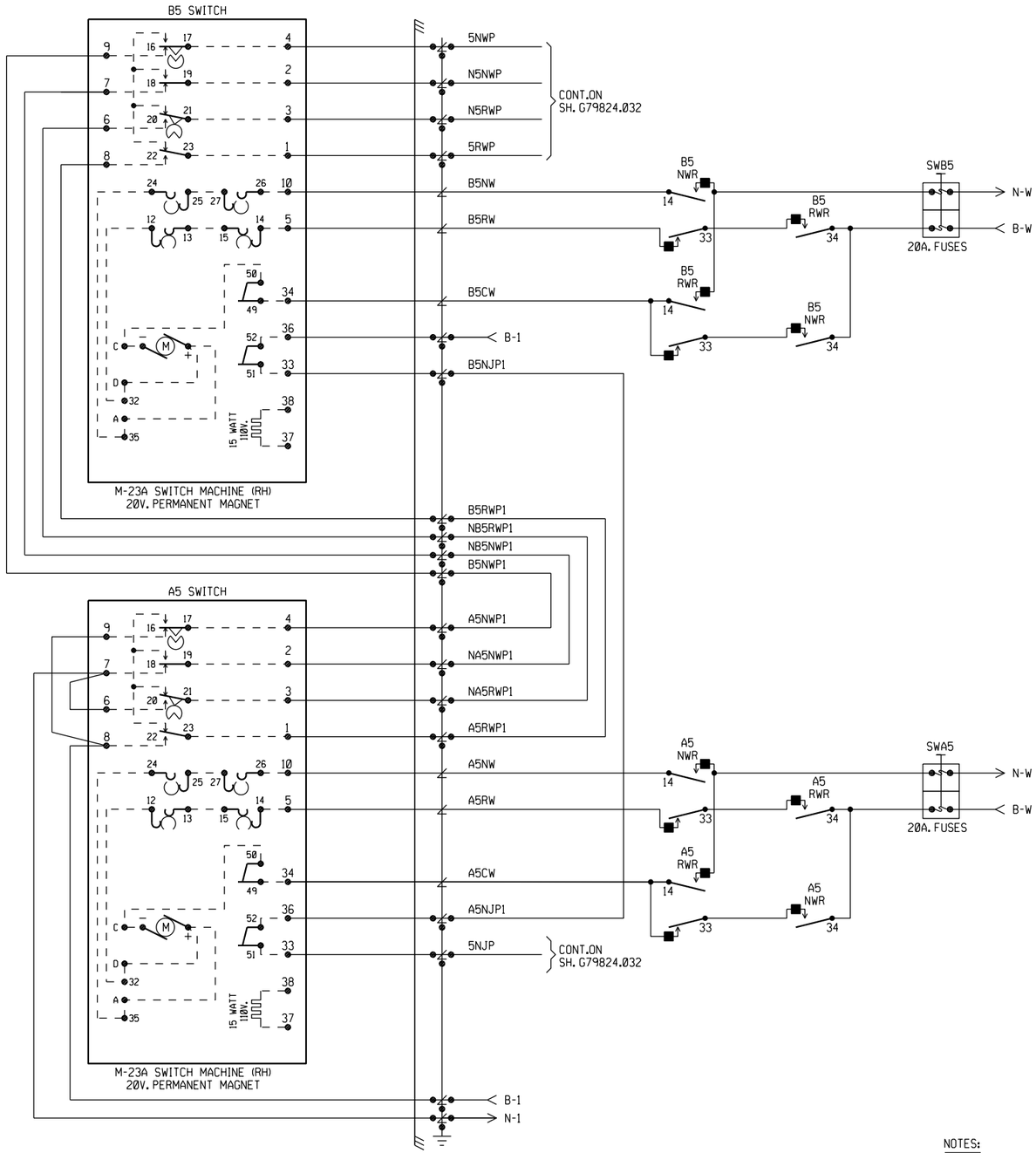
DRAWING NO.
G79824.034



RIGHT HAND LAYOUTS, RIGHT HAND POINTS CLOSED.

NOTES:

1. ●⁄● = LPC-10512-1 (15A, BLUE LEAD) HYBRID LOW VOLTAGE ARRESTER, UNLESS NOTED.
2. ---- = INTERNAL CONNECTION

NEW SHEET

LOCATION B

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.003, F.A.C.

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

XORAIL
5011 GATE PARKWAY BUILDING 100
SUITE 400 JACKSONVILLE FLORIDA 32256
(904) 443-0083 (MAIN)
(904) 443-0089 (FAX)
CERT. OF AUTHORIZATION NO. 9875
ENGINEER OF RECORD
IVORY L. WHITE, JR, P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

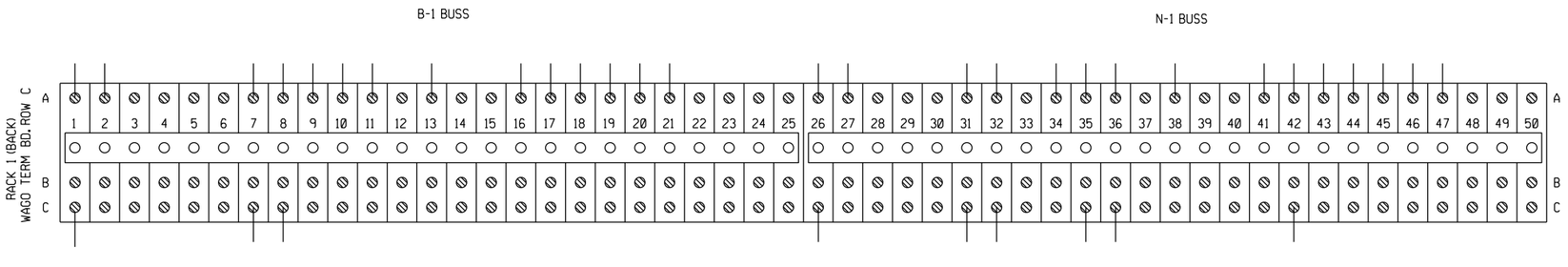
CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
CP 798
SWITCH 5 CIRCUITS
M.P. A-798.09

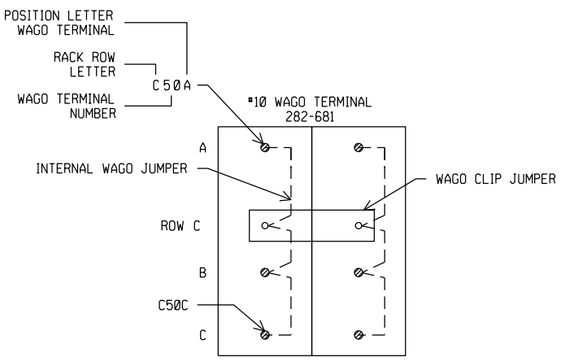
SHEET NO.
351

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.

G79824.035





NOTES:

1. C1A & C1C TO B-1 SUPPLY.
2. C26A & C26C TO N-1 SUPPLY.

NEW SHEET

LOCATION B

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REVISIONS					
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XORAIL
5011 GATE PARKWAY BUILDING 100
SUITE 400 JACKSONVILLE FLORIDA 32256
(904) 443-0083 (MAIN)
(904) 443-0089 (FAX)

CERT. OF AUTHORIZATION NO. 9875

ENGINEER OF RECORD
IVORY L. WHITE, JR., P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

CP 798
WAGO TERMINAL BOARD

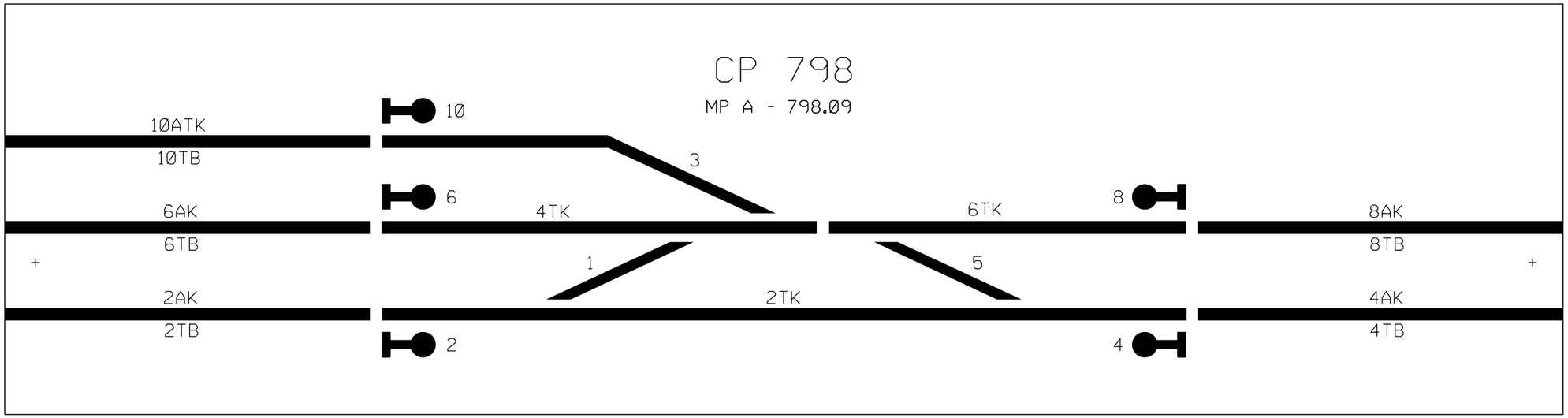
M.P. A-798.09

SHEET NO.

352

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G79824.036



NEW SHEET

LOCATION B

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

XORAIL
5011 GATE PARKWAY BUILDING 100
SUITE 400 JACKSONVILLE FLORIDA 32256
(904) 443-0083 (MAIN)
(904) 443-0089 (FAX)

CERT. OF AUTHORIZATION NO. 9875

ENGINEER OF RECORD
IVORY L. WHITE, JR., P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

CP 798
LOCAL CONTROL PANEL LAYOUT
M.P. A-798.09

SHEET NO.
353

$USER$ $DATE$ $TIME$ $FILE$

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DRAWING NO.
G79824.001V

1070' START 4TH ST.
3660' START VINELAND RD.
START PINE ST. 973'
1070 FT. 7270 FT. (DAX)
1070 FT. 5242 FT. (DAX)
M.P. A-798.24
START 4TH ST. 1070'
START LANDSTREET RD. 4123'
1284' START VINELAND RD.
NORTH TO ST. JOHNS
SOUTH TO AUBURNDALE
94 CWTO 392 HZ
24CWTO 686 HZ
392 HZ
24CWTO 680 HZ
392 HZ
75-2CWTO 348 HZ
SIDING
SRAT
MAINLINE
SAFE. 627355 86 HZ
SAFE 627358 86 HZ
7988ZT
JOINS A79794 SH. S01
86 HZ 65-2CWTO 151 HZ 94CWTO 348 HZ 75-1CWTO 210 HZ 24CWTO
1-OT
2-OT
SXT
4TH STREET 622 339K
T-21 5983
T21-CC
JOINS A79875 SH. S01
5 COND. #14 U.G.
5 COND. #14 U.G. (2800')
24-1DAX N24-1DAX 3 SP.
2C #9 TW PR TRK CABLE
1-OR1
1-OR2
TO 1-OT TRACK (R)
2C #9 TW PR TRK CABLE
1-OT1
1-OT2
TO 1-OT TRACK (T)
MDSA MOD I
1-OR1
1-ON1
ON
OB
PMD MOD I 686 HZ 6.4 KHZ ISLAND MASTER UNIT
1-OTR
XR
DIODES 40 R50
SXT81
SXT8
SXTN
TO SXT TRK. B
2-ED160
TO 2-OT TRACK (T)
TO 2-OT TRACK (R)
2-OT2
2-OT1
2-OR2
2-OR1
2C #9 TW PR TRK CABLE
MDSA MOD I
PMD MOD I 210 HZ 2.8 KHZ ISLAND SLAVE UNIT
24-1 DAXR
24-2 DAXR
1500 MFD.
SXT82
SXTN1
SXRN
SXR8
SXTR
110V AC AC
BX110A
NX110A
ISLAND POWER PACK I-RACO #399-5 — 5A MADE IN SIG. SHOP
12V-20A. AUTOMATIC OB RECT
R-OB
R-ON
TO OB BUSS
TO ON BUSS
2-ED160
I-OTR
SXTR
XR
NXR
XP
G62 (X)
TEST SW
24-2DAX
N24-2DAX
CONT. ON A79771 SH. C13
N24-1DAX
CONT. ON A79875 SH. C01
D51

NOTE
⊗ = TW PR
CASE WIRING #14 UNLESS NOTED OTHERWISE
✱ = CASE GROUND (BONDSTRAND OR EQUIVALENT)

NOTE:
GATE LENGTH (I) 23' 23'

A79824.S01

THIS SHEET IS VOID

MS FILE: A79824.S01

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REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

TRANSPORTATION
AECOM TECHNICAL SERVICES, Inc.
300 Colonial Center Pkwy, Suite 130
Lake Mary, FL. 32746
T 407.549.4200 F 407.549.4201
Certificate of Authorization No. 8115
www.aecom.com

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

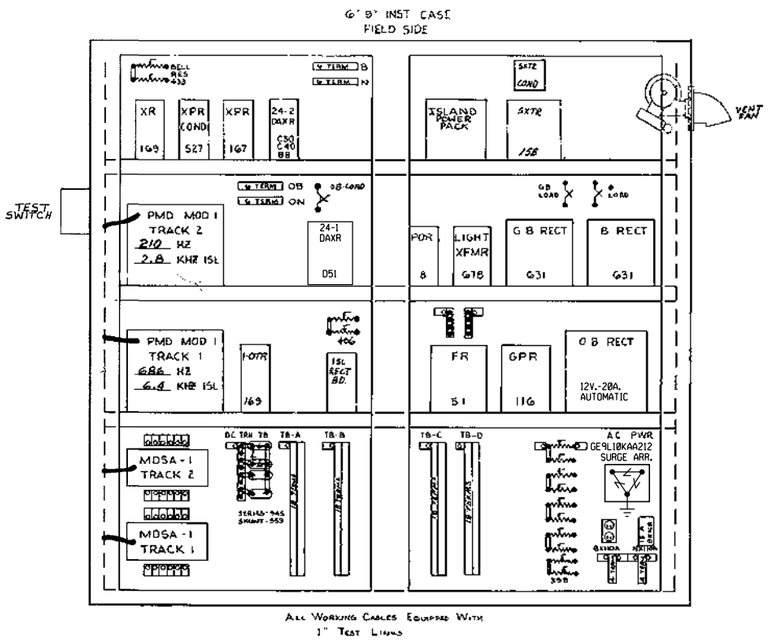
FOURTH ST MP 798.24 TRACK AND SIGNAL PLAN

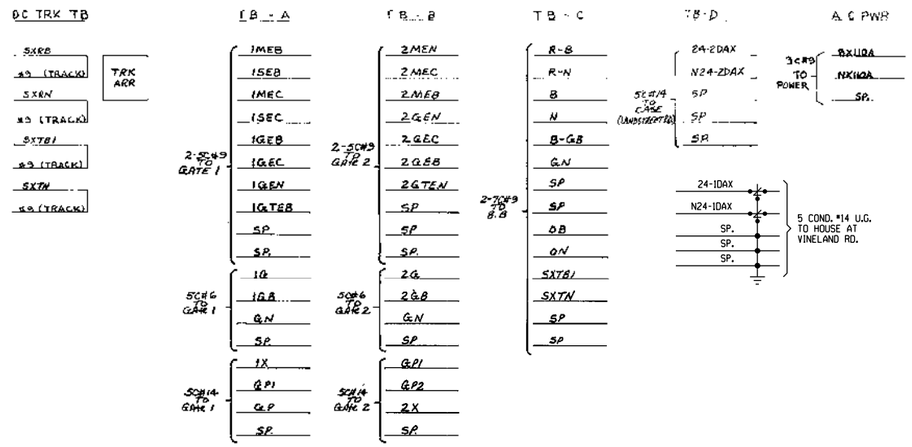
SHEET NO. 354

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.

G79824.002V





A79824.E01

A79824.E01

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REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

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Lake Mary, FL. 32746
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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

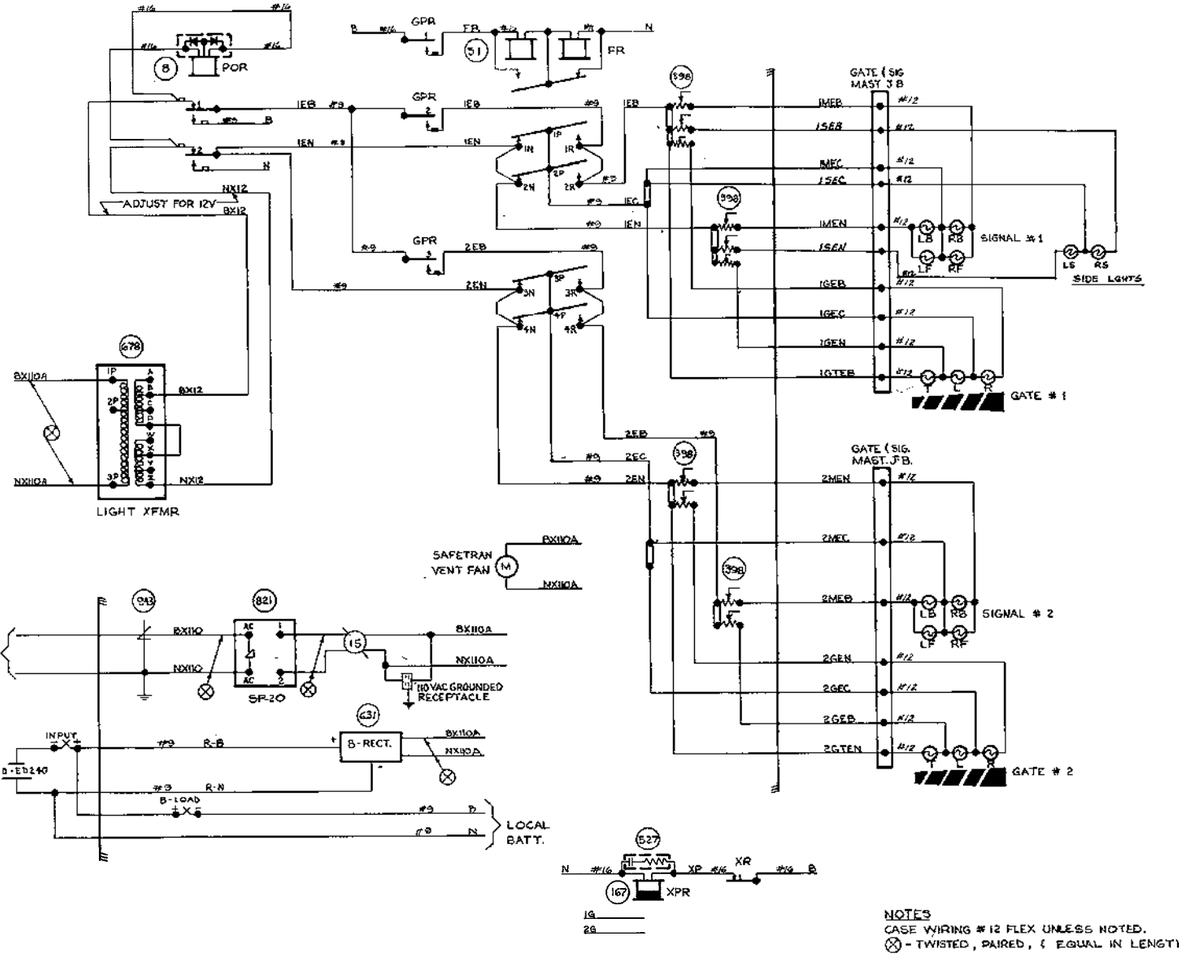
CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

FOURTH ST MP 798.24 EQUIPMENT

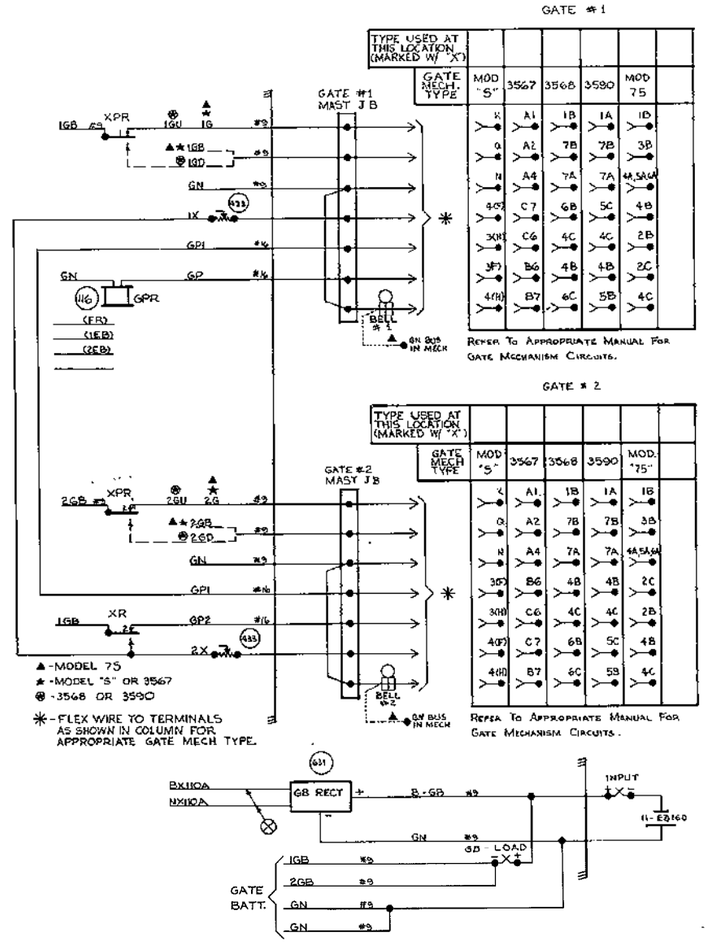
SHEET NO. 355

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G79824.003V



NOTES
CASE WIRING #12 FLEX UNLESS NOTED.
⊗ - TWISTED, PAIRED, & EQUAL IN LENGTH.



A79824.C01

A79824.C01

THIS SHEET IS VOID

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REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

FOURTH ST MP 798.24
CIRCUITS

SHEET NO.
356

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G79875.001

INDEX

SHEET NUMBER	CONTENTS	REVISION NO. 1	2	3	4	5	6	7	8	9
1	INDEX SHEET	⊠	⧄							
2	TRACK AND SIGNAL PLAN	⊠	⧄							
3	POWER DISTRIBUTION	⊠	⧄							
4	GCP3000	⊠	⧄							
5	GATES, BELLS & FLASHERS	⊠	⧄							
6 5	GCP3000 PROGRAMMING	⊠	⧄							
6	GATES (A & B)	⧄								
7	GATES & FLASHERS (C)	⧄								
8	FLASHERS (A & B)	⧄								

⧄ = DESIGN COMPLETED
⊠ = REVISION COMPLETED

RED = IN
YELLOW = OUT

THIS SHEET REDRAWN

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REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
10/07/2014	AECOM	GATE REPLACE & NEW PED GATE			

TRANSPORTATION
AECOM TECHNICAL SERVICES, Inc.
300 Colonial Center Pkwy, Suite 130
Lake Mary, FL. 32746
T 407.549.4200 F 407.549.4201
Certificate of Authorization No. 8115
www.aecom.com

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

TAFT-VINELAND RD MP 798.75
INDEX SHEET

SHEET NO.
357

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G79875.002

START SIDING
2508 FT.
4435 FT. 1284 FT.
4435 FT. 3360 FT.
AX START 42116+74
70 FT.
70 FT.
42161+79 ℄
M.P. 798.75
70 FT.
70 FT.
3360 FT.
3360 FT.
2105 FT.
4435 FT.
4435 FT.
1246 FT.
(SIDING AX)
AX START 42206+83

PINE ST. START 3940'

NORTH TO ST. JOHNS
NORTH TO JACKSONVILLE

6'
37'
(A)
(NEW COMPLETE GATE ASSEMBLY)
E2 E1 E2B E1B E1C
E2A E1A
XX'
15'
90°
(✳)

24CWTO-2
114 HZ
75-2CWTO
86 HZ 348 HZ

A7996-2ZT

348 HZ ◇ 86 HZ

10.0KHZ

7988-1ZT 7988ZT

11.5KHZ

86 HZ 348 HZ
75-1CWTO
114 HZ 210 HZ
24CWTO-1 24CWTO
151 HZ
94CWTO

JOINS
SH. G79824.002 SH. S01

HARMON
NBS-1
151 HZ
NBSN

2-R1 2-R2 1-R1 1-R2
T
TO 1 CWU

XX'
E1A E2A
E1 E2
E2C E1B E2B
(C)
(NEW PED GATE)

10'
E1A E2A
E1 E2
(B)
(NEW COMPLETE GATE ASSEMBLY)
15'

1-T2 1-T1 2-T2 2-T1
TO 1 CWU

TAFT-VINELAND RD
622 340 E

4' x 6'

24CWTO-2
114 HZ
75-2CWTO
348 HZ 86 HZ

SRAT A7996-2ZT

7988ZT 7988-1ZT

348 HZ 86 HZ
75-1CWTO
210 HZ 114 HZ
24CWTO 24CWTO-1

JOINS
SH. G79876.002

19 COND. U.G. (6 #6, 13 #14)
16 COND. U.G. (6 #6, 10 #14)
4 #6 U.G.TRK.

16 COND. U.G. (6 #6, 10 #14)
4 #6 U.G.TRK.
2 1 - 5 COND. #14, 1 - 12 COND. #14 U.G.
5 COND. #14 U.G. (2500')

CONT. ON SH. G79876.002

CONT. ON SH. G79824.002
2 - 12 COND. #14 U.G.
(2800') 5 COND. #14 U.G.

CONT. ON A79917 SH. S01

3 COND. #9 U.G.
5 COND. #9 U.G.

75-1AX24
N75-1AX24
75-2AX24
N75-2AX24
75-1AX94
N75-1AX94
75-2AX94
N75-2AX94
SPARE
SPARE
SPARE
SPARE

24-1AX76
N24-1AX76
24-2AX76
N24-2AX76
94-1AX76
N94-1AX76
94-2AX76
N94-2AX76
SPARE
SPARE
SPARE
SPARE

BX110
NX110
SPARE

TRAFFIC 1
TRAFFIC 2
3 SPARES

75DAX1
N75DAX1
SPARE
SPARE
SPARE

75DAX1
N75DAX1
SPARE
SPARE
SPARE

JB
TRAFFIC PREEMPTION JUNCTION BOX

24-1AX76
N24-1AX76
24-2AX76
N24-2AX76
94-1AX76
N94-1AX76
94-2AX76
N94-2AX76
SPARE
SPARE
SPARE
SPARE

75-2AX76 75DAX
N75-2AX76 N75DAX
75-1AX76 24-1DAX
N75-1AX76 N24-1DAX
SPARE

A
SPARE
SPARE
SPARE
SPARE
GP3 GP2
X1A
XA XIB
GP2 GP1
A-SLOT
X-N
AE1
NXAE1
AE2
NXAE2
B-G
N-G
#6

C
SPARE
SPARE
SPARE
SPARE
SPARE
SPARE
SPARE
SPARE
SPARE
GP1
GP
C-SLOT
N-G
B-G
CE1
NXCE1
CE2
NXCE2
#14
#6

B
SPARE
SPARE
SPARE
SPARE
SPARE
GP2 GP1
X1A X1B
XA
GP1 GP
B-SLOT
X-N
BE1
NXBE1
BE2
NXBE2
B-G
N-G
#6

NOTES:

1. 12" LED MAXIMUM CURRENT 1.7A AT 10 VOLTS LED GATE ARM LIGHT .3A MAXIMUM
2. GATE LENGTH (A) XX' (B) XX' (C) XX'
3. (✳) = LOCATION OF HOUSE
4. TRANSMITTER LEADS FOR MOTION OR PREDICTOR EQUIPMENT SHOULD BE CONNECTED ON THE BUNGALOW OR SHORT LEAD SIDE OF THE CROSSING.
5. ISLAND TRACK LEADS SHOULD BE CONNECTED 50 FEET FROM ROAD EDGE BUT ON NARROW ROADS (20' OR LESS) ISLAND LENGTH SHALL BE 120 FEET.
6. WARNING SYSTEM APPROACH CIRCUIT DISTANCES ARE TO BE MEASURED FROM THE ISLAND TRACK CONNECTIONS.
7. THE OPERATION OF ANY CIRCUITS AND EQUIPMENT SHOWN HEREIN MUST BE CHECKED BY POINT TO POINT BREAKDOWN AND COMPLETE OPERATION TESTING OF THE SYSTEM (OR SECTIONS OF THE SYSTEM) INTO WHICH THEY ARE CONNECTED.
8. REPLACE EMERGENCY NOTIFICATION SIGNS TO COMPLY WITH MUTCD SECTION 10C.21 AND CFRC SDI 1202-01.
9. GATES AND CANTILEVERS TO BE INSTALLED IN ACCORDANCE WITH FDOT ROADWAY AND DESIGN STANDARDS INDEX 17882.

APPROACH LENGTHS TABLE DC, AFO, TYPE C, MOTION, CWT, OR OTHER	NORTHWARD TRACK 1 CW	SOUTHWARD TRACK 1 CW	NORTHWARD TRACK 2 CW	SOUTHWARD TRACK 2 CW	SOUTHWARD SIDING CW
STANDARD MINIMUM WARNING TIME IN SECONDS	25	25	25	25	25
ROADWAY GATE TIME IN SECONDS	5	5	5	5	5
CLEARANCE TIME IN SECONDS	1	1	1	1	1
DOT TRAFFIC LIGHT SIMULTANEOUS PREEMPT TIME IN SECONDS ✳	0	0	0	0	0
DESIGNED WARNING TIME FOR TRAINS AT TIME TABLE SPEED	31 SEC.	31 SEC.	31 SEC.	31 SEC.	31 SEC.
DOT TRAFFIC LIGHT ADVANCE PREEMPT TIME IN SECONDS ✳	0	0	0	0	0
CONTROL EQUIPMENT DECISION TIME IN SECONDS	5	5	5	5	5
DESIGNED DETECTION TIME FOR TRAINS AT TIME TABLE SPEED	36 SEC.	36 SEC.	36 SEC.	36 SEC.	36 SEC.
TIME TABLE MAXIMUM TRAIN SPEED IN MILES PER HOUR	79	79	79	79	40
BUFFER SPEED IN MILES PER HOUR	5	5	5	5	5
TOTAL WARNING SYSTEM DESIGN SPEED IN MILES PER HOUR	84	84	84	84	35
APPROACH DISTANCE TO ISLAND EDGE IN FEET	4435	4435	4435	4435	1848
HALF WIDTH OF ISLAND IN FEET	95	95	95	95	95
APPROXIMATE MILE POSTS FOR APPROACH CIRCUIT	799.61	797.91	799.61	797.61	798.40

✳ AUTHORIZING AGENCY: "NONE" IF NOT USED
✳ DATE OF REQUIREMENT: "NONE" IF NOT USED
✳ AMOUNT OF TIME (SEC.): "NONE" IF NOT USED

RED = IN
YELLOW = OUT

THIS SHEET REDRAWN

= NOTE

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REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
10/07/2014	AECOM	GATE REPLACE & NEW PED GATE			

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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

TAFT-VINELAND RD MP 798.75 TRACK AND SIGNAL PLAN

SHEET NO. 358

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.

