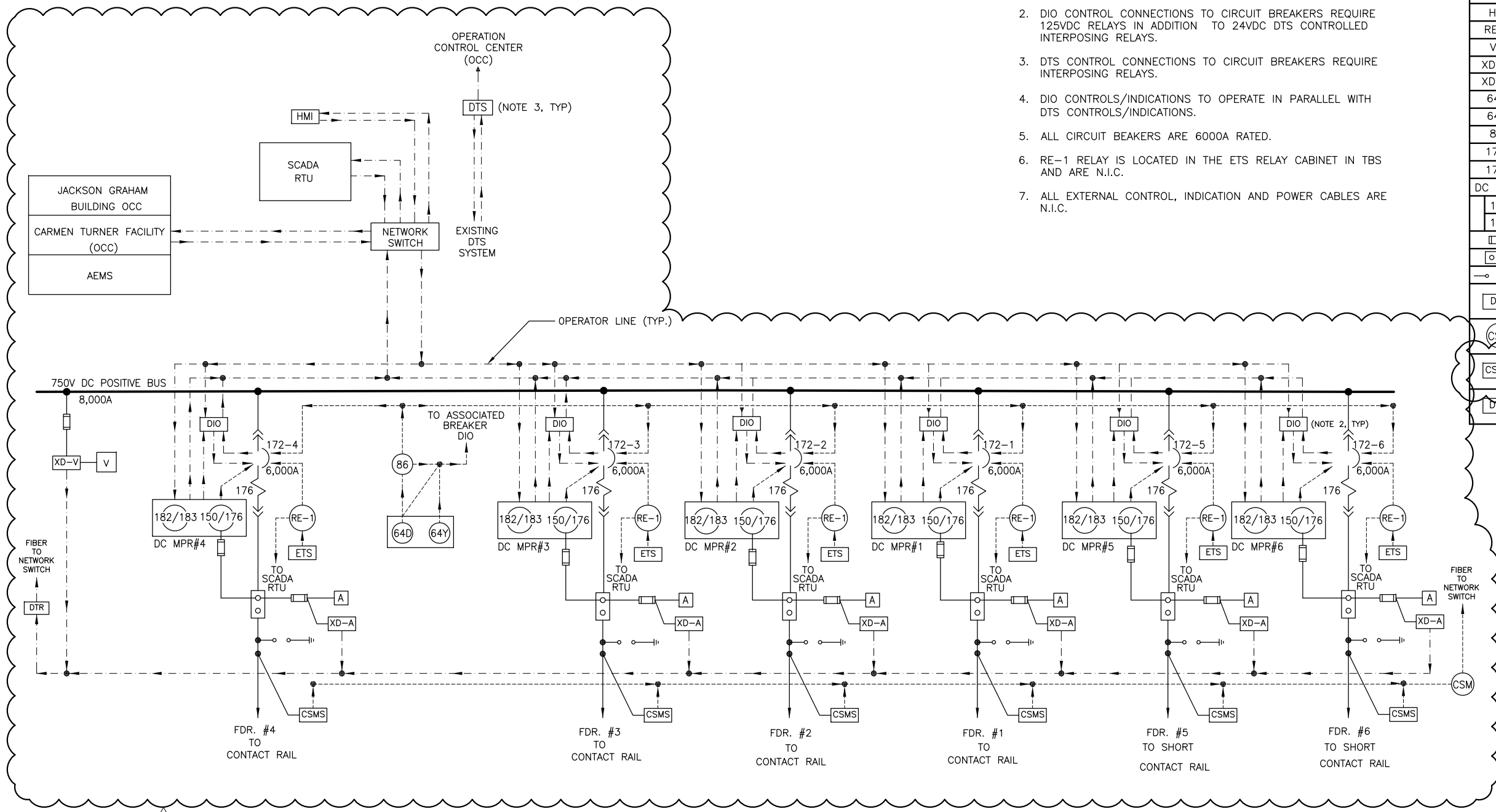


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- NOTES:**
- CONTROL VOLTAGE FOR ALL FEEDER BREAKERS IS INDIVIDUALLY FUSED 125VDC.
 - DIO CONTROL CONNECTIONS TO CIRCUIT BREAKERS REQUIRE 125VDC RELAYS IN ADDITION TO 24VDC DTS CONTROLLED INTERPOSING RELAYS.
 - DTS CONTROL CONNECTIONS TO CIRCUIT BREAKERS REQUIRE INTERPOSING RELAYS.
 - DIO CONTROLS/INDICATIONS TO OPERATE IN PARALLEL WITH DTS CONTROLS/INDICATIONS.
 - ALL CIRCUIT BEAKERS ARE 6000A RATED.
 - RE-1 RELAY IS LOCATED IN THE ETS RELAY CABINET IN TBS AND ARE N.I.C.
 - ALL EXTERNAL CONTROL, INDICATION AND POWER CABLES ARE N.I.C.

LEGEND	
DEVICE	DESCRIPTION
A	AMMETER
SCADA	SUPERVISORY CONTROL AND DATA ACQUISITION
ETS	EMERGENCY TRIP STATION AT TRACKSIDE
HMI	HUMAN MACHINE INTERFACE
RE-1	ETS AUXILIARY RELAY
V	VOLT METER
XD-A	CURRENT TRANSDUCER
XD-V	VOLTAGE TRANSDUCER
64D	DC SWGR. GRD. RELAY HOT STRUCTURE
64Y	DC SWGR. GRD. RELAY GRD. STRUCTURE
86	LOCK-OUT RELAY HAND RESET
172	DC AIR CKT. BKR.
176	DC BKR SERIES TRIP DEVICE
DC MPR	DC MULTI-PURPOSE PROTECTION RELAY
150/176	DC OVERCURRENT/RATE-OF-RISE RELAY
182/183	DC LOAD MEASURING/RECLOSEING RELAY
	FUSE
	SHUNT
	SURGE ARRESTER
	DISTRIBUTED INPUT OUTPUT MODULE
	CABLE SHIELD MONITOR
	CABLE SHIELD MONITOR SENSOR
	DIGITAL TRACE RECORDER

TIE BREAKER STATION - ONE LINE DIAGRAM

*** THIS DRAWING IS FOR (6) SIX FEEDER BREAKERS. THE ACTUAL NUMBER OF DC FEEDER BREAKERS ARE INDICATED ON DRAWING TBS-G-009. ***

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE COMMONWEALTH OF VIRGINIA.

LICENSE No. 04020117145
 EXPIRATION DATE: 10/31/2015
 -VA Regulations 18VAC10-20-760

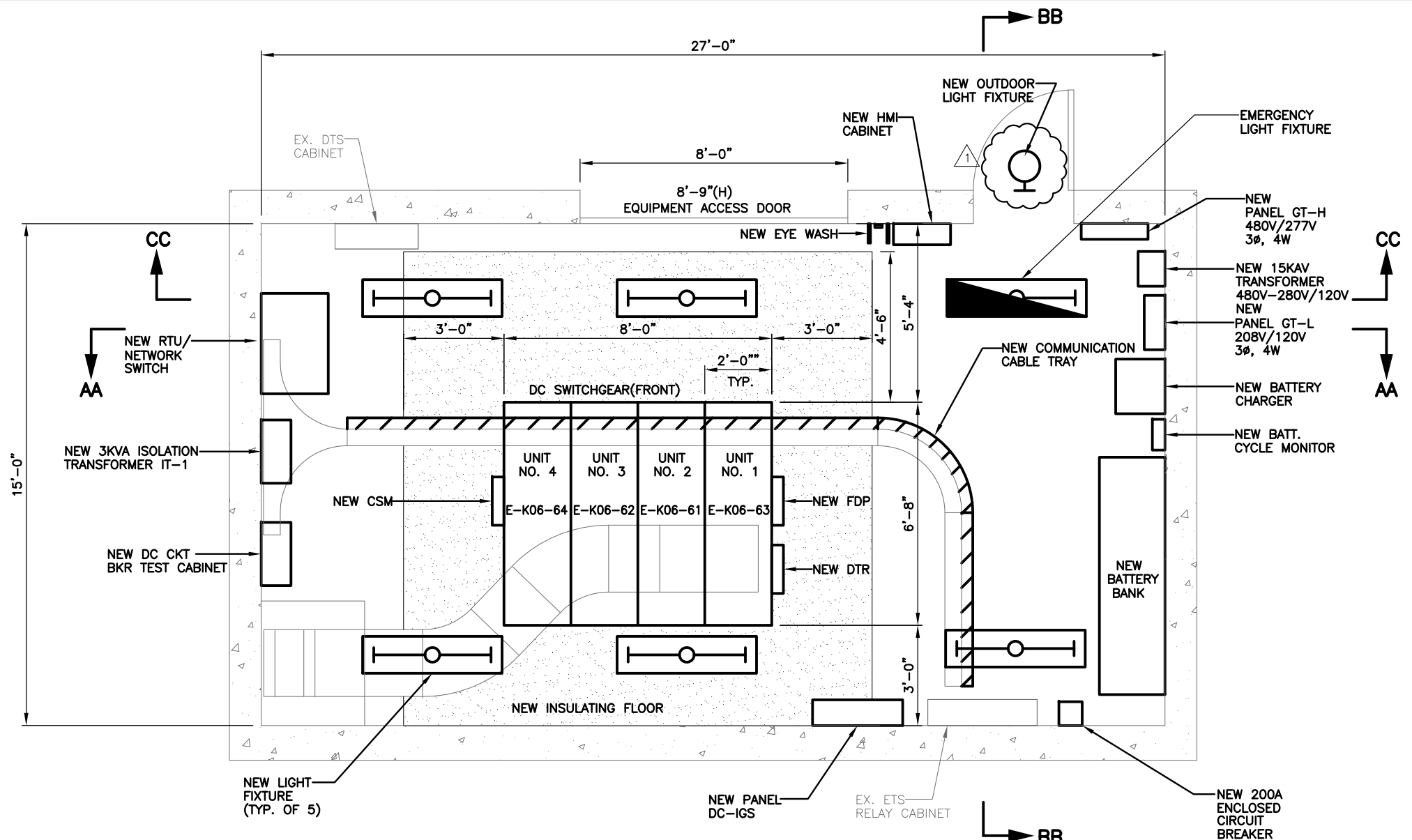
REFERENCE DRAWINGS			REVISIONS		
DESIGNED	DATE	TITLE	DATE	NUM	DESCRIPTION
JAJ	4/4/15		11/10/15	2	AMENDMENT #2: REVISED SUPERVISORY AND CONTROL DIAGRAM
JAJ	5/20/15				
PK	6/1/15				

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY
 DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES
 CENI - POWER SYSTEMS ENGINEERING

REVISION SUBMITTED: _____ DATE: _____
 APPROVED: _____ DATE: _____
 DEPUTY CHIEF ENGINEER

SIX (6) TIE BREAKER STATIONS UPGRADES ORANGE AND BLUE LINES DC, MD AND VA		TYPICAL SUPERVISORY AND CONTROL DIAGRAM	
CONTRACT NO. FQ15237	SCALE NONE	DRAWING NO. TBS-G-010	SHEET NO. 10 OF 60

Drawing File: H:\WMATA\PROJECTS\FQ15237\DRG\TBS\K06TB2 - GREENWICH ST TBS\AM-2\K06TB2-TB-200-AM2.DWG
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A | **EQUIPMENT LAYOUT PLAN - NEW**
 K06TB2-TB-200 | GREENWICH ST. TBS | SCALE: 1/2"=1'-0"
 K06TB2-TB-202

