

SCALE: 3/8" = 1'- 0"



SOUTH MEZZANINE KIOSK - POWER

SCALE: 3/8" = 1'- 0"

DRAWING NOTES:

1. USE EXISTING UNDER FLOOR DUCT FOR POWER WIRING. ALL OUTSIDE FLOOR DUCT WIRING SHALL BE IN CONDUIT.
2. VERIFY WITH WMATA PERSONNEL FOR LOCATION OF RECEPTACLES & JUNCTION BOXES.
3. CONNECT CIRCUIT #8 #10 & #12 TO EXISTING 20A, 1P SPARE CIRCUIT BREAKERS IN THE EXISTING PANEL "MNCC", SEE PANEL SCHEDULE ON DWG. A08-E-102.
4. CONNECT CIRCUIT #21 #23 & #25 TO EXISTING 20A, 1P SPARE CIRCUIT BREAKERS IN THE EXISTING PANEL "MSAA", SEE PANEL SCHEDULE ON DWG. A08-E-102.
5. PROVIDE A ROUGHIN CIRCUIT FOR FUTURE AFC FARE GATE COILED AT THE KIOSK. THE LENGTH OF COILED PIGTAIL SHALL BE THE FARTHEST FARE GATE DISTANCE FROM KIOSK PLUS AN EXTRA 6'-0" CONDUCTOR.

SAFETY PRECAUTION:

1. ALL WORK SHALL COMPLY WITH WMATA SAFETY RULES, AND DE-ENERGIZATION POLICIES.

DESIGNED C. NGO	07-14 DATE	
DRAWN C. NGO	07-14 DATE	
CHECKED B. IDILBI	07-14 DATE	
APPROVED N/A	DATE	

REFERENCE DRAWINGS	
NUMBER	DESCRIPTION

REVISIONS		
DATE	BY	DESCRIPTION

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES
OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM

APPROVED _____

GFP A Gannett Fleming/Parsons JOINT VENTURE

SUBMITTED _____ PROJECT MANAGER

NEW ELECTRONIC PAY PROGRAM (NEPP) IN METRORAIL STATIONS

FRIENDSHIP HEIGHTS - NORTH & SOUTH MEZZANINE KIOSK - POWER

CONTRACT NO. 14-FQ10060-CENI-24

SCALE: AS SHOWN

DRAWING NO. A08-E-101

EXISTING PANEL "MNCC"

AMPERES: 400	VOLTS: 120/208			MOUNTING: SURFACE						
MAINS: 300A MCB	PHASE: 3			LOCATION: ELEC. EQUIPMENT ROOM 202						
RATING: 10K AIC	WIRE: 4			SECTION: 1 OF 1						
		CKT BKRS		CKT.		CKT.	CKT BKRS			
LOAD DESCRIPTION	KVA	AMP	POLE	NO.		NO.	POLE	AMP	KVA	LOAD DESCRIPTION
EXISTING VENDOR	0.8	20	1	1	A - -	2	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	3	- B -	4	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	5	- - C	6	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	7	A - -	8	1	20	**0.8**	**NEW KIOSK RECEPT. (IT & NCS)**
SPARE	0.0	20	1	9	- B -	10	1	20	**0.8**	**NEW KIOSK RECEPT. (NEPP/SOC)**
EXISTING VENDOR	0.8	20	1	11	- - C	12	1	20	0.0	**FUTURE AFC FARE GATE**
SPARE	0.0	20	1	13	A - -	14	1	20	0.0	SPARE
EXISTING VENDOR	0.8	20	1	15	- B -	16	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	17	- - C	18	1	20	0.0	EXISTING VENDOR
SPARE	0.0	20	1	19	A - -	20	1	20	2.9	SPARE
SPARE	0.0	20	1	21	- B -	22	1	20	2.5	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	23	- - C	24	1	20	2.5	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	25	A - -	26	1	20	0.0	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	27	- B -	28	1	20	0.0	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	29	- - C	30	1	20	0.0	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	31	A - -	32	1	20	0.0	SPARE
EXISTING VENDOR	0.8	20	1	33	- B -	34	1	20	0.0	SPARE
SPARE	0.0	20	1	35	- - C	36	1	20	0.0	SPARE
EXISTING LOAD CENTER "KES"	3.3	40	3	37	A - -	38	1	20	0.0	SPARE
.	2.5	-	-	39	- B -	40	1	20	0.0	SPARE
	2.5	-	-	41	- - C	42	-	-	0.0	SPACE

LOAD SUMMARY

LIGHTS	0.0 x 125%		0.0 KVA
RECEPTACLES, FIRST 10 KVA	10.0 x 100%		10.0 KVA
RECEPTACLES	5.6 x 50%		2.8 KVA
MISC. APPLIANCES	0.0 x 100%		0.0 KVA
LARGEST MOTOR	0.0 x 125%		0.0 KVA
MOTORS	0.0 x 100%		0.0 KVA
HEAT	6.0 x 125%		7.5 KVA
AC	9.0 x 100%		9.0 KVA
WATER HEATING	0.0 x 125%		0.0 KVA
TOTAL CONNECTED LOAD	**30.6 KVA**	**TOTAL DEMAND KVA**	**29.3 KVA**
		TOTAL DEMAND AMPS	**81.4 AMPS**
CONNECTED LOAD PHASE SUMMARY			
PHASE A:	**11.0 KVA**		
PHASE B:	**10.6 KVA**		
PHASE C:	**9.8 KVA**		

NOTES: A. EXISTING PANEL "MNCC" IS FED FROM 277/480V, 3ø, 4W EXISTING SWBD "NGB" LOCATED IN AC SWBD. ROOM E216, CIRCUIT (A08-NGB-01) #1-150/3P VIA 75KVA TRANSFORMER TR-16, PANEL "MNCC" IS ALSO FED FROM ATS #2 (150A). ATS #2 IS SUPPLIED FROM GENERATOR SWITCHBOARD VIA MCB #2 (SEE ATTACHED DWG. MM-B-E07).

B. EXISTING WIRING FED FROM BOTTOM OF PANEL BY:
- 1-6"x 6'0" WIRE TROUGH W/3-3" C. TO PANEL (1-3" C. TO TRANSFORMER)(2-3" C. WIRING FILL >40%).

EXISTING WIRING FED FROM TOP OF PANEL BY:
- 2-3/4" C. (WIRING FILL >40%).

EXISTING PANEL "MSAA"

AMPERES: 400	VOLTS: 120/208			MOUNTING: SURFACE						
MAINS: 300A MCB	PHASE: 3			LOCATION: AC SWBD ROOM 201						
RATING: 10K AIC	WIRE: 4			SECTION: 1 OF 1						
		CKT BKRS		CKT.		CKT.	CKT BKRS			
LOAD DESCRIPTION	KVA	AMP	POLE	NO.		NO.	POLE	AMP	KVA	LOAD DESCRIPTION
SPARE	0.0	20	1	1	A - -	2	1	20	0.0	SPARE
EXISTING VENDOR	0.8	20	1	3	- B -	4	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	5	- - C	6	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	7	A - -	8	1	20	0.0	SPARE
EXISTING VENDOR	0.8	20	1	9	- B -	10	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	11	- - C	12	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	13	A - -	14	1	20	0.0	SPARE
EXISTING VENDOR	0.8	20	1	15	- B -	16	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	17	- - C	18	1	20	0.0	SPARE
EXISTING VENDOR	0.8	20	1	19	A - -	20	3	40	2.9	EXISTING LOAD CENTER "KES"
NEW KIOSK RECEPT. (IT & NCS)	**0.8**	20	1	21	- B -	22	-	-	2.5	
NEW KIOSK RECEPT. (NEPP/SOC)	**0.8**	20	1	23	- - C	24	-	-	2.5	
FUTURE AFC FARE GATE	0.0	20	1	25	A - -	26	1	20	0.0	SPARE
SPARE	0.0	20	1	27	- B -	28	1	20	0.0	SPARE
SPARE	0.0	20	1	29	- - C	30	1	20	0.0	SPARE
SPARE	0.0	20	1	31	A - -	32	-	-	0.0	SPACE
SPARE	0.0	20	1	33	- B -	34	-	-	0.0	SPACE
SPARE	0.0	20	1	35	- - C	36	-	-	0.0	SPACE
SPACE	0.0	-	-	37	A - -	38	-	-	0.0	SPACE
SPACE	0.0	-	-	39	- B -	40	-	-	0.0	SPACE
SPACE	0.0	-	-	41	- - C	42	-	-	0.0	SPACE

LOAD SUMMARY

LIGHTS	0.0 x 125%		0.0 KVA
RECEPTACLES, FIRST 10 KVA	10.0 x 100%		10.0 KVA
RECEPTACLES	2.4 x 50%		1.2 KVA
MISC. APPLIANCES	0.0 x 100%		0.0 KVA
LARGEST MOTOR	0.0 x 125%		0.0 KVA
MOTORS	0.0 x 100%		0.0 KVA
HEAT	3.0 x 125%		3.8 KVA
AC	4.5 x 100%		4.5 KVA
WATER HEATING	0.0 x 125%		0.0 KVA
TOTAL CONNECTED LOAD	**19.9 KVA**	**TOTAL DEMAND KVA**	**19.5 KVA**
		TOTAL DEMAND AMPS	**54.0 AMPS**
CONNECTED LOAD PHASE SUMMARY			
PHASE A:	**5.3 KVA**		
PHASE B:	**8.1 KVA**		
PHASE C:	**7.3 KVA**		

NOTES: A. EXISTING PANEL "MSAA" IS FED FROM 277/480V, 3ø, 4W EXISTING SWITCHBOARD "SGB" LOCATED IN AC SWBD. ROOM E203, CIRCUIT (A08-SGB-02) #2-150/3P VIA 75KVA TRANSFORMER (SEE ATTACHED DWG. MM-B-E07)

B. EXISTING WIRING FED FROM BOTTOM OF PANEL BY:
- 1-3" C. TO TRANSFORMER (WIRING FILL >40%).

EXISTING WIRING FED FROM TOP OF PANEL BY:
- 4-1 1/2" C. (WIRING FILL >40%).
- 1-3/4" C. (WIRING FILL >40%).
- 1-1/2" C. (WIRING FILL >40%).

CONTRACT NO. 14-FQ10060-CENI-24

DESIGNED C. NGO 07-14 DATE
DRAWN C. NGO 07-14 DATE
CHECKED B. IDILBI 07-14 DATE
APPROVED N/A DATE

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

DATE	BY	DESCRIPTION

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES
OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM

APPROVED _____

GFP A Gannett Fleming/Parsons JOINT VENTURE

SUBMITTED _____ PROJECT MANAGER

NEW ELECTRONIC PAY PROGRAM (NEPP) IN METRORAIL STATIONS
FRIENDSHIP HEIGHTS - NORTH & SOUTH
PANEL SCHEDULES

SCALE: NOT TO SCALE
DRAWING NO.: A08-E-102

EXISTING PANEL "MNCC"

EXISTING PANEL "MNCC"

EXISTING PANEL "MNCC"

CONTRACT NO.
14-FQ10060-CENI-24

DESIGNED C. NGO	07-14 DATE	REFERENCE DRAWINGS		REVISIONS			
DRAWN C. NGO	07-14 DATE	NUMBER	DESCRIPTION	DATE	BY	DESCRIPTION	
CHECKED B. IDILBI	07-14 DATE						
APPROVED N/A	DATE						

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES
OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM

APPROVED _____

GFP A Connell Fleming/Parsons JOINT VENTURE

SUBMITTED _____
PROJECT MANAGER

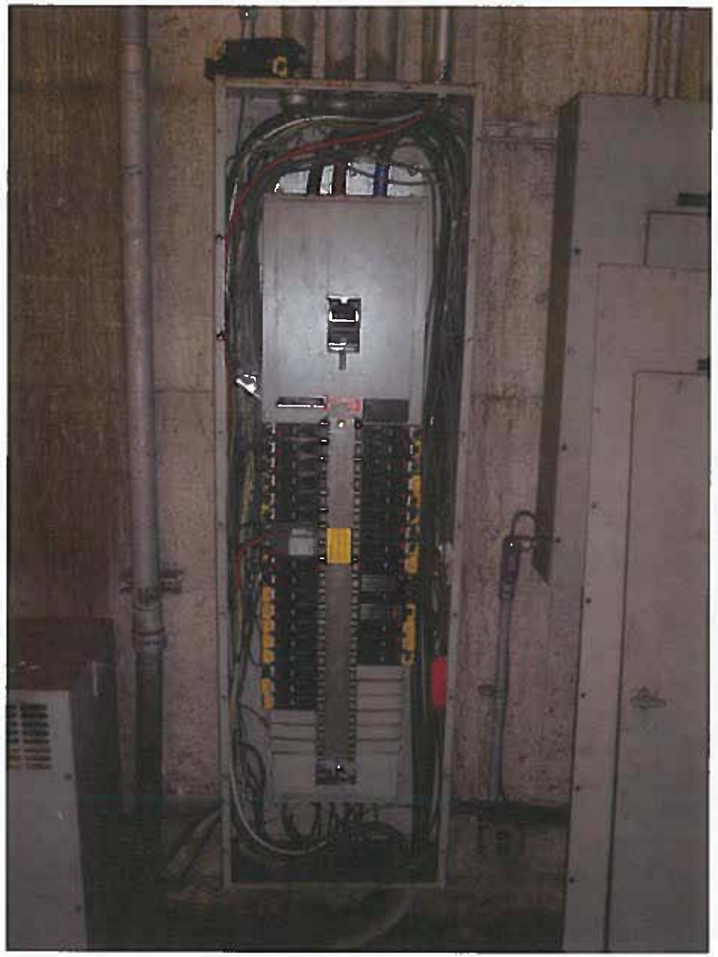
NEW ELECTRONIC PAY PROGRAM (NEPP) IN METRORAIL STATIONS
FRIENDSHIP HEIGHTS - NORTH & SOUTH
PANELBOARD IMAGE

SCALE: NOT TO SCALE

DRAWING NO.: A08-E-301

EXISTING PANEL "MSAA"

EXISTING PANEL "MSAA"



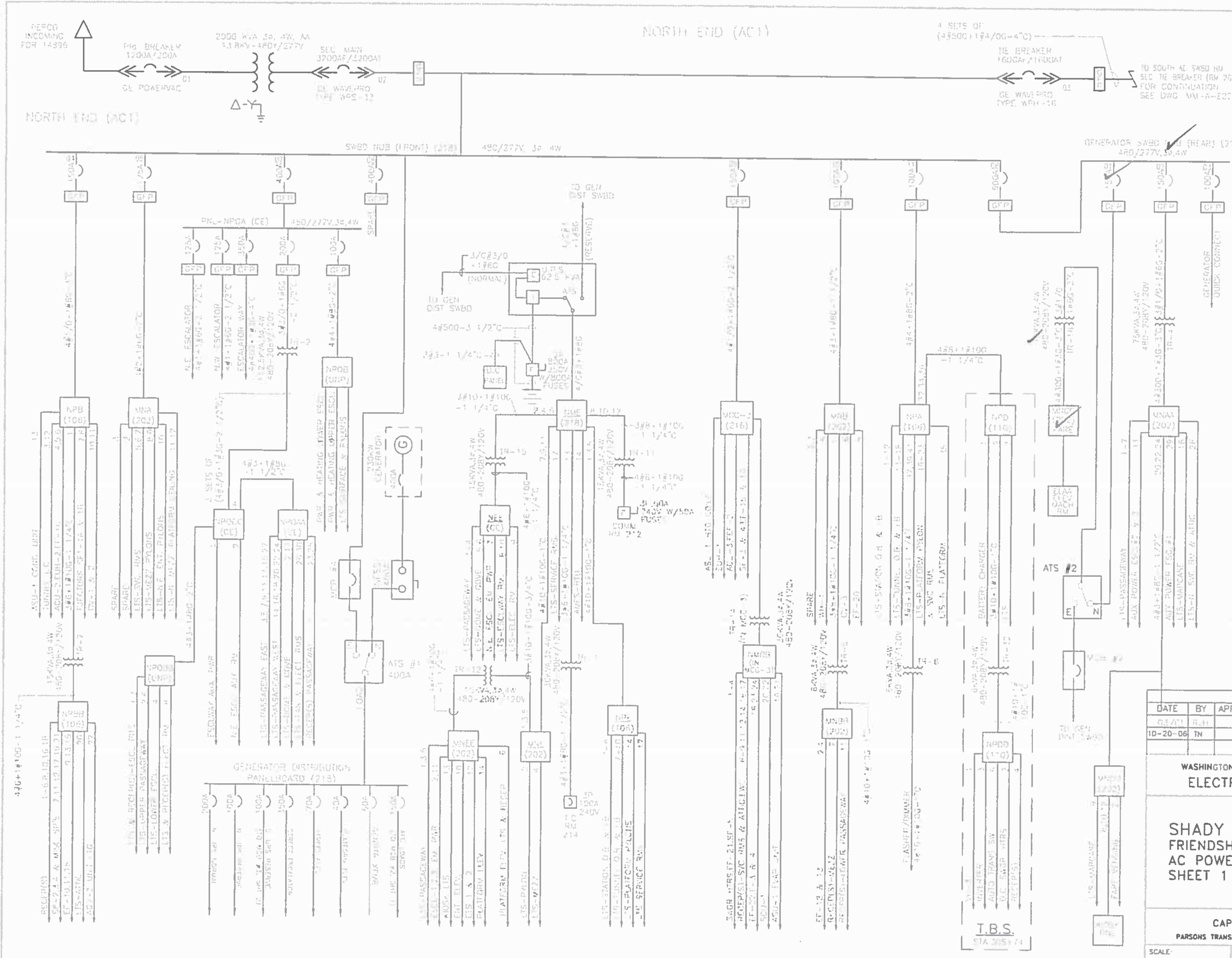
EXISTING PANEL "MSAA"

DESIGNED C. NGO 07-14 DATE	REFERENCE DRAWINGS	REVISIONS	WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY
DRAWN C. NGO 07-14 DATE	NUMBER / DESCRIPTION	DATE / BY / DESCRIPTION	DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM
CHECKED B. IDILBI 07-14 DATE			APPROVED _____
APPROVED N/A DATE			GFP A Gannett Fleming/Parsons JOINT VENTURE SUBMITTED _____ PROJECT MANAGER

CONTRACT NO. 14-FQ10060-CENI-24

NEW ELECTRONIC PAY PROGRAM (NEPP)
IN METRORAIL STATIONS
FRIENDSHIP HEIGHTS - NORTH & SOUTH
PANELBOARD IMAGE

SCALE: NOT TO SCALE | DRAWING NO.: A08-E-302



NOTES

1. PANEL DESIGNATION; PANEL DESIGNATION WHEN UNDERLINED IS EMERGENCY; ROOM NUMBER; B (CIRCUIT NUMBER)
   NEA (205)

2. 3#2+1#6G-2"C — CONDUIT SIZE; EQUIPMENT GROUNDING; AWG OR KCMIL CIRCUIT WIRES

3. CIRCUIT BREAKERS
   DRAW OUT 1600A/1200A
   MOLDED CASE
   FRAME SIZE
   CONTINUOUS CURRENT SETTING

4. 4/C-4/0
   INDICATES MULTICONDUCTOR CABLE WITH 4 CONDUCTOR AND SIZE OF EACH 4/0

5. RATING AS SHOWN FOR UNINTERRUPTIBLE POWER SUPPLY CONSISTING OF RECTIFIER/CHARGER INVERTER, POWER TRANSFER SWITCH ASSOCIATED BATTERIES AND PANELBOARD

6. ATS. -AUTOMATIC TRANSFER SWITCH
   C -CHARGER
   I -INVERTER

6. DISTR. TRANSFORMER MANUFACTURER FEDERAL PACIFIC

7. UPS MANUFACTURER INTERNATIONAL POWER MACHINE

9. SWITCHGEAR MANUFACTURER GE INDUSTRIAL SYSTEMS

10. MAIN, SECONDARY & TIE POWER CIRCUIT BREAKERS ARE GE TYPE WAVEPRO WITH MICROVERSATRIP (LSI) ELECTRICALLY OPERATED & EQUIPPED WITH SEPARATE GROUND FAULT RELAYS

11. SWITCHBOARD FEEDER CIRCUIT BREAKERS ARE GE SPECTRA RMS TYPE SGLB WITH MICROVERSATRIP (LSIG) UNIT

12. MOLDED CASE BREAKER NAME PLATE
   STA.; BREAKER POSITION (NORTH UTILITY BOARD #07); FEEDER NAME; RATING PLUG; SENSOR SIZE; TYPE-FRAME SIZE
   A08-NUB-07
   PNL-NPOA
   SGLB600/400AS/400RP

REVISIONS			
DATE	BY	APRVD	DESCRIPTION
03/01	RJH		ADDED EMERGENCY GENERATOR
10-20-06	TN		REPLACED SWGRS & SWBDS

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

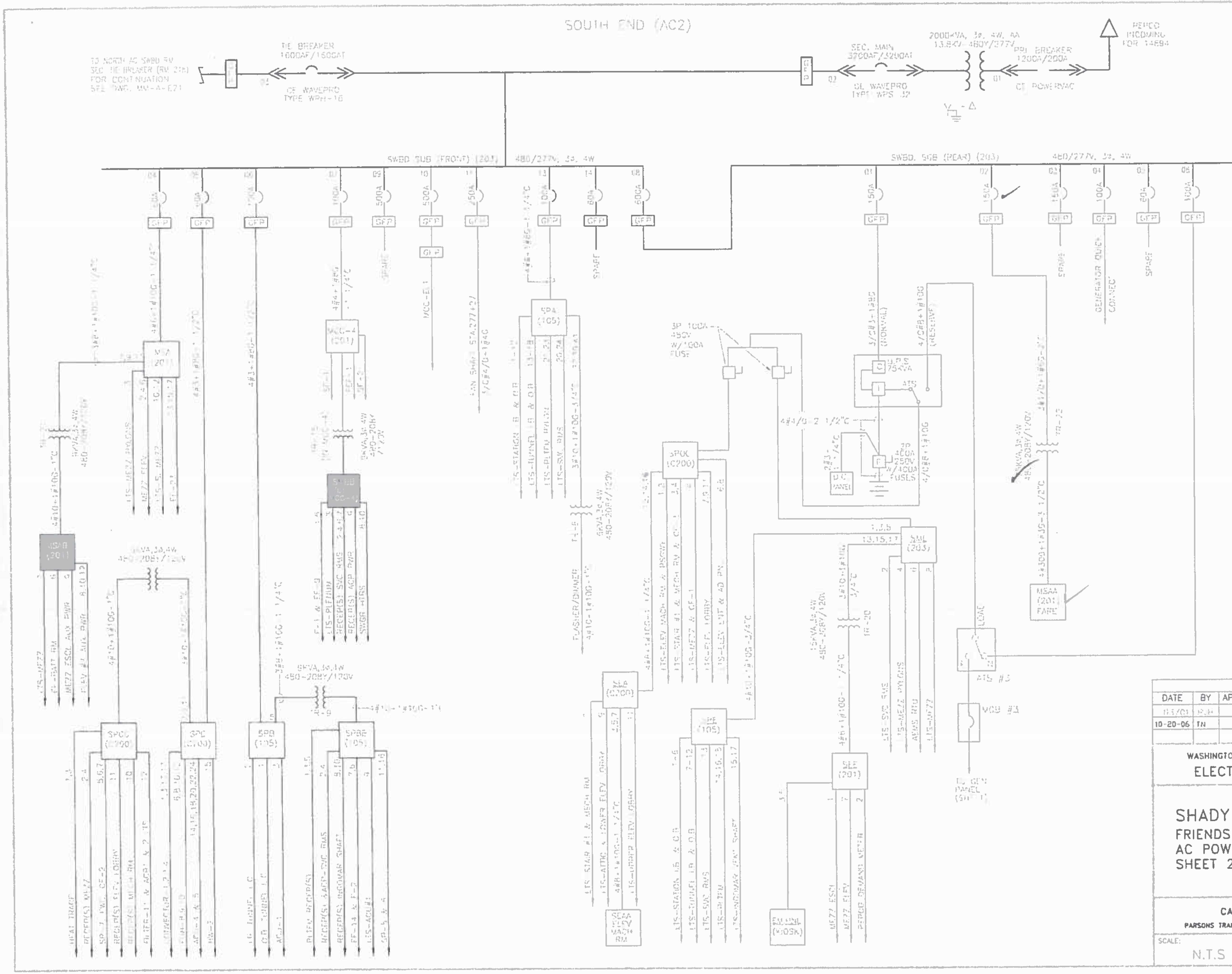
ELECTRICAL MAINTENANCE MAP

SHADY GROVE ROUTE
FRIENDSHIP HEIGHTS STATION (A08)
AC POWER ONE LINE DIAGRAM
SHEET 1 OF 2

CAPITAL IMPROVEMENT PROGRAM

PARSONS TRANSPORTATION GROUP – CAPITAL TRANSIT CONSULTANTS

SCALE:	DRAWING No.
N.T.S	MM-A-E21



NOTES

1. WEA (205) 8 — PANEL DESIGNATION; PANEL DESIGNATION WHEN UNDERLINED IS EMERGENCY; ROOM NUMBER; 8 (CIRCUIT NUMBER)

2. 3#2+1#6G-2"C — CONDUIT SIZE; EQUIPMENT GROUNDING; AWG OR KCMIL CIRCUIT WIRES

3. CIRCUIT BREAKERS
DRAW OUT 1200A/1200A
MOLDED CASE
FRAME SIZE
CONTINUOUS CURRENT SETTING

4. 4/C-4/0 — INDICATES MULTICONDUCTOR CABLE WITH 4 CONDUCTOR AND SIZE OF EACH 4/0

5. RATING AS SHOWN FOR UNINTERRUPTIBLE POWER SUPPLY CONSISTING OF RECTIFIER/CHARGER INVERTER, POWER TRANSFER SWITCH ASSOCIATED BATTERIES AND PANELBOARD

6. ATS - AUTOMATIC TRANSFER SWITCH
C - CHARGER
I - INVERTER

6. DISTR. TRANSFORMER MANUFACTURER FEDERAL PACIFIC

7. UPS MANUFACTURER INTERNATIONAL POWER MACHINE

9. SWITCHGEAR MANUFACTURER: GE INDUSTRIAL SYSTEMS

10. MAIN SECONDARY & TIE POWER CIRCUIT BREAKERS ARE GE TYPE WAVEPRO WITH MICROVERSATRIP (LSI) ELECTRICALLY OPERATED & EQUIPPED WITH SEPARATE GROUND FAULT RELAYS.