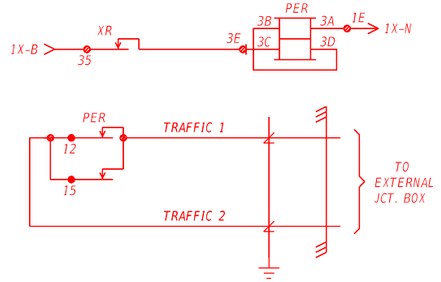
G79875.003

PER	C-EOR	75-1AX24R	75-2AX24R	XR	XPR	GPR	EOR	XPPR	POR	75-1AX94R	75-2AX94R	DTMFR	75-1AX76	75-2AX76
12 F B8	12 FB B81	12 F B8	12 F B8	12 FB B4	22 F B36	12 B B77	12 FB B81	22 F B36	12 FB B62	12 F B8	12 F B8	12 F B8	12 F B8	12 F B8
15 F C30	15 FB C30	15 F C30	15 F C30	15 FB C30	25 F C30	15 B C30	15 FB C30	25 C30	15 FB C30	15 F C30	15 F C30	15 C30	15 F C30	15 F C30
22	32	22	22	22		22 B	32 FB		22 FB	22	22	22	22	22
23	35	23	23	23		25 B	35 FB		25 FB	23	23	23	23	23
25		25	25	25		32 B			32 FB	25	25	25	25	25
32		32	32	32 FB		35			35 FB	32	32	32	32	32
35		35	35	35 F						35	35	35	35	35

75
DAXPR
D51

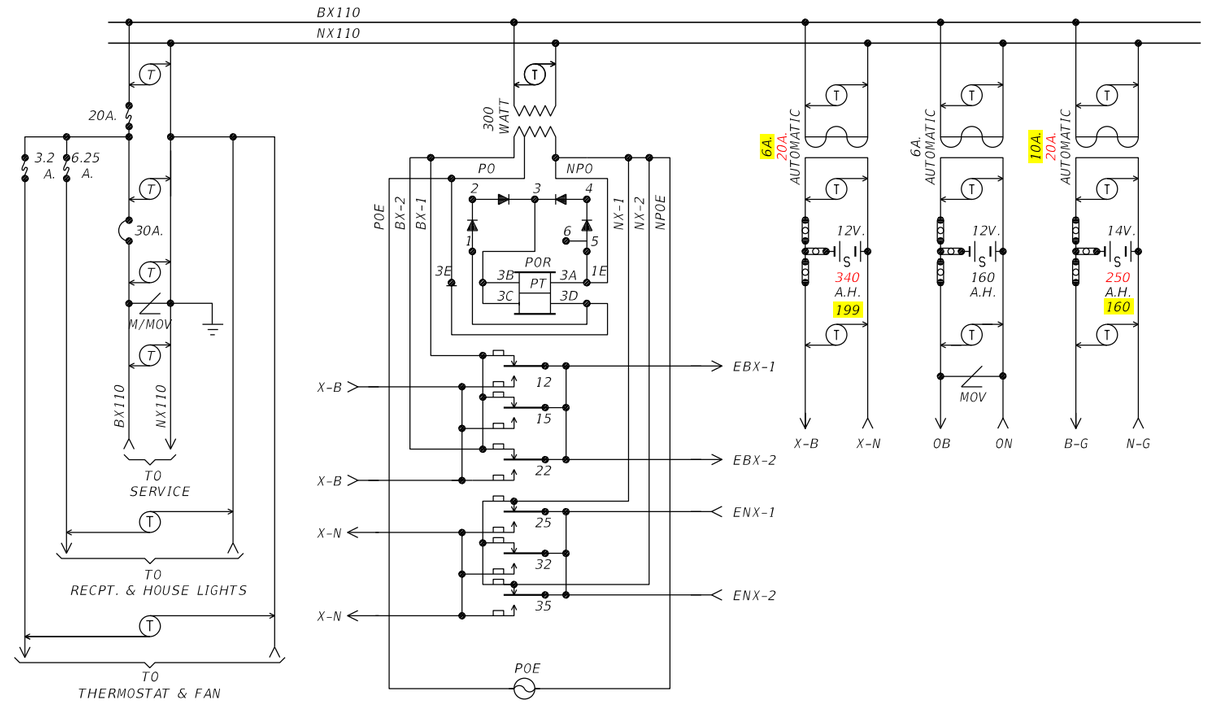
1CWU
MODULES REQUIRED

1EA.	80011 10.0KHZ. HIGH FREQ. ISL. MOD.
1EA.	80011 11.5KHZ. HIGH FREQ. ISL. MOD.
2EA.	80012 TRANCEIVER MODULE
2EA.	80013 RELAY DRIVE MODULE
2EA.	80014 PROCESSOR MODULE
1EA.	80154 CONTROL INTERFACE
1EA.	80019 KEYBOARD/DISPLAY CONTROL UNIT
1EA.	80028 TRANSFER MODULE



EQUIPMENT		
REF.	NOMENCLATURE	TYPE
	1CWU	MOTION SENSOR/GRADE CROSSING PREDICTOR SAFETRAN MODEL 3000D2 FREQ.348HZ. ISLAND FREQ. 11.5KHZ. AND 10.0KHZ.

RELAY IDENTIFICATION AND CROSS REFERENCE			
TYPE	GRS	SAFETRAN	DETAILS
B8	A62-277	400004	4FB-2F-1B, NEUTRAL, 500 OHMS
B36	A62-353	400213	2FB, NEUTRAL-SLOW RELEASE, 460 OHMS
B62	A62-406	400800	6FB (HD), POWER TRANSFORMER 10 VAC, 100/100 OHMS
B81	A62-671	400700-X	4FB, FLASHER W/X-PAK MODULE, 18 OHMS
B82	A62-0741	400004	4FB-2FB, NEUTRAL-LINE, 500 OHMS
C30	A62-506		PLUGBOARD KIT FOR B1 RELAYS



NOTES:

1 - REFERENCES ARE PER SCMS-13.
2 - ARRESTERS ARE PER SCMS-22.
1 3 - GROUND CONNECTIONS ARE PER SCMS-16.
2 4 - SHELF RELAY PLACEMENT ON CONSIST CHART HAS NO SIGNIFICANCE.
3 5 - PLUG-IN RELAYS ARE VIEWED FROM THE FRONT OF RACK.
4 6 - ALL FUSES TO BE SLOW BLOW.
5 7 - WIRING
A - FEED TO ALL BUSSES, LIGHT CIRCUITS, MOTORS CIRCUITS AND 110-VOLT FEED FROM ENTRANCE TO POWER BUSS, TO BE #10 FLEX.
B - FROM POWER BUSS TO RECTIFIER AND TRANSFORMER TO BE #14 FLEX.
C - ALL OTHERS TO BE #16 FLEX UNLESS NOTED.

THE OPERATION OF ANY CIRCUITS AND EQUIPMENT SHOWN HEREIN MUST BE CHECKED BY POINT TO POINT BREAKDOWN AND COMPLETE OPERATION TESTING OF THE SYSTEM (OR SECTIONS OF THE SYSTEM) INTO WHICH THEY ARE CONNECTED.

4' X 6' HOUSE

RED = IN
YELLOW = OUT

THIS SHEET REDRAWN

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.003, F.A.C.

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
10/07/2014	AECOM	GATE REPLACE & NEW PED GATE			

TRANSPORTATION
AECOM TECHNICAL SERVICES, Inc.
300 Colonial Center Pkwy, Suite 130
Lake Mary, FL. 32746
T 407.549.4200 F 407.549.4201
Certificate of Authorization No. 8115
www.aecom.com

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

TAFT-VINELAND RD MP 798.75
POWER DISTRIBUTION

SHEET NO. 359

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G79875.004

MODULE 80028
S4 DIP SWITCH POSITIONS *

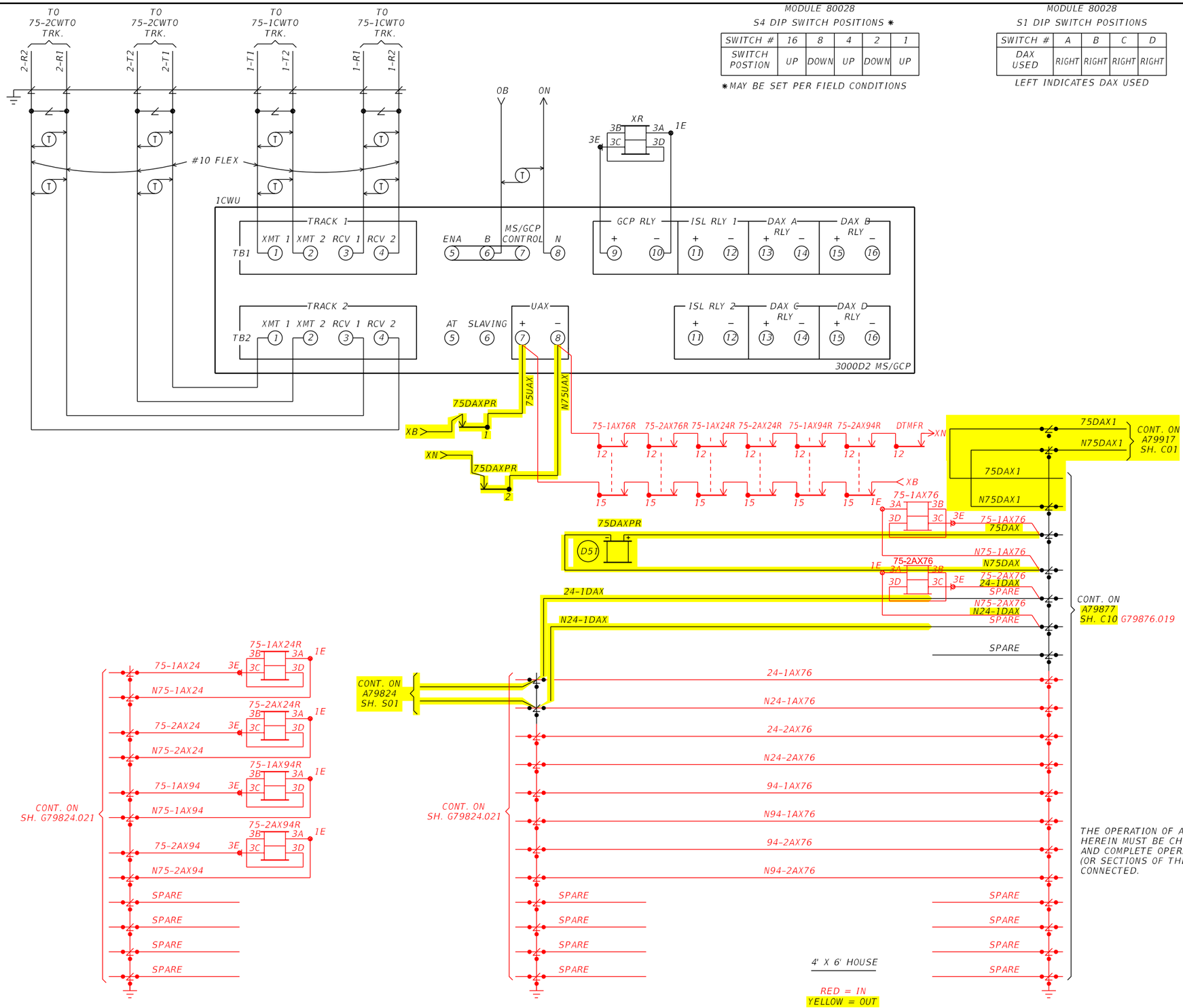
SWITCH #	16	8	4	2	1
SWITCH POSTION	UP	DOWN	UP	DOWN	UP

*MAY BE SET PER FIELD CONDITIONS

MODULE 80028
S1 DIP SWITCH POSITIONS

SWITCH #	A	B	C	D
DAX USED	RIGHT	RIGHT	RIGHT	RIGHT

LEFT INDICATES DAX USED



THE OPERATION OF ANY CIRCUITS AND EQUIPMENT SHOWN HEREIN MUST BE CHECKED BY POINT TO POINT BREAKDOWN AND COMPLETE OPERATION TESTING OF THE SYSTEM (OR SECTIONS OF THE SYSTEM) INTO WHICH THEY ARE CONNECTED.

THIS SHEET REDRAWN

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REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
10/07/2014	AECOM	GATE REPLACE & NEW PED GATE			

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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

TAFT-VINELAND RD MP 798.75
GCP3000

SHEET NO.
360

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G79875.005

3000 GCP APPLICATION DESIGN CARD

EQUIPMENT: 3000 [ ] 3000D2 [■] 3000ND [ ] 3000ND2 [ ]

ISLAND FREQUENCY : T1: 11.5 KHZ T2: 10.0 KHZ 1 CWU

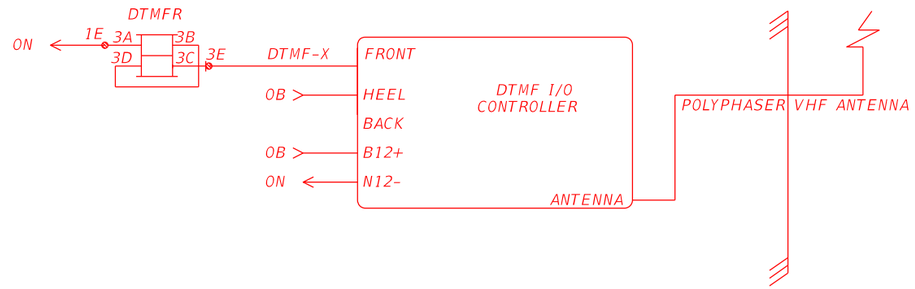
NUMBER OF TRACKS (NUMBER OF TRANSCEIVER MODULES, 1 OR 2		1 [ ]	2 [■]
FREQUENCY (MS/GCP)		348 86	HZ
UNIDIRECTIONAL/BIDIRECTIONAL	T1:	UNI [ ]	BI [■]
	T2:	UNI [ ]	BI [■]
XMIT LEVEL	T1:	HI [■] MED [ ]	LOW [ ]
	T2:	HI [■] MED [ ]	LOW [ ]
PREDICTOR/MOTION SENSOR	T1:	PRED [■]	MS [ ]
	T2:	PRED [■]	MS [ ]
WARNING TIME SELECTED	T1:	30 31	SEC.
	T2:	30 31	SEC.
APPROACH DISTANCE SELECTED	T1:	3660 4435	FT.
	T2:	1284 4435	FT.
APPROACH DISTANCE COMPUTED	T1:	NOT REQUIRED *	
	T2:	NOT REQUIRED *	
UAX PICKUP DELAY (0 = OFF)		25	SEC.
ISLAND DISTANCE (BETWEEN FEED WIRES)	T1:	120 ☆	FT.
	T2:	120 ☆	FT.
NUMBER OF DAXS		0 [■] 1 [ ] 2 [ ] 3 [ ] 4 [ ]	
DAX A TRACK ASSIGNMENT		T1 [ ]	T2 [ ]
DAX A DISTANCE (0 = PREEMPT)			FT.
DAX A WARNING TIME			SEC.
DAX B TRACK ASSIGNMENT		T1 [ ]	T2 [ ]
DAX B DISTANCE (0 = PREEMPT)			FT.
DAX B WARNING TIME			SEC.
DAX C TRACK ASSIGNMENT		T1 [ ]	T2 [ ]
DAX C DISTANCE (0 = PREEMPT)			FT.
DAX C WARNING TIME			SEC.
DAX D TRACK ASSIGNMENT		T1 [ ]	T2 [ ]
DAX D DISTANCE (0 = PREEMPT)			FT.
DAX D WARNING TIME			SEC.
SLAVING MASTER/SLAVE		MASTER [ ]	SLAVE [ ]
PASSWORD ENABLED		DISABLED [■]	ENABLED [ ]
RECORDER INSTALLED		NOT INSTALLED [■]	INSTALLED [ ]
RS-232-C BAUD RATE			BPS
RS-232-C DATE BITES		7 [ ]	8 [ ]
RS-232-C STOP BITS		1 [ ]	2 [ ]
RS-232-C PARITY		NONE [ ]	MARK [ ]
		ODD [ ]	SPACE [ ]
		EVEN [ ]	
DATE(E.G.,MON 13 MAY 1991) ..		NOT REQUIRED *	
TIME(E.G.,06:25:43 PM)		NOT REQUIRED *	
DAYLIGHT SAVINGS		ON [ ]	OFF [■]

* PROGRAMMED AT INSTALLATION DURING CALIBRATION PRODEDURE
☆ = (FOR INFORMATION ONLY 120' MIN.) NO ENTRY NEEDED

EXPANDED PROGRAMMING DESIGN

SWITCH TO MS (ENTER EZ VALUE)	T1:	10	EZ
	T2:	10	EZ
TRANSFER DELAY MS TO GCP (0 = OFF) ..	T1:	OFF	SEC.
	T2:	OFF	SEC.
PRIME PREDICTION OFFSET (0 = OFF)	T1:	OFF	FT.
	T2:	OFF	FT.
PICKUP DELAY PRIME		15	SEC.
PICKUP DELAY DAX A			SEC.
PICKUP DELAY DAX B			SEC.
PICKUP DELAY DAX C			SEC.
PICKUP DELAY DAX D			SEC.
COMPENSATION VALUE	T1:	NOT REQUIRED **	
COMPENSATION VALUE	T2:	NOT REQUIRED **	

** THE COMPENSATION VALUE IS PROVIDED BY THE 3000 GCP SYSTEM AND NO ADDITIONAL PROGRAMMING IS NORMALLY REQUIRED.



REMOTE DTMF ACTIVATION

TO ACTIVATE PRESS: 340#

(ACTIVATION WILL TIME OUT AFTER 30 SEC)

ROAD CHANNEL 81 - 161.325 MHZ

THE OPERATION OF ANY CIRCUITS AND EQUIPMENT SHOWN HEREIN MUST BE CHECKED BY POINT TO POINT BREAKDOWN AND COMPLETE OPERATION TESTING OF THE SYSTEM (OR SECTIONS OF THE SYSTEM) INTO WHICH THEY ARE CONNECTED.

RED = IN
YELLOW = OUT

THIS SHEET REDRAWN

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REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
10/07/2014	AECOM	GATE REPLACE & NEW PED GATE			

TRANSPORTATION
AECOM TECHNICAL SERVICES, Inc.
300 Colonial Center Pkwy, Suite 130
Lake Mary, FL. 32746
T 407.549.4200 F 407.549.4201
Certificate of Authorization No. 8115
www.aecom.com

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

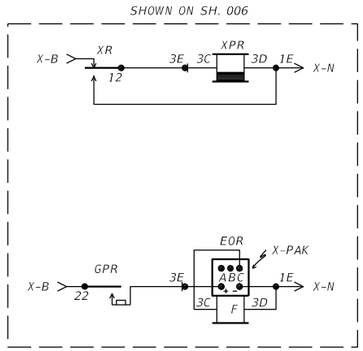
TAFT-VINELAND RD MP 798.75 GCP3000 PROGRAMMING

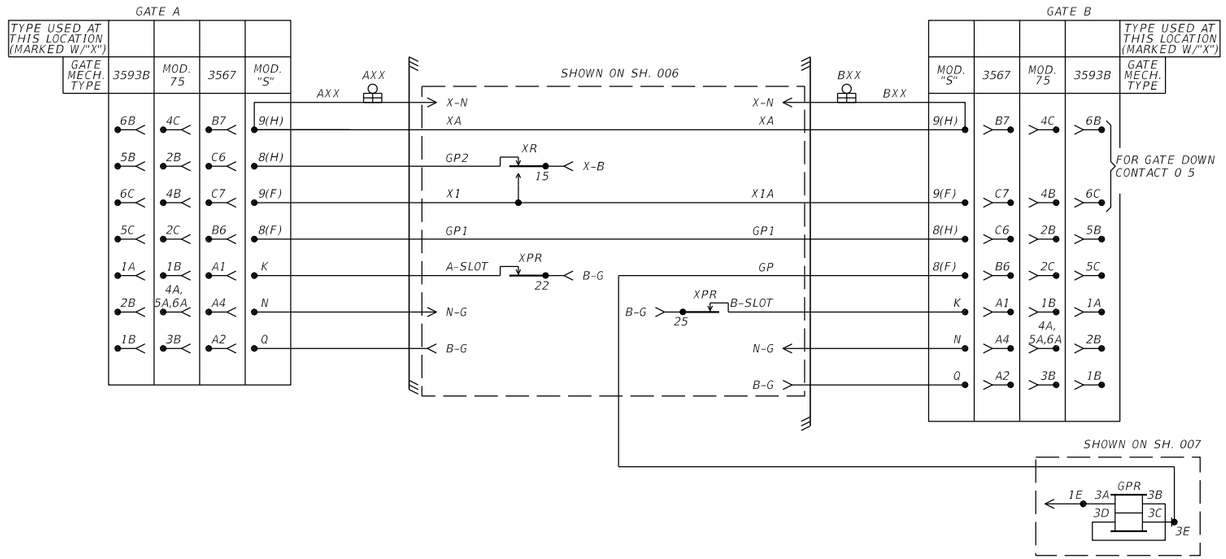
SHEET NO. 361

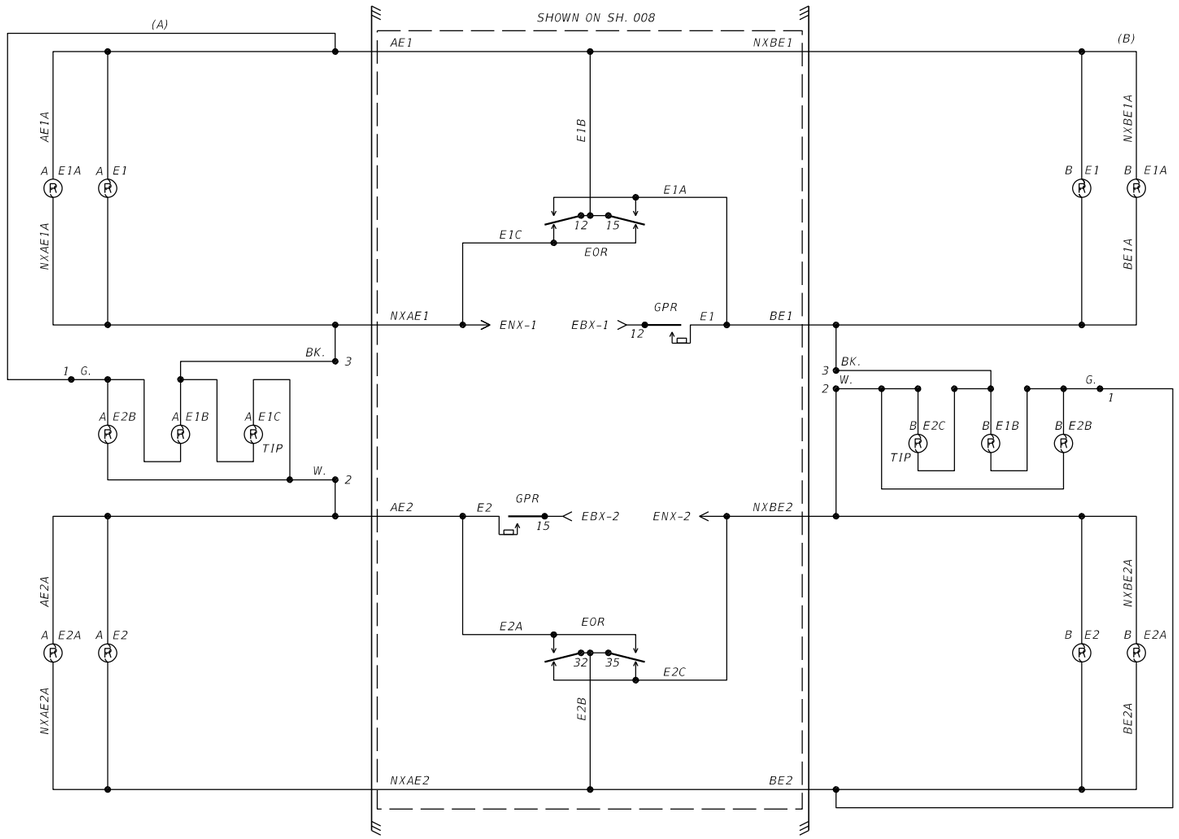
$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.

G79875.005V







THIS SHEET VOID

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.003, F.A.C.

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

TRANSPORTATION
AECOM TECHNICAL SERVICES, Inc.
300 Colonial Center Pkwy, Suite 130
Lake Mary, FL. 32746
T 407.549.4200 F 407.549.4201
Certificate of Authorization No. 8115
www.aecom.com

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

TAFT-VINELAND RD MP 798.75 GATES, BELLS & FLASHERS

SHEET NO. 362

$USER$ $DATE$ $TIME$ $FILE$

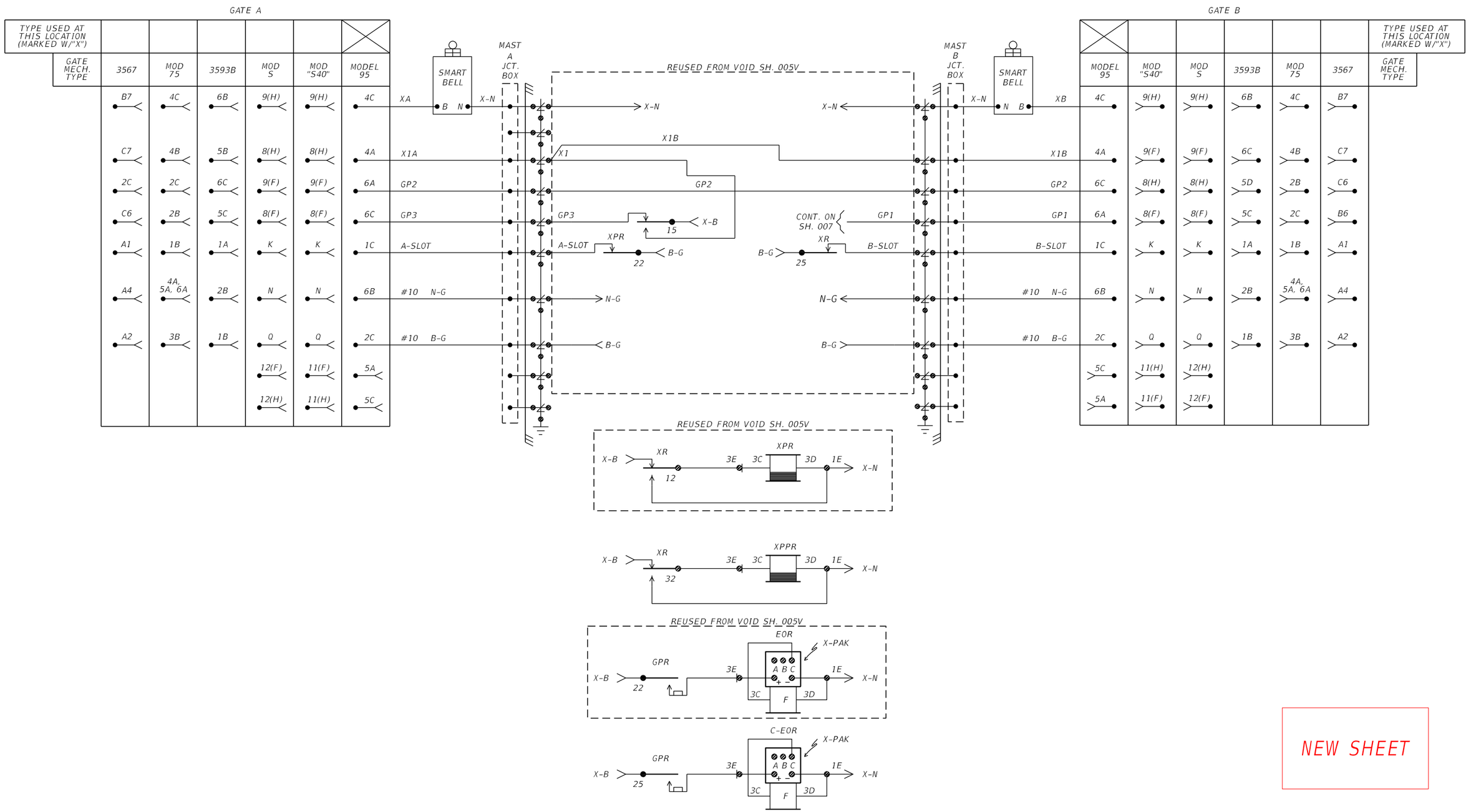
DRAWING NO.
G79875.006

GATE A

TYPE USED AT THIS LOCATION (MARKED W/"X")							
GATE MECH. TYPE	3567	MOD 75	3593B	MOD S	MOD "S40"	MODEL 95	
	B7	4C	6B	9(H)	9(H)	4C	XA
	C7	4B	5B	8(H)	8(H)	4A	X1A
	2C	2C	6C	9(F)	9(F)	6A	GP2
	C6	2B	5C	8(F)	8(F)	6C	GP3
	A1	1B	1A	K	K	1C	A-SLOT
	A4	4A, 5A, 6A	2B	N	N	6B	#10 N-G
	A2	3B	1B	Q	Q	2C	#10 B-G
				12(F)	11(F)	5A	
				12(H)	11(H)	5C	

GATE B

TYPE USED AT THIS LOCATION (MARKED W/"X")							
GATE MECH. TYPE	3567	MOD 75	3593B	MOD S	MOD "S40"	MODEL 95	
	B7	4C	6B	9(H)	9(H)	4C	XB
	C7	4B	6C	9(F)	9(F)	4A	X1B
	C6	2B	5D	8(H)	8(H)	6C	GP2
	B6	2C	5C	8(F)	8(F)	6A	GP1
	A1	1B	1A	K	K	1C	B-SLOT
	A4	4A, 5A, 6A	2B	N	N	6B	#10 N-G
	A2	3B	1B	Q	Q	2C	#10 B-G
				12(H)	11(H)	5C	
				12(F)	11(F)	5A	



NEW SHEET

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

TRANSPORTATION
AECOM TECHNICAL SERVICES, Inc.
300 Colonial Center Pkwy, Suite 130
Lake Mary, FL, 32746
T 407.549.4200 F 407.549.4201
Certificate of Authorization No. 8115
www.aecom.com

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

TAFT-VINELAND RD MP 798.75
GATES AND BELL
(GATES "A" & "B")

SHEET NO. 363

$USER$ $DATE$ $TIME$ $FILE$

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.003, F.A.C.

