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 W/SCREW IN 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
AEMS	AUTOMATED ENERGY MANAGEMENT SYSTEM
AF	AMPERE FRAME
AFC	AUTOMATED FARE COLLECTION SYSTEM
AFF	ABOVE FINISHED FLOOR
AIC	AMPERE INTERRUPTING CAPACITY
AT	AMPERE TRIP
ATS	AUTOMATIC TRANSFER SWITCH
BATT	BATTERY
BKR	BREAKER
℄	BASELINE
C	CONDUIT
CB	CIRCUIT BREAKER
CCT	CIRCUIT
℄	CENTER LINE
CLG	CEILING
CONST	CONSTRUCTION
DC	DIRECT CURRENT
DISC	DISCONNECT
E	ELECTRICAL
FLUOR.	FLUORESCENT
GND	GROUND
GPR	GROUND PENETRATING RADAR
IG	ISOLATED 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
MTD	MOUNTED OR MOUNTING
NEC	NATIONAL ELECTRIC CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURER ASSOCIATION
P	POLE
PH	PHASE
PNL	PANELBOARD
PRI	PRIMARY
PROP	PROPOSED
RGS	RIGID GALVANIZED STEEL
SEC	SECONDARY
SHT	SHEET
STA	STATION
STD	STANDARD
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
- EF 3,5
- ⏚ – 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	08–14 DATE
DRAWN	C. NGO	08–14 DATE
CHECKED	B. IDILBI	08–14 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

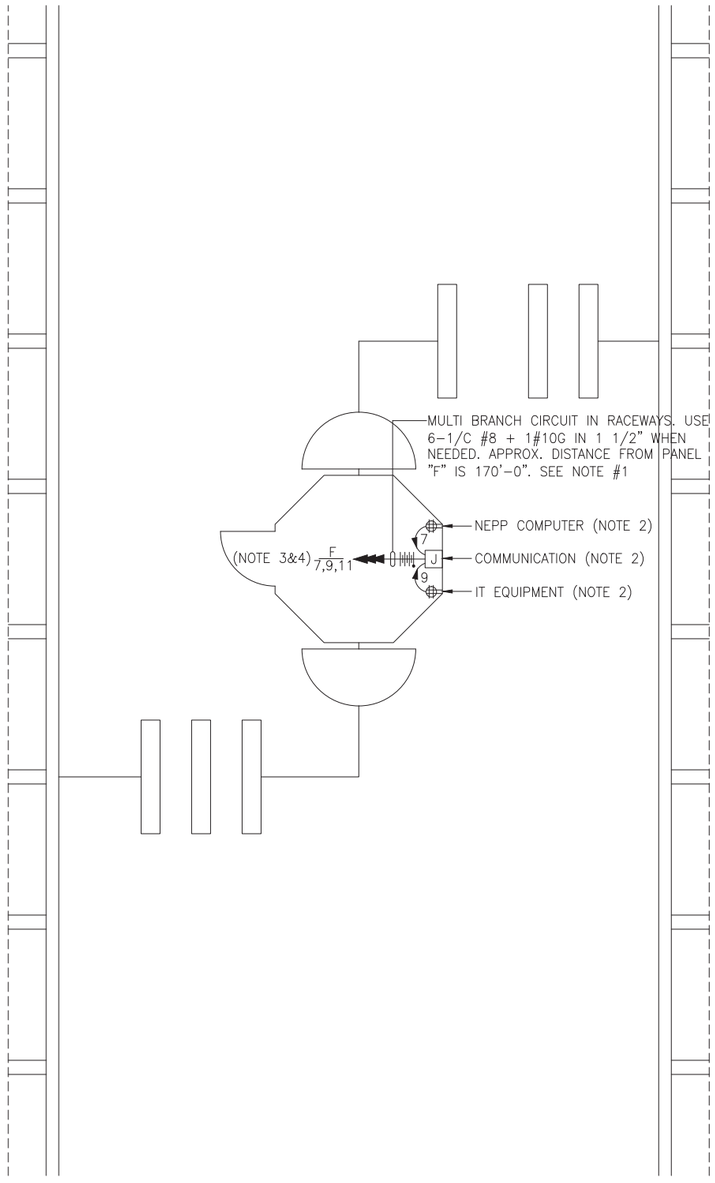
SUBMITTED
PROJECT MANAGER

NEW ELECTRONIC PAY PROGRAM (NEPP) IN METRORAIL STATIONS

ABBREVIATIONS, DRAWING INDEX, SPECIFICATIONS & SYMBOL LIST

SCALE: NOT TO SCALE

DRAWING NO.: D11-E-001



KIOSK - POWER

SCALE: 1/4" = 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

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DRAWN C. NGO 08-14 DATE
CHECKED B. IDILBI 08-14 DATE
APPROVED N/A DATE

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WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

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APPROVED

GFP A Gannett Fleming/Parsons JOINT VENTURE

SUBMITTED
PROJECT MANAGER

NEW ELECTRONIC PAY PROGRAM (NEPP) IN METRORAIL STATIONS

CHEVERLY
KIOSK - POWER

SCALE: AS SHOWN

DRAWING NO.
D11-E-101

EXISTING PANEL "F"

AMPERES: **225**	VOLTS: **120/208**	MOUNTING: **SURFACE**	
MAINS: **225A MCB**	PHASE: **3**	LOCATION: **ELEC. EQUIPMENT ROOM C205**	
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
NEW KIOSK RECEPT. (IT/NCS)	**0.8**	20	1	7	A - -	8	1	20	0.0	SPARE
NEW KIOSK RECEPT. (NEPP/SOC)	**0.8**	20	1	9	- B -	10	1	20	0.8	EXISTING VENDOR
FUTURE AFC FARE GATE	0.0	20	1	11	- - C	12	1	20	0.0	SPARE
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	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	19	A - -	20	1	20	0.8	EXISTING VENDOR
SPARE	0.0	20	1	21	- B -	22	1	20	0.0	SPARE
SPACE	0.0	-	-	23	- - C	24	1	20	0.0	SPACE
SPACE	0.0	-	-	25	A - -	26	-	-	0.0	SPACE
SPACE	0.0	-	-	27	- B -	28	-	-	0.0	SPACE
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
SPACE	0.0	-	-	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
SPACE	0.0	-	-	43	A - -	44	3	30	2.9	EXIST. LOAD CENTER "KES"
SPACE	0.0	-	-	45	- B -	46	-	-	2.5	-
SPACE	0.0	-	-	47	- - C	48	-	-	2.5	-

LOAD SUMMARY

LIGHTS	0.0 x 125%		0.0 KVA
RECEPTACLES, FIRST 10 KVA	10.0 x 100%		10.0 KVA
RECEPTACLES	1.6 x 50%		0.8 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	0.0 x 125%		0.0 KVA
AC	4.5 x 100%		4.5 KVA
WATER HEATING	3.0 x 125%		3.8 KVA
TOTAL CONNECTED LOAD	**19.1 KVA**	**TOTAL DEMAND KVA**	**19.1 KVA**
		TOTAL DEMAND AMPS	**52.9 AMPS**
CONNECTED LOAD PHASE SUMMARY			
PHASE A:	6.9 KVA		
PHASE B:	7.3 KVA		
PHASE C:	5.7 KVA		

CONTRACT NO.
14-FQ10060-CENI-24

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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

CHEVERLY
PANEL SCHEDULE

SCALE: NOT TO SCALE

DRAWING NO.: D11-E-102

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.
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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.
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CCT	CIRCUIT
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APPROVED _____

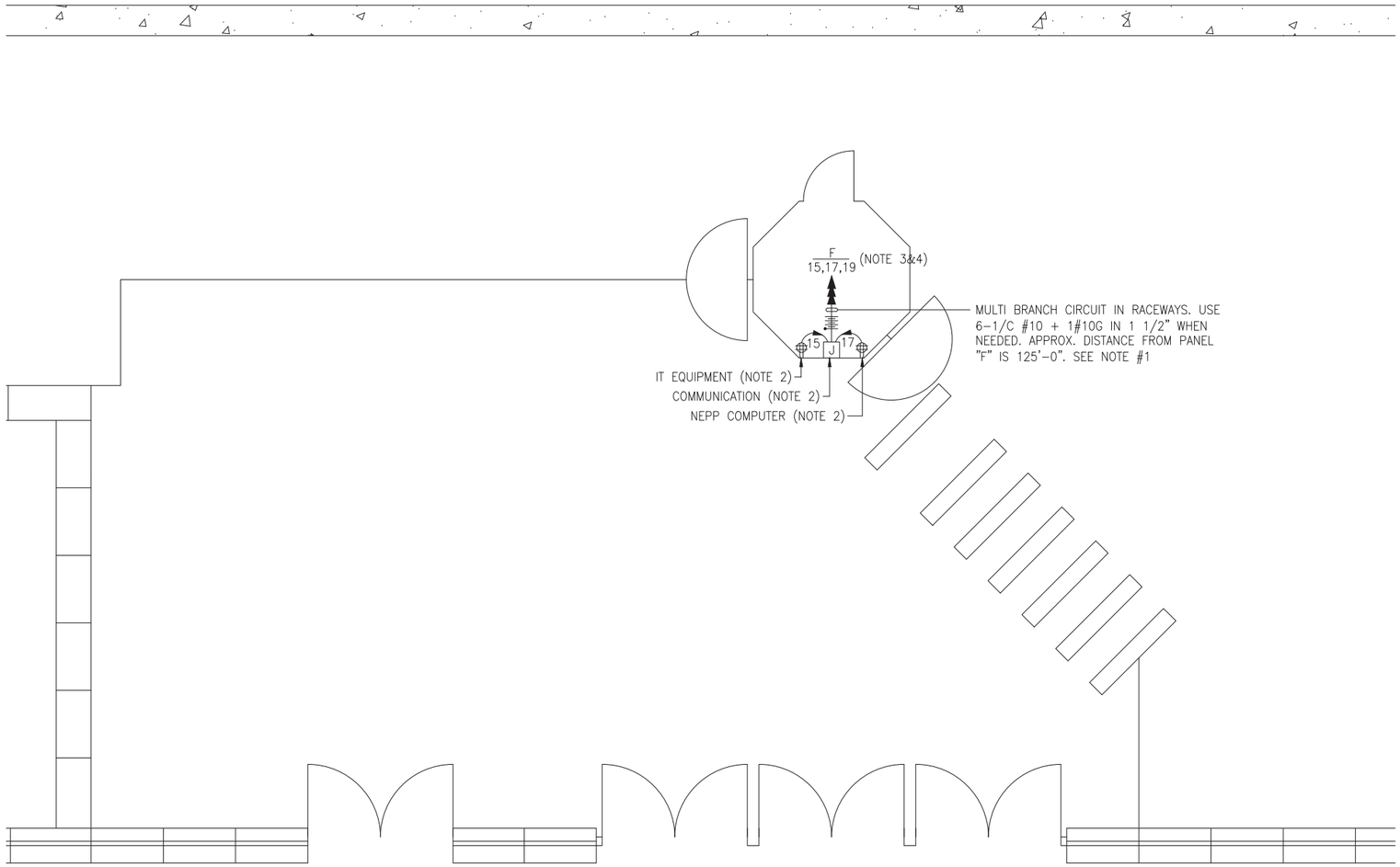
GFP A Gannett Fleming/Parsons JOINT VENTURE

SUBMITTED _____ PROJECT MANAGER

NEW ELECTRONIC PAY PROGRAM (NEPP) IN METRORAIL STATIONS
ABBREVIATIONS□DRAWING INDE□□
SPECIFICATIONS □ SYMBOL LIST

SCALE NOT TO SCALE

DRAWING NO. D12-E-001



KIOSK - POWER
SCALE: 1/4" = 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 08-14 DATE
DRAWN C. NGO 08-14 DATE
CHECKED B. IDILBI 08-14 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
LANDOVER
KIOSK - POWER

SCALE: AS SHOWN
DRAWING NO.: D12-E-101

EXISTING PANEL "F"

AMPERES: **225**	VOLTS: **120/208**	MOUNTING: **SURFACE**	
MAINS: **225A MLO**	PHASE: **3**	LOCATION: **ELEC. EQUIPMENT ROOM C108**	
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
SPARE	0.0	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
NEW KIOSK RECEPT. (IT/NCS)	**0.8**	20	1	15	- B -	16	1	20	0.8	EXISTING VENDOR
NEW KIOSK RECEPT. (NEPP/SOC)	**0.8**	20	1	17	- - C	18	1	20	0.8	EXISTING VENDOR
FUTURE AFC FARE GATE	0.0	20	1	19	A - -	20	1	20	0.0	SPARE
SPACE	0.0	-	-	21	- B -	22	1	20	0.0	SPARE
SPACE	0.0	-	-	23	- - C	24	1	20	0.0	SPARE
SPARE	0.0	20	1	25	A - -	26	1	20	0.0	SPARE
SPARE	0.0	20	1	27	- B -	28	1	20	0.8	EXISTING VENDOR
SPARE	0.0	20	1	29	- - C	30	1	20	0.8	EXISTING VENDOR
SPARE	0.0	20	1	31	A - -	32	1	20	0.8	EXISTING VENDOR
SPARE	0.0	20	1	33	- B -	34	-	-	0.0	SPACE
SPARE	0.0	20	1	35	- - C	36	-	-	0.0	SPACE
SPARE	0.0	20	1	37	A - -	38	-	-	0.0	SPACE
SPACE	0.0	-	-	39	- B -	40	3	30	2.9	EXIST. LOAD CENTER "KES"
SPACE	0.0	-	-	41	- - C	42	-	-	2.5	
SPACE	0.0	-	-	43	A - -	44	-	-	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	0.0 x 125%		0.0 KVA
AC	4.5 x 100%		4.5 KVA
WATER HEATING	3.0 x 125%		3.8 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:	8.1 KVA		
PHASE B:	7.7 KVA		
PHASE C:	8.1 KVA		

CONTRACT NO.
14-FQ10060-CENI-24

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CHECKED B. IDILBI 08–14 DATE
APPROVED N/A DATE

REFERENCE DRAWINGS

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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

LANDOVER
PANEL SCHEDULE

SCALE: NOT TO SCALE

DRAWING NO.: D12-E-102

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.

