Pre-Inspection Mezzanine Walkthrough Checklist

Date: 10/02/2014	**Station Name:** Naylor Road - F09	**Mezzanine #:** 087	**Completed By:** Tino Sahoo

Check	Task	Equipment	Room ID	Notes
☑	Verify that electrical power design matches the field/record. Identify locations of the electrical equipment.	Electrical Source Panel Name/Number: Emergency Generator / Sub-Panel 1 Source Breaker Name/Number: Breaker #6 Electrical AFC Panel Name/Number: MESS 2	Rm 116 Rm 116 Rm 126	
☑	Verify if disconnect switch is connected to the AFC electrical power panel. Low or High voltage SMNT/POWR escorts requirements?	Disconnect Name/Number: SMNT/POWR escorts: HIGH Voltage		
☑	Check if there is a shared raceway between AFC Panel and Kiosk and identify additional source panels to be de-energized.	Do AFC Panel loads feed into a shared raceway e.g. trench or trough? If Yes, specify source panels in notes. NO		
☑	Identify the assumed pathway of duct / conduit, the location of the handholes, manholes and boxes and accessibility or special escort requirement?	PLNT ☑ COMM / IT ☐ ELES ☐ RAIL ☐ CMNT ☐ Other Access/Support:		Very long conduit/duct run from Rm 126 to Kiosk. Will need access to Maintenance Rm 130.
☑	Identify handhole or manhole access requirement.	Required PLNT Mason for handhole/manhole access? YES (see notes) Identified Conduit/Duct Transition to mezzanine level? YES		Conduit/duct is between platform and mezzanine levels.

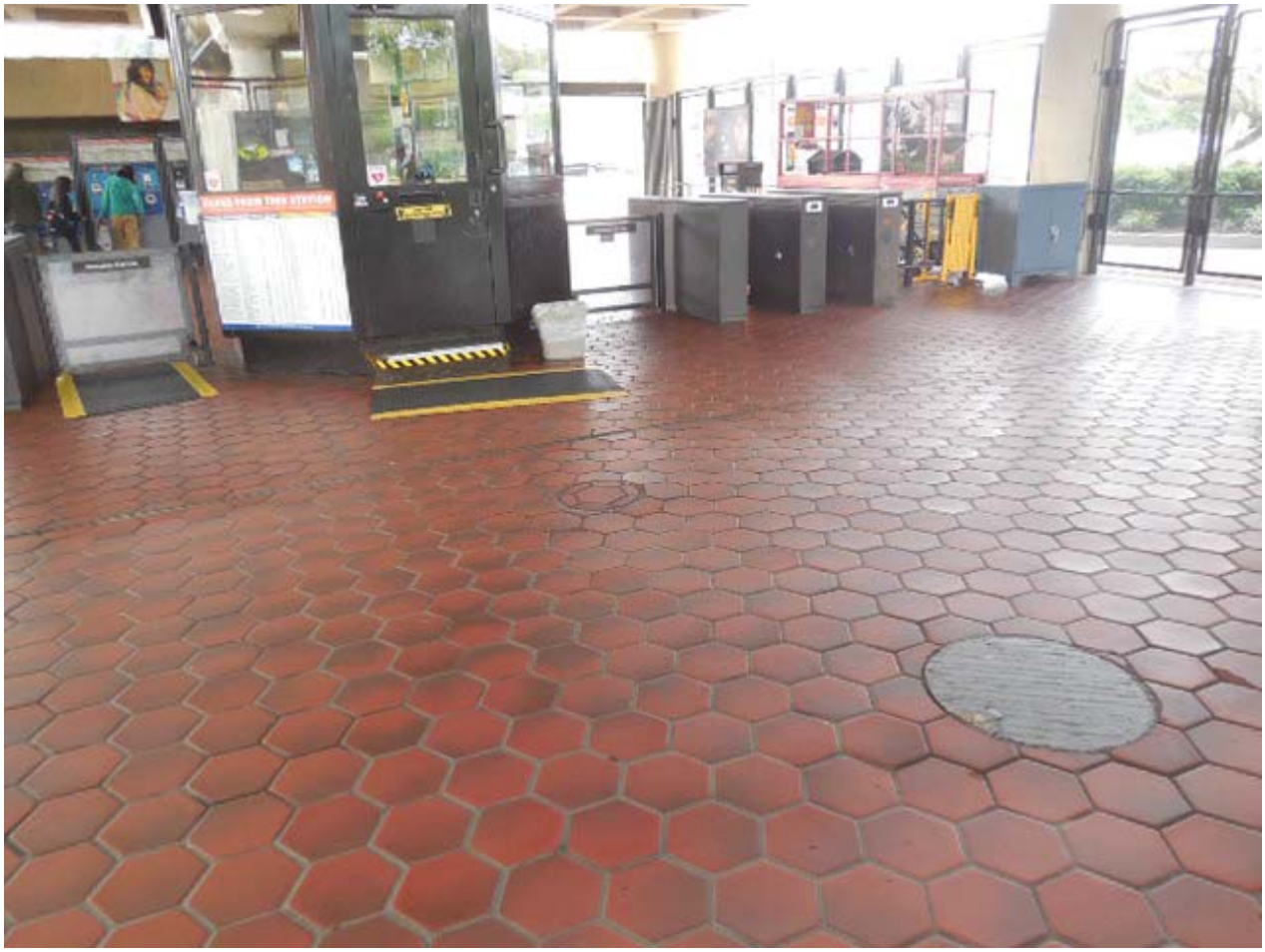
Emergency Power Verification

Check	Task	Equipment	Room ID	Notes
☑	Verify if AFC electrical panel is connected to an Automatic Transfer Switch (ATS).	ATS Name/Number:		
☑	Verification of Kiosk Emergency Panel(s) (KE, KES, KESS, etc)	Source Panel Name/Number: EE Source Breaker Name/Number: Breaker #1 & #3 Panel Name/Number: Kiosk Emergency Power	Kiosk	

Notes and Discrepancies: Panel KE (Breaker #10) in Kiosk de-energizes emergency power to faregates.