DRAWING NO.
G79875.007

GATE C

TYPE USED AT THIS LOCATION (MARKED W/"X")						
GATE MECH. TYPE	3567	MOD 75	3593B	MOD S	MOD "S40"	MODEL 95
	B7	4C	6B	9(H)	9(H)	4C
	C7	4B	5B	9(F)	9(F)	4A
	2C	2C	6C	8(H)	8(H)	6A
	C6	2B	5C	8(F)	8(F)	6C
	A1	1B	1A	K	K	1C
	A4	4A, 5A, 6A	2B	N	N	6B
	A2	3B	1B	Q	Q	2C
				12(F)	11(F)	5A
				12(H)	11(H)	5C

MAST C JCT. BOX

GP1 → GP1 → CONT. ON SH. 006

GP (A-B-C) → GP (A-B-C) → 3E

C-SLOT → C-SLOT → XPPR 22 → B-G

#10 N-G → N-G

#10 B-G → B-G

GPR 3B 3C 3A 3D 1E → X-N

REUSED FROM VOID SH. 005V

E1B

E1C

12

C-EOR

NXCE1

(C)

NXCE1 NXCE1A

C E1 C E1A

CE1 CE1A

EBX-1 32 GPR E1 CE1 CE1 (1) (2)

3 BK.

B E2B B E1B

2 W. G. 1

ENX-1 NXCE2 CE2 (1) (2)

CE2 CE2A

C E2 C E2A

NXCE2 NXCE2A

C-EOR

15

E2C

CE2 NXCE2

NOTE:

LIGHT RESISTOR IS A 1.5 OHM, 15 WATT, ADJUSTABLE RESISTOR. (1) = INSULATED TERMINAL.

NEW SHEET

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REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

TRANSPORTATION
AECOM TECHNICAL SERVICES, Inc.
300 Colonial Center Pkwy, Suite 130
Lake Mary, FL, 32746
T 407.549.4200 F 407.549.4201
Certificate of Authorization No. 8115
www.aecom.com

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

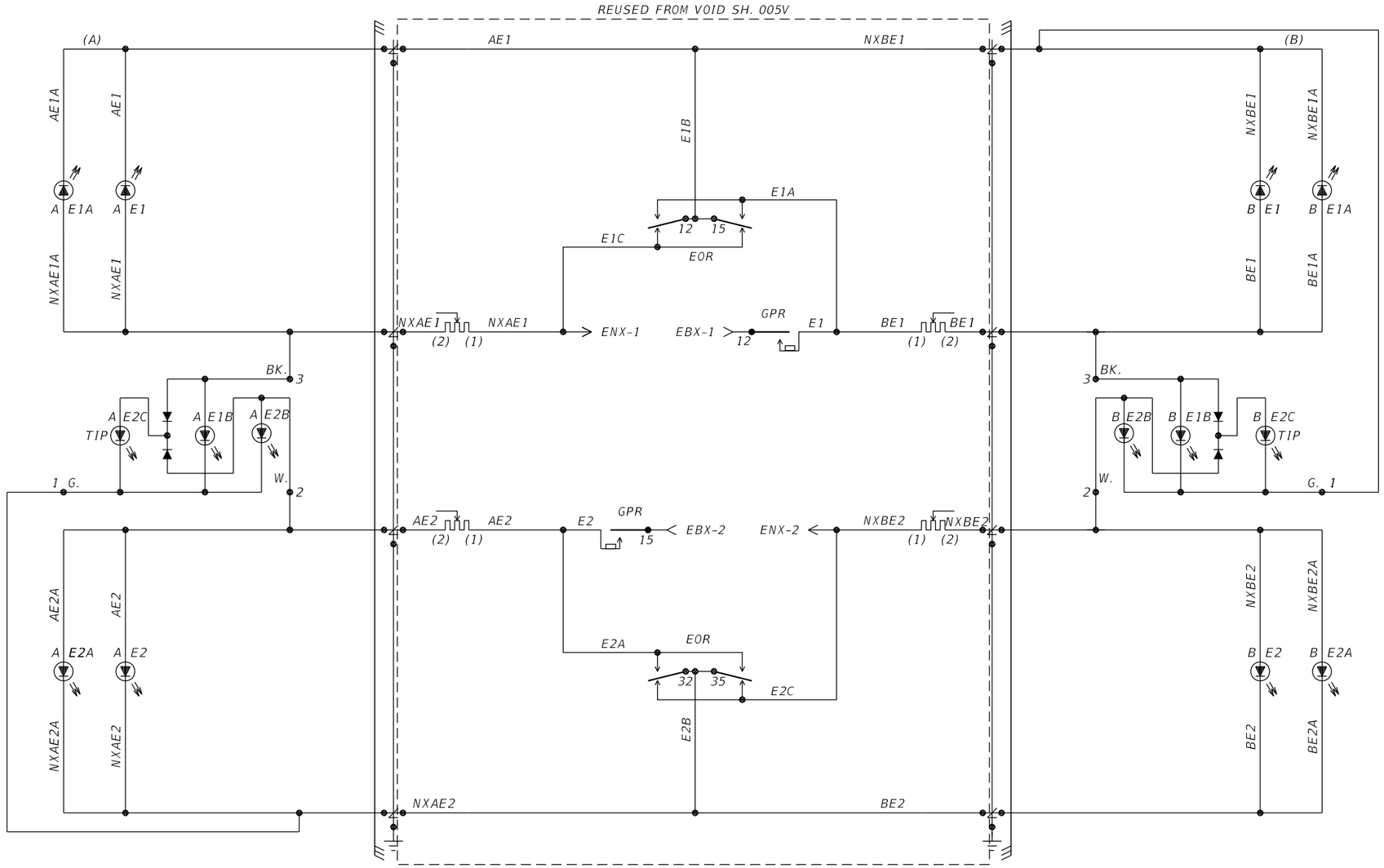
CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

TAFT-VINELAND RD MP 798.75 GATES & FLASHERS (GATE "C")

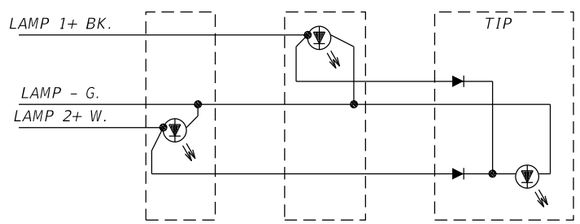
SHEET NO. 364

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G79875.008



THIS IS HOW NEG LED GATE ARM LIGHTS ARE WIRED



NOTE:
LIGHT RESISTOR IS A 1.5 OHM, 15 WATT, ADJUSTABLE RESISTOR. (1) = INSULATED TERMINAL.

NEW SHEET

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REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

TAFT-VINELAND RD MP 798.75
FLASHERS (GATES "A" & "B")

SHEET NO.
365

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G79876.001

INDEX

CONTENTS

	SH. NO.		REVISION NO. 1	2	3	4	5	6	7	8	9
	1	TITLE, NOTES, INDEX AND REVISIONS	X	X	/						
	2	TRACK AND SIGNAL PLAN	X	X	/						
	3	VHLC I/O EQUIVALENT CIRCUITS		/							
	4	OFFICE CONTROL AND INDICATION EQUIVALENT CIRCUITS	X	/							
	5	POWER DISTRIBUTION	X	/							
	6	RACK 1 LAYOUT	X	/							
	7	LCP I/O CARD AND DATA RADIO LAYOUT	X	/							
	8	VHLC CIRCUITS	X	/							
	9	OFFICE COMMUNICATION CIRCUITS	/								
	10	VHLC I/O CIRCUITS	X	/							
	11	VHLC I/O CIRCUITS	/								
	12	VHLC I/O CIRCUITS	/								
13	012	SIGNAL LIGHTING CIRCUITS	X	/							
14	013	SIGNAL LIGHTING CIRCUITS	X	/							
15	014	SWITCH CIRCUITS	X	/							
16	015	WAGO TERMINAL BOARDS	X	/							
17	016	VHLC CHECKSUMS	X	/							
	18	VHLC CHECKSUMS	/								
19	017	VHLC FACE PLATE	X	/							
20	018	LOCAL CONTROL PANEL	X								
21	019	CROSSING DETECTION CIRCUITRY XP4 UNIT VIO-86S & XTI-1S (76CWU)	/								
22	020	DETECTION DEVICE PROGRAM XP4 UNIT XTI-1S (76CWU)	/								
23	021	CROSSING DETECTION CIRCUITRY XP4 UNIT LAYOUT (76CWU)	/								
24	022	DETECTION DEVICE PROGRAM XP4 UNIT SETUP (76CWU)	/								

X = DESIGN COMPLETED

X = REVISION COMPLETED

RED = IN

YELLOW = OUT

THIS SHEET REDRAWN

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.003, F.A.C.

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

XORAIL
5011 GATE PARKWAY BUILDING 100
SUITE 400 JACKSONVILLE FLORIDA 32256
(904) 443-0083 (MAIN)
(904) 443-0089 (FAX)
CERT. OF AUTHORIZATION NO. 9875
ENGINEER OF RECORD
IVORY L. WHITE, JR, P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

CP 799

TITLE, NOTES, INDEX & REVISIONS

M.P. A-798.76

SHEET NO. 366

$USER$ $DATE$ $FILE$

DRAWING NO.
G79876.002

42162+95 SIG 41905+46
42163+28 PS 41905+96 *10 T.O.
42164+20 HSE/IJ 41906+88
42165+37 PDR 41908+19
42165+40 PS 41908+43 *10 T.O.
42167+13 SIGS 41908+69
42167+41 PS 41909+76 *10 T.O.
42168+90 NBS & ETC 41911+53

← NORTH TO ST JOHNS JACKSONVILLE

100' MINIMUM UNLOCK CIRCUIT — 25'

42154+21 797.65(AX) (TRK 1&2)

TO 76 CWU-S

(SEE BELOW) *4 & 5

SP. B-1 N-1 82NWP2 N82NWP2

5 COND. *14 U.G.

42168+99. 798.75(AX) (SIDING)

SOUTH TO AUBURNDALE →

24CWTO-2 114 HZ
75CWTO-2 86 HZ 75-2CWTO

82WLTO 20 KHZ

T-21 SL-25

SW. 798.82

*3 (SEE BELOW)

G.E. LEAD } JOINS A798X8 SH. S01

SRAT A7996ZT [N2ZT]

76 75CWTO-2 348 HZ

7996-2ZT [S2ZT] SRAT

7988ZT [2ZT] [1ZT]

76 77CWTO-1 3 970 HZ

76 77CWTO-2 4 348 HZ

A 7996-1ZT [4ZT]

76 77CWTO-3 1 790 HZ

6AT

JOINS A79875 SH. S01

JOINS MP 798.75 SH G79875.002

86 HZ 75CWTO-1 75-1CWTO 114 HZ 24CWTO-1

SAF. MOD. 8A077A

DWBS

SAF. MOD. 62775 790 HZ

NBS

JOINS A79917 SH. S01 G79908 SH. 002

1ZT 2ZT N1ZT N2ZT TO 1 TZU

*1 & 2 (SEE BELOW)

2TB2 2TN TO 2 TCU

76 77T1-1 3 76 77R1-1 3 76 77T2-1 3 76 77R2-1 3 TO 76 77 CWU-1 S

N2ZT N1ZT TO 1 TZU

A2TB2 A2TN TO 2 TCU

S2ZT N2ZT TO 1 TZU

76 77T1-3 76 77R1-3 76 77T2-3 76 77R2-3 TO 7677 CWU-2 S

2RB1 2RN TO 2 TR

A2RB1 A2RN TO A2 TR

4ZT N4ZT TO 1 TZU

6ARB2 6ARN TO 6A TCU & 6A TR

76 77T1-2 4 76 77R1-2 4 76 77T2-2 4 76 77R2-2 4 TO 7677 CWU-1 S

2AGE 2AYE 2ARE 2AEN 2BGE 2BYE 2BLWE 2BRE 2BEN 3 SP.

5 SP. A1NWP1 NA1NWP1 NA1RWP1 A1RWP1 N-1 B-1 A1NJP1 1NJP SP. A1NW A1RW A1CW HBX120 HNX120 } *6

(X)

5 SP. B-1 N-1 82WL N82WL 82NWP N82NWP 82D

3 SP. 1NWP 1NNWP 1NRWP 1RWP B-1 B1RWP1 NB1RWP1 NB1NWP1 B1NWP1 B1NJP1 SP. B1NW B1RW B1CW HBX120 HNX120 } *6

6GE 6YE 6LWE 6RE 6EN 2 SP.

4AGE 4AYE 4ARE 4AEN 4BGE 4BYE 4BLWE 4BRE 4BEN 3 SP.

3SP. 08WLTO N08WLTO B-1 N-1 08WL N08WL 08NWP N08NWP 08D

SPARE SPARE SPARE SPARE 24-1AX76 N24-1AX76 24-2AX76 N24-2AX76 94-1AX76 N94-1AX76 94-2AX76 N94-2AX76

8'X 8'

19 COND. U.G. — 14 6 *6 U.G. TRK.
10 COND. *9 U.G. — 12 COND. *14 U.G.
8 *6 U.G. TRK. — 19 COND. U.G.
12 & 2-5 COND. *14 U.G. — 7 COND. *9 U.G.
3 COND. *6 W/GND. — 10 COND. *9 U.G.
12 *6 U.G. TRK.
12 COND. *14 U.G.
24 FSM FIBER
24 FSM FIBER } TO 96F FIBER PULL BOX

12 & 5 COND. *14 U.G.

12 COND. *14 U.G.

(500')
75DAX N75DAX 24-1DAX N24-1DAX SP. — 75-2AX76 N75-2AX76 75-1AX76 N75-1AX76

(150')
BX120-1 BX120-2 NX120 GND.

5 COND. *14 U.G.

5 COND. *14 U.G.

(2500')
75DAX1 N75DAX1 3 SP.

*6 U.G. TRK.

JCT.BOX*1 DTL*1 JCT.BOX*2 DTL*2 NBS

TO TRACK

JCT BOX*1 HARMON 385A-3 JCT.BOX W/PEDESTAL, HPN 225238-001
HARMON FSS LOAD 750' DTL
HARMON NBS-1 114 HZ NBS

JCT BOX*2 HARMON 385A-3 JCT.BOX W/PEDESTAL, HPN 225238-001
SAFE 8V617 3000' DTL
SAFE 62775-86 HZ NBS

*6 U.G. TRK.

JCT.BOX*4 DTL*1 JCT.BOX*5 DTL*2 NBS

TO TRACK

JCT BOX*4 HARMON 385A-3 JCT.BOX W/PEDESTAL, HPN 225238-001
HARMON FSS LOAD 750' DTL
HARMON NBS-1 114 HZ NBS

JCT BOX*5 HARMON 385A-3 JCT.BOX W/PEDESTAL, HPN 225238-001
SAFE 8V617 3000' DTL
SAFE 62775-86 HZ NBS

SHUNT CASE
DTL NBS
DTL *3
SAF. 62775-3497 970 HZ MULTI FREQ. NBS
SAF. *8V617-0800'

TO BE INSTALLED IN PARALLEL PER MANUFACTURER INSTRUCTIONS

NOTES:
1. (X) LOCATION OF HOUSE.
2. [ ] = TAGGING PURPOSES ONLY.

( ) = NOTE
RED = IN
YELLOW = OUT

THIS SHEET REDRAWN

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REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

XORAIL
5011 GATE PARKWAY BUILDING 100
SUITE 400 JACKSONVILLE FLORIDA 32256
(904) 443-0083 (MAIN)
(904) 443-0089 (FAX)
CERT. OF AUTHORIZATION NO. 9875
ENGINEER OF RECORD IVORY L. WHITE, JR., P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
CP 799
TRACK & SIGNAL PLAN
M.P. A-798.76

SHEET NO. 367

$USER$ $DATE$ $FILE$

DRAWING NO.
G79876.003

RACK	CARD NO.	CODED CIRCUIT INTERFACE OUTPUTS 1	2	3	4	5	6	7	8
1	G4	2ZT	4ZT	UNUSED	UNUSED	UNUSED	UNUSED	UNUSED	UNUSED
		1ZT		S2ZT	NS2ZT				

RACK	CARD NO.	VITAL SIGNAL LAMP DRIVER OUTPUT BITS 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	SIG STOP
1	G5																	
	G6																	
	G7																	
	G8																	
	G9																	
	G10																	
	G11	2AGE	2AYE	2ARE	2BGE SPARE	2BYE SPARE	2BLWE	2BRE	SPARE	SPARE	SPARE	SPARE	SPARE	SPARE	SPARE	SPARE	SPARE	11V STOP
	G12	4AGE	4AYE	4ARE	4BGE SPARE	4BYE SPARE	4BLWE	4BRE	SPARE	6GE	6YE	6LWE	6RE	SPARE	SPARE	SPARE	SPARE	12V STOP

RACK	CARD NO.	VITAL GENERAL PURPOSE I/O BITS OUTPUTS 1	2	3	4	5	6	7	8	INPUTS 1	2	3	4	5	6	7	8
1	G5	1 NWR	1 RWR	SPARE	SPARE	SPARE	SPARE	SPARE	SMR ★	1 NWPR	1 RWPR	1 WCBPR	1 NJPR	SMKR ★	2 TPR	6A TPR	POPR
	G6	82 WLR	SPARE	SPARE	SPARE	SPARE	SPARE	SPARE	SPARE	82 NWPR	82 DR	82 WLTOR	SMOKE	DOOR OPEN	LIGHT ON	OVER RIDE	SPARE
	G7	08 WLR	SPARE	SPARE	SPARE	SPARE	SPARE	SPARE	SPARE	08 NWPR	08 DR	08 WLTOR	SPARE	SPARE	SPARE	SPARE	SPARE
	G8																
	G9																
	G10																
	G11																
	G12																

VHLC - LED INDICATIONS (VLP BOARD)			
VLP B	DS4	16	
		15	HEALTH
		14	OFFICELINK
		13	RADIOLINK COMMSLINK
	DS3	12	
		11	
		10	
		9	
VLP A	DS6	8	2BLOPR
		7	2ALOPR
		6	
		5	6LOPR
	DS5	4	
		3	
		2	4BLOPR
		1	4ALOPR

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NOTE:
1. ★ = NOT USED

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CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
CP 799
VHLC I/O EQUIVALENT CIRCUITS
M.P. A-798.76

SHEET NO.
368

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G79876.004

ADDRESS TYPE	RAILROAD ID NUMBER			CODE LINE ADDRESS			STATION ADDRESS			SUB DEVICE		INTERNAL DEVICE	
1	2	3	4	5	6	7	8	9	10	11	12	13	14
7	1	2	5	5	1	2	0	1	0	0	2	0	2
	6	0	5	5	2	7	0	1	5				

OFFICE TO VHLC AUXILIARY COMMUNICATION PROCESSOR SERIAL COMMUNICATION BITS

CONTROLS FROM OFFICE

WORD	1	2	3	4	5	6	7	8
1	C1 NWS	C1 RWS			C2 GS	C4-6 GS	C2-4-6 STOP	
2	C2 TBS	C2 TBSO	C4 TBS	C4 TBSO	C6 TBS	C6 TBSO	CFLTS	CFLTSO
3	CECS	CECSO			CMOAS	CMOASO	CTBAS	CTBASO
4								

INDICATIONS TO OFFICE

WORD	1	2	3	4	5	6	7	8
1	1 NWK	1 RWK	1 LK	1 NJK	2 GK	4-6 GK	2-4-6 TEK	2 TBK
2	4 TBK	6 TBK	2 TK			6 AK		
3				FLTK			POK	LOK
4	(X) ECK	SMOKE		MOK	MOZK	TBZK		

LSR PROGRAM TIME

2TER	466264	SEC.
4TER	347249	SEC.
6TER	70	SEC.

SWITCH OVERLOAD

1WOTER	10	SEC.

V2.0

THE FOLLOWING LOGGING SHOULD BE SET-UP (ATCS V1.6)

1. DATE & TIME
2. MEMORY LOG ENABLES

0. CONTROL / INDICATION	OFF
1. GENISYS PROTOCOL	OFF
2. CODE LINE MONITOR	OFF
3. SHARED RAM ERRORS	OFF
4. CCI INFORMATION	OFF
5. CCI ERRORS	ON
6. I/O ERRORS	ON
7. I/O MESSAGES	OFF
8. ACP RECORDERS	OFF
9. VLP RECORDERS	ON
10. LCP I/O	OFF
11. TURNED OFF ALL DIAGNOSTIC PORT LOGGING	

3. DIAGNOSTIC PORT LOG ENABLES

0. CONTROL / INDICATION	OFF
1. GENISYS PROTOCOL	OFF
2. CODE LINE MONITOR	OFF
3. SHARED RAM INFORMATION	OFF
4. SHARED RAM ERRORS	OFF
5. CCI INFORMATION	OFF
6. CCI ERRORS	ON
7. I/O ERRORS	ON
8. I/O MESSAGES	ON
9. ACP RECORDERS	ON
10. VLP RECORDERS	ON
11. LCP INPUTS	OFF

SETUP INFORMATION

0. DISPLAY ACP SETUP INFORMATION
1. DISPLAY VLP SETUP INFORMATION
2. ENTER GENERAL INFORMATION
3. ENTER INDICATION INFORMATION
4. ENTER ATCS INFORMATION
5. MNEMONICS INFORMATION
6. SAVE IN EPROM
7. INITIALIZE EPROM

ACP>2
GENERAL INFORMATION

DIAGNOSTIC PORT SETUP: BAUD 9600 PARITY NONE DATA BITS 8	
ENTER PASSWORD	HARMON
ENTER NUMBER OF LCP I/O MODULES	2
ENTER ACP EQUATION STABILITY COUNT	05
ENTER MEMORY LOG QUEUES I/O	45
ENTER MEMORY LOG QUEUES RECORDER	45
ENTER MEMORY LOG QUEUES ERROR	10
ENTER TIME ZONE (HOURS WEST OF GMT)	6
ENTER DAYLIGHT SAVINGS TIME APPLIES ◆	ENABLED

ACP>3
INDICATION SETUP INFORMATION

ENTER NUMBER OF INDICATION BITS	32
ENTER INDICATION DELAY (SEC)	0.0
ENTER RECALL DELAY (SEC)	0.0
ENTER AUTOMATIC RECALL AFTER CONTROL	DISABLED
ENTER INDICATION PRIORITY	4
ENTER INDICATION REFRESH RATE	1
ENTER REMOTE LOGGING PRIORITY	7

ACP>4
ATCS INFORMATION

ENTER CPC PROTOCOL	2
ENTER ADDRESS IDENTIFIER DIGIT	7
ENTER ADDRESS LENGTH (10, 12, 14)	14
ENTER RAILROAD NUMBER	125
ENTER UNIT ADDRESS	512010
ENTER VHLC NODE NUMBER	02
ENTER MCP ADDRESS	512010
ENTER MCP NODE NUMBER	01
ENTER CPC ADDRESS	5512
ENTER CPC NODE NUMBER	51
ENTER HMC ADDRESS	3000
ENTER HMC NODE NUMBER	10
ENTER CDC ADDRESS	5026
ENTER CDC NODE NUMBER	10
ENTER MCP BAUD RATE	9600

NOTE:
(X) = INTRUSION ALARM INDICATION

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YELLOW = OUT

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ENGINEER OF RECORD
IVORY L. WHITE, JR., P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
CP 799
OFFICE CONTROL AND INDICATION EQUIVALENT CIRCUITS
M.P. A-798.76

SHEET NO. 369

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G79876.005

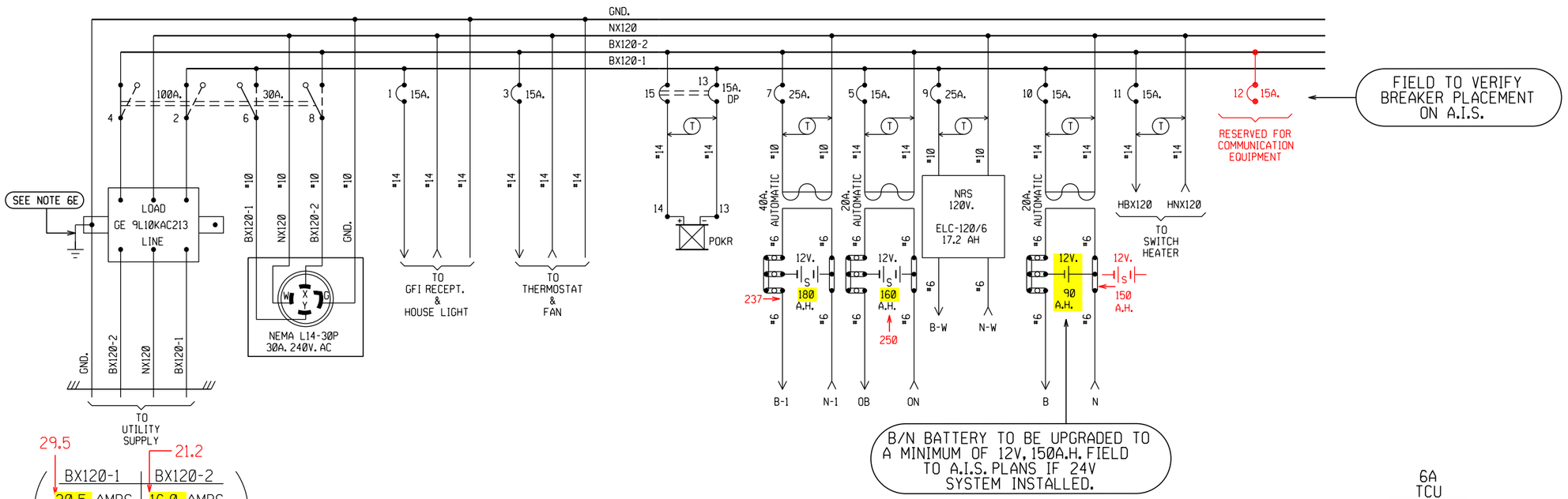
VITAL HARMON LOGIC CONTROLLER RACK

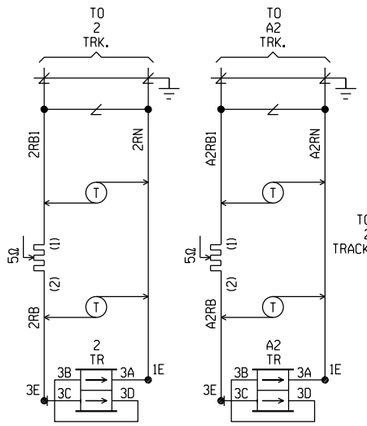
1NWR			1RWR			08NWPR			11VSTOP			12VSTOP			2TR			A2TR			6ATR		
13	B	B45	13	B	B45	12		B8	12	F	B77	12	F	B77	12		B51	12		B51	12	B	B1
14	F	C30	14	F	C30	15		C30	15	FB	C30	15	FB	C30	15		C30	15		C30	15		C30
33	B		33	B		22			22	F		22	F		22			22			22	B	
34	F		34	F		23	F		25	F		25	F		23	F		23	F		23		
						25	F		32			32	FB		25	F		25	F		25		
						32			35			35			32			32			32		
						35									35			35			35		

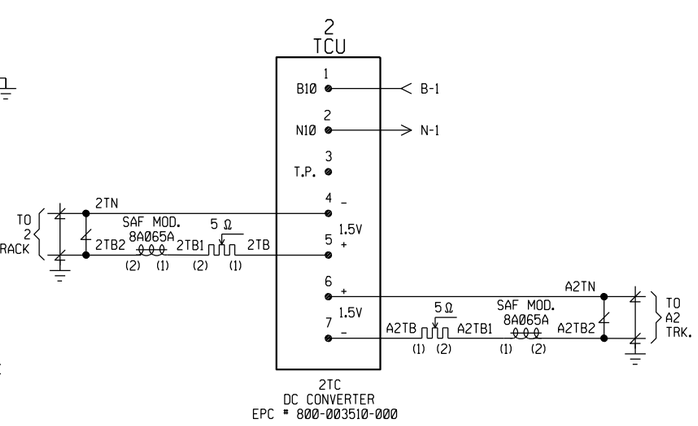
ROW A

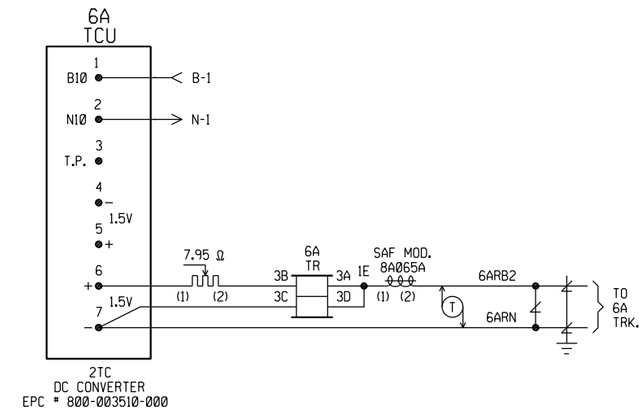
POKR		
9	F	11
10		12
		N68
		C48

WALL MOUNTED









NOTES:

1 - REFERENCES ARE PER SCMS-13.
2 - ARRESTERS ARE PER SS382.
3 - SHELF RELAY PLACEMENT ON CONSIST CHART HAS NO SIGNIFICANCE.
4 - PLUG-IN RELAYS ARE VIEWED FROM THE FRONT OF RACK.
5 - BATTERY A.H. CAPACITY SHOWN IS THE MINIMUM REQUIREMENT.
6 - WIRING
- A - FEED TO ALL BUSSES, LIGHT CIRCUITS, MOTOR CIRCUITS TO BE #10 FLEX.
- B - 120-VOLT FEED FROM ENTRANCE TO POWER BUSS TO BE #10 FLEX.
- C - ALL TRACK WIRES TO BE #10 FLEX.
- D - ALL OTHERS TO BE #16 FLEX UNLESS NOTED.
- E - GROUND WIRE NOT NECESSARY WHEN GE ARRESTER IS MOUNTED ON GROUND PLANE OR METAL ENCLOSURE AFFIXED DIRECTLY TO BUNGALOW METALLIC STRUCTURAL MEMBER.

7 - CIRCUIT INTERRUPTERS 2 & 4 ARE MECHANICALLY INTERLOCKED WITH CIRCUIT INTERRUPTERS 6 & 8.