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 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

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WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

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

APPROVED _____

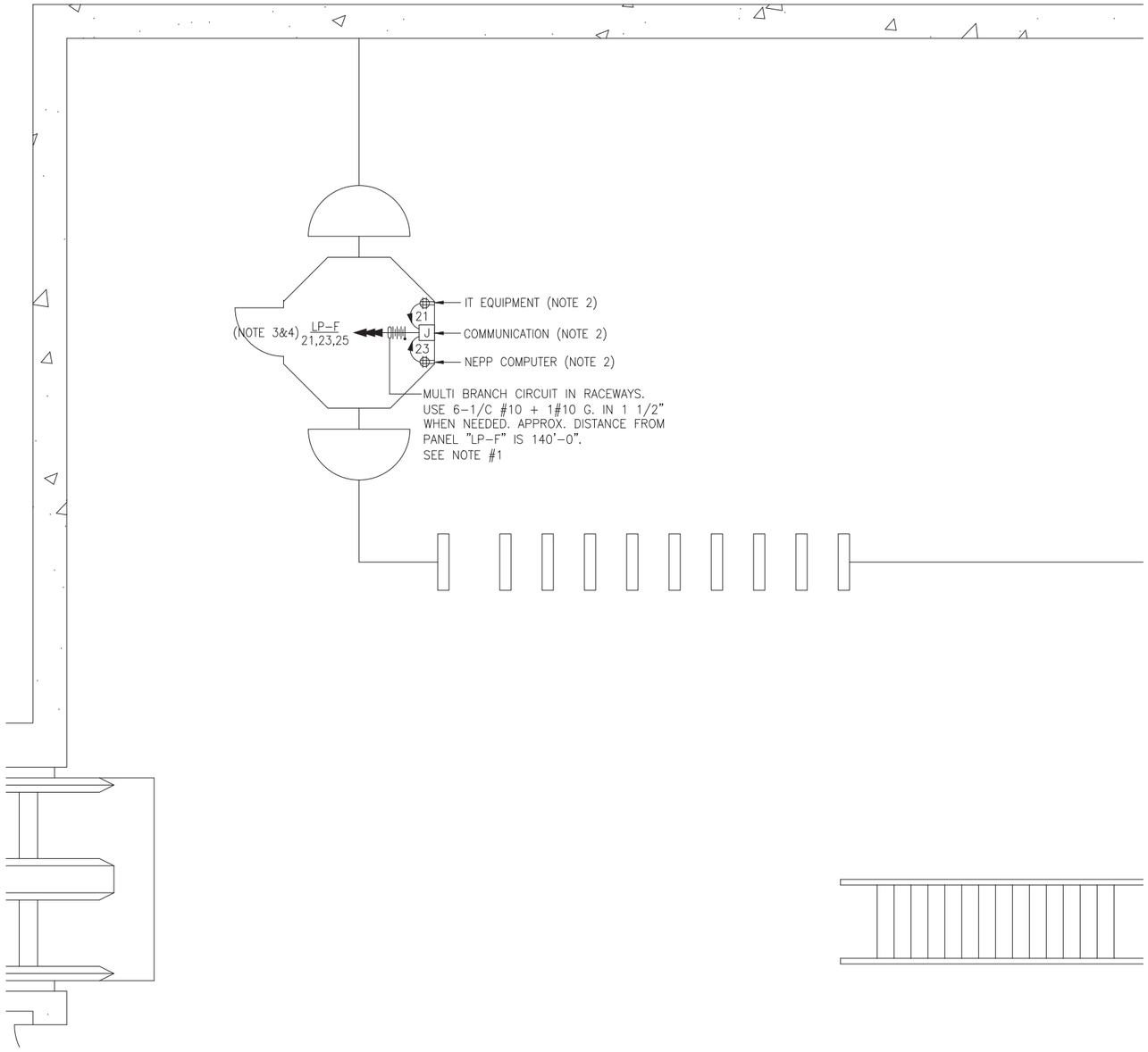
GFP A Gannett Fleming/Parsons JOINT VENTURE

SUBMITTED _____ PROJECT MANAGER

NEW ELECTRONIC PAY PROGRAM (NEPP) IN METRORAIL STATIONS
ABBREVIATIONS□DRAWING INDE□□
SPECIFICATIONS □ SYMBOL LIST

SCALE NOT TO SCALE

DRAWING NO. D13-E-001



KIOSK - POWER

SCALE: 1/4" = 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.
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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

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GFP A Gannett Fleming/Parsons JOINT VENTURE

SUBMITTED _____
PROJECT MANAGER

NEW ELECTRONIC PAY PROGRAM (NEPP) IN METRORAIL STATIONS

NEW CARROLLTON
KIOSK - POWER

SCALE: AS SHOWN

DRAWING NO.: D13-E-101

EXISTING PANEL "LP-F"

AMPERES: **225**	VOLTS: **120/208**	MOUNTING: **SURFACE**
MAINS: **225A MCB**	PHASE: **3**	LOCATION: **ELEC EQUIPMENT ROOM C106**
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	3	30	2.9	EXIST. LOAD CENTER "KES"
EXISTING VENDOR	0.8	20	1	3	- B -	4	-	-	2.5	
EXISTING VENDOR	0.8	20	1	5	- - C	6	-	-	2.5	
EXISTING VENDOR	0.8	20	1	7	A - -	8	1	20	0.8	EXISTING VENDOR
SPARE	0.0	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
SPARE	0.0	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	0.8	EXISTING VENDOR
NEW KIOSK RECEPT. (IT/NCS)	**0.8**	20	1	21	- B -	22	1	20	0.8	EXISTING VENDOR
NEW KIOSK RECEPT. (NEPP/SOC)	**0.8**	20	1	23	- - C	24	1	20	0.8	EXISTING VENDOR
FUTURE AFC FARE GATE	0.0	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
SPARE	0.0	20	1	35	- - C	36	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	37	A - -	38	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	39	- B -	40	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	41	- - C	42	1	20	0.8	EXISTING VENDOR

LOAD SUMMARY

LIGHTS	0.0 x 125%		0.0 KVA
RECEPTACLES, FIRST 10 KVA	10.0 x 100%		10.0 KVA
RECEPTACLES	17.6 x 50%		8.8 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	**35.1 KVA**	**TOTAL DEMAND KVA**	**27.1 KVA**
		TOTAL DEMAND AMPS	**75.1 AMPS**
CONNECTED LOAD PHASE SUMMARY			
PHASE A:	11.7 KVA		
PHASE B:	12.1 KVA		
PHASE C:	12.1 KVA		

CONTRACT NO.
14-FQ10060-CENI-24

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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
NEW CARROLLTON
PANEL SCHEDULE

SCALE NOT TO SCALE

DRAWING NO. D13-E-102

60

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.
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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.
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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 W/SCREW IN 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
AEMS	AUTOMATED ENERGY MANAGEMENT SYSTEM
AF	AMPERE FRAME
AFC	AUTOMATED FARE COLLECTION SYSTEM
AFF	ABOVE FINISHED FLOOR
AIC	AMPERE INTERRUPTING CAPACITY
AT	AMPERE TRIP
ATS	AUTOMATIC TRANSFER SWITCH
BATT	BATTERY
BKR	BREAKER
℄	BASELINE
C	CONDUIT
CB	CIRCUIT BREAKER
CCT	CIRCUIT
℄	CENTER LINE
CLG	CEILING
CONST	CONSTRUCTION
DC	DIRECT CURRENT
DISC	DISCONNECT
E	ELECTRICAL
FLUOR.	FLUORESCENT
GND	GROUND
GPR	GROUND PENETRATING RADAR
IG	ISOLATED 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
MTD	MOUNTED OR MOUNTING
NEC	NATIONAL ELECTRIC CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURER ASSOCIATION
P	POLE
PH	PHASE
PNL	PANELBOARD
PRI	PRIMARY
PROP	PROPOSED
RGS	RIGID GALVANIZED STEEL
SEC	SECONDARY
SHT	SHEET
STA	STATION
STD	STANDARD
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	09–14 DATE
DRAWN	C. NGO	09–14 DATE
CHECKED	B. IDILBI	09–14 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 _____

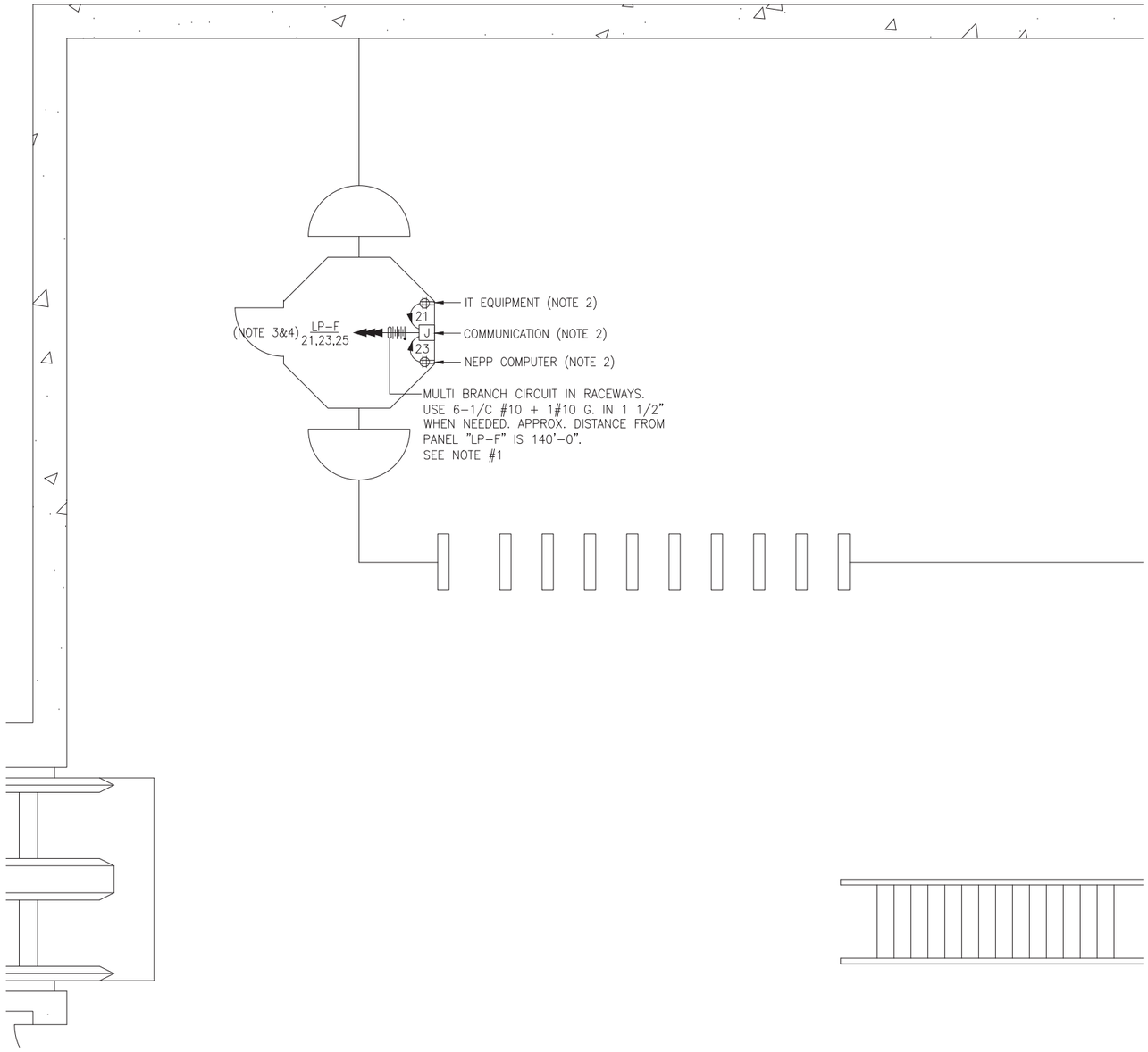
GFP A Gannett Fleming/Parsons JOINT VENTURE

SUBMITTED _____ PROJECT MANAGER

NEW ELECTRONIC PAY PROGRAM (NEPP) IN METRORAIL STATIONS

ABBREVIATIONS, DRAWING INDEX, SPECIFICATIONS & SYMBOL LIST

SCALE	DRAWING NO.	
NOT TO SCALE	G01-E-001	



KIOSK - POWER

SCALE: 1/4" = 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

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APPROVED _____

GFP A Gannett Fleming/Parsons JOINT VENTURE

SUBMITTED _____
PROJECT MANAGER

NEW ELECTRONIC PAY PROGRAM (NEPP) IN METRORAIL STATIONS

NEW CARROLLTON
KIOSK - POWER

SCALE: AS SHOWN

DRAWING NO.: D13-E-101

EXISTING PANEL "LP-F"

AMPERES: **225**	VOLTS: **120/208**	MOUNTING: **SURFACE**	
MAINS: **225A MCB**	PHASE: **3**	LOCATION: **ELEC EQUIPMENT ROOM C106**	
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	3	30	2.9	EXIST. LOAD CENTER "KES"
EXISTING VENDOR	0.8	20	1	3	- B -	4	-	-	2.5	
EXISTING VENDOR	0.8	20	1	5	- - C	6	-	-	2.5	
EXISTING VENDOR	0.8	20	1	7	A - -	8	1	20	0.8	EXISTING VENDOR
SPARE	0.0	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
SPARE	0.0	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	0.8	EXISTING VENDOR
NEW KIOSK RECEPT. (IT/NCS)	**0.8**	20	1	21	- B -	22	1	20	0.8	EXISTING VENDOR
NEW KIOSK RECEPT. (NEPP/SOC)	**0.8**	20	1	23	- - C	24	1	20	0.8	EXISTING VENDOR
FUTURE AFC FARE GATE	0.0	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
SPARE	0.0	20	1	35	- - C	36	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	37	A - -	38	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	39	- B -	40	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	41	- - C	42	1	20	0.8	EXISTING VENDOR