11. SWITCHBOARD FEEDER CIRCUIT BREAKERS ARE GE SPECTRA RMS TYPE SGLB WITH MICROVERSATRIP (LSIG) U.O.N.

12. MOLDED CASE BREAKER NAME PLATE:
A08-SUB-04 / PNL-MSA / SGL600/150AS/60RP
STA; BREAKER POSITION (SOUTH UTILITY BOARD #09); FEEDER NAME; RATING PLUG; SENSOR SIZE; TYPE-FRAME SIZE

REVISIONS

DATE	BY	APRVD	DESCRIPTION
11/3/01	RJH		ADDED EMERGENCY GENERATOR
10-20-06	TN		REPLACED SWBDS & SWBGS

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY
ELECTRICAL MAINTENANCE MAP

SHADY GROVE ROUTE
FRIENDSHIP HEIGHTS STATION (A08)
AC POWER ONE LINE DIAGRAM
SHEET 2 OF 2

CAPITAL IMPROVEMENT PROGRAM
PARSONS TRANSPORTATION GROUP - CAPITAL TRANSIT CONSULTANTS

SCALE: N.T.S
DRAWING No. MM-A-E22

ELECTRICAL SPECIFICATIONS

1. ALL WORK, MATERIAL AND EQUIPMENT SHALL COMPLY WITH THE LATEST NATIONAL ELECTRICAL CODE BEING USED BY THE LOCAL JURISDICTION AND SHALL COMPLY WITH ALL LOCAL CODES AND ORDINANCES.
2. MATERIALS AND EQUIPMENT SHALL BE NEW EXCEPT WHERE INDICATED OTHERWISE. ALL OTHER WIRING DEVICES, CONDUIT, WIRE, ETC. SHALL BE NEW UNLESS NOTED OTHERWISE.
3. ALL MATERIALS AND EQUIPMENT SHALL BEAR U.L. LISTING.
4. MAINTAIN GROUNDING CONTINUITY TO ALL DEVICES AND EQUIPMENT IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.
5. WORK NOT SPECIFICALLY SPECIFIED OR INDICATED SHALL CONFORM WITH SPECIFICATIONS.
6. ALL CONDUITS SHALL BE RUN CONCEALED IN UNDER FLOOR DUCT.
7. ALL WIRE AND CABLE SHALL BE COPPER HAVING 600 VOLTS XHHW-2 OR RHW-2 INSULATIONS. PROVIDE #12 WIRE MINIMUM, UNLESS OTHERWISE NOTED. ALL CABLES SHALL BE LOW SMOKE ZERO HALOGEN CABLE.
8. THE CONTRACTOR SHALL VISIT THE SITE AND EXAMINE THE CONDITION OF THE PREMISES AND THE CHARACTER AND EXTENT OF WORK REQUIRED PRIOR TO SUBMISSION OF BIDS.
9. OBTAIN ALL PERMITS AND PAY ALL FEES NECESSARY FOR INSPECTIONS, TESTS & OTHER SERVICES REQUIRED FOR THE COMPLETION OF THIS WORK.
10. ALL WORK SHALL BE DONE AT SUCH TIMES AND IN SUCH A MANNER THAT WILL LEAST INTERFERE WITH THE MAINTENANCE AND OPERATION OF ALL RELATED OR AFFECTED SYSTEMS. COORDINATE ALL POWER OUTAGES WITH WMATA PROJECT MANAGER.
11. IT IS THE INTENT OF THESE DRAWINGS AND OTHER RELATED DOCUMENTS TO PRODUCE A COMPLETE AND FUNCTIONING ELECTRICAL SYSTEM. PROVIDE ALL LABOR, MATERIAL AND OTHER SERVICES NECESSARY TO ACHIEVE THIS PRODUCT. NOTIFY THE ENGINEER OF ANY DISCREPANCIES IN THE PLANS & SPECIFICATIONS THAT WILL AFFECT THE WORK, PRIOR TO SUBMISSION OF THE BID PRICE.
12. IF, DURING THE COURSE OF THE WORK, THE CONTRACTOR EXPERIENCES A CONFLICT RELATIVE TO THE PLANS AND SPECIFICATIONS, THE NEC OR OTHER APPLICABLE CODES AND GOVERNING DOCUMENTS, HE SHALL NOTIFY THE ENGINEER FOR DIRECTION PRIOR TO EXECUTION OF THIS WORK. ANY WORK INSTALLED IN VIOLATION OF THE CONTRACT DOCUMENT OR APPLICABLE CODES WHICH COULD HAVE BEEN AVOIDED BY CONTACTING THE ENGINEER SHALL BE RECTIFIED AT NO ADDITIONAL COST.
13. ELECTRICAL PLANS ARE DIAGRAMMATIC & INDICATE GENERAL ARRANGEMENT OF SYSTEMS AND WORK. CHECK DRAWINGS OF OTHER TRADES TO VERIFY SPACE CONDITIONS, ETC. MAINTAIN WORKING CLEARANCES.
14. CIRCUIT NUMBERS ARE FOR IDENTIFICATION PURPOSES ONLY. THE CONTRACTOR IS RESPONSIBLE FOR CORRECTLY PHASING THE CIRCUITS IN THE PANEL AND SHALL BALANCE THE LOAD ON THE PHASES UNDER NORMAL OPERATING CONDITIONS. PROVIDE TYPEWRITTEN PANELBOARD DIRECTORIES. BALANCE THE PHASE LOADS TO WITHIN 20 PERCENT OF EACH OTHER.
15. INCREASE ALL BRANCH CIRCUIT CONDUCTORS TO THE NEXT LARGER SIZE FROM THE PANEL TO THE FIRST OUTLET WHERE THE LENGTH OF THE HOMERUN EXCEEDS 100FT. ON 120/208V CIRCUITS.
16. PROVIDE A PULLWIRE OR FISHTAPE/CORD IN ALL EMPTY CONDUIT RUNS.
17. VERIFY WIRE SIZES, CIRCUIT BREAKERS AND FUSES RATINGS FOR ALL EQUIPMENT, AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES AFFECTING THE WORK PRIOR TO PROCEEDING.
18. ALL PANELS IMPACTED BY THIS PROJECT SHALL BE PROVIDED WITH NEW, UPDATED TYPEWRITTEN PANEL SCHEDULES (FOR NEW AND EXISTING CIRCUITS) INDICATING THE FINAL ROOM NUMBER AND THE EQUIPMENT OR DEVICES SERVED BY THE CIRCUITS.
19. DEMOLITION OF EXISTING WORK SHALL BE PERFORMED AFTER HOURS. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE WMATA PROJECT MANAGER PRIOR TO PERFORMING ALL THE WORK. THE TIME OF DAY OR EVENING SHALL BE DESIGNATED BY THE WMATA PROJECT MANAGER.
20. ALL WIRING SHALL BE IN CONDUIT, MINIMUM SIZE 3/4 INCH WITH LARGER SIZES AS INDICATED OR REQUIRED BY NEC. ALL CONDUITS SHALL BE RIGID GALVANIZED STEEL THREADED COUPLING FOR COMPLETE WATER PROOF INSTALLATION.
21. AT JOB COMPLETION, AND BEFORE FINAL ACCEPTANCE BY WMATA, TEST EACH RECEPTACLE AND PANELBOARD FOR PROPER OPERATION. WIRING SHALL BE TESTED FOR CONTINUITY, SHORTS, ETC... ALL WORK AREAS, ETC.. SHALL BE CLEANED AT THE COMPLETION OF THIS PROJECT.
22. FOR DEVICE IDENTIFICATION, THE ELECTRICAL CONTRACTOR SHALL LABEL ALL PANELBOARDS, JUNCTION BOXES, ETC..TO INDICATE THE NAME, VOLTAGE, SERVING EQUIPMENT AND ITEM SERVED ETC... LABELS FOR EMERGENCY CIRCUITS SHALL BE IN RED, NORMAL CIRCUITS SHALL BE IN BLACK. ALL DEVICES SHALL BE IDENTIFIED EITHER ON THE FACE OF THE COVERPLATE OR INSIDE PER WMATA PREFERENCE. ALL JUNCTION BOXES SHALL BE LABELED TO INDICATE THE CIRCUITS CONTAINED BY THE JUNCTION BOX.
23. THE CONTRACTOR SHALL UPDATE THE SCHEDULES OF ALL PANELBOARDS AFFECTED BY THIS PROJECT TO REFLECT CHANGES DUE TO THE PROJECT WORK. PANEL SCHEDULE LOAD DESCRIPTIONS ARE TO INCLUDE THE FINAL ROOM OR AREA NUMBERS.
24. INCLUDE GPR FOR ANY CORE DRILLS OR DRILLED PENETRATIONS IN ANY WALLS.
25. SEAL OFF ALL PENETRATIONS THRU WALLS/FLOORS.
26. THE CONTRACTOR SHALL BECOME FAMILIAR WITH WMATA DESIGN CRITERIA SECTION 4 AND SECTION 13; WMATA SPECIFICATION SECTION 16120, 16130, AND 16125. ALL INSTALLATION SHALL BE IN COMPLIANCE WITH THE NEC, WMATA DESIGN CRITERIA, AND SPECIFICATIONS.
27. THE CONTRACTOR SHALL IDENTIFY SPARE CIRCUIT WITH "RESERVED FOR AFC".
28. EXISTING SWITCHBOARDS, PANELBOARDS AND EQUIPMENT SHOWN IS BASED ON RECORD DRAWINGS AND CASUAL FIELD SURVEY. CONTRACTOR SHALL VERIFY ALL ELECTRICAL EQUIPMENT IN FIELD.
29. The conduit utilized for this project shall be 1-1/2" min. or larger as indicated. The liquid tight utilized for the kiosk shall be 1-1/2" from the entry to the 8x8 junction box, then 1" from the junction box to the quads. All boxes used in or on the kiosk shall be NEMA 4x.

ABBREVIATIONS

A, AMP	AMPERES
AC	ALTERNATING CURRENT
AF	AMPERE FRAME
AFC	AUTOMATED FARE COLLECTION SYSTEM
AFF	ABOVE FINISHED FLOOR
AIC	AMPERE INTERRUPTING CAPACITY
AT	AMPERE TRIP
BKR	BREAKER
C	CONDUIT
CB	CIRCUIT BREAKER
CCT	CIRCUIT
℄	CENTER LINE
CLG	CEILING
CONST	CONSTRUCTION
DISC	DISCONNECT
E	ELECTRICAL
GND	GROUND
JB	JUNCTION BOX
KAIC	THOUSAND AMPERE INTERRUPTING CAPACITY
KCMIL	THOUSAND CIRCULAR MILL
KVA	KILOVOLT AMPERE
MAX	MAXIMUM
MCA	MINIMUM CIRCUIT AMPERE
MCB	MAIN CIRCUIT BREAKER
MEZZ	MEZZANINE
MIN	MINIMUM
MLO	MAIN LUGS ONLY
NEC	NATIONAL ELECTRIC CODE
P	POLE
PH	PHASE
PNL	PANELBOARD
PRI	PRIMARY
PROP	PROPOSED
RGS	RIGID GALVANIZED STEEL
SEC	SECONDARY
SHT	SHEET
SW	SWITCH
SWBD	SWITCHBOARD
TYP	TYPICAL
U/G	UNDER GROUND
U.L.	UNDERWRITERS LABORATORIES
UON	UNLESS OTHERWISE NOTED
VOLT	VOLTAGE
W	WATT
WMATA	WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY
WP	WEATHERPROOF

DRAWING INDEX

ELECTRICAL SYMBOL LIST

- QUADRUPLEX RECEPTACLE OUTLET- 20A, 125V WALL MOUNTED.
- [J] JUNCTION BOX - SURFACE MOUNTED ON UNISTRUT CHANNEL
- CONDUIT - CONCEALED IN UNDER FLOOR DUCT U.O.N.
- #10-3/4 / EF 3,5 HOMERUN TO PANEL, NUMBER OF ARROWHEADS INDICATES NUMBER OF CIRCUITS. CROSS HATCHING INDICATES NUMBER OF CONDUCTORS, NUMBER INDICATES SIZE OF CONDUCTOR AND SIZE OF CONDUIT
  - ! - INDICATES GROUNDING WIRE TO GROUNDING BUS AT THE PANELBOARD
  - EF 1,3 - INDICATES CIRCUIT HOME RUN PANELBOARD AND CIRCUIT NUMBER IDENTIFICATION

CONTRACT NO
14-FQ10060-CENI-24

DESIGNED C. NGO 07-14 DATE
DRAWN C. NGO 07-14 DATE
CHECKED B. IDILBI 07-14 DATE
APPROVED N/A DATE

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

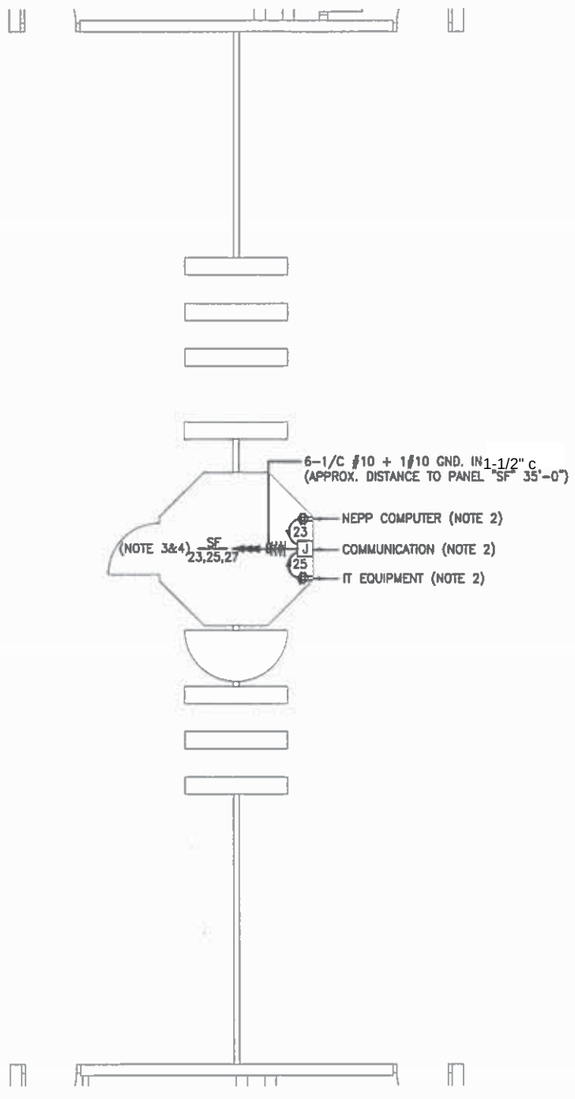
DATE	BY	DESCRIPTION

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY
DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES
OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM
APPROVED

GFP A Gannett Fleming/Parsons JOINT VENTURE
SUBMITTED
PROJECT MANAGER

NEW ELECTRONIC PAY PROGRAM (NEPP) IN METRORAIL STATIONS
ABBREVIATIONS, DRAWING INDEX, SPECIFICATIONS & SYMBOL LIST

SCALE NOT TO SCALE
DRAWING NO A12-E-001



KIOSK - POWER
SCALE: 1/4" = 1'- 0"

DRAWING NOTES:

1. USE EXISTING UNDER FLOOR DUCT FOR POWER WIRING. ALL OUTSIDE FLOOR DUCT WIRING SHALL BE IN CONDUIT.
2. VERIFY WITH WMATA PERSONNEL FOR LOCATION OF RECEPTACLES & JUNCTION BOXES.
3. CONNECT CIRCUIT #23, #25 & #27 TO EXISTING 20A, 1P SPARE CIRCUIT BREAKERS IN THE EXISTING PANEL "SF", SEE PANEL SCHEDULE ON DWG. A12-E-102.
4. PROVIDE A ROUGHIN CIRCUIT FAR FUTURE AFC FARE GATE COILED AT THE KIOSK. THE LENGTH OF COILED PIGTAIL SHALL BE THE FARTHEST FARE GATE DISTANCE FROM KIOSK PLUS AN EXTRA 6'-0" CONDUCTOR.

SAFETY PRECAUTION:

1. ALL WORK SHALL COMPLY WITH WMATA SAFETY RULES, AND DE-ENERGIZATION POLICIES.

CONTRACT NO
14-FQ10060-CENI-24

DESIGNED C. NGO 07-14 DATE	REFERENCE DRAWINGS: NUMBER / DESCRIPTION	REVISIONS: DATE / BY / DESCRIPTION
DRAWN C. NGO 07-14 DATE		
CHECKED B. IDILBI 07-14 DATE		
APPROVED N/A DATE		

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY
DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES
OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM
APPROVED

GFP A Gannett Fleming/Parsons JOINT VENTURE
SUBMITTED PROJECT MANAGER

NEW ELECTRONIC PAY PROGRAM (NEPP) IN METRORAIL STATIONS
WHITE FLINT
KIOSK - POWER

SCALE: AS SHOWN
DRAWING NO: A12-E-101

EXISTING PANEL "SF"

AMPERES: 225	VOLTS: 120/208	MOUNTING: SURFACE
MAINS: 200A	PHASE: 3	LOCATION: ROOM 211
RATING: 10K AIC	WIRE: 4	SECTION: 1 OF 1

		CKT BKRS		CKT.		CKT.	CKT BKRS			
LOAD DESCRIPTION	KVA	AMP	POLE	NO.		NO.	POLE	AMP	KVA	LOAD DESCRIPTION
EXISTING VENDOR	0.8	20	1	1	A - -	2	1	20	0.8	EXISTING VENDOR
SPARE	0.0	20	1	3	- B -	4	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	5	- - C	6	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	7	A - -	8	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	9	- B -	10	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	11	- - C	12	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	13	A - -	14	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	15	- B -	16	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	17	- - C	18	1	20	0.0	SPARE
EXISTING VENDOR	0.8	20	1	19	A - -	20	1	20	0.0	SPARE
EXISTING VENDOR	0.8	20	1	21	- B -	22	1	20	0.0	SPARE
NEW KIOSK RECEPT. (IT & NCS)	**0.8**	20	1	23	- - C	24	1	20	0.0	SPARE
NEW KIOSK RECEPT. (NEPP/SOC)	**0.8**	20	1	25	A - -	26	1	20	0.0	SPARE
FUTURE AFC FARE GATE	**0.0**	20	1	27	- B -	28	1	20	0.0	SPARE
SPARE	0.0	20	1	29	- - C	30	1	20	0.0	SPARE
SPARE	0.0	20	1	31	A - -	32	1	20	0.0	SPARE
SPARE	0.0	20	1	33	- B -	34	1	20	0.0	SPARE
SPARE	0.0	20	1	35	- - C	36	1	20	0.0	SPARE
SPARE	0.0	20	1	37	A - -	38	3	40	2.9	EXIST. KIOSK LOAD CENTER "KES"
EXISTING VENDOR	0.8	20	1	39	- B -	40	-	-	2.5	
SPARE	0.0	20	1	41	- - C	42	-	-	2.5	

LOAD SUMMARY

LIGHTS	0.0 x 125%		0.0 KVA
RECEPTACLES, FIRST 10 KVA	10.0 x 100%		10.0 KVA
RECEPTACLES	6.4 x 50%		3.2 KVA
MISC. APPLIANCES	0.0 x 100%		0.0 KVA
LARGEST MOTOR	0.0 x 125%		0.0 KVA
MOTORS	0.0 x 100%		0.0 KVA
HEAT	3.0 x 125%		3.8 KVA
AC	4.5 x 100%		4.5 KVA
WATER HEATING	0.0 x 125%		0.0 KVA
TOTAL CONNECTED LOAD	**23.9 KVA**	**TOTAL DEMAND KVA**	**21.5 KVA**
		TOTAL DEMAND AMPS	**59.6 AMPS**
CONNECTED LOAD PHASE SUMMARY			
PHASE A:	**9.3 KVA**		
PHASE B:	**8.1 KVA**		
PHASE C:	**7.3 KVA**		

NOTES: A. EXISTING PANEL "SF" IS FED FROM 277/480V, 3ø, 4W "S. SWBD ESSENTIAL" LOCATED IN AC SWBD ROOM 107 CIRCUIT #6-125/3P VIA 75KVA TRANSFORMER ST-4 THRU DISCONNECT SWITCH SF-PANEL-MEZZ (SEE ATTACHED DWG. MM-A-E31).

B. EXISTING WIRING FED FROM BOTTOM OF PANEL BY:
- 2-6 1/2"x 1 1/2" FLOOR DUCT (1-WIRING FILL >20%)(1-WIRING FILL>40%).

EXISTING WIRING FED FROM TOP OF PANEL BY:
- 1-6"x 24" WIRE TROUGH TO TRANSFORMER (WIRING FILL >30%).

EXISTING WIRING FED FROM LEFT SIDE OF PANEL BY:
- 1-3/4" C. (WIRING FILL >40%).

CONTRACT NO.
14-FQ10060-CENI-24

DESIGNED	C. NGO	07-14 DATE
DRAWN	C. NGO	07-14 DATE
CHECKED	B. IDLBI	07-14 DATE
APPROVED	N/A	DATE

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

DATE	BY	DESCRIPTION

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES
OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM

APPROVED

GFP A Gannett Fleming/Parsons JOINT VENTURE

SUBMITTED
PROJECT MANAGER

NEW ELECTRONIC PAY PROGRAM (NEPP) IN METRORAIL STATIONS
WHITE FLINT
PANEL SCHEDULE

SCALE: NOT TO SCALE

DRAWING NO.: A12-E-102

EXISTING PANEL "SF"

EXISTING PANEL "SF"

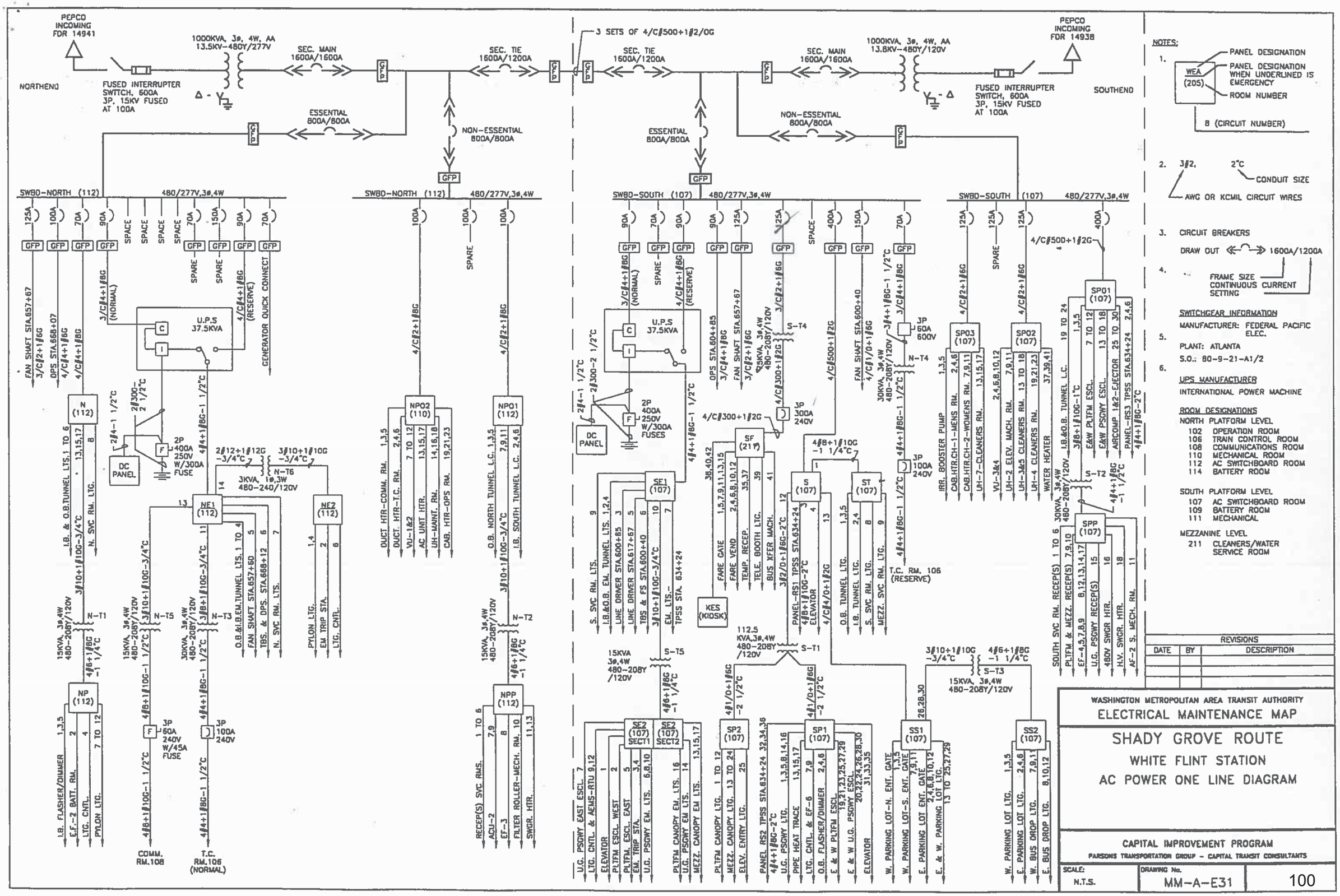
EXISTING PANEL "SF"

CONTRACT NO.
14-FQ10060-CENI-24

DESIGNED C. NGO 07-14 DATE	REFERENCE DRAWINGS	REVISIONS	WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY
DRAWN C. NGO 07-14 DATE	NUMBER / DESCRIPTION	DATE / BY / DESCRIPTION	DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM
CHECKED B. IDLBI 07-14 DATE			APPROVED
APPROVED N/A DATE			GFP A Gannett Fleming/Parsons JOINT VENTURE SUBMITTED PROJECT MANAGER

NEW ELECTRONIC PAY PROGRAM (NEPP)
IN METRORAIL STATIONS
WHITE FLINT
PANELBOARD IMAGE

SCALE	DRAWING NO.
NOT TO SCALE	A12-E-301


PEPCO INCOMING FDR 14941
NORTHEND
FUSED INTERRUPTER SWITCH, 600A 3P, 15KV FUSED AT 100A
1000KVA, 3ø, 4W, AA 13.5KV-480Y/277V
SEC. MAIN 1600A/1600A
SEC. TIE 1600A/1200A
3 SETS OF 4/C#500+1#2/0G
SEC. TIE 1600A/1200A
SEC. MAIN 1600A/1600A
1000KVA, 3ø, 4W, AA 13.8KV-480Y/120V
PEPCO INCOMING FDR 14938
SOUTHEND
FUSED INTERRUPTER SWITCH, 600A 3P, 15KV FUSED AT 100A
ESSENTIAL 800A/800A
NON-ESSENTIAL 800A/800A
ESSENTIAL 800A/800A
NON-ESSENTIAL 800A/800A
GFP
SWBD-NORTH (112) 480/277V,3ø,4W
SWBD-SOUTH (107) 480/277V,3ø,4W
U.P.S 37.5KVA
DC PANEL
2P 400A 250V W/300A FUSE
2P 400A 250V W/300A FUSES
3P 60A 240V W/45A FUSE
3P 100A 240V
3P 300A 240V
3P 60A 600V
3KVA, 1ø,3W 480-240/120V
15KVA 3ø,4W 480-208Y/120V
30KVA, 3ø,4W 480-208Y/120V
112.5 KVA,3ø,4W 480-208Y/120V
SF (21')
SE1 (107)
SE2 (107) SECT1
SE2 (107) SECT2
SP1 (107)
SP2 (107)
SP3 (107)
SPO1 (107)
SPO2 (107)
SPP (107)
SS1 (107)
SS2 (107)
S (107)
ST (107)
NP (112)
NPP (112)
NE1 (112)
NE2 (112)
NPO1 (112)
NPO2 (110)
KES (KIOSK)
COMM. RM.108
T.C. RM.106 (NORMAL)
T.C. RM. 106 (RESERVE)
FAN SHAFT STA.657+67
OPS STA.668+07
GENERATOR QUICK CONNECT
I.B. & O.B.TUNNEL LTS.1 TO 6
I.B. FLASHER/DIMMER
E.F.-2 BATT. RM.
LTG. CNTL.
PYLON LTG.
N. SVC RM. LTG.
N. SVC RM. LTS.
TBS. & OPS. STA.668+12
FAN SHAFT STA.657+60
O.B.&I.B.EM.TUNNEL LTS. 1 TO 4
DUCT HTR-COMM. RM.
DUCT HTR-T.C. RM.
VU-1&2
AC UNIT HTR.
UH-MAINT. RM.
CAB. HTR-OPS RM.
PYLON LTG.
EM. TRIP STA.
LTG. CNTL.
O.B. NORTH TUNNEL L.C.
I.B. SOUTH TUNNEL L.C.
U.G. PSGWY EAST ESCL.
LTG. CNTL. & AEMS-RTU
ELEVATOR
PLTFM ESCL. WEST
PLTFM. ESCL. EAST
EM. TRIP STA.
U.G. PSGWY EM. LTS.
PLTFM CANOPY EM. LTS.
U.G. PSGWY EM LTS.
MEZZ. CANOPY EM LTS.
RECEP(S) SVC RMS.
AGU-2
EF-3
FILTER ROLLER-MECH. RM.
SWGR. HTR.
S. SVC RM. LTS.
I.B.&O.B. EM. TUNNEL LTS.
LINE DRIVER STA.600+85
LINE DRIVER STA.617+67
TBS & FS STA.600+40
EM. LTS.-TPSS STA. 634+24
FARE GATE
FARE VEND
TEMP. RECEP.
TELE. BOOTH LTG.
BUS XFER MACH.
PANEL-RS1 TPSS STA.634+24
ELEVATOR
O.B. TUNNEL LTG.
I.B. TUNNEL LTG.
S. SVC RM. LTG.
MEZZ. SVC RM. LTG.
PANEL-RS2 TPSS STA.634+24
PIPE HEAT TRACE
LTG. CNTL. & EF-6
O.B. FLASHER/DIMMER
E. & W PLTFM ESCL.
E. & W U.G. PSGWY ESCL.
ELEVATOR
W. PARKING LOT-N. ENT. GATE
W. PARKING LOT-S. ENT. GATE
E. PARKING LOT ENT. GATE
E. & W. PARKING LOT LTG.
W. PARKING LOT LTG.
E. PARKING LOT LTG.
W. BUS DROP LTG.
E. BUS DROP LTG.
IRR. BOOSTER PUMP
CAB.HTR.CH-1-MENS RM.
CAB.HTR.CH-2-WOMENS RM.
UH-7-CLEANERS RM.
VU-3&4
UH-2 ELEV. MACH. RM.
UH-3&5 CLEANERS RM.
UH-4 CLEANERS RM.
WATER HEATER
I.B.&O.B. TUNNEL L.C.
E&W PLTFM ESCL.
E&W PSGWY ESCL.
AIRCOMP 1&2-EJECTOR
PANEL-RS3 TPSS STA.634+24
SOUTH SVC RM. RECEP(S)
PLTFM & MEZZ. RECEP(S)
EF-4,5,7,8,9
U.G. PSGWY RECEP(S)
480V SWGR HTR.
H.V. SWGR. HTR.
AF-2 S. MECH. RM.
SPARE
NOTES:
1. PANEL DESIGNATION
WEA (205)
PANEL DESIGNATION WHEN UNDERLINED IS EMERGENCY
ROOM NUMBER
8 (CIRCUIT NUMBER)
2. 3#2, 2"C
CONDUIT SIZE
AWG OR KCMIL CIRCUIT WIRES
3. CIRCUIT BREAKERS
DRAW OUT
1600A/1200A
4. FRAME SIZE
CONTINUOUS CURRENT SETTING
SWITCHGEAR INFORMATION
5. MANUFACTURER: FEDERAL PACIFIC ELEC.
PLANT: ATLANTA
S.O.: 80-9-21-A1/2
6. UPS MANUFACTURER
INTERNATIONAL POWER MACHINE
ROOM DESIGNATIONS
NORTH PLATFORM LEVEL
102 OPERATION ROOM
106 TRAIN CONTROL ROOM
108 COMMUNICATIONS ROOM
110 MECHANICAL ROOM
112 AC SWITCHBOARD ROOM
114 BATTERY ROOM
SOUTH PLATFORM LEVEL
107 AC SWITCHBOARD ROOM
109 BATTERY ROOM
111 MECHANICAL
MEZZANINE LEVEL
211 CLEANERS/WATER SERVICE ROOM
REVISIONS
DATE
BY
DESCRIPTION
WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY
ELECTRICAL MAINTENANCE MAP
SHADY GROVE ROUTE
WHITE FLINT STATION
AC POWER ONE LINE DIAGRAM
CAPITAL IMPROVEMENT PROGRAM
PARSONS TRANSPORTATION GROUP - CAPITAL TRANSIT CONSULTANTS
SCALE: N.T.S.
DRAWING No. MM-A-E31
100