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YELLOW = OUT

THIS SHEET
REDRAWN

8'X 8' RELAY HOUSE

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5011 GATE PARKWAY BUILDING 100
SUITE 400 JACKSONVILLE FLORIDA 32256
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CERT. OF AUTHORIZATION NO. 9875
ENGINEER OF RECORD
IVORY L. WHITE, JR., P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

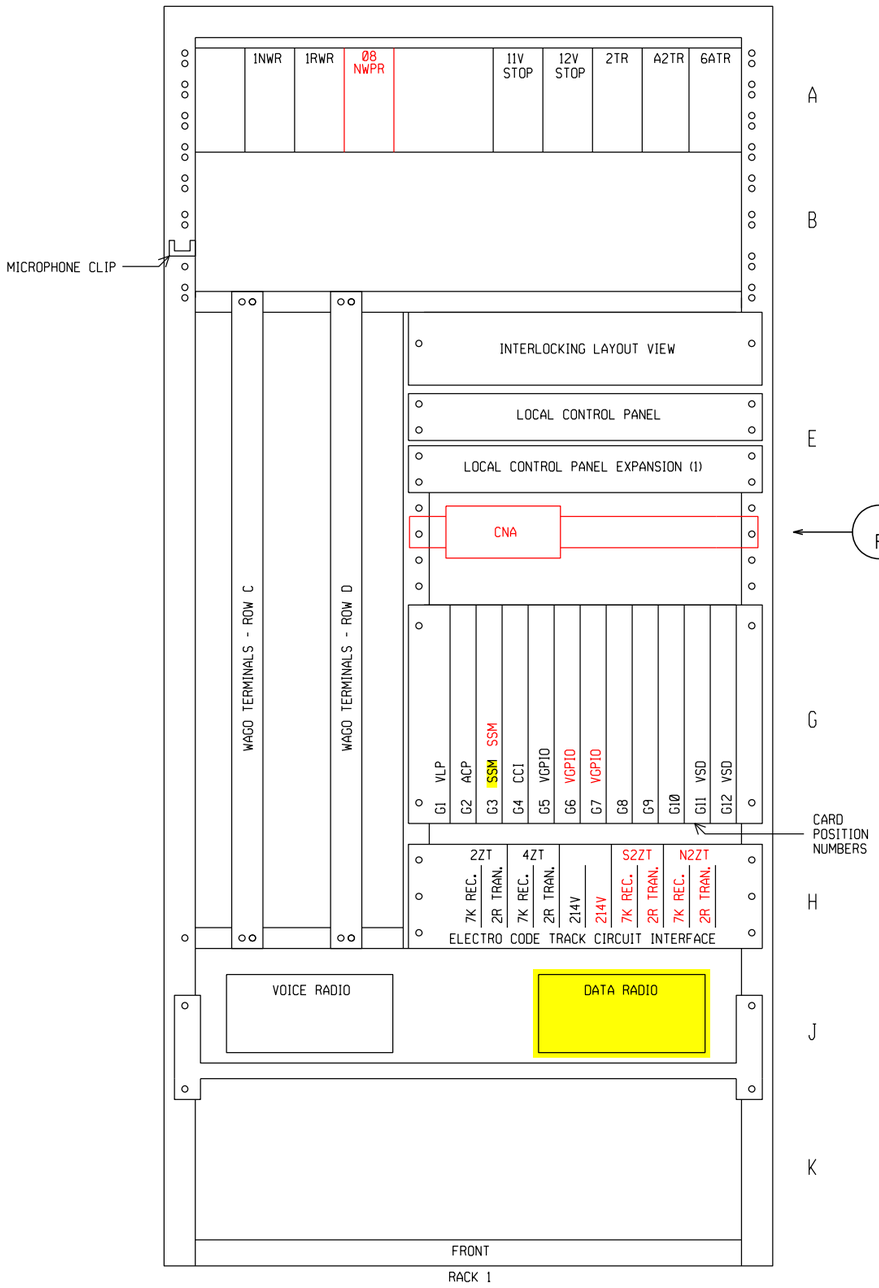
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
CP 799
POWER DISTRIBUTION
M.P. A-798.76

SHEET NO.
370

$USER$ $DATE$ $TIME$ $FILE$

VITAL HARMON LOGIC CONTROLLER/RADIO RACK



FIELD TO VERIFY PLACEMENT OF CNA

CARD POSITION NUMBERS

RACK 1

020.2305500.1 GETS 300664-010 (INCLUDES ITEMS BELOW)

VITAL HARMON LOGIC CONTROLLER/RADIO EQUIPMENT RACK 84" X 30"			
REF.	DESCRIPTION	GETS P/N	QTY
---	ASSY RACK 30" CSX	202624-000	1 EA.
A	BAR 30" GRS MTG	123332-002	2 EA.
A	TIE BAR RLY 30" RK	123333-002	1 EA.
A	RLY B1 PLBD KIT NO FLAG	007062-003	8 7 EA.
A	KIT RLY FL E-POST MOD	005634-000	8 7 EA.
(C-D) 1-65	WAGO TERMINALS #14 (65 X 2)	132280-681	130 EA.
(C-D) 66-81	WAGO TERMINALS #10 (16 X 2)	132282-601	32 EA.
(C-D)	RAIL DIN SLOTTED 35 X 15	122947-001	2 EA.
E	SYSTEM LCP	180286-000	1 EA.
E	LOCAL CONTROL PANEL EXPANSION UNIT	250726-001	1 EA.
G1	VITAL LOGIC PROCESSOR	226610-100	1 EA.
G2	AUXILIARY COM. PROCESSOR 3	226611-300	1 EA.
G3	SITE SPECIFIC MODULE	226612-003	1 EA.
G4	CODED CIRCUIT INTERFACE	226802-001	1 EA.
G4	CABLE - CODED CIRCUIT INTERFACE	200123-001	1 EA.
G5-G7	VITAL GENERAL PURPOSE I/O	227209-012	3 1 EA.
G5-G7	CABLE - VITAL GEN. PURPOSE I/O	200124-110	3 1 EA.
G11-G12	VITAL SIGNAL DRIVER	226801-000	2 EA.
G11-G12	CABLE - VITAL SIGNAL DRIVER	200125-010	2 EA.
ROW G	POWER SUPPLY MODULE	226609-002	1 EA.
ROW H	ECTCI CABINET WITH TSS-1	812-085007-244	1 EA.
ROW H	2R REGULATED TRK. CONVERTER	810-083900-001	2 EA.
ROW H	7K TRACK RECEIVER	810-002000-051	2 EA.
ROW H	214V PROCESSOR	810-083004-017	1 EA.
PORT A	RS-422/485 ISOLATED MODULE	226927-000	1 EA.
PORT E	CURRENT LOOP ADAPTER MODULE	226859-000	1 EA.
ROW J	VOICE RADIO (MOTOROLA MCS2000 RADIO)	SUPPLIED BY CSX COMMUNICATIONS	1 EA.
ROW J	DATA RADIO (SAFETRAN)	SUPPLIED BY CSX	1 EA.
ROW J	CABLE MCP POWER	ATCSI-1000-61	1 EA.
ROW J	CABLE MCP CLIENT PORT 10'	202051-010	1 EA.
E	COMMUNICATIONS NETWORK ADAPTER (CNA)	028.1232009.1	1 EA.
G3	SITE SPECIFIC MODULE	HPN 227713-100	1 EA.
ROW G	POWER SUPPLY MODULE (40 WATT)	HPN 226955-000	1 EA.

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CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

CP 799
RACK 1 LAYOUT
M.P. A-798.76

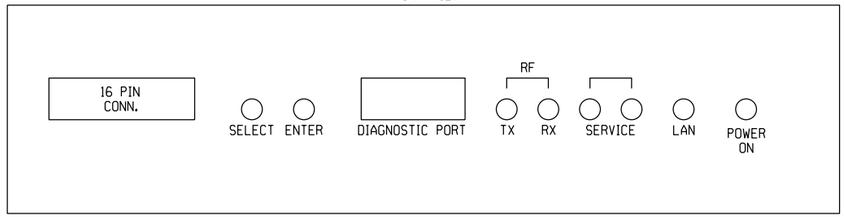
SHEET NO.
371

$USER$ $DATE$ $TIME$ $FILE$

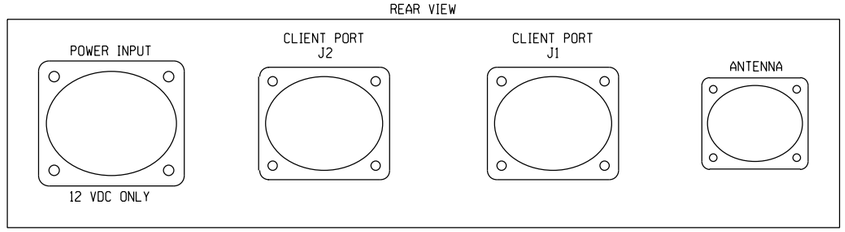
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G79876.007

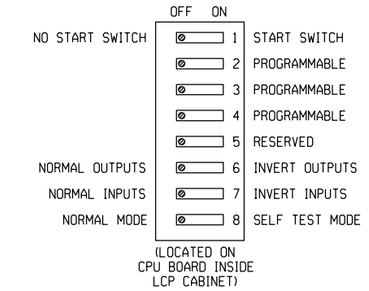
SAFETRAN DATA RADIO

FRONT VIEW

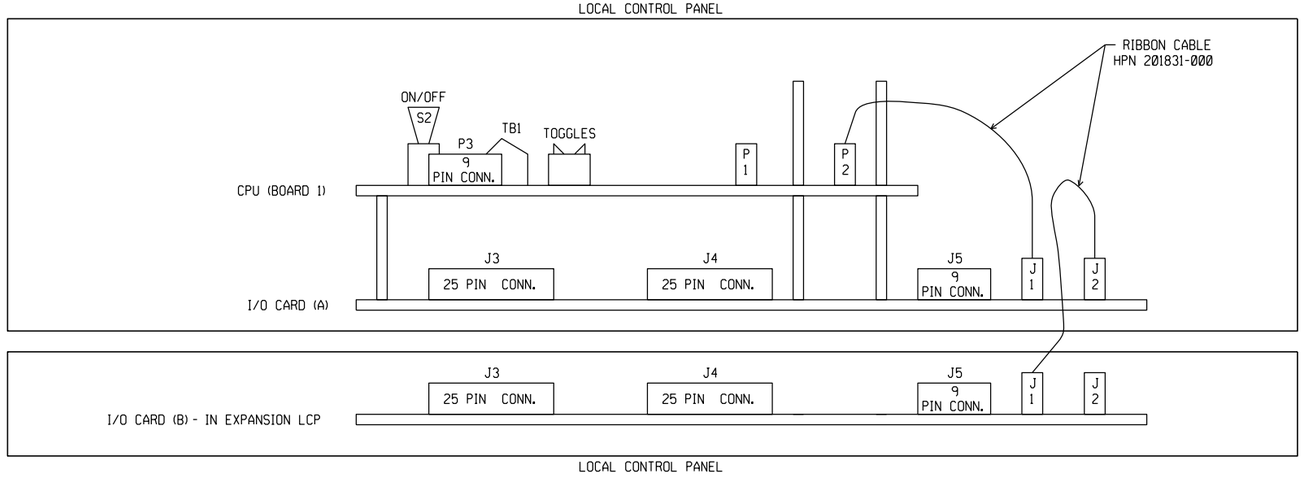


REAR VIEW





LOCAL CONTROL PANEL



LOCAL CONTROL PANEL

THIS SHEET REDRAWN

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CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

CP 799

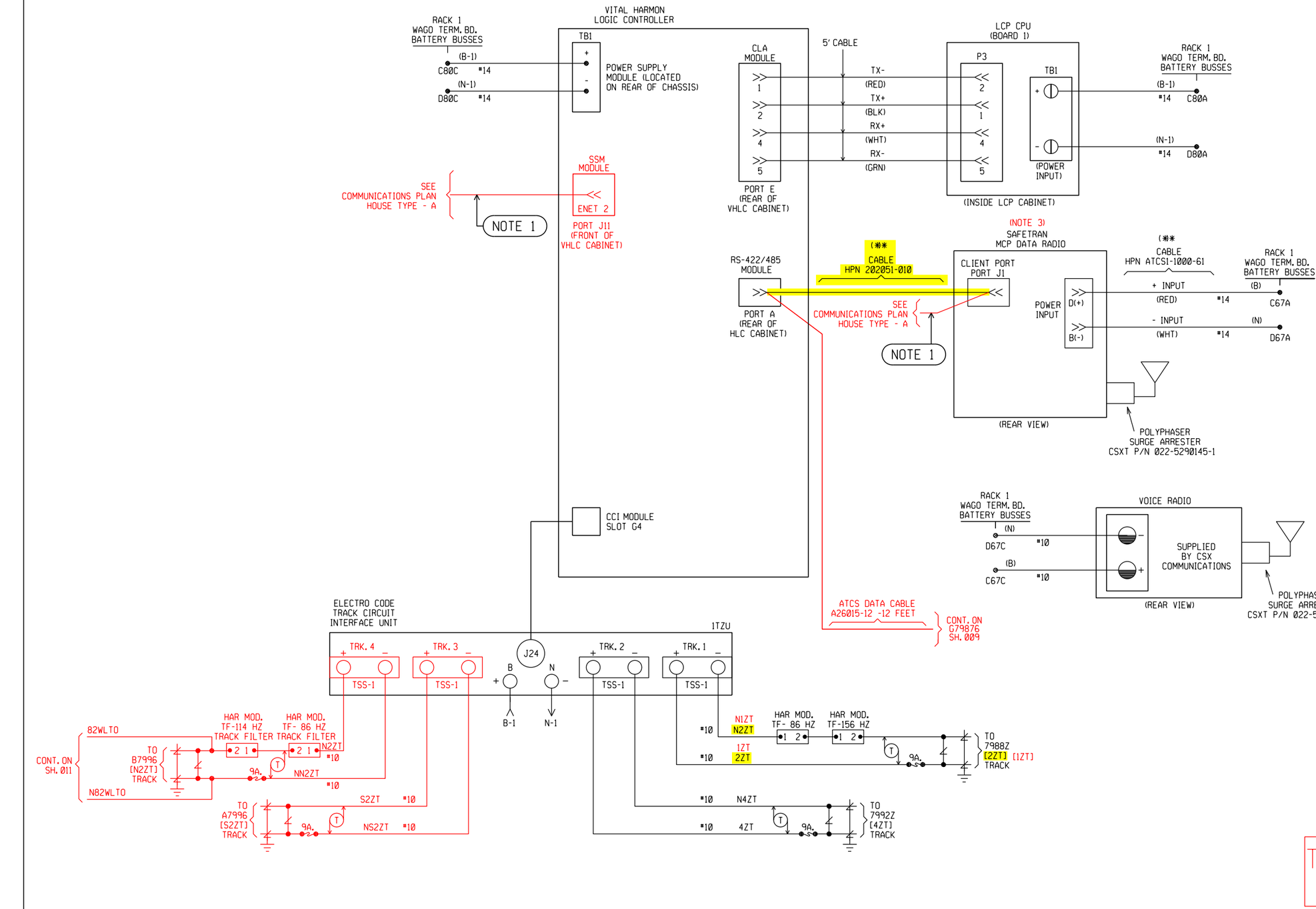
LCP I/O CARD LAYOUT

M.P. A-798.76

SHEET NO. 372

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G79876.008



NOTES:
1. TO ETHERNET SWITCH/FIBER MUX
2. 1.[ ] = TAGGING PURPOSES ONLY.
3. SEE COMMUNICATION PLAN FOR DETAIL. BACK UP OFFICE COMMUNICATION.

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REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

XORAIL
5011 GATE PARKWAY BUILDING 100
SUITE 400 JACKSONVILLE FLORIDA 32256
(904) 443-0083 (MAIN)
(904) 443-0089 (FAX)
CERT. OF AUTHORIZATION NO. 9875
ENGINEER OF RECORD
IVORY L. WHITE, JR., P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

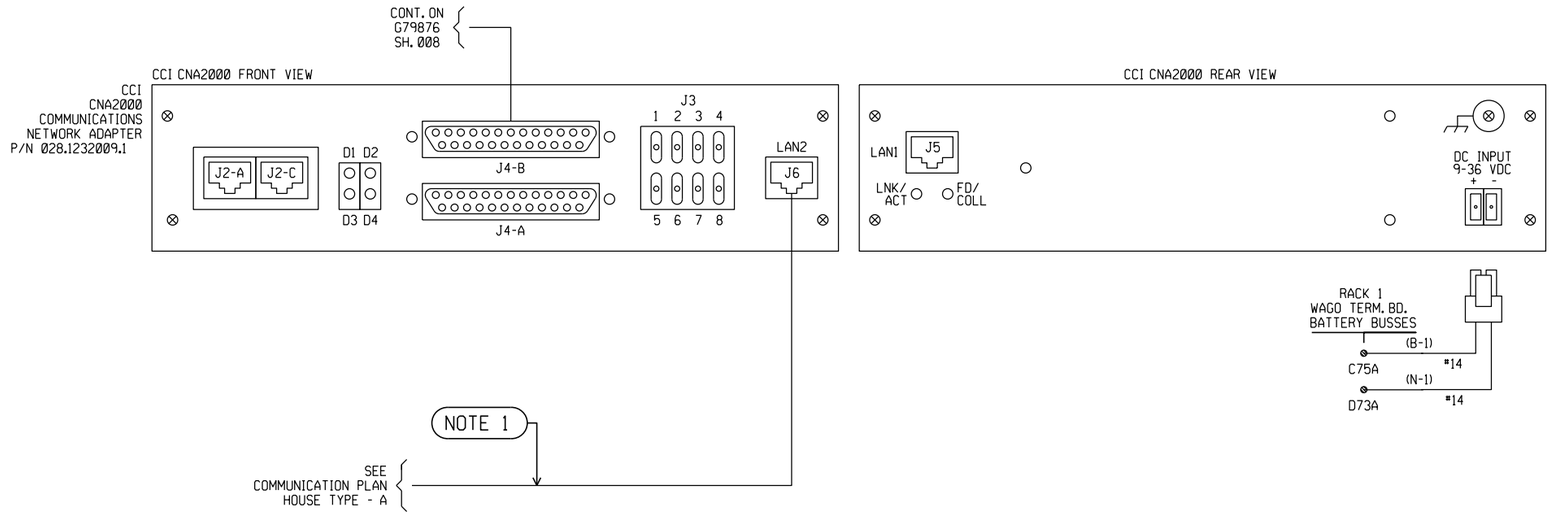
CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
CP 799
VHLC CIRCUITS
M.P. A-798.76

SHEET NO. 373

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.

G79876.009



= NOTE

NOTE:

1. TO ETHERNET SWITCH/FIBER MUX

NEW SHEET

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DEPARTMENT OF TRANSPORTATION

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CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

CP 799

OFFICE COMMUNICATION CIRCUITS

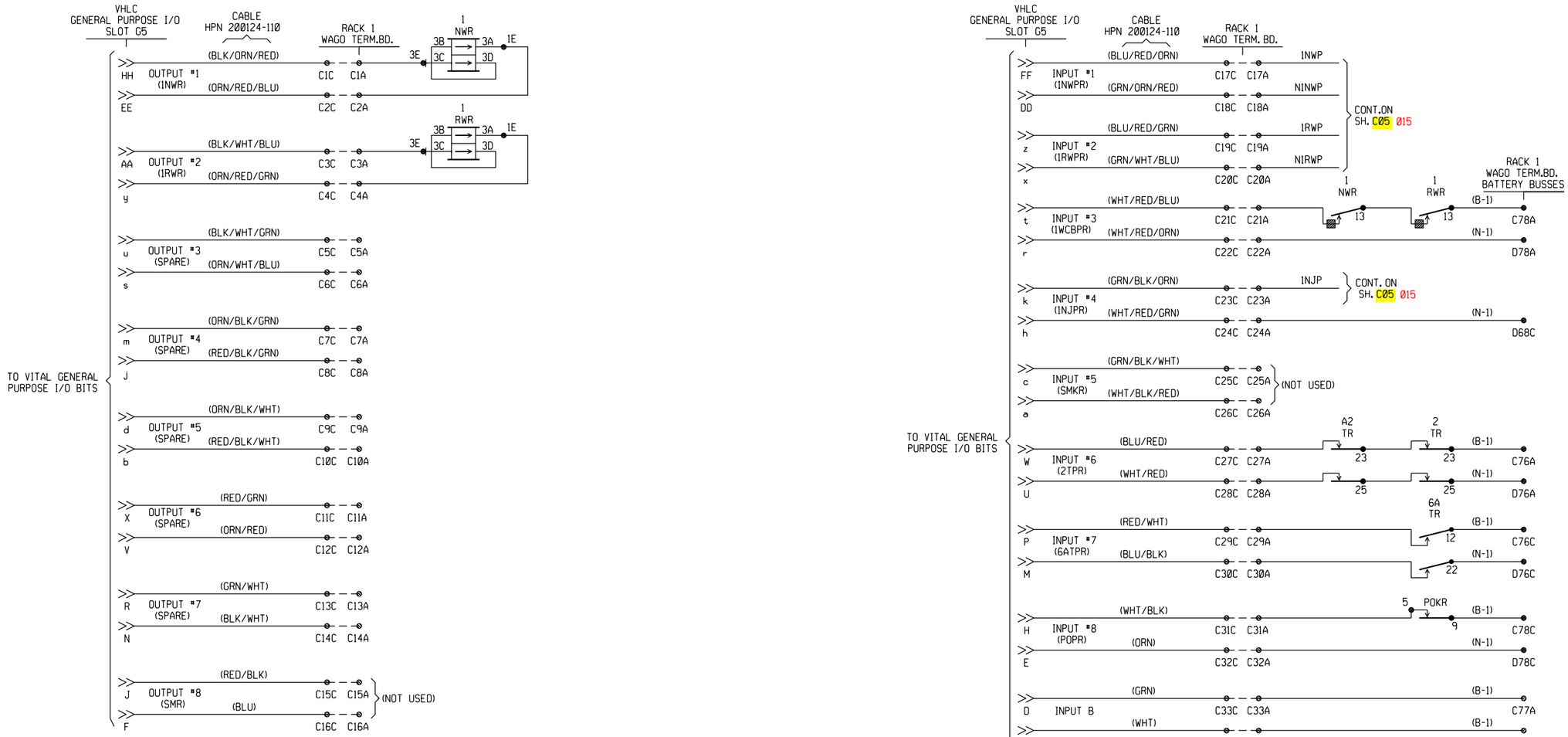
M.P. A-798.76

SHEET NO.

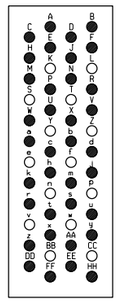
374

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G79876.010



VGPIO CABLE
CONNECTOR



NOTES:

1. ALL WIRING #14 UNLESS NOTED OTHERWISE.

THIS SHEET
REDRAWN

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CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
CP 799

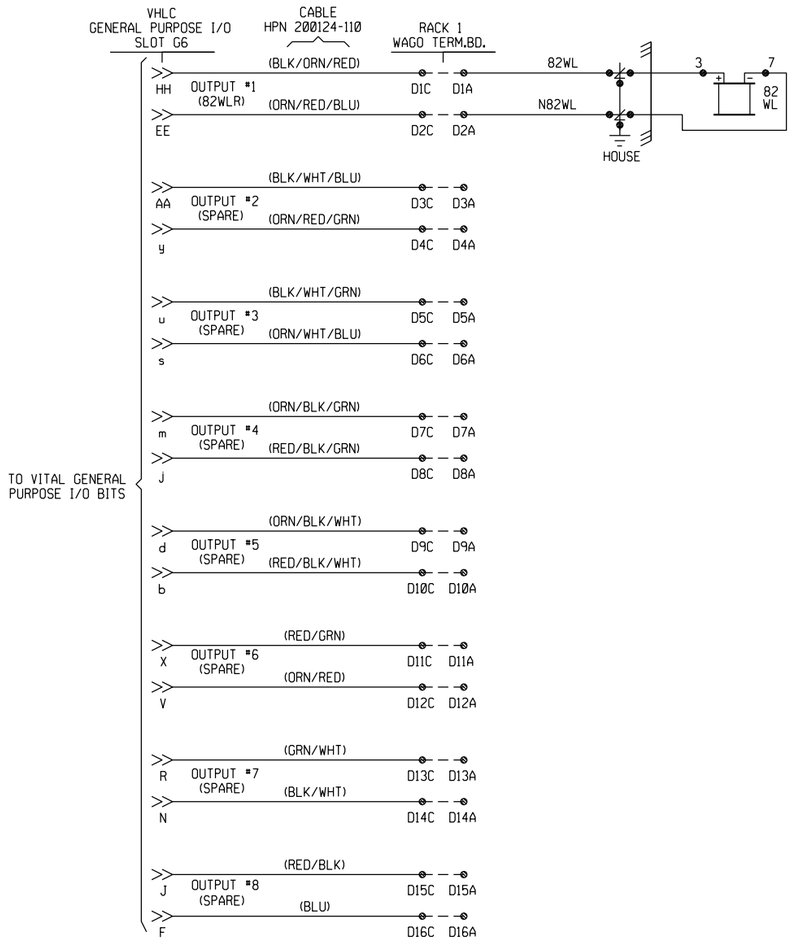
VHLC I/O CIRCUITS

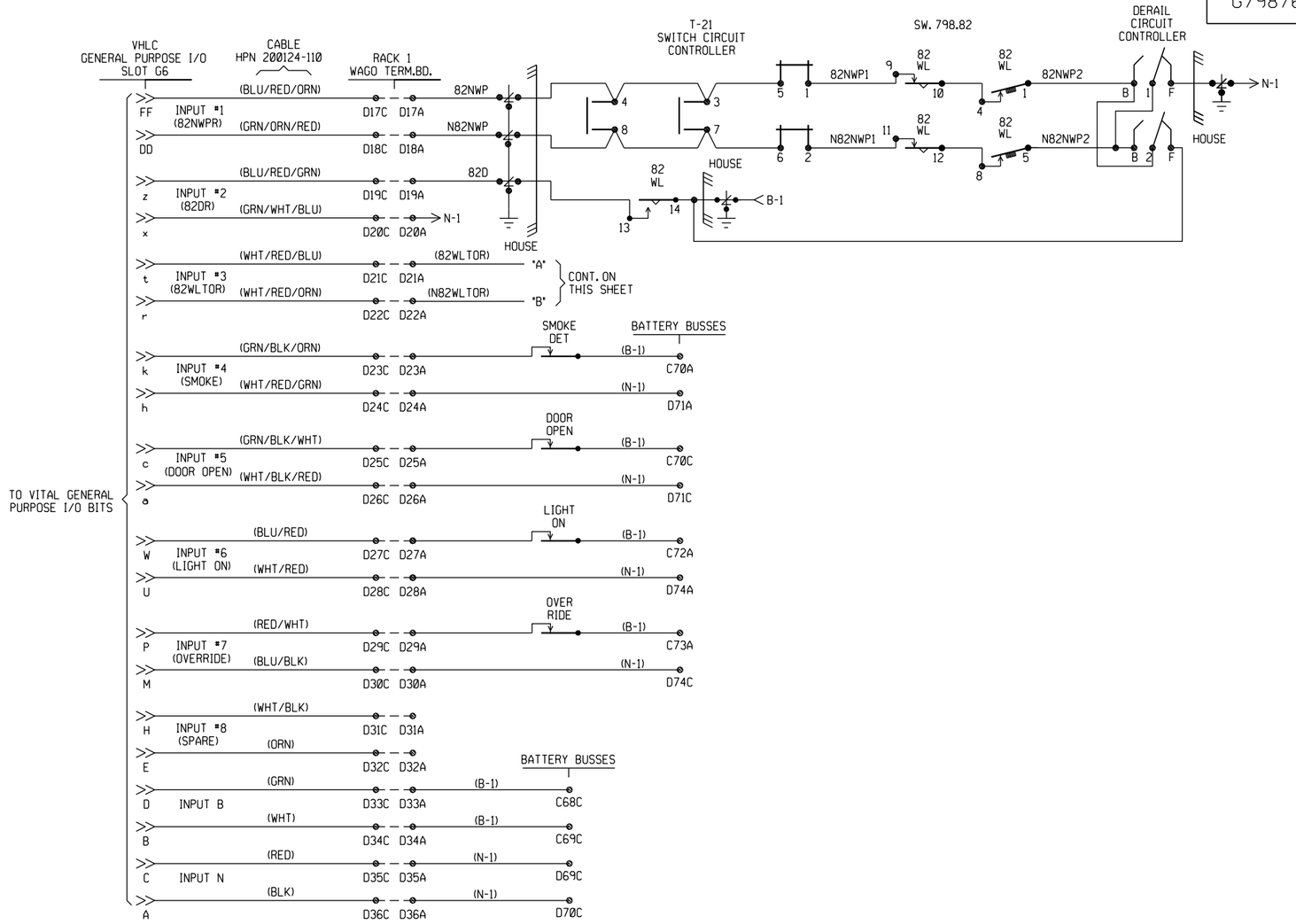
M.P. A-798.76

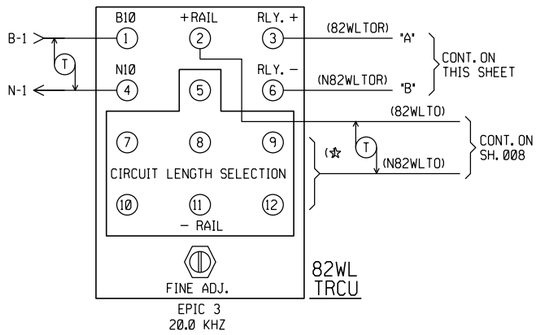
SHEET NO.
375

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G79876.011

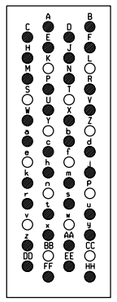






(☆ = (– RAIL) FIELD SELECT PER ADJUSTMENT PROCEDURE
TO SET SHUNT ZONE OF 100'

VGPIO CABLE
CONNECTOR



NOTES:

1. ALL WIRING #14 UNLESS NOTED OTHERWISE.

NEW SHEET

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CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
CP 799