LOAD SUMMARY

LIGHTS	0.0 x 125%		0.0 KVA
RECEPTACLES, FIRST 10 KVA	10.0 x 100%		10.0 KVA
RECEPTACLES	17.6 x 50%		8.8 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	**35.1 KVA**	**TOTAL DEMAND KVA**	**27.1 KVA**
		TOTAL DEMAND AMPS	**75.1 AMPS**
CONNECTED LOAD PHASE SUMMARY			
PHASE A:	11.7 KVA		
PHASE B:	12.1 KVA		
PHASE C:	12.1 KVA		

CONTRACT NO.
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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
NEW CARROLLTON
PANEL SCHEDULE

SCALE NOT TO SCALE

DRAWING NO. D13-E-102

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.
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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.
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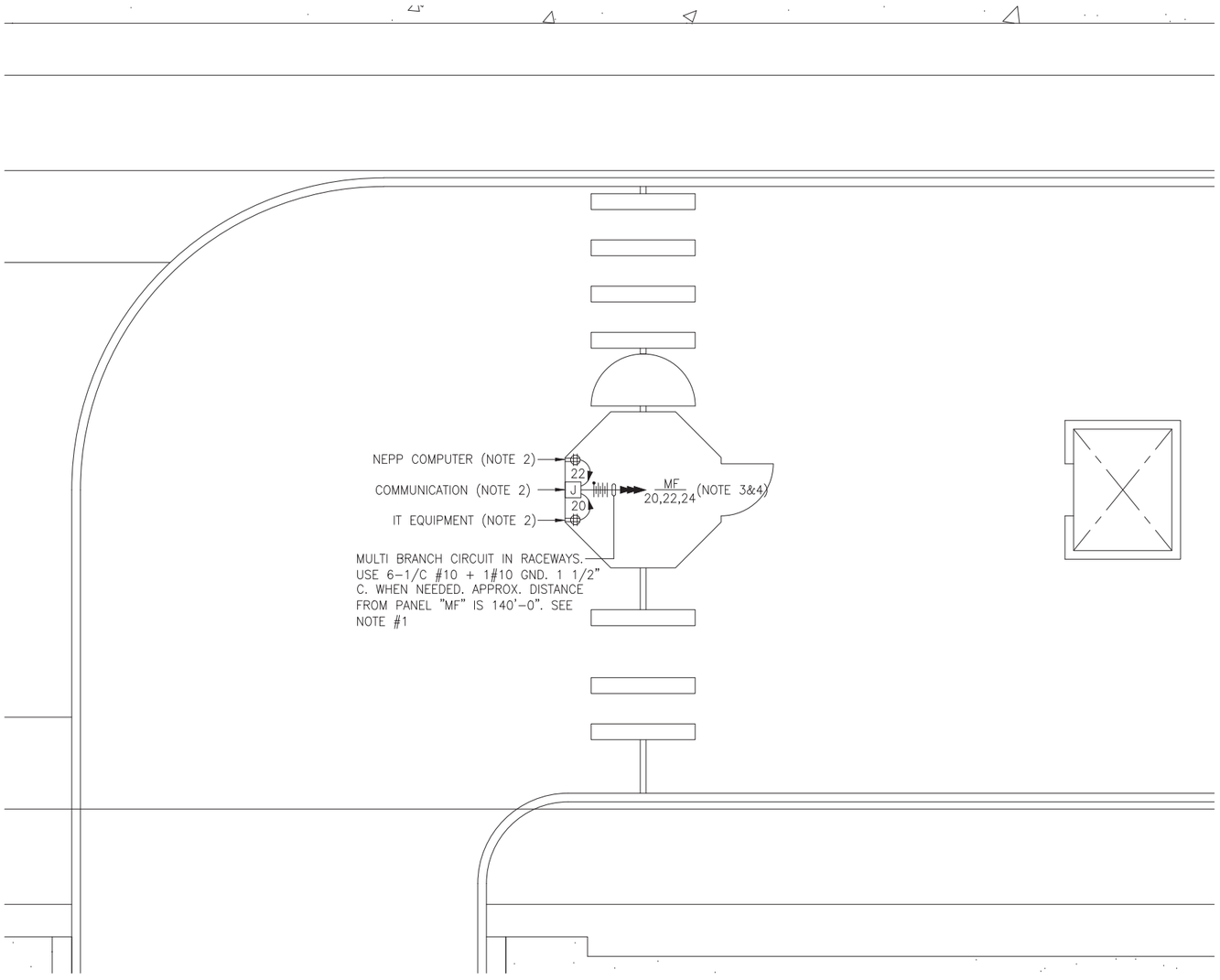
ABBREVIATIONS, DRAWING INDEX, SPECIFICATIONS & SYMBOL LIST

SCALE	DRAWING NO.	
NOT TO SCALE	G02-E-001	



MEZZANINE KIOSK - POWER

SCALE: 1/4" = 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 09-14 DATE
DRAWN C. NGO 09-14 DATE
CHECKED B. IDILBI 09-14 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

CAPITOL HEIGHTS
MEZZANINE KIOSK - POWER

SCALE: AS SHOWN
DRAWING NO.: G02-E-101
65

EXISTING PANEL "MF"

AMPERES: **250**	VOLTS: **120/208**	MOUNTING: **SURFACE**	
MAINS: **250A MCB**	PHASE: **3**	LOCATION: **MECHANICAL EQUIP. ROOM C206**	
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. LOAD CENTER "KES"	2.9	20	1	1	A - -	2	1	20	0.8	EXISTING VENDOR
	2.5	20	1	3	- B -	4	1	20	0.8	EXISTING VENDOR
	2.5	20	1	5	- - C	6	1	20	0.0	SPARE
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	**0.8**	**NEW KIOSK RECEPT. (IT/NCS)**
EXISTING VENDOR	0.8	20	1	21	- B -	22	1	20	**0.8**	**NEW KIOSK RECEPT. (NEPP/SOC)**
EXISTING VENDOR	0.8	20	1	23	- - C	24	1	20	0.0	**FUTURE AFC FARE GATE**
SPARE	0.0	20	1	25	A - -	26	1	20	0.0	SPARE
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
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

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:	8.9 KVA		
PHASE C:	6.5 KVA		

CONTRACT NO.
14-FQ10060-CENI-24

DESIGNED C. NGO 09-14 DATE
DRAWN C. NGO 09-14 DATE
CHECKED B. IDILBI 09-14 DATE
APPROVED N/A DATE

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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
CAPITOL HEIGHTS
PANEL SCHEDULE

SCALE
NOT TO SCALE

DRAWING NO.
G02-E-102

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 W/SCREW IN 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
AEMS	AUTOMATED ENERGY MANAGEMENT SYSTEM
AF	AMPERE FRAME
AFC	AUTOMATED FARE COLLECTION SYSTEM
AFF	ABOVE FINISHED FLOOR
AIC	AMPERE INTERRUPTING CAPACITY
AT	AMPERE TRIP
ATS	AUTOMATIC TRANSFER SWITCH
BATT	BATTERY
BKR	BREAKER
℄	BASELINE
C	CONDUIT
CB	CIRCUIT BREAKER
CCT	CIRCUIT
℄	CENTER LINE
CLG	CEILING
CONST	CONSTRUCTION
DC	DIRECT CURRENT
DISC	DISCONNECT
E	ELECTRICAL
FLUOR.	FLUORESCENT
GND	GROUND
GPR	GROUND PENETRATING RADAR
IG	ISOLATED 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
MTD	MOUNTED OR MOUNTING
NEC	NATIONAL ELECTRIC CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURER ASSOCIATION
P	POLE
PH	PHASE
PNL	PANELBOARD
PRI	PRIMARY
PROP	PROPOSED
RGS	RIGID GALVANIZED STEEL
SEC	SECONDARY
SHT	SHEET
STA	STATION
STD	STANDARD
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	09-14 DATE
DRAWN	C. NGO	09-14 DATE
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WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

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

APPROVED _____

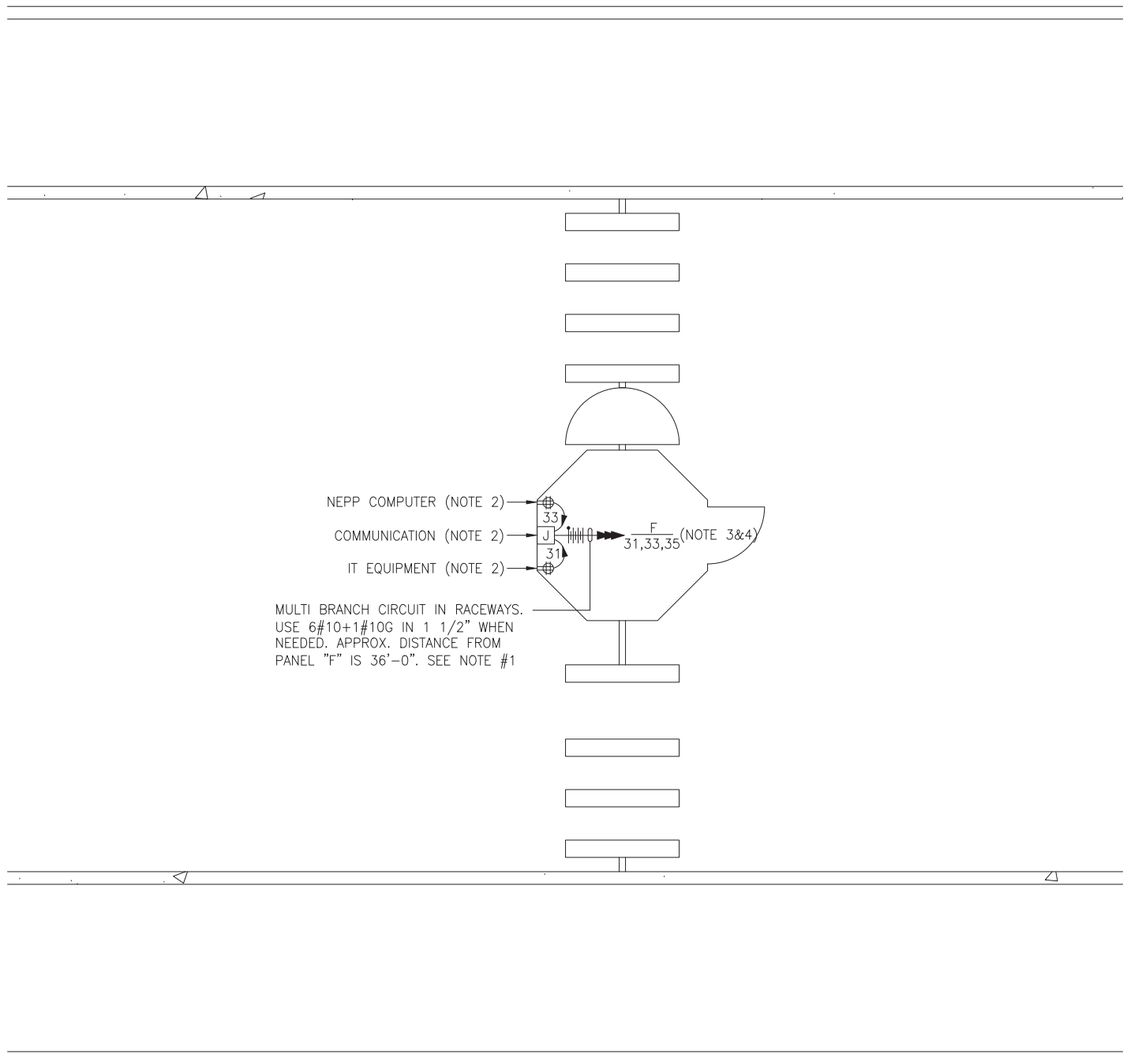
GFP A Gannett Fleming/Parsons JOINT VENTURE

SUBMITTED _____ PROJECT MANAGER

NEW ELECTRONIC PAY PROGRAM (NEPP) IN METRORAIL STATIONS

ABBREVIATIONS, DRAWING INDEX, SPECIFICATIONS & SYMBOL LIST

SCALE	DRAWING NO.
NOT TO SCALE	G03-E-001



KIOSK - POWER

SCALE: 1/4" = 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

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NEW ELECTRONIC PAY PROGRAM (NEPP) IN METRORAIL STATIONS

ADDISON ROAD
KIOSK - POWER

SCALE: AS SHOWN

DRAWING NO.
G03-E-101

EXISTING PANEL "F"

AMPERES: 225		VOLTS: **120/208**			MOUNTING: **SURFACE**					
MAINS: 225**A MLO**		PHASE: **3**			LOCATION: **ROOM #207**					
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. LOAD CENTER "KES"	2.7	30	3	1	A - -	2	1	20	0.8	EXISTING VENDOR
	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	0.0	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	0.8	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	0.8	EXISTING VENDOR
SPACE	0.0	-	-	21	- B -	22	-	-	0.0	SPACE
SPACE	0.0	-	-	23	- - C	24	-	-	0.0	SPACE
SPACE	0.0	-	-	25	A - -	26	-	-	0.0	SPACE
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
NEW KIOSK RECEPT. (IT/NCS)	**0.8**	20	1	31	A - -	32	1	20	0.0	SPARE
NEW KIOSK RECEPT. (NEPP/SOC)	**0.8**	20	1	33	- B -	34	1	20	0.0	SPARE
FUTURE AFC FARE GATE	0.0	20	1	35	- - C	36	1	20	0.0	SPARE
SPARE	0.0	20	1	37	A - -	38	1	20	0.0	SPARE
EXISTING VENDOR	0.8	20	1	39	- B -	40	1	20	0.0	SPARE
SPACE	0.0	-	-	41	- - C	42	-	-	0.0	SPACE
SPACE	0.0	-	-	43	A - -	44	-	-	0.0	SPACE
SPACE	0.0	-	-	45	- B -	46	-	-	0.0	SPACE
SPACE	0.0	-	-	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	7.8 x 50%		3.9 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	**25.3 KVA**	**TOTAL DEMAND KVA**	**22.2 KVA**
		TOTAL DEMAND AMPS	**61.5 AMPS**
CONNECTED LOAD PHASE SUMMARY			
PHASE A:	8.3 KVA		
PHASE B:	9.7 KVA		
PHASE C:	8.1 KVA		

CONTRACT NO.
14-FQ10060-CENI-24

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DRAWN C. NGO 09-14 DATE
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PROJECT MANAGER

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

SCALE
NOT TO SCALE

DRAWING NO.
G03-E-102

ELECTRICAL SPECIFICATIONS

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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.