ELECTRICAL SPECIFICATIONS

1. ALL WORK, MATERIAL AND EQUIPMENT SHALL COMPLY WITH THE LATEST NATIONAL ELECTRICAL CODE BEING USED BY THE LOCAL JURISDICTION AND SHALL COMPLY WITH ALL LOCAL CODES AND ORDINANCES.
2. MATERIALS AND EQUIPMENT SHALL BE NEW EXCEPT WHERE INDICATED OTHERWISE. ALL OTHER WIRING DEVICES, CONDUIT, WIRE, ETC. SHALL BE NEW UNLESS NOTED OTHERWISE.
3. ALL MATERIALS AND EQUIPMENT SHALL BEAR U.L. LISTING.
4. MAINTAIN GROUNDING CONTINUITY TO ALL DEVICES AND EQUIPMENT IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.
5. WORK NOT SPECIFICALLY SPECIFIED OR INDICATED SHALL CONFORM WITH SPECIFICATIONS.
6. ALL CONDUITS SHALL BE RUN CONCEALED IN UNDER FLOOR DUCT.
7. ALL WIRE AND CABLE SHALL BE COPPER HAVING 600 VOLTS XHHW-2 OR RHW-2 INSULATIONS. PROVIDE #12 WIRE MINIMUM, UNLESS OTHERWISE NOTED. ALL CABLES SHALL BE LOW SMOKE ZERO HALOGEN CABLE.
8. THE CONTRACTOR SHALL VISIT THE SITE AND EXAMINE THE CONDITION OF THE PREMISES AND THE CHARACTER AND EXTENT OF WORK REQUIRED PRIOR TO SUBMISSION OF BIDS.
9. OBTAIN ALL PERMITS AND PAY ALL FEES NECESSARY FOR INSPECTIONS, TESTS & OTHER SERVICES REQUIRED FOR THE COMPLETION OF THIS WORK.
10. ALL WORK SHALL BE DONE AT SUCH TIMES AND IN SUCH A MANNER THAT WILL LEAST INTERFERE WITH THE MAINTENANCE AND OPERATION OF ALL RELATED OR AFFECTED SYSTEMS. COORDINATE ALL POWER OUTAGES WITH WMATA PROJECT MANAGER.
11. IT IS THE INTENT OF THESE DRAWINGS AND OTHER RELATED DOCUMENTS TO PRODUCE A COMPLETE AND FUNCTIONING ELECTRICAL SYSTEM. PROVIDE ALL LABOR, MATERIAL AND OTHER SERVICES NECESSARY TO ACHIEVE THIS PRODUCT. NOTIFY THE ENGINEER OF ANY DISCREPANCIES IN THE PLANS & SPECIFICATIONS THAT WILL AFFECT THE WORK, PRIOR TO SUBMISSION OF THE BID PRICE.
12. IF, DURING THE COURSE OF THE WORK, THE CONTRACTOR EXPERIENCES A CONFLICT RELATIVE TO THE PLANS AND SPECIFICATIONS, THE NEC OR OTHER APPLICABLE CODES AND GOVERNING DOCUMENTS, HE SHALL NOTIFY THE ENGINEER FOR DIRECTION PRIOR TO EXECUTION OF THIS WORK. ANY WORK INSTALLED IN VIOLATION OF THE CONTRACT DOCUMENT OR APPLICABLE CODES WHICH COULD HAVE BEEN AVOIDED BY CONTACTING THE ENGINEER SHALL BE RECTIFIED AT NO ADDITIONAL COST.
13. ELECTRICAL PLANS ARE DIAGRAMMATIC & INDICATE GENERAL ARRANGEMENT OF SYSTEMS AND WORK. CHECK DRAWINGS OF OTHER TRADES TO VERIFY SPACE CONDITIONS, ETC. MAINTAIN WORKING CLEARANCES.
14. CIRCUIT NUMBERS ARE FOR IDENTIFICATION PURPOSES ONLY. THE CONTRACTOR IS RESPONSIBLE FOR CORRECTLY PHASING THE CIRCUITS IN THE PANEL AND SHALL BALANCE THE LOAD ON THE PHASES UNDER NORMAL OPERATING CONDITIONS. PROVIDE TYPEWRITTEN PANELBOARD DIRECTORIES. BALANCE THE PHASE LOADS TO WITHIN 20 PERCENT OF EACH OTHER.
15. INCREASE ALL BRANCH CIRCUIT CONDUCTORS TO THE NEXT LARGER SIZE FROM THE PANEL TO THE FIRST OUTLET WHERE THE LENGTH OF THE HOMERUN EXCEEDS 100FT. ON 120/208V CIRCUITS.
16. PROVIDE A PULLWIRE OR FISHTAPE/CORD IN ALL EMPTY CONDUIT RUNS.
17. VERIFY WIRE SIZES, CIRCUIT BREAKERS AND FUSES RATINGS FOR ALL EQUIPMENT, AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES AFFECTING THE WORK PRIOR TO PROCEEDING.
18. ALL PANELS IMPACTED BY THIS PROJECT SHALL BE PROVIDED WITH NEW, UPDATED TYPEWRITTEN PANEL SCHEDULES (FOR NEW AND EXISTING CIRCUITS) INDICATING THE FINAL ROOM NUMBER AND THE EQUIPMENT OR DEVICES SERVED BY THE CIRCUITS.
19. DEMOLITION OF EXISTING WORK SHALL BE PERFORMED AFTER HOURS. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE WMATA PROJECT MANAGER PRIOR TO PERFORMING ALL THE WORK. THE TIME OF DAY OR EVENING SHALL BE DESIGNATED BY THE WMATA PROJECT MANAGER.
20. ALL WIRING SHALL BE IN CONDUIT, MINIMUM SIZE 3/4 INCH WITH LARGER SIZES AS INDICATED OR REQUIRED BY NEC. ALL CONDUITS SHALL BE RIGID GALVANIZED STEEL THREADED COUPLING FOR COMPLETE WATER PROOF INSTALLATION.
21. AT JOB COMPLETION, AND BEFORE FINAL ACCEPTANCE BY WMATA, TEST EACH RECEPTACLE AND PANELBOARD FOR PROPER OPERATION. WIRING SHALL BE TESTED FOR CONTINUITY, SHORTS, ETC... ALL WORK AREAS, ETC.. SHALL BE CLEANED AT THE COMPLETION OF THIS PROJECT.
22. FOR DEVICE IDENTIFICATION, THE ELECTRICAL CONTRACTOR SHALL LABEL ALL PANELBOARDS, JUNCTION BOXES, ETC..TO INDICATE THE NAME, VOLTAGE, SERVING EQUIPMENT AND ITEM SERVED ETC... LABELS FOR EMERGENCY CIRCUITS SHALL BE IN RED, NORMAL CIRCUITS SHALL BE IN BLACK. ALL DEVICES SHALL BE IDENTIFIED EITHER ON THE FACE OF THE COVERPLATE OR INSIDE PER WMATA PREFERENCE. ALL JUNCTION BOXES SHALL BE LABELED TO INDICATE THE CIRCUITS CONTAINED BY THE JUNCTION BOX.
23. THE CONTRACTOR SHALL UPDATE THE SCHEDULES OF ALL PANELBOARDS AFFECTED BY THIS PROJECT TO REFLECT CHANGES DUE TO THE PROJECT WORK. PANEL SCHEDULE LOAD DESCRIPTIONS ARE TO INCLUDE THE FINAL ROOM OR AREA NUMBERS.
24. INCLUDE GPR FOR ANY CORE DRILLS OR DRILLED PENETRATIONS IN ANY WALLS.
25. SEAL OFF ALL PENETRATIONS THRU WALLS/FLOORS.
26. THE CONTRACTOR SHALL BECOME FAMILIAR WITH WMATA DESIGN CRITERIA SECTION 4 AND SECTION 13; WMATA SPECIFICATION SECTION 16120, 16130, AND 16125. ALL INSTALLATION SHALL BE IN COMPLIANCE WITH THE NEC, WMATA DESIGN CRITERIA, AND SPECIFICATIONS.
27. THE CONTRACTOR SHALL IDENTIFY SPARE CIRCUIT WITH "RESERVED FOR AFC".
28. EXISTING SWITCHBOARDS, PANELBOARDS AND EQUIPMENT SHOWN IS BASED ON RECORD DRAWINGS AND CASUAL FIELD SURVEY. CONTRACTOR SHALL VERIFY ALL ELECTRICAL EQUIPMENT IN FIELD.
29. The conduit utilized for this project shall be 1-1/2" min. or larger as indicated. The liquid tight utilized for the kiosk shall be 1-1/2" from the entry to the 8x8 junction box, then 1" from the junction box to the quads. All boxes used in or on the kiosk shall be NEMA 4x.

ABBREVIATIONS

A, AMP	AMPERES
AC	ALTERNATING CURRENT
AF	AMPERE FRAME
AFC	AUTOMATED FARE COLLECTION SYSTEM
AFF	ABOVE FINISHED FLOOR
AIC	AMPERE INTERRUPTING CAPACITY
AT	AMPERE TRIP
BKR	BREAKER
C	CONDUIT
CB	CIRCUIT BREAKER
CCT	CIRCUIT
℄	CENTER LINE
CLG	CEILING
CONST	CONSTRUCTION
DISC	DISCONNECT
E	ELECTRICAL
GND	GROUND
JB	JUNCTION BOX
KAIC	THOUSAND AMPERE INTERRUPTING CAPACITY
KCMIL	THOUSAND CIRCULAR MILL
KVA	KILOVOLT AMPERE
MAX	MAXIMUM
MCA	MINIMUM CIRCUIT AMPERE
MCB	MAIN CIRCUIT BREAKER
MEZZ	MEZZANINE
MIN	MINIMUM
MLO	MAIN LUGS ONLY
NEC	NATIONAL ELECTRIC CODE
P	POLE
PH	PHASE
PNL	PANELBOARD
PRI	PRIMARY
PROP	PROPOSED
RGS	RIGID GALVANIZED STEEL
SEC	SECONDARY
SHT	SHEET
SW	SWITCH
SWBD	SWITCHBOARD
TYP	TYPICAL
U/G	UNDER GROUND
U.L.	UNDERWRITERS LABORATORIES
UON	UNLESS OTHERWISE NOTED
VOLT	VOLTAGE
W	WATT
WMATA	WASHINGTON METROPOLITIAN AREA TRANSIT AUTHORITY
WP	WEATHERPROOF

DRAWING INDEX

ELECTRICAL SYMBOL LIST

- QUADRUPLEX RECEPTACLE OUTLET– 20A, 125V WALL MOUNTED.
- [J] JUNCTION BOX – SURFACE MOUNTED ON UNISTRUT CHANNEL
- CONDUIT – CONCEALED IN UNDER FLOOR DUCT U.O.N.
- #10-3/4 FF 3,5 HOMERUN TO PANEL, NUMBER OF ARROWHEADS INDICATES NUMBER OF CIRCUITS. CROSS HATCHING INDICATES NUMBER OF CONDUCTORS, NUMBER INDICATES SIZE OF CONDUCTOR AND SIZE OF CONDUIT
  - ⏚ – INDICATES GROUNDING WIRE TO GROUNDING BUS AT THE PANELBOARD
  - FF 1,3 – INDICATES CIRCUIT HOME RUN PANELBOARD AND CIRCUIT NUMBER IDENTIFICATION

CONTRACT NO. 14-FQ10060-CENI-24

DESIGNED C. NGO	07-14 DATE	
DRAWN C. NGO	07-14 DATE	
CHECKED B. IDILBI	07-14 DATE	
APPROVED N/A	DATE	

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

DATE	BY	DESCRIPTION

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES
OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM

APPROVED _____

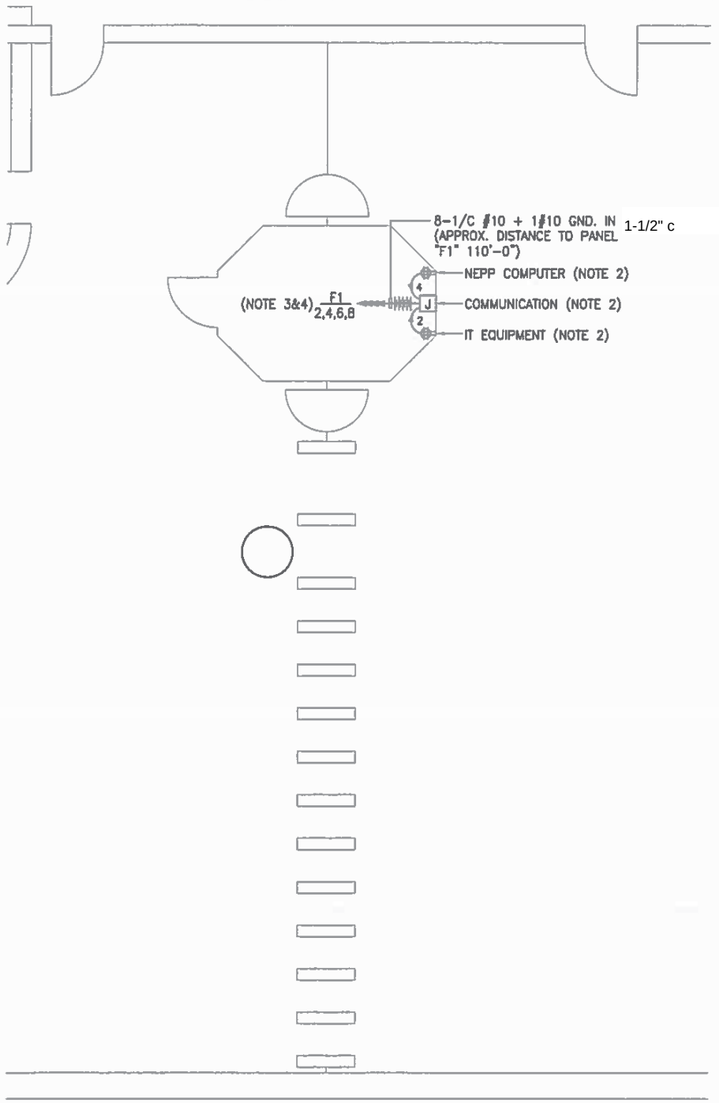
GFP A Gannett Fleming/Parsons JOINT VENTURE

SUBMITTED _____ PROJECT MANAGER

NEW ELECTRONIC PAY PROGRAM (NEPP) IN METRORAIL STATIONS
ABBREVIATIONS, DRAWING INDEX, SPECIFICATIONS & SYMBOL LIST

SCALE: NOT TO SCALE

DRAWING NO.: B01-E-001



KIOSK - POWER
SCALE: 1/4" = 1'- 0"

DRAWING NOTES:

1. USE EXISTING UNDER FLOOR DUCT FOR POWER WIRING. ALL OUTSIDE FLOOR DUCT WIRING SHALL BE IN CONDUIT.
2. VERIFY WITH WMATA PERSONNEL FOR LOCATION OF RECEPTACLES & JUNCTION BOXES.
3. CONNECT CIRCUIT #2, #4, #6 & #8 TO EXISTING 20A, 1P SPARE CIRCUIT BREAKERS IN THE EXISTING PANEL "F1", SEE PANEL SCHEDULE ON DWG. B01-E-102.
4. PROVIDE A ROUGHIN CIRCUIT FOR FUTURE AFC FARE GATE COILED AT THE KIOSK. THE LENGTH OF COILED PIGTAIL SHALL BE THE FARTHEST FARE GATE DISTANCE FROM KIOSK PLUS AN EXTRA 6'-0" CONDUCTOR.

SAFETY PRECAUTION:

1. ALL WORK SHALL COMPLY WITH WMATA SAFETY RULES, AND DE-ENERGIZATION POLICIES.

DESIGNED C. NGO 07-14 DATE	REFERENCE DRAWINGS: NUMBER / DESCRIPTION	REVISIONS: DATE / BY / DESCRIPTION
DRAWN C. NGO 07-14 DATE		
CHECKED B. IDILBI 07-14 DATE		
APPROVED N/A DATE		

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY
DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES
OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM
APPROVED

GFP A Gannett Fleming/Parsons JOINT VENTURE
SUBMITTED
PROJECT MANAGER

CONTRACT NO. 14-FQ10060-CENI-24

NEW ELECTRONIC PAY PROGRAM (NEPP) IN METRORAIL STATIONS
GALLERY PLACE - EAST
KIOSK - POWER

SCALE: AS SHOWN
DRAWING NO.: B01-E-101

EXISTING PANEL "F1" (East)

AMPERES: 60	VOLTS: 120/208	MOUNTING: SURFACE
MAINS: **50A MCB**	PHASE: 3	LOCATION: ELECTRICAL ROOM E206
RATING: 10K AIC	WIRE: 4	SECTION: 1 OF 1

		CKT BKRS		CKT.		CKT.	CKT BKRS			
LOAD DESCRIPTION	KVA	AMP	POLE	NO.		NO.	POLE	AMP	KVA	LOAD DESCRIPTION
EXISTING VENDOR	1.0	20	1	1	A - -	2	1	20	**0.8**	**NEW KIOSK RECEPT. (IT & NCS)**
EXISTING VENDOR	1.0	20	1	3	- B -	4	1	20	**0.8**	**NEW KIOSK RECEPT. (NEPP/SOC)**
EXISTING VENDOR	1.0	20	1	5	- - C	6	1	20	**0.0**	**FUTURE AFC FARE GATE**
EXISTING VENDOR	1.0	20	1	7	A - -	8	1	20	**0.0**	**SPARE (KIOSK)**
EXISTING VENDOR	1.0	20	1	9	- B -	10	-	-	0.0	SPACE
EXISTING VENDOR	1.0	20	1	11	- - C	12	-	-	0.0	SPACE
SPACE	0.0	-	-	13	A - -	14	-	-	0.0	SPACE
SPACE	0.0	-	-	15	- B -	16	-	-	0.0	SPACE
SPACE	0.0	-	-	17	- - C	18	-	-	0.0	SPACE

LOAD SUMMARY

LIGHTS	0.0 x 125%		0.0 KVA
RECEPTACLES, FIRST 10 KVA	6.8 x 100%		6.8 KVA
RECEPTACLES	0.0 x 50%		0.0 KVA
MISC. APPLIANCES	0.0 x 100%		0.0 KVA
LARGEST MOTOR	0.0 x 125%		0.0 KVA
MOTORS	0.0 x 100%		0.0 KVA
HEAT	0.0 x 125%		0.0 KVA
AC	0.0 x 100%		0.0 KVA
WATER HEATING	0.0 x 125%		0.0 KVA
TOTAL CONNECTED LOAD	**6.8 KVA**	**TOTAL DEMAND KVA**	**6.8 KVA**
		TOTAL DEMAND AMPS	**18.9 AMPS**
CONNECTED LOAD PHASE SUMMARY			
PHASE A:	**2.8 KVA**		
PHASE B:	**2.8 KVA**		
PHASE C:	**2.0 KVA**		

NOTES: A. THE EXISTING PANEL "F1" IS FED FROM 120/208V, 3ϕ, 4W EXISTING PANEL "F" LOCATED IN ELECTRICAL ROOM E206, CIRCUIT #38-30/3P (REPLACE EXISTING CIRCUIT #38-30/3P W/NEW 50/3P AND EXISTING FEEDER 3#10 W/NEW FEEDER 3#8 AND RECONNECT, ALSO REPLACE EXISTING 30A MCB @ PANEL "F1" W/NEW 50A MCB)(SEE ATTACHED DWG. MM-B-E07).

B. EXISTING WIRING FED FROM TOP OF PANEL BY:
- 3-3/4" C. (WIRING FILL >40%).
- 2-1" C. (WIRING FILL >40%).

CONTRACT NO. 14-FQ10060-CENI-24

DESIGNED C. NGO 07-14 DATE
DRAWN C. NGO 07-14 DATE
CHECKED B. IDLISI 07-14 DATE
APPROVED N/A DATE

REFERENCE DRAWINGS	
NUMBER	DESCRIPTION

REVISIONS		
DATE	BY	DESCRIPTION

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES
OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM

APPROVED _____

GFP A Gannett Fleming/Parsons JOINT VENTURE

SUBMITTED _____ PROJECT MANAGER

NEW ELECTRONIC PAY PROGRAM (NEPP) IN METRORAIL STATIONS

GALLERY PLACE - EAST
PANEL SCHEDULE

SCALE: NOT TO SCALE

DRAWING NO.: B01-E-102

EXISTING PANEL "F1"

EXISTING PANEL "F1"

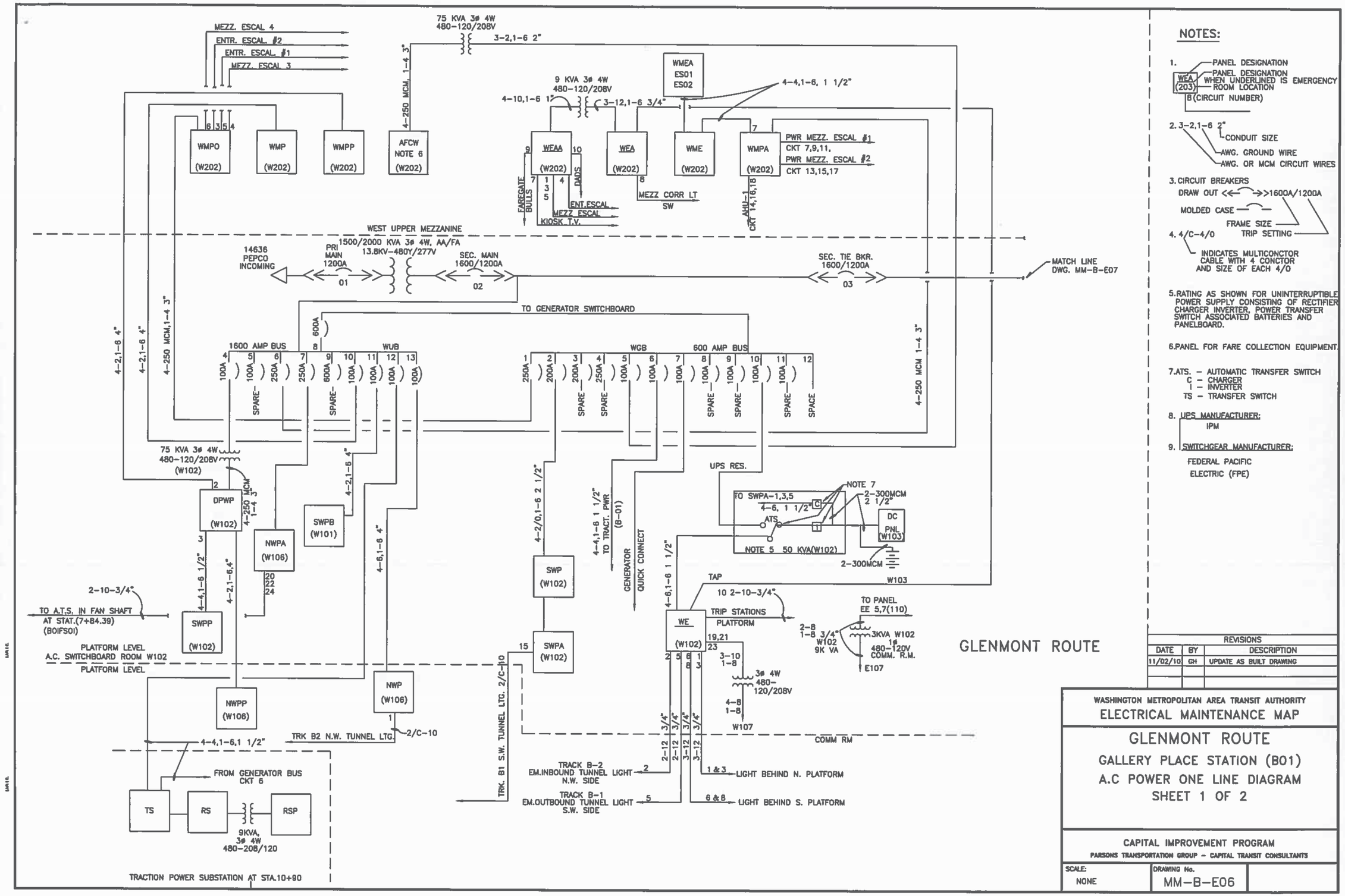
EXISTING PANEL "F1"

DESIGNED C. NGO 07-14 DATE	REFERENCE DRAWINGS: NUMBER / DESCRIPTION	REVISIONS: DATE / BY / DESCRIPTION	WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY
DRAWN C. NGO 07-14 DATE			DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM
CHECKED B. IDILBI 07-14 DATE			APPROVED
APPROVED N/A DATE			GFP A Gannett Fleming/Parsons JOINT VENTURE SUBMITTED PROJECT MANAGER

CONTRACT NO. 14-FQ10060-CENI-24

NEW ELECTRONIC PAY PROGRAM (NEPP)
IN METRORAIL STATIONS
GALLERY PLACE - EAST
PANELBOARD IMAGE

SCALE: NOT TO SCALE | DRAWING NO.: B01-E-301



NOTES:

1. WEA (203) 8 — PANEL DESIGNATION; PANEL DESIGNATION WHEN UNDERLINED IS EMERGENCY; ROOM LOCATION; (CIRCUIT NUMBER)
2. 3-2,1-6 2" — CONDUIT SIZE; AWG. GROUND WIRE; AWG. OR MCM CIRCUIT WIRES
3. CIRCUIT BREAKERS — DRAW OUT; MOLDED CASE; FRAME SIZE; TRIP SETTING (1600A/1200A)
4. 4/C-4/0 — INDICATES MULTICONCTOR CABLE WITH 4 CONCTOR AND SIZE OF EACH 4/0
5. RATING AS SHOWN FOR UNINTERRUPTIBLE POWER SUPPLY CONSISTING OF RECTIFIER CHARGER INVERTER, POWER TRANSFER SWITCH ASSOCIATED BATTERIES AND PANELBOARD.
6. PANEL FOR FARE COLLECTION EQUIPMENT.
7. ATS. – AUTOMATIC TRANSFER SWITCH
   C – CHARGER
   I – INVERTER
   TS – TRANSFER SWITCH
8. UPS MANUFACTURER: IPM
9. SWITCHGEAR MANUFACTURER: FEDERAL PACIFIC ELECTRIC (FPE)

REVISIONS		
DATE	BY	DESCRIPTION
11/02/10	GH	UPDATE AS BUILT DRAWING

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

ELECTRICAL MAINTENANCE MAP

GLENMONT ROUTE

GALLERY PLACE STATION (B01)