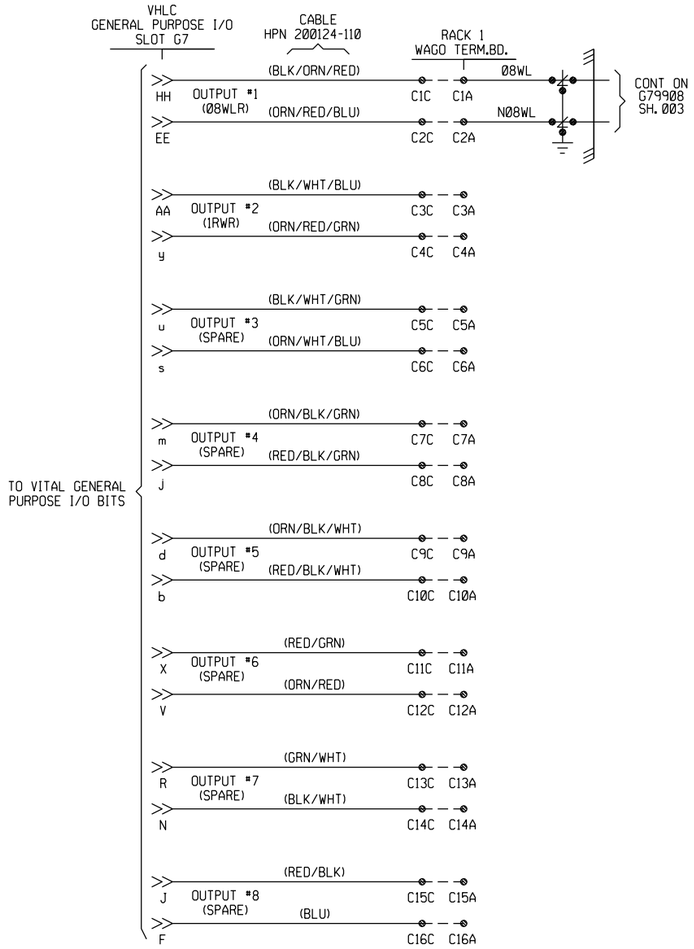
VHLC I/O CIRCUITS

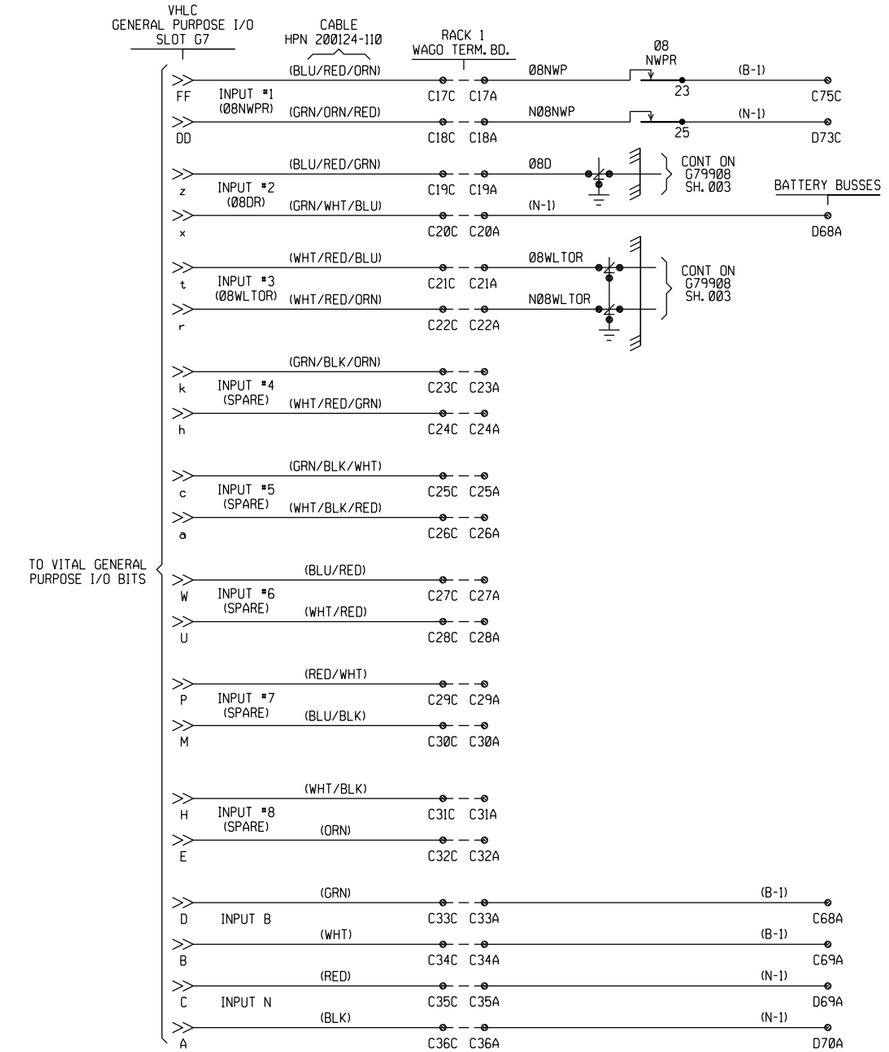
M.P. A-798.76

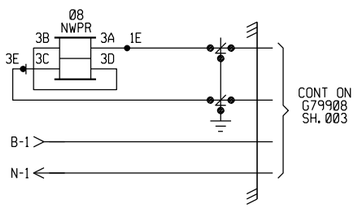
SHEET NO.
376

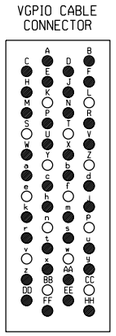
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DRAWING NO.
G79876.012









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CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

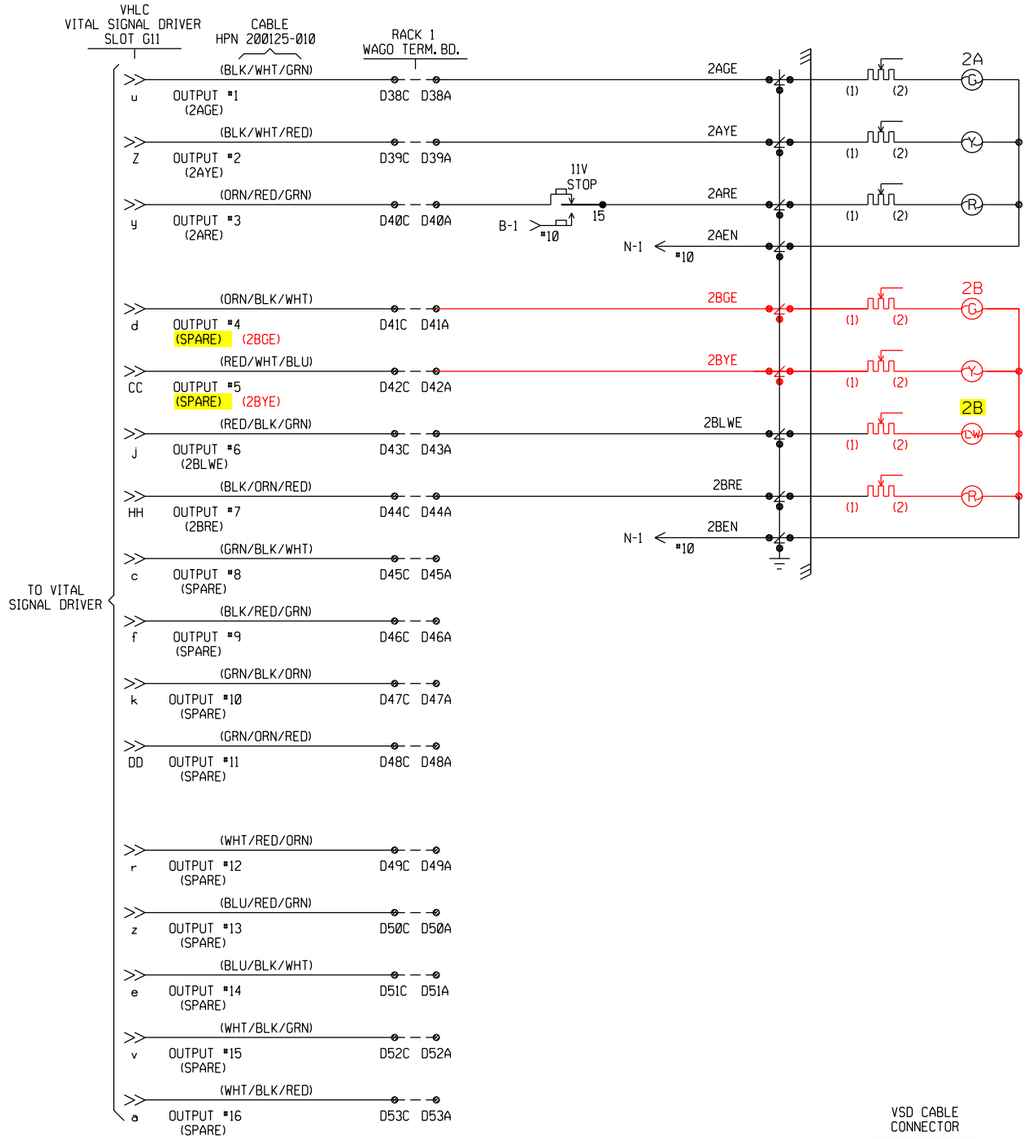
CP 799

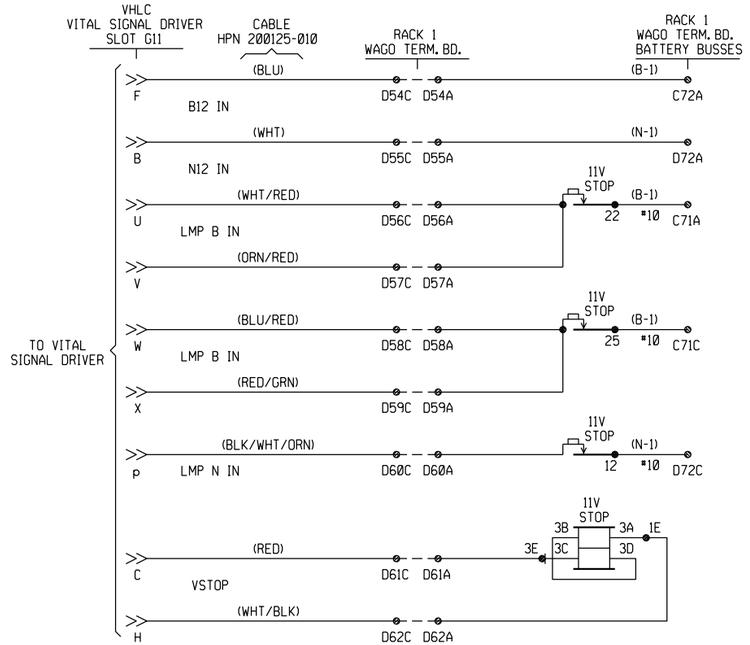
VHLC I/O CIRCUITS

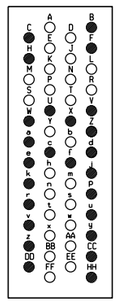
M.P. A-798.76

SHEET NO.
377

$USER$ $DATE$ $TIME$ $FILE$







NOTES:

1. ALL WIRING FROM WAGOS #14,
   ALL OTHER WIRING #10 UNLESS OTHERWISE NOTED.
2. ALL RESISTORS ARE 3 OHM, 15 WATTS.

RED = IN

YELLOW = OUT

THIS SHEET REDRAWN

DRAWING NO.

G79876.Ø13

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CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

CP 799

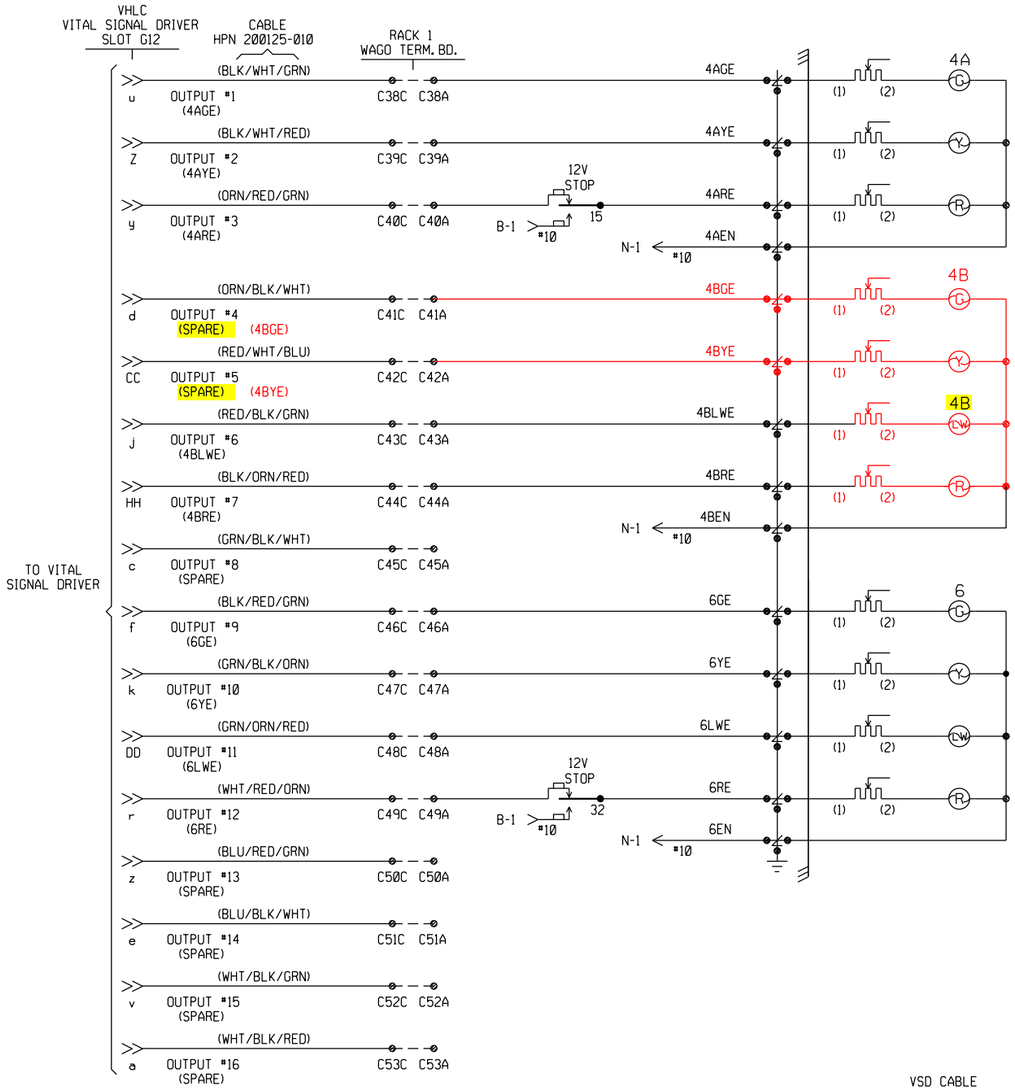
SIGNAL LIGHTING CIRCUITS

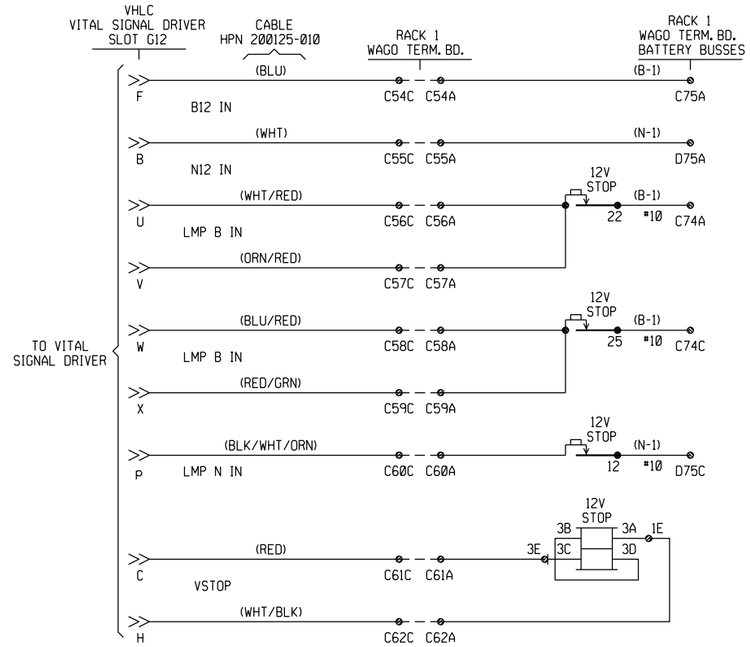
M.P. A-798.76

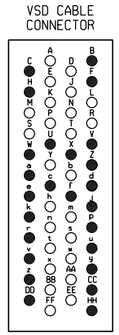
SHEET NO. 378

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G79876.Ø14







NOTES:
1. ALL WIRING FROM WAGOS #14, ALL OTHER WIRING #10 UNLESS OTHERWISE NOTED.
2. ALL RESISTORS ARE 3 OHM, 15 WATTS.

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YELLOW = OUT

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CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
CP 799

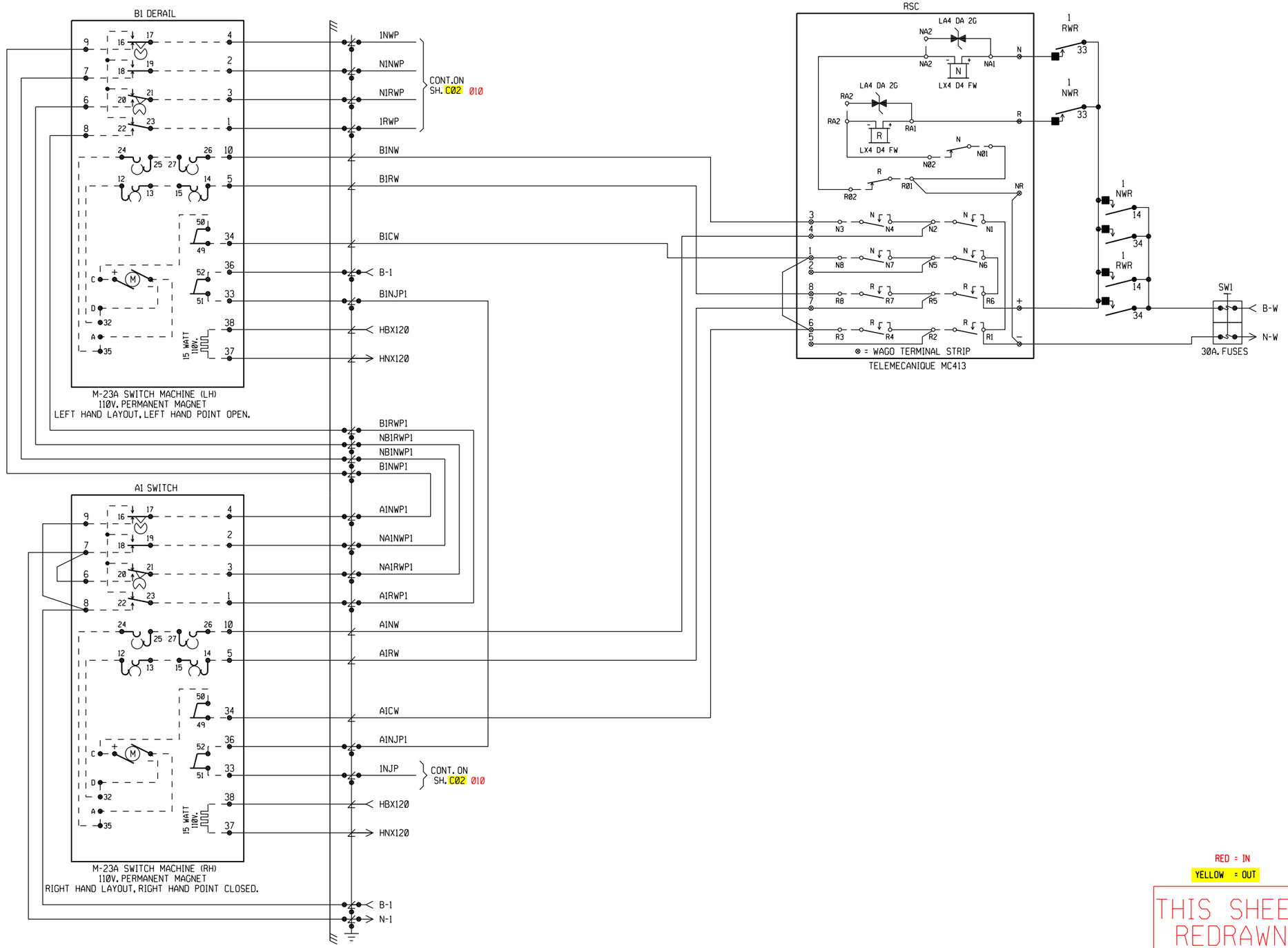
SIGNAL LIGHTING CIRCUITS

M.P. A-798.76

SHEET NO. 379

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G79876.Ø15



RED = IN
YELLOW = OUT

THIS SHEET REDRAWN

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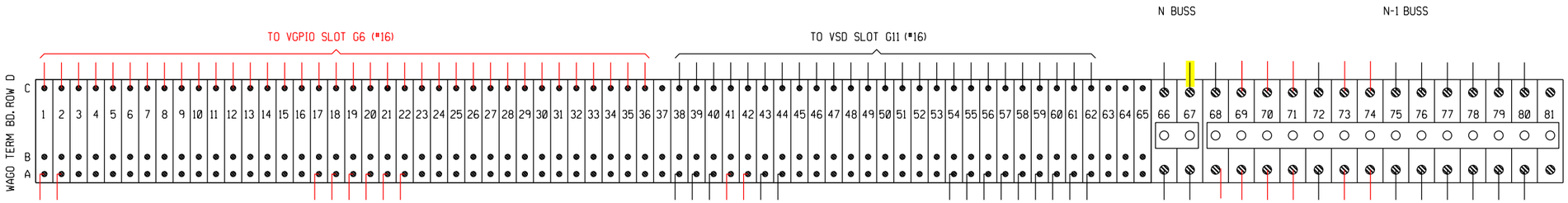
STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

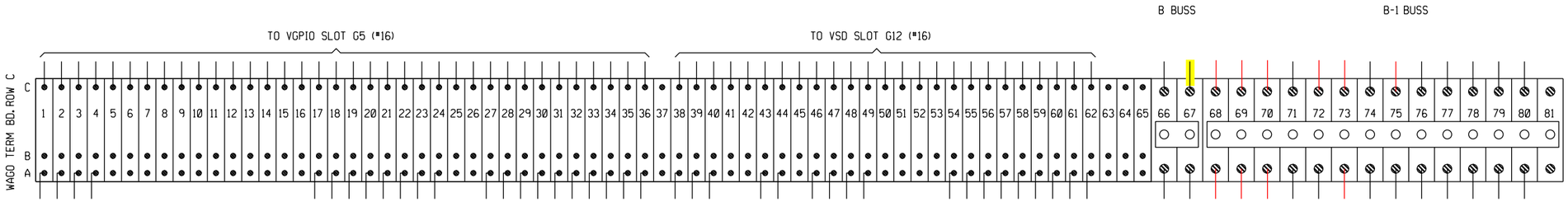
CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
CP 799
SWITCH CIRCUITS
M.P. A-798.76

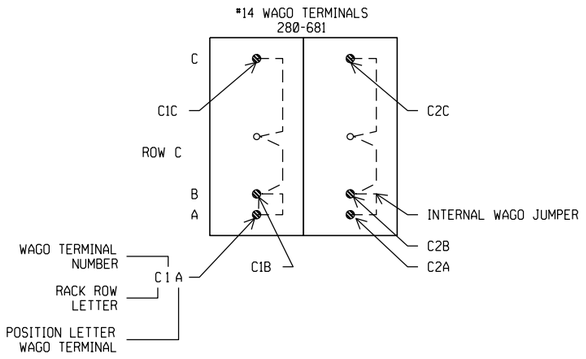
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380

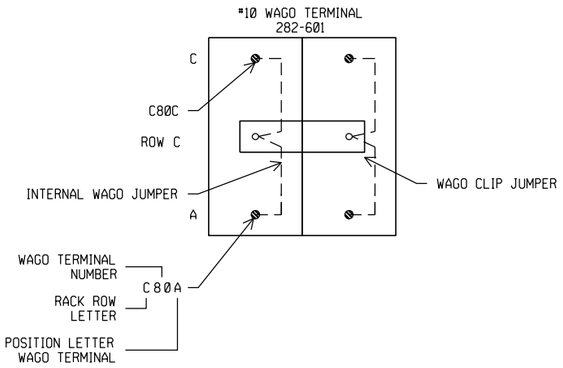
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DRAWING NO.
G79876.Ø16









NOTES:

1. D66A & D66C TO N SUPPLY.
2. C66A & C66C TO B SUPPLY.
3. D79A & D79C TO N-1 SUPPLY.
4. C79A & C79C TO B-1 SUPPLY.

RED = IN
YELLOW = OUT

THIS SHEET REDRAWN

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CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
CP 799

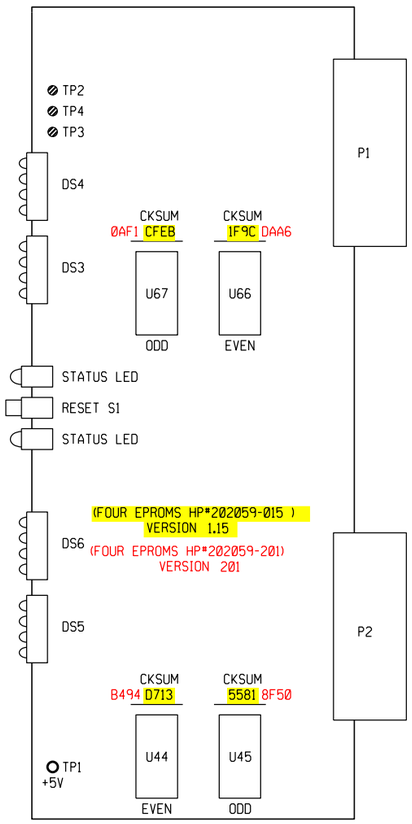
WAGO TERMINAL BOARDS

M.P. A-798.76

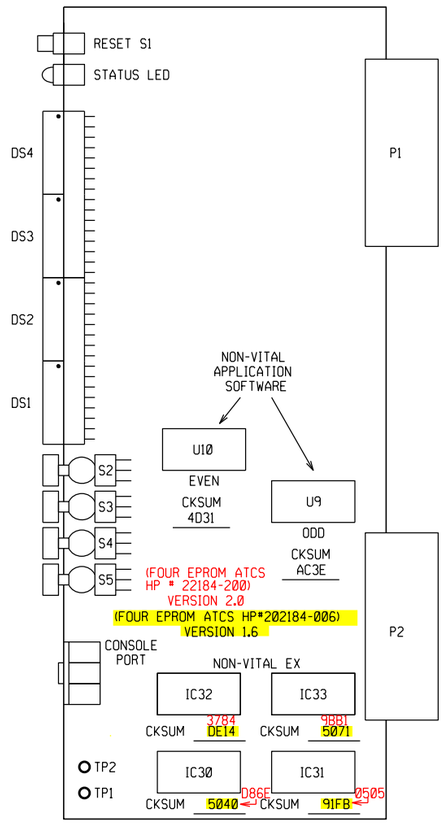
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381

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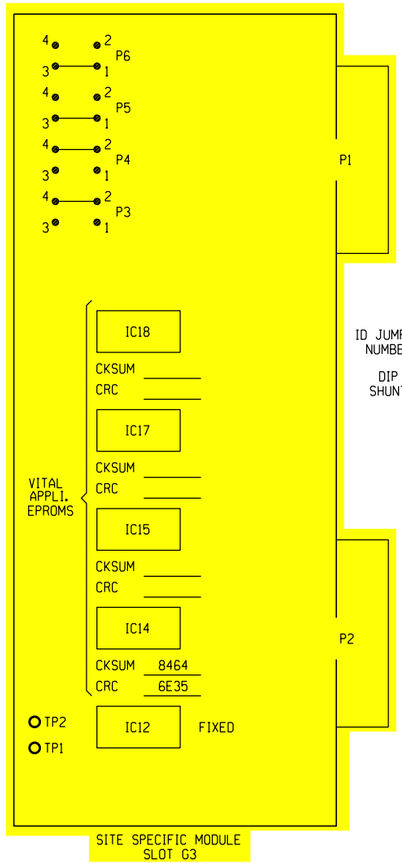
DRAWING NO.
G79876.Ø17



VITAL LOGIC PROCESSOR
SLOT G1



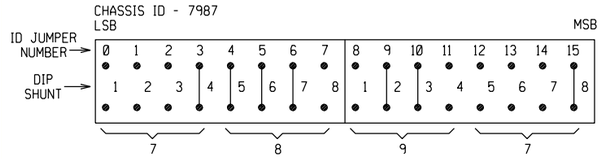
AUXILIARY COMMUNICATIONS PROCESSOR 3
SLOT G2

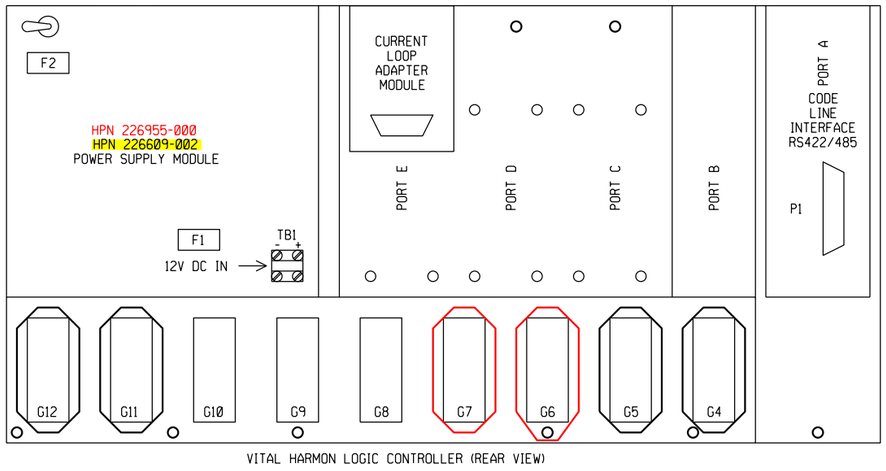


SITE SPECIFIC MODULE
SLOT G3

SITE SPECIFIC MODULE
JUMPER LOCATIONS
SLOT G3

	EPROM	P3	P4	P5	P6
	27C64	1-3	1-3	1-3	1-3
	27C128	1-3	1-3	1-3	1-3
	27C256	2-4	1-3	1-3	1-3
X	27C512	2-4	2-4	1-3	1-3
	27C010	2-4	2-4	2-4	1-3





VITAL HARMON LOGIC CONTROLLER (REAR VIEW)

FIELD VERIFY ALL EPROM PART NUMBERS, CKSUM, AND CRC PROGRAM INFORMATION FOR A.I.S.

= NOTE
RED = IN
YELLOW = OUT

THIS SHEET REDRAWN

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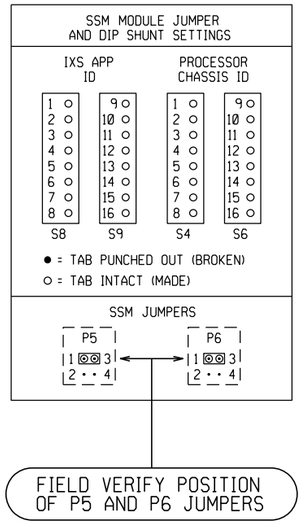
VHLC CHECKSUMS

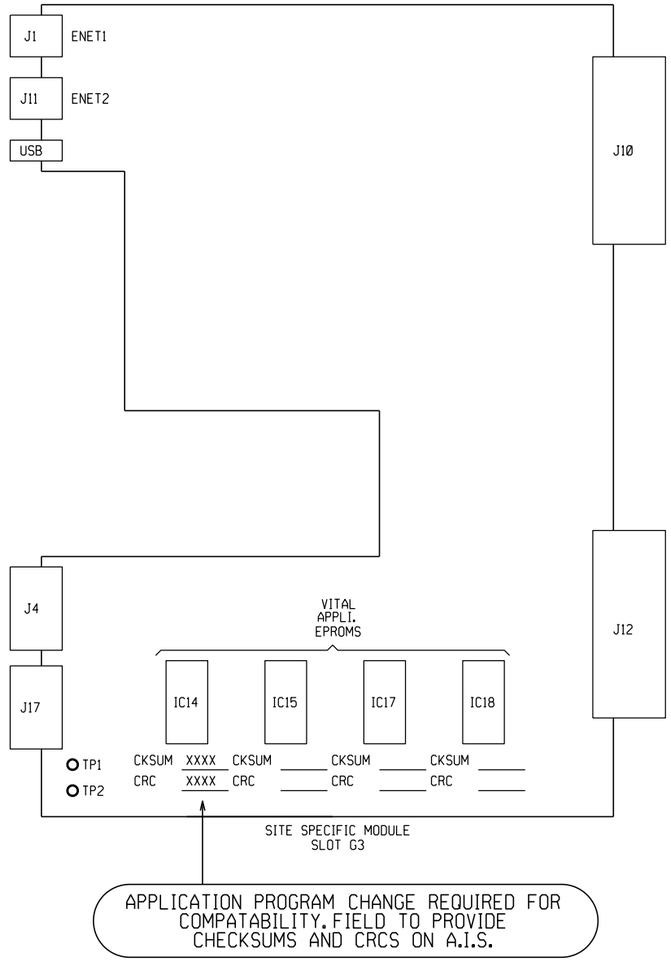
M.P. A-798.76

SHEET NO.
382

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G79876.Ø18





INFORMATION SHOULD BE
MOVED TO EXISTING Ø16
AT TIME OF A.I.S. THEN
THIS SHEET TO BE VOIDED.