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 / 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

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DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES
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APPROVED _____

GFP A Gannett Fleming/Parsons JOINT VENTURE

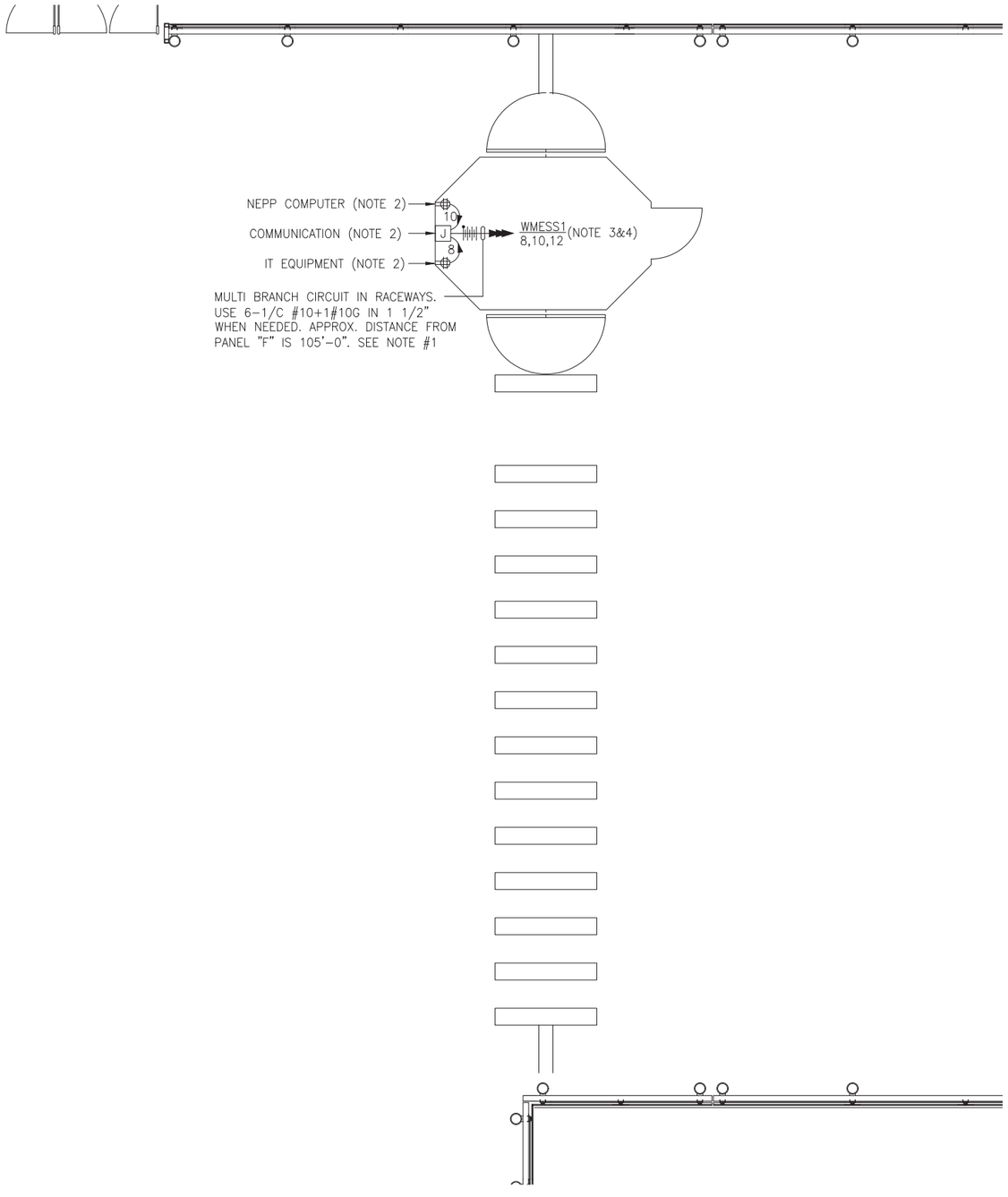
SUBMITTED _____ PROJECT MANAGER

NEW ELECTRONIC PAY PROGRAM (NEPP) IN METRORAIL STATIONS

ABBREVIATIONS □ DRAWING INDE □ □
SPECIFICATIONS □ SYMBOL LIST

SCALE NOT TO SCALE

DRAWING NO. G04-E-001



KIOSK - POWER

SCALE: 1/4" = 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

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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

MORGAN BOULEVARD
KIOSK - POWER

SCALE: AS SHOWN

DRAWING NO.
G04-E-101

EXISTING PANEL "WMESS1"

AMPERES: **250**	VOLTS: **120/208**	MOUNTING: **SURFACE**	
MAINS: **250A MCB**	PHASE: **3**	LOCATION: **ELECTRICAL 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
SPARE	0.0	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)**
EXISTING VENDOR	0.8	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**
EXISTING VENDOR	0.8	20	1	13	A - -	14	1	20	0.0	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	0.8	EXISTING VENDOR
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
SPARE	0.0	20	1	27	- B -	28	1	20	0.8	EXISTING VENDOR
SPARE	0.0	20	1	29	- - C	30	1	20	0.8	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
EXISTING VENDOR	0.8	20	1	37	A - -	38	3	40	3.3	EXIST. KIOSK LOAD CENTER "KES"
EXISTING VENDOR	0.8	20	1	39	- B -	40	-	-	2.5	
EXISTING VENDOR	0.8	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	17.2 x 50%		8.6 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	**34.7 KVA**	**TOTAL DEMAND KVA**	**26.9 KVA**
		TOTAL DEMAND AMPS	**74.6 AMPS**
CONNECTED LOAD PHASE SUMMARY			
PHASE A:	12.1 KVA		
PHASE B:	12.1 KVA		
PHASE C:	11.3 KVA		

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GFP A Gannett Fleming/Parsons JOINT VENTURE

SUBMITTED _____
PROJECT MANAGER

NEW ELECTRONIC PAY PROGRAM (NEPP) IN METRORAIL STATIONS

MORGAN BOULEVARD
PANEL SCHEDULE

SCALE
NOT TO SCALE

DRAWING NO.
G04-E-102

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.
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GFP A Gannett Fleming/Parsons JOINT VENTURE

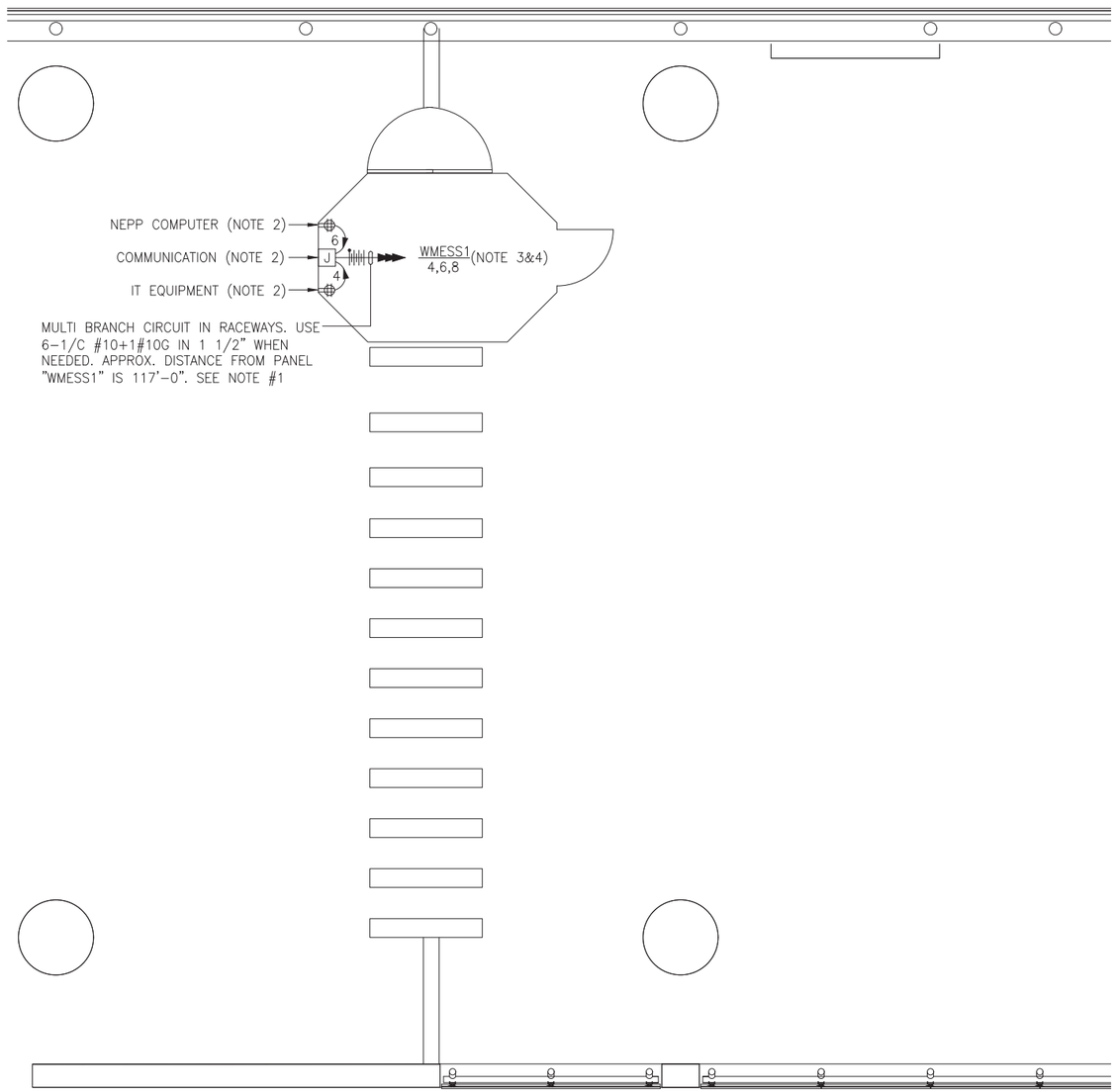
SUBMITTED _____ PROJECT MANAGER

NEW ELECTRONIC PAY PROGRAM (NEPP) IN METRORAIL STATIONS

ABBREVIATIONS □ DRAWING INDE □ □
SPECIFICATIONS □ SYMBOL LIST

SCALE
NOT TO SCALE

DRAWING NO.
G05-E-001



KIOSK - POWER

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

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CONTRACT NO.
14-FQ10060-CENI-24

DESIGNED C. NGO 09-14 DATE
DRAWN C. NGO 09-14 DATE
CHECKED B. IDILBI 09-14 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
LARGO TOWN CENTER
KIOSK - POWER

SCALE: AS SHOWN

DRAWING NO.
G05-E-101

EXISTING PANEL "WMESS1"

AMPERES: **250**	VOLTS: **120/208**	MOUNTING: **SURFACE**	
MAINS: **250A MCB**	PHASE: **3**	LOCATION: **FIRE EQUIP. CABINET & SERVICE RM 101**	
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**	**NEW KIOSK RECEPT. (IT/NCS)**
EXISTING VENDOR	0.8	20	1	5	- - C	6	1	20	**0.8**	**NEW KIOSK RECEPT. (NEPP/SOC)**
SPARE	0.0	20	1	7	A - -	8	1	20	0.0	**FUTURE AFC FARE GATE**
SPARE	0.0	20	1	9	- B -	10	1	20	0.0	SPARE
SPARE	0.0	20	1	11	- - C	12	1	20	0.0	SPARE
SPARE	0.0	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	0.8	EXISTING VENDOR
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
SPARE	0.0	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
EXISTING VENDOR	0.8	20	1	37	A - -	38	3	40	2.9	EXIST. 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	12.8 x 50%		6.4 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	4.5 x 100%		4.5 KVA
WATER HEATING	3.0 x 125%		3.8 KVA
TOTAL CONNECTED LOAD	**30.3 KVA**	**TOTAL DEMAND KVA**	**24.7 KVA**
		TOTAL DEMAND AMPS	**68.5 AMPS**
CONNECTED LOAD PHASE SUMMARY			
PHASE A:	10.9 KVA		
PHASE B:	10.5 KVA		
PHASE C:	9.7 KVA		

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GFP A Gannett Fleming/Parsons JOINT VENTURE

SUBMITTED
PROJECT MANAGER

NEW ELECTRONIC PAY PROGRAM (NEPP)
IN METRORAIL STATIONS
LARGO TOWN CENTER
PANEL SCHEDULE

SCALE NOT TO SCALE
DRAWING NO. G05-E-102
75

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.