DESCRIPTION OF MAJOR WORK

- REMOVE EXISTING DC SWITCHGEAR AND PROVIDE AND INSTALL NEW DC SWITCHGEAR.
- REMOVE EXISTING BATTERY BANK AND PROVIDE AND INSTALL NEW BATTERY BANK.
- PROVIDE AND INSTALL A NEW 3KVA ISOLATION TRANSFORMER IT1 WITH PANEL.
- REMOVE EXISTING DC CIRCUIT BREAKER TEST CABINET AND PROVIDE AND INSTALL NEW DC CIRCUIT BREAKER TEST CABINET.
- REMOVE EXISTING DC DISTRIBUTION PANEL AND PROVIDE AND INSTALL NEW DC DISTRIBUTION PANEL DC-IGS.
- REMOVE EXISTING LIGHT FIXTURES AND PROVIDE AND INSTALL NEW LIGHT FIXTURES AND PROVIDE AND INSTALL NEW EMERGENCY LIGHT FIXTURE. REMOVE EXISTING OUTDOOR LIGHT FIXTURE AND PROVIDE AND INSTALL NEW OUTDOOR LIGHT FIXTURE. SEE GENERAL NOTES FOR WIRING INFORMATION.
- REMOVE EXISTING 15KVA TRANSFORMER AND PROVIDE AND INSTALL NEW 15KVA, 480V-208V/120V TRANSFORMER
- REMOVE EXISTING PANEL GT-H AND PROVIDE AND INSTALL NEW 480V/277V, 3φ., 4W AC PANEL GT-H.
- REMOVE EXISTING PANEL GT-L AND PROVIDE AND INSTALL NEW 208V/120V, 3φ, 4W AC PANEL GT-L.
- REMOVE EXISTING EMERG. PANEL EAC-IGS.
- REMOVE EXISTING ANNUNCIATOR PANEL AND ALL ASSOCIATED CABLING.
- REMOVE EXISTING DC TO AC INVERTER.
- REMOVE EXISTING EYE WASH AND PROVIDE AND INSTALL NEW EYE WASH EQUIPMENT.
- REMOVE EXISTING INSULATING FLOOR AND PROVIDE AND INSTALL NEW INSULATING FLOOR.
- NOT USED.
- CONTRACTOR SHALL PROVIDE AND INSTALL NEW BATTERY CYCLE MONITOR.
- CONTRACTOR SHALL PROVIDE AND INSTALL NEW 200A ENCLOSED CIRCUIT BREAKER.
- REMOVE EXISTING BATTERY CHARGER AND PROVIDE AND INSTALL NEW BATTERY CHARGER.
- PROVIDE AND INSTALL A 8 INCH WIDE MINIMUM WIRE-MESH TYPE COMMUNICATION CABLE TRAY, ALONG WITH SUPPORTS, GROUNDING, ISOLATION AND FITTING REQUIREMENTS AS PER THE MANUFACTURER'S RECOMMENDATION, IN COMPLIANT WITH NEC'S FILL CRITERIA AND WMATA'S SPECIFICATION.

DESCRIPTION OF SCADA WORK:

- CONTRACTOR SHALL REFER TO SCADA DRAWINGS FOR SCADA RELATED WORK.



"PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE COMMONWEALTH OF VIRGINIA."
 LICENSE No. 04020117145
 EXPIRATION DATE: 10/31/2015
 -VA Regulations 18VAC10-20-760

DESIGNED			DRAWN			CHECKED		
NAME	DATE		NAME	DATE		NAME	DATE	
NAJ	4/4/15		NAJ	5/20/15		PK	6/1/15	

REFERENCE DRAWINGS		REVISIONS	
NUMBER	TITLE	DATE	DESCRIPTION
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		11/17/15	CHANGE SCADA NOTES

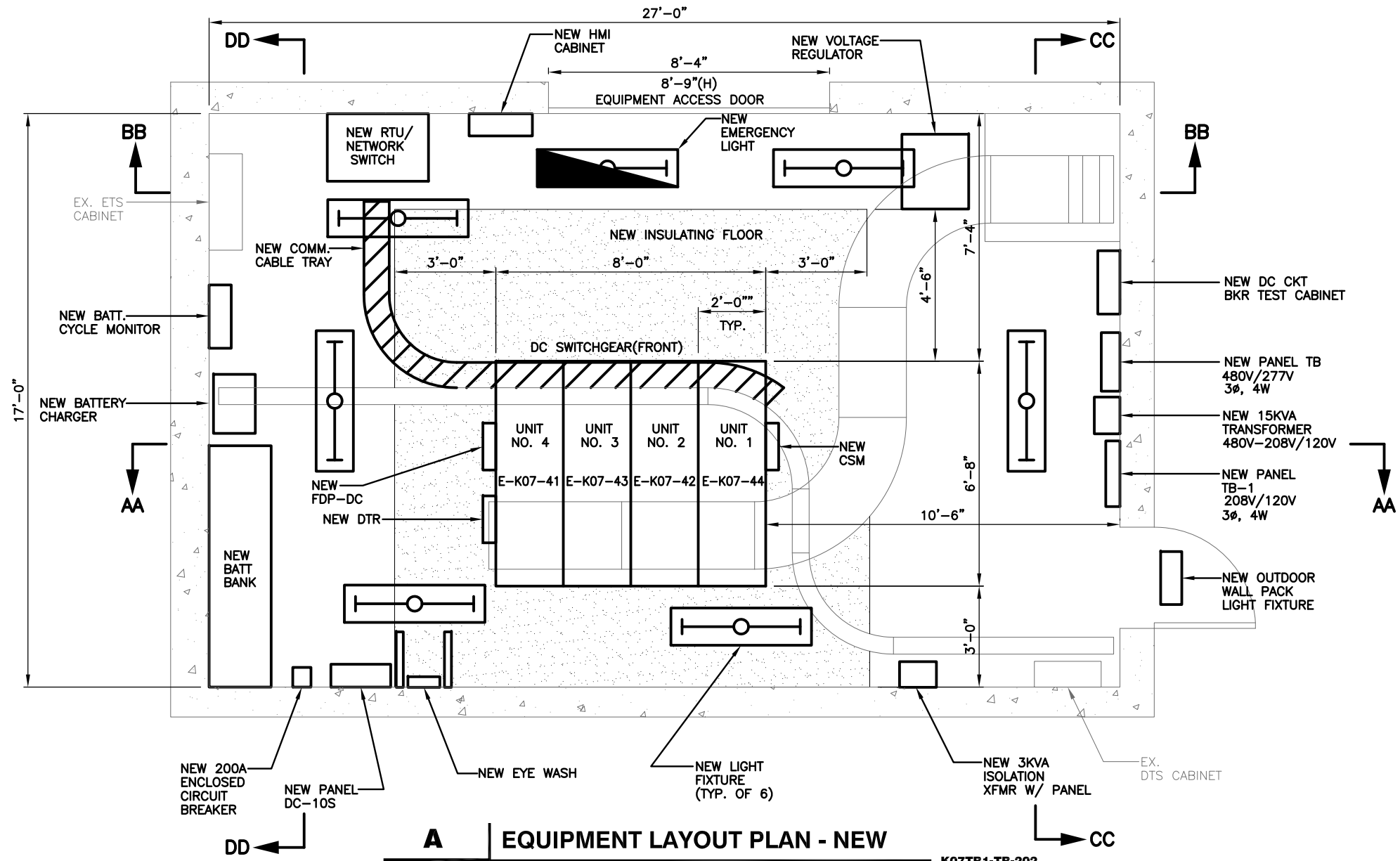
WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY
DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES
CENI - POWER SYSTEMS ENGINEERING

REVISION SUBMITTED: _____ DATE: _____
 APPROVED: _____ DATE: _____
 DEPUTY CHIEF ENGINEER

SIX (6) TIE BREAKER STATIONS UPGRADES
ORANGE AND BLUE LINES DC, MD AND VA
K06TB2 - GREENWICH ST. TIE BREAKER STATION
EQUIPMENT LAYOUT PLAN - NEW

CONTRACT NO. FQ15237	SCALE AS NOTED	DRAWING NO. K06TB2-TB-200	SHEET NO. 14 OF 60
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Drawing File: H:\WMATA PROJECTS\FQ15237\DRG\TBS\K07TB1 - OGDEN ST TBS\AM-2\K07TB1-TB-200-AM2.DWG
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A EQUIPMENT LAYOUT PLAN - NEW
 K07TB1-TB-200 OGDEN STREET TBS SCALE: 1/2"=1'-0" K07TB1-TB-202

DESCRIPTION OF MAJOR WORK:

1. REMOVE EXISTING DC SWITCHGEAR AND PROVIDE AND INSTALL NEW DC SWITCHGEAR.
2. REMOVE EXISTING BATTERY BANK AND PROVIDE AND INSTALL NEW BATTERY BANK.
3. PROVIDE AND INSTALL A NEW 3KVA ISOLATION TRANSFORMER IT1 WITH PANEL.
4. REMOVE EXISTING DC CIRCUIT BREAKER TEST CABINET AND PROVIDE AND INSTALL NEW DC CIRCUIT BREAKER TEST CABINET.
5. REMOVE EXISTING DC DISTRIBUTION PANEL AND PROVIDE AND INSTALL NEW DC DISTRIBUTION PANEL DC-10S.
6. REMOVE EXISTING LIGHT FIXTURES AND PROVIDE AND INSTALL NEW LIGHT FIXTURES AND PROVIDE AND INSTALL NEW EMERGENCY LIGHT FIXTURE. REMOVE EXISTING OUTDOOR WALL PACK LIGHT AND PROVIDE AND INSTALL NEW OUTDOOR WALL PACK LIGHT. SEE GENERAL NOTES FOR WIRING INFORMATION.
7. REMOVE EXISTING 15KVA TRANSFORMER AND PROVIDE AND INSTALL NEW 15KVA, 480V-208V/120V TRANSFORMER
8. REMOVE EXISTING PANEL TB AND PROVIDE AND INSTALL NEW 480V/277V, 3Ø, 4W AC PANEL TB.
9. REMOVE EXISTING PANEL TB-1 AND PROVIDE AND INSTALL NEW 208V/120V, 3Ø, 4W AC PANEL TB-1.
10. REMOVE EXISTING EMERG. PANEL EAC-10S
11. REMOVE EXISTING DC TO AC INVERTER.
12. REMOVE EXISTING EYE WASH AND PROVIDE AND INSTALL NEW EYE WASH EQUIPMENT.
13. REMOVE EXISTING INSULATING FLOOR AND PROVIDE AND INSTALL NEW INSULATING FLOOR.
14. REMOVE EXISTING VOLTAGE REGULATOR AND PROVIDE AND INSTALL NEW VOLTAGE REGULATOR.
15. REMOVE EXISTING BATTERY CHARGER AND PROVIDE AND INSTALL NEW BATTERY CHARGER.
16. REMOVE EXISTING ANNUNCIATOR PANEL AND ASSOCIATED CABLING.
17. CONTRACTOR SHALL PROVIDE AND INSTALL NEW BATTERY CYCLE MONITOR.
18. CONTRACTOR SHALL PROVIDE AND INSTALL NEW 200A ENCLOSED CIRCUIT BREAKER.
19. PROVIDE AND INSTALL A 8 INCH WIDE MINIMUM WIRE-MESH TYPE COMMUNICATION CABLE TRAY, ALONG WITH SUPPORTS, GROUNDING, ISOLATION AND FITTING REQUIREMENTS AS PER THE MANUFACTURER'S RECOMMENDATION, IN COMPLIANT WITH NEC'S FILL CRITERIA AND WMATA'S SPECIFICATION.