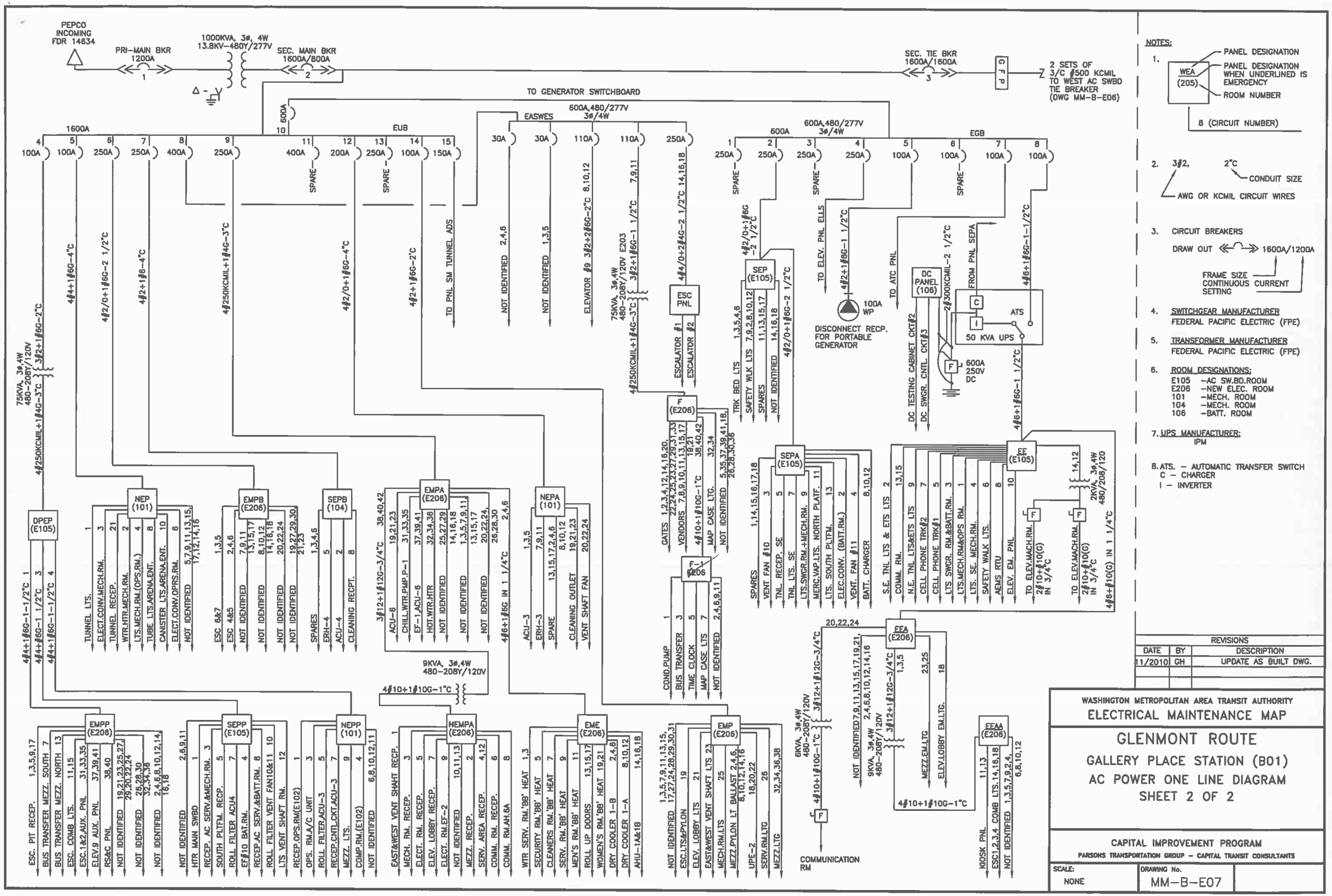
A.C POWER ONE LINE DIAGRAM

SHEET 1 OF 2

CAPITAL IMPROVEMENT PROGRAM

PARSONS TRANSPORTATION GROUP – CAPITAL TRANSIT CONSULTANTS

SCALE:	DRAWING No.	
NONE	MM-B-E06	


PEPCO INCOMING FDR 14634
PRI-MAIN BKR 1200A
1000KVA, 3ø, 4W 13.8KV-480Y/277V
SEC. MAIN BKR 1600A/800A
SEC. TIE BKR 1600A/1600A
2 SETS OF 3/C #500 KCMIL TO WEST AC SWBD TIE BREAKER (DWG MM-B-E06)
TO GENERATOR SWITCHBOARD
1600A
EUB
600A,480/277V 3ø/4W
EASWES
600A,480/277V 3ø/4W
EGB
SPARE
NOT IDENTIFIED 2,4,6
NOT IDENTIFIED 1,3,5
ELEVATOR #9 3#2+2#6G-2"C 8,10,12
75KVA, 3ø,4W 480-208Y/120V E203
3#2+1#6G-1 1/2"C 7,9,11
4#4/0+2#4G-2 1/2"C 14,16,18
TO PNL SM TUNNEL ADS
4#250KCMIL+1#4G-3"C
4#2/0+1#6G-4"C
4#2+1#6G-2"C
4#2/0+1#6G-2 1/2"C
4#4+1#6G-4"C
3#2+1#6G-2"C
ESCALATOR #1
ESCALATOR #2
ESC PNL
SEP (E105)
TO ELEV. PNL ELLS
4#2+1#6G-1 1/2"C
100A WP
DISCONNECT RECP. FOR PORTABLE GENERATOR
TO ATC PNL
DC PANEL (106)
2#300KCMIL-2 1/2"C
FROM PNL SEPA
4#6+1#6G-1-1/2"C
ATS
50 KVA UPS
600A 250V DC
DC TESTING CABINET CKT#2
DC SWGR. CNTL. CKT#3
TRK BED LTS 1,3,5,4,6
SAFETY WLK LTS 7,9,2,8,10,12
SPARES 11,13,15,17
NOT IDENTIFIED 14,16,18
4#2/0+1#6G-2 1/2"C
(E206)
GATES 1,2,3,4,12,14,16,20, 22,24,25,23,27,29,31,33
VENDORS 7,8,9,10,11,13,15,17, 19,21
4#10+1#10G-1"C 38,40,42
MAP CASE LTG. 32,34
NOT IDENTIFIED 5,35,37,39,41,18, 26,28,30,36
SEPA (E105)
SPARES 1,14,15,16,17,18
VENT FAN #10 3
TNL. RECEP. SE 5
TNL LTS. SE 7
LTS.SWGR.RM.+MECH.RM. 9
MERC.VAP.LTS. NORTH PLATF. 11
LTS. SOUTH PLTFM. 13
ELEC.CONV. (BATT.RM.) 2
VENT. FAN #11 4
BATT. CHARGER 8,10,12
EE (E105)
S.E. TNL LTS & ETS LTS 2
COMM. RM. 13,15
N.E. TNL LTS&ETS LTS 9
CELL PHONE TRK#2 7
CELL PHONE TRK#1 5
LTS SWGR. RM.&BATT.RM. 3
LTS.MECH.RM&OPS RM. 1
LTS. SE. MECH.RM. 4
SAFETY WALK LTS. 6
AEMS RTU 8
ELEV. EM. PNL 10
TO ELEV.MACH.RM. 2#10+#10(G) IN 3/4"C
TO ELEV.MACH.RM. 2#10+#10(G) IN 3/4"C
14,12
2KVA, 3ø,4W 480/208/120
4#6+#10(G) IN 1 1/4"C
DPEP (E105)
4#4+1#6G-1-1/2"C 1
4#4+#6G-1 1/2"C 3
4#4+1#6G-1-1/2"C 4
4#250KCMIL+1#4G-3"C
75KVA, 3ø,4W 480-208Y/120V
3#2+1#6G-2"C
NEP (101)
TUNNEL LTS. 1
ELECT.CONV.MECH.RM. 3
TUNNEL RECEP. 21
WTR.HTR.MECH.RM. 2
LTS.MECH.RM.(OPS.RM.) 4
TUBE LTS.ARENA.ENT. 8
CANISTER LTS.ARENA.ENT. 10
ELECT.CONV.OPRS.RM. 6
NOT IDENTIFIED 5,7,9,11,13,15, 17,12,14,16
EMPB (E206)
ESC 0&7 1,3,5
ESC 4&5 2,4,6
NOT IDENTIFIED 7,9,11, 13,15,17
NOT IDENTIFIED 8,10,12, 14,16,18
NOT IDENTIFIED 20,22,24
NOT IDENTIFIED 19,27,29,30, 21,23
SEPB (104)
SPARES 1,3,4,6
ERH-4 5
ACU-4 2
CLEANING RECPT. 8
EMPA (E206)
3#12+1#12G-3/4"C 38,40,42
ACU-6 19,21,23
CHILL.WTR.PMP.P-1 31,33,35
EF-1,ACU-6 37,39,41
HOT.WTR.HTR 32,34,36
NOT IDENTIFIED 25,27,29
NOT IDENTIFIED 14,16,18
NOT IDENTIFIED 1,3,5,7,9,11, 13,15,17
NOT IDENTIFIED 20,22,24, 26,28,30
4#6+1#6G IN 1 1/4"C 2,4,6
NEPA (101)
ACU-3 1,3,5
ERH-3 7,9,11
SPARE 13,15,17,2,4,6, 8,10,12
CLEANING OUTLET 19,21,23
VENT SHAFT FAN 20,22,24
9KVA, 3ø,4W 480-208Y/120V
4#10+1#10G-1"C
EMPP (E206)
ESC. PIT RECEP. 1,3,5,9,17
BUS TRANSFER MEZZ. SOUTH 7
BUS TRANSFER MEZZ. NORTH 13
ESC. COMB LTS. 11,15
ESC.1&2,AUX. PNL 31,33,35
ELEV.9 AUX. PNL 37,39,41
RS&C PNL 38,40
NOT IDENTIFIED 19,21,23,25,27, 29,20,22,24
NOT IDENTIFIED 26,28,30, 32,34,36
NOT IDENTIFIED 2,4,6,8,10,12,14, 16,18
SEPP (E105)
NOT IDENTIFIED 2,6,9,11
HTR MAIN SWBD 1
RECEP. AC SERV.&MECH.RM. 3
SOUTH PLTFM. RECP. 5
ROLL FILTER ACU4 7
EF#10 BAT.RM. 4
RECEP.AC SERV.&BATT.RM. 8
ROLL FILTER VENT FAN10&11 10
LTS VENT SHAFT RM. 12
NEPP (E101)
RECEP.OPS.RM(E102) 1
OPS. RM.A/C UNIT 3
ROLL FILTER,ACU-3 5
RECEP.CNTL.CKT.ACU-3 7
MEZZ. LTS. 9
COMP.RM.(E102) 4
NOT IDENTIFIED 6,8,10,12,11
NEMPA (E206)
EAST&WEST VENT SHAFT RECP. 1
MECH. RM. RECEP. 3
ELECT. RM. RECEP. 5
ELEV. LOBBY RECEP. 7
ELECT. RM.EF-2 9
NOT IDENTIFIED 10,11,13
MEZZ. RECEP. 2
SERV. AREA RECEP. 4,12
COMM. RM. RECEP. 6
COMM. RM.AH.6A 8
EME (E206)
WTR SERV. RM.'BB' HEAT 1,3
SECURITY RM.'BB' HEAT 5
CLEANERS RM.'BB' HEAT 7
SERV. RM.'BB' HEAT 9
MEN'S RM.'BB' HEAT 11
ROLL UP DOORS 13,15,17
WOMEN'S RM.'BB' HEAT 19,21
DRY COOLER 1-B 2,4,6
DRY COOLER 1-A 8,10,12
AHU-1A&1B 14,16,18
EMP (E206)
NOT IDENTIFIED 1,3,5,7,9,11,13,15, 17,27,24,28,29,30,31
ESC.LTS&PYLON 19
ELEV. LOBBY LTS 21
EAST&WEST VENT SHAFT LTS 23
MECH.RM.LTS 25
MEZZ.PYLON LT BALLAST 2,4,6, 8,10,12,14,16
UPE-2 18,20,22
SERV.RM.LTG 26
MEZZ.LTG 32,34,36,38
COND.PUMP 1
BUS TRANSFER 3
TIME CLOCK 5
MAP CASE LTS 7
NOT IDENTIFIED 2,4,6,9,11
9KVA, 3ø,4W 480-208Y/120V
4#10+1#10G-1"C
COMMUNICATION RM
20,22,24
FEA (E206)
NOT IDENTIFIED 7,9,11,13,15,17,19,21,
9KVA, 3ø,4W 480-208Y/120V
2,4,6,8,10,12,14,16
3#12+1#12G-3/4"C
1,3,5
4#10+1#10G-1"C
MEZZ.EM.LTG 23,25
ELEV.LOBBY EM.LTG. 18
6KVA, 3ø,4W 480-208Y/120V
3#12+1#12G-3/4"C
4#10+1#10G-1"C
FEAA (E206)
11,13
KIOSK PNL
ESC1,2,3,4 COMB LTS.14,16,18
NOT IDENTIFIED 1,3,5,7,9,2,4, 6,8,10,12
NOTES:
1. PANEL DESIGNATION
WEA (205)
PANEL DESIGNATION WHEN UNDERLINED IS EMERGENCY
ROOM NUMBER
8 (CIRCUIT NUMBER)
2. 3#2, 2"C
CONDUIT SIZE
AWG OR KCMIL CIRCUIT WIRES
3. CIRCUIT BREAKERS
DRAW OUT
1600A/1200A
FRAME SIZE
CONTINUOUS CURRENT SETTING
4. SWITCHGEAR MANUFACTURER
FEDERAL PACIFIC ELECTRIC (FPE)
5. TRANSFORMER MANUFACTURER
FEDERAL PACIFIC ELECTRIC (FPE)
6. ROOM DESIGNATIONS:
E105 -AC SW.BD.ROOM
E206 -NEW ELEC. ROOM
101 -MECH. ROOM
104 -MECH. ROOM
106 -BATT. ROOM
7. UPS MANUFACTURER:
IPM
8. ATS. - AUTOMATIC TRANSFER SWITCH
C - CHARGER
I - INVERTER
REVISIONS
DATE BY DESCRIPTION
11/2010 GH UPDATE AS BUILT DWG.
WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY
ELECTRICAL MAINTENANCE MAP
GLENMONT ROUTE
GALLERY PLACE STATION (B01)
AC POWER ONE LINE DIAGRAM
SHEET 2 OF 2
CAPITAL IMPROVEMENT PROGRAM
PARSONS TRANSPORTATION GROUP - CAPITAL TRANSIT CONSULTANTS
SCALE: NONE
DRAWING No. MM-B-E07

ELECTRICAL SPECIFICATIONS

1. ALL WORK, MATERIAL AND EQUIPMENT SHALL COMPLY WITH THE LATEST NATIONAL ELECTRICAL CODE BEING USED BY THE LOCAL JURISDICTION AND SHALL COMPLY WITH ALL LOCAL CODES AND ORDINANCES.
2. MATERIALS AND EQUIPMENT SHALL BE NEW EXCEPT WHERE INDICATED OTHERWISE. ALL OTHER WIRING DEVICES, CONDUIT, WIRE, ETC. SHALL BE NEW UNLESS NOTED OTHERWISE.
3. ALL MATERIALS AND EQUIPMENT SHALL BEAR U.L. LISTING.
4. MAINTAIN GROUNDING CONTINUITY TO ALL DEVICES AND EQUIPMENT IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.
5. WORK NOT SPECIFICALLY SPECIFIED OR INDICATED SHALL CONFORM WITH SPECIFICATIONS.
6. ALL CONDUITS SHALL BE RUN CONCEALED IN UNDER FLOOR DUCT.
7. ALL WIRE AND CABLE SHALL BE COPPER HAVING 600 VOLTS XHHW-2 OR RHW-2 INSULATIONS. PROVIDE #12 WIRE MINIMUM, UNLESS OTHERWISE NOTED. ALL CABLES SHALL BE LOW SMOKE ZERO HALOGEN CABLE.
8. THE CONTRACTOR SHALL VISIT THE SITE AND EXAMINE THE CONDITION OF THE PREMISES AND THE CHARACTER AND EXTENT OF WORK REQUIRED PRIOR TO SUBMISSION OF BIDS.
9. OBTAIN ALL PERMITS AND PAY ALL FEES NECESSARY FOR INSPECTIONS, TESTS & OTHER SERVICES REQUIRED FOR THE COMPLETION OF THIS WORK.
10. ALL WORK SHALL BE DONE AT SUCH TIMES AND IN SUCH A MANNER THAT WILL LEAST INTERFERE WITH THE MAINTENANCE AND OPERATION OF ALL RELATED OR AFFECTED SYSTEMS. COORDINATE ALL POWER OUTAGES WITH WMATA PROJECT MANAGER.
11. IT IS THE INTENT OF THESE DRAWINGS AND OTHER RELATED DOCUMENTS TO PRODUCE A COMPLETE AND FUNCTIONING ELECTRICAL SYSTEM. PROVIDE ALL LABOR, MATERIAL AND OTHER SERVICES NECESSARY TO ACHIEVE THIS PRODUCT. NOTIFY THE ENGINEER OF ANY DISCREPANCIES IN THE PLANS & SPECIFICATIONS THAT WILL AFFECT THE WORK, PRIOR TO SUBMISSION OF THE BID PRICE.
12. IF, DURING THE COURSE OF THE WORK, THE CONTRACTOR EXPERIENCES A CONFLICT RELATIVE TO THE PLANS AND SPECIFICATIONS, THE NEC OR OTHER APPLICABLE CODES AND GOVERNING DOCUMENTS, HE SHALL NOTIFY THE ENGINEER FOR DIRECTION PRIOR TO EXECUTION OF THIS WORK. ANY WORK INSTALLED IN VIOLATION OF THE CONTRACT DOCUMENT OR APPLICABLE CODES WHICH COULD HAVE BEEN AVOIDED BY CONTACTING THE ENGINEER SHALL BE RECTIFIED AT NO ADDITIONAL COST.
13. ELECTRICAL PLANS ARE DIAGRAMMATIC & INDICATE GENERAL ARRANGEMENT OF SYSTEMS AND WORK. CHECK DRAWINGS OF OTHER TRADES TO VERIFY SPACE CONDITIONS, ETC. MAINTAIN WORKING CLEARANCES.
14. CIRCUIT NUMBERS ARE FOR IDENTIFICATION PURPOSES ONLY. THE CONTRACTOR IS RESPONSIBLE FOR CORRECTLY PHASING THE CIRCUITS IN THE PANEL AND SHALL BALANCE THE LOAD ON THE PHASES UNDER NORMAL OPERATING CONDITIONS. PROVIDE TYPEWRITTEN PANELBOARD DIRECTORIES. BALANCE THE PHASE LOADS TO WITHIN 20 PERCENT OF EACH OTHER.
15. INCREASE ALL BRANCH CIRCUIT CONDUCTORS TO THE NEXT LARGER SIZE FROM THE PANEL TO THE FIRST OUTLET WHERE THE LENGTH OF THE HOMERUN EXCEEDS 100FT. ON 120/208V CIRCUITS.
16. PROVIDE A PULLWIRE OR FISHTAPE/CORD IN ALL EMPTY CONDUIT RUNS.
17. VERIFY WIRE SIZES, CIRCUIT BREAKERS AND FUSES RATINGS FOR ALL EQUIPMENT, AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES AFFECTING THE WORK PRIOR TO PROCEEDING.
18. ALL PANELS IMPACTED BY THIS PROJECT SHALL BE PROVIDED WITH NEW, UPDATED TYPEWRITTEN PANEL SCHEDULES (FOR NEW AND EXISTING CIRCUITS) INDICATING THE FINAL ROOM NUMBER AND THE EQUIPMENT OR DEVICES SERVED BY THE CIRCUITS.
19. DEMOLITION OF EXISTING WORK SHALL BE PERFORMED AFTER HOURS. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE WMATA PROJECT MANAGER PRIOR TO PERFORMING ALL THE WORK. THE TIME OF DAY OR EVENING SHALL BE DESIGNATED BY THE WMATA PROJECT MANAGER.
20. ALL WIRING SHALL BE IN CONDUIT, MINIMUM SIZE 3/4 INCH WITH LARGER SIZES AS INDICATED OR REQUIRED BY NEC. ALL CONDUITS SHALL BE RIGID GALVANIZED STEEL THREADED COUPLING FOR COMPLETE WATER PROOF INSTALLATION.
21. AT JOB COMPLETION, AND BEFORE FINAL ACCEPTANCE BY WMATA, TEST EACH RECEPTACLE AND PANELBOARD FOR PROPER OPERATION. WIRING SHALL BE TESTED FOR CONTINUITY, SHORTS, ETC... ALL WORK AREAS, ETC.. SHALL BE CLEANED AT THE COMPLETION OF THIS PROJECT.
22. FOR DEVICE IDENTIFICATION, THE ELECTRICAL CONTRACTOR SHALL LABEL ALL PANELBOARDS, JUNCTION BOXES, ETC..TO INDICATE THE NAME, VOLTAGE, SERVING EQUIPMENT AND ITEM SERVED ETC... LABELS FOR EMERGENCY CIRCUITS SHALL BE IN RED, NORMAL CIRCUITS SHALL BE IN BLACK. ALL DEVICES SHALL BE IDENTIFIED EITHER ON THE FACE OF THE COVERPLATE OR INSIDE PER WMATA PREFERENCE. ALL JUNCTION BOXES SHALL BE LABELED TO INDICATE THE CIRCUITS CONTAINED BY THE JUNCTION BOX.
23. THE CONTRACTOR SHALL UPDATE THE SCHEDULES OF ALL PANELBOARDS AFFECTED BY THIS PROJECT TO REFLECT CHANGES DUE TO THE PROJECT WORK. PANEL SCHEDULE LOAD DESCRIPTIONS ARE TO INCLUDE THE FINAL ROOM OR AREA NUMBERS.
24. INCLUDE GPR FOR ANY CORE DRILLS OR DRILLED PENETRATIONS IN ANY WALLS.
25. SEAL OFF ALL PENETRATIONS THRU WALLS/FLOORS.
26. THE CONTRACTOR SHALL BECOME FAMILIAR WITH WMATA DESIGN CRITERIA SECTION 4 AND SECTION 13; WMATA SPECIFICATION SECTION 16120, 16130, AND 16125. ALL INSTALLATION SHALL BE IN COMPLIANCE WITH THE NEC, WMATA DESIGN CRITERIA, AND SPECIFICATIONS.
27. THE CONTRACTOR SHALL IDENTIFY SPARE CIRCUIT WITH "RESERVED FOR AFC".
28. EXISTING SWITCHBOARDS, PANELBOARDS AND EQUIPMENT SHOWN IS BASED ON RECORD DRAWINGS AND CASUAL FIELD SURVEY. CONTRACTOR SHALL VERIFY ALL ELECTRICAL EQUIPMENT IN FIELD.
29. The conduit utilized for this project shall be 1-1/2" min. or larger as indicated. The liquid tight utilized for the kiosk shall be 1-1/2" from the entry to the 8x8 junction box, then 1" from the junction box to the quads. All boxes used in or on the kiosk shall be NEMA 4x.

ABBREVIATIONS

A, AMP	AMPERES
AC	ALTERNATING CURRENT
AF	AMPERE FRAME
AFC	AUTOMATED FARE COLLECTION SYSTEM
AFF	ABOVE FINISHED FLOOR
AIC	AMPERE INTERRUPTING CAPACITY
AT	AMPERE TRIP
BKR	BREAKER
C	CONDUIT
CB	CIRCUIT BREAKER
CCT	CIRCUIT
℄	CENTER LINE
CLG	CEILING
CONST	CONSTRUCTION
DISC	DISCONNECT
E	ELECTRICAL
GND	GROUND
JB	JUNCTION BOX
KAIC	THOUSAND AMPERE INTERRUPTING CAPACITY
KCMIL	THOUSAND CIRCULAR MILL
KVA	KILOVOLT AMPERE
MAX	MAXIMUM
MCA	MINIMUM CIRCUIT AMPERE
MCB	MAIN CIRCUIT BREAKER
MEZZ	MEZZANINE
MIN	MINIMUM
MLO	MAIN LUGS ONLY
NEC	NATIONAL ELECTRIC CODE
P	POLE
PH	PHASE
PNL	PANELBOARD
PRI	PRIMARY
PROP	PROPOSED
RGS	RIGID GALVANIZED STEEL
SEC	SECONDARY
SHT	SHEET
SW	SWITCH
SWBD	SWITCHBOARD
TYP	TYPICAL
U/G	UNDER GROUND
U.L.	UNDERWRITERS LABORATORIES
UON	UNLESS OTHERWISE NOTED
VOLT	VOLTAGE
W	WATT
WMATA	WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY
WP	WEATHERPROOF

DRAWING INDEX

ELECTRICAL SYMBOL LIST

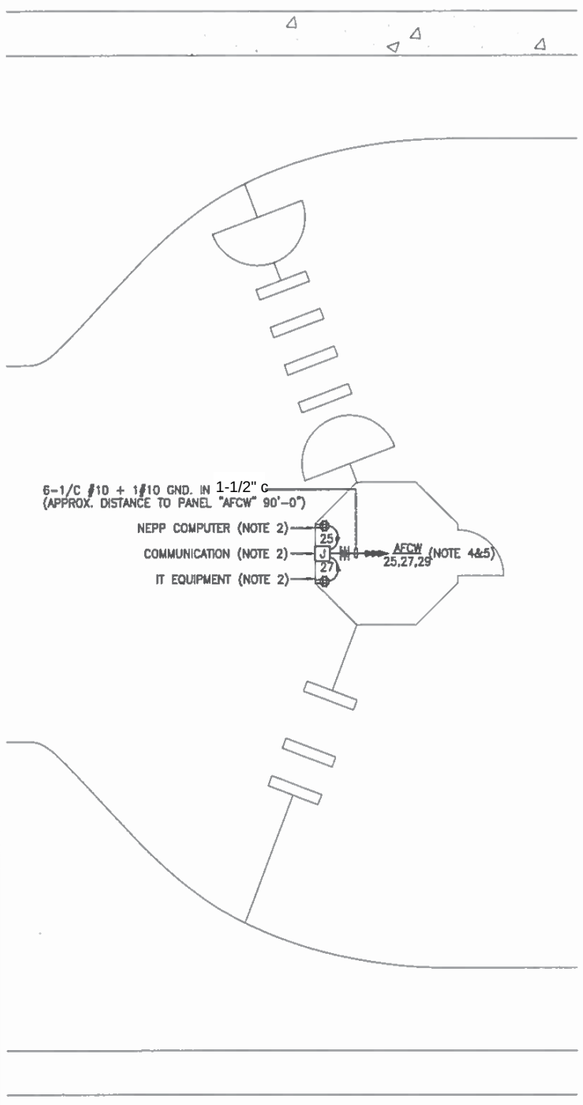
- QUADRUPLEX RECEPTACLE OUTLET– 20A, 125V WALL MOUNTED.
- J — JUNCTION BOX – SURFACE MOUNTED ON UNISTRUT CHANNEL
- CONDUIT – CONCEALED IN UNDER FLOOR DUCT U.O.N.
- #10–3/4 / EF 3,5 — HOMERUN TO PANEL, NUMBER OF ARROWHEADS INDICATES NUMBER OF CIRCUITS. CROSS HATCHING INDICATES NUMBER OF CONDUCTORS, NUMBER INDICATES SIZE OF CONDUCTOR AND SIZE OF CONDUIT
  - ↓ – INDICATES GROUNDING WIRE TO GROUNDING BUS AT THE PANELBOARD
  - EF 1,3 – INDICATES CIRCUIT HOME RUN PANELBOARD AND CIRCUIT NUMBER IDENTIFICATION

CONTRACT NO. 14-FQ10060-CENI-24

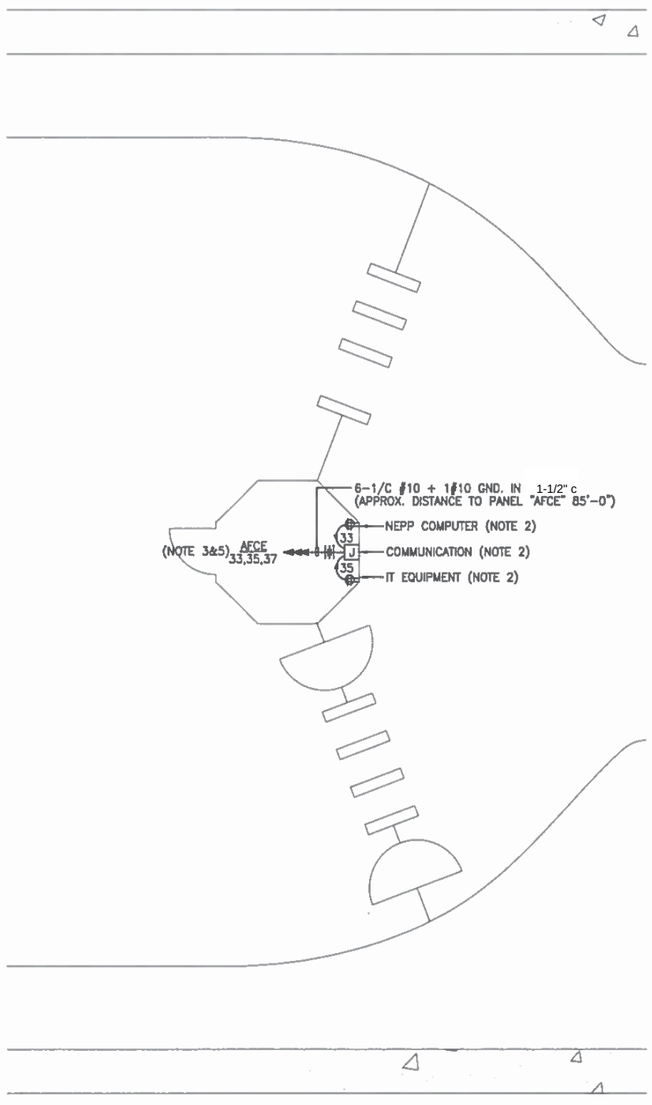
DESIGNED C. NGO 07-14 DATE	REFERENCE DRAWINGS: NUMBER / DESCRIPTION	REVISIONS: DATE / BY / DESCRIPTION	WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY
DRAWN C. NGO 07-14 DATE			DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM
CHECKED B. IDILBI 07-14 DATE			APPROVED
APPROVED N/A DATE			GFP A Gannett Fleming/Parsons JOINT VENTURE — SUBMITTED PROJECT MANAGER

NEW ELECTRONIC PAY PROGRAM (NEPP) IN METRORAIL STATIONS
ABBREVIATIONS, DRAWING INDEX, SPECIFICATIONS & SYMBOL LIST

SCALE: NOT TO SCALE | DRAWING NO.: B02-E-001



WEST MEZZANINE KIOSK - POWER
SCALE: 1/4" = 1'- 0"



EAST MEZZANINE KIOSK - POWER
SCALE: 1/4" = 1'- 0"

DRAWING NOTES:

1. USE EXISTING UNDER FLOOR DUCT FOR POWER WIRING. ALL OUTSIDE FLOOR DUCT WIRING SHALL BE IN CONDUIT.
2. VERIFY WITH WMATA PERSONNEL FOR LOCATION OF RECEPTACLES & JUNCTION BOXES.
3. AT AVAILABLE CIRCUIT BREAKER SPACE PROVIDE 3-NEW 20A, 1P CIRCUIT BREAKERS IN THE EXISTING AVAILABLE SPACE FOR CIRCUIT #33, #35 & #37, NEW CB SHALL MATCH EXISTING CB IN EXISTING PANEL "EF", CONNECT NEW CIRCUITS TO THESE BREAKERS. SEE PANEL SCHEDULE ON DWG. A01-E-102.
4. CONNECT CIRCUIT #25, #27 & #29 TO EXISTING 20A, 1P SPARE CIRCUIT BREAKERS IN THE EXISTING PANEL "WFT", SEE PANEL SCHEDULE ON DWG. A01-E-102.
5. PROVIDE A ROUGH-IN CIRCUIT FOR FUTURE AFC FARE GATE COILED AT THE KIOSK. THE LENGTH OF COILED PIGTAIL SHALL BE THE FARTHEST FARE GATE DISTANCE FROM KIOSK PLUS AN EXTRA 6'0" CONDUCTOR.