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, 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

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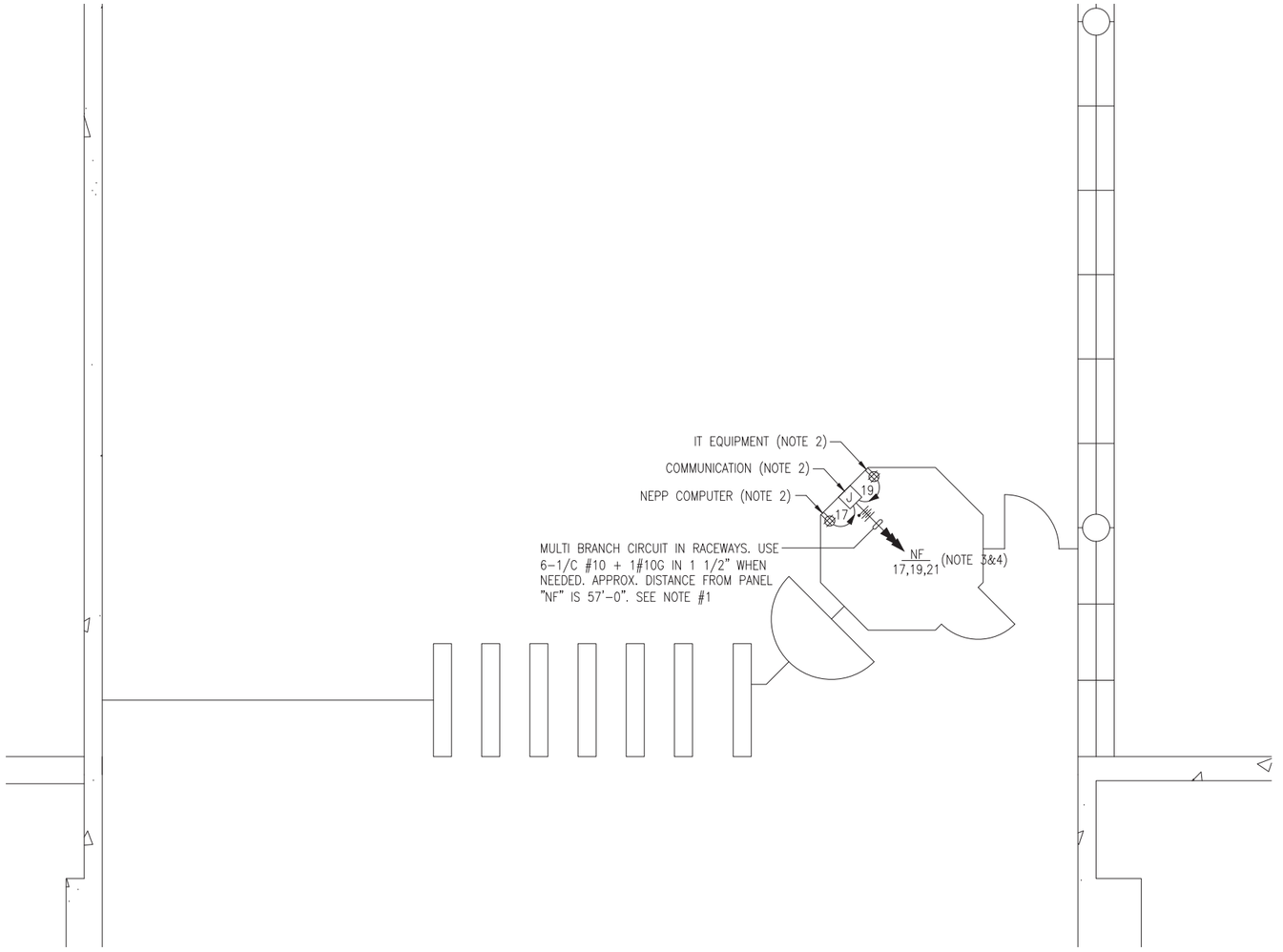
SUBMITTED _____ PROJECT MANAGER

NEW ELECTRONIC PAY PROGRAM (NEPP)
IN METRORAIL STATIONS
ABBREVIATIONS□DRAWING INDE□□
SPECIFICATIONS □ SYMBOL LIST

SCALE: NOT TO SCALE

DRAWING NO.: J02-E-001



KIOSK - POWER
SCALE: 1/4" = 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.

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NEW ELECTRONIC PAY PROGRAM (NEPP) IN METRORAIL STATIONS
VAN DORN STREET
KIOSK - POWER

SCALE: AS SHOWN
DRAWING NO.: J02-E-101

EXISTING PANEL "NF"

AMPERES: **225**	VOLTS: **120/208**	MOUNTING: **SURFACE**
MAINS: **200A MCB**	PHASE: **3**	LOCATION: **AC SWBD ROOM 110**
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	3	30	2.9	EXIST. LOAD CENTER "KES"
EXISTING VENDOR	0.8	20	1	3	- B -	4	-	-	2.5	
EXISTING VENDOR	0.8	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	EXISTING VENDOR
NEW KIOSK RECEPT. (IT/NCS)	**0.8**	20	1	17	- - C	18	1	20	0.8	EXISTING VENDOR
NEW KIOSK RECEPT. (NEPP/SOC)	**0.8**	20	1	19	A - -	20	1	20	0.8	EXISTING VENDOR
FUTURE AFC FARE GATE	0.0	20	1	21	- B -	22	1	20	0.8	EXISTING VENDOR
SPARE	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
EXISTING VENDOR	0.8	20	1	27	- B -	28	1	20	0.0	SPARE
EXISTING VENDOR	0.8	20	1	29	- - C	30	1	20	0.0	SPARE
SPARE	0.0	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
SPARE	0.0	20	1	37	A - -	38	1	20	0.0	SPARE
SPARE	0.0	20	1	39	- B -	40	1	20	0.0	SPARE
SPARE	0.0	20	1	41	- - C	42	1	20	0.0	SPARE

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:	7.7 KVA		
PHASE B:	8.9 KVA		
PHASE C:	8.1 KVA		

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IN METRORAIL STATIONS
VAN DORN STREET
PANEL SCHEDULE

SCALE NOT TO SCALE

DRAWING NO. J02-E-102

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.
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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.
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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.

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 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 09–14 DATE
DRAWN C. NGO 09–14 DATE
CHECKED B. IDILBI 09–14 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

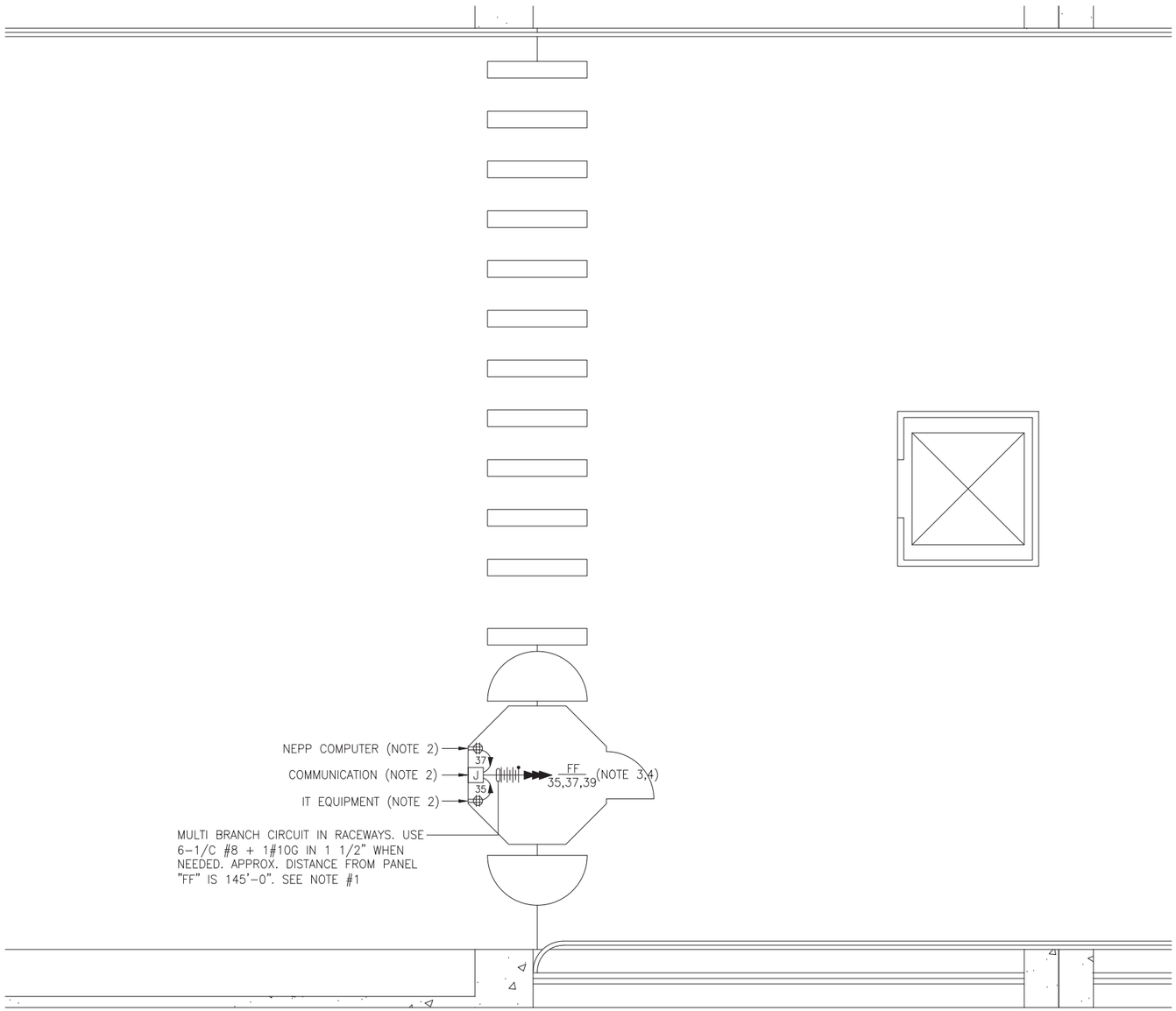
SUBMITTED _____ PROJECT MANAGER

NEW ELECTRONIC PAY PROGRAM (NEPP) IN METRORAIL STATIONS

ABBREVIATIONS □ DRAWING INDE □ □
SPECIFICATIONS □ SYMBOL LIST

SCALE: NOT TO SCALE

DRAWING NO.: J03-E-001



KIOSK - POWER

SCALE: 1/4" = 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	09-14 DATE
DRAWN	C. NGO	09-14 DATE
CHECKED	B. IDILBI	09-14 DATE
APPROVED	N/A	DATE

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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

FRANCONIA SPRINGFIELD
KIOSK - POWER

SCALE	DRAWING NO.	
AS SHOWN	J03-E-101	80

EXISTING PANEL "FF"

AMPERES: 225	VOLTS: 120/208	MOUNTING: SURFACE
MAINS: 200A MCB	PHASE: 3	LOCATION: AC SWBD ROOM 216
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	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	0.8	EXISTING VENDOR
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
SPARE	0.0	20	1	25	A - -	26	1	20	0.0	SPARE
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	0.0	SPARE
NEW KIOSK RECEPT. (IT/NCS)	**0.8**	20	1	35	- - C	36	1	20	0.0	SPARE
NEW KIOSK RECEPT. (NEPP/SOC)	**0.8**	20	1	37	A - -	38	3	30	2.9	EXIST. LOAD CENTER "KES"
FUTURE AFC FARE GATE	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	16.0 x 50%		8.0 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	**33.5 KVA**	**TOTAL DEMAND KVA**	**26.3 KVA**
		TOTAL DEMAND AMPS	**72.9 AMPS**
CONNECTED LOAD PHASE SUMMARY			
PHASE A:	**11.7 KVA**		
PHASE B:	**11.3 KVA**		
PHASE C:	**11.3 KVA**		

CONTRACT NO.
14-FQ10060-CENI-24

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CHECKED B. IDILBI 09-14 DATE
APPROVED N/A DATE

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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

FRANCONIA SPRINGFIELD
PANEL SCHEDULE

SCALE: NOT TO SCALE

DRAWING NO.: J03-E-102

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.
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AC	ALTERNATING CURRENT
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U/G	UNDER GROUND
U.L.	UNDERWRITERS LABORATORIES
UON	UNLESS OTHERWISE NOTED
VOLT	VOLTAGE
W	WATT
WMATA	WASHINGTON METROPOLITIAN AREA TRANSIT AUTHORITY
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DRAWING INDEX

ELECTRICAL SYMBOL LIST

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- J — JUNCTION BOX – SURFACE MOUNTED ON UNISTRUT CHANNEL
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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