DESCRIPTION OF SCADA WORK:

1. CONTRACTOR SHALL REFER TO SCADA DRAWINGS FOR SCADA RELATED WORK.



"PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE COMMONWEALTH OF VIRGINIA."
 LICENSE No. 04020117145
 EXPIRATION DATE: 10/31/2015
 -VA Regulations 18VAC10-20-760

DESIGNED			DRAWN			CHECKED		
JAJ	4/4/15	DATE	JAJ	5/20/15	DATE	PK	6/1/15	DATE

REFERENCE DRAWINGS		REVISIONS		
NUMBER	TITLE	DATE	NUM	DESCRIPTION
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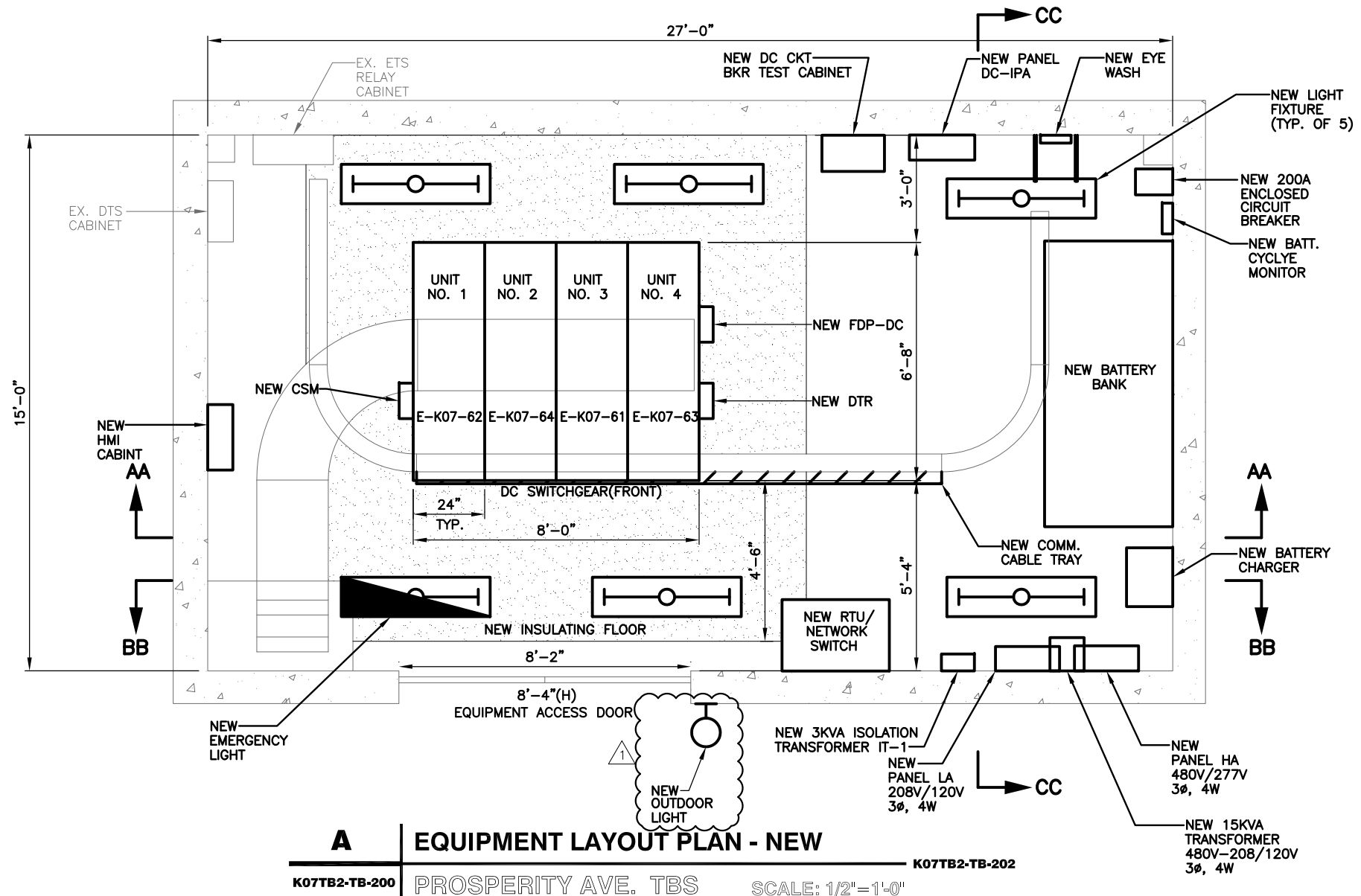
WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY
 metro
DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES
 CENI - POWER SYSTEMS ENGINEERING

REVISION SUBMITTED: _____ DATE: _____
 APPROVED: _____ DATE: _____
 DEPUTY CHIEF ENGINEER

SIX (6) TIE BREAKER STATIONS UPGRADES
ORANGE AND BLUE LINES DC, MD AND VA
 K07TB1 - OGDEN ST. TIE BREAKER STATION
 EQUIPMENT LAYOUT PLAN - NEW

CONTRACT NO. FQ15237	SCALE AS NOTED	DRAWING NO. K07TB1-TB-200	SHEET NO. 22 OF 60
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Drawing File: H:\WMATA PROJECTS\FQ15237\DRG\TBS\K07TB2 - PROSPERITY AVE TBS\AM-2\K07TB2-TB-200-AM2.DWG
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A EQUIPMENT LAYOUT PLAN - NEW
 K07TB2-TB-200 PROSPERITY AVE. TBS SCALE: 1/2"=1'-0"
 K07TB2-TB-202

DESCRIPTION OF MAJOR WORK

1. REMOVE EXISTING DC SWITCHGEAR AND PROVIDE AND INSTALL NEW DC SWITCHGEAR.
2. REMOVE EXISTING BATTERY BANK AND PROVIDE AND INSTALL NEW BATTERY BANK.
3. PROVIDE AND INSTALL A NEW 3KVA ISOLATION TRANSFORMER IT1 WITH PANEL.
4. REMOVE EXISTING DC CIRCUIT BREAKER TEST CABINET AND PROVIDE AND INSTALL NEW DC CIRCUIT BREAKER TEST CABINET.
5. REMOVE EXISTING DC DISTRIBUTION PANEL AND PROVIDE AND INSTALL NEW DC DISTRIBUTION PANEL DC-IPA.
6. REMOVE EXISTING LIGHT FIXTURES AND PROVIDE AND INSTALL NEW LIGHT FIXTURES AND PROVIDE AND INSTALL NEW EMERGENCY LIGHT FIXTURE. SEE GENERAL NOTES FOR WIRING INFORMATION.
7. REMOVE EXISTING 15KVA TRANSFORMER AND PROVIDE AND INSTALL NEW 15KVA, 480V-208V/120V TRANSFORMER
8. REMOVE EXISTING PANEL HA AND PROVIDE AND INSTALL NEW 480V/277V, 3φ, 4W AC PANEL HA.
9. REMOVE EXISTING PANEL LA AND PROVIDE AND INSTALL NEW 208V/120V, 3φ, 4W AC PANEL LA.
10. REMOVE EXISTING EMERG. PANEL EAC-IPA.
11. REMOVE EXISTING DC TO AC INVERTER.
12. REMOVE EXISTING ANNUNCIATOR PANEL AND ALL ASSOCIATED CABLING.
13. REMOVE EXISTING EYE WASH AND PROVIDE AND INSTALL NEW EYE WASH EQUIPMENT.
14. REMOVE EXISTING INSULATING FLOOR AND PROVIDE AND INSTALL NEW INSULATING FLOOR.
15. REMOVE EXISTING BATTERY CHARGER AND PROVIDE AND INSTALL NEW BATTERY CHARGER.
16. CONTRACTOR SHALL PROVIDE AND INSTALL NEW BATTERY CYCLE MONITOR.
17. CONTRACTOR SHALL PROVIDE AND INSTALL NEW 200A ENCLOSED CIRCUIT BREAKER.
18. PROVIDE AND INSTALL A 8 INCH WIDE MINIMUM WIRE-MESH TYPE COMMUNICATION CABLE TRAY, ALONG WITH SUPPORTS, GROUNDING, ISOLATION AND FITTING REQUIREMENTS AS PER THE MANUFACTURER'S RECOMMENDATION, IN COMPLIANT WITH NEC'S FILL CRITERIA AND WMATA'S SPECIFICATION.

DESCRIPTION OF SCADA WORK:

1. CONTRACTOR SHALL REFER TO SCADA DRAWINGS FOR SCADA RELATED WORK.



"PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE COMMONWEALTH OF VIRGINIA."
 LICENSE No. 04020117145
 EXPIRATION DATE: 10/31/2015
 -VA Regulations 18VAC10-20-760

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY
 DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES
 CENI - POWER SYSTEMS ENGINEERING

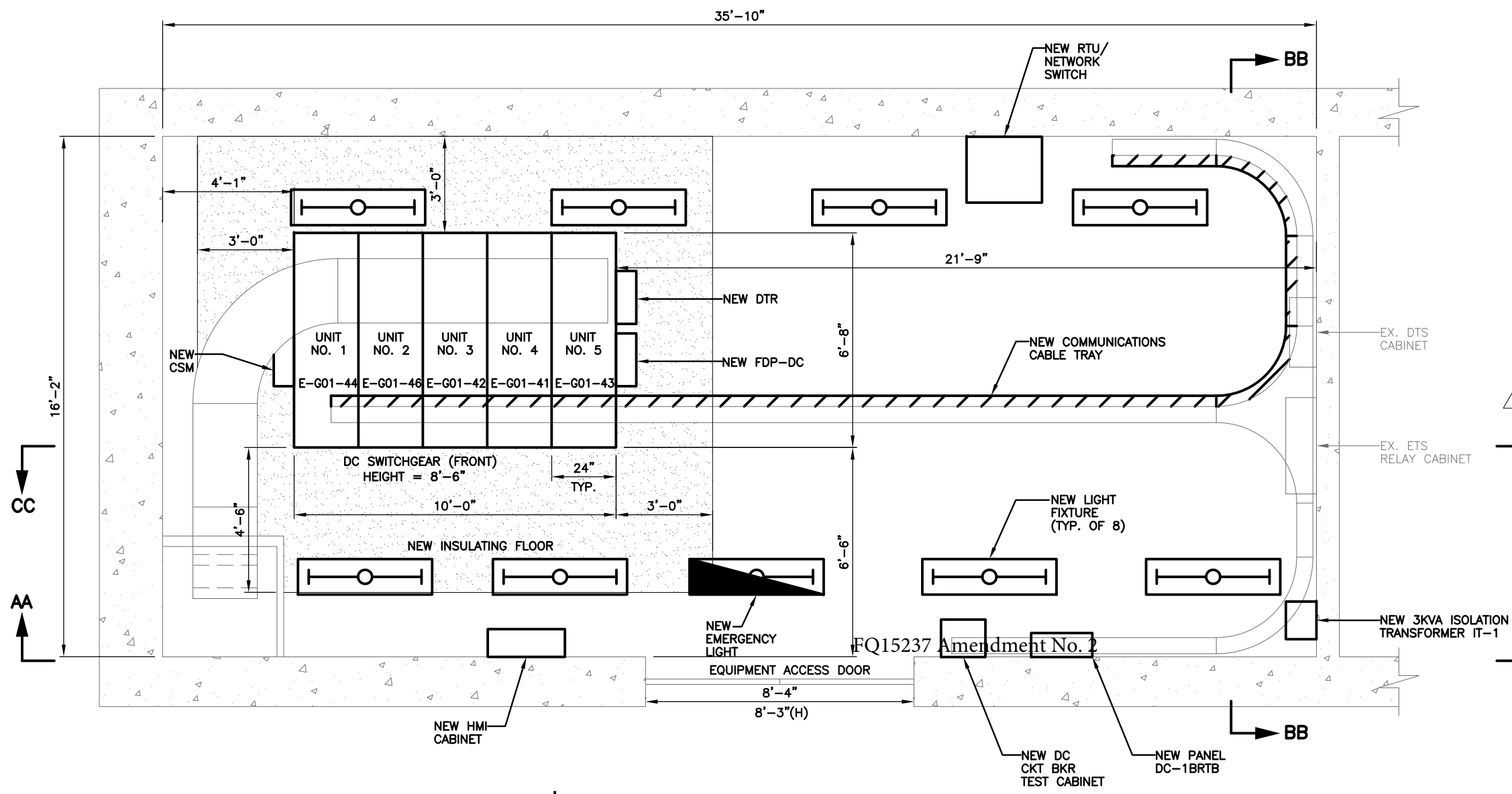
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 DEPUTY CHIEF ENGINEER