( ) = NOTE

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CERT. OF AUTHORIZATION NO. 9875
ENGINEER OF RECORD
IVORY L. WHITE, JR, P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

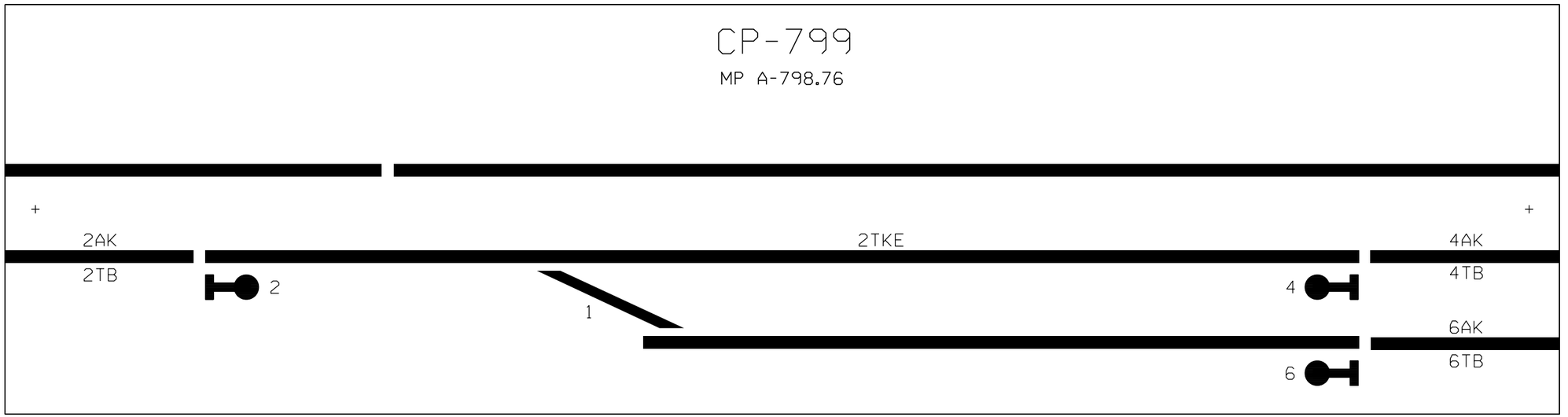
CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

CP 799
VHLC CHECKSUMS
M.P. A-798.76

SHEET NO.
383

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G79876.Ø19



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5011 GATE PARKWAY BUILDING 100
SUITE 400 JACKSONVILLE FLORIDA 32256
(904) 443-0083 (MAIN)
(904) 443-0089 (FAX)

CERT. OF AUTHORIZATION NO. 9875

ENGINEER OF RECORD
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CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

CP 799

VHLC FACE PLATE

M.P. A-798.76

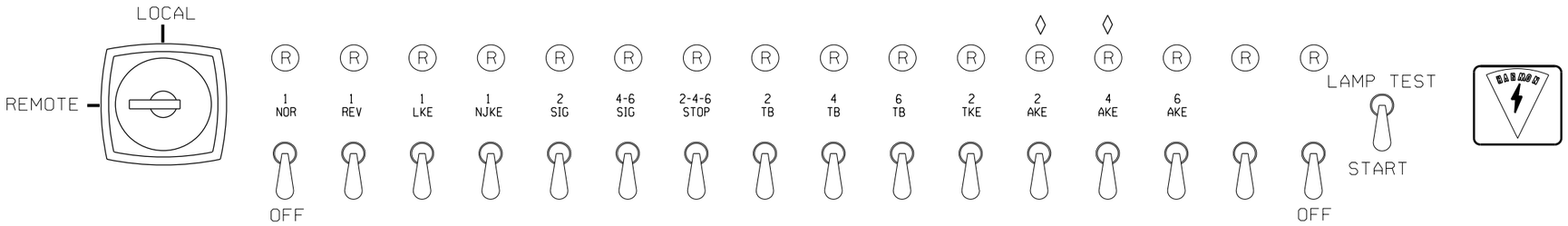
SHEET NO.

384

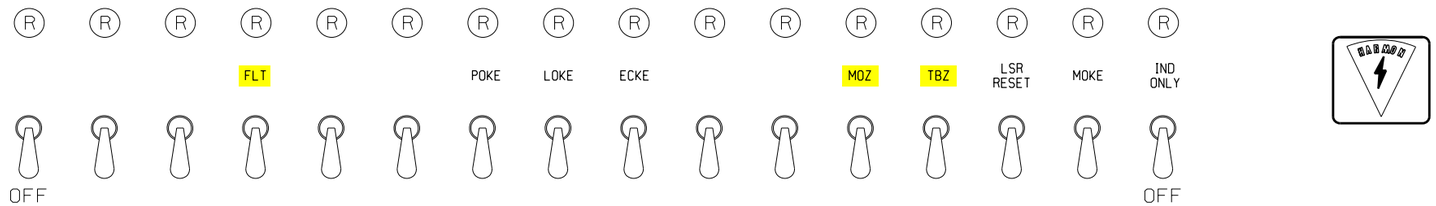
$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G79876.020

LOCAL CONTROL PANEL



LOCAL CONTROL PANEL EXPANSION



NOTE:

1. WHERE 'KE' APPEARS AT END OF WORD ONLY INDICATION IS OPERATIVE.
2. ◊ = INDICATED ON PANEL ONLY.

YELLOW = OUT

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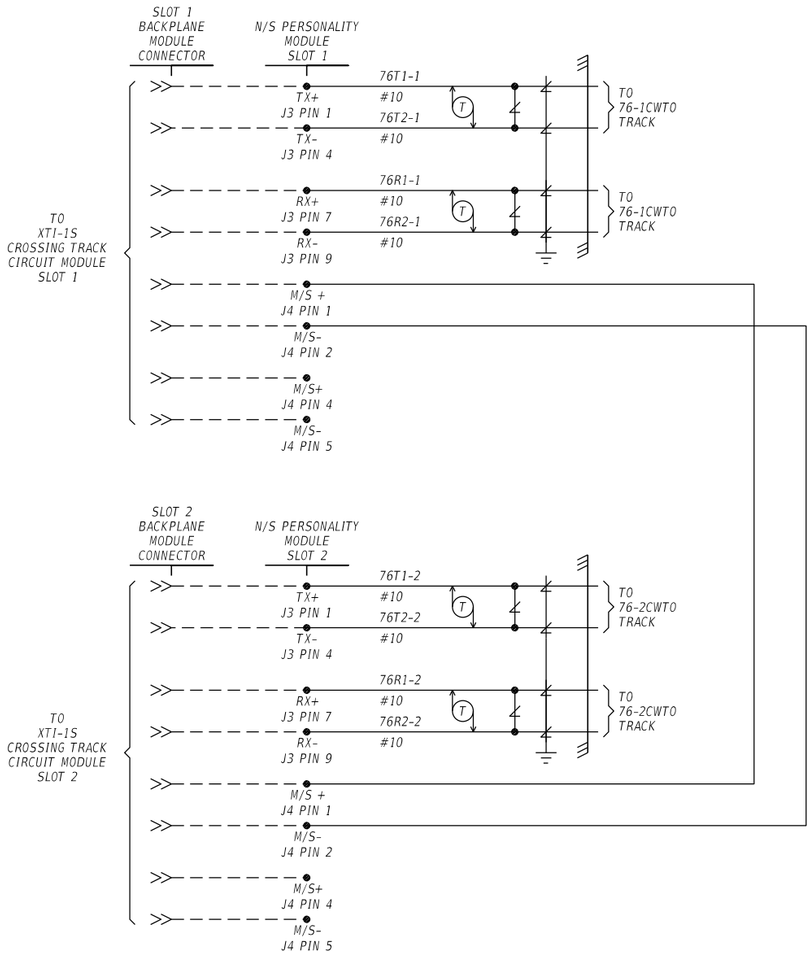
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

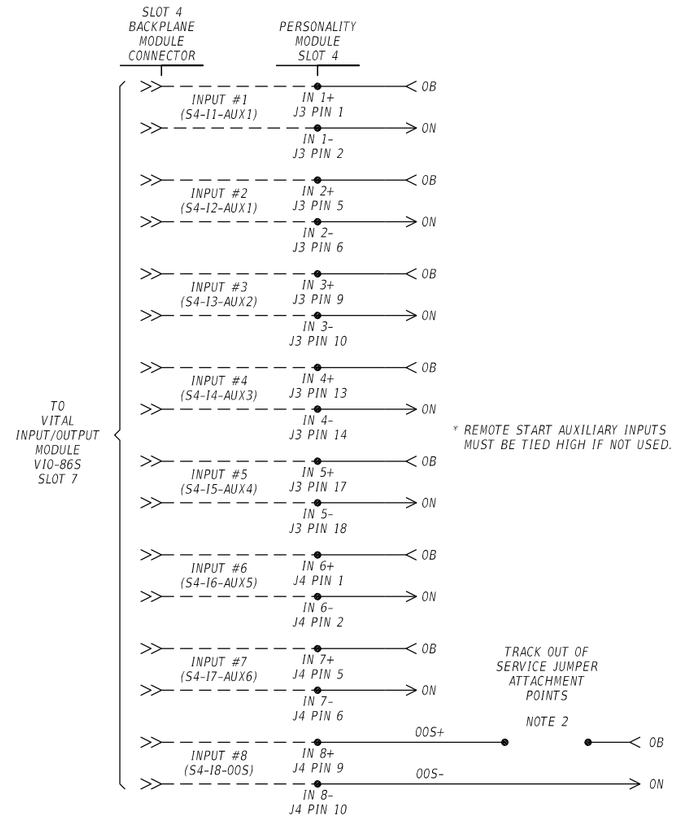
CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
CP 799
LOCAL CONTROL PANEL
M.P. A-798.76

SHEET NO.
385

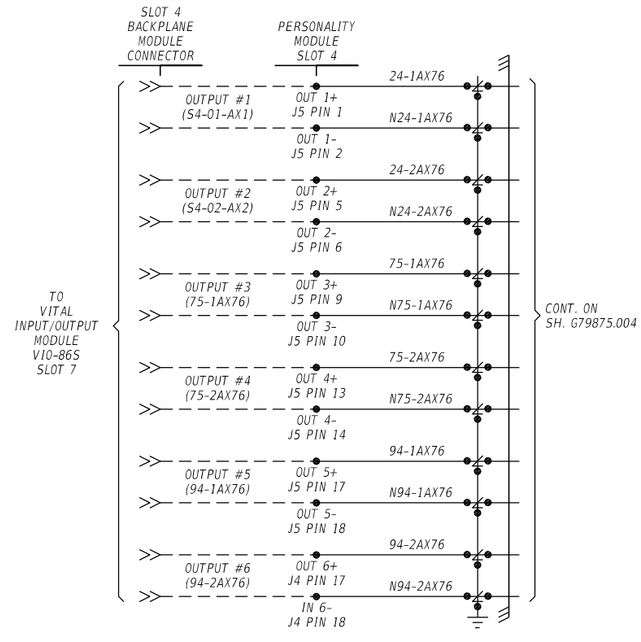
$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G79876.021





* REMOTE START AUXILIARY INPUTS MUST BE TIED HIGH IF NOT USED.



SLOT 7 I/O	
INPUT 1	POSITIVE CONTROL AUXILIARY INPUT 1 (AUX1)
INPUT 2	POSITIVE CONTROL AUXILIARY INPUT 1 (AUX1)
INPUT 3	POSITIVE CONTROL AUXILIARY INPUT 2 (AUX 2)
INPUT 4	POSITIVE CONTROL AUXILIARY INPUT 3 (AUX 3)
INPUT 5	POSITIVE CONTROL AUXILIARY INPUT 4 (AUX 4)
INPUT 6	POSITIVE CONTROL AUXILIARY INPUT 5 (AUX 5)
INPUT 7	POSITIVE CONTROL AUXILIARY INPUT 6 (AUX 6)
INPUT 8	OUT OF SERVICE JUMPER INPUT (OOS)
OUTPUT 1	AX1 OUTPUT
OUTPUT 2	AX2 OUTPUT (OPTIONAL)
OUTPUT 3	AX3 OUTPUT (OPTIONAL)
OUTPUT 4	AX4 OUTPUT (OPTIONAL)
OUTPUT 5	AX5 OUTPUT (OPTIONAL)
OUTPUT 6	AX6 OUTPUT (OPTIONAL)

NEW SHEET

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Lake Mary, FL, 32746
T 407.549.4200 F 407.549.4201
Certificate of Authorization No. 8115
www.aecom.com

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

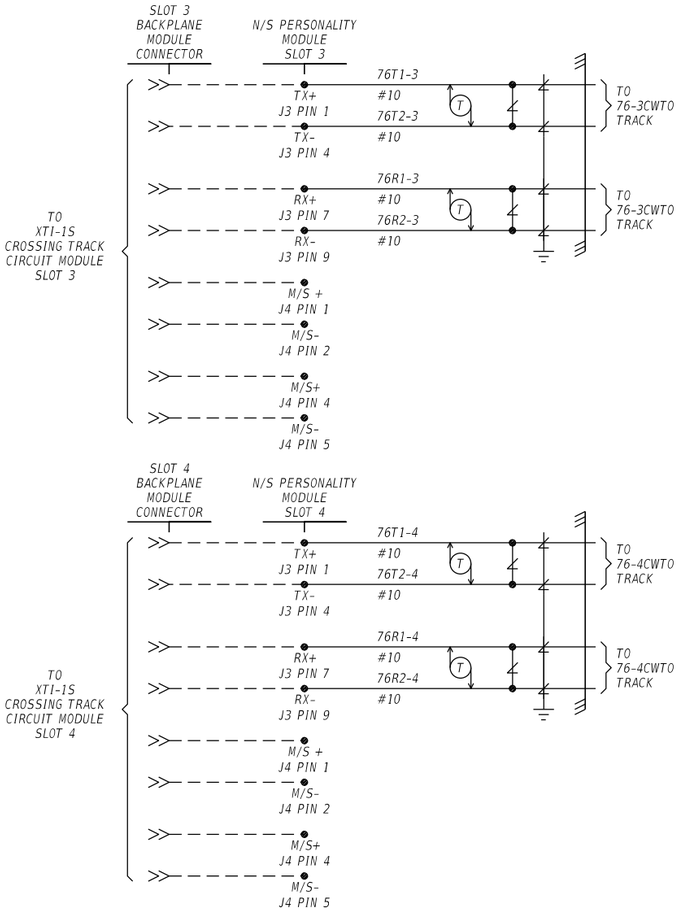
CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
CP 797
XP4 UNIT VIO-86S & XTI-1S (76CWU)
M.P. A-798.76

SHEET NO.
386

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.

G79876.022



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CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

CP 799

XP4 UNIT XTI-1S (76 CWU)

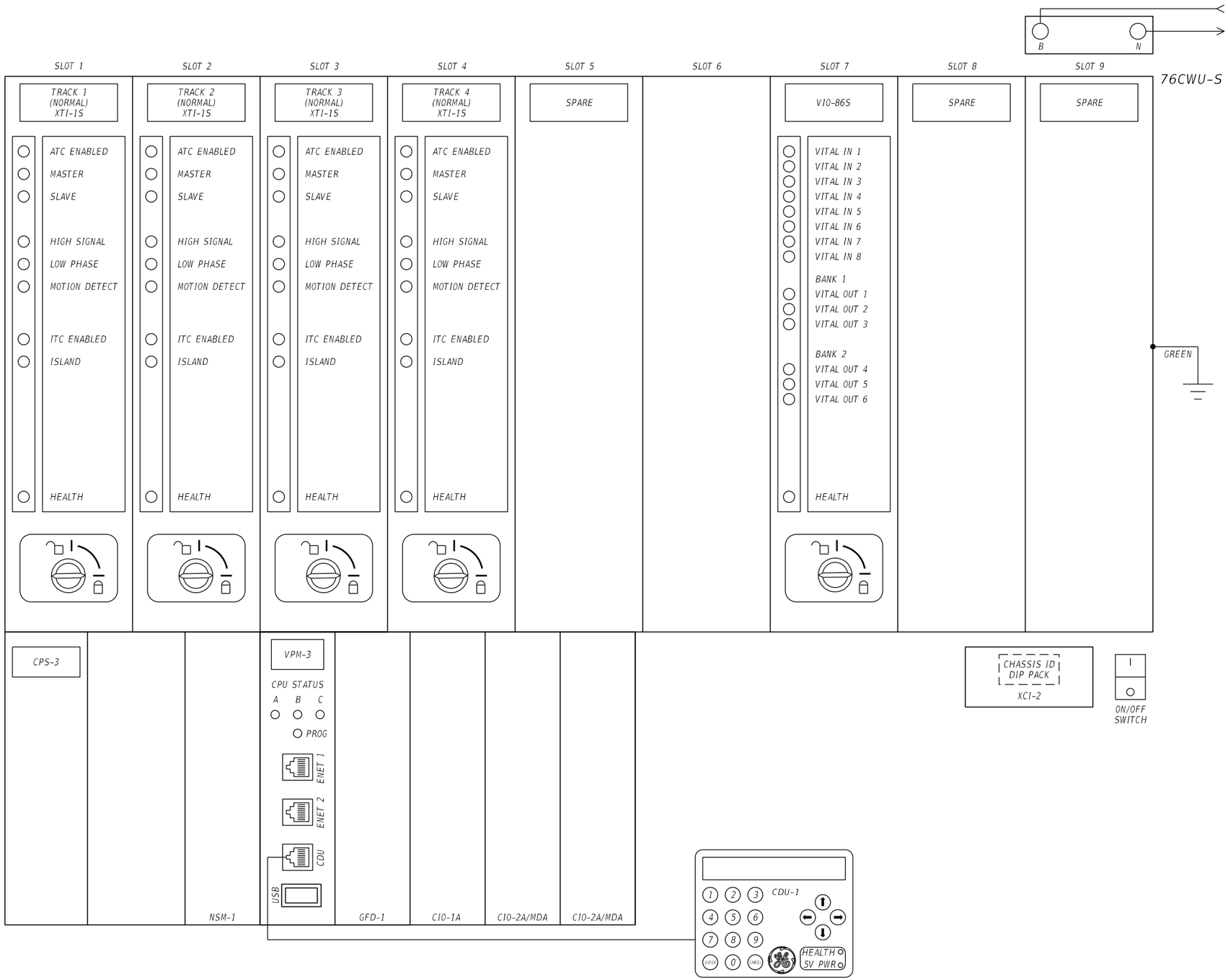
M.P. A-798.76

SHEET NO.

387

$USER$ $DATE$ $TIME$ $FILE$

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G79876.023



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ROAD NO.	COUNTY	FINANCIAL PROJECT ID
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CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

CP 799
XP4 UNIT LAYOUT (76CWU)

M.P. A-798.76

SHEET NO.
388

$USER$ $DATE$ $TIME$ $FILE$

	MDR1				MDR2				MDR3				MDR4			
NAME	94-1AX76-1				94-1AX76-2				94-2AX76				24-1AX76-1			
WARNING TIME	35				35				35				34			
CW/MD	CW				CW				CW				CW			
AP TIME(PREEMPT)	NA				NA				NA				NA			
CWE-WT	80				80				80				80			
AUX RECOVERY DELAY	0				0				0				0			
	TK1	TK2	TK3	TK4	TK1	TK2	TK3	TK4	TK1	TK2	TK3	TK4	TK1	TK2	TK3	TK4
TRACK ASSIGNED	ASSIGNED	NOT ASSIGNED	NOT ASSIGNED	NOT ASSIGNED	NOT ASSIGNED	ASSIGNED	NOT ASSIGNED	NOT ASSIGNED	NOT ASSIGNED	NOT ASSIGNED	ASSIGNED	NOT ASSIGNED	ASSIGNED	NOT ASSIGNED	NOT ASSIGNED	NOT ASSIGNED
OFFSET DISTANCE	4834'	NA	NA	NA	NA	4413'	NA	NA	NA	NA	4547'	NA	3250'	NA	NA	NA
MD RESTART	0*	NA	NA	NA	NA	0*	NA	NA	NA	NA	0*	NA	0*	NA	NA	NA
SUDDEN SHUNT ZONE	0*	NA	NA	NA	NA	0*	NA	NA	NA	NA	0*	NA	0*	NA	NA	NA
POSITIVE START PSEN	DISABLE	NA	NA	NA	NA	DISABLE	NA	NA	NA	NA	DISABLE	NA	DISABLE	NA	NA	NA
POSITIVE START PSRX	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POSITIVE START PST	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POST JOINT DETECT PJEN	DISABLE	NA	NA	NA	NA	DISABLE	NA	NA	NA	NA	DISABLE	NA	DISABLE	NA	NA	NA
POST JOINT DETECT PJRX	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POST JOINT DETECT PJDT	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

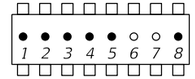
	MDR5				MDR6				MDR7				MDR8			
NAME	24-1AX76-2				24-2AX76				75-1AX76-1				75-1AX76-2			
WARNING TIME	34				34				31				31			
CW/MD	CW				CW				CW				CW			
AP TIME(PREEMPT)	NA				NA				NA				NA			
CWE-WT	80				80				80				80			
AUX RECOVERY DELAY	0				0				0				0			
	TK1	TK2	TK3	TK4	TK1	TK2	TK3	TK4	TK1	TK2	TK3	TK4	TK1	TK2	TK3	TK4
TRACK ASSIGNED	NOT ASSIGNED	ASSIGNED	NOT ASSIGNED	NOT ASSIGNED	NOT ASSIGNED	NOT ASSIGNED	ASSIGNED	NOT ASSIGNED	ASSIGNED	NOT ASSIGNED	NOT ASSIGNED	NOT ASSIGNED	NOT ASSIGNED	ASSIGNED	NOT ASSIGNED	NOT ASSIGNED
OFFSET DISTANCE	NA	2831'	NA	NA	NA	NA	2964'	NA	536'	NA	NA	NA	NA	118'	NA	NA
MD RESTART	NA	0*	NA	NA	NA	NA	0*	NA	0*	NA	NA	NA	NA	0*	NA	NA
SUDDEN SHUNT ZONE	NA	0*	NA	NA	NA	NA	0*	NA	0*	NA	NA	NA	NA	0*	NA	NA
POSITIVE START PSEN	NA	DISABLE	NA	NA	NA	NA	DISABLE	NA	DISABLE	NA	NA	NA	NA	DISABLE	NA	NA
POSITIVE START PSRX	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POSITIVE START PST	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POST JOINT DETECT PJEN	NA	DISABLE	NA	NA	NA	NA	DISABLE	NA	DISABLE	NA	NA	NA	NA	DISABLE	NA	NA
POST JOINT DETECT PJRX	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POST JOINT DETECT PJDT	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

	MDR9				MDR10				MDR11				MDR12			
NAME	75-2AX76				MDR10				MDR11				MDR12			
WARNING TIME	31				NA				NA				NA			
CW/MD	CW				NA				NA				NA			
AP TIME(PREEMPT)	NA				NA				NA				NA			
CWE-WT	80				NA				NA				NA			
AUX RECOVERY DELAY	0				NA				NA				NA			
	TK1	TK2	TK3	TK4	TK1	TK2	TK3	TK4	TK1	TK2	TK3	TK4	TK1	TK2	TK3	TK4
TRACK ASSIGNED	NOT ASSIGNED	NOT ASSIGNED	ASSIGNED	NOT ASSIGNED	NOT ASSIGNED	NOT ASSIGNED	NOT ASSIGNED	NOT ASSIGNED	NOT ASSIGNED	NOT ASSIGNED	NOT ASSIGNED	NOT ASSIGNED	NOT ASSIGNED	NOT ASSIGNED	NOT ASSIGNED	NOT ASSIGNED
OFFSET DISTANCE	NA	NA	251'	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD RESTART	NA	NA	0*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SUDDEN SHUNT ZONE	NA	NA	0*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POSITIVE START PSEN	NA	NA	DISABLE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POSITIVE START PSRX	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POSITIVE START PST	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POST JOINT DETECT PJEN	NA	NA	DISABLE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POST JOINT DETECT PJRX	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POST JOINT DETECT PJDT	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NOTES:
* = FIELD ADJUSTMENT
NA = NOT APPLICABLE

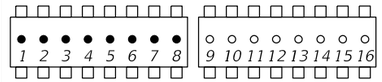
APPLICATION SOFTWARE INFORMATION	
NAME	XXXXXXXX
REV.	1.0
CHECKSUM	XXXX
CRC	XXXX

CHASSIS ID DIP SHUNTS
LOCATED ON BACKPLANE
UNDERNEATH XCI-2 MODULE



○ = TAB INTACT (MADE)
● = TAB PUNCHED OUT (BROKEN)

VITAL SELECTION DIP SHUNTS
LOCATED INSIDE XCI-2 MODULE
UNDERNEATH EPROM



○ = TAB INTACT (MADE)
● = TAB PUNCHED OUT (BROKEN)

BASIC TRACK SETUP			
	TRACK 1	TRACK 2	TRACK 3
FREQUENCY	114HZ	970HZ	114HZ
MASTER/SLAVE	MASTER	MASTER	MASTER
RX ADJUST	100 *	100 *	100 *
TCA	*	*	*
DIRECTION MODE	BI	UNI	BI
LIA	*	*	*
ADVANCED APPROACH	*	*	*
NBS COMP RX	*	*	*
TRK ISLAND ASSIGN	NA	NA	NA
APPROACH LENGTH	4146	420	4431
AUTO RX	ENABLE	ENABLE	ENABLE

ADVANCED TRACK SETUP				
		TRACK 1	TRACK 2	TRACK 3
MOTION DET TIMER	MDEN	DISABLE	DISABLE	DISABLE
	MDTT	10 MIN	10 MIN	10 MIN
FALSE SHUNT	FSEN	DISABLE	DISABLE	DISABLE
	FSRX	NA	NA	NA
	FST	NA	NA	NA
APPROACH RELEASE	AREN	DISABLE	DISABLE	DISABLE
	ARRX	NA	NA	NA
	ART	NA	NA	NA
LOS TIME		16 SEC	16 SEC	16 SEC
IJ-LOS TIME		5 SEC	5 SEC	5 SEC
NRML_SHRT_VRYSHRT		*	*	*

ISLAND SETUP			
	TRACK 1	TRACK 2	TRACK 3
ENABLE/DISABLE	DISABLE	DISABLE	DISABLE
FREQUENCY	NA	NA	NA
LOSS OF SHUNT	NA	NA	NA
FAULT DELAY	NA	NA	NA

VPM3 ETHERNET SETUP	
	IP ADDRESS
ETHERNET PORT 1 (TOP)	192.168.0.11
ETHERNET PORT 2 (BOTTOM)	192.168.1.12

NEW SHEET

DRAWING NO.
G79876.024

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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

CP 799
XP4 UNIT SETUP (76CWU)

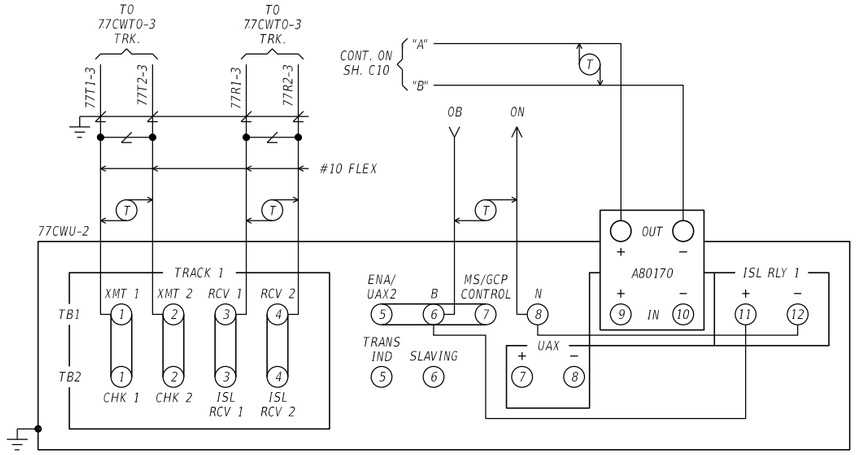
M.P. A-798.76

SHEET NO.
389

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.

G79876.025V



77CWU-2
3000ND2 MODULES REQUIRED

80211 IPI ISLAND (NOT USED)	80012 TRANSCEIVER	80013 RELAY DRIVE	80214 PROCESSOR	80015 RECORDER (NOT USED)	80029 CONTROL INTERFACE	80115 RECORDER (NOT USED)	80214 PROCESSOR	80013 RELAY DRIVE	80012 TRANSCEIVER	80211 IPI ISLAND	80028 TRANSFER TIMER
M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12

FRONT VIEW

80153 PRINTED CIRCUIT BOARD
LOCATED IN SLOT M6 BEHIND 80029

MODULE 80028
S4 DIP SWITCH POSITIONS *

SWITCH #	16	8	4	2	1
SWITCH POSITION	UP	DOWN	UP	DOWN	UP

* MAY BE SET PER FIELD CONDITIONS

MODULE 80028
S1 DIP SWITCH POSITIONS

SWITCH #	A	B	C	D
DAX USED	RIGHT	RIGHT	RIGHT	RIGHT

LEFT INDICATES DAX USED

SWITCH TO REMAIN IN THE RIGHT POSITION AT ALL TIMES

VOID

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CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

CP 799

CROSSING DETECTION CIRCUITRY

M.P. A-798.76

SHEET NO.