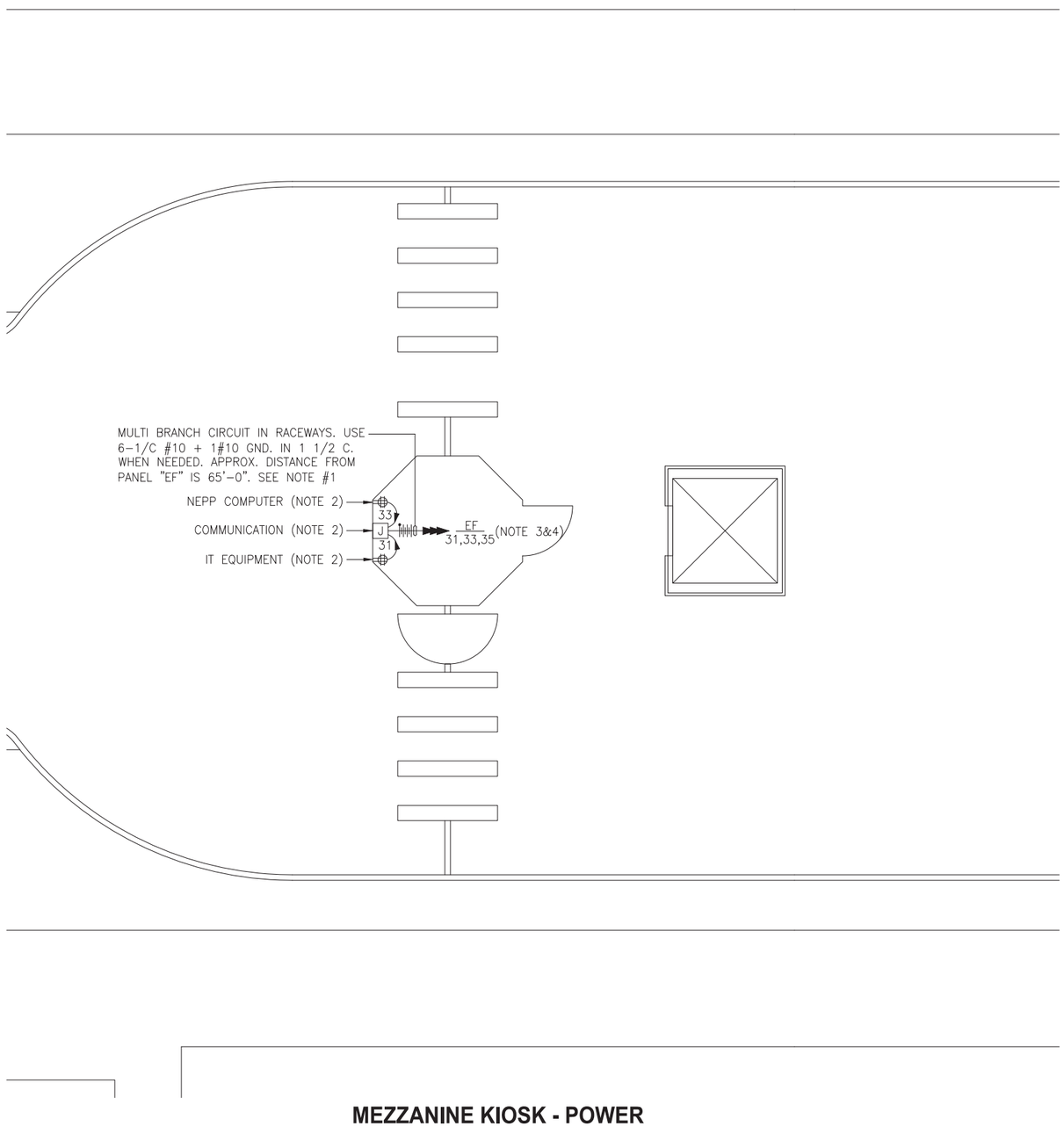
SUBMITTED _____ PROJECT MANAGER

NEW ELECTRONIC PAY PROGRAM (NEPP) IN METRORAIL STATIONS

ABBREVIATIONS □ DRAWING INDE □ □
SPECIFICATIONS □ SYMBOL LIST

SCALE: NOT TO SCALE

DRAWING NO.: K01-E-001



MEZZANINE KIOSK - POWER

SCALE: 1/4" = 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.
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SAFETY PRECAUTION:

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

CONTRACT NO.
14-FQ10060-CENI-24

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APPROVED N/A	DATE	

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APPROVED

GFP A Gannett Fleming/Parsons JOINT VENTURE

SUBMITTED
PROJECT MANAGER

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

SCALE: AS SHOWN

DRAWING NO.: K01-E-101

EXISTING PANEL "EF"

AMPERES: **250**	VOLTS: **120/208**	MOUNTING: **SURFACE**	
MAINS: **250A MCB**	PHASE: **3**	LOCATION: **ELEC. EQUIPMENT RM. 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
EXIST. LOAD CENTER "KES"	2.9	40	3	1	A - -	2	1	20	0.8	EXISTING VENDOR
	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	0.0	SPARE
EXISTING VENDOR	0.8	20	1	9	- B -	10	1	20	0.0	SPARE
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	0.8	EXISTING VENDOR
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	0.0	SPARE
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	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	29	- - C	30	1	20	0.0	SPARE
NEW KIOSK RECEPT. (IT/NCS)	**0.8**	20	1	31	A - -	32	1	20	0.0	SPARE
NEW KIOSK RECEPT. (NEPP/SOC)	**0.8**	20	1	33	- B -	34	1	20	0.0	SPARE
FUTURE AFC FARE GATE	0.0	20	1	35	- - C	36	1	20	0.0	SPARE
SPARE	0.0	20	1	37	A - -	38	1	20	0.0	SPARE
SPARE	0.0	20	1	39	- B -	40	1	20	0.0	SPARE
SPACE	0.0	-	-	41	- - C	42	-	-	0.0	SPACE
SPACE	0.0	-	-	43	A - -	44	-	-	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	8.8 x 50%		4.4 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	**26.3 KVA**	**TOTAL DEMAND KVA**	**22.7 KVA**
		TOTAL DEMAND AMPS	**62.9 AMPS**
CONNECTED LOAD PHASE SUMMARY			
PHASE A:	9.3 KVA		
PHASE B:	9.7 KVA		
PHASE C:	8.1 KVA		

CONTRACT NO.
14-FQ10060-CENI-24

DESIGNED C. NGO 12-14 DATE
DRAWN C. NGO 12-14 DATE
CHECKED B. IDILBI 12-14 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

COURT HOUSE
PANEL SCHEDULE

SCALE: NOT TO SCALE

DRAWING NO.: K01-E-102

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 W/SCREW IN 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
AEMS	AUTOMATED ENERGY MANAGEMENT SYSTEM
AF	AMPERE FRAME
AFC	AUTOMATED FARE COLLECTION SYSTEM
AFF	ABOVE FINISHED FLOOR
AIC	AMPERE INTERRUPTING CAPACITY
AT	AMPERE TRIP
ATS	AUTOMATIC TRANSFER SWITCH
BATT	BATTERY
BKR	BREAKER
℄	BASELINE
C	CONDUIT
CB	CIRCUIT BREAKER
CCT	CIRCUIT
℄	CENTER LINE
CLG	CEILING
CONST	CONSTRUCTION
DC	DIRECT CURRENT
DISC	DISCONNECT
E	ELECTRICAL
FLUOR.	FLUORESCENT
GND	GROUND
GPR	GROUND PENETRATING RADAR
IG	ISOLATED 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
MTD	MOUNTED OR MOUNTING
NEC	NATIONAL ELECTRIC CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURER ASSOCIATION
P	POLE
PH	PHASE
PNL	PANELBOARD
PRI	PRIMARY
PROP	PROPOSED
RGS	RIGID GALVANIZED STEEL
SEC	SECONDARY
SHT	SHEET
STA	STATION
STD	STANDARD
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	12–14 DATE
DRAWN	C. NGO	12–14 DATE
CHECKED	B. IDILBI	12–14 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

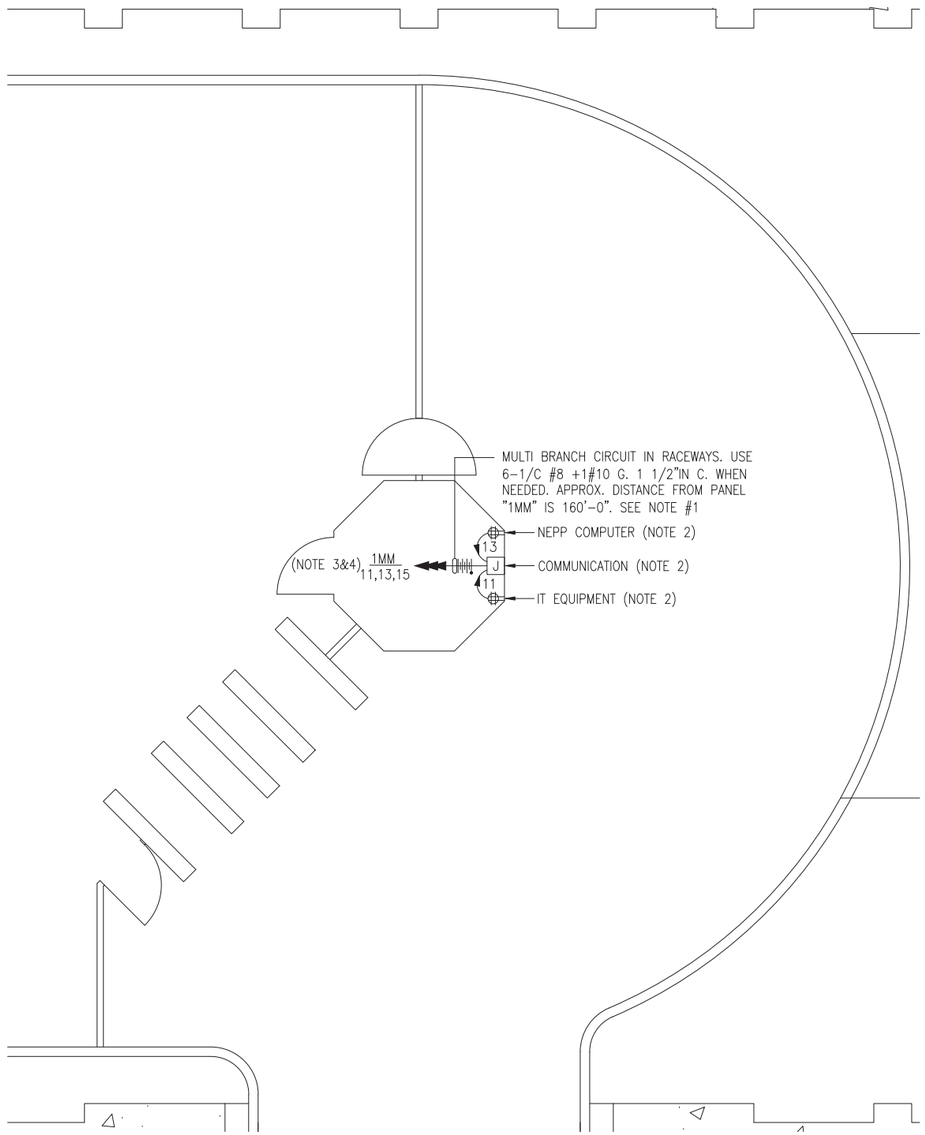
APPROVED _____

GFP A Gannett Fleming/Parsons JOINT VENTURE

SUBMITTED _____ PROJECT MANAGER

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

SCALE	DRAWING NO.	
NOT TO SCALE	K02-E-001	85



MEZZANINE KIOSK - POWER

SCALE: 1/4" = 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 12-14 DATE
DRAWN C. NGO 12-14 DATE
CHECKED B. IDILBI 12-14 DATE
APPROVED N/A DATE

REFERENCE DRAWINGS	
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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

CLARENDON
MEZZANINE KIOSK - POWER

SCALE: AS SHOWN

DRAWING NO. K02-E-101

EXISTING PANEL "1MM"

AMPERES: 225	VOLTS: 120/208	MOUNTING: SURFACE
MAINS: 200A MCB	PHASE: 3	LOCATION: MECH. EQUIPMENT RM. C203
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. LOAD CENTER "KES"	2.9	30	3	1	A - -	2	3	20	0.0	SPARE
	2.5	-	-	3	- B -	4	-	-	0.0	
	2.5	-	-	5	- - C	6	-	-	0.0	
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
NEW KIOSK RECEPT. (IT/NCS)	**0.8**	20	1	11	- - C	12	1	20	0.8	EXISTING VENDOR
NEW KIOSK RECEPT. (NEPP/SOC)	**0.8**	20	1	13	A - -	14	1	20	0.8	EXISTING VENDOR
FUTURE AFC FARE GATE	0.8	20	1	15	- B -	16	1	20	0.0	SPARE
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	0.8	EXISTING VENDOR
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
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
SPACE	0.0	-	-	31	A - -	32	-	-	0.0	SPACE
SPACE	0.0	-	-	33	- B -	34	-	-	0.0	SPACE
SPACE	0.0	-	-	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	4.8 x 50%		2.4 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	6.0 x 100%		6.0 KVA
WATER HEATING	1.0 x 125%		1.3 KVA
TOTAL CONNECTED LOAD	**24.8 KVA**	**TOTAL DEMAND KVA**	**23.4 KVA**
		TOTAL DEMAND AMPS	**65.0 AMPS**
CONNECTED LOAD PHASE SUMMARY			
PHASE A:	11.8 KVA		
PHASE B:	6.5 KVA		
PHASE C:	7.3 KVA		

CONTRACT NO.
14-FQ10060-CENI-24

DESIGNED C. NGO 12-14 DATE
DRAWN C. NGO 12-14 DATE
CHECKED B. IDILBI 12-14 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
CLARENDON
PANEL SCHEDULE

SCALE NOT TO SCALE

DRAWING NO. K02-E-102

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.