SAFETY PRECAUTION:

1. ALL WORK SHALL COMPLY WITH WMATA SAFETY RULES, AND DE-ENERGIZATION POLICIES.

DESIGNED C. NGO 07-14 DATE
DRAWN C. NGO 07-14 DATE
CHECKED B. IDILBI 07-14 DATE
APPROVED N/A DATE

REFERENCE DRAWINGS	
NUMBER	DESCRIPTION

REVISIONS		
DATE	BY	DESCRIPTION

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY
DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES
OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM
APPROVED

GFP A Gannett Fleming/Parsons JOINT VENTURE
SUBMITTED PROJECT MANAGER

CONTRACT NO. 14-FQ10060-CENI-24

NEW ELECTRONIC PAY PROGRAM (NEPP) IN METRORAIL STATIONS
JUDICIARY SQUARE EAST & WEST MEZZANINE KIOSK - POWER

SCALE: AS SHOWN
DRAWING NO.: B02-E-101

EXISTING PANEL "AFCW"

AMPERES: 225	VOLTS: 120/208			MOUNTING: SURFACE						
MAINS: 225A MLO	PHASE: 3			LOCATION: MECH. EQUIPMENT ROOM 205						
RATING: 10K AIC	WIRE: 4			SECTION: 1 OF 1						
		CKT BKRS		CKT.		CKT.	CKT BKRS			
LOAD DESCRIPTION	KVA	AMP	POLE	NO.		NO.	POLE	AMP	KVA	LOAD DESCRIPTION
EXISTING VENDOR	0.8	20	1	1	A - -	2	1	20	0.8	EXISTING VENDOR
SPARE	0.8	20	1	3	- B -	4	1	20	0.8	EXISTING VENDOR
SPARE	0.8	20	1	5	- - C	6	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	7	A - -	8	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	9	- B -	10	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	11	- - C	12	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	13	A - -	14	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	15	- B -	16	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	17	- - C	18	1	20	0.0	SPARE
SPARE	0.0	20	1	19	A - -	20	1	20	0.0	SPARE
SPARE	0.0	20	1	21	- B -	22	1	20	0.0	SPARE
EXISTING VENDOR	0.8	20	1	23	- - C	24	1	20	0.0	SPARE
NEW KIOSK RECEPT. (IT & NCS)	0.8	20	1	25	A - -	26	1	20	0.0	SPARE
NEW KIOSK RECEPT. (NEPP/SOC)	0.8	20	1	27	- B -	28	1	20	0.0	SPARE
FUTURE AFC FARE GATE	0.0	20	1	29	- - C	30	1	20	0.0	SPARE
SPARE	0.0	20	1	31	A - -	32	1	20	0.0	SPARE
SPARE	0.0	20	1	33	- B -	34	1	20	0.0	SPARE
SPARE	0.0	20	1	35	- - C	36	1	20	0.0	SPARE
SPARE	0.0	20	1	37	A - -	38	3	30	2.9	EXIST. KIOSK LOAD CENTER "KES"
SPARE	0.0	20	1	39	- B -	40	-	-	2.5	
SPARE	0.0	20	1	41	- - C	42	-	-	2.5	

LOAD SUMMARY

LIGHTS	0.0 x 125%		0.0 KVA
RECEPTACLES, FIRST 10 KVA	10.0 x 100%		10.0 KVA
RECEPTACLES	5.6 x 50%		2.8 KVA
MISC. APPLIANCES	0.0 x 100%		0.0 KVA
LARGEST MOTOR	0.0 x 125%		0.0 KVA
MOTORS	0.0 x 100%		0.0 KVA
HEAT	3.0 x 125%		3.8 KVA
AC	4.5 x 100%		4.5 KVA
WATER HEATING	0.0 x 125%		0.0 KVA
TOTAL CONNECTED LOAD	**23.1 KVA**	**TOTAL DEMAND KVA**	**21.1 KVA**
		TOTAL DEMAND AMPS	**58.5 AMPS**
CONNECTED LOAD PHASE SUMMARY			
PHASE A:	**8.5 KVA**		
PHASE B:	**8.1 KVA**		
PHASE C:	**7.3 KVA**		

NOTES: A. EXISTING PANEL "AFCW" IS FED FROM 277/480V, 3ø, 4W EXISTING SWITCHBOARD "WB" LOCATED IN AC SWBD. RM. 105, CIRCUIT (B02-WB-04) #4-100A/3P VIA 75KVA TRANSFORMER (SEE ATTACHED DWG. MM-B-E08).

B. EXISTING WIRING FED FROM TOP OF PANEL BY:
- 1-1/2" C. (WIRING FILL >40%).
- 1-3/4" C. (WIRING FILL >40%).

EXISTING WIRING FED FROM BOTTOM OF PANEL BY:
- 1-4" C. TO TRANSFORMER (WIRING FILL >40%).

EXISTING WIRING FED FROM RIGHT SIDE OF PANEL BY:
- 2-1 1/2" C. (WIRING FILL >40%).

EXISTING PANEL "AFCE"

AMPERES: 225	VOLTS: 120/208			MOUNTING: SURFACE						
MAINS: 225A MLO	PHASE: 3			LOCATION: MECHANICAL EQUIPMENT ROOM 204						
RATING: 10K AIC	WIRE: 4			SECTION: 1 OF 1						
		CKT BKRS		CKT.		CKT.	CKT BKRS			
LOAD DESCRIPTION	KVA	AMP	POLE	NO.		NO.	POLE	AMP	KVA	LOAD DESCRIPTION
EXISTING VENDOR	0.8	20	1	1	A - -	2	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	3	- B -	4	1	20	0.0	SPARE
SPACE	0.0	-	-	5	- - C	6	-	-	0.0	SPACE
EXISTING VENDOR	0.8	20	1	7	A - -	8	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	9	- B -	10	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	11	- - C	12	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	13	A - -	14	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	15	- B -	16	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	17	- - C	18	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	19	A - -	20	1	20	0.0	SPARE
SPARE	0.0	20	1	21	- B -	22	1	20	0.0	SPARE
EXISTING VENDOR	0.8	20	1	23	- - C	24	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	25	A - -	26	1	20	0.0	SPARE
EXISTING VENDOR	0.8	20	1	27	- B -	28	1	20	0.0	SPARE
EXISTING VENDOR	0.8	20	1	29	- - C	30	-	-	0.0	SPACE
SPACE	0.0	20	1	31	A - -	32	1	20	0.0	SPARE
NEW KIOSK RECEPT. (IT & NCS)	0.8	20	1	33	- B -	34	-	-	0.0	SPACE
NEW KIOSK RECEPT. (NEPP/SOC)	0.8	20	1	35	- - C	36	1	20	0.0	SPARE
FUTURE AFC FARE GATE	0.0	20	1	37	A - -	38	3	30	0.0	SPARE
SPARE	0.0	20	1	39	- B -	40	-	-	0.0	SPACE
EXISTING VENDOR	0.8	20	1	41	- - C	42	-	-	0.0	

LOAD SUMMARY

LIGHTS	0.0 x 125%		0.0 KVA
RECEPTACLES, FIRST 10 KVA	10.0 x 100%		10.0 KVA
RECEPTACLES	8.4 x 50%		4.2 KVA
MISC. APPLIANCES	0.0 x 100%		0.0 KVA
LARGEST MOTOR	0.0 x 125%		0.0 KVA
MOTORS	0.0 x 100%		0.0 KVA
HEAT	0.0 x 125%		0.0 KVA
AC	0.0 x 100%		0.0 KVA
WATER HEATING	0.0 x 125%		0.0 KVA
TOTAL CONNECTED LOAD	**18.4 KVA**	**TOTAL DEMAND KVA**	**14.2 KVA**
		TOTAL DEMAND AMPS	**39.4 AMPS**
CONNECTED LOAD PHASE SUMMARY			
PHASE A:	**6.4 KVA**		
PHASE B:	**5.8 KVA**		
PHASE C:	**7.2 KVA**		

NOTES: A. EXISTING PANEL "AFCE" IS FED FROM 277/480V, 3ø, 4W EXISTING SWITCHBOARD "EB" LOCATED IN AC SWBD RM. 110, CIRCUIT (B02-EB-04) #4-100A/3P VIA 75KVA TRANSFORMER (SEE ATTACHED DWG. MM-B-E08).

B. EXISTING WIRING FED FROM TOP OF PANEL BY:
- 3-1/2" C. (WIRING FILL >40%).

EXISTING WIRING FED FROM BOTTOM OF PANEL BY:
- 1-6"x 12" WIRE TROUGH W/2" C. TO TRANSFORMER (WIRING FILL >40%).

EXISTING WIRING FED FROM RIGHT SIDE OF PANEL BY:
- 2-1 1/2" C. (WIRING FILL >40%).

CONTRACT NO.
14-FQ10060-CENI-24

DESIGNED C. NGO 07-14 DATE
DRAWN C. NGO 07-14 DATE
CHECKED B. IDILBI 07-14 DATE
APPROVED N/A DATE

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

DATE	BY	DESCRIPTION

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES
OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM

APPROVED

GFP A Gannett Fleming/Parsons JOINT VENTURE

SUBMITTED PROJECT MANAGER

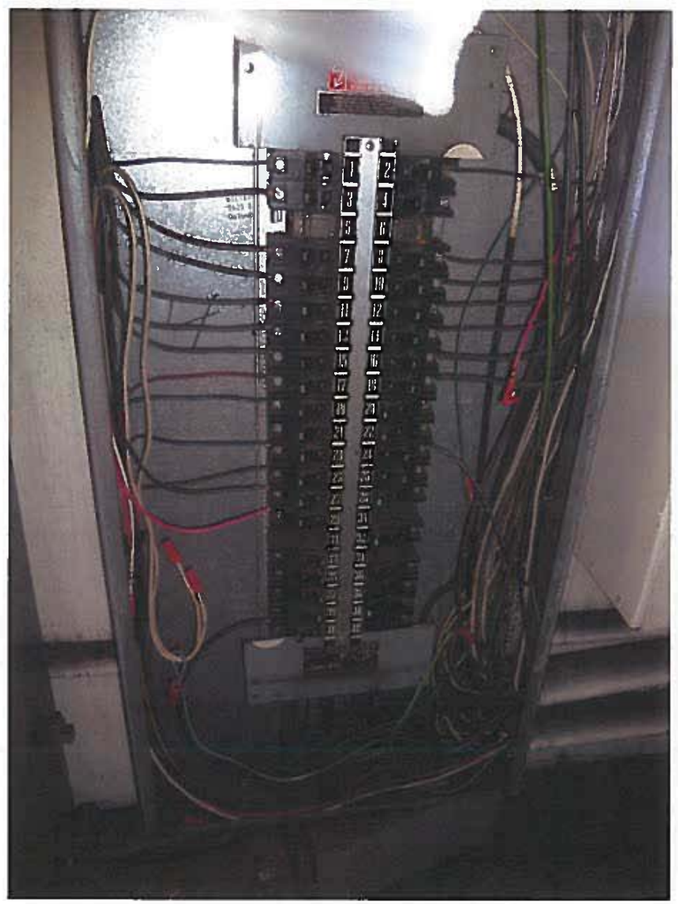
NEW ELECTRONIC PAY PROGRAM (NEPP) IN METRORAIL STATIONS
JUDICIARY SQUARE EAST & WEST
PANEL SCHEDULES

SCALE: NOT TO SCALE

DRAWING NO.: B02-E-102

EXISTING PANEL "AFCE"

EXISTING PANEL "AFCE"



EXISTING PANEL "AFCE"

CONTRACT NO.
14-FQ10060-CENI-24

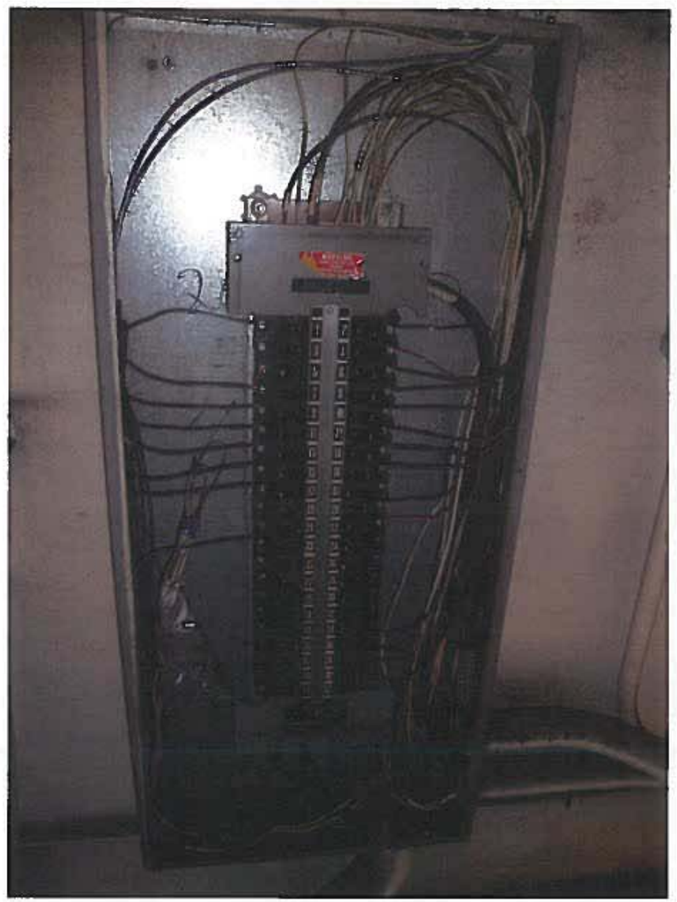
DESIGNED C. NGO 07-14 DATE	REFERENCE DRAWINGS	REVISIONS	WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY
DRAWN C. NGO 07-14 DATE	NUMBER / DESCRIPTION	DATE / BY / DESCRIPTION	DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM
CHECKED B. IDILBI 07-14 DATE			APPROVED
APPROVED N/A DATE			GFP A Gannett Fleming/Parsons JOINT VENTURE SUBMITTED PROJECT MANAGER

NEW ELECTRONIC PAY PROGRAM (NEPP)
IN METRORAIL STATIONS
JUDICIARY SQUARE EAST & WEST
PANELBOARD IMAGE

SCALE: NOT TO SCALE
DRAWING NO.: B02-E-301

EXISTING PANEL "AFCW"

EXISTING PANEL "AFCW"



EXISTING PANEL "AFCW"

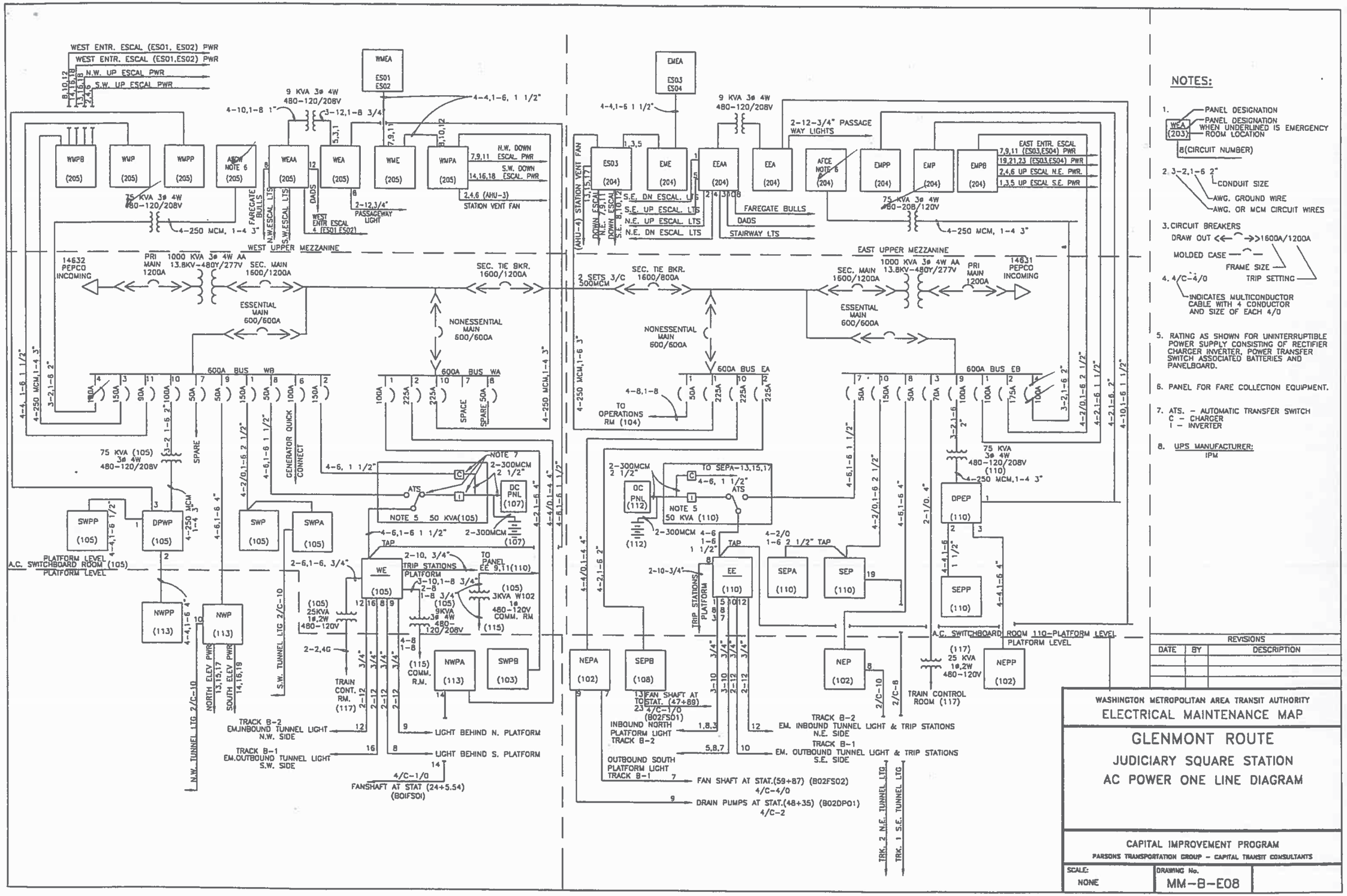
CONTRACT NO.
14-FQ10060-CENI-24

DESIGNED C. NGO 07-14 DATE DRAWN C. NGO 07-14 DATE CHECKED B. IDILBI 07-14 DATE APPROVED N/A DATE	REFERENCE DRAWINGS NUMBER / DESCRIPTION	REVISIONS DATE / BY / DESCRIPTION	WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM APPROVED _____

GFP A Gannett Fleming/Parsons JOINT VENTURE
SUBMITTED _____ PROJECT MANAGER

NEW ELECTRONIC PAY PROGRAM (NEPP)
IN METRORAIL STATIONS
JUDICIARY SQUARE EAST & WEST
PANELBOARD IMAGE

SCALE: NOT TO SCALE
DRAWING NO.: B02-E-302



NOTES:

1. WCA (203) — PANEL DESIGNATION; PANEL DESIGNATION WHEN UNDERLINED IS EMERGENCY ROOM LOCATION; 8 (CIRCUIT NUMBER)
2. 3-2,1-6 2" — CONDUIT SIZE; AWG. GROUND WIRE; AWG. OR MCM CIRCUIT WIRES
3. CIRCUIT BREAKERS — DRAW OUT; MOLDED CASE; FRAME SIZE; TRIP SETTING; 1600A/1200A
4. 4/C-4/0 — INDICATES MULTICONDUCTOR CABLE WITH 4 CONDUCTOR AND SIZE OF EACH 4/0
5. RATING AS SHOWN FOR UNINTERRUPTIBLE POWER SUPPLY CONSISTING OF RECTIFIER CHARGER INVERTER, POWER TRANSFER SWITCH ASSOCIATED BATTERIES AND PANELBOARD.
6. PANEL FOR FARE COLLECTION EQUIPMENT.
7. ATS. – AUTOMATIC TRANSFER SWITCH; C – CHARGER; I – INVERTER
8. UPS MANUFACTURER: IPM

REVISIONS		
DATE	BY	DESCRIPTION

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

ELECTRICAL MAINTENANCE MAP

GLENMONT ROUTE

JUDICIARY SQUARE STATION

AC POWER ONE LINE DIAGRAM

CAPITAL IMPROVEMENT PROGRAM

PARSONS TRANSPORTATION GROUP – CAPITAL TRANSIT CONSULTANTS

SCALE:	DRAWING No.	
NONE	MM-B-E08	

ELECTRICAL SPECIFICATIONS

1. ALL WORK, MATERIAL AND EQUIPMENT SHALL COMPLY WITH THE LATEST NATIONAL ELECTRICAL CODE BEING USED BY THE LOCAL JURISDICTION AND SHALL COMPLY WITH ALL LOCAL CODES AND ORDINANCES.
2. MATERIALS AND EQUIPMENT SHALL BE NEW EXCEPT WHERE INDICATED OTHERWISE. ALL OTHER WIRING DEVICES, CONDUIT, WIRE, ETC. SHALL BE NEW UNLESS NOTED OTHERWISE.
3. ALL MATERIALS AND EQUIPMENT SHALL BEAR U.L. LISTING.
4. MAINTAIN GROUNDING CONTINUITY TO ALL DEVICES AND EQUIPMENT IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.
5. WORK NOT SPECIFICALLY SPECIFIED OR INDICATED SHALL CONFORM WITH SPECIFICATIONS.
6. ALL CONDUITS SHALL BE RUN CONCEALED IN UNDER FLOOR DUCT.
7. ALL WIRE AND CABLE SHALL BE COPPER HAVING 600 VOLTS XHHW-2 OR RHW-2 INSULATIONS. PROVIDE #12 WIRE MINIMUM, UNLESS OTHERWISE NOTED. ALL CABLES SHALL BE LOW SMOKE ZERO HALOGEN CABLE.
8. THE CONTRACTOR SHALL VISIT THE SITE AND EXAMINE THE CONDITION OF THE PREMISES AND THE CHARACTER AND EXTENT OF WORK REQUIRED PRIOR TO SUBMISSION OF BIDS.
9. OBTAIN ALL PERMITS AND PAY ALL FEES NECESSARY FOR INSPECTIONS, TESTS & OTHER SERVICES REQUIRED FOR THE COMPLETION OF THIS WORK.
10. ALL WORK SHALL BE DONE AT SUCH TIMES AND IN SUCH A MANNER THAT WILL LEAST INTERFERE WITH THE MAINTENANCE AND OPERATION OF ALL RELATED OR AFFECTED SYSTEMS. COORDINATE ALL POWER OUTAGES WITH WMATA PROJECT MANAGER.
11. IT IS THE INTENT OF THESE DRAWINGS AND OTHER RELATED DOCUMENTS TO PRODUCE A COMPLETE AND FUNCTIONING ELECTRICAL SYSTEM. PROVIDE ALL LABOR, MATERIAL AND OTHER SERVICES NECESSARY TO ACHIEVE THIS PRODUCT. NOTIFY THE ENGINEER OF ANY DISCREPANCIES IN THE PLANS & SPECIFICATIONS THAT WILL AFFECT THE WORK, PRIOR TO SUBMISSION OF THE BID PRICE.
12. IF, DURING THE COURSE OF THE WORK, THE CONTRACTOR EXPERIENCES A CONFLICT RELATIVE TO THE PLANS AND SPECIFICATIONS, THE NEC OR OTHER APPLICABLE CODES AND GOVERNING DOCUMENTS, HE SHALL NOTIFY THE ENGINEER FOR DIRECTION PRIOR TO EXECUTION OF THIS WORK. ANY WORK INSTALLED IN VIOLATION OF THE CONTRACT DOCUMENT OR APPLICABLE CODES WHICH COULD HAVE BEEN AVOIDED BY CONTACTING THE ENGINEER SHALL BE RECTIFIED AT NO ADDITIONAL COST.
13. ELECTRICAL PLANS ARE DIAGRAMMATIC & INDICATE GENERAL ARRANGEMENT OF SYSTEMS AND WORK. CHECK DRAWINGS OF OTHER TRADES TO VERIFY SPACE CONDITIONS, ETC. MAINTAIN WORKING CLEARANCES.
14. CIRCUIT NUMBERS ARE FOR IDENTIFICATION PURPOSES ONLY. THE CONTRACTOR IS RESPONSIBLE FOR CORRECTLY PHASING THE CIRCUITS IN THE PANEL AND SHALL BALANCE THE LOAD ON THE PHASES UNDER NORMAL OPERATING CONDITIONS. PROVIDE TYPEWRITTEN PANELBOARD DIRECTORIES. BALANCE THE PHASE LOADS TO WITHIN 20 PERCENT OF EACH OTHER.
15. INCREASE ALL BRANCH CIRCUIT CONDUCTORS TO THE NEXT LARGER SIZE FROM THE PANEL TO THE FIRST OUTLET WHERE THE LENGTH OF THE HOMERUN EXCEEDS 100FT. ON 120/208V CIRCUITS.
16. PROVIDE A PULLWIRE OR FISHTAPE/CORD IN ALL EMPTY CONDUIT RUNS.
17. VERIFY WIRE SIZES, CIRCUIT BREAKERS AND FUSES RATINGS FOR ALL EQUIPMENT, AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES AFFECTING THE WORK PRIOR TO PROCEEDING.
18. ALL PANELS IMPACTED BY THIS PROJECT SHALL BE PROVIDED WITH NEW, UPDATED TYPEWRITTEN PANEL SCHEDULES (FOR NEW AND EXISTING CIRCUITS) INDICATING THE FINAL ROOM NUMBER AND THE EQUIPMENT OR DEVICES SERVED BY THE CIRCUITS.
19. DEMOLITION OF EXISTING WORK SHALL BE PERFORMED AFTER HOURS. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE WMATA PROJECT MANAGER PRIOR TO PERFORMING ALL THE WORK. THE TIME OF DAY OR EVENING SHALL BE DESIGNATED BY THE WMATA PROJECT MANAGER.
20. ALL WIRING SHALL BE IN CONDUIT, MINIMUM SIZE 3/4 INCH WITH LARGER SIZES AS INDICATED OR REQUIRED BY NEC. ALL CONDUITS SHALL BE RIGID GALVANIZED STEEL THREADED COUPLING FOR COMPLETE WATER PROOF INSTALLATION.
21. AT JOB COMPLETION, AND BEFORE FINAL ACCEPTANCE BY WMATA, TEST EACH RECEPTACLE AND PANELBOARD FOR PROPER OPERATION. WIRING SHALL BE TESTED FOR CONTINUITY, SHORTS, ETC... ALL WORK AREAS, ETC.. SHALL BE CLEANED AT THE COMPLETION OF THIS PROJECT.
22. FOR DEVICE IDENTIFICATION, THE ELECTRICAL CONTRACTOR SHALL LABEL ALL PANELBOARDS, JUNCTION BOXES, ETC..TO INDICATE THE NAME, VOLTAGE, SERVING EQUIPMENT AND ITEM SERVED ETC... LABELS FOR EMERGENCY CIRCUITS SHALL BE IN RED, NORMAL CIRCUITS SHALL BE IN BLACK. ALL DEVICES SHALL BE IDENTIFIED EITHER ON THE FACE OF THE COVERPLATE OR INSIDE PER WMATA PREFERENCE. ALL JUNCTION BOXES SHALL BE LABELED TO INDICATE THE CIRCUITS CONTAINED BY THE JUNCTION BOX.
23. THE CONTRACTOR SHALL UPDATE THE SCHEDULES OF ALL PANELBOARDS AFFECTED BY THIS PROJECT TO REFLECT CHANGES DUE TO THE PROJECT WORK. PANEL SCHEDULE LOAD DESCRIPTIONS ARE TO INCLUDE THE FINAL ROOM OR AREA NUMBERS.
24. INCLUDE GPR FOR ANY CORE DRILLS OR DRILLED PENETRATIONS IN ANY WALLS.
25. SEAL OFF ALL PENETRATIONS THRU WALLS/FLOORS.
26. THE CONTRACTOR SHALL BECOME FAMILIAR WITH WMATA DESIGN CRITERIA SECTION 4 AND SECTION 13; WMATA SPECIFICATION SECTION 16120, 16130, AND 16125. ALL INSTALLATION SHALL BE IN COMPLIANCE WITH THE NEC, WMATA DESIGN CRITERIA, AND SPECIFICATIONS.
27. THE CONTRACTOR SHALL IDENTIFY SPARE CIRCUIT WITH "RESERVED FOR AFC".
28. EXISTING SWITCHBOARDS, PANELBOARDS AND EQUIPMENT SHOWN IS BASED ON RECORD DRAWINGS AND CASUAL FIELD SURVEY. CONTRACTOR SHALL VERIFY ALL ELECTRICAL EQUIPMENT IN FIELD.
29. The conduit utilized for this project shall be 1-1/2" min. or larger as indicated. The liquid tight utilized for the kiosk shall be 1-1/2" from the entry to the 8x8 junction box, then 1" from the junction box to the quads. All boxes used in or on the kiosk shall be NEMA 4x.