DESIGNED			DRAWN			CHECKED		
JAJ	4/4/15	DATE	JAJ	5/20/15	DATE	PK	6/1/15	DATE

REFERENCE DRAWINGS		REVISIONS	
NUMBER	TITLE	DATE	DESCRIPTION
		11/2/15	AMENDMENT NO. 1
		11/17/15	CHANGE SCADA NOTES

SIX (6) TIE BREAKER STATIONS UPGRADES ORANGE AND BLUE LINES DC, MD AND VA			
K07TB2 - PROSPERITY AVE. TIE BREAKER STATION EQUIPMENT LAYOUT PLAN - NEW			
CONTRACT NO. FQ15237	SCALE AS NOTED	DRAWING NO. K07TB2-TB-200	SHEET NO. 30 OF 60

Drawing File: H:\WMATA PROJECTS\FQ15237\DRG\TBS\G01TBS - BENNING RD TBS\AM-2\G01TBS-TB-200-AM2.DWG
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- DESCRIPTION OF MAJOR WORK**
- REMOVE EXISTING DC SWITCHGEAR AND PROVIDE AND INSTALL NEW DC SWITCHGEAR.
 - PROVIDE AND INSTALL A NEW 3KVA ISOLATION TRANSFORMER IT1 WITH PANEL.
 - REMOVE EXISTING DC CIRCUIT BREAKER TEST CABINET AND PROVIDE AND INSTALL NEW DC CIRCUIT BREAKER TEST CABINET.
 - REMOVE EXISTING DC DISTRIBUTION PANEL AND PROVIDE AND INSTALL NEW DC DISTRIBUTION PANEL DC-1BRTB.
 - REMOVE EXISTING LIGHT FIXTURES AND PROVIDE AND INSTALL NEW LIGHT FIXTURES AND PROVIDE AND INSTALL NEW EMERGENCY LIGHT FIXTURE. SEE GENERAL NOTES FOR WIRING INFORMATION.
 - REMOVE EXISTING DC TO AC INVERTER.
 - REMOVE EXISTING INSULATING FLOOR AND PROVIDE AND INSTALL NEW INSULATING FLOOR.
 - REMOVE EXISTING ANNUNCIATOR PANEL AND ALL ASSOCIATED CABLING.
 - REPLACE 5 RECEPTACLES IN THE ROOM. EXISTING BRANCH CIRCUIT WIRING SHALL BE REUSED.
 - PROVIDE AND INSTALL A 8 INCH WIDE MINIMUM WIRE-MESH TYPE COMMUNICATION CABLE TRAY, ALONG WITH SUPPORTS, GROUNDING, ISOLATION AND FITTING REQUIREMENTS AS PER THE MANUFACTURER'S RECOMMENDATION, IN COMPLIANT WITH NEC'S FILL CRITERIA AND WMATA'S SPECIFICATION.

- DESCRIPTION OF SCADA WORK:**
- CONTRACTOR SHALL REFER TO SCADA DRAWINGS FOR SCADA RELATED WORK.

A | **EQUIPMENT LAYOUT PLAN - NEW**
 G01TBS-TB-200 | BENNING RD. TBS | G01TBS-TB-202 | SCALE: 1/2"=1'-0"

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY
 DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES
 CENI - POWER SYSTEMS ENGINEERING

SIX (6) TIE BREAKER STATIONS UPGRADES ORANGE AND BLUE LINES DC, MD AND VA
 G01 - BENNING RD. TIE BREAKER STATION
 EQUIPMENT LAYOUT PLAN - NEW

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE COMMONWEALTH OF VIRGINIA.
 LICENSE No. 04020117145
 EXPIRATION DATE: 10/31/2015
 -VA Regulations 18VAC10-20-760

DESIGNED	GAJ	4/4/15
		DATE
DRAWN	GAJ	5/20/15
		DATE
CHECKED	PK	6/1/15
		DATE

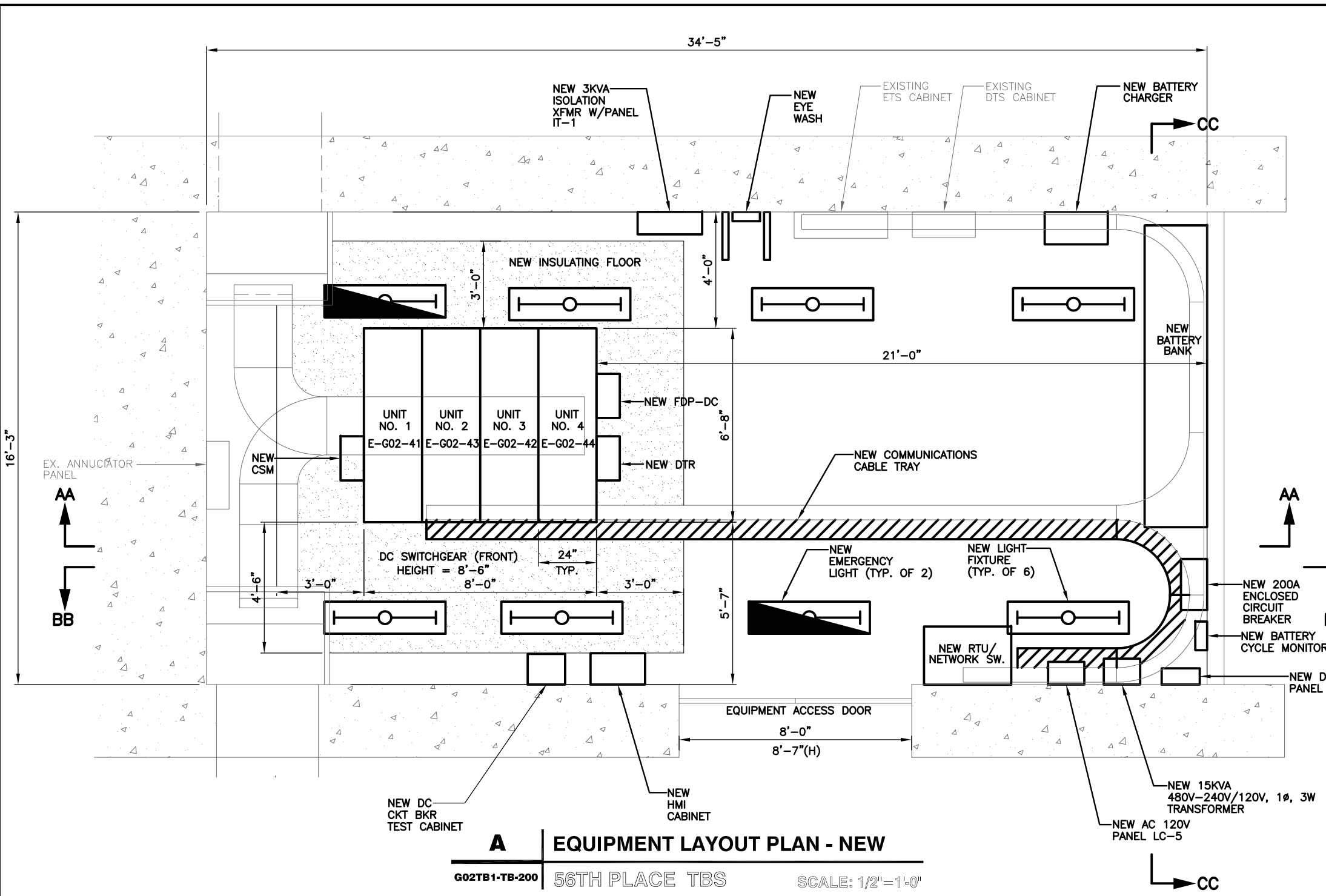
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NUMBER	TITLE

REVISIONS		
DATE	NUM	DESCRIPTION
11/2/15	1	AMENDMENT NO. 1
11/17/15	2	CHANGE SCADA NOTES

REVISION SUBMITTED	DATE	APPROVED	DATE

CONTRACT NO.	SCALE	DRAWING NO.	SHEET NO.
FQ15237	AS NOTED	G01TBS-TB-200	38 OF 60

Drawing File: H:\WMATA PROJECTS\FQ15237\DRG\TBS\G02TB1 - 56TH PLACE TBS\AM-2\G02TB1-TB-200-AM2.DWG
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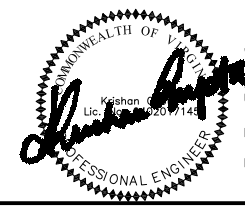
A | **EQUIPMENT LAYOUT PLAN - NEW**
 G02TB1-TB-200 | 56TH PLACE TBS | SCALE: 1/2"=1'-0"

DESCRIPTION OF MAJOR WORK

1. REMOVE EXISTING DC SWITCHGEAR AND PROVIDE AND INSTALL NEW DC SWITCHGEAR.
2. REMOVE EXISTING BATTERY BANK AND PROVIDE AND INSTALL NEW BATTERY BANK.
3. PROVIDE AND INSTALL A NEW 3KVA ISOLATION TRANSFORMER IT1 WITH PANEL.
4. REMOVE EXISTING DC CIRCUIT BREAKER TEST CABINET AND PROVIDE AND INSTALL NEW DC CIRCUIT BREAKER TEST CABINET.
5. REMOVE EXISTING DC DISTRIBUTION PANEL AND PROVIDE AND INSTALL NEW DC DISTRIBUTION PANEL DC-56TB.
6. REMOVE EXISTING LIGHT FIXTURES AND PROVIDE AND INSTALL NEW LIGHT FIXTURES AND PROVIDE AND INSTALL NEW EMERGENCY LIGHT FIXTURE. SEE GENERAL NOTES FOR WIRING INFORMATION.
7. REMOVE EXISTING 10KVA TRANSFORMER/PANEL AND PROVIDE AND INSTALL NEW 15KVA, 480V-208V/120V, 3Ø, 4W TRANSFORMER.
8. PROVIDE AND INSTALL NEW 208V/120V AC PANEL "LC5".
9. REMOVE EXISTING ANNUNCIATOR PANEL AND ALL ASSOCIATED CABLING.
10. REMOVE EXISTING DC TO AC INVERTER.
11. REMOVE EXISTING EYE WASH AND PROVIDE AND INSTALL NEW EYE WASH EQUIPMENT.
12. REMOVE EXISTING INSULATING FLOOR AND PROVIDE AND INSTALL NEW INSULATING FLOOR.
13. CONTRACTOR SHALL PROVIDE AND INSTALL NEW BATTERY CYCLE MONITOR.
14. CONTRACTOR SHALL PROVIDE AND INSTALL NEW 200A ENCLOSED CIRCUIT BREAKER.
15. REMOVE EXISTING BATTERY CHARGER AND PROVIDE AND INSTALL NEW BATTERY CHARGER.
16. PROVIDE AND INSTALL A 8 INCH WIDE MINIMUM WIRE-MESH TYPE COMMUNICATION CABLE TRAY, ALONG WITH SUPPORTS, GROUNDING, ISOLATION AND FITTING REQUIREMENTS AS PER THE MANUFACTURER'S RECOMMENDATION, IN COMPLIANT WITH NEC'S FILL CRITERIA AND WMATA'S SPECIFICATION.