Sign Off	**GFP Representative**	**WMATA PRGM**
Name:	Tino Sahoo	
Signature:	Tarmina Sahoo	
Date:	10/02/2014	

Picture 1: F09 Naylor – Handhole and manhole in mezzanine

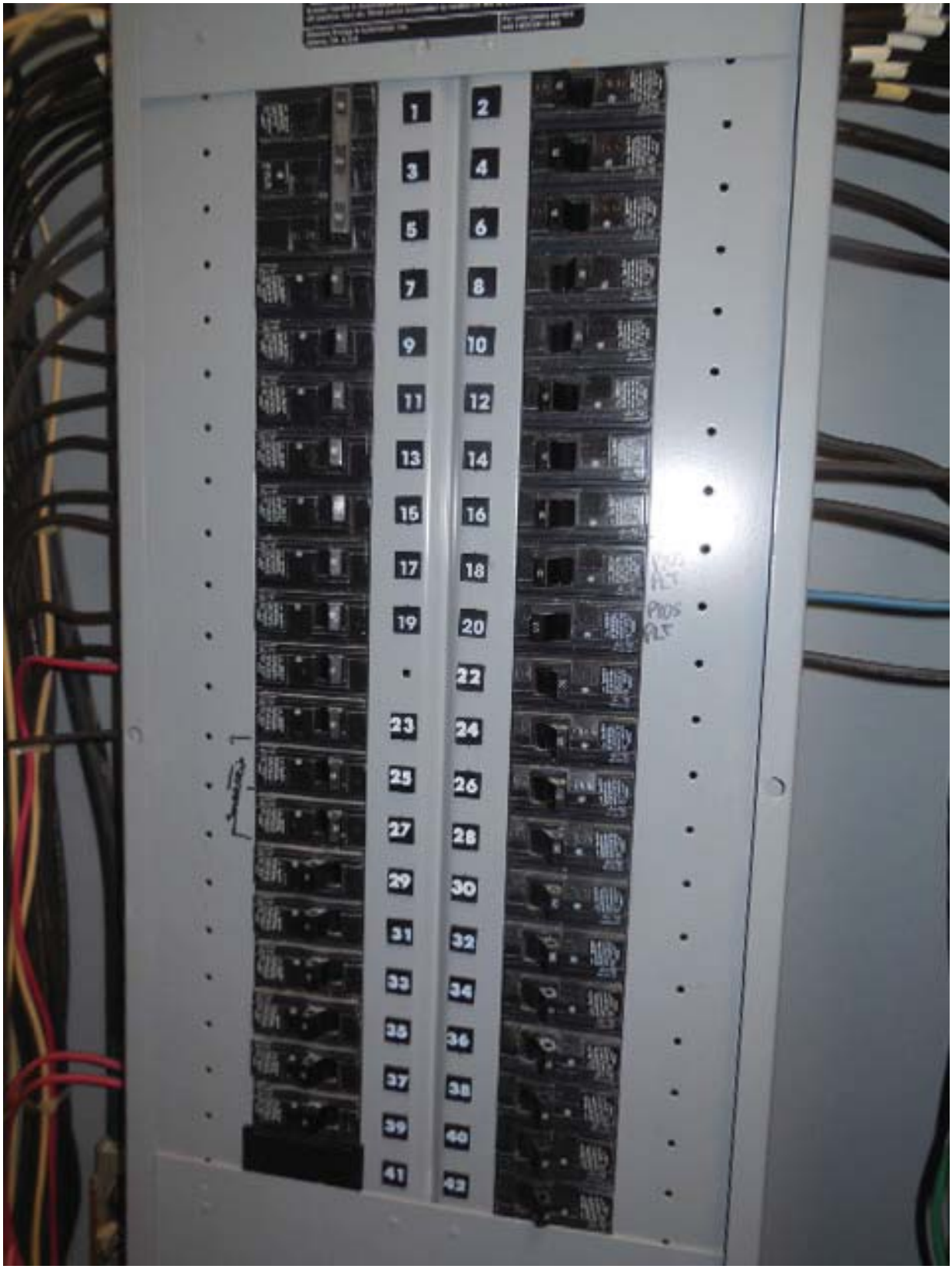


Picture 2: F09 Naylor – Handhole and manhole in mezzanine

Picture 3: F09 Naylor – Manholes in passageway to Room 126

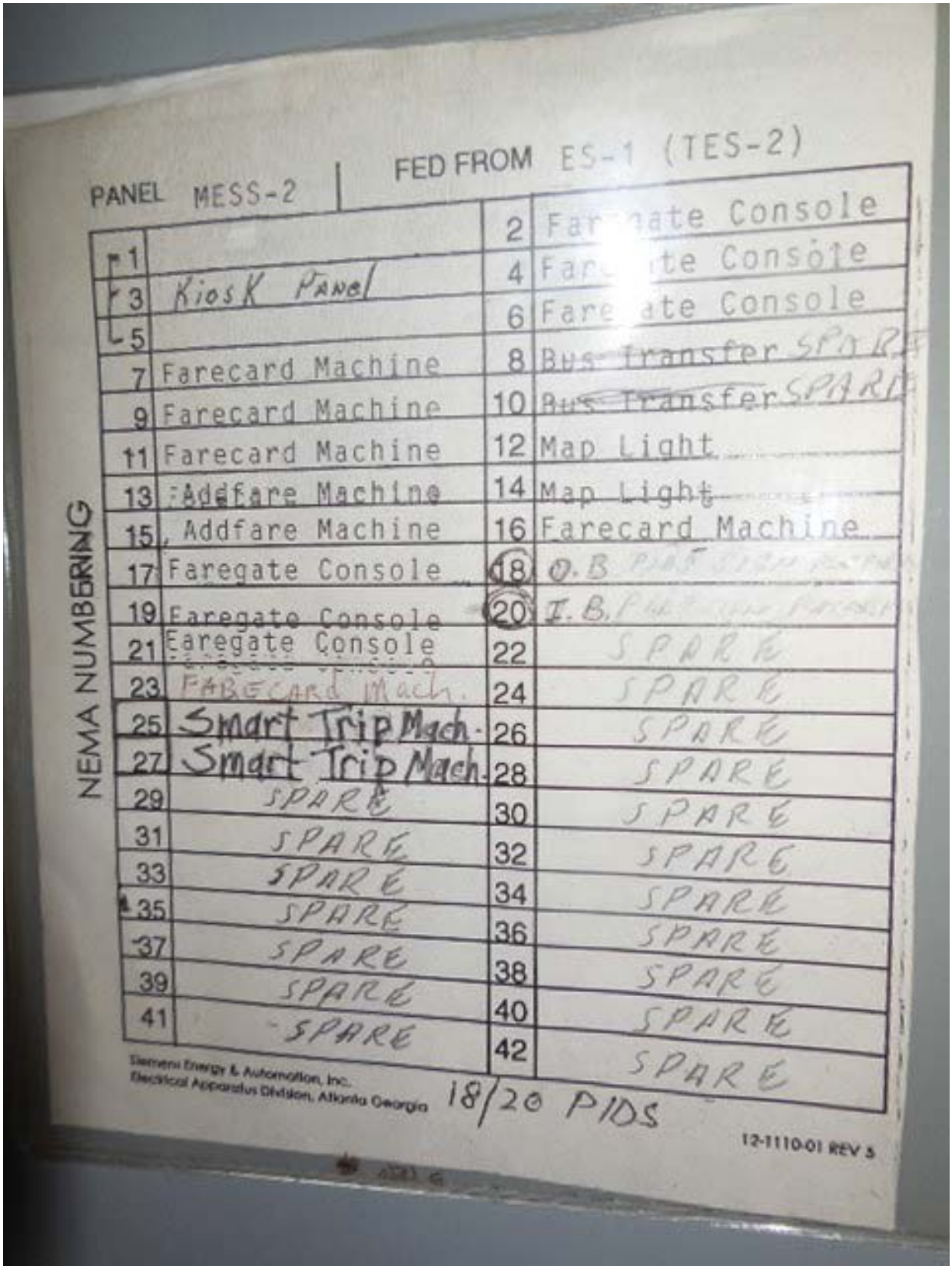
Picture 4: F09 Naylor – Panel MESS-2 in Room 126