390

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G79876.026V

3000 GCP APPLICATION DESIGN CARD

EQUIPMENT: 3000 ☐ 3000ND ☐ 3000D2 ☐ 3000ND2 ■

ISLAND FREQUENCY : T1: N/A KHZ T2: N/A KHZ 77 CWU-2

SOFTWARE LEVEL ..... (DISPLAYED DURING BOOT-UP)		☆☆	
NUMBER OF TRACKS (NUMBER OF TRANSCEIVER MODULES, 1 OR 2)		1 ■	2 ☐
FREQUENCY (MS/GCP)	T1:	790	HZ
	T2:	N/A	HZ
UNIDIRECTIONAL / BIDIRECTIONAL	T1:	UNI ■	BI ☐
	T2:	UNI ☐	BI ☐
XMIT LEVEL	T1:	HI ☐	MED ■
	T2:	HI ☐	MED ☐
PREDICTOR/MOTION SENSOR	T1:	PRED ■	MS ☐
	T2:	PRED ☐	MS ☐
WARNING TIME SELECTED	T1:	30	SEC.
	T2:	N/A	SEC.
APPROACH DISTANCE SELECTED	T1:	711	FT.
	T2:	N/A	FT.
APPROACH DISTANCE COMPUTED	T1:	NOT REQUIRED *	
	T2:	NOT REQUIRED *	
UAX PICKUP DELAY (UAX1) (0 = OFF) ...		0	SEC.
ENA/UAX2 DELAY (0 = ENA)		0	SEC.
ISLAND DISTANCE (BETWEEN FEED WIRES)	T1:	N/A ☆	FT.
	T2:	N/A ☆	FT.
NUMBER OF DAX'S		0 ■ 1 ☐ 2 ☐ 3 ☐ 4 ☐	
DAX A TRACK ASSIGNMENT		T1 ☐	T2 ☐
DAX A DISTANCE (0 = PREEMPT)			FT.
DAX A WARNING TIME			SEC.
DAX B TRACK ASSIGNMENT		T1 ☐	T2 ☐
DAX B DISTANCE (0 = PREEMPT)			FT.
DAX B WARNING TIME			SEC.
DAX C TRACK ASSIGNMENT		T1 ☐	T2 ☐
DAX C DISTANCE (0 = PREEMPT)			FT.
DAX C WARNING TIME			SEC.
DAX D TRACK ASSIGNMENT		T1 ☐	T2 ☐
DAX D DISTANCE (0 = PREEMPT)			FT.
DAX D WARNING TIME			SEC.
SLAVING MASTER/SLAVE		MASTER ■	SLAVE ☐
PASSWORD ENABLED		DISABLED ■	ENABLED ☐
RECORDER INSTALLED		NOT INSTALLED ■	INSTALLED ☐
RS-232-C BAUD RATE			BPS
RS-232-C DATE BITES		7 ☐	8 ☐
RS-232-C STOP BITS		1 ☐	2 ☐
RS-232-C PARITY		NONE ☐	MARK ☐
		ODD ☐ EVEN ☐	SPACE ☐
DATE(E.G.,MON 13 MAY 1991) .. TIME(E.G.,06:25:43 PM)		NOT REQUIRED * NOT REQUIRED *	
DAYLIGHT SAVINGS		ON ☐	OFF ■

EXPANDED PROGRAMMING DESIGN

SWITCH TO MS (ENTER EZ VALUE)	T1:	0	EZ
	T2:	N/A	EZ
TRANSFER DELAY MS TO GCP (0 = OFF) ..	T1:	0	SEC.
	T2:	N/A	SEC.
PRIME PREDICTION OFFSET (0 = OFF) ..	T1:	186	FT.
	T2:	N/A	FT.
PICKUP DELAY PRIME		15	SEC.
PICKUP DELAY DAX A		0	SEC.
PICKUP DELAY DAX B		0	SEC.
PICKUP DELAY DAX C		0	SEC.
PICKUP DELAY DAX D		0	SEC.
COMPENSATION VALUE	T1:	NOT REQUIRED **	
COMPENSATION VALUE	T2:	NOT REQUIRED **	
ENHANCED DETECTION (ED)	T1:	ON ☐	OFF ■
	T2:	ON ☐	OFF ■
BACK TO BACK T1 AND T2 ..... (WHEN ED IS ON)		NO ■	YES ☐
STATION STOP TIMER ..... (WHEN ED IS ON)	T1:	N/A (SEE NOTE1)	SEC.
	T2:	N/A (SEE NOTE1)	SEC.
# OF TRACK WIRES - 4 OR 6	T1:	4 ■	6 ☐
	T2:	4 ■	6 ☐
LOW EX ADJUSTMENT	T1:	0	
	T2:	0	
LOW EZ DETECTION	T1:	ON ☐	OFF ■
	T2:	ON ☐	OFF ■
LOW EZ DETECTION TIMER	T1:	N/A (SEE NOTE2)	MIN.
	T2:	N/A (SEE NOTE2)	MIN.
POSITIVE START (0 = OFF) ..... (ENTER EZ VALUE)	T1:	0	EZ
	T2:	0	EZ
POSITIVE START TIMEOUT (0 = NONE) ... (WHEN POTISIVE START IS ON)	T1:	0	MIN.
	T2:	0	MIN.
SET AT OPERATION		NORMAL ■	DIAGNOSTIC ☐
DIAGNOSTIC MESSAGES		ON ☐	OFF ■
DAX MESSAGES		ON ☐	OFF ■
ADVANCE PREEMP TIMER (0 = OFF)		0	SEC.

** THE COMPENSATION VALUE IS PROVIDED BY THE 3000 GCP SYSTEM AND NO ADDITIONAL PROGRAMMING IS NORMALLY REQUIRED.

* PROGRAMMED AT INSTALLATION DURING CALIBRATION PROCEDURE

☆ = 120' MINIMUM ISLAND DISTANCE TO BE ENTERED BY FIELD PERSONNEL FOR NON-DAXING APPLICATIONS WHEN ROAD IS 20' OR LESS WIDE.

☆☆ = INDICATE ON AS-IN-SERVICE DRAWINGS

NOTES:

1. WHEN ED SET TO OFF, DEFAULT NOT DISPLAYED
   WHEN ED SET TO ON, DEFAULT IS 10 SEC.
2. WHEN LOW EZ DETECTION SET TO OFF, DEFAULT NOT DISPLAYED
   WHEN LOW EZ DETECTION SET TO ON, DEFAULT IS 10 MIN.

VOID

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REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

TRANSPORTATION
AECOM TECHNICAL SERVICES, Inc.
300 Colonial Center Pkwy, Suite 130
Lake Mary, FL. 32746
T 407.549.4200 F 407.549.4201
Certificate of Authorization No. 8115
www.aecom.com

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

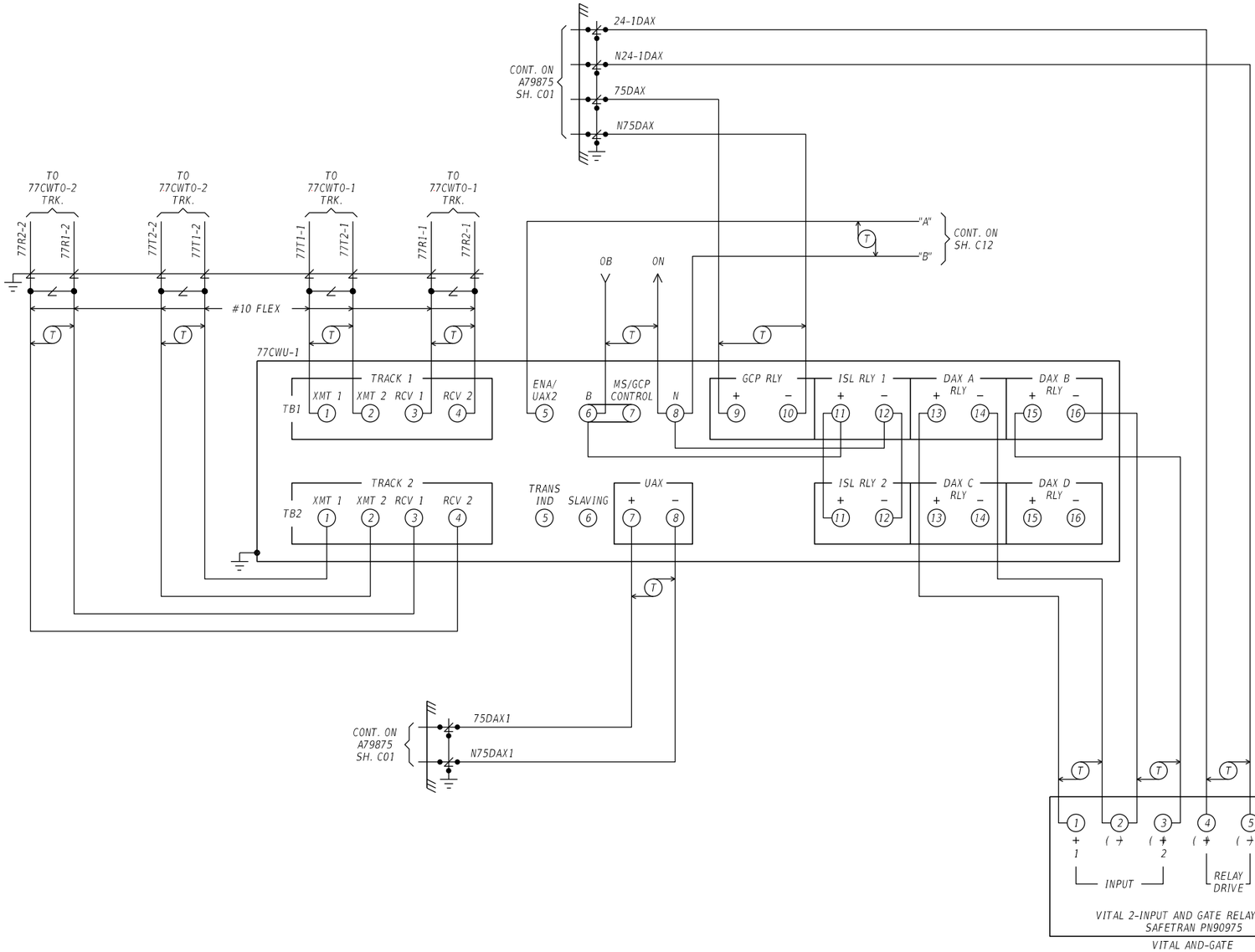
CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
CP 799
DETECTION DEVICE PROGRAM
M.P. A-798.76

SHEET NO. 391

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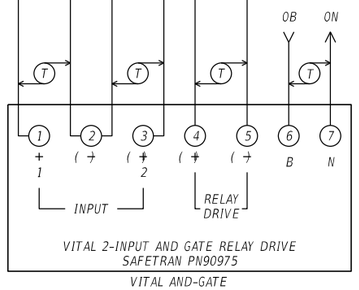


77CWU-1
3000D2 MODULES REQUIRED

M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	
80211 IPI ISLAND (NOT USED)	80211 IPI ISLAND (NOT USED)	80012 TRANSCEIVER	80012 TRANSCEIVER	80013 RELAY DRIVE	80214 PROCESSOR	80115 RECORDER (NOT USED)	80016 DAX	80016 DAX (NOT USED)	80020-1 CONTROL INTERFACE	

M11	M12	M13	M14	M15	M16	M17	M18	M19	M20	M21
80211 IPI ISLAND (NOT USED)	80211 IPI ISLAND (NOT USED)	80012 TRANSCEIVER	80012 TRANSCEIVER	80013 RELAY DRIVE	80214 PROCESSOR	80115 RECORDER (NOT USED)	80016 DAX	80016 DAX (NOT USED)	80020-2 CONTROL INTERFACE	80028 TRANSFER TIMER

FRONT VIEW



VITAL 2-INPUT AND GATE RELAY DRIVE
SAFETRAN PN90975
VITAL AND-GATE

MODULE 80028
S4 DIP SWITCH POSITIONS ✱

SWITCH #	16	8	4	2	1
SWITCH POSITION	UP	DOWN	UP	DOWN	UP

✱ MAY BE SET PER FIELD CONDITIONS

MODULE 80028
S1 DIP SWITCH POSITIONS

SWITCH #	A	B	C	D
DAX USED	LEFT	LEFT	RIGHT	RIGHT

LEFT INDICATES DAX USED

VOID

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CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
CP 799

CROSSING DETECTION CIRCUITRY

M.P. A-798.76

SHEET NO. 392

$USER$ $DATE$ $TIME$ $FILE$

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G79877.001V

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G01	VHLC I/O EQUIVALENT CIRCUITS	⊠								
G02	OFFICE CONTROL AND INDICATION EQUIVALENT CIRCUITS	⊠								
E01	POWER DISTRIBUTION	⊠								
E02	RACK 1 LAYOUT	⊠								
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C02	VHLC I/O CIRCUITS	⊠								
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C06	WAGO TERMINAL BOARDS	⊠								
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C13	REMOTE DETECTION DEVICE PROGRAM	⊠								

⊠ = DESIGN COMPLETED

⊠ = REVISION COMPLETED

REVISIONS

REV. NO.	PROJECT NO.	DESIGN DATE	IN SERVICE DATE	REVISION DATE
1	FL20060094A	10-10-07	05-20-08	07-01-08
2	FL2010025	-----	-----	05-07-10

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CSX TRANSPORTATION

RAIL TRANSPORT GROUP ENGINEERING
COMMUNICATIONS AND SIGNALS

MIDDLE TAFT

TITLE, NOTES, INDEX & REVISIONS
TAFT, FL M.P. A-798.77

DESIGNED	DIGITIZED	CHECKED	DATE
SWE/WMG	SWE/JHS	SWE	10-10-07

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(904) 443-0089 (FAX)

CERT. OF AUTHORIZATION NO. 9875

ENGINEER OF RECORD
IVORY L. WHITE, JR, P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

CP 799

TITLE, NOTES, INDEX & REVISIONS

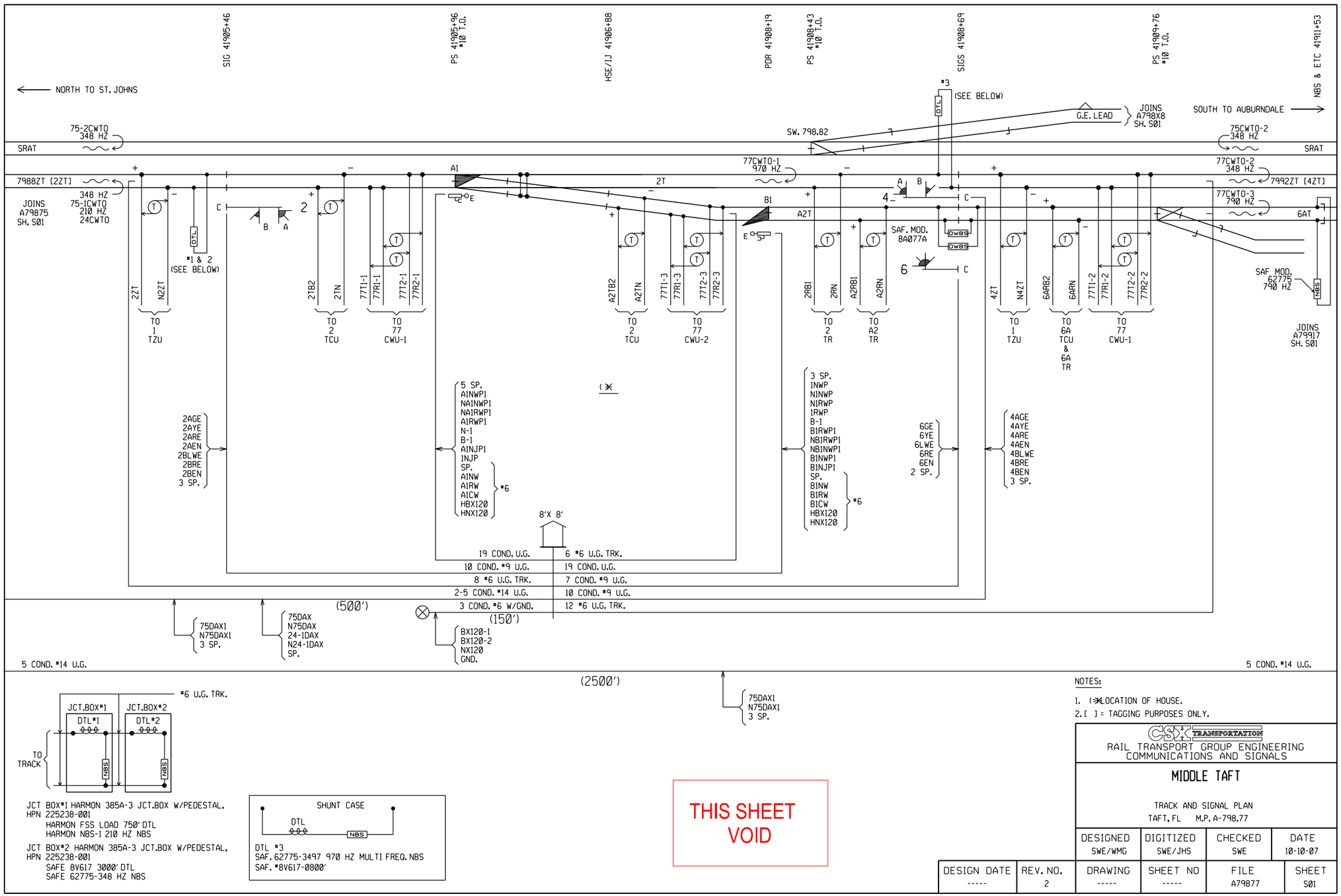
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G79877.002V



NOTES:

1. (✳) LOCATION OF HOUSE.
2. [ ] = TAGGING PURPOSES ONLY.

CSX TRANSPORTATION
RAIL TRANSPORT GROUP ENGINEERING
COMMUNICATIONS AND SIGNALS

MIDDLE TAFT

TRACK AND SIGNAL PLAN
TAFT, FL M.P. A-798.77

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CP 799
TRACK & SIGNAL PLAN
M.P. A-798.77

SHEET NO. 394

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DRAWING NO.
G79877.003V

RACK	CARD NO.	CODED CIRCUIT INTERFACE OUTPUTS 1	2	3	4	5	6	7	8
1	G4	2ZT	4ZT	UNUSED	UNUSED	UNUSED	UNUSED	UNUSED	UNUSED

RACK	CARD NO.	VITAL SIGNAL LAMP DRIVER OUTPUT BITS 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	SIG STOP	VITAL GENERAL PURPOSE I/O BITS OUTPUTS 1	2	3	4	5	6	7	8	INPUTS 1	2	3	4	5	6	7	8
1	G5																		1 NWR	1 RWR	SPARE	SPARE	SPARE	SPARE	SPARE	SMR	1 NWPR	1 RWPR	1 WCBPR	1 NJPR	SMKR	2 TPR	6A TPR	POPR
	G6																																		
	G7																																		
	G8																																		
	G9																																		
	G10																																		
	G11	2AGE	2AYE	2ARE	SPARE	SPARE	2BLWE	2BRE	SPARE	SPARE	SPARE	SPARE	SPARE	SPARE	SPARE	SPARE	SPARE	11V STOP																	
	G12	4AGE	4AYE	4ARE	SPARE	SPARE	4BLWE	4BRE	SPARE	6GE	6YE	6LWE	6RE	SPARE	SPARE	SPARE	SPARE	12V STOP																	

VHLC - LED INDICATIONS (VLP BOARD)			
VLPB	DS4	16	
		15	HEALTH
		14	OFFICELINK
		13	RADIOLINK
	DS3	12	
		11	
		10	
		9	
VLPA	DS6	8	2BLOPR
		7	2ALOPR
		6	
		5	6LOPR
	DS5	4	
		3	
		2	4BLOPR
		1	4ALOPR

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CSX TRANSPORTATION
RAIL TRANSPORT GROUP ENGINEERING
COMMUNICATIONS AND SIGNALS

ST. JOHNS TO AUBURNDALE
MIDDLE TAFT
VHLC I/O EQUIVALENT CIRCUITS
TAFT, FL M.P. A-798.77

DESIGNED	DIGITIZED	CHECKED	DATE
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CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
CP 799
VHLC I/O EQUIVALENT CIRCUITS
M.P. A-798.77

SHEET NO.
395

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G79877.004V

ADDRESS TYPE	RAILROAD ID NUMBER			CODE LINE ADDRESS			STATION ADDRESS			SUB DEVICE		INTERNAL DEVICE	
1	2	3	4	5	6	7	8	9	10	11	12	13	14
7	1	2	5	5	1	2	0	1	0	0	2	0	2

OFFICE TO VHLC AUXILIARY COMMUNICATION PROCESSOR
SERIAL COMMUNICATION BITS

CONTROLS FROM OFFICE

WORD	1	2	3	4	5	6	7	8
1	C1 NWS	C1 RWS			C2 GS	C4-6 GS	C2-4-6 STOP	
2	C2 TBS	C2 TBSO	C4 TBS	C4 TBSO			CFLTS	CFLTSO
3	CECS	CECSO			CMOAS	CMOASO	CTBAS	CTBASO
4								

INDICATIONS TO OFFICE

WORD	1	2	3	4	5	6	7	8
1	1 NWK	1 RWK	1 LK	1 NJK	2 GK	4-6 GK	2-4-6 TEK	2 TBK
2	4 TBK		2 TK			6 AK		
3				FLTK			POK	LOK
4	ECK			MOK	MOZK	TBZK		

LSR PROGRAM TIME

2TER	466	SEC.
4TER	347	SEC.
6TER	70	SEC.

SWITCH OVERLOAD

1WOTER	10	SEC.

THE FOLLOWING LOGGING SHOULD BE SET-UP (ATCS V1.6)

1. DATE & TIME
2. MEMORY LOG ENABLES
   - 0. CONTROL / INDICATION OFF
   - 1. GENISYS PROTOCOL OFF
   - 2. CODE LINE MONITOR OFF
   - 3. SHARED RAM ERRORS OFF
   - 4. CCI INFORMATION OFF
   - 5. CCI ERRORS ON
   - 6. I/O ERRORS ON
   - 7. I/O MESSAGES OFF
   - 8. ACP RECORDERS OFF
   - 9. VLP RECORDERS ON
   - 10. LCP I/O OFF
   - 11. TURNED OFF ALL DIAGNOSTIC PORT LOGGING
3. DIAGNOSTIC PORT LOG ENABLES
   - 0. CONTROL / INDICATION OFF
   - 1. GENISYS PROTOCOL OFF
   - 2. CODE LINE MONITOR OFF
   - 3. SHARED RAM INFORMATION OFF
   - 4. SHARED RAM ERRORS OFF
   - 5. CCI INFORMATION OFF
   - 6. CCI ERRORS ON
   - 7. I/O ERRORS ON
   - 8. I/O MESSAGES ON
   - 9. ACP RECORDERS ON
   - 10. VLP RECORDERS ON
   - 11. LCP INPUTS OFF

SETUP INFORMATION

- 0. DISPLAY ACP SETUP INFORMATION
- 1. DISPLAY VLP SETUP INFORMATION
- 2. ENTER GENERAL INFORMATION
- 3. ENTER INDICATION INFORMATION
- 4. ENTER ATCS INFORMATION
- 5. MNEMONICS INFORMATION
- 6. SAVE IN EPROM
- 7. INITIALIZE EPROM

ACP>2
GENERAL INFORMATION

DIAGNOSTIC PORT SETUP: BAUD 9600 PARITY NONE DATA BITS 8	
ENTER PASSWORD	HARMON
ENTER NUMBER OF LCP I/O MODULES	2
ENTER ACP EQUATION STABILITY COUNT	05
ENTER MEMORY LOG QUEUES I/O	45
ENTER MEMORY LOG QUEUES RECORDER	45
ENTER MEMORY LOG QUEUES ERROR	10
ENTER TIME ZONE (HOURS WEST OF GMT)	6
ENTER DAYLIGHT SAVINGS TIME APPLIES ◆	ENABLED

ACP>3
INDICATION SETUP INFORMATION

ENTER NUMBER OF INDICATION BITS	32
ENTER INDICATION DELAY (SEC)	0.0
ENTER RECALL DELAY (SEC)	0.0
ENTER AUTOMATIC RECALL AFTER CONTROL	DISABLED
ENTER INDICATION PRIORITY	4
ENTER INDICATION REFRESH RATE	1
ENTER REMOTE LOGGING PRIORITY	7

ACP>4
ATCS INFORMATION

ENTER CPC PROTOCOL	2
ENTER ADDRESS IDENTIFIER DIGIT	7
ENTER ADDRESS LENGTH (10,12,14)	14
ENTER RAILROAD NUMBER	125
ENTER UNIT ADDRESS	512010
ENTER VHLC NODE NUMBER	02
ENTER MCP ADDRESS	512010
ENTER MCP NODE NUMBER	01
ENTER CPC ADDRESS	5512
ENTER CPC NODE NUMBER	51
ENTER HMC ADDRESS	3000
ENTER HMC NODE NUMBER	10
ENTER CDC ADDRESS	5026
ENTER CDC NODE NUMBER	10
ENTER MCP BAUD RATE	9600

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CSX TRANSPORTATION
RAIL TRANSPORT GROUP ENGINEERING
COMMUNICATIONS AND SIGNALS

ST. JOHNS TO AUBURNDALE
MIDDLE TAFT
OFFICE CONTROL AND INDICATION EQUIVALENT CIRCUITS
TAFT, FL M.P. A-798.77

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10-10-07	1	-----	-----	A79877	G02

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CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
OFFICE CONTROL & INDICATION EQUIVALENT CIRCUITS
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SHEET NO.
396

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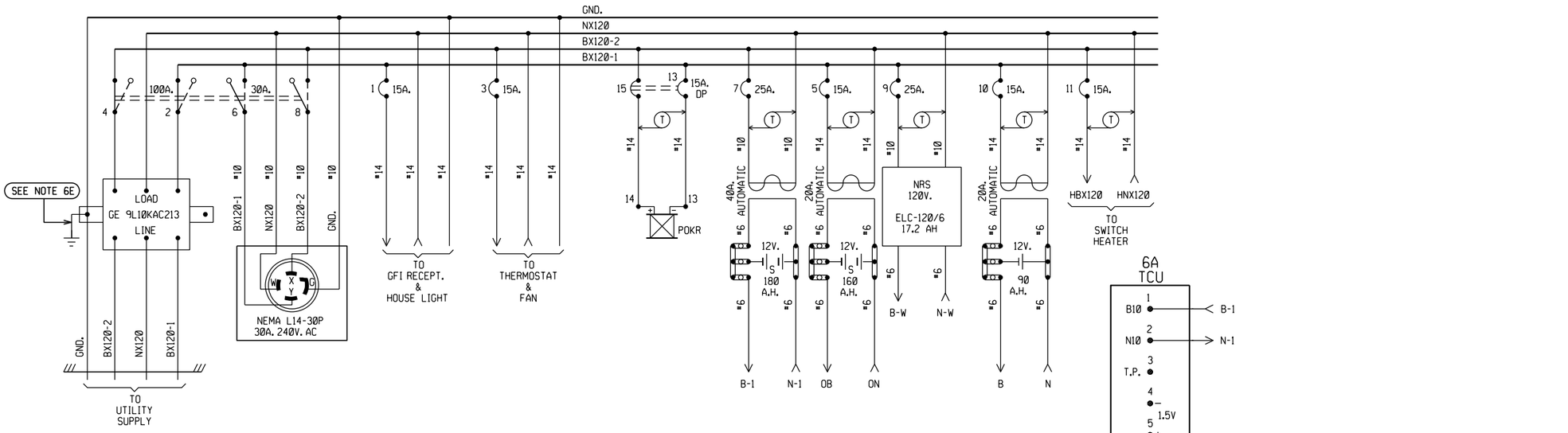
VITAL HARMON LOGIC CONTROLLER RACK

1NWR			1RWR						11VSTOP			12VSTOP			2TR			A2TR			6ATR		
13	B	B45	13	B	B45				12	F	B77	12	F	B77	12		B51	12		B51	12	B	B1
14	F	C30	14	F	C30				15	FB	C30	15	FB	C30	15		C30	15		C30	15		C30
33	B		33	B					22	F		22	F		22			22			22	B	
34	F		34	F					25	F		25	F		23	F		23	F		23		
									32			32	FB		25	F		25	F		25		
									35			35			32			32			32		
															35			35			35		

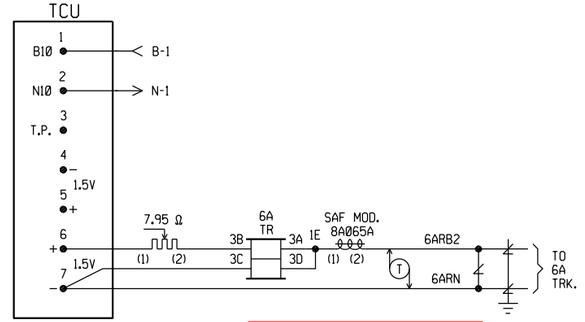
ROW A

POKR				
9	F	11		N68
10		12		C48

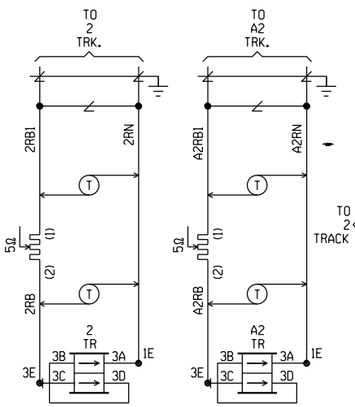
WALL MOUNTED

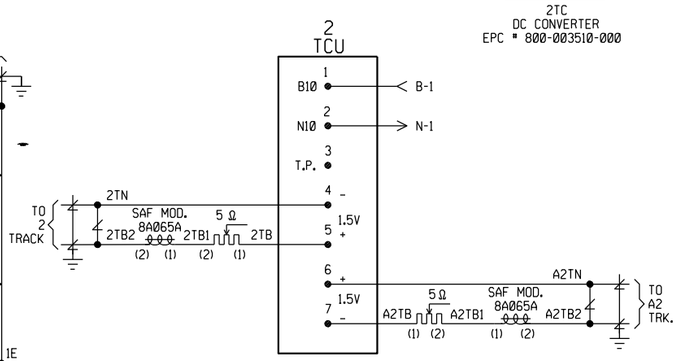


BX120-1	BX120-2
20.5 AMPS	16.0 AMPS
MAXIMUM LOAD CALCULATED PER SS360	



THIS SHEET VOID





NOTES:

1 - REFERENCES ARE PER SCMS-13.
2 - ARRESTERS ARE PER SS382.
3 - SHELF RELAY PLACEMENT ON CONSIST CHART HAS NO SIGNIFICANCE.
4 - PLUG-IN RELAYS ARE VIEWED FROM THE FRONT OF RACK.
5 - BATTERY A.H. CAPACITY SHOWN IS THE MINIMUM REQUIREMENT.
6 - WIRING
  A - FEED TO ALL BUSSES, LIGHT CIRCUITS, MOTOR CIRCUITS TO BE #10 FLEX.
  B - 120-VOLT FEED FROM ENTRANCE TO POWER BUSS TO BE #10 FLEX.
  C - ALL TRACK WIRES TO BE #10 FLEX.
  D - ALL OTHERS TO BE #16 FLEX UNLESS NOTED.
  E - GROUND WIRE NOT NECESSARY WHEN GE ARRESTER IS MOUNTED ON GROUND PLANE OR METAL ENCLOSURE AFFIXED DIRECTLY TO BUNGALOW METALLIC STRUCTURAL MEMBER.
7 - CIRCUIT INTERRUPTERS 2 & 4 ARE MECHANICALLY INTERLOCKED WITH CIRCUIT INTERRUPTERS 6 & 8.