DESCRIPTION OF SCADA WORK:

1. CONTRACTOR SHALL REFER TO SCADA DRAWINGS FOR SCADA RELATED WORK.



"PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE COMMONWEALTH OF VIRGINIA."
 LICENSE No. 04020117145
 EXPIRATION DATE: 10/31/2015
 -VA Regulations 18VAC10-20-760

DESIGNED	JAJ	4/4/15
		DATE
DRAWN	JAJ	5/20/15
		DATE
CHECKED	PK	6/1/15
		DATE

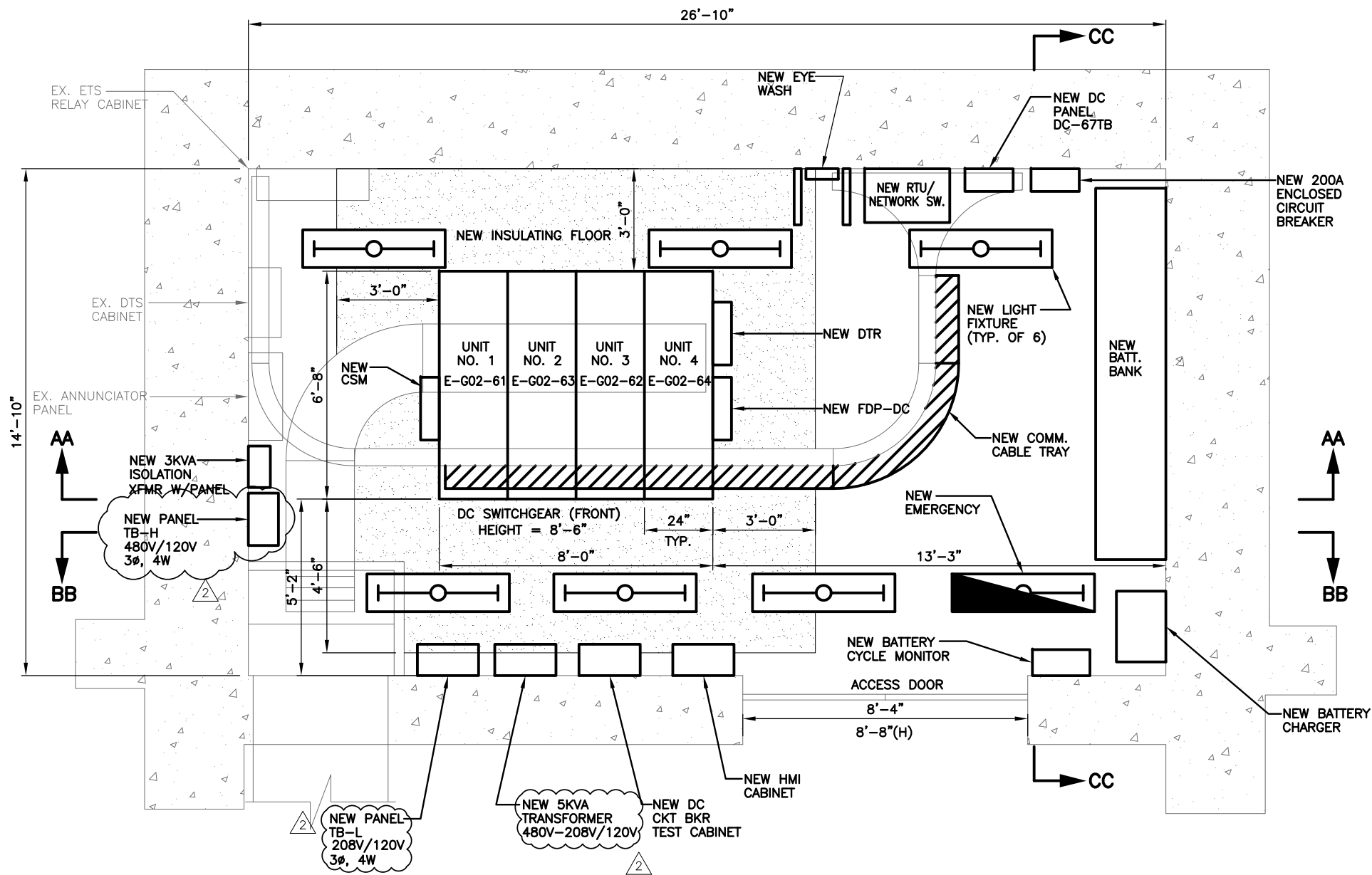
REFERENCE DRAWINGS		REVISIONS	
NUMBER	TITLE	DATE	DESCRIPTION
		11/17/15	AMENDMENT NO. 2: SCADA NOTES REVISED

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY
 DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES
 CENI - POWER SYSTEMS ENGINEERING

REVISION SUBMITTED _____ DATE _____ APPROVED _____ DATE _____
 DEPUTY CHIEF ENGINEER

SIX (6) TIE BREAKER STATIONS UPGRADES ORANGE AND BLUE LINES DC, MD AND VA		G02TB1 - 56TH PLACE TIE BREAKER STATION EQUIPMENT LAYOUT PLAN - NEW	
CONTRACT NO. FQ15237	SCALE AS NOTED	DRAWING NO. G02TB1-TB-200	SHEET NO. 46 OF 60

Drawing File: H:\WMATA PROJECTS\FQ15237\DRG\TBS\G02TB2 - 67TH AVE TBS\AM-2\G02TB2-TB-200-AM2.DWG
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A EQUIPMENT LAYOUT PLAN - NEW
 G02TB2-TB-200 67TH AVE. TBS SCALE: 1/2"=1'-0"

DESCRIPTION OF MAJOR WORK

1. REMOVE EXISTING DC SWITCHGEAR AND PROVIDE AND INSTALL NEW DC SWITCHGEAR.
2. REMOVE EXISTING BATTERY BANK AND PROVIDE AND INSTALL NEW BATTERY BANK.
3. PROVIDE AND INSTALL A NEW 3KVA ISOLATION TRANSFORMER WITH PANEL.
4. REMOVE EXISTING DC CIRCUIT BREAKER TEST CABINET AND PROVIDE AND INSTALL NEW DC CIRCUIT BREAKER TEST CABINET.
5. REMOVE EXISTING DC DISTRIBUTION PANEL AND PROVIDE AND INSTALL NEW DC DISTRIBUTION PANEL DC-67TB
6. PROVIDE AND INSTALL NEW 50A CIRCUIT BREAKER IN PANEL PO-11 IN FAN SHAFT FG4.
7. PROVIDE AND INSTALL NEW FEEDER (3#8AWG-1#8G) IN NEW 3/4" CONDUIT APPROX. 150FT FROM PANEL PO-11 TO NEW 480V PANEL TB-H IN TBS.
8. PROVIDE AND INSTALL NEW 480V/277V, 3Ø, 4W AC PANEL TB-H.
9. PROVIDE AND INSTALL NEW 5KVA, 480V-208V/120V TRANSFORMER.
10. PROVIDE AND INSTALL NEW 208V/120V, 3Ø, 4W AC PANEL TB-L.
11. REMOVE EXISTING LIGHT FIXTURES AND PROVIDE AND INSTALL NEW LIGHT FIXTURES AND PROVIDE AND INSTALL NEW EMERGENCY LIGHT FIXTURE. SEE GENERAL NOTES FOR WIRING INFORMATION.
12. REMOVE EXISTING ANNUNCIATOR PANEL AND ALL ASSOCIATED CABLING.
13. REMOVE EXISTING DC TO AC INVERTER.
14. REMOVE EXISTING EYE WASH AND PROVIDE AND INSTALL NEW EYE WASH EQUIPMENT.
15. REMOVE EXISTING INSULATING FLOOR AND PROVIDE AND INSTALL NEW INSULATING FLOOR.
16. CONTRACTOR SHALL PROVIDE AND INSTALL NEW BATTERY CYCLE MONITOR.
17. CONTRACTOR SHALL PROVIDE AND INSTALL NEW 200A ENCLOSE CIRCUIT BREAKER.
18. REMOVE EXISTING BATTERY CHARGER AND PROVIDE AND INSTALL NEW BATTERY CHARGER.
19. PROVIDE AND INSTALL A 8 INCH WIDE MINIMUM WIRE-MESH TYPE COMMUNICATION CABLE TRAY, ALONG WITH SUPPORTS, GROUNDING, ISOLATION AND FITTING REQUIREMENTS AS PER THE MANUFACTURER'S RECOMMENDATION, IN COMPLIANT WITH NEC'S FILL CRITERIA AND WMATA'S SPECIFICATION.

- DESCRIPTION OF SCADA WORK:**
1. CONTRACTOR SHALL REFER TO SCADA DRAWINGS FOR SCADA RELATED WORK.



"PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE COMMONWEALTH OF VIRGINIA."
 LICENSE No. 04020117145
 EXPIRATION DATE: 10/31/2015
 -VA Regulations 18VAC10-20-760

REFERENCE DRAWINGS			REVISIONS		
DESIGNED	DATE	TITLE	DATE	NUM	DESCRIPTION
JAJ	4/4/15		11/16/15	2	AMENDMENT NO. 2: ADDED NEW 480V PANEL, 5KVA XFMR, REVISED SCADA NOTES
JAJ	5/20/15				
PK	6/1/15				