Picture 5: F09 Naylor – Panel MESS-2 in Room 126



Picture 6: F09 Naylor – Bottom ducts of Panel MESS-2 in Room 126

Picture 7: F09 Naylor – Panel MESS-2 schedule in Room 126



PANEL MESS-2 | FED FROM ES-1 (TES-2)

NEMA NUMBERING

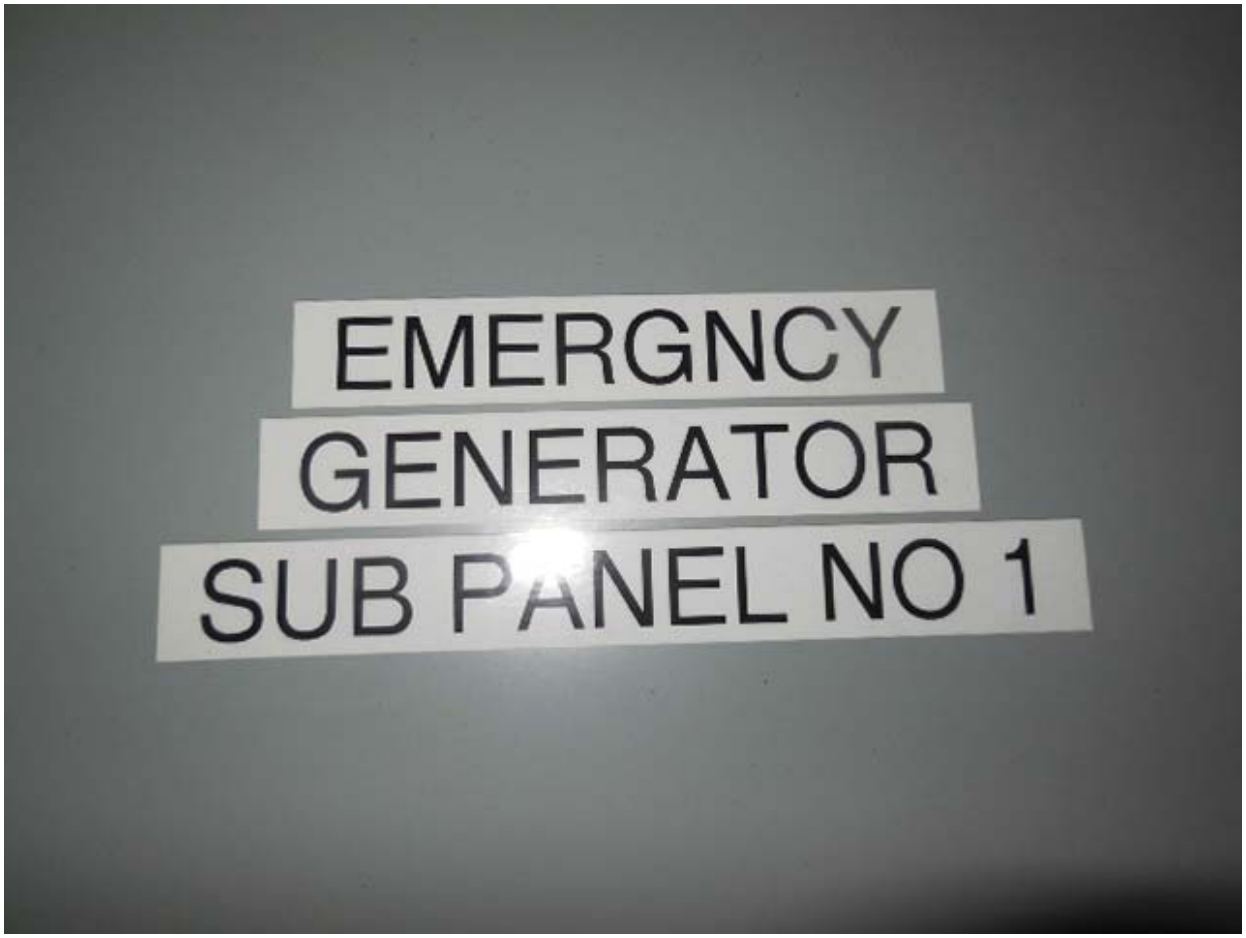
1		2	Faregate Console
3	KiosK Panel	4	Faregate Console
5		6	Faregate Console
7	Farecard Machine	8	Bus Transfer SPARE
9	Farecard Machine	10	Bus Transfer SPARE
11	Farecard Machine	12	Map Light
13	Addfare Machine	14	Map Light
15	Addfare Machine	16	Farecard Machine
17	Faregate Console	18	O.B.
19	Faregate Console	20	I.B.
21	Faregate Console	22	SPARE
23	FARECARD Mach.	24	SPARE
25	Smart Trip Mach.	26	SPARE
27	Smart Trip Mach.	28	SPARE
29	SPARE	30	SPARE
31	SPARE	32	SPARE
33	SPARE	34	SPARE
35	SPARE	36	SPARE
37	SPARE	38	SPARE
39	SPARE	40	SPARE
41	SPARE	42	SPARE