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 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 12–14 DATE
DRAWN C. NGO 12–14 DATE
CHECKED B. IDILBI 12–14 DATE
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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

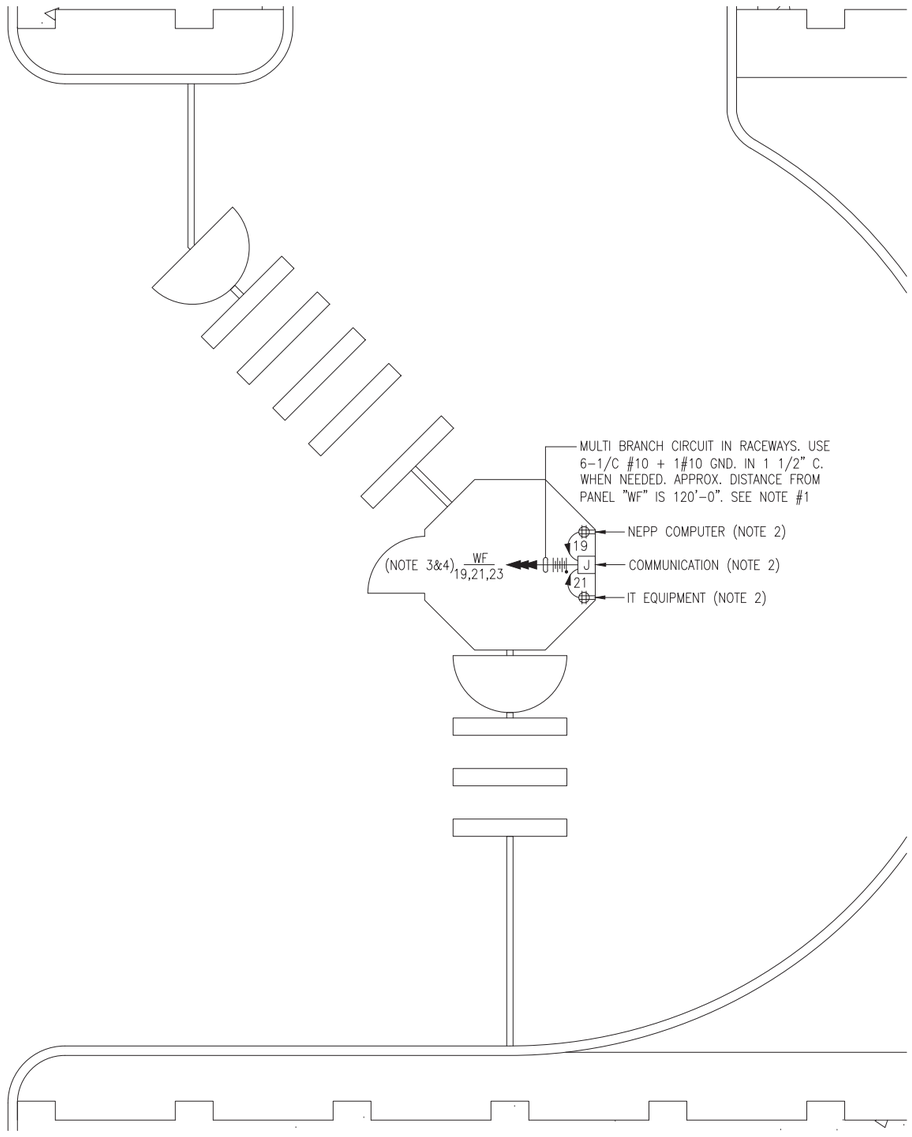
SUBMITTED _____ PROJECT MANAGER

NEW ELECTRONIC PAY PROGRAM (NEPP) IN METRORAIL STATIONS

ABBREVIATIONS □ DRAWING INDE □ □
SPECIFICATIONS □ SYMBOL LIST

SCALE: NOT TO SCALE

DRAWING NO.: K03-E-E001



MEZZANINE KIOSK - POWER

SCALE: 1/4" = 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.

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OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM

APPROVED

GFP A Gannett Fleming/Parsons JOINT VENTURE

SUBMITTED
PROJECT MANAGER

NEW ELECTRONIC PAY PROGRAM (NEPP) IN METRORAIL STATIONS

VIRGINIA SQUARE
MEZZANINE KIOSK - POWER

SCALE: AS SHOWN

DRAWING NO.: K03-E-101

EXISTING PANEL "WF"

AMPERES: 225	VOLTS: 120/208	MOUNTING: SURFACE
MAINS: 200A MCB	PHASE: 3	LOCATION: ELEV. MACH. /MECH. EQUIPMENT RM C206
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
SPARE	0.0	20	1	5	- - C	6	1	20	0.0	SPARE
SPARE	0.0	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
SPARE	0.0	20	1	13	A - -	14	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	15	- B -	16	1	20	0.0	SPARE
EXISTING VENDOR	0.8	20	1	17	- - C	18	1	20	0.8	EXISTING VENDOR
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	0.8	EXISTING VENDOR
FUTURE AFC FARE GATE	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	0.8	EXISTING VENDOR
SPACE	0.0	-	-	31	A - -	32	3	30	2.9	EXISTING LOAD CENTER "KES"
SPACE	0.0	-	-	33	- B -	34	-	-	2.5	
SPACE	0.0	-	-	35	- - C	36	-	-	2.5	
SPACE	0.0	-	-	37	A - -	38	1	20	0.0	SPARE
SPACE	0.0	-	-	39	- B -	40	1	20	0.8	EXISTING VENDOR
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	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:	8.5 KVA		
PHASE B:	9.7 KVA		
PHASE C:	6.5 KVA		

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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
VIRGINIA SQUARE
PANEL SCHEDULE

SCALE NOT TO SCALE

DRAWING NO. K03-E-102

90

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.

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
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U/G	UNDER GROUND
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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
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- #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
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APPROVED _____

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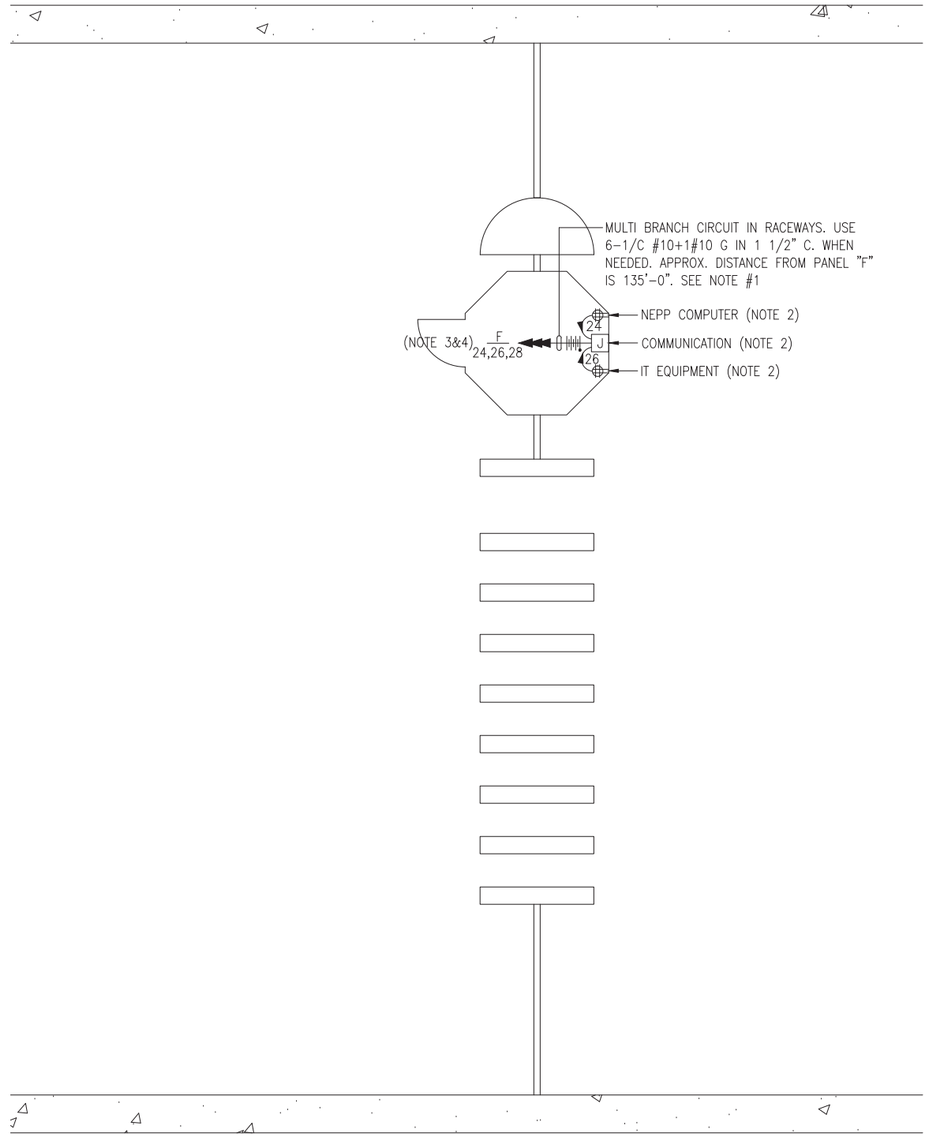
SUBMITTED _____ PROJECT MANAGER

NEW ELECTRONIC PAY PROGRAM (NEPP) IN METRORAIL STATIONS

ABBREVIATIONS□DRAWING INDE□□
SPECIFICATIONS □ SYMBOL LIST

SCALE NOT TO SCALE

DRAWING NO. K05-E-001



KIOSK - POWER

SCALE: 1/4" = 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.
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APPROVED _____

GFP A Gannett Fleming/Parsons JOINT VENTURE

SUBMITTED _____ PROJECT MANAGER

NEW ELECTRONIC PAY PROGRAM (NEPP) IN METRORAIL STATIONS

EAST FALLS CHURCH
KIOSK - POWER

SCALE: AS SHOWN

DRAWING NO.: K05-E-101

EXISTING PANEL "F"

AMPERES: **400**	VOLTS: **120/208**	MOUNTING: **SURFACE**	
MAINS: **400A MCB**	PHASE: **3**	LOCATION: **ELEC. EQUIPMENT ROOM 115**	
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
SPARE	0.0	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	0.8	EXISTING VENDOR
SPARE	0.0	20	1	21	- B -	22	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	23	- - C	24	1	20	**0.8**	**NEW KIOSK RECEPT. (IT/NCS)**
SPARE	0.0	20	1	25	A - -	26	1	20	**0.8**	**NEW KIOSK RECEPT. (NEPP/SOC)**
SPARE	0.0	20	1	27	- B -	28	1	20	0.0	**FUTURE AFC FARE GATE**
SPARE	0.0	20	1	29	- - C	30	1	20	0.0	SPARE
SPARE	0.0	-	-	31	A - -	32	1	20	0.0	SPARE
SPARE	0.0	-	-	33	- B -	34	1	20	0.0	SPARE
EXISTING LOAD CENTER "KES"	2.9	40	3	35	- - C	36	1	20	0.0	SPARE
	2.5	-	-	37	A - -	38	1	20	0.0	SPARE
	2.5	-	-	39	- B -	40	1	20	0.0	SPARE
EXISTING VENDOR	0.8	20	1	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	7.2 x 50%		3.6 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	**24.7 KVA**	**TOTAL DEMAND KVA**	**21.9 KVA**
		TOTAL DEMAND AMPS	**60.7 AMPS**
CONNECTED LOAD PHASE SUMMARY			
PHASE A:	8.9 KVA		
PHASE B:	8.1 KVA		
PHASE C:	8.5 KVA		

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DESIGNED C. NGO 12-14 DATE
DRAWN C. NGO 12-14 DATE
CHECKED B. IDILBI 12-14 DATE
APPROVED N/A DATE

REFERENCE DRAWINGS

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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
EAST FALLS CHURCH
PANEL SCHEDULE

SCALE NOT TO SCALE

DRAWING NO. K05-E-102

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.

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 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

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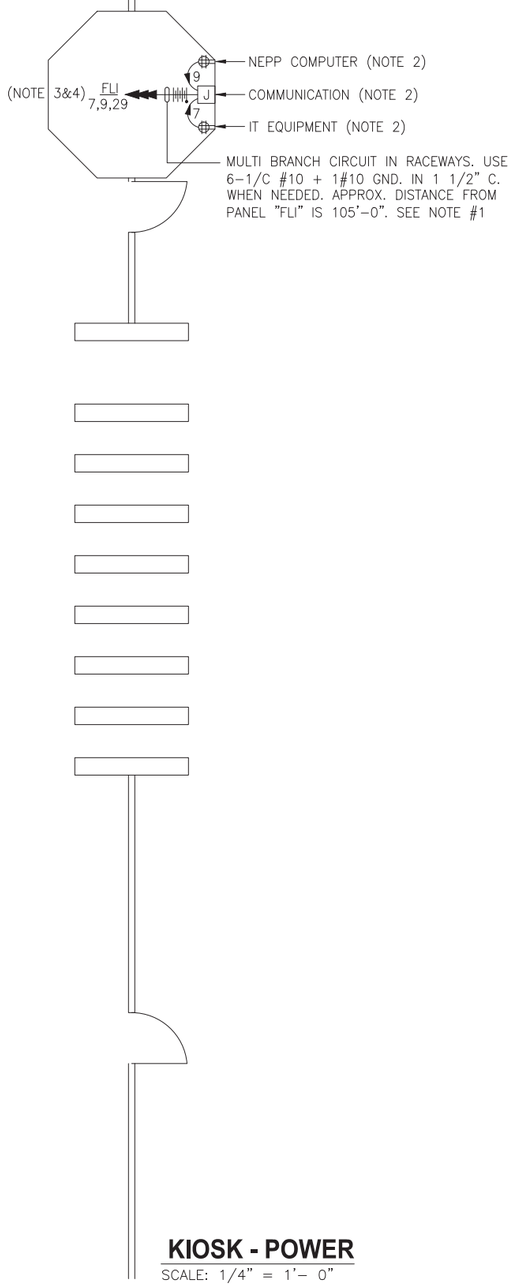
NEW ELECTRONIC PAY PROGRAM (NEPP) IN METRORAIL STATIONS
ABBREVIATIONS□DRAWING INDE□□
SPECIFICATIONS □ SYMBOL LIST

SCALE NOT TO SCALE

DRAWING NO. K06-E-001



KIOSK - POWER

SCALE: 1/4" = 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.