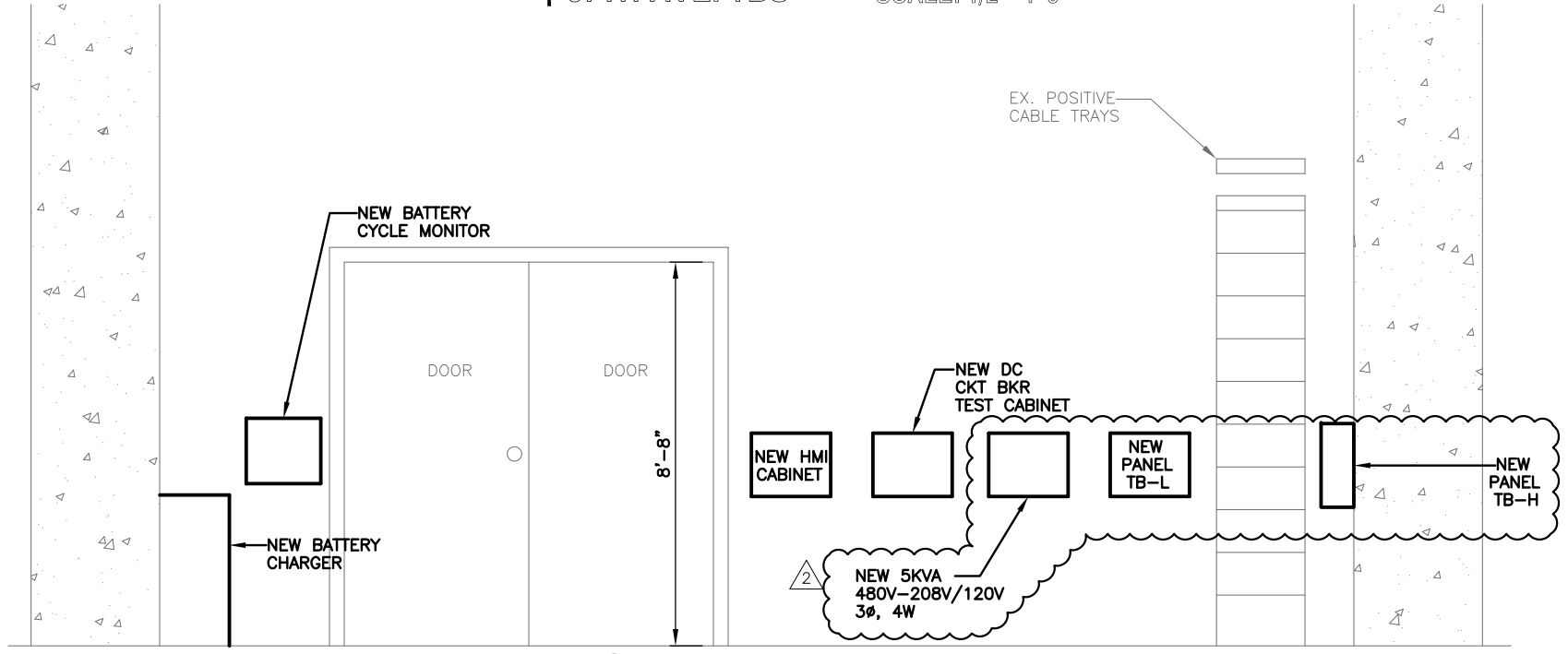
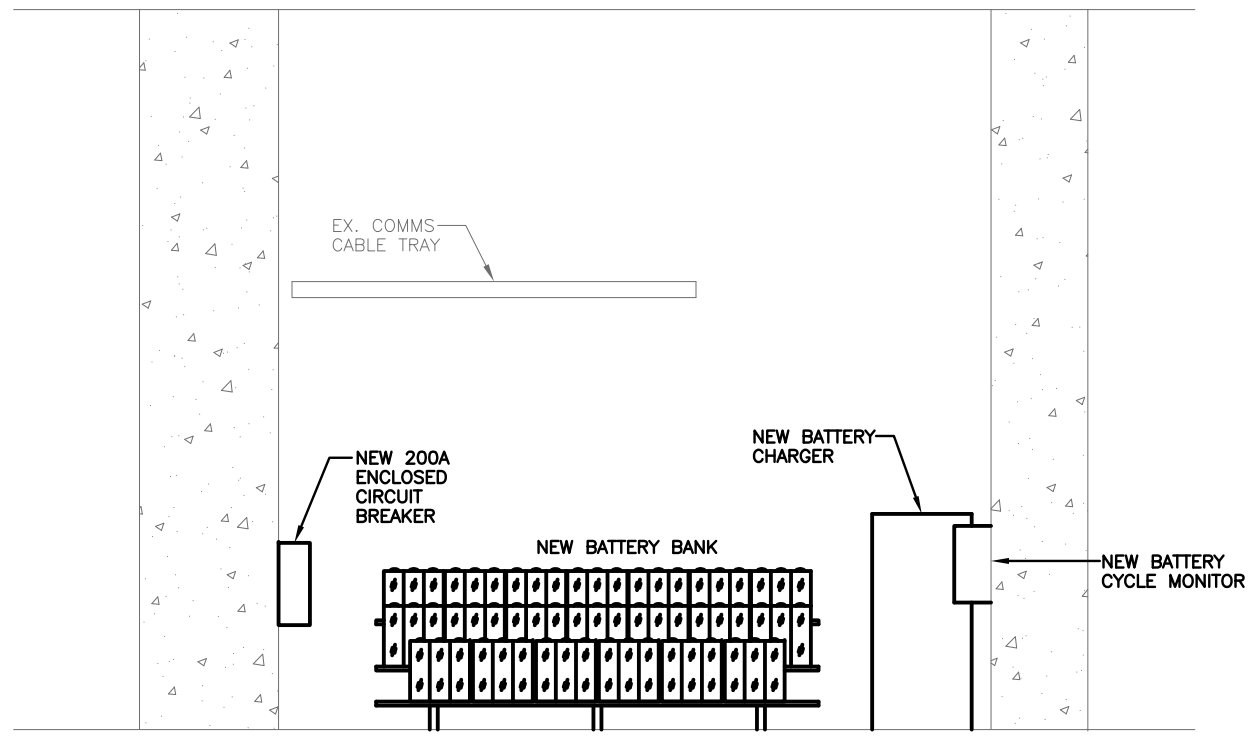
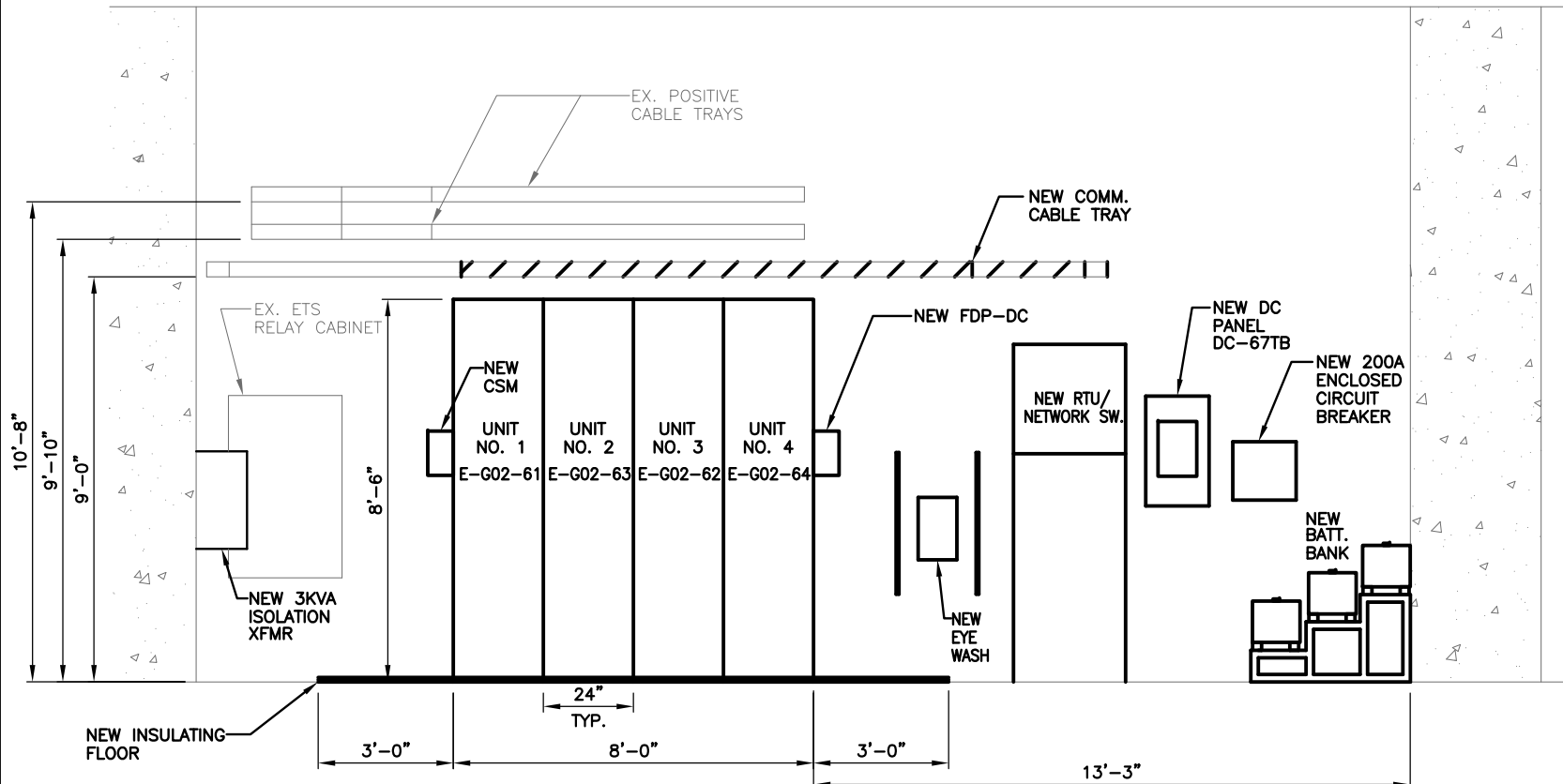
WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY
 DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES
 CENI - POWER SYSTEMS ENGINEERING

REVISION SUBMITTED: _____ DATE: _____
 APPROVED: _____ DATE: _____
 DEPUTY CHIEF ENGINEER

SIX (6) TIE BREAKER STATIONS UPGRADES ORANGE AND BLUE LINES DC, MD AND VA
 G02TB2 - 67TH AVE. TIE BREAKER STATION
 EQUIPMENT LAYOUT PLAN - NEW

CONTRACT NO. FQ15237	SCALE AS NOTED	DRAWING NO. G02TB2-TB-200	SHEET NO. 54 OF 60
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Drawing File: H:\WMATA PROJECTS\FQ15237\DRG\TBS\G02TB2 - 67TH AVE TBS\AM-2\G02TB2-TB-202-AM2.DWG
 Plotted by: E013941 Date: Tue, 17 Nov 2015 Time: 08:45:34 am
 Xrefs: N:\ROBINSON-ELECT-MECH\ELEC-MECH-PWR AutoCAD Folder\WMATA CAD TEMPLATE\Library\CUIPTA SIGNATURE.tif



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 LICENSE No. 04020117145
 EXPIRATION DATE: 10/31/2015
 -VA Regulations 18VAC10-20-760

DESIGNED	JAJ	4/4/15
		DATE
DRAWN	JAJ	5/20/15
		DATE
CHECKED	PK	6/1/15
		DATE

REFERENCE DRAWINGS	
NUMBER	TITLE

REVISIONS		
DATE	NUM	DESCRIPTION
11/16/15	Δ	AMENDMENT NO. 2: ADDED NEW 480V PANEL, 5KVA XFMR

M WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY
 metro
 DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES
 CENI - POWER SYSTEMS ENGINEERING

REVISION SUBMITTED _____ DATE _____
 APPROVED _____ DATE _____
 DEPUTY CHIEF ENGINEER

SIX (6) TIE BREAKER STATIONS UPGRADES ORANGE AND BLUE LINES DC, MD AND VA			
G02TB2 - 67TH AVE. TIE BREAKER STATION EQUIPMENT ELEVATIONS			
CONTRACT NO. FQ15237	SCALE AS NOTED	DRAWING NO. G02TB2-TB-202	SHEET NO. 56 OF 60

Drawing File: H:\WMATA PROJECTS\FQ15237\DRG\TBS\AM-2\G02TB2-TB-300-AM2.DWG
 Plotted by: E013941 Date: Tue, 17 Nov 2015 Time: 08:45:43 am
 Xrefs: N:\ROBINSON-ELECT-MECH\ELEC-MECH-PWR AutoCAD Folder\WMATA CAD TEMPLATE\Library\CAD SIGNATURE.tif