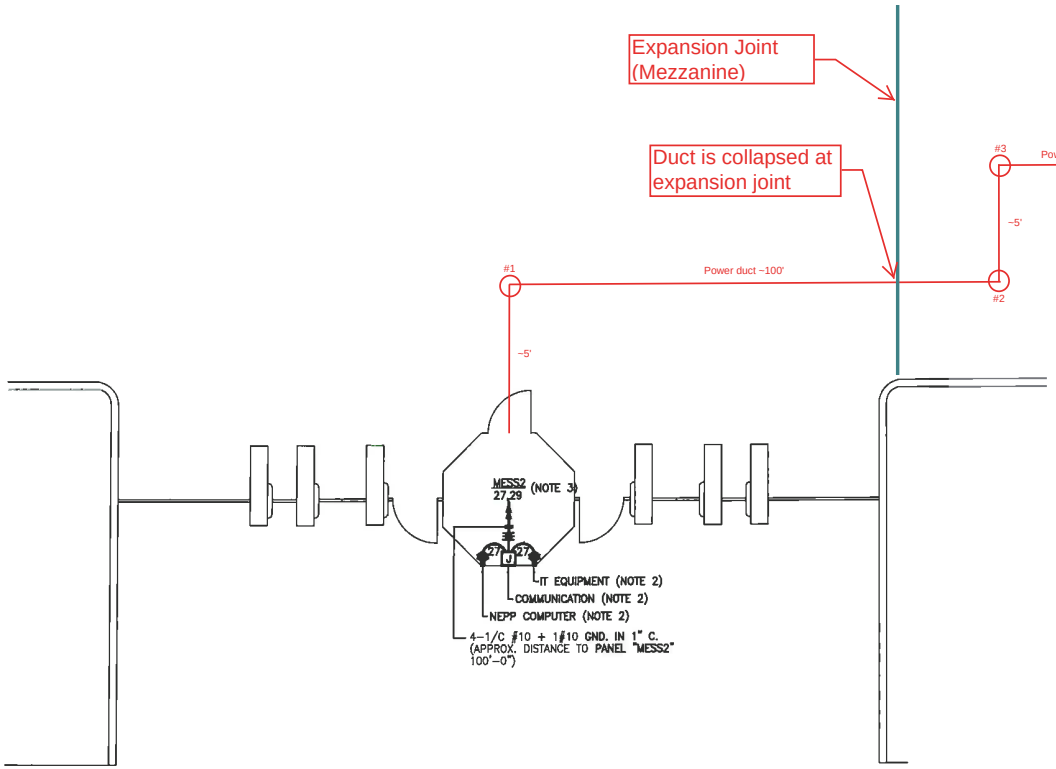
Siemens Energy & Automation, Inc.
Electrical Apparatus Division, Atlanta Georgia

18/20 PIDS

12-1110-01 REV 5

Picture 8: F09 Naylor – Emergency Generator/Sub-panel No. 1 in Room 116





DRAWING NOTES:

1. USE EXISTING UNDER FLOOR DUCT FOR POWER WIRING. ALL OUTSIDE FLOOR DUCT WIRING SHALL RUN IN CONDUIT.
2. VERIFY WITH WMATA PERSONNEL FOR LOCATION OF RECEPTACLES & JUNCTION BOXES.
3. CONNECT CIRCUIT #27 & #29 TO TWO (2) EXISTING 20A, 1P SPARE CIRCUIT BREAKER IN THE EXISTING PANEL "MESS2", SEE PANEL SCHEDULE ON DWG. F09-E-102.

SAFETY PRECAUTION:

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

KIOSK - POWER

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

NOT TO SCALE

CONTRACT NO
14-FQ10060-CENI-24

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

REFERENCE DRAWINGS		REVISIONS		
NUMBER	DESCRIPTION	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
NAYLOR ROAD
KIOSK - POWER

SCALE	DRAWING NO.
AS SHOWN	F09-E-101

Pre-Inspection Field Verification 10/2/2014

EXISTING PANEL "MESS2"

AMPERES: 250	VOLTS: 120/208	MOUNTING: SURFACE	
MAINS: 250A MCB	PHASE: 3	LOCATION: ELEC. EQUIPMENT RM 126	
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	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	0.0	SPARE
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
1 NEW KIOSK RECEPT. (IT & NEPP)	0.8	20	1	27	- B -	28	1	20	0.0	SPARE
1&2 SPARE (KIOSK)	0.0	20	1	29	- - C	30	1	20	0.0	SPARE
SPARE	0.0	20	1	31	A - -	32	1	20	0.0	SPARE
SPARE	0.0	20	1	33	- B -	34	1	20	0.0	SPARE
SPARE	0.0	20	1	35	- - C	36	1	20	0.0	SPARE
SPARE	0.0	20	1	37	A - -	38	1	20	0.0	SPARE
SPARE	0.0	20	1	39	- B -	40	1	20	0.0	SPARE
SPACE	0.0	-	-	41	- - C	42	1	20	0.0	SPARE

NOTES 1. CONNECT NEW FEEDER TO EXISTING SPARE 20A, 1P CB
2. CB TO BE RESERVED FOR FUTURE AFC

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:	7.3 KVA
PHASE C:	7.3 KVA

NOTES: A. EXISTING PANEL "MESS2" IS FED FROM 277/480V, 3Ø, 4W EXISTING "EMERGNECY GENERATOR SUB PANEL 1" LOCATED IN AC SWBD ROOM 116, CIRCUIT (#6-100/3P VIA 75KVA TRANSFORMER (SEE ATTACHED DWG. MA-OF-SLD-E10).