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NEW ELECTRONIC PAY PROGRAM (NEPP) IN METRORAIL STATIONS
WEST FALLS CHURCH
KIOSK - POWER

SCALE: AS SHOWN

DRAWING NO.: K06-E-101

95

EXISTING PANEL "FLI"

AMPERES: **225**	VOLTS: **120/208**	MOUNTING: **SURFACE**	
MAINS: **225A MCB**	PHASE: **3**	LOCATION: **ELEC. EQUIPMENT ROOM 212**	
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	0.8	EXISTING VENDOR
	2.5	-	-	3	- B -	4	1	20	0.8	EXISTING VENDOR
	2.5	-	-	5	- - C	6	1	20	0.8	EXISTING VENDOR
NEW KIOSK RECEPT. (IT & NCS)	**0.8**	20	1	7	A - -	8	1	20	0.8	EXISTING VENDOR
NEW KIOSK RECEPT. (NEPP/SOC)	**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	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	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	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	27	- B -	28	1	20	0.8	EXISTING VENDOR
FUTURE AFC FARE GATE	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
EXISTING VENDOR	0.8	20	1	35	- - C	36	-	-	0.0	SPACE
SPARE	0.0	20	1	37	A - -	38	1	20	0.8	EXISTING VENDOR
SPACE	0.0	-	-	39	- B -	40	1	20	0.0	SPARE
SPACE	0.0	-	-	41	- - C	42	1	20	0.0	SPARE

LOAD SUMMARY

LIGHTS	0.0 x 125%		0.0 KVA
RECEPTACLES, FIRST 10 KVA	10.0 x 100%		10.0 KVA
RECEPTACLES	9.6 x 50%		4.8 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	**27.1 KVA**	**TOTAL DEMAND KVA**	**23.1 KVA**
		TOTAL DEMAND AMPS	**64.0 AMPS**
CONNECTED LOAD PHASE SUMMARY			
PHASE A:	10.9 KVA		
PHASE B:	8.9 KVA		
PHASE C:	8.1 KVA		

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NEW ELECTRONIC PAY PROGRAM (NEPP) IN METRORAIL STATIONS
WEST FALLS CHURCH
PANEL SCHEDULE

SCALE: NOT TO SCALE

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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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24. INCLUDE GPR FOR ANY CORE DRILLS OR DRILLED PENETRATIONS IN ANY WALLS.
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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.

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A, AMP	AMPERES
AC	ALTERNATING CURRENT
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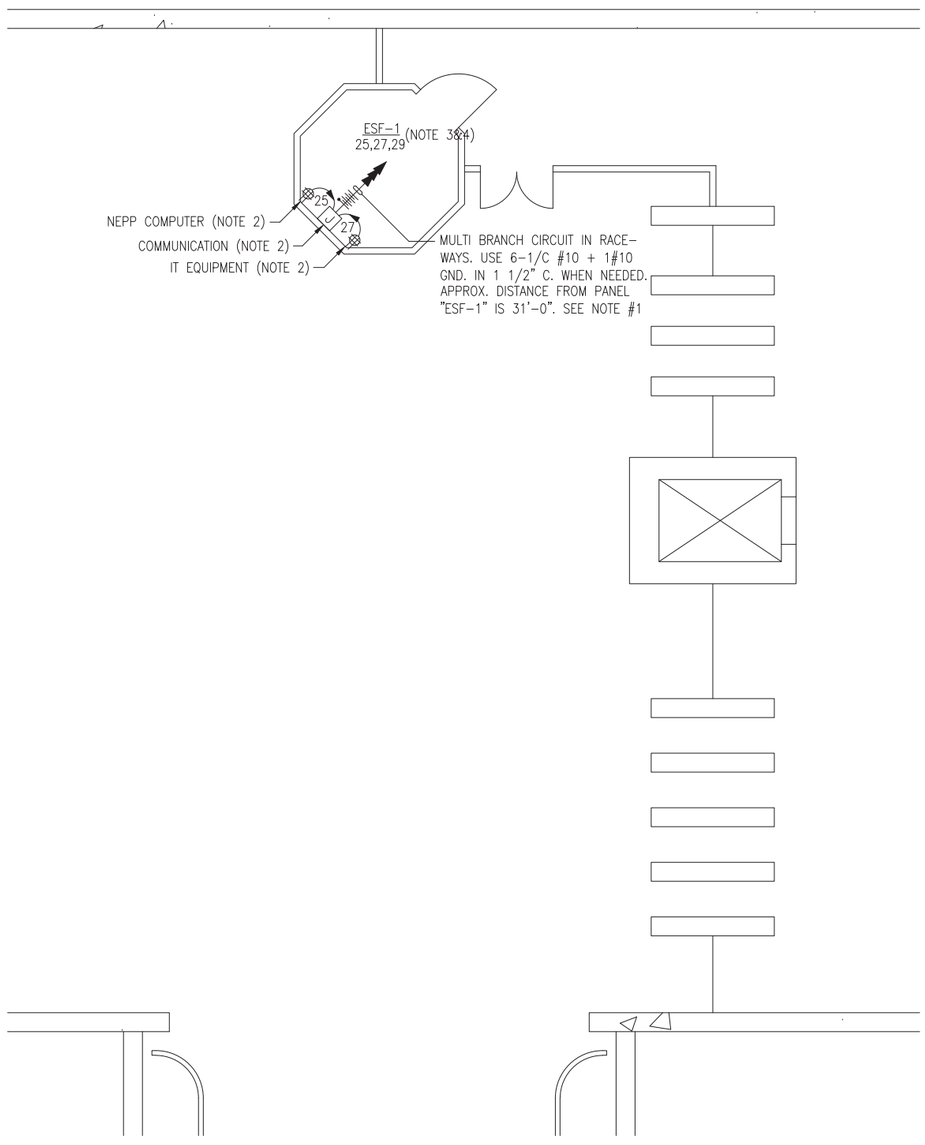
SCALE NOT TO SCALE
DRAWING NO. K07-E-001



KIOSK - POWER

SCALE: 1/4" = 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 12-14 DATE
DRAWN C. NGO 12-14 DATE
CHECKED B. IDILBI 12-14 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

DUNN LORING
KIOSK - POWER

SCALE: AS SHOWN

DRAWING NO. K07-E-101

EXISTING PANEL "ESF-1"

AMPERES: **175**	VOLTS: **120/208**	MOUNTING: **SURFACE**	
MAINS: **175A MCB**	PHASE: **3**	LOCATION: **FIRE EQUIPMENT CABINET ROOM 301**	
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 LOAD CENTER "KES"	2.9	40	3	1	A - -	2	1	20	0.8	EXISTING VENDOR
	2.5	-	-	3	- B -	4	1	20	0.8	EXISTING VENDOR
	2.5	-	-	5	- - C	6	1	20	0.8	EXISTING VENDOR
SPARE	0.0	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	SPACE
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	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	21	- B -	22	1	20	0.0	EXISTING VENDOR
SPACE	0.0	-	-	23	- - C	24	1	20	0.0	EXISTING VENDOR
NEW KIOSK RECEPT. (IT &NEPP)	**0.8**	20	1	25	A - -	26	1	20	0.0	EXISTING VENDOR
NEW KIOSK RECEPT. (NEPP/SOC)	**0.8**	20	1	27	- B -	28	1	20	0.0	EXISTING VENDOR
FUTURE AFC FARE GATE	0.0	20	1	29	- - C	30	1	20	0.0	EXISTING VENDOR
SPARE	0.0	20	1	31	A - -	32	1	20	0.0	SPARE
SPACE	0.0	-	-	33	- B -	34	1	20	0.0	SPARE
SPACE	0.0	-	-	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	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:	7.7 KVA		
PHASE B:	8.1 KVA		
PHASE C:	6.5 KVA		

CONTRACT NO.
14-FQ10060-CENI-24

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REFERENCE DRAWINGS

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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

DUNN LORING
PANEL SCHEDULE

SCALE: NOT TO SCALE

DRAWING NO.: K07-E-102

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 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

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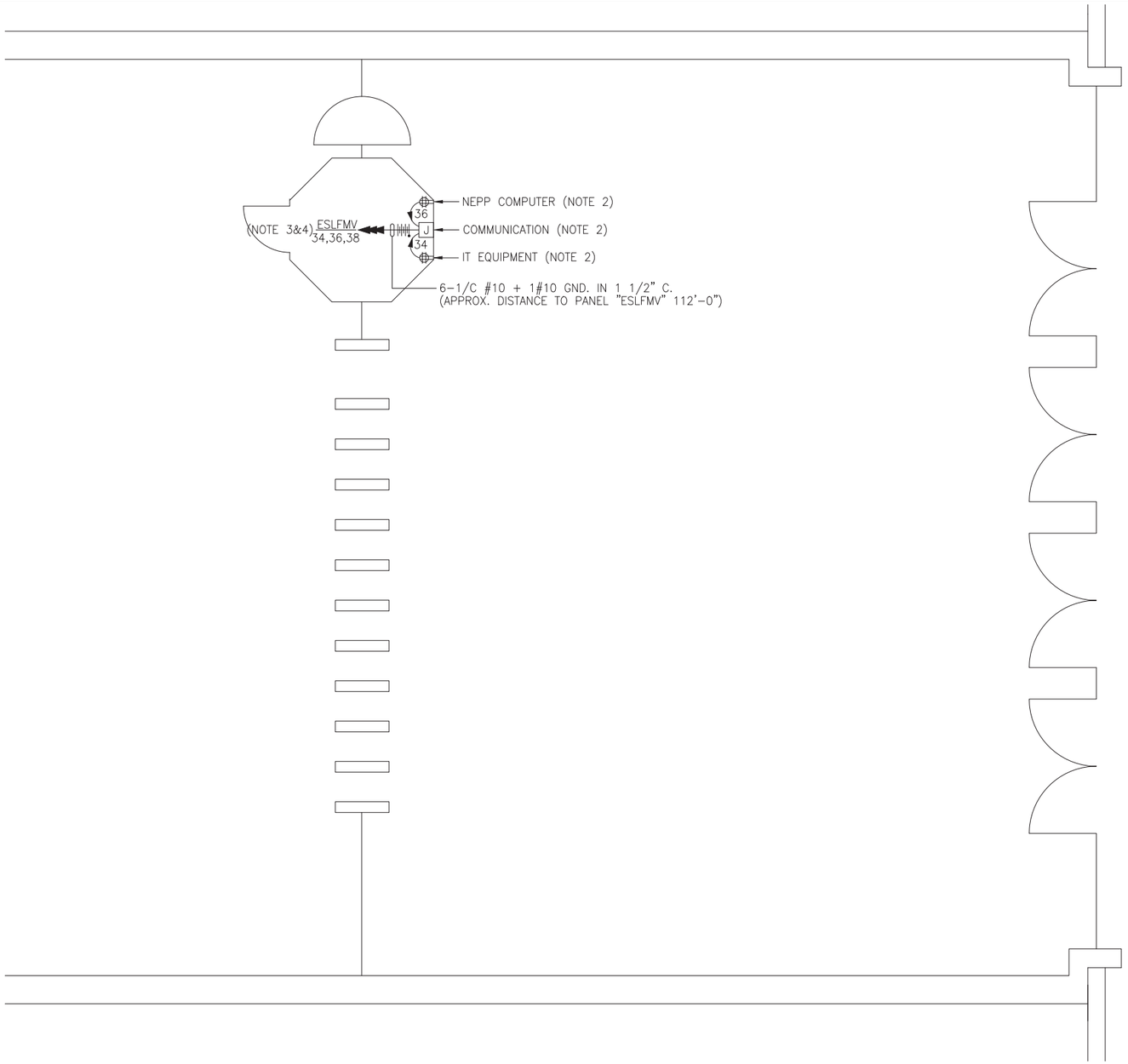
GFP A Gannett Fleming/Parsons JOINT VENTURE
SUBMITTED
PROJECT MANAGER

NEW ELECTRONIC PAY PROGRAM (NEPP) IN METRORAIL STATIONS
ABBREVIATIONS□DRAWING INDE□□
SPECIFICATIONS □ SYMBOL LIST

SCALE NOT TO SCALE
DRAWING NO. K08–E–001
100



KIOSK - POWER
SCALE: 1/4" = 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 AS REQUIRED IN THE REPORT.
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SAFETY PRECAUTION:

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

CONTRACT NO.
14-FQ10060-CENI-24

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

SCALE: AS SHOWN
DRAWING NO.: K08-E-101

EXISTING PANEL "ESLFMV"

AMPERES: **400**	VOLTS: **120/208**	MOUNTING: **SURFACE**
MAINS: **300A MCB**	PHASE: **3**	LOCATION: **CLEANER ROOM 406**
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	50	3	1	A - -	2	1	20	0.8	EXISTING VENDOR
	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	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	0.8	EXISTING VENDOR
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	0.0	SPARE
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**	**NEW KIOSK RECEPT. (IT & NEPP)**
EXISTING VENDOR	0.8	20	1	35	- - C	36	1	20	**0.8**	**NEW KIOSK RECEPT. (NEPP/SOC)**
EXISTING VENDOR	0.8	20	1	37	A - -	38	1	20	0.0	**FUTURE AFC FARE GATE**
EXISTING VENDOR	0.8	20	1	39	- B -	40	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	41	- - C	42	1	20	0.8	EXISTING VENDOR

LOAD SUMMARY

LIGHTS	0.0 x 125%		0.0 KVA
RECEPTACLES, FIRST 10 KVA	10.0 x 100%		10.0 KVA
RECEPTACLES	26.4 x 50%		13.2 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	**43.9 KVA**	**TOTAL DEMAND KVA**	**31.5 KVA**
		TOTAL DEMAND AMPS	**87.4 AMPS**
CONNECTED LOAD PHASE SUMMARY			
PHASE A:	12.5 KVA		
PHASE B:	12.1 KVA		
PHASE C:	12.9 KVA		

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VIENNA
PANEL SCHEDULE

SCALE
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DRAWING NO.
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