CABLE					CIRCUIT			ROUTING					CABLE					CIRCUIT			ROUTING					
NUMBER	CONSTRUCT.	SIZE AWG.	INSULATION VOLTAGE	TYPE	VOLTAGE	A.C. OR D.C.	SPARE COND.	FROM	VIA	TO	FOR	REV. NO.	NUMBER	CONSTRUCT.	SIZE AWG.	INSULATION VOLTAGE	TYPE	VOLTAGE	A.C. OR D.C.	SPARE COND.	FROM	VIA	TO	FOR	REV. NO.	
DP-1	4-1/C	1000 MCM	1000V	90°C	700V	DC	0	DC SWGR. UNIT NO.1 TBKR. NO.1	CABLE TRAY & CONDUIT	CONTACT RAIL O.B. END APPR. 449+23	TRACTION POWER FEEDER	0	DC-5	2/C	#10	600V	90°C	125V	DC	0	DC DISTRIBUTION PANEL DC-56TB	CABLE TRAY & CONDUIT	HMI CABINET	DC POWER	0	
DP-2	4-1/C	1000 MCM	1000V	90°C	700V	DC	0	DC SWGR. UNIT NO.2 TBKR. NO.3	CABLE TRAY & CONDUIT	CONTACT RAIL O.B. END APPR. 448+67	TRACTION POWER FEEDER	0	DC-6	2/C	#12	600V	90°C	125V	DC	0	DC DISTRIBUTION PANEL DC-67TB	CABLE TRAY & CONDUIT	DC CKT. BKR. TEST CABINET	DC POWER	0	
DP-3	4-1/C	1000 MCM	1000V	90°C	700V	DC	0	DC SWGR. UNIT NO.3 TBKR. NO.2	CABLE TRAY & CONDUIT	CONTACT RAIL I.B. END APPR. 449+23	TRACTION POWER FEEDER	0	DC-7	2/C	#12	600V	90°C	125V	DC	0	DC DISTRIBUTION PANEL DC-67TB	CABLE TRAY & CONDUIT	EMERG. TRIP SW. RELAY CABINET	DC POWER	0	
DP-4	4-1/C	1000 MCM	1000V	90°C	700V	DC	0	DC SWGR. UNIT NO.4 TBKR. NO.4	CABLE TRAY & CONDUIT	CONTACT RAIL O.B. END APPR. 448+67	TRACTION POWER FEEDER	0	DC-8	2/C	#12	600V	90°C	125V	DC	0	DC DISTRIBUTION PANEL DC-67TB	CONDUIT	RTU	DC POWER	0	
													DC-9	2/C	#10	600V	90°C	125V	DC		DC DISTRIBUTION PANEL DC-67TB	CABLE TRAY & CONDUIT	NETWORK SWITCH	DC POWER	0	
													DC-10	2/C	#10	600V	90°C	125V	DC		DC DISTRIBUTION PANEL DC-67TB	CABLE TRAY & CONDUIT	EMERGENCY LIGHT	DC POWER	0	
AN-1	6/C	#14	600V	90°C	125V	DC	3	BATTERY CHARGER	CABLE TRAY & CONDUIT	RTU CABINET	BATT. CHARGER FAIL	0	AC-1	4/C	#8	600V	90°C	480V	AC	0	1 GREEN GRD WIRE	EXIST. 480V AC PANEL PO-11	CONDUIT	NEW AC 480V/277V PANEL TB-H	A.C. POWER	0
AN-2	NOT USED												AC-2	4/C	#10	600V	90°C	480V	AC	0	1 GREEN GRD WIRE	NEW AC 480V/277V PANEL TB-H	CABLE TRAY & CONDUIT	BATTERY CHARGER	BATTERY CHARGER POWER SUPPLY	0
AN-3	NOT USED												AC-3	4/C	#12	600V	90°C	480V	AC	0	1 GREEN GRD WIRE	NEW AC 480V/277V PANEL TB-H	CABLE TRAY & CONDUIT	NEW 5KVA TRANSFORMER	A.C. POWER	0
AN-4	NOT USED												AC-4	4/C	#10	600V	90°C	208V	AC	0	1 GREEN GRD WIRE	NEW 5KVA TRANSFORMER	CONDUIT	NEW AC 208V/120V PANEL TB-L	A.C. POWER	0
AN-5	12/C	#14	600V	90°C	125V	DC	2	EMER. TRIP SWITCH RELAY CABINET	CONDUIT	RTU CABINET	ETS FAILURE ANNUNCIATION		AC-5	3/C	#12	600V	90°C	120V	AC	0	1 GREEN GRD WIRE	NEW AC 208V/120V PANEL TB-L	CONDUIT	NEW ISOLATION TRANSFORMER IT1	A.C. POWER	0
													AC-6	2/C	#12	600V	90°C	120V	AC	0		NEW ISOLATION TRANSFORMER IT1	CABLE TRAY & CONDUIT	DC SWGR. UNIT NO.3 TBKR. NO.2	HTR POWER SUPPLY	0
													AC-7	2/C	#12	600V	90°C	120V	AC	0	1 GREEN GRD WIRE	NEW AC 208V/120V PANEL TB-L	CONDUIT	RTU	A.C. POWER	0
													AC-8	2/C	#12	600V	90°C	120V	AC	0	1 GREEN GRD WIRE	NEW AC 208V/120V PANEL TB-L	CONDUIT	BATTERY CYCLE MONITOR	A.C. POWER	0
SC-1	12/C	#14	600V	90°C	24V	DC	5	DC SWGR. UNIT NO.1 TBKR. NO.1	CABLE TRAY & CONDUIT	SUPERVISORY CONT. TERMINAL BOX	CIRCUIT BREAKER CONTROL & INDICATION	0														
SC-2	12/C	#14	600V	90°C	24V	DC	5	DC SWGR. UNIT NO.2 TBKR. NO.3	CABLE TRAY & CONDUIT	SUPERVISORY CONT. TERMINAL BOX	CIRCUIT BREAKER CONTROL & INDICATION	0														
SC-3	12/C	#14	600V	90°C	24V	DC	5	DC SWGR. UNIT NO.3 TBKR. NO.2	CABLE TRAY & CONDUIT	SUPERVISORY CONT. TERMINAL BOX	CIRCUIT BREAKER CONTROL & INDICATION	0	ET-1	4/C	#10	600V	90°C	125V	DC	2		EMER. TRIP SWITCH RELAY CABINET	CABLE TRAY & CONDUIT	DC SWGR. UNIT NO.1 TBKR. NO.1	CONTACT RAIL EMERGENCY TRIP	0
SC-4	12/C	#14	600V	90°C	24V	DC	5	DC SWGR. UNIT NO.4 TBKR. NO.4	CABLE TRAY & CONDUIT	SUPERVISORY CONT. TERMINAL BOX	CIRCUIT BREAKER CONTROL & INDICATION	0	ET-2	4/C	#10	600V	90°C	125V	DC	2		EMER. TRIP SWITCH RELAY CABINET	CABLE TRAY & CONDUIT	DC SWGR. UNIT NO.2 TBKR. NO.3	CONTACT RAIL EMERGENCY TRIP	0
SC-5	NOT USED												ET-3	4/C	#10	600V	90°C	125V	DC	2		EMER. TRIP SWITCH RELAY CABINET	CABLE TRAY & CONDUIT	DC SWGR. UNIT NO.3 TBKR. NO.2	CONTACT RAIL EMERGENCY TRIP	0
SC-6	19/C	#14	600V	90°C	24V	DC	1	RTU CABINET	CABLE TRAY & CONDUIT	SUPERVISORY CONT. TERMINAL BOX	ANNUNCIATION	0	ET-4	4/C	#10	600V	90°C	125V	DC	2		EMER. TRIP SWITCH RELAY CABINET	CABLE TRAY & CONDUIT	DC SWGR. UNIT NO.4 TBKR. NO.4	CONTACT RAIL EMERGENCY TRIP	0
													MA-1	1-1/C	#6	2000V	90°C	GRD.		0		DC SWGR. UNIT NO.1 TBKR. NO.1	CONDUIT	STATION GROUND	LIGHTING ARRESTER GROUND	0
													MA-2	1-1/C	#6	2000V	90°C	GRD.		0		DC SWGR. UNIT NO.2	CONDUIT	STATION GROUND	LIGHTING ARRESTER GROUND	0
													MA-3	1-1/C	#6	2000V	90°C	GRD.		0		DC SWGR. UNIT NO.3	CONDUIT	STATION GROUND	LIGHTING ARRESTER GROUND	0
													MA-4	1-1/C	#6	2000V	90°C	GRD.		0		DC SWGR. UNIT NO.4 TBKR. NO.4	CONDUIT	STATION GROUND	LIGHTING ARRESTER GROUND	0
DC-1	2-1/C	#4	600V	90°C	125V	DC	0	BATTERY CHARGER	CONDUIT	NEW 200A ENCLOSED CIRCUIT BREAKER	BATTERY CHARGING DC FEED	0	MA-5	NOT USED												
DC-2	2-1/C	#3/0	600V	90°C	125V	DC	0	BATTERY	CONDUIT	NEW 200A ENCLOSED CIRCUIT BREAKER	DC POWER FEEDER	0	MA-6	2/C	#10	2000V	90°C	GRD.		0		DC SWGR. UNIT NO.2 TBKR. NO.3	CABLE TRAY & CONDUIT	STATION GROUND	GROUND RELAYING	0
DC-3	2-1/C	#3/0	600V	90°C	125V	DC	0	NEW 200A ENCLOSED CIRCUIT BREAKER	CONDUIT	DC DISTRIBUTION PANEL DC-67TB	DC POWER FEEDER	0	MA-7	1-1/C	#10	2000V	90°C	700V		0		DC SWGR. UNIT NO.5 TBKR. NO.2	CONDUIT	JUNCTION BOX	NEG. POLARITY REFERENCE	0
DC-4	2/C	#6	600V	90°C	125V	DC	0	DC DISTRIBUTION PANEL DC-67TB	CABLE TRAY & CONDUIT	DC SWGR. UNIT NO.3 TBKR. NO.2	DC POWER	0	MA-8	1-1/C	#10	2000V	90°C	700V		0		DC SWGR. UNIT NO.3 TBKR. NO.2	CONDUIT	JUNCTION BOX	NEGATIVE POLARITY REFERENCE	0

H - A.C. PRIMARY VOLTAGE CABLE
 DP - D.C. POSITIVE POWER CABLE
 DN - D.C. NEGATIVE POWER CABLE
 DD - D.C. UTILITY DRAIN CABLE
 AN - ANNUNCIATOR CABLE
 SC - SUPERVISORY CONTROL CABLE
 ET - EMERGENCY TRIP CABLE
 MT - METERING & INSTRUMENTATION CABLE
 CN - OPERATING CONTROL CABLE
 MA - MISCELLANEOUS CIRCUITS
 AC - A.C. LOW VOLTAGE POWER CIRCUITS
 DC - D.C. CONTROL POWER CIRCUITS