ABBREVIATIONS

A, AMP	AMPERES
AC	ALTERNATING CURRENT
AF	AMPERE FRAME
AFC	AUTOMATED FARE COLLECTION SYSTEM
AFF	ABOVE FINISHED FLOOR
AIC	AMPERE INTERRUPTING CAPACITY
AT	AMPERE TRIP
BKR	BREAKER
C	CONDUIT
CB	CIRCUIT BREAKER
CCT	CIRCUIT
℄	CENTER LINE
CLG	CEILING
CONST	CONSTRUCTION
DISC	DISCONNECT
E	ELECTRICAL
GND	GROUND
JB	JUNCTION BOX
KAIC	THOUSAND AMPERE INTERRUPTING CAPACITY
KCMIL	THOUSAND CIRCULAR MILL
KVA	KILOVOLT AMPERE
MAX	MAXIMUM
MCA	MINIMUM CIRCUIT AMPERE
MCB	MAIN CIRCUIT BREAKER
MEZZ	MEZZANINE
MIN	MINIMUM
MLO	MAIN LUGS ONLY
NEC	NATIONAL ELECTRIC CODE
P	POLE
PH	PHASE
PNL	PANELBOARD
PRI	PRIMARY
PROP	PROPOSED
RGS	RIGID GALVANIZED STEEL
SEC	SECONDARY
SHT	SHEET
SW	SWITCH
SWBD	SWITCHBOARD
TYP	TYPICAL
U/G	UNDER GROUND
U.L.	UNDERWRITERS LABORATORIES
UON	UNLESS OTHERWISE NOTED
VOLT	VOLTAGE
W	WATT
WMATA	WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY
WP	WEATHERPROOF

DRAWING INDEX

ELECTRICAL SYMBOL LIST

- QUADRUPLEX RECEPTACLE OUTLET– 20A, 125V WALL MOUNTED.
- J — JUNCTION BOX – SURFACE MOUNTED ON UNISTRUT CHANNEL
- CONDUIT – CONCEALED IN UNDER FLOOR DUCT U.O.N.
- #10-3/4 / EE 3,5 — HOMERUN TO PANEL, NUMBER OF ARROWHEADS INDICATES NUMBER OF CIRCUITS. CROSS HATCHING INDICATES NUMBER OF CONDUCTORS, NUMBER INDICATES SIZE OF CONDUCTOR AND SIZE OF CONDUIT
- ⏚ – INDICATES GROUNDING WIRE TO GROUNDING BUS AT THE PANELBOARD
- EE 1,3 – INDICATES CIRCUIT HOME RUN PANELBOARD AND CIRCUIT NUMBER IDENTIFICATION

CONTRACT NO.
14-FQ10060-CENI-24

DESIGNED	C. NGO	07-14 DATE
DRAWN	C. NGO	07-14 DATE
CHECKED	B. IDLIB	07-14 DATE
APPROVED	N/A	DATE

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

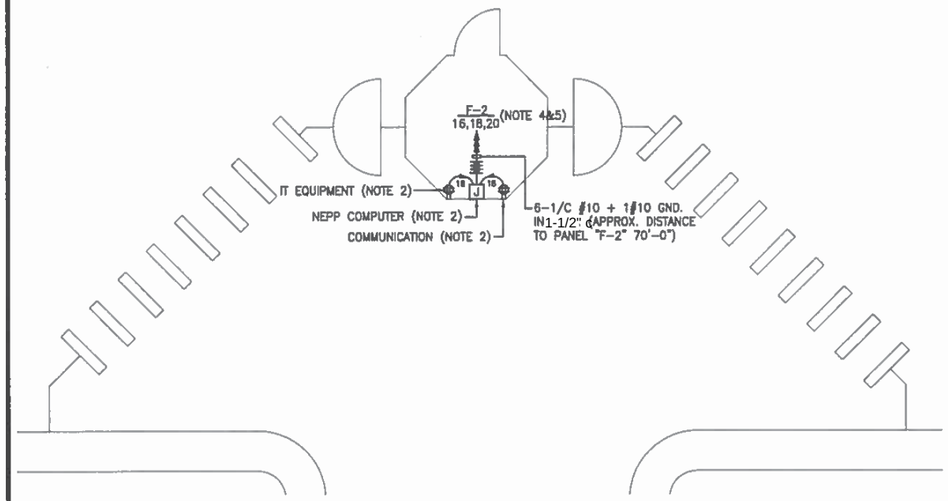
DATE	BY	DESCRIPTION

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY
DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES
OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM
APPROVED

GFP A Gannett Fleming/Parsons JOINT VENTURE
SUBMITTED
PROJECT MANAGER

NEW ELECTRONIC PAY PROGRAM (NEPP) IN METRORAIL STATIONS
ABBREVIATIONS, DRAWING INDEX, SPECIFICATIONS & SYMBOL LIST

SCALE: NOT TO SCALE
DRAWING NO.: B03-E-001



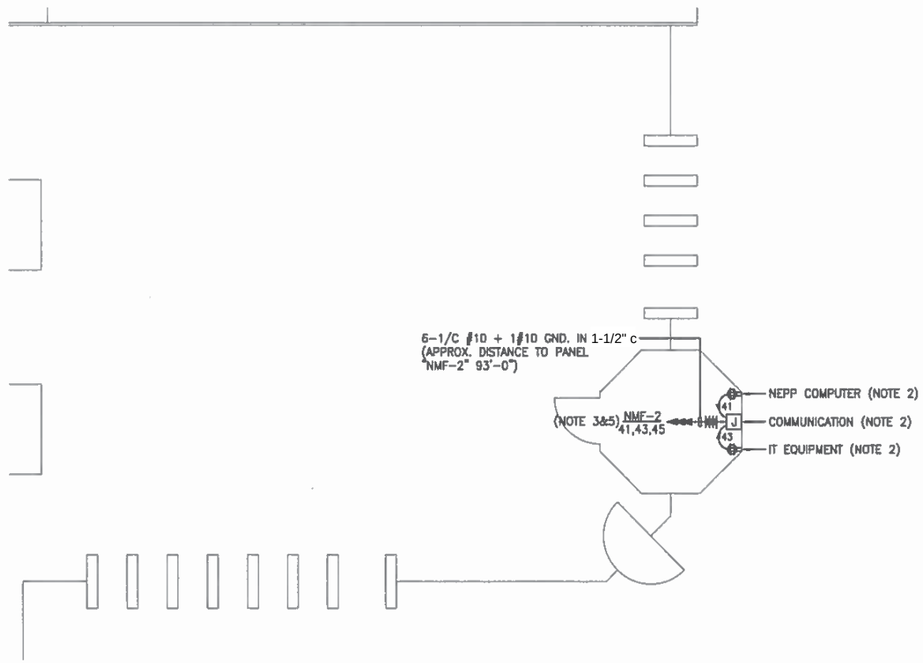
SOUTH KIOSK - POWER
SCALE: 1/4" = 1'- 0"

DRAWING NOTES:

1. USE EXISTING UNDER FLOOR DUCT FOR POWER WIRING. ALL OUTSIDE FLOOR DUCT WIRING SHALL BE IN CONDUIT.
2. VERIFY WITH WMATA PERSONNEL FOR LOCATION OF RECEPTACLES & JUNCTION BOXES.
3. CONNECT CIRCUIT #41 #43 & #45 TO EXISTING 20A, 1P SPARE CIRCUIT BREAKERS IN THE EXISTING PANEL "NMF-2", SEE PANEL SCHEDULE ON DWG. B03-E-102.
4. CONNECT CIRCUIT #16, #18 & #20 TO EXISTING 20A, 1P SPARE CIRCUIT BREAKERS IN THE EXISTING PANEL "F-2", SEE PANEL SCHEDULE ON DWG. B03-E-102.
5. PROVIDE A ROUGHIN CIRCUIT FOR FUTURE AFC FARE GATE COILED AT THE KIOSK. THE LENGTH OF COILED PIGTAIL SHALL BE THE FARTHEST FARE GATE DISTANCE FROM KIOSK PLUS AN EXTRA 6'-0" CONDUCTOR.

SAFETY PRECAUTION:

1. ALL WORK SHALL COMPLY WITH WMATA SAFETY RULES, AND DE-ENERGIZATION POLICIES.



NORTH KIOSK - POWER
SCALE: 1/4" = 1'- 0"

CONTRACT NO.
14-FQ10060-CENI-24

DESIGNED C. NGO 07-14 DATE	REFERENCE DRAWINGS: NUMBER / DESCRIPTION	REVISIONS: DATE / BY / DESCRIPTION
DRAWN C. NGO 07-14 DATE		
CHECKED B. IDILBI 07-14 DATE		
APPROVED N/A DATE		

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY
DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES
OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM
APPROVED

GFP A Gannett Fleming/Parsons JOINT VENTURE
SUBMITTED PROJECT MANAGER

NEW ELECTRONIC PAY PROGRAM (NEPP) IN METRORAIL STATIONS
UNION STATION - NORTH & SOUTH
KIOSK - POWER

SCALE: AS SHOWN
DRAWING NO.: B03-E-101

EXISTING PANEL "F-2"

AMPERES: 100	VOLTS: 120/208			MOUNTING: SURFACE						
MAINS: 70A	PHASE: 3			LOCATION: C200 FIRE EQUIPMENT CABINET						
RATING: 10K AIC	WIRE: 4			SECTION: 1 OF 1						
		CKT BKRS		CKT.		CKT.	CKT BKRS			
LOAD DESCRIPTION	KVA	AMP	POLE	NO.		NO	POLE	AMP	KVA	LOAD DESCRIPTION
EXISTING VENDOR	0.0	60	2	1	A - -	2	3	100	2.9	MAIN
	0.0	-	-	3	- B -	4	-	-	2.5	
EXISTING VENDOR	0.0	20	1	5	- - C	6	-	-	2.5	
EXISTING VENDOR	0.8	20	1	7	A - -	8	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	9	- B -	10	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	11	- - C	12	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	13	A - -	14	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	15	- B -	16	1	20	0.8	NEW KIOSK RECEPT. (IT & NCS)
EXISTING VENDOR	0.8	20	1	17	- - C	18	1	20	0.8	NEW KIOSK RECEPT. (NEPP/SOC)
SPARE	0.0	20	1	19	A - -	20	1	20	0.0	FUTURE AFC FARE GATE
SPARE	0.0	20	1	21	- B -	22	1	20	0.0	SPARE
SPACE	0.0	20	1	23	- - C	24	1	20	0.0	SPARE
SPACE	0.0	20	1	25	A - -	26	1	20	0.0	SPARE
SPACE	0.0	20	1	27	- B -	28	1	20	0.0	SPARE
SPACE	0.0	20	1	29	- - C	30	-	-	0.0	SPACE

LOAD SUMMARY

LIGHTS	0.0 x 125%		0.0 KVA
RECEPTACLES, FIRST 10 KVA	9.2 x 100%		9.2 KVA
RECEPTACLES	0.0 x 50%		0.0 KVA
MISC. APPLIANCES	0.0 x 100%		0.0 KVA
LARGEST MOTOR	0.0 x 125%		0.0 KVA
MOTORS	0.0 x 100%		0.0 KVA
HEAT	3.0 x 125%		3.8 KVA
AC	4.5 x 100%		4.5 KVA
WATER HEATING	0.0 x 125%		0.0 KVA
TOTAL CONNECTED LOAD	16.7 KVA	TOTAL DEMAND KVA	17.5 KVA
		TOTAL DEMAND AMPS	48.5 AMPS
CONNECTED LOAD PHASE SUMMARY			
PHASE A:	6.1 KVA		
PHASE B:	5.7 KVA		
PHASE C:	5.7 KVA		

NOTES: A. THE EXISTING PANEL "F-2" IS FED FROM 277/480V, 3ø, 4W EXISTING SWBD. "SGB" LOCATED IN AC SWBD ROOM 109 CIRCUIT (B03-SGB-04) #4-100/3P VIA 75 KVA TRANSFORMER (SEE ATTACHED DWG. MM-B-E10).

B. EXISTING WIRING FED FROM BOTTOM OF PANEL BY:
- 1-8"x 36" WIRE TROUGH (WIRING FILL >40%).
- 2-4" C. (WIRING FILL >40%).

EXISTING WIRING FED FROM TOP OF PANEL BY:
- 1-3" C. TO TRANSFORMER (WIRING FILL >40%).

EXISTING PANEL "NMF-2"

AMPERES: 225	VOLTS: 120/208			MOUNTING: SURFACE						
MAINS: 100A	PHASE: 3			LOCATION: ROOM 214						
RATING: 10K AIC	WIRE: 4			SECTION: 1 OF 1						
		CKT BKRS		CKT.		CKT.	CKT BKRS			
LOAD DESCRIPTION	KVA	AMP	POLE	NO.		NO.	POLE	AMP	KVA	LOAD DESCRIPTION
SPACE	0.0	-	-		A - -		3	100	0.0	MAIN
	0.0	-	-		- B -	26	-	-	0.0	
	0.0	-	-		- - C		-	-	0.0	
EXISTING VENDOR	0.8	20	3		A - -	28	1	20	0.8	EXISTING VENDOR
	0.8	-	-	27	- B -	30	1	20	0.8	EXISTING VENDOR
	0.8	-	-		- - C	32	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	29	A - -	34	2	50	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	31	- B -	36	-	-	0.8	
EXISTING VENDOR	0.8	20	1	33	- - C	38	2	30	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	35	A - -	40	-	-	0.8	
EXISTING VENDOR	0.8	20	1	37	- B -	42	3	50	2.9	EXIST. LOAD CENTER "KES"
EXISTING VENDOR	0.8	20	1	39	- - C	44	-	-	2.5	
NEW KIOSK RECEPT. (IT & NCS)	0.8	20	1	41	A - -	46	-	-	2.5	
NEW KIOSK RECEPT. (NEPP/SOC)	0.8	20	1	43	- B -	48	-	-	0.0	SPACE
FUTURE AFC FARE GATE	0.0	20	1	45	- - C	50	-	-	0.0	SPACE

LOAD SUMMARY

LIGHTS	0.0 x 125%		0.0 KVA
RECEPTACLES, FIRST 10 KVA	10.0 x 100%		10.0 KVA
RECEPTACLES	4.0 x 50%		2.0 KVA
MISC. APPLIANCES	0.0 x 100%		0.0 KVA
LARGEST MOTOR	0.0 x 125%		0.0 KVA
MOTORS	0.0 x 100%		0.0 KVA
HEAT	3.0 x 125%		3.8 KVA
AC	4.5 x 100%		4.5 KVA
WATER HEATING	0.0 x 125%		0.0 KVA
TOTAL CONNECTED LOAD	21.5 KVA	TOTAL DEMAND KVA	20.3 KVA
		TOTAL DEMAND AMPS	56.3 AMPS
CONNECTED LOAD PHASE SUMMARY			
PHASE A:	8.1 KVA		
PHASE B:	7.7 KVA		
PHASE C:	6.5 KVA		

NOTES: A. THE EXISTING PANEL "NMF-2" IS FED FROM 277/480V, 3ø, 4W EXISTING SWBD. "NGB" LOCATED IN AC SWBD ROOM 102, CIRCUIT (B03-NGB-03) #3-100/3P VIA 50 KVA TRANSFORMER (SEE ATTACHED DWG. MM-B-E10).

B. EXISTING WIRING FED FROM BOTTOM OF PANEL BY:
- 1-8"x 36" WIRE TROUGH (WIRING FILL >40%).
- 2-4" C. (WIRING FILL >40%).

EXISTING WIRING FED FROM TOP OF PANEL BY:
- 1-2" C. TO TRANSFORMER (WIRING FILL >40%).
- 1-3/4" C. (WIRING FILL >40%).

CONTRACT NO. 14-FQ10060-CENI-24

DESIGNED C. NGO 07-14 DATE
DRAWN C. NGO 07-14 DATE
CHECKED B. IDILBI 07-14 DATE
APPROVED N/A DATE

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

DATE	BY	DESCRIPTION

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES
OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM

APPROVED

GFP A Gannett Fleming/Parsons JOINT VENTURE

SUBMITTED PROJECT MANAGER

NEW ELECTRONIC PAY PROGRAM (NEPP) IN METRORAIL STATIONS
UNION STATION - NORTH & SOUTH
PANEL SCHEDULES

SCALE: NOT TO SCALE

DRAWING NO: B03-E-102

EXISTING PANEL "NMF–2"

EXISTING PANEL "NMF–2"

EXISTING PANEL "NMF–2"

DESIGNED	C. NGO	07–14	DATE
DRAWN	C. NGO	07–14	DATE
CHECKED	B. IDILBI	07–14	DATE
APPROVED	N/A		DATE

REFERENCE DRAWINGS	
NUMBER	DESCRIPTION

REVISIONS		
DATE	BY	DESCRIPTION

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES
OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM

APPROVED _____

GFP A Gannett Fleming/Parsons JOINT VENTURE

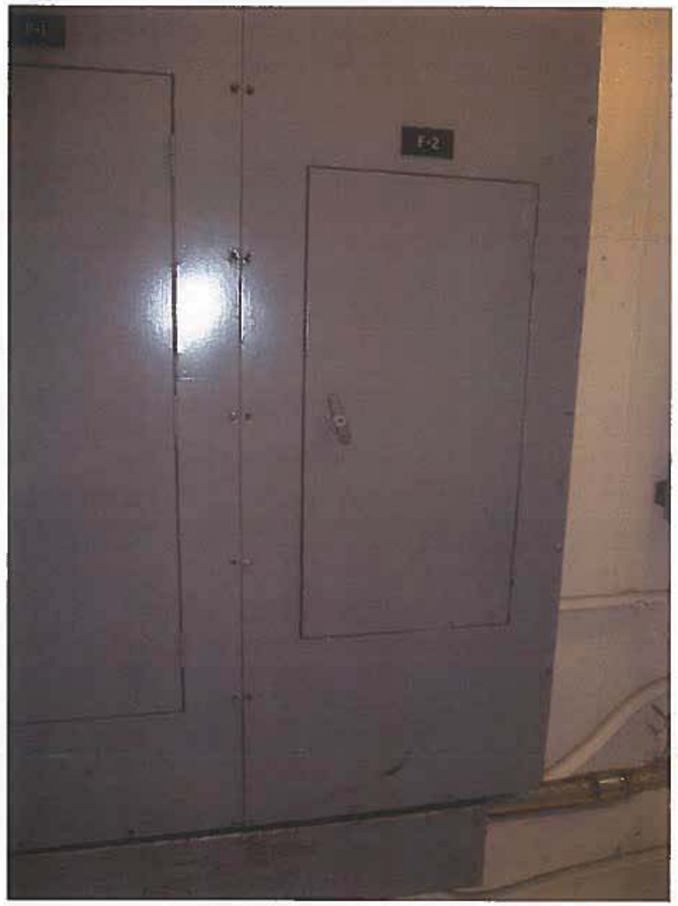
SUBMITTED _____
PROJECT MANAGER

CONTRACT NO. 14-FQ10060-CENI-24

NEW ELECTRONIC PAY PROGRAM (NEPP) IN METRORAIL STATIONS
UNION STATION - NORTH & SOUTH
PANELBOARD IMAGE

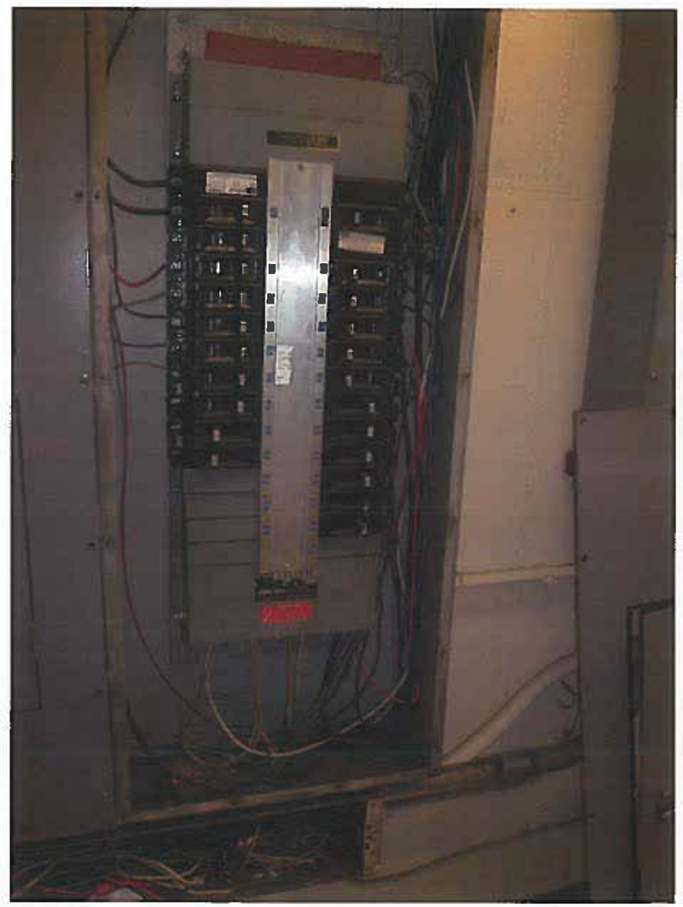
SCALE: NOT TO SCALE

DRAWING NO.: B03-E-301



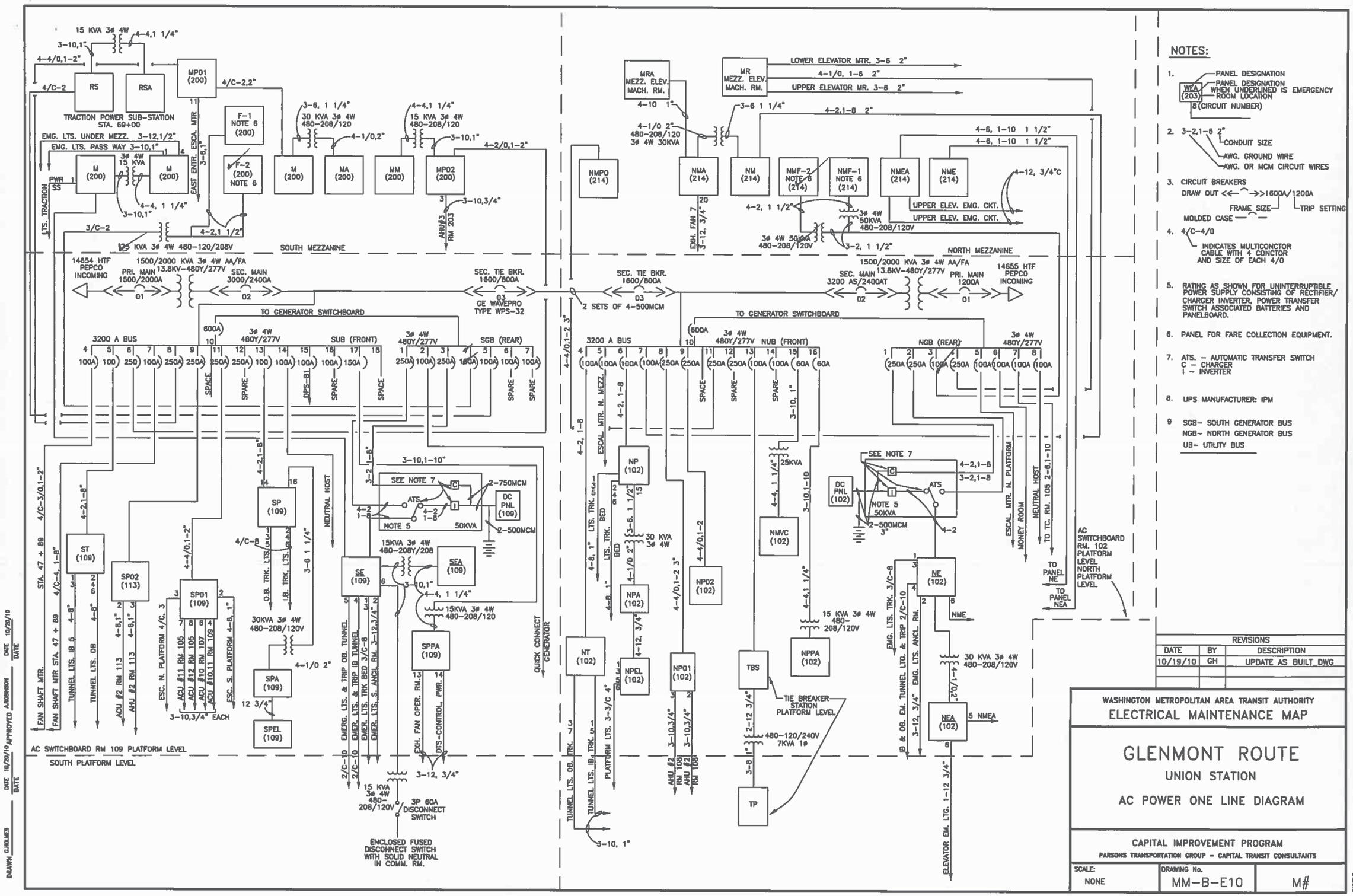
EXISTING PANEL "F-2"

EXISTING PANEL "F-2"



EXISTING PANEL "F-2"

DESIGNED C. NGO 07-14 DATE	REFERENCE DRAWINGS		REVISIONS				WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY		CONTRACT NO. 14-FQ10060-CENI-24
DRAWN C. NGO 07-14 DATE	NUMBER	DESCRIPTION	DATE	BY	DESCRIPTION		DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM	NEW ELECTRONIC PAY PROGRAM (NEPP) IN METRORAIL STATIONS UNION STATION - NORTH & SOUTH PANELBOARD IMAGE	
CHECKED B. IDILBI 07-14 DATE							APPROVED	GFP A Gannett Fleming/Parsons JOINT VENTURE SUBMITTED PROJECT MANAGER	SCALE NOT TO SCALE / DRAWING NO. B03-E-302
APPROVED N/A DATE									



NOTES:

1. PANEL DESIGNATION
   WEA (203) 5 — PANEL DESIGNATION WHEN UNDERLINED IS EMERGENCY; ROOM LOCATION; (CIRCUIT NUMBER)
2. 3-2,1-6 2" — CONDUIT SIZE; AWG. GROUND WIRE; AWG. OR MCM CIRCUIT WIRES
3. CIRCUIT BREAKERS
   DRAW OUT <<— —>>1600A/1200A
   FRAME SIZE — TRIP SETTING
   MOLDED CASE —
4. 4/C-4/0 — INDICATES MULTICONCTOR CABLE WITH 4 CONCTOR AND SIZE OF EACH 4/0
5. RATING AS SHOWN FOR UNINTERRUPTIBLE POWER SUPPLY CONSISTING OF RECTIFIER/CHARGER INVERTER, POWER TRANSFER SWITCH ASSOCIATED BATTERIES AND PANELBOARD.
6. PANEL FOR FARE COLLECTION EQUIPMENT.
7. ATS. – AUTOMATIC TRANSFER SWITCH
   C – CHARGER
   I – INVERTER
8. UPS MANUFACTURER: IPM
9. SGB– SOUTH GENERATOR BUS
   NGB– NORTH GENERATOR BUS
   UB– UTILITY BUS

REVISIONS		
DATE	BY	DESCRIPTION
10/19/10	GH	UPDATE AS BUILT DWG

DRAWN CJK/LMS DATE 10/20/10 APPROVED AJOHNSON DATE 10/20/10

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

ELECTRICAL MAINTENANCE MAP

GLENMONT ROUTE

UNION STATION

AC POWER ONE LINE DIAGRAM

CAPITAL IMPROVEMENT PROGRAM

PARSONS TRANSPORTATION GROUP – CAPITAL TRANSIT CONSULTANTS

SCALE:	DRAWING No.	
NONE	MM–B–E10	M#

ELECTRICAL SPECIFICATIONS

1. ALL WORK, MATERIAL AND EQUIPMENT SHALL COMPLY WITH THE LATEST NATIONAL ELECTRICAL CODE BEING USED BY THE LOCAL JURISDICTION AND SHALL COMPLY WITH ALL LOCAL CODES AND ORDINANCES.
2. MATERIALS AND EQUIPMENT SHALL BE NEW EXCEPT WHERE INDICATED OTHERWISE. ALL OTHER WIRING DEVICES, CONDUIT, WIRE, ETC. SHALL BE NEW UNLESS NOTED OTHERWISE.
3. ALL MATERIALS AND EQUIPMENT SHALL BEAR U.L. LISTING.
4. MAINTAIN GROUNDING CONTINUITY TO ALL DEVICES AND EQUIPMENT IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.
5. WORK NOT SPECIFICALLY SPECIFIED OR INDICATED SHALL CONFORM WITH SPECIFICATIONS.
6. ALL CONDUITS SHALL BE RUN CONCEALED IN UNDER FLOOR DUCT.
7. ALL WIRE AND CABLE SHALL BE COPPER HAVING 600 VOLTS XHHW-2 OR RHW-2 INSULATIONS. PROVIDE #12 WIRE MINIMUM, UNLESS OTHERWISE NOTED. ALL CABLES SHALL BE LOW SMOKE ZERO HALOGEN CABLE.
8. THE CONTRACTOR SHALL VISIT THE SITE AND EXAMINE THE CONDITION OF THE PREMISES AND THE CHARACTER AND EXTENT OF WORK REQUIRED PRIOR TO SUBMISSION OF BIDS.
9. OBTAIN ALL PERMITS AND PAY ALL FEES NECESSARY FOR INSPECTIONS, TESTS & OTHER SERVICES REQUIRED FOR THE COMPLETION OF THIS WORK.
10. ALL WORK SHALL BE DONE AT SUCH TIMES AND IN SUCH A MANNER THAT WILL LEAST INTERFERE WITH THE MAINTENANCE AND OPERATION OF ALL RELATED OR AFFECTED SYSTEMS. COORDINATE ALL POWER OUTAGES WITH WMATA PROJECT MANAGER.
11. IT IS THE INTENT OF THESE DRAWINGS AND OTHER RELATED DOCUMENTS TO PRODUCE A COMPLETE AND FUNCTIONING ELECTRICAL SYSTEM. PROVIDE ALL LABOR, MATERIAL AND OTHER SERVICES NECESSARY TO ACHIEVE THIS PRODUCT. NOTIFY THE ENGINEER OF ANY DISCREPANCIES IN THE PLANS & SPECIFICATIONS THAT WILL AFFECT THE WORK, PRIOR TO SUBMISSION OF THE BID PRICE.
12. IF, DURING THE COURSE OF THE WORK, THE CONTRACTOR EXPERIENCES A CONFLICT RELATIVE TO THE PLANS AND SPECIFICATIONS, THE NEC OR OTHER APPLICABLE CODES AND GOVERNING DOCUMENTS, HE SHALL NOTIFY THE ENGINEER FOR DIRECTION PRIOR TO EXECUTION OF THIS WORK. ANY WORK INSTALLED IN VIOLATION OF THE CONTRACT DOCUMENT OR APPLICABLE CODES WHICH COULD HAVE BEEN AVOIDED BY CONTACTING THE ENGINEER SHALL BE RECTIFIED AT NO ADDITIONAL COST.
13. ELECTRICAL PLANS ARE DIAGRAMMATIC & INDICATE GENERAL ARRANGEMENT OF SYSTEMS AND WORK. CHECK DRAWINGS OF OTHER TRADES TO VERIFY SPACE CONDITIONS, ETC. MAINTAIN WORKING CLEARANCES.
14. CIRCUIT NUMBERS ARE FOR IDENTIFICATION PURPOSES ONLY. THE CONTRACTOR IS RESPONSIBLE FOR CORRECTLY PHASING THE CIRCUITS IN THE PANEL AND SHALL BALANCE THE LOAD ON THE PHASES UNDER NORMAL OPERATING CONDITIONS. PROVIDE TYPEWRITTEN PANELBOARD DIRECTORIES. BALANCE THE PHASE LOADS TO WITHIN 20 PERCENT OF EACH OTHER.
15. INCREASE ALL BRANCH CIRCUIT CONDUCTORS TO THE NEXT LARGER SIZE FROM THE PANEL TO THE FIRST OUTLET WHERE THE LENGTH OF THE HOMERUN EXCEEDS 100FT. ON 120/208V CIRCUITS.
16. PROVIDE A PULLWIRE OR FISHTAPE/CORD IN ALL EMPTY CONDUIT RUNS.
17. VERIFY WIRE SIZES, CIRCUIT BREAKERS AND FUSES RATINGS FOR ALL EQUIPMENT, AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES AFFECTING THE WORK PRIOR TO PROCEEDING.
18. ALL PANELS IMPACTED BY THIS PROJECT SHALL BE PROVIDED WITH NEW, UPDATED TYPEWRITTEN PANEL SCHEDULES (FOR NEW AND EXISTING CIRCUITS) INDICATING THE FINAL ROOM NUMBER AND THE EQUIPMENT OR DEVICES SERVED BY THE CIRCUITS.
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20. ALL WIRING SHALL BE IN CONDUIT, MINIMUM SIZE 3/4 INCH WITH LARGER SIZES AS INDICATED OR REQUIRED BY NEC. ALL CONDUITS SHALL BE RIGID GALVANIZED STEEL THREADED COUPLING FOR COMPLETE WATER PROOF INSTALLATION.
21. AT JOB COMPLETION, AND BEFORE FINAL ACCEPTANCE BY WMATA, TEST EACH RECEPTACLE AND PANELBOARD FOR PROPER OPERATION. WIRING SHALL BE TESTED FOR CONTINUITY, SHORTS, ETC... ALL WORK AREAS, ETC.. SHALL BE CLEANED AT THE COMPLETION OF THIS PROJECT.
22. FOR DEVICE IDENTIFICATION, THE ELECTRICAL CONTRACTOR SHALL LABEL ALL PANELBOARDS, JUNCTION BOXES, ETC..TO INDICATE THE NAME, VOLTAGE, SERVING EQUIPMENT AND ITEM SERVED ETC... LABELS FOR EMERGENCY CIRCUITS SHALL BE IN RED, NORMAL CIRCUITS SHALL BE IN BLACK. ALL DEVICES SHALL BE IDENTIFIED EITHER ON THE FACE OF THE COVERPLATE OR INSIDE PER WMATA PREFERENCE. ALL JUNCTION BOXES SHALL BE LABELED TO INDICATE THE CIRCUITS CONTAINED BY THE JUNCTION BOX.
23. THE CONTRACTOR SHALL UPDATE THE SCHEDULES OF ALL PANELBOARDS AFFECTED BY THIS PROJECT TO REFLECT CHANGES DUE TO THE PROJECT WORK. PANEL SCHEDULE LOAD DESCRIPTIONS ARE TO INCLUDE THE FINAL ROOM OR AREA NUMBERS.
24. INCLUDE GPR FOR ANY CORE DRILLS OR DRILLED PENETRATIONS IN ANY WALLS.
25. SEAL OFF ALL PENETRATIONS THRU WALLS/FLOORS.
26. THE CONTRACTOR SHALL BECOME FAMILIAR WITH WMATA DESIGN CRITERIA SECTION 4 AND SECTION 13; WMATA SPECIFICATION SECTION 16120, 16130, AND 16125. ALL INSTALLATION SHALL BE IN COMPLIANCE WITH THE NEC, WMATA DESIGN CRITERIA, AND SPECIFICATIONS.
27. THE CONTRACTOR SHALL IDENTIFY SPARE CIRCUIT WITH "RESERVED FOR AFC".
28. EXISTING SWITCHBOARDS, PANELBOARDS AND EQUIPMENT SHOWN IS BASED ON RECORD DRAWINGS AND CASUAL FIELD SURVEY. CONTRACTOR SHALL VERIFY ALL ELECTRICAL EQUIPMENT IN FIELD.
29. The conduit utilized for this project shall be 1-1/2" min. or larger as indicated. The liquid tight utilized for the kiosk shall be 1-1/2" from the entry to the 8x8 junction box, then 1" from the junction box to the quads. All boxes used in or on the kiosk shall be NEMA 4x.