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

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

CONTRACT NO. 14-FQ10060-CENI-24

DESIGNED C. NDO 09-14 DATE
DRAWN C. NDO 09-14 DATE
CHECKED B. KOLB 09-14 DATE
APPROVED N/A DATE

REFERENCE DRAWINGS		REVISIONS		
NUMBER	DESCRIPTION	DATE	BY	DESCRIPTION

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

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

APPROVED

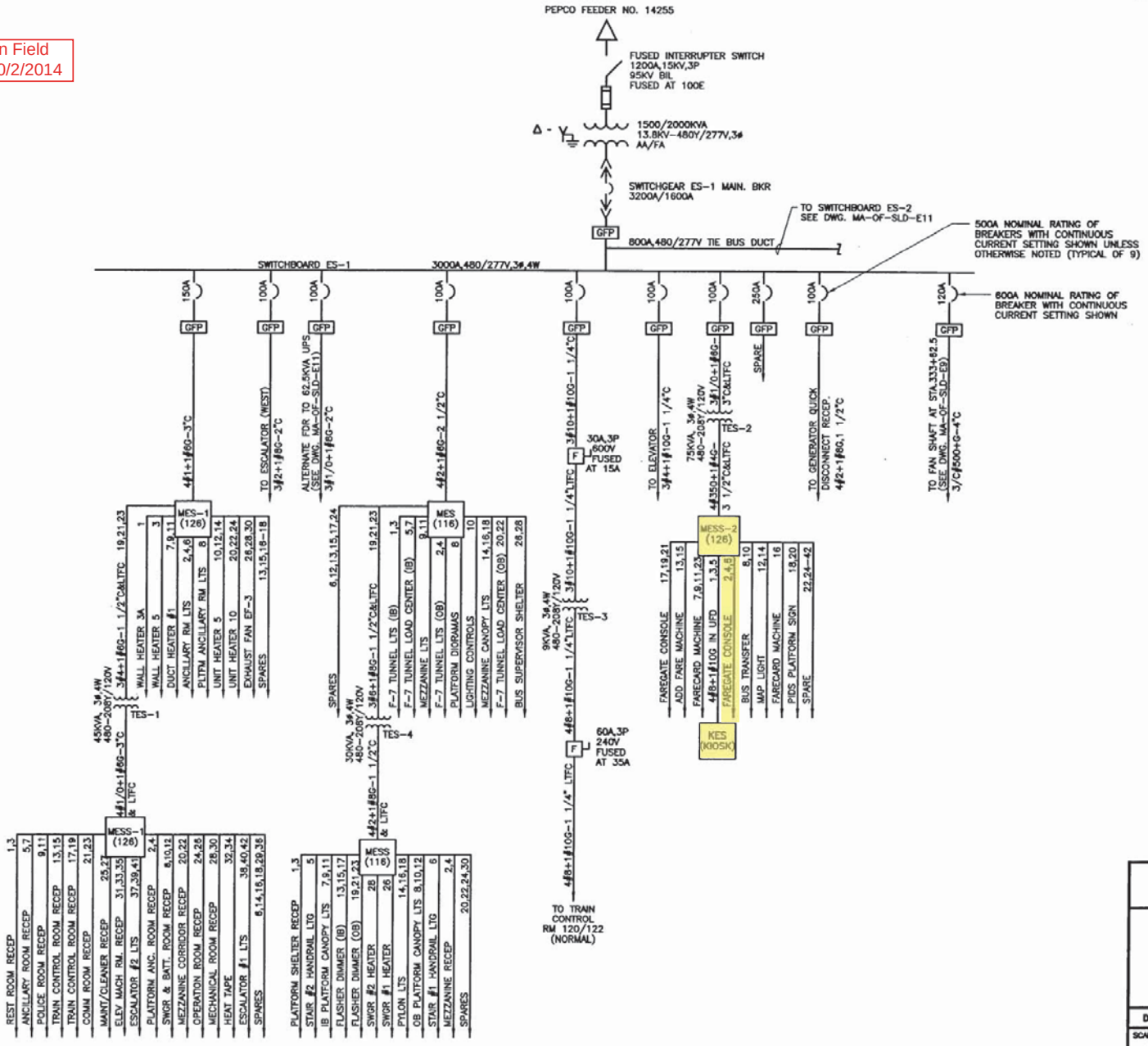
GFP A Gannett Fleming/Parsons JOINT VENTURE

SUBMITTED PROJECT MANAGER

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

SCALE: NOT TO SCALE
DRAWING NO.: F09-E-102

Pre-Inspection Field Verification 10/2/2014



NOTES:

1. WEA (205) — PANEL DESIGNATION; PANEL DESIGNATION WHEN UNDERLINED IS EMERGENCY; ROOM NUMBER; 8 (CIRCUIT NUMBER)
2. 3#2, 2"C — CONDUIT SIZE; AWG OR KCMIL CIRCUIT WIRES
3. CIRCUIT BREAKERS — DRAW OUT; 1600A/1200A; FRAME SIZE; CONTINUOUS CURRENT SETTING
4. SWITCHGEAR MANUFACTURER — HV: SIEMENS; LV: SIEMENS
5. TRANSFORMER MANUFACTURER — VIRGINIA TRANSFORMER CORPORATION
6. ROOM DESIGNATIONS

MEZZANINE LEVEL

114	MECHANICAL ROOM
116	AC SWITCHBOARD ROOM
118	BATTERY ROOM
124	COMMUNICATIONS ROOM
120/122	TRAIN CONTROL ROOM
112	OPERATIONS ROOM
126	ELECTRICAL CABINET ROOM

REVISIONS

DATE	BY	DESCRIPTION
12/01	DV	GENERAL REVISIONS

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

ELECTRICAL MAINTENANCE MAP

OUTER-F ROUTE
NAYLOR ROAD STATION
SWITCHGEAR/SWITCHBOARD ES-1

DE LEUW, CATHER & COMPANY – GENERAL ENGINEERING CONSULTANT

SCALE: NONE

DRAWING No. MA-OF-SLD-E10

Pre-Inspection Mezzanine Walkthrough Checklist

Date: 10/02/2014	**Station Name:** Branch Ave - F11	**Mezzanine #:** 089	**Completed By:** Tino Sahoo

Check	Task	Equipment	Room ID	Notes
☑	Verify that electrical power design matches the field/record. Identify locations of the electrical equipment.	Electrical Source Panel Name/Number: ES-1 Source Breaker Name/Number: Breaker #7 Electrical AFC Panel Name/Number: MES3	Rm 223 Rm 223 Rm C203	
☑	Verify if disconnect switch is connected to the AFC electrical power panel. Low or High voltage SMNT/POWR escorts requirements?	Disconnect Name/Number: TES-2 SMNT/POWR escorts: LOW Voltage	Rm C203	
☑	Check if there is a shared raceway between AFC Panel and Kiosk and identify additional source panels to be de-energized.	Do AFC Panel loads feed into a shared raceway e.g. trench or trough? If Yes, specify source panels in notes. NO		
☑	Identify the assumed pathway of duct / conduit, the location of the handholes, manholes and boxes and accessibility or special escort requirement?	PLNT ☑ COMM / IT ☐ ELES ☐ RAIL ☐ CMNT ☐ Other Access/Support:		Overhead conduit run in Rm C203.
☑	Identify handhole or manhole access requirement.	Required PLNT Mason for handhole/manhole access? YES (see notes) Identified Conduit/Duct Transition to mezzanine level? YES		All conduit/ducts are on one level.