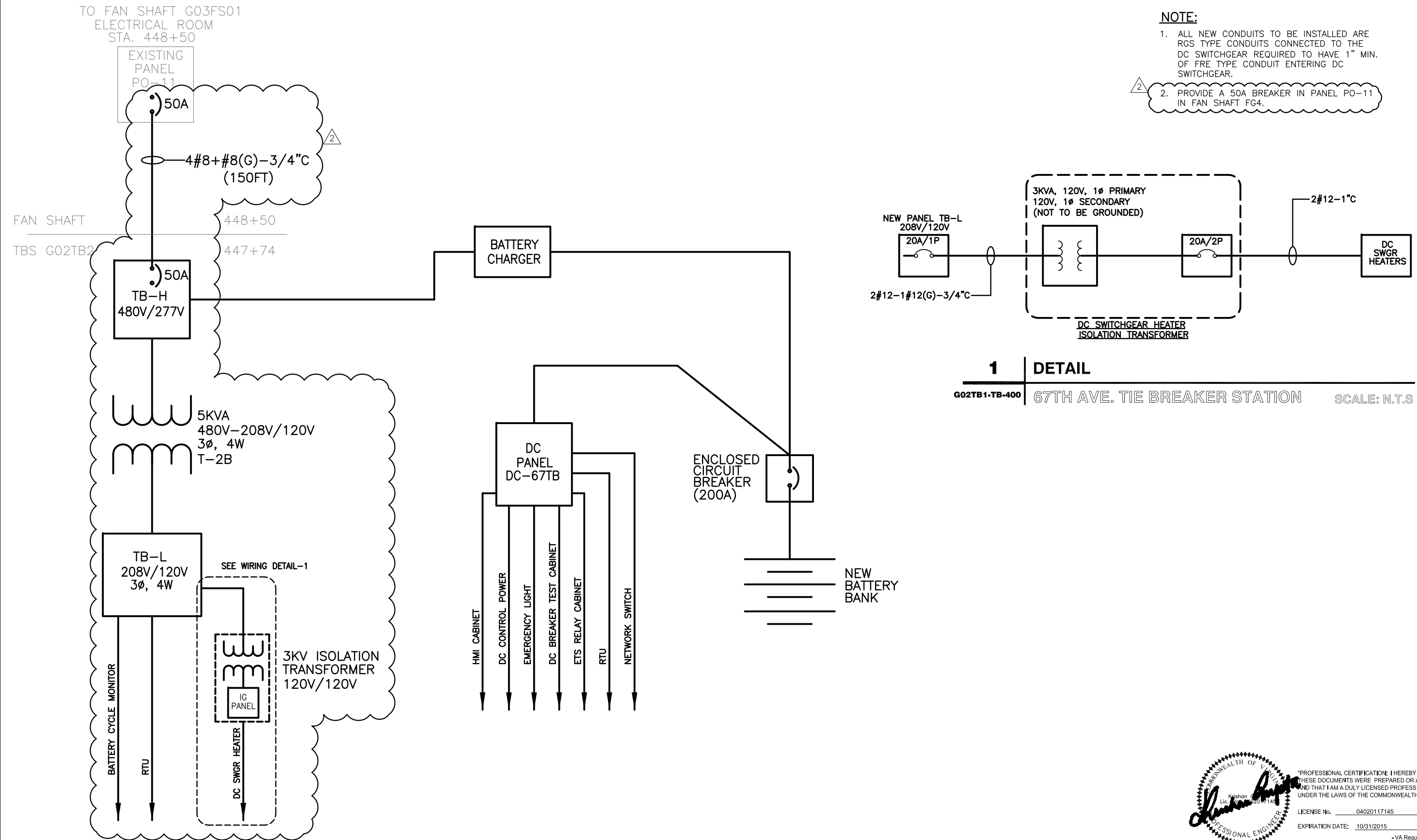
END APPR - END APPROACH OF CONTACT RAIL
 *** BOLD TEXT INDICATES NEW CABLES
 *** SCREENED TEXT INDICATES EXISTING TO REMAIN CABLES

NOTE:
 CABLES AN-1, AN-5, AC-7, AC-8, DC-5, DC-8, SC-6 AND DC-9 ARE SHOWN ON SCADA DRAWINGS ALSO FOR REFERENCE

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE COMMONWEALTH OF VIRGINIA.
 LICENSE No. 04020117145
 EXPIRATION DATE: 10/31/2015
 -VA Regulations 18VAC10-20-760

DESIGNED	JAJ	4/4/15	DATE	NUMBER	TITLE	DATE	NUM	DESCRIPTION	M WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES CENI - POWER SYSTEMS ENGINEERING		SIX (6) TIE BREAKER STATIONS UPGRADES ORANGE AND BLUE LINES DC, MD AND VA G02TB2 - 67TH AVE. TIE BREAKER STATION CONDUIT AND CABLE SCHEDULE		
DRAWN	JAJ	5/20/15	DATE										CONTRACT NO.
CHECKED	PK	6/1/15	DATE						REVISION SUBMITTED	DATE	APPROVED	DATE	
											DEPUTY CHIEF ENGINEER		

Drawing File: H:\WMATA PROJECTS\FQ15237\DRG\TBS\G02TB2 - 67TH AVE TBS\AM-2\G02TB2-TB-400-AM2.DWG
 Plotted by: E013941 Date: Tue, 17 Nov 2015 Time: 09:07:24 am
 Xrefs: H:\WMATA PROJECTS\FQ15237\DRG\GNP\GUPTA SIGNATURE.tif



- NOTE:**
1. ALL NEW CONDUITS TO BE INSTALLED ARE RGS TYPE CONDUITS CONNECTED TO THE DC SWITCHGEAR REQUIRED TO HAVE 1" MIN. OF FRE TYPE CONDUIT ENTERING DC SWITCHGEAR.
 2. PROVIDE A 50A BREAKER IN PANEL PO-11 IN FAN SHAFT FG4.

1 | **DETAIL**
 G02TB1-TB-400 | 67TH AVE. TIE BREAKER STATION | SCALE: N.T.S

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE COMMONWEALTH OF VIRGINIA.
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DESIGNED			DRAWN			CHECKED		
JAJ	4/4/15	DATE	JAJ	5/20/15	DATE	PK	6/1/15	DATE

REFERENCE DRAWINGS		REVISIONS	
NUMBER	TITLE	DATE	DESCRIPTION
		11/12/15	AMENDMENT NO. 2: ADDED NEW 480V PANEL, 5KVA XFMR

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY
 DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES
 CENI - POWER SYSTEMS ENGINEERING

REVISION SUBMITTED: _____ DATE: _____
 APPROVED: _____ DATE: _____
 DEPUTY CHIEF ENGINEER

SIX (6) TIE BREAKER STATIONS UPGRADES ORANGE AND BLUE LINES DC, MD AND VA
 G02TB2 - 67TH AVE. TIE BREAKER STATION
 480V SINGLE LINE DIAGRAM - NEW

CONTRACT NO. FQ15237	SCALE NONE	DRAWING NO. G02TB2-TB-400	SHEET NO. 58 OF 60
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Drawing File: H:\WMATA PROJECTS\FQ15237\DRG\TBS\AM-2\G02TB2-TB-500-AM2.DWG
 Plotted by: E013941 Date: Tue, 17 Nov 2015 Time: 08:45:25 am
 Xrefs: H:\WMATA PROJECTS\FQ15237\DRG\GNP\GUPTA SIGNATURE.tif

PANEL NAME: PANEL DC-67TB				LOCATION: 67TH AVE TIE BREAKER STATION					
PANEL TYPE: DC DISTRIBUTION				MAIN: 200A MCB					
BUS RATING: 125VDC 200A MAX				PANEL: SURFACE MOUNTED					
DESCRIPTION	CONNECTED LOAD (KVA)		CKT BKR TRIP	CKT NO.	CKT NO.	CKT BKR TRIP	CONNECTED LOAD (KVA)		DESCRIPTION
	AØ	BØ					AØ	BØ	
DC CONTROL POWER	0	0	60	1	2	20	0	0	SPARE
DC CIRCUIT BREAKER TEST CABINET			30	3	4	30			EMERGENCY TRIP SWITCH RELAY CABINET
HMI			20	5	6	20	0	0	EMERGENCY LIGHT FIXTURE
RTU			20	7	8	20			NETWORK SWITCH
SPACE				9	10				SPACE
SPACE				11	12				SPACE
SUB-TOTAL	0	0					0	0	SUB-TOTAL

TOTAL CONN. LOAD		
PHASE A	0	KVA
PHASE B	0	KVA
	0.00	KVA
	0.00	AMP

PANEL NAME: PANEL TB-L				LOCATION: 67TH AVE TIE BREAKER STATION							
PANEL TYPE: DISTRIBUTION				MAIN: 30A MCB							
BUS RATING: 50A, 208V/120V 3Ø, 4W GND & NEU BUS				PANEL: SURFACE MOUNTED							
DESCRIPTION	CONNECTED LOAD (KVA)			CKT BKR TRIP	CKT NO.	CKT NO.	CKT BKR TRIP	CONNECTED LOAD (KVA)			DESCRIPTION
	AØ	BØ	CØ					AØ	BØ	CØ	
ISOLATION TRANSFORMER	0			20	1	2	20	0			BATTERY CYCLE MONITOR
RTU		0		20	3	4	20		0		SPARE
SPARE				20	5	6	20			0	SPARE
SPARE				20	7	8	20				SPARE
SPARE				20	9	10	20				SPARE
SPACE					11	12	20				SPARE
SUB-TOTAL	0	0	0					0	0	0	SUB-TOTAL

TOTAL CONNECTED LOAD		
PHASE A	0	KVA
PHASE B	0	KVA
PHASE C	0	KVA
	0.00	KVA
	0.00	AMP

TO FAN SHAFT G03FS01 ELECTRICAL ROOM
 PANEL PO-11 (STA. 448+50)

PANEL NAME: PANEL TB-H				LOCATION: 67TH AVE TIE BREAKER STATION							
PANEL TYPE: DISTRIBUTION				MAIN: 50A MCB							
BUS RATING: 50A, 480V/277V 3Ø, 4W GND & NEU BUS				PANEL: SURFACE MOUNTED							
DESCRIPTION	CONNECTED LOAD (KVA)			CKT BKR TRIP	CKT NO.	CKT NO.	CKT BKR TRIP	CONNECTED LOAD (KVA)			DESCRIPTION
	AØ	BØ	CØ					AØ	BØ	CØ	
5KVA TRANSFORMER (PANEL TB-L)	0	0		20	1	2	30	0	0		BATTERY CHARGER
SPACE					3	4	30				
SPACE					5	6				0	
SPACE					7	8					
SPACE					9	10	30				SPARE
SPACE					11	12					
SPACE					13	14					SPACE
SPACE					15	16					SPACE
SPACE					17	18					SPACE
SPACE					19	20					SPACE
SPACE					21	22					SPACE
SPACE					23	24					SPACE
SUB-TOTAL	0	0	0					0	0	0	SUB-TOTAL

TOTAL CONNECTED LOAD		
PHASE A	0	KVA
PHASE B	0	KVA
PHASE C	0	KVA
	0.00	KVA
	0.00	AMP

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WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY
 DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES
 CENI - POWER SYSTEMS ENGINEERING

REVISION SUBMITTED _____ DATE _____
 APPROVED _____ DATE _____
 DEPUTY CHIEF ENGINEER

SIX (6) TIE BREAKER STATIONS UPGRADES ORANGE AND BLUE LINES DC, MD AND VA
 G02TB2 - 67TH AVE. TIE BREAKER STATION
 PANELBOARD SCHEDULES

CONTRACT NO. FQ15237
 SCALE NONE
 DRAWING NO. G02TB2-TB-500
 SHEET NO. 60 OF 60

REFERENCE DRAWINGS			REVISIONS		
DESIGNED	DATE	TITLE	DATE	NUM	DESCRIPTION
JAJ	4/4/15		11/2/15	1	AMENDMENT NO. 1
JAJ	5/20/15		11/12/15	2	AMENDMENT NO. 2: ADDED NEW 480V PANEL, 5KVA XFMR
PK	6/1/15				