ABBREVIATIONS

A, AMP	AMPERES
AC	ALTERNATING CURRENT
AF	AMPERE FRAME
AFC	AUTOMATED FARE COLLECTION SYSTEM
AFF	ABOVE FINISHED FLOOR
AIC	AMPERE INTERRUPTING CAPACITY
AT	AMPERE TRIP
BKR	BREAKER
C	CONDUIT
CB	CIRCUIT BREAKER
CCT	CIRCUIT
℄	CENTER LINE
CLG	CEILING
CONST	CONSTRUCTION
DISC	DISCONNECT
E	ELECTRICAL
GND	GROUND
JB	JUNCTION BOX
KAIC	THOUSAND AMPERE INTERRUPTING CAPACITY
KCMIL	THOUSAND CIRCULAR MILL
KVA	KILOVOLT AMPERE
MAX	MAXIMUM
MCA	MINIMUM CIRCUIT AMPERE
MCB	MAIN CIRCUIT BREAKER
MEZZ	MEZZANINE
MIN	MINIMUM
MLO	MAIN LUGS ONLY
NEC	NATIONAL ELECTRIC CODE
P	POLE
PH	PHASE
PNL	PANELBOARD
PRI	PRIMARY
PROP	PROPOSED
RGS	RIGID GALVANIZED STEEL
SEC	SECONDARY
SHT	SHEET
SW	SWITCH
SWBD	SWITCHBOARD
TYP	TYPICAL
U/G	UNDER GROUND
U.L.	UNDERWRITERS LABORATORIES
UON	UNLESS OTHERWISE NOTED
VOLT	VOLTAGE
W	WATT
WMATA	WASHINGTON METROPOLITIAN AREA TRANSIT AUTHORITY
WP	WEATHERPROOF

DRAWING INDEX

ELECTRICAL SYMBOL LIST

- QUADRUPLEX RECEPTACLE OUTLET– 20A, 125V WALL MOUNTED.
- J — JUNCTION BOX – SURFACE MOUNTED ON UNISTRUT CHANNEL
- CONDUIT – CONCEALED IN UNDER FLOOR DUCT U.O.N.
- #10-3/4 — HOMERUN TO PANEL, NUMBER OF ARROWHEADS INDICATES NUMBER OF CIRCUITS. CROSS HATCHING INDICATES NUMBER OF CONDUCTORS, NUMBER INDICATES SIZE OF CONDUCTOR AND SIZE OF CONDUIT
- ↓ – INDICATES GROUNDING WIRE TO GROUNDING BUS AT THE PANELBOARD
- EF 1,3 – INDICATES CIRCUIT HOME RUN PANELBOARD AND CIRCUIT NUMBER IDENTIFICATION

CONTRACT NO.
14-FQ10060-CENI-24

DESIGNED	C. NGO	07-14	DATE
DRAWN	C. NGO	07-14	DATE
CHECKED	B. IDILBI	07-14	DATE
APPROVED	N/A		DATE

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

DATE	BY	DESCRIPTION

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES
OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM

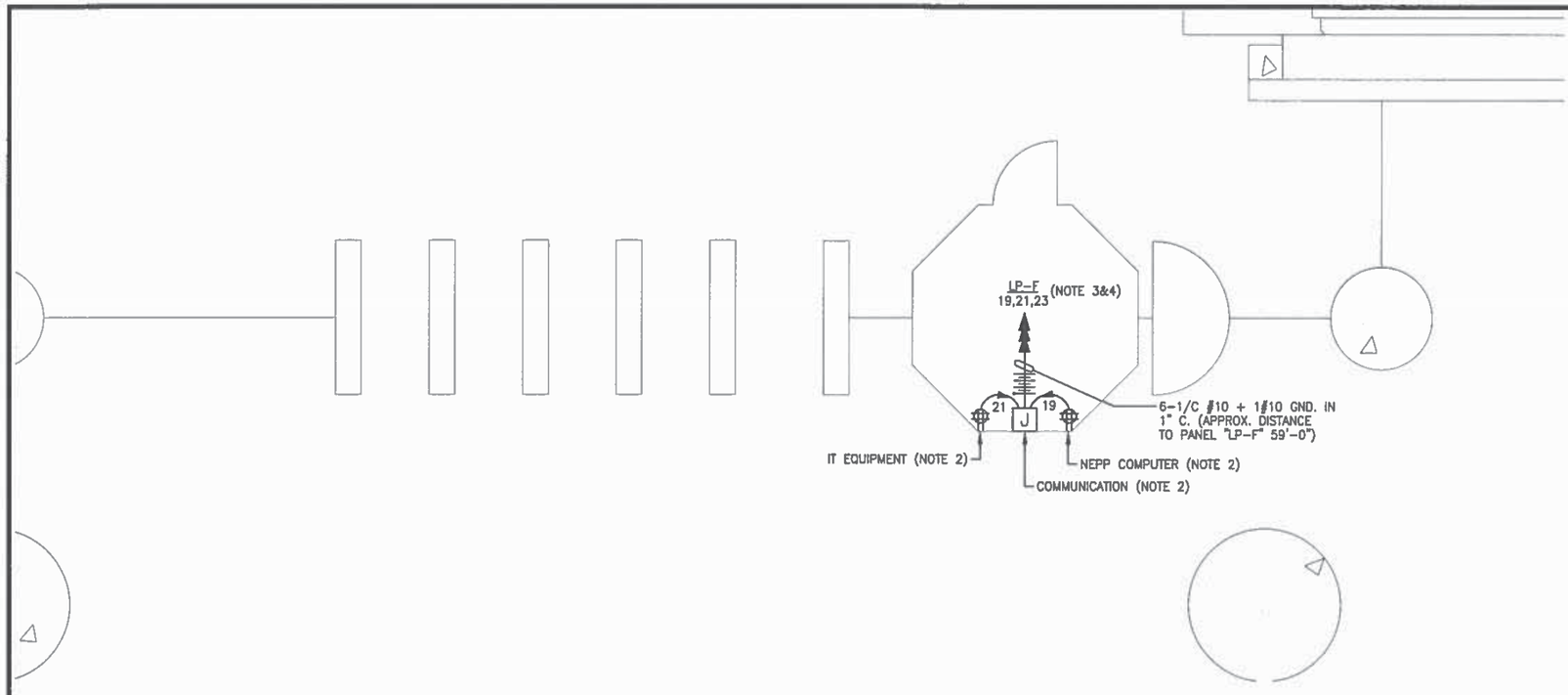
APPROVED

GFP A Gannett Fleming/Parsons JOINT VENTURE

SUBMITTED
PROJECT MANAGER

NEW ELECTRONIC PAY PROGRAM (NEPP) IN METRORAIL STATIONS
ABBREVIATIONS, DRAWING INDEX, SPECIFICATIONS & SYMBOL LIST

SCALE: NOT TO SCALE
DRAWING NO.: B07-E-001



KIOSK - POWER
SCALE: 3/8" = 1'- 0"

DRAWING NOTES:

1. USE EXISTING UNDER FLOOR DUCT FOR POWER WIRING. ALL OUTSIDE FLOOR DUCT WIRING SHALL BE IN CONDUIT.
2. VERIFY WITH WMATA PERSONNEL FOR LOCATION OF RECEPTACLES & JUNCTION BOXES.
3. CONNECT CIRCUIT #19 #21 & #23 TO EXISTING 20A, 1P SPARE CIRCUIT BREAKERS IN THE EXISTING PANEL "LP-F", SEE PANEL SCHEDULE ON DWG. B07-E-102.
4. PROVIDE A ROUGHIN CIRCUIT FOR FUTURE AFC FARE GATE COILED AT THE KIOSK. THE LENGTH OF COILED PIGTAIL SHALL BE THE FARTHEST FARE GATE DISTANCE FROM KIOSK PLUS AN EXTRA 6'0" CONDUCTOR.

SAFETY PRECAUTION:

1. ALL WORK SHALL COMPLY WITH WMATA SAFETY RULES AND DE-ENERGIZATION POLICIES.

DESIGNED C. NGO	07-14 DATE		
DRAWN C. NGO	07-14 DATE		
CHECKED B. IDILBI	07-14 DATE		
APPROVED N/A	DATE		

REFERENCE DRAWINGS	
NUMBER	DESCRIPTION

REVISIONS		
DATE	BY	DESCRIPTION

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES
OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM

APPROVED _____

GFP A Gannett Fleming/Parsons JOINT VENTURE

SUBMITTED _____ PROJECT MANAGER

NEW ELECTRONIC PAY PROGRAM (NEPP) IN METRORAIL STATIONS
TAKOMA
KIOSK - POWER

CONTRACT NO.
14-FQ10060-CENI-24

SCALE: AS SHOWN

DRAWING NO.: B07-E-101

EXISTING PANEL "LP-F"

AMPERES: 225	VOLTS: 120/208			MOUNTING: SURFACE						
MAINS: 225A MCB	PHASE: 3			LOCATION: C100 FIRE EQUIPMENT CABINET						
RATING: 10K AIC	WIRE: 4			SECTION: 1 OF 1						
		CKT BKRS		CKT.		CKT.	CKT BKRS			
LOAD DESCRIPTION	KVA	AMP	POLE	NO.		NO.	POLE	AMP	KVA	LOAD DESCRIPTION
SPARE	0.8	20	1	1	A - -	2	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	3	- B -	4	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	5	- - C	6	1	20	0.0	SPARE
SPARE	0.8	20	1	7	A - -	8	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	9	- B -	10	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	11	- - C	12	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	13	A - -	14	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	15	- B -	16	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	17	- - C	18	1	20	0.0	SPARE
NEW KIOSK RECEPT. (IT & NCS)	0.8	20	1	19	A - -	20	1	20	0.0	SPARE
NEW KIOSK RECEPT. (NEPP/SOC)	0.8	20	1	21	- B -	22	1	20	0.0	SPARE
FUTURE AFC FARE GATE	0.0	20	1	23	- - C	24	1	20	0.8	EXISTING VENDOR
SPARE	0.0	20	1	25	A - -	26	1	20	0.0	SPARE
SPARE	0.0	20	1	27	- B -	28	1	20	0.0	SPARE
SPARE	0.0	20	1	29	- - C	30	1	20	0.8	EXISTING VENDOR
SPARE	0.0	20	1	31	A - -	32	1	20	0.0	SPARE
SPACE	0.0	-	-	33	- B -	34	-	-	0.0	SPACE
SPACE	0.0	-	-	35	- - C	36	-	-	0.0	SPACE
EXISTING VENDOR	0.0	20	1	37	A - -	38	3	50	2.9	EXIST. KIOSK LOAD CENTER "KES"
SPARE	0.0	20	1	39	- B -	40	-	-	2.5	
EXISTING VENDOR	0.0	20	1	41	- - C	42	-	-	2.5	
EXISTING CONDESING UNIT	1.5	30	3	43	A - -	44	1	20	0.0	SPARE
	1.5	-	-	45	- B -	46	-	-	0.0	SPACE
	1.5	-	-	47	- - C	48	-	-	0.0	SPACE

LOAD SUMMARY

LIGHTS	0.0 x 125%		0.0 KVA
RECEPTACLES, FIRST 10 KVA	10.0 x 100%		10.0 KVA
RECEPTACLES	5.6 x 50%		2.8 KVA
MISC. APPLIANCES	0.0 x 100%		0.0 KVA
LARGEST MOTOR	0.0 x 125%		0.0 KVA
MOTORS	0.0 x 100%		0.0 KVA
HEAT	3.0 x 125%		3.8 KVA
AC	9.0 x 100%		9.0 KVA
WATER HEATING	0.0 x 125%		0.0 KVA
TOTAL CONNECTED LOAD	**27.6 KVA**	**TOTAL DEMAND KVA**	**25.6 KVA**
		TOTAL DEMAND AMPS	**71.0 AMPS**
CONNECTED LOAD PHASE SUMMARY			
PHASE A:	**7.1 KVA**		
PHASE B:	**7.1 KVA**		
PHASE C:	**6.3 KVA**		

NOTES: A. EXISTING PANEL "LP-F" IS FED FROM 277/480V, 3ø, 4W EXISTING PANEL "DP-MEZ" LOCATED IN FIRE EQUIPMENT CABINET RM. C100, CIRCUIT #6-110A/3P VIA 75KVA TRANSFORMER (SEE ATTACHED DWG. MM-B-E20).

B. EXISTING WIRING FED FROM BOTTOM OF PANEL BY:
- 2-6"x 1 1/2" FLOOR DUCTS (WIRING FILL >40%).
- 1-4"x 1 1/2" FLOOR DUCT (WIRING FILL >40%).

EXISTING WIRING FED FROM TOP OF PANEL BY:
- 1-3" C. TO TRANSFORMER (WIRING FILL >40%).
- 2-3/4" C. (WIRING FILL >40%).

EXISTING WIRING FED FROM LEFT SIDE OF PANEL BY:
- 2-3/4" C. (WIRING FILL >40%).

CONTRACT NO. 14-FQ10060-CENI-24

DESIGNED C. NGO 07-14 DATE
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CHECKED B. IDILBI 07-14 DATE
APPROVED N/A DATE

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

DATE	BY	DESCRIPTION

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES
OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM

APPROVED

GFP A Gannett Fleming/Parsons JOINT VENTURE

SUBMITTED PROJECT MANAGER

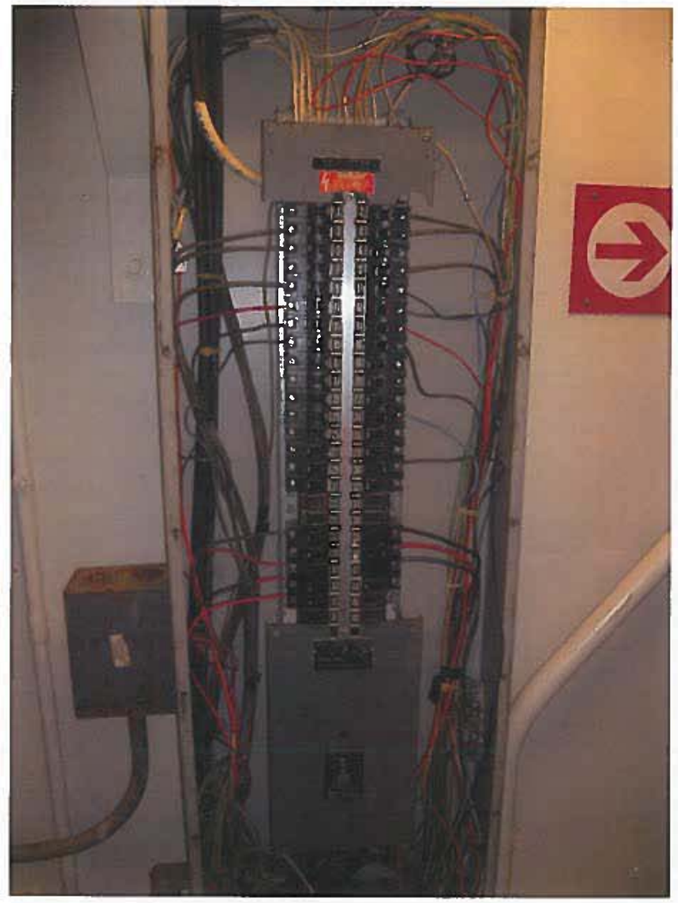
NEW ELECTRONIC PAY PROGRAM (NEPP) IN METRORAIL STATIONS
TAKOMA
PANEL SCHEDULE

SCALE NOT TO SCALE

DRAWING NO. B07-E-102

EXISTING PANEL "LP–F"

EXISTING PANEL "LP–F"



EXISTING PANEL "LP–F"

DESIGNED	C. NGO	07–14	DATE
DRAWN	C. NGO	07–14	DATE
CHECKED	B. IDILBI	07–14	DATE
APPROVED	N/A		DATE

REFERENCE DRAWINGS	
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REVISIONS		
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WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

DEPARTMENT OF TRANSIT INFRASTRUCTURE
AND ENGINEERING SERVICES
OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM

APPROVED _____

GFP A Gannett Fleming/Parsons JOINT VENTURE

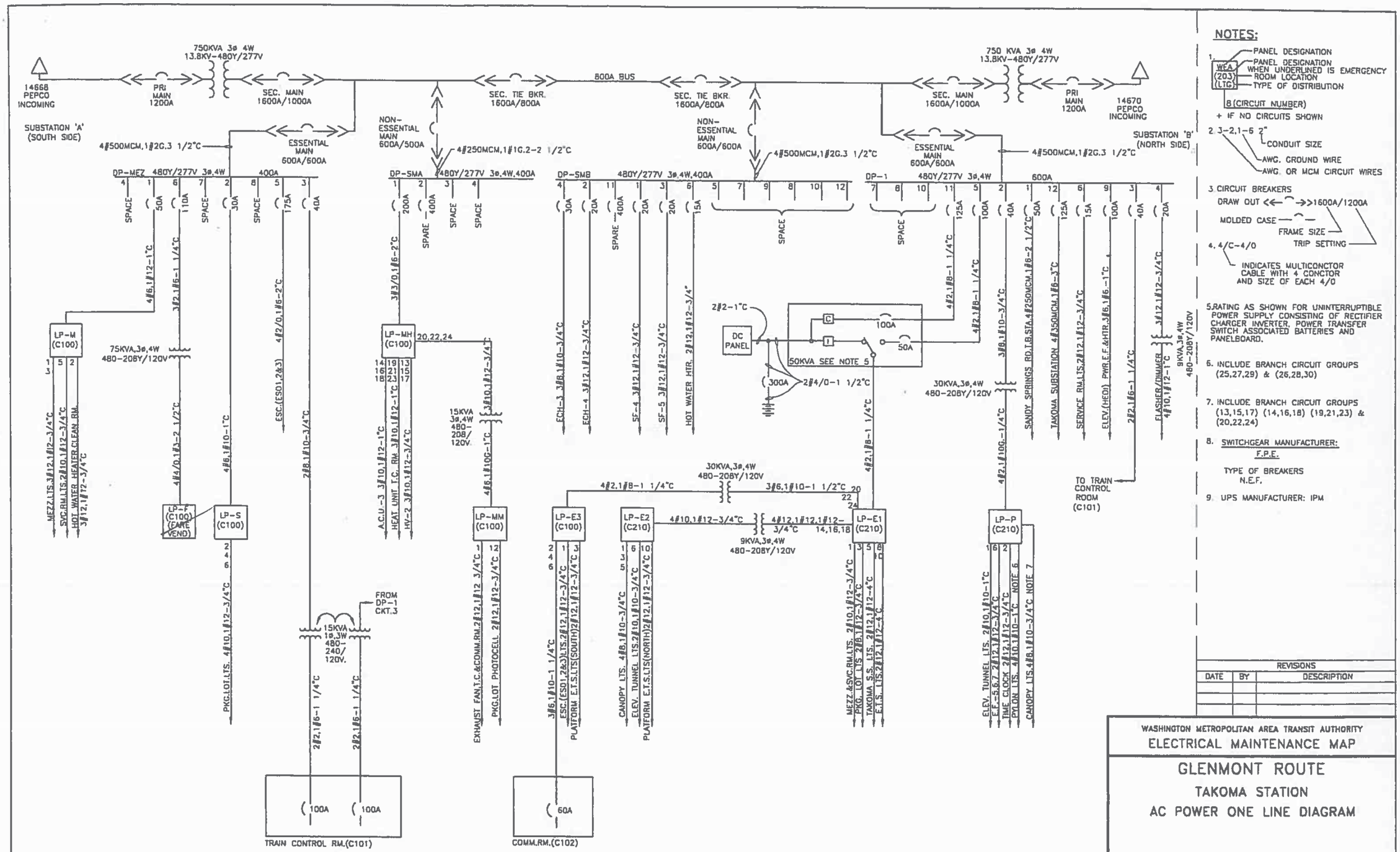
SUBMITTED _____
PROJECT MANAGER

NEW ELECTRONIC PAY PROGRAM (NEPP)
IN METRORAIL STATIONS
TAKOMA
PANELBOARD IMAGE

CONTRACT NO.
14-FQ10060-CENI-24

SCALE
NOT TO SCALE

DRAWING NO.
B07-E-301



NOTES:

1. PANEL DESIGNATION
   WEA (203) (LTG) — PANEL DESIGNATION WHEN UNDERLINED IS EMERGENCY; ROOM LOCATION; TYPE OF DISTRIBUTION
   8 (CIRCUIT NUMBER)
   + IF NO CIRCUITS SHOWN
2. 3-2,1-6 2" — CONDUIT SIZE; AWG. GROUND WIRE; AWG. OR MCM CIRCUIT WIRES
3. CIRCUIT BREAKERS
   DRAW OUT — MOLDED CASE — FRAME SIZE 1600A/1200A — TRIP SETTING
4. 4/C-4/0 — INDICATES MULTICONCTOR CABLE WITH 4 CONCTOR AND SIZE OF EACH 4/0
5. RATING AS SHOWN FOR UNINTERRUPTIBLE POWER SUPPLY CONSISTING OF RECTIFIER CHARGER INVERTER, POWER TRANSFER SWITCH ASSOCIATED BATTERIES AND PANELBOARD.
6. INCLUDE BRANCH CIRCUIT GROUPS (25,27,29) & (26,28,30)
7. INCLUDE BRANCH CIRCUIT GROUPS (13,15,17) (14,16,18) (19,21,23) & (20,22,24)
8. SWITCHGEAR MANUFACTURER: F.P.E.
   TYPE OF BREAKERS N.E.F.
9. UPS MANUFACTURER: IPM

REVISIONS		
DATE	BY	DESCRIPTION

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

ELECTRICAL MAINTENANCE MAP

GLENMONT ROUTE

TAKOMA STATION

AC POWER ONE LINE DIAGRAM

CAPITAL IMPROVEMENT PROGRAM

PARSONS TRANSPORTATION GROUP - CAPITAL TRANSIT CONSULTANTS

SCALE:	DRAWING No.	
NONE	MM-B-E20	

ELECTRICAL SPECIFICATIONS

1. ALL WORK, MATERIAL AND EQUIPMENT SHALL COMPLY WITH THE LATEST NATIONAL ELECTRICAL CODE BEING USED BY THE LOCAL JURISDICTION AND SHALL COMPLY WITH ALL LOCAL CODES AND ORDINANCES.
2. MATERIALS AND EQUIPMENT SHALL BE NEW EXCEPT WHERE INDICATED OTHERWISE. ALL OTHER WIRING DEVICES, CONDUIT, WIRE, ETC. SHALL BE NEW UNLESS NOTED OTHERWISE.
3. ALL MATERIALS AND EQUIPMENT SHALL BEAR U.L. LISTING.
4. MAINTAIN GROUNDING CONTINUITY TO ALL DEVICES AND EQUIPMENT IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.
5. WORK NOT SPECIFICALLY SPECIFIED OR INDICATED SHALL CONFORM WITH SPECIFICATIONS.
6. ALL CONDUITS SHALL BE RUN CONCEALED IN UNDER FLOOR DUCT.
7. ALL WIRE AND CABLE SHALL BE COPPER HAVING 600 VOLTS XHHW-2 OR RHW-2 INSULATIONS. PROVIDE #12 WIRE MINIMUM, UNLESS OTHERWISE NOTED. ALL CABLES SHALL BE LOW SMOKE ZERO HALOGEN CABLE.
8. THE CONTRACTOR SHALL VISIT THE SITE AND EXAMINE THE CONDITION OF THE PREMISES AND THE CHARACTER AND EXTENT OF WORK REQUIRED PRIOR TO SUBMISSION OF BIDS.
9. OBTAIN ALL PERMITS AND PAY ALL FEES NECESSARY FOR INSPECTIONS, TESTS & OTHER SERVICES REQUIRED FOR THE COMPLETION OF THIS WORK.
10. ALL WORK SHALL BE DONE AT SUCH TIMES AND IN SUCH A MANNER THAT WILL LEAST INTERFERE WITH THE MAINTENANCE AND OPERATION OF ALL RELATED OR AFFECTED SYSTEMS. COORDINATE ALL POWER OUTAGES WITH WMATA PROJECT MANAGER.
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AF	AMPERE FRAME
AFC	AUTOMATED FARE COLLECTION SYSTEM
AFF	ABOVE FINISHED FLOOR
AIC	AMPERE INTERRUPTING CAPACITY
AT	AMPERE TRIP
BKR	BREAKER
C	CONDUIT
CB	CIRCUIT BREAKER
CCT	CIRCUIT
℄	CENTER LINE
CLG	CEILING
CONST	CONSTRUCTION
DISC	DISCONNECT
E	ELECTRICAL
GND	GROUND
JB	JUNCTION BOX
KAIC	THOUSAND AMPERE INTERRUPTING CAPACITY
KCMIL	THOUSAND CIRCULAR MILL
KVA	KILOVOLT AMPERE
MAX	MAXIMUM
MCA	MINIMUM CIRCUIT AMPERE
MCB	MAIN CIRCUIT BREAKER
MEZZ	MEZZANINE
MIN	MINIMUM
MLO	MAIN LUGS ONLY
NEC	NATIONAL ELECTRIC CODE
P	POLE
PH	PHASE
PNL	PANELBOARD
PRI	PRIMARY
PROP	PROPOSED
RGS	RIGID GALVANIZED STEEL
SEC	SECONDARY
SHT	SHEET
SW	SWITCH
SWBD	SWITCHBOARD
TYP	TYPICAL
U/G	UNDER GROUND
U.L.	UNDERWRITERS LABORATORIES
UON	UNLESS OTHERWISE NOTED
VOLT	VOLTAGE
W	WATT
WMATA	WASHINGTON METROPOLITIAN AREA TRANSIT AUTHORITY
WP	WEATHERPROOF