Emergency Power Verification

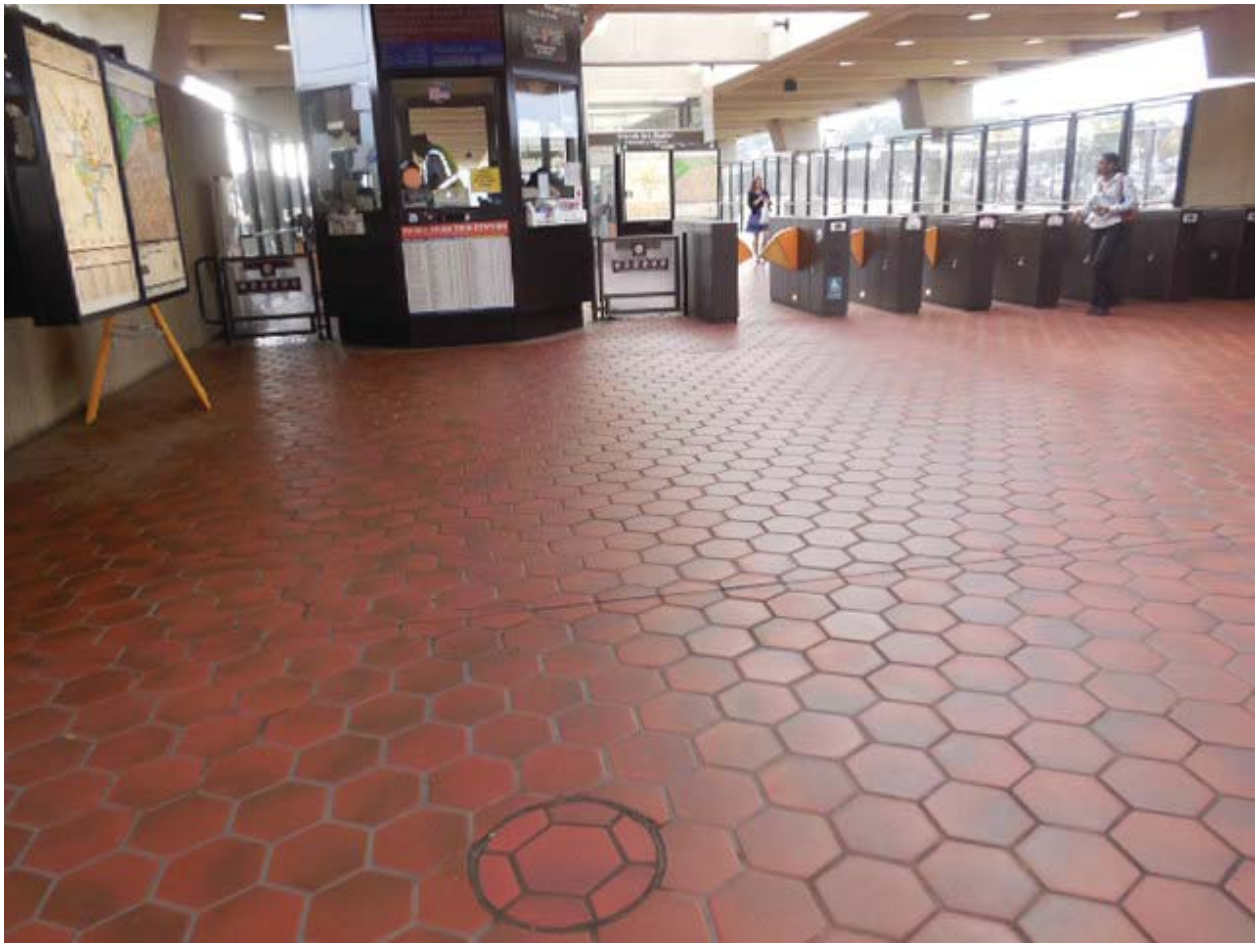
Check	Task	Equipment	Room ID	Notes
☑	Verify if AFC electrical panel is connected to an Automatic Transfer Switch (ATS).	ATS Name/Number:		
☑	Verification of Kiosk Emergency Panel(s) (KE, KES, KESS, etc)	Source Panel Name/Number: Panel EE Source Breaker Name/Number: Breakers #7,11 Panel Name/Number: Panel KE	Rm 223 Rm 223 Kiosk	

Notes and Discrepancies:

Sign Off	**GFP Representative**	**WMATA PRGM**
Name:	Tino Sahoo	
Signature:		
Date:	10/02/2014	

Picture 1: F11 Branch Ave. – Handhole in Mezzanine

Picture 2: F11 Branch Ave. – Handhole in Mezzanine



Picture 3: F11 Branch Ave. – Panel MES3 in Room C203

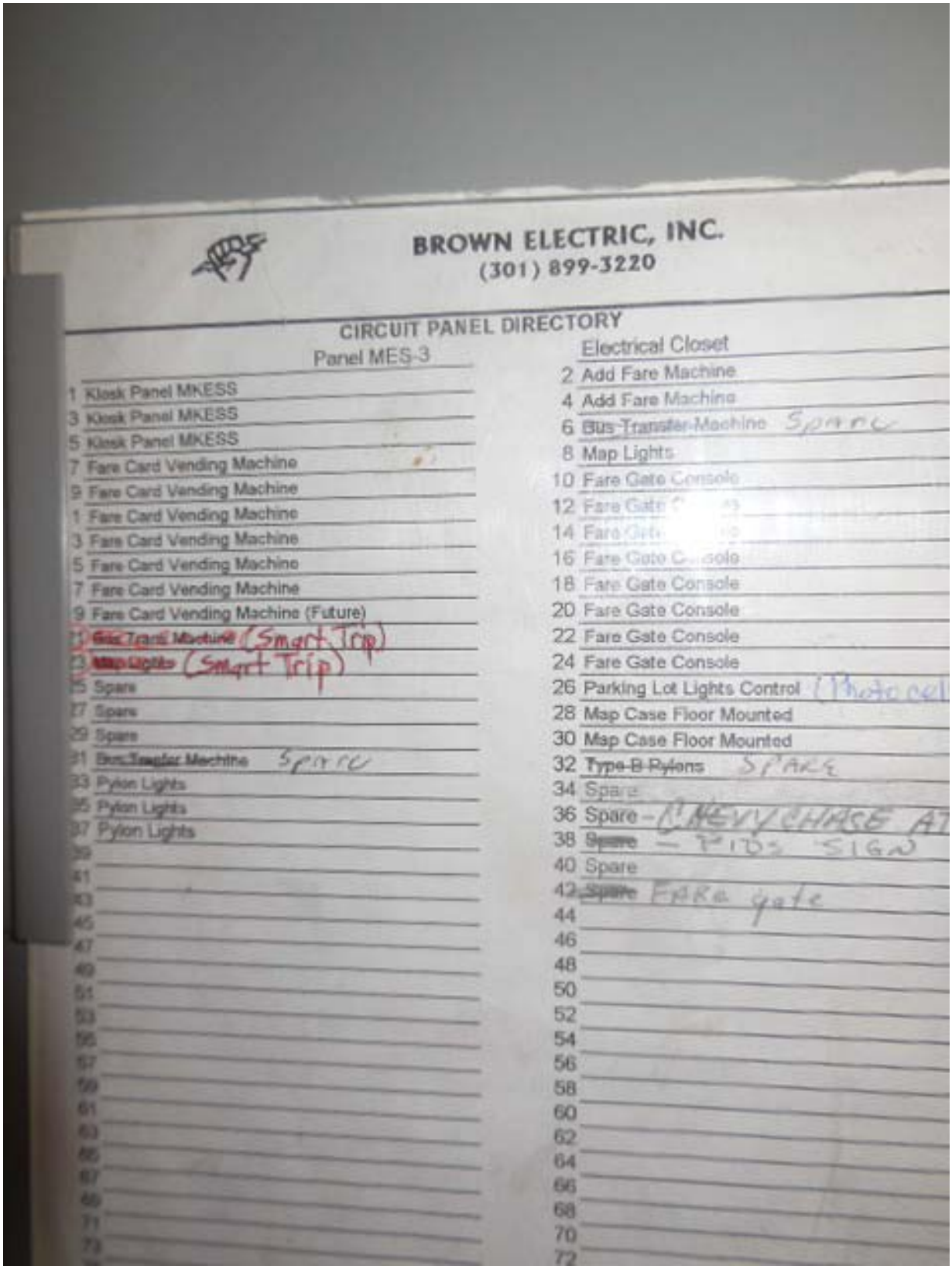
Picture 4: F11 Branch Ave. – Panel MES3 in Room C203

Picture 5: F11 Branch Ave. – Panel MES3 in Room C203

Picture 6: F11 Branch Ave. – Panel MES3 conduits to ceiling in Room C203

Picture 7: F11 Branch Ave. – Panel MES3 conduits to ceiling in Room C203

Picture 8: F11 Branch Ave. – Panel MES3 schedule in Room C203



BROWN ELECTRIC, INC.
(301) 899-3220

CIRCUIT PANEL DIRECTORY

Panel MES-3

1 Kiosk Panel MKESS
3 Kiosk Panel MKESS
5 Kiosk Panel MKESS
7 Fare Card Vending Machine
9 Fare Card Vending Machine
1 Fare Card Vending Machine
3 Fare Card Vending Machine
5 Fare Card Vending Machine
7 Fare Card Vending Machine
9 Fare Card Vending Machine (Future)
~~Bus Transfer Machine~~ (Smart Trip)
~~Map Lights~~ (Smart Trip)
25 Spare
27 Spare
29 Spare
31 ~~Bus Transfer Machine~~ Spare
33 Pylon Lights
35 Pylon Lights
37 Pylon Lights
39
41
43
45
47
49
51
53
55
57
59
61
63
65
67
69
71
73

Electrical Closet

2 Add Fare Machine
4 Add Fare Machine
6 ~~Bus Transfer Machine~~ Spare
8 Map Lights
10 Fare Gate Console
12 Fare Gate Console
14 Fare Gate Console
16 Fare Gate Console
18 Fare Gate Console
20 Fare Gate Console
22 Fare Gate Console
24 Fare Gate Console
26 Parking Lot Lights Control (Photo cell
28 Map Case Floor Mounted
30 Map Case Floor Mounted
32 ~~Type-B Pylons~~ SPARE
34 Spare
36 Spare – CHEVY CHASE AT
38 ~~Spare~~ – PIDS SIGN
40 Spare
42 ~~Spare~~ Fake gate
44
46
48
50
52
54
56
58
60
62
64
66
68
70
72

Picture 9: F11 Branch Ave. – Transformer disconnect switch TES-2 in Room C203

Pre-Inspection Field Verification 10/2/2014

EXISTING PANEL "MES3"

AMPERES: 400	VOLTS: 120/208	MOUNTING: SURFACE	
MAINS: 250A MCB	PHASE: 3	LOCATION: ELEC. ROOM C203	
RATING: 10KAIC	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"	2.8	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	0.0	SPARE
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
EXISTING VENDOR	0.8	20	1	21	- B -	22	1	20	0.8	EXISTING VENDOR
SPARE	0.0	30	3	23	- - C	24	1	20	0.8	EXISTING VENDOR
	0.0	-	-	25	A - -	26	1	20	0.8	EXISTING VENDOR
	0.0	-	-	27	- B -	28	1	20	0.0	SPARE
SPARE	0.0	20	1	29	- - C	30	1	20	0.0	SPARE
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
~~1~~ NEW KIOSK RECEPT. (IT & NEPP)	0.8	20	1	37	A - -	38	1	20	0.0	SPARE
1 ~~1&2~~ SPARE (KIOSK)	0.0	20	1	39	- B -	40	1	20	0.0	SPARE
1&2 SPARE	0.0	20	1	41	- - C	42	1	20	0.8	EXISTING VENDOR

NOTES: 1. CONNECT NEW FEEDER TO EXISTING SPARE 20A, 1P CB
2. CB TO BE RESERVED FOR FUTURE AFC

LOAD SUMMARY

LIGHTS	0.0 x 125%		0.0 KVA
RECEPTACLES, FIRST 10 KVA	10.0 x 100%		10.0 KVA
RECEPTACLES	12.0 x 50%		6.0 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	29.5 KVA	TOTAL DEMAND KVA	24.3 KVA
		TOTAL DEMAND AMPS	67.4 AMPS

CONNECTED LOAD PHASE SUMMARY

PHASE A:	10.9 KVA
PHASE B:	9.7 KVA
PHASE C:	8.9 KVA

NOTES: A. EXISTING PANEL "MES3" IS FED FROM 277/480V, 3Ø, 4W EXISTING SWBD. "ES-1" LOCATED IN AC SWBD ROOM 223, Breaker ~~CIRCUIT~~ #7-125/3P VIA ~~75 KVA TRANSFORMER~~ (SEE ATTACHED DWG. MA-OF-SLD-E16).

disconnect switch "TES-2"

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

EXISTING WIRING FED FROM BOTTOM PANEL BY:
* 3-1" EMPTY CONDUIT.
* 8-1" C. (WIRING FILL >30%)