DRAWING INDEX

ELECTRICAL SYMBOL LIST

- QUADRUPLEX RECEPTACLE OUTLET- 20A, 125V WALL MOUNTED.
- J — JUNCTION BOX - SURFACE MOUNTED ON UNISTRUT CHANNEL
- CONDUIT - CONCEALED IN UNDER FLOOR DUCT U.O.N.
- #10-3/4 / EF 3,5 — HOMERUN TO PANEL, NUMBER OF ARROWHEADS INDICATES NUMBER OF CIRCUITS. CROSS HATCHING INDICATES NUMBER OF CONDUCTORS, NUMBER INDICATES SIZE OF CONDUCTOR AND SIZE OF CONDUIT
  - ⏚ - INDICATES GROUNDING WIRE TO GROUNDING BUS AT THE PANELBOARD
  - EF 1,3 - INDICATES CIRCUIT HOME RUN PANELBOARD AND CIRCUIT NUMBER IDENTIFICATION

CONTRACT NO. 14-FQ10060-CENI-24

DESIGNED	C. NGO	07-14	DATE
DRAWN	C. NGO	07-14	DATE
CHECKED	B. IDLBI	07-14	DATE
APPROVED	N/A		DATE

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

DATE	BY	DESCRIPTION

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES
OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM

APPROVED _____

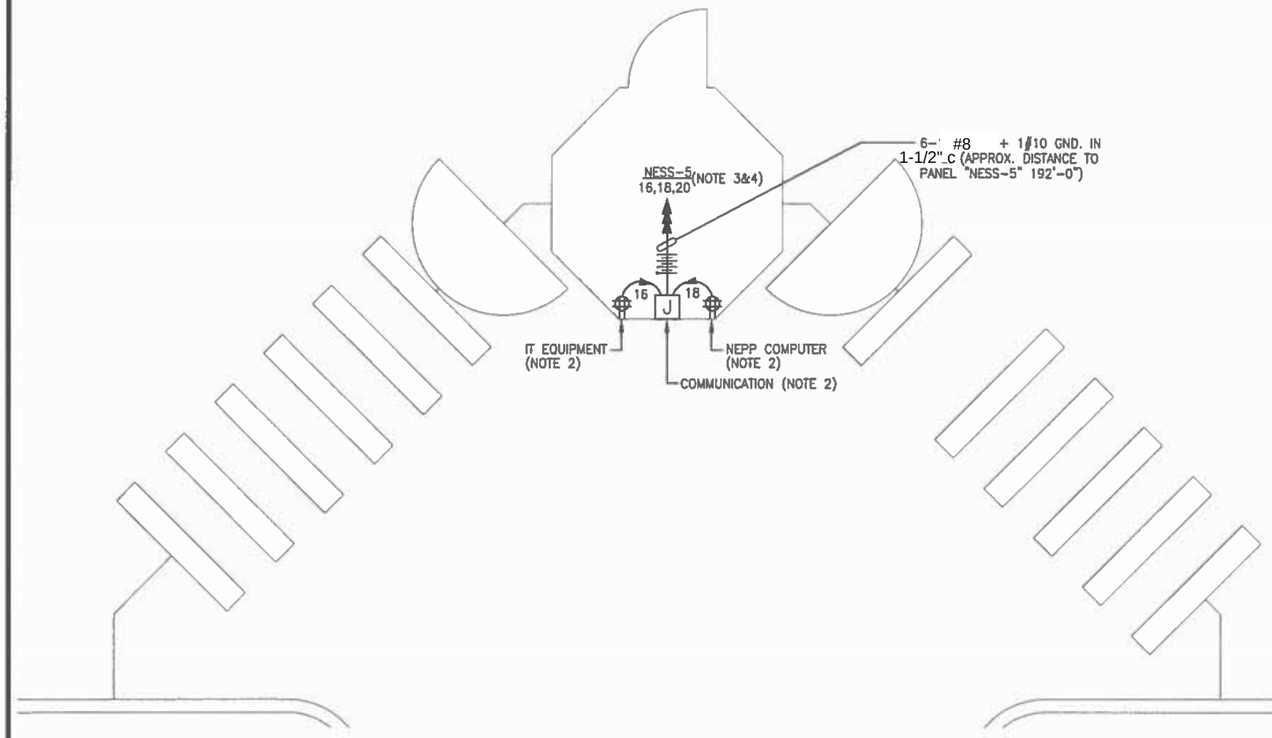
GFP A Gannett Fleming/Parsons JOINT VENTURE

SUBMITTED _____ PROJECT MANAGER

NEW ELECTRONIC PAY PROGRAM (NEPP) IN METRORAIL STATIONS
ABBREVIATIONS, DRAWING INDEX, SPECIFICATIONS & SYMBOL LIST

SCALE: NOT TO SCALE

DRAWING NO.: B11-E-001



MEZZANINE KIOSK - POWER
SCALE: 3/8" = 1'- 0"

DRAWING NOTES:

1. USE EXISTING UNDER FLOOR DUCT FOR POWER WIRING. ALL OUTSIDE FLOOR DUCT WIRING SHALL BE IN CONDUIT.
2. VERIFY WITH WMATA PERSONNEL FOR LOCATION OF RECEPTACLES & JUNCTION BOXES.
3. CONNECT CIRCUIT #16 #18 & #20 TO EXISTING 20A, 1P SPARE CIRCUIT BREAKERS IN THE EXISTING PANEL "NESS-5", SEE PANEL SCHEDULE ON DWG. B11-E-102.
4. PROVIDE A ROUGHIN CIRCUIT FOR FUTURE AFC FARE GATE COILED AT THE KIOSK. THE LENGTH OF COILED PIGTAIL SHALL BE THE FARTHEST FARE GATE DISTANCE FROM KIOSK PLUS AN EXTRA 6'0" CONDUCTOR.

SAFETY PRECAUTION:

1. ALL WORK SHALL COMPLY WITH WMATA SAFETY RULES, AND DE-ENERGIZATION POLICIES.

CONTRACT NO.
14-FQ10060-CENI-24

DESIGNED C. NGO 07-14 DATE	REFERENCE DRAWINGS: NUMBER / DESCRIPTION	REVISIONS: DATE / BY / DESCRIPTION
DRAWN C. NGO 07-14 DATE		
CHECKED B. IDILBI 07-14 DATE		
APPROVED N/A DATE		

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY
DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES
OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM
APPROVED

GFP A Gannett Fleming/Parsons JOINT VENTURE
SUBMITTED
PROJECT MANAGER

NEW ELECTRONIC PAY PROGRAM (NEPP) IN METRORAIL STATIONS
GLENMONT
MEZZANINE KIOSK - POWER

SCALE: AS SHOWN
DRAWING NO.: B11-E-101

EXISTING PANEL "NESS-5"

AMPERES: 400	VOLTS: 120/208	MOUNTING: SURFACE	
MAINS: 250A MCB	PHASE: 3	LOCATION: ELEC. EQUIPMENT ROOM C103	
RATING: 10K AIC	WIRE: 4	SECTION: 1 OF 1	

		CKT BKRS		CKT.		CKT.	CKT BKRS			
LOAD DESCRIPTION	KVA	AMP	POLE	NO.		NO.	POLE	AMP	KVA	LOAD DESCRIPTION
EXIST. KIOSK LOAD CENTER "KES"	2.9	40	3	1	A - -	2	1	20	0.0	SPARE
	2.5	-	-	3	- B -	4	1	20	0.8	EXISTING VENDOR
	2.5	-	-	5	- - C	6	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	7	A - -	8	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	9	- B -	10	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	11	- - C	12	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	13	A - -	14	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	15	- B -	16	1	20	**0.8**	**NEW KIOSK RECEPT. (IT & NCS)**
EXISTING VENDOR	0.8	20	1	17	- - C	18	1	20	**0.8**	**NEW KIOSK RECEPT. (NEPP/SOC)**
EXISTING VENDOR	0.8	20	1	19	A - -	20	1	20	0.0	**FUTURE AFC FARE GATE**
EXISTING VENDOR	0.8	20	1	21	- B -	22	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	23	- - C	24	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	25	A - -	26	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	27	- B -	28	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	29	- - C	30	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	31	A - -	32	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	33	- B -	34	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	35	- - C	36	1	20	0.8	EXISTING VENDOR
SPACE	0.0	-	-	37	A - -	38	-	-	0.0	SPARE
SPACE	0.0	-	-	39	- B -	40	-	-	0.0	SPARE
SPACE	0.0	-	-	41	- - C	42	-	-	0.0	SPACE

LOAD SUMMARY

LIGHTS	0.0 x 125%		0.0 KVA
RECEPTACLES, FIRST 10 KVA	10.0 x 100%		10.0 KVA
RECEPTACLES	14.4 x 50%		7.2 KVA
MISC. APPLIANCES	0.0 x 100%		0.0 KVA
LARGEST MOTOR	0.0 x 125%		0.0 KVA
MOTORS	0.0 x 100%		0.0 KVA
HEAT	3.0 x 125%		3.8 KVA
AC	4.5 x 100%		4.5 KVA
WATER HEATING	0.0 x 125%		0.0 KVA
TOTAL CONNECTED LOAD	**31.9 KVA**	**TOTAL DEMAND KVA**	**25.5 KVA**
		TOTAL DEMAND AMPS	**70.7 AMPS**
CONNECTED LOAD PHASE SUMMARY			
PHASE A:	**10.1 KVA**		
PHASE B:	**11.3 KVA**		
PHASE C:	**11.3 KVA**		

NOTES: A. EXISTING PANEL "NESS-5" IS FED FROM 277/480V, 3ø, 4W EXISTING PANEL "EMERGENCY" LOCATED IN N. AC SWBD. RM. 105, CIRCUIT #7-125A/3P VIA 75KVA TRANSFORMER (SEE ATTACHED DWG. MM-B-E29).

B. EXISTING WIRING FED FROM BOTTOM OF PANEL BY:
- 1-12"x 10'0" WIRE TROUGH W/3-2" C. (WIRING FILL >40%).

EXISTING WIRING FED FROM TOP OF PANEL BY:
- 2-3/4" C. (WIRING FILL >40%).

EXISTING WIRING FED FROM RIGHT SIDE OF PANEL BY:
- 1-4" C. TO TRANSFORMER (WIRING FILL >40%).

EXISTING WIRING FED FROM LEFT SIDE OF PANEL BY:
- 1-3/4" C. TO (WIRING FILL >40%).

CONTRACT NO. 14-FQ10060-CENI-24

DESIGNED C. NGO 07-14 DATE
DRAWN C. NGO 07-14 DATE
CHECKED B. IDILBI 07-14 DATE
APPROVED N/A DATE

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

DATE	BY	DESCRIPTION

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES
OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM

APPROVED

GFP A Gannett Fleming/Parsons JOINT VENTURE

SUBMITTED PROJECT MANAGER

NEW ELECTRONIC PAY PROGRAM (NEPP) IN METRORAIL STATIONS
GLENMONT
PANEL SCHEDULE

SCALE NOT TO SCALE

DRAWING NO. B11-E-102

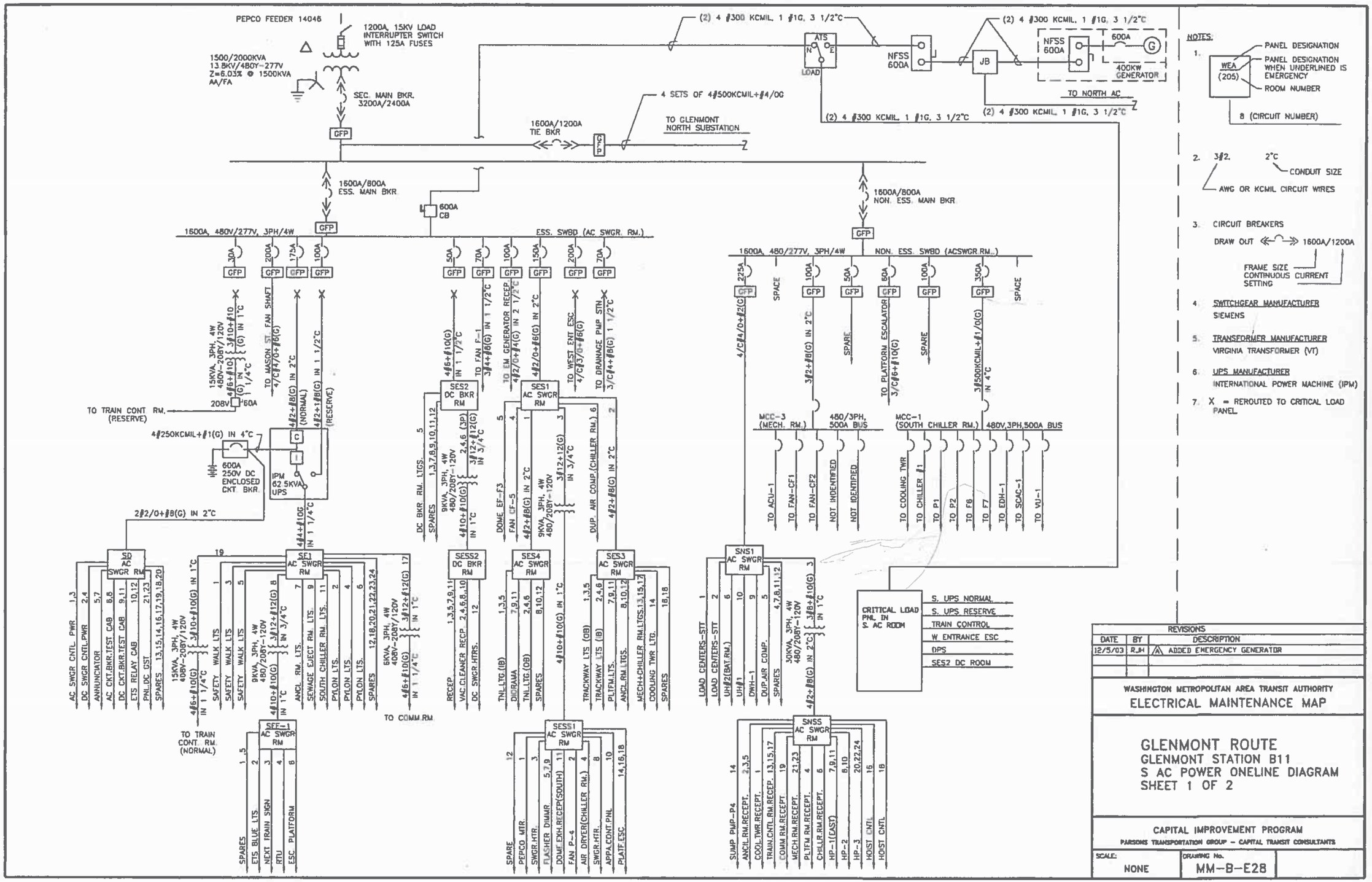
EXISTING PANEL "NESS–5"

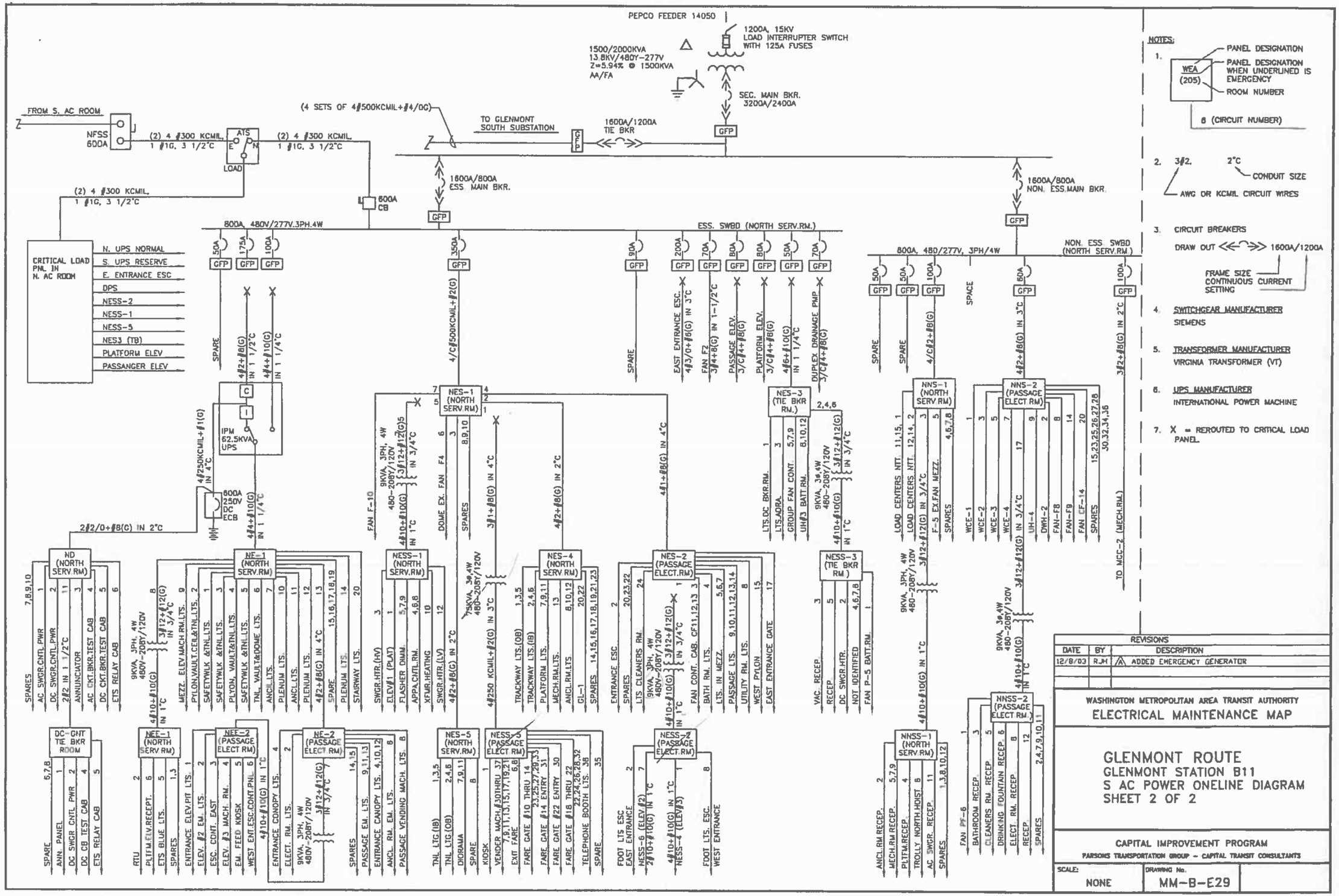
EXISTING PANEL "NESS–5"

EXISTING PANEL "NESS–5"

CONTRACT NO. 14-FQ10060-CENI-24

DESIGNED C. NGO 07–14 DATE DRAWN C. NGO 07–14 DATE CHECKED B. IDILBI 07–14 DATE APPROVED N/A DATE	REFERENCE DRAWINGS NUMBER / DESCRIPTION	REVISIONS DATE / BY / DESCRIPTION
WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM APPROVED _____	GFP A Gannett Fleming/Parsons JOINT VENTURE SUBMITTED _____ PROJECT MANAGER	NEW ELECTRONIC PAY PROGRAM (NEPP) IN METRORAIL STATIONS GLENMONT PANELBOARD IMAGE SCALE: NOT TO SCALE / DRAWING NO.: B11-E-301


PEPCO FEEDER 14046
1200A, 15KV LOAD INTERRUPTER SWITCH WITH 125A FUSES
1500/2000KVA 13.8KV/480Y-277V Z=6.03% @ 1500KVA AA/FA
SEC. MAIN BKR. 3200A/2400A
GFP
1600A/1200A TIE BKR
TO GLENMONT NORTH SUBSTATION
4 SETS OF 4#500KCMIL+#4/0G
(2) 4 #300 KCMIL, 1 #1G, 3 1/2"C
ATS
N
E
LOAD
NFSS 600A
JB
NFSS 600A
600A
G
400KW GENERATOR
TO NORTH AC
1600A/800A ESS. MAIN BKR
600A CB
1600A, 480V/277V, 3PH/4W
ESS. SWBD (AC SWGR. RM.)
1600A/800A NON. ESS. MAIN BKR
NON. ESS. SWBD (ACSWGR RM.)
30A
200A
175A
100A
50A
70A
100A
150A
200A
70A
225A
100A
50A
60A
100A
350A
SPACE
15KVA, 3PH, 4W 480V-208Y/120V
4#6+#10
(G) IN 1"C
3#10+#10
(G) IN 1"C
208V
60A
TO TRAIN CONT RM. (RESERVE)
4#250KCMIL+#1(G) IN 4"C
600A 250V DC ENCLOSED CKT BKR
IPM 62.5KVA UPS
2#2/0+#8(G) IN 2"C
4#4+#10G IN 1 1/4"C
TO MASON ST. FAN SHAFT
4/C#4/0+#8(G)
4#2+#8(G) IN 2"C (NORMAL)
4#2+#8(G) IN 1 1/2"C (RESERVE)
4#6+#10(G) IN 1 1/2"C
TO FAN F-1
3#4+#8(G) IN 1 1/2"C
TO FM GENERATOR RECEP
4#2/0+#4(G) IN 2 1/2"C
4#2/0+#6(G) IN 2"C
TO WEST ENT ESC
4/C#3/0+#6(G)
TO DRAINAGE PMP STN.
3/C#4+#8(G) 1 1/2"C
4/C#4/0+#2(G)
3#2+#8(G) IN 2"C
SPARE
TO PLATFORM ESCALATOR
3/C#6+#10(G)
3#500KCMIL+#1/0(G) IN 4"C
SES2 DC BKR RM
SES1 AC SWGR RM
SD AC SWGR RM
SE1 AC SWGR RM
SES4 AC SWGR RM
SES3 AC SWGR RM
SEF-1 AC SWGR RM
SESS1 AC SWGR RM
SNS1 AC SWGR RM
SNSS AC SWGR RM
MCC-3 (MECH. RM.)
480/3PH, 500A BUS
MCC-1 (SOUTH CHILLER RM.)
480V,3PH,500A BUS
DC BKR RM. LTGS. 1,3,7,8,9,10,11,12
SPARES
9KVA, 3PH, 4W 480/208Y-120V
2,4,6 (3P)
3#12+#12(G) IN 3/4"C
4#10+#10(G) IN 1"C
DOME EF-F3
FAN CF-5
4#2+#8(G) IN 2"C
TRACKWAY LTS (OB)
TRACKWAY LTS (IB)
PLTFM.LTS.
ANCIL.RM.LTGS.
MECH+CHILLER RM.LTGS.
COOLING TWR LTG.
SPARES
4#2+#8(G) IN 2"C
DUP. AIR COMP.(CHILLER RM.)
TO ACU-1
TO FAN-CF1
TO FAN-CF2
NOT INDENTIFIED
NOT IDENTIFIED
TO COOLING TWR
TO CHILLER #1
TO P1
TO P2
TO F6
TO F7
TO EDH-1
TO SCAC-1
TO VU-1
AC SWGR CNTL PWR
DC SWGR CNTL.PWR
ANNUNCIATOR
AC CKT.BKR.TEST CAB
DC CKT.BKR.TEST CAB
ETS RELAY CAB
PNL.DC GST
SPARES
15KVA, 3PH, 4W 408V-208Y/120V
3#10+#10(G) IN 1"C
SAFETY WALK LTS
SAFETY WALK LTS
SAFETY WALK LTS
9KVA, 3PH, 4W 480/208Y-120V
3#12+#12(G) IN 3/4"C
ANCL. RM. LTS.
SEWAGE EJECT RM. LTS.
SOUTH CHILLER RM. LTS.
PYLON LTS.
PYLON LTS.
PYLON LTS.
SPARES
6KVA, 3PH, 4W 408V-208Y/120V
3#12+#12(G) IN 1"C
4#6+#10(G) IN 1 1/4"C
TO COMM.RM.
TO TRAIN CONT. RM. (NORMAL)
RECEP
VAC.CLEANER RECP.
DC SWGR.HTRS.
TNL.LTG.(IB)
DIORAMA
TNL.LTG.(OB)
SPARES
SPARE
PEPCO MTR.
SWGR.HTR.
FLASHER DIMMR.
DOME.ENH.RECEP(SOUTH)
FAN P-4
AIR DRYER(CHILLER RM.)
SWGR.HTR.
APPA.CONT.PNL
PLATF.ESC
LOAD CENTERS-STT
LOAD CENTERS-STT
UH#2(BAT.RM.)
UH#1
DWH-1
DUP.AIR COMP.
SPARES
30KVA, 3PH, 4W 480/208Y-120V
3#8+#10(G) IN 1"C
4#2+#8(G) IN 2"C
SUMP PMP-P4
ANCIL.RM.RECEPT.
COOL.TWR.RECEPT.
TRAIN.CNTL.RM.RECEP.
COMM.RM.RECEPT.
MECH.RM.RECEPT.
PLTFM.RM.RECEPT.
CHILLR.RM.RECEPT.
HP-1(EAST)
HP-2
HP-3
HOIST CNTL
HOIST CNTL
CRITICAL LOAD PNL IN 'A' AC ROOM
S. UPS NORMAL
S. UPS RESERVE
TRAIN CONTROL
W. ENTRANCE ESC
DPS
SES2 DC ROOM
NOTES:
1. WEA (205) — PANEL DESIGNATION; PANEL DESIGNATION WHEN UNDERLINED IS EMERGENCY; ROOM NUMBER; 8 (CIRCUIT NUMBER)
2. 3#2. 2"C — CONDUIT SIZE; AWG OR KCMIL CIRCUIT WIRES
3. CIRCUIT BREAKERS — DRAW OUT; 1600A/1200A FRAME SIZE CONTINUOUS CURRENT SETTING
4. SWITCHGEAR MANUFACTURER: SIEMENS
5. TRANSFORMER MANUFACTURER: VIRGINIA TRANSFORMER (VT)
6. UPS MANUFACTURER: INTERNATIONAL POWER MACHINE (IPM)
7. X = REROUTED TO CRITICAL LOAD PANEL
REVISIONS
DATE | BY | DESCRIPTION
12/5/03 | RJH | A ADDED EMERGENCY GENERATOR
WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY
ELECTRICAL MAINTENANCE MAP
GLENMONT ROUTE
GLENMONT STATION B11
S AC POWER ONELINE DIAGRAM
SHEET 1 OF 2
CAPITAL IMPROVEMENT PROGRAM
PARSONS TRANSPORTATION GROUP – CAPITAL TRANSIT CONSULTANTS
SCALE: NONE
DRAWING No. MM-B-E28


PEPCO FEEDER 14050
1200A, 15KV LOAD INTERRUPTER SWITCH WITH 125A FUSES
1500/2000KVA 13.8KV/480Y-277V Z=5.94% @ 1500KVA AA/FA
SEC. MAIN BKR. 3200A/2400A
FROM S. AC ROOM
NFSS 600A
(2) 4 #300 KCMIL, 1 #1G, 3 1/2"C
ATS
LOAD
(4 SETS OF 4#500KCMIL+#4/0G)
TO GLENMONT SOUTH SUBSTATION
1600A/1200A TIE BKR
1600A/800A ESS MAIN BKR.
1600A/800A NON. ESS MAIN BKR.
600A CB
800A, 480V/277V.3PH.4W
ESS. SWBD (NORTH SERV.RM.)
800A, 480/277V, 3PH/4W
NON. ESS. SWBD (NORTH SERV.RM.)
CRITICAL LOAD PNL. IN N. AC ROOM
N. UPS NORMAL
S. UPS RESERVE
E. ENTRANCE ESC
DPS
NESS-2
NESS-1
NESS-5
NES3 (TB)
PLATFORM ELEV
PASSANGER ELEV
IPM 62.5KVA UPS
600A 250V 3PC ECB
ND (NORTH SERV.RM)
DC-GNT TIE BKR ROOM
NEF-1 (NORTH SERV.RM)
NEF-2 (PASSANGER ELECT.RM)
NES-1 (NORTH SERV.RM)
NES-2 (PASSAGE ELECT.RM)
NES-3 (TIE BKR RM.)
NES-4 (NORTH SERV.RM)
NES-5 (NORTH SERV.RM)
NESS-1 (NORTH SERV.RM)
NESS-2 (PASSAGE ELECT.RM)
NESS-3 (TIE BKR RM)
NNS-1 (NORTH SERV.RM)
NNS-2 (PASSAGE ELECT.RM)
NNSS-1 (NORTH SERV.RM)
NNSS-2 (PASSAGE ELECT.RM)
FAN F-10
DOME EX. FAN F4
FAN PF-6
NOTES:
1. PANEL DESIGNATION
PANEL DESIGNATION WHEN UNDERLINED IS EMERGENCY
ROOM NUMBER
6 (CIRCUIT NUMBER)
2. 3#2, 2"C CONDUIT SIZE
AWG OR KCMIL CIRCUIT WIRES
3. CIRCUIT BREAKERS
DRAW OUT 1600A/1200A
FRAME SIZE CONTINUOUS CURRENT SETTING
4. SWITCHGEAR MANUFACTURER
SIEMENS
5. TRANSFORMER MANUFACTURER
VIRGINIA TRANSFORMER (VT)
6. UPS MANUFACTURER
INTERNATIONAL POWER MACHINE
7. X = REROUTED TO CRITICAL LOAD PANEL
REVISIONS
DATE BY DESCRIPTION
12/8/03 RJM ADDED EMERGENCY GENERATOR
WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY
ELECTRICAL MAINTENANCE MAP
GLENMONT ROUTE
GLENMONT STATION B11
S AC POWER ONELINE DIAGRAM
SHEET 2 OF 2
CAPITAL IMPROVEMENT PROGRAM
PARSONS TRANSPORTATION GROUP - CAPITAL TRANSIT CONSULTANTS
SCALE: NONE
DRAWING No. MM-B-E29