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

CONTRACT NO. 14-FQ10060-CENI-24

DESIGNED C. MCD 09-14 DATE
DRAWN C. MCD 09-14 DATE
CHECKED B. KHAN 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

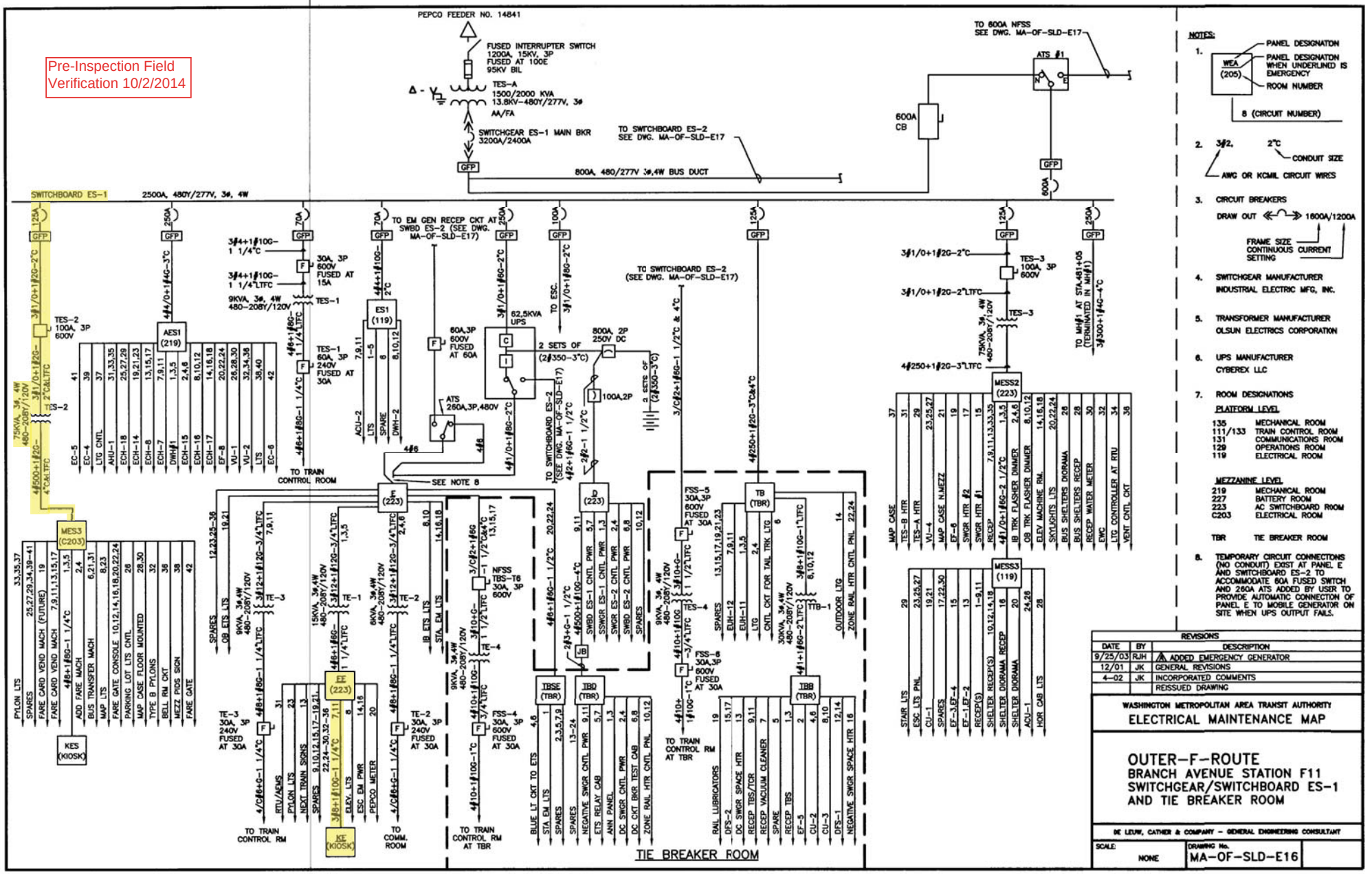
SUBMITTED PROJECT MANAGER

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

SCALE: NOT TO SCALE

DRAWING NO. F11-E-102

Pre-Inspection Field Verification 10/2/2014



NOTES:

1. PANEL DESIGNATION
   WEA (205) — PANEL DESIGNATION WHEN UNDERLINED IS EMERGENCY; ROOM NUMBER
   8 (CIRCUIT NUMBER)
2. 3#2, 2"C — CONDUIT SIZE; AWG OR KCMIL CIRCUIT WIRES
3. CIRCUIT BREAKERS DRAW OUT 1600A/1200A — FRAME SIZE, CONTINUOUS CURRENT SETTING
4. SWITCHGEAR MANUFACTURER: INDUSTRIAL ELECTRIC MFG, INC.
5. TRANSFORMER MANUFACTURER: OLSUN ELECTRICS CORPORATION
6. UPS MANUFACTURER: CYBEREX LLC
7. ROOM DESIGNATIONS

PLATFORM LEVEL

135	MECHANICAL ROOM
111/133	TRAIN CONTROL ROOM
131	COMMUNICATIONS ROOM
129	OPERATIONS ROOM
119	ELECTRICAL ROOM

MEZZANINE LEVEL

219	MECHANICAL ROOM
227	BATTERY ROOM
223	AC SWITCHBOARD ROOM
C203	ELECTRICAL ROOM

TBR — TIE BREAKER ROOM

8. TEMPORARY CIRCUIT CONNECTIONS (NO CONDUIT) EXIST AT PANEL E AND SWITCHBOARD ES-2 TO ACCOMMODATE 60A FUSED SWITCH AND 260A ATS ADDED BY USER TO PROVIDE AUTOMATIC CONNECTION OF PANEL E TO MOBILE GENERATOR ON SITE WHEN UPS OUTPUT FAILS.

REVISIONS		
DATE	BY	DESCRIPTION
9/25/03	RJH	⚠ ADDED EMERGENCY GENERATOR
12/01	JK	GENERAL REVISIONS
4-02	JK	INCORPORATED COMMENTS
		REISSUED DRAWING

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

ELECTRICAL MAINTENANCE MAP

OUTER-F-ROUTE BRANCH AVENUE STATION F11 SWITCHGEAR/SWITCHBOARD ES-1 AND TIE BREAKER ROOM

DE LEUW, CATHER & COMPANY - GENERAL ENGINEERING CONSULTANT

SCALE: NONE

DRAWING No. MA-OF-SLD-E16