8'X 8' RELAY HOUSE

CSX TRANSPORTATION
RAIL TRANSPORT GROUP ENGINEERING
COMMUNICATIONS AND SIGNALS

ST. JOHNS TO AUBURNDALE
MIDDLE TAFT
POWER DISTRIBUTION
TAFT, FL M.P. A-798.77

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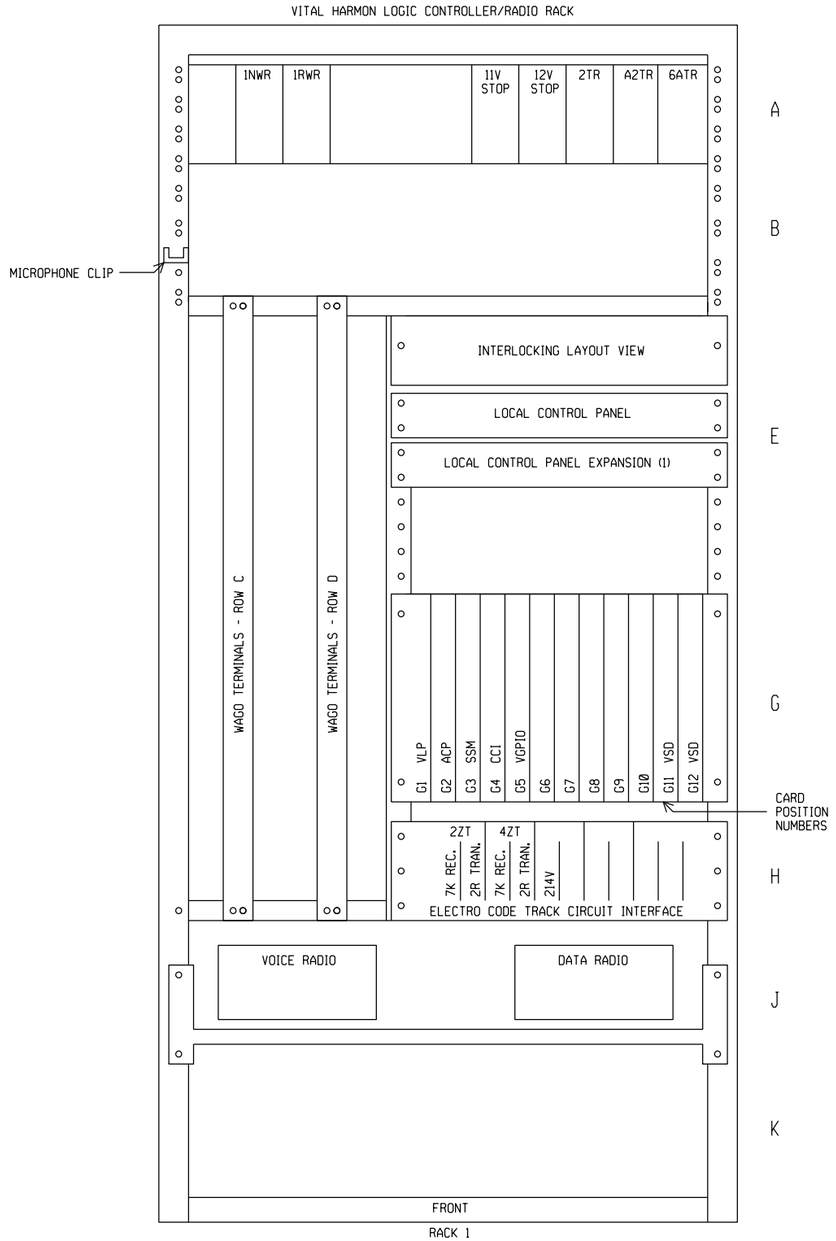
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
CP 799
POWER DISTRIBUTION
M.P. A-798.77

SHEET NO.
397

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G79877.006V



020.2305500.1 GETS 300664-010 (INCLUDES ITEMS BELOW)

VITAL HARMON LOGIC CONTROLLER/RADIO EQUIPMENT RACK 84" X 30"			
REF.	DESCRIPTION	GETS P/N	QTY
---	ASSY RACK 30" CSX	202624-000	1 EA.
A	BAR 30" GRS MTG	123332-002	2 EA.
A	TIE BAR RLY 30" RK	123333-002	1 EA.
A	RLY BI PLBD KIT NO FLAG	007062-003	7 EA.
A	KIT RLY FL E-POST MOD	005634-000	7 EA.
(C-D) 1-65	WAGO TERMINALS #14 (65 X 2)	132280-681	130 EA.
(C-D) 66-81	WAGO TERMINALS #10 (16 X 2)	132282-601	32 EA.
(C-D)	RAIL DIN SLOTTED 35 X 15	122947-001	2 EA.
E	SYSTEM LCP	180286-000	1 EA.
E	LOCAL CONTROL PANEL EXPANSION UNIT	250726-001	1 EA.
G1	VITAL LOGIC PROCESSOR	226610-100	1 EA.
G2	AUXILIARY COM. PROCESSOR 3	226611-300	1 EA.
G3	SITE SPECIFIC MODULE	226612-003	1 EA.
G4	CODED CIRCUIT INTERFACE	226802-001	1 EA.
G4	CABLE - CODED CIRCUIT INTERFACE	200123-001	1 EA.
G5	VITAL GENERAL PURPOSE I/O	227209-012	1 EA.
G5	CABLE - VITAL GEN. PURPOSE I/O	200124-110	1 EA.
G11-G12	VITAL SIGNAL DRIVER	226801-000	2 EA.
G11-G12	CABLE - VITAL SIGNAL DRIVER	200125-010	2 EA.
ROW G	POWER SUPPLY MODULE	226609-002	1 EA.
ROW H	ECTCI CABINET WITH TSS-1	812-085007-244	1 EA.
ROW H	2R REGULATED TRK. CONVERTER	810-083900-001	2 EA.
ROW H	7K TRACK RECEIVER	810-002000-051	2 EA.
ROW H	214V PROCESSOR	810-083004-017	1 EA.
PORT A	RS-422/485 ISOLATED MODULE	226927-000	1 EA.
PORT E	CURRENT LOOP ADAPTER MODULE	226859-000	1 EA.
ROW J	VOICE RADIO (MOTOROLA MCS2000 RADIO)	SUPPLIED BY CSX COMMUNICATIONS	1 EA.
ROW J	DATA RADIO (SAFETRAN)	SUPPLIED BY CSX	1 EA.
ROW J	CABLE MCP POWER	ATCS1-1000-61	1 EA.
ROW J	CABLE MCP CLIENT PORT 10'	202051-010	1 EA.

THIS SHEET VOID

CSX TRANSPORTATION
RAIL TRANSPORT GROUP ENGINEERING
COMMUNICATIONS AND SIGNALS

ST. JOHNS TO AUBURNDALE
MIDDLE TAFT
RACK 1 LAYOUT
TAFT, FL M.P. A-798.77

DESIGNED	DIGITIZED	CHECKED	DATE
SWE/WMG	SWE/JHS	SWE	10-10-07

DESIGN DATE	REV. NO.	DRAWING	SHEET NO	FILE	SHEET
10-10-07	1	-----	-----	A79877	E02

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REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

XORAIL
5011 GATE PARKWAY BUILDING 100
SUITE 400 JACKSONVILLE FLORIDA 32256
(904) 443-0083 (MAIN)
(904) 443-0089 (FAX)
CERT. OF AUTHORIZATION NO. 9875
ENGINEER OF RECORD
IVORY L. WHITE, JR., P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
CP 799
RACK 1 LAYOUT
M.P. A-798.77

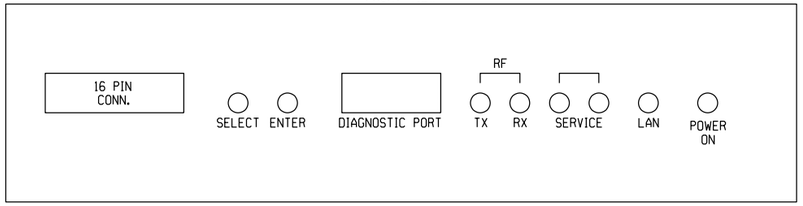
SHEET NO.
398

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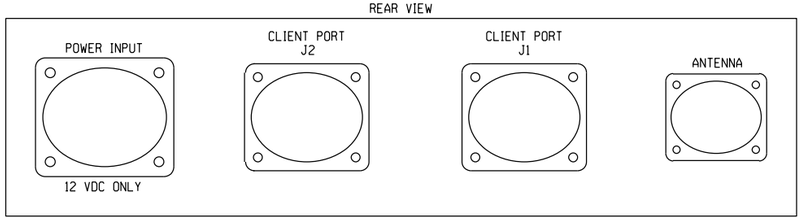
DRAWING NO.
G79877.007V

SAFETRAN DATA RADIO

FRONT VIEW



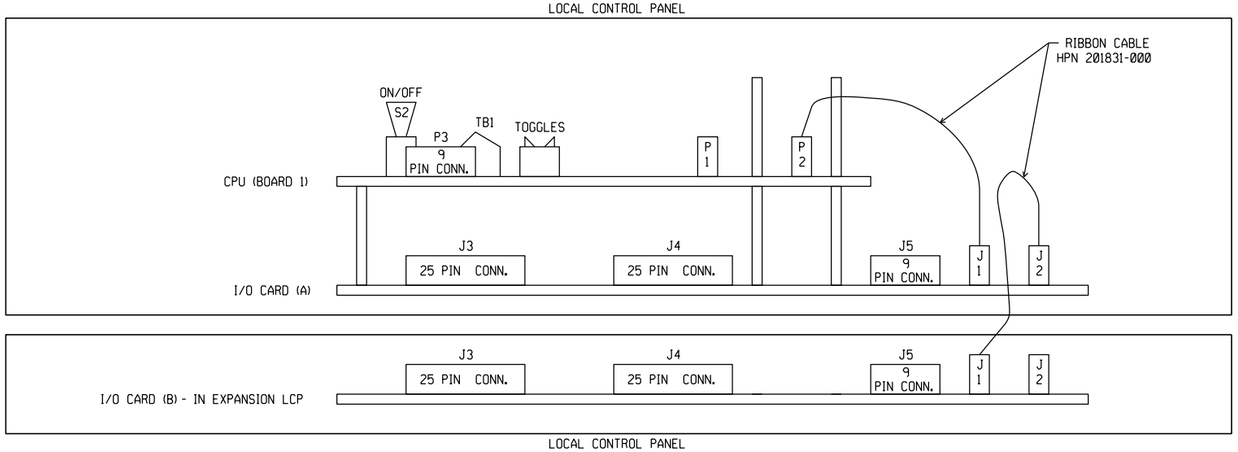
REAR VIEW



	OFF	ON	
NO START SWITCH		1	START SWITCH
		2	PROGRAMMABLE
		3	PROGRAMMABLE
		4	PROGRAMMABLE
		5	RESERVED
NORMAL OUTPUTS		6	INVERT OUTPUTS
NORMAL INPUTS		7	INVERT INPUTS
NORMAL MODE		8	SELF TEST MODE

(LOCATED ON CPU BOARD INSIDE LCP CABINET)

LOCAL CONTROL PANEL



LOCAL CONTROL PANEL

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CSX TRANSPORTATION
RAIL TRANSPORT GROUP ENGINEERING
COMMUNICATIONS AND SIGNALS

ST. JOHNS TO AUBURNDALE
MIDDLE TAFT
LCP I/O CARD AND DATA RADIO LAYOUT
TAFT, FL M.P. A-798.77

DESIGNED	DIGITIZED	CHECKED	DATE
SWE/WMG	SWE/JHS	SWE	10-10-07

DESIGN DATE	REV. NO.	DRAWING	SHEET NO	FILE	SHEET
10-10-07	1	-----	-----	A79877	E03

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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

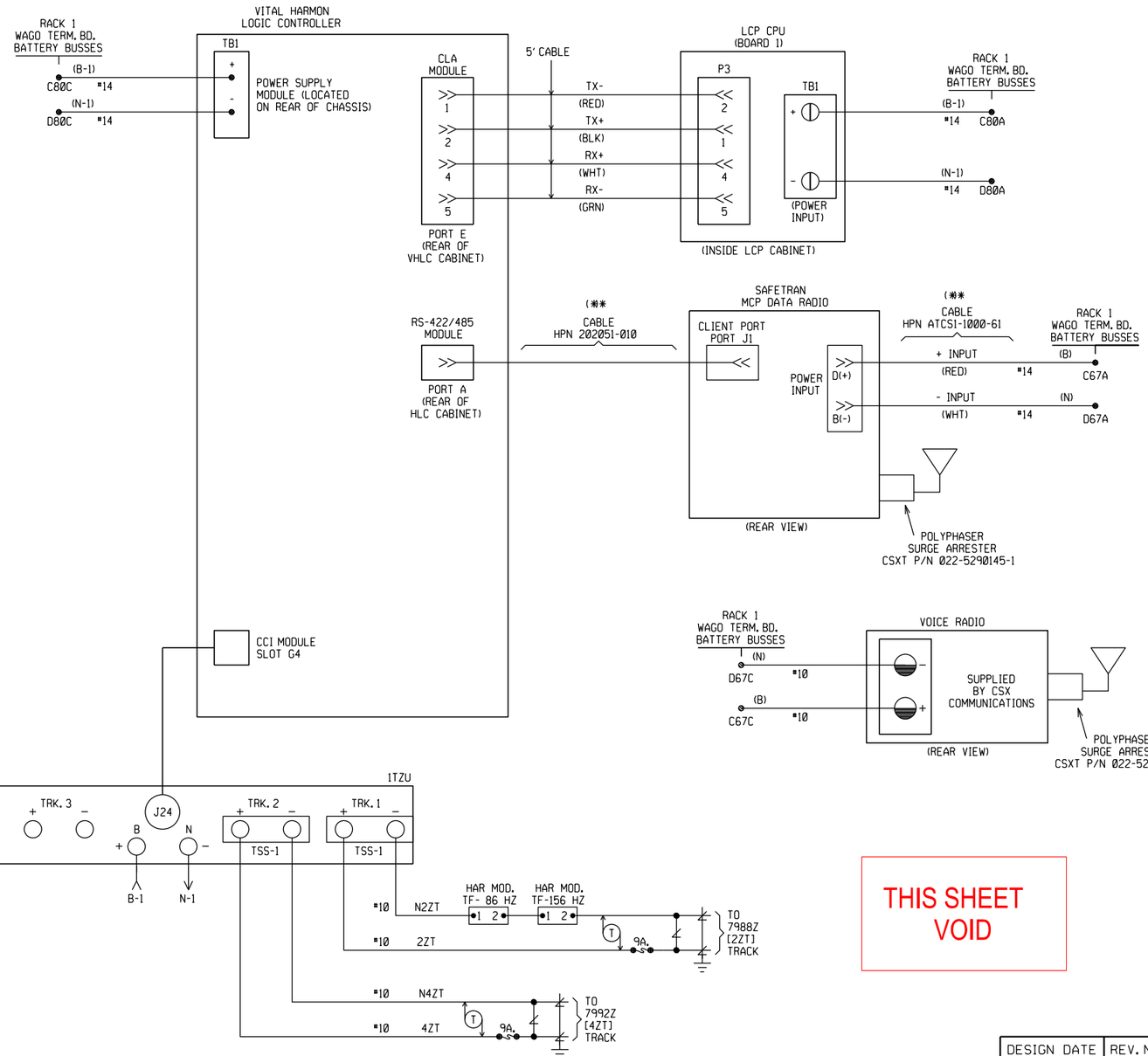
LCP I/O CARD & DATA RADIO LAYOUT

M.P. A-798.77

SHEET NO.
399

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G79877.008V



NOTES:

1. [ ] = TAGGING PURPOSES ONLY.

THIS SHEET
VOID

CSX TRANSPORTATION
RAIL TRANSPORT GROUP ENGINEERING
COMMUNICATIONS AND SIGNALS

ST. JOHNS TO AUBURNDALE
MIDDLE TAFT
VHLC CIRCUITS
TAFT, FL M.P. A-798.77

DESIGNED	DIGITIZED	CHECKED	DATE
SWE/WMG	SWE/JHS	SWE	10-10-07

DESIGN DATE	REV. NO.	DRAWING	SHEET NO	FILE	SHEET
10-10-07	1	-----	-----	A79877	C01

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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

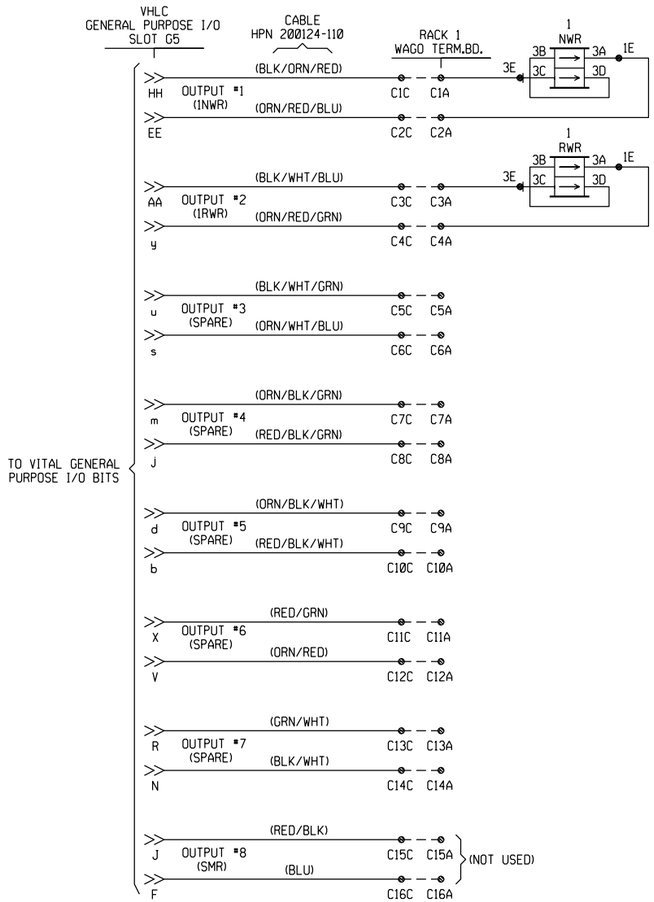
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

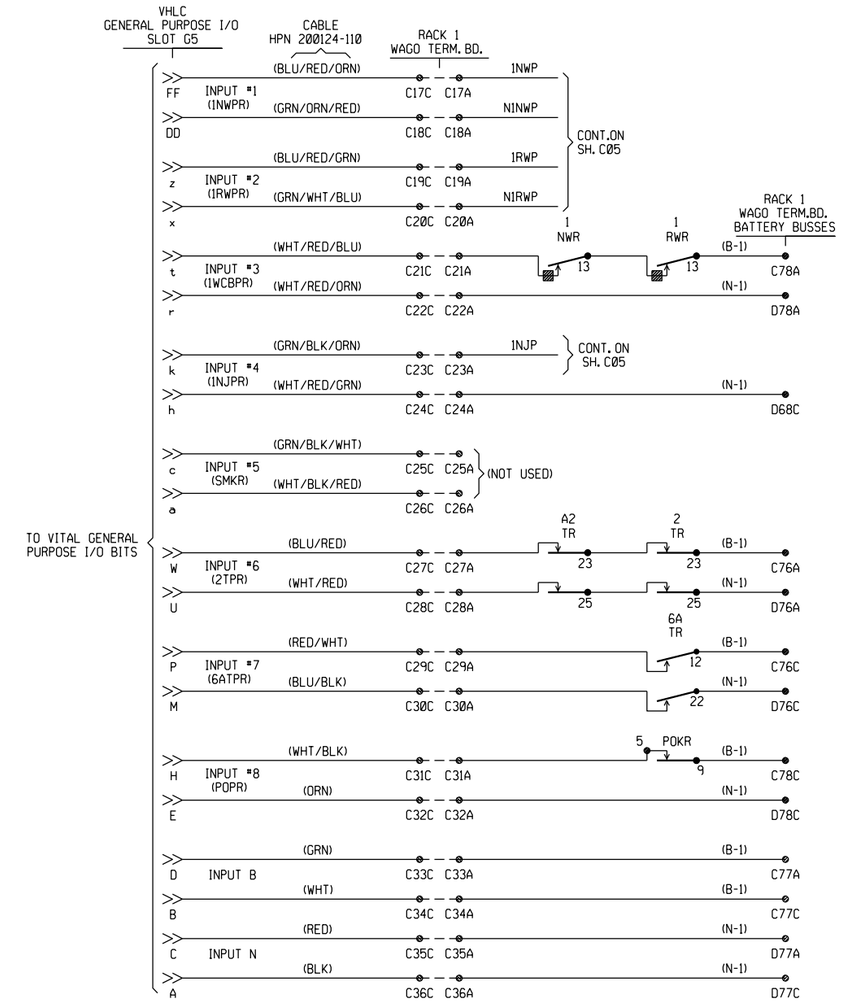
CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
CP 799
VHLC CIRCUITS
M.P. A-798.77

SHEET NO.
400

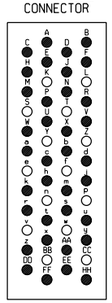
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DRAWING NO.
G79877.009V





VGPIO CABLE CONNECTOR



NOTES:

1. ALL WIRING #14 UNLESS NOTED OTHERWISE.

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CSX TRANSPORTATION
RAIL TRANSPORT GROUP ENGINEERING
COMMUNICATIONS AND SIGNALS

ST. JOHNS TO AUBURNDALE
MIDDLE TAFT
VHLC I/O CIRCUITS
TAFT, FL M.P. A-798.77

DESIGNED	DIGITIZED	CHECKED	DATE
SWE/WMG	SWE/JHS	SWE	10-10-07

DESIGN DATE	REV. NO.	DRAWING	SHEET NO	FILE	SHEET
10-10-07	1	-----	-----	A79877	C02

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REVISIONS

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ENGINEER OF RECORD
IVORY L. WHITE, JR., P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

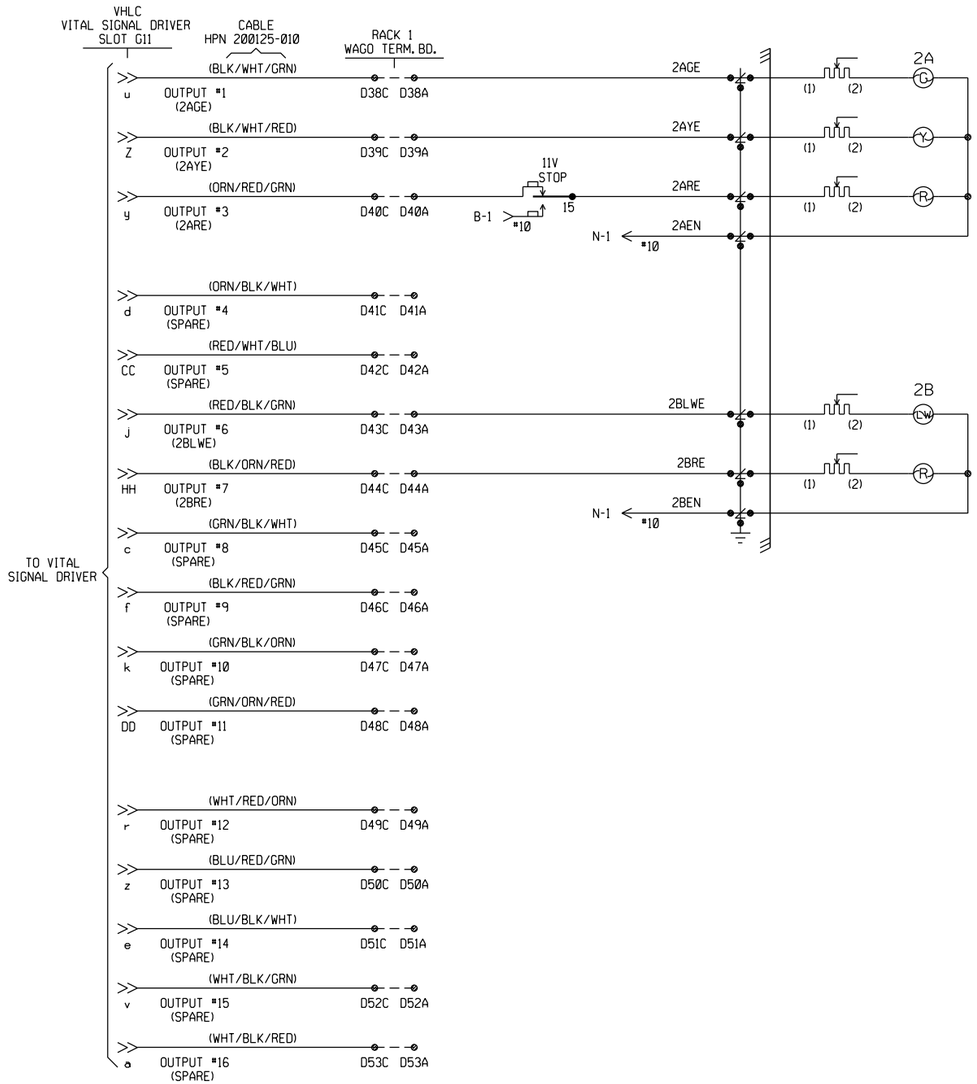
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
CP 799
VHLC I/O CIRCUITS
M.P. A-798.77

SHEET NO.
401

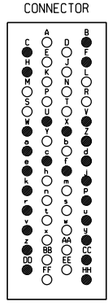
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DRAWING NO.
G79877.010V



THIS SHEET
VOID

VSD CABLE
CONNECTOR



NOTES:
1. ALL WIRING FROM WAGOS #14, ALL OTHER WIRING #10 UNLESS OTHERWISE NOTED.
2. ALL RESISTORS ARE 3 OHM, 15 WATTS.

CSX TRANSPORTATION
RAIL TRANSPORT GROUP ENGINEERING
COMMUNICATIONS AND SIGNALS

ST. JOHNS TO AUBURNDALE
MIDDLE TAFT
SIGNAL LIGHTING CIRCUITS
TAFT, FL M.P. A-798.77

DESIGNED	DIGITIZED	CHECKED	DATE
SWE/WMG	SWE/JHS	SWE	10-10-07

DESIGN DATE	REV. NO.	DRAWING	SHEET NO	FILE	SHEET
10-10-07	1	-----	-----	A79877	C03

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ENGINEER OF RECORD
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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

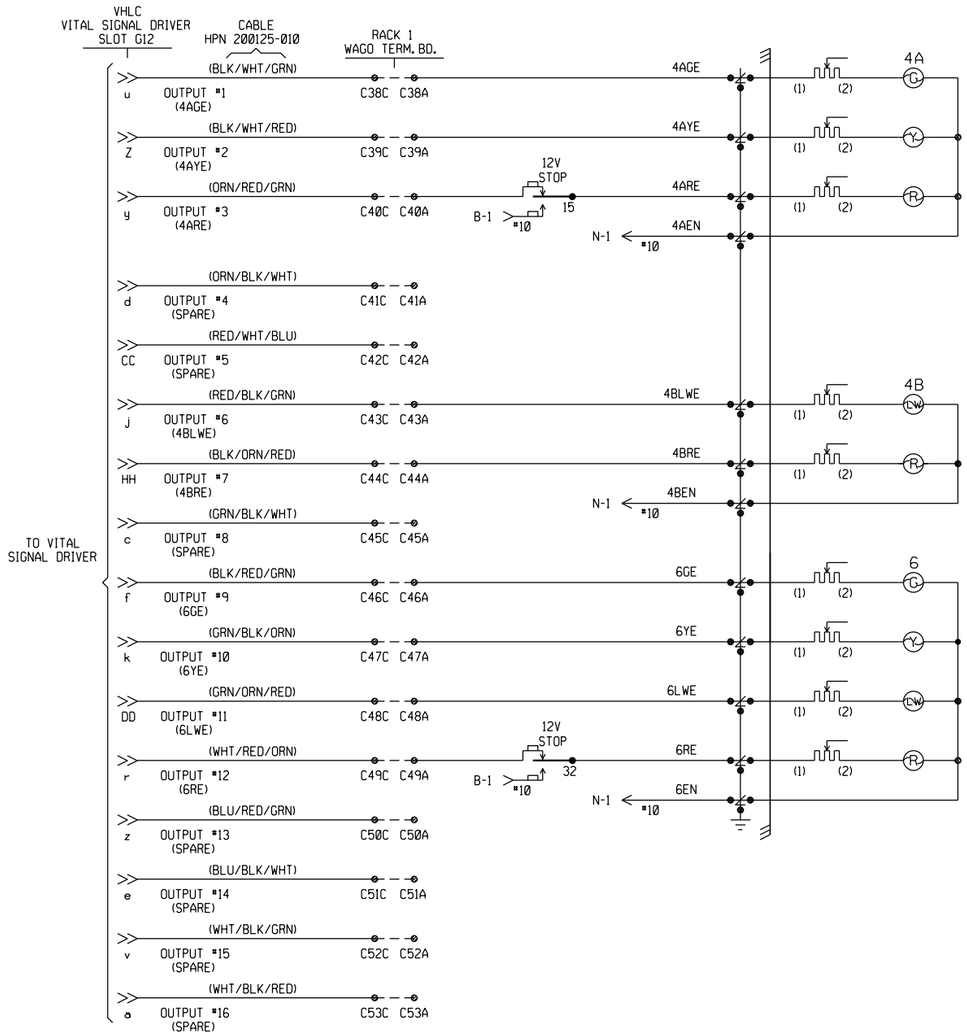
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

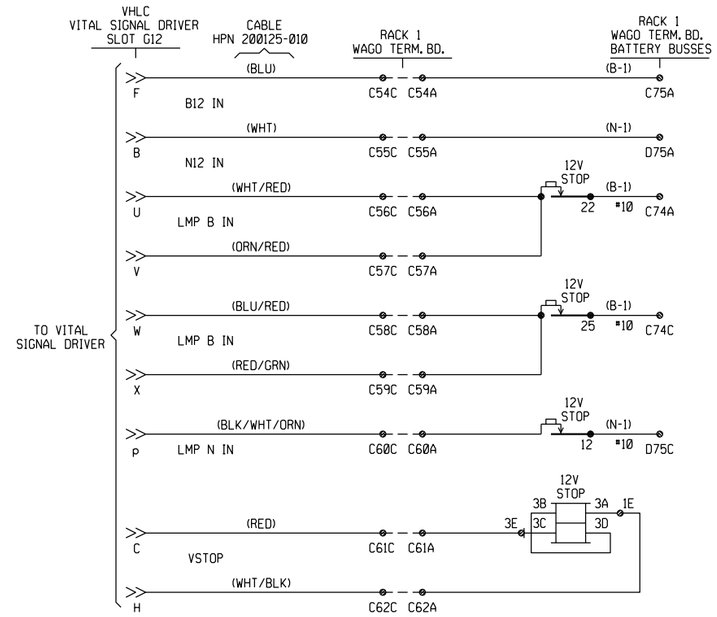
CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
CP 799
SIGNAL LIGHTING CIRCUITS
M.P. A-798.77

SHEET NO.
402

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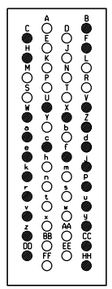
DRAWING NO.
G79877.01IV





THIS SHEET VOID

VSD CABLE CONNECTOR



NOTES:
1. ALL WIRING FROM WAGOS #14, ALL OTHER WIRING #10 UNLESS OTHERWISE NOTED.
2. ALL RESISTORS ARE 3 OHM, 15 WATTS.

CSX TRANSPORTATION
RAIL TRANSPORT GROUP ENGINEERING
COMMUNICATIONS AND SIGNALS

ST. JOHNS TO AUBURNDALE
MIDDLE TAFT
SIGNAL LIGHTING CIRCUITS
TAFT, FL M.P. A-798.77

DESIGNED	DIGITIZED	CHECKED	DATE
SWE/WMG	SWE/JHS	SWE	10-10-07

DESIGN DATE	REV. NO.	DRAWING	SHEET NO	FILE	SHEET
10-10-07	1	-----	-----	A79877	C04

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SUITE 400 JACKSONVILLE FLORIDA 32256
(904) 443-0083 (MAIN)
(904) 443-0089 (FAX)
CERT. OF AUTHORIZATION NO. 9875
ENGINEER OF RECORD
IVORY L. WHITE, JR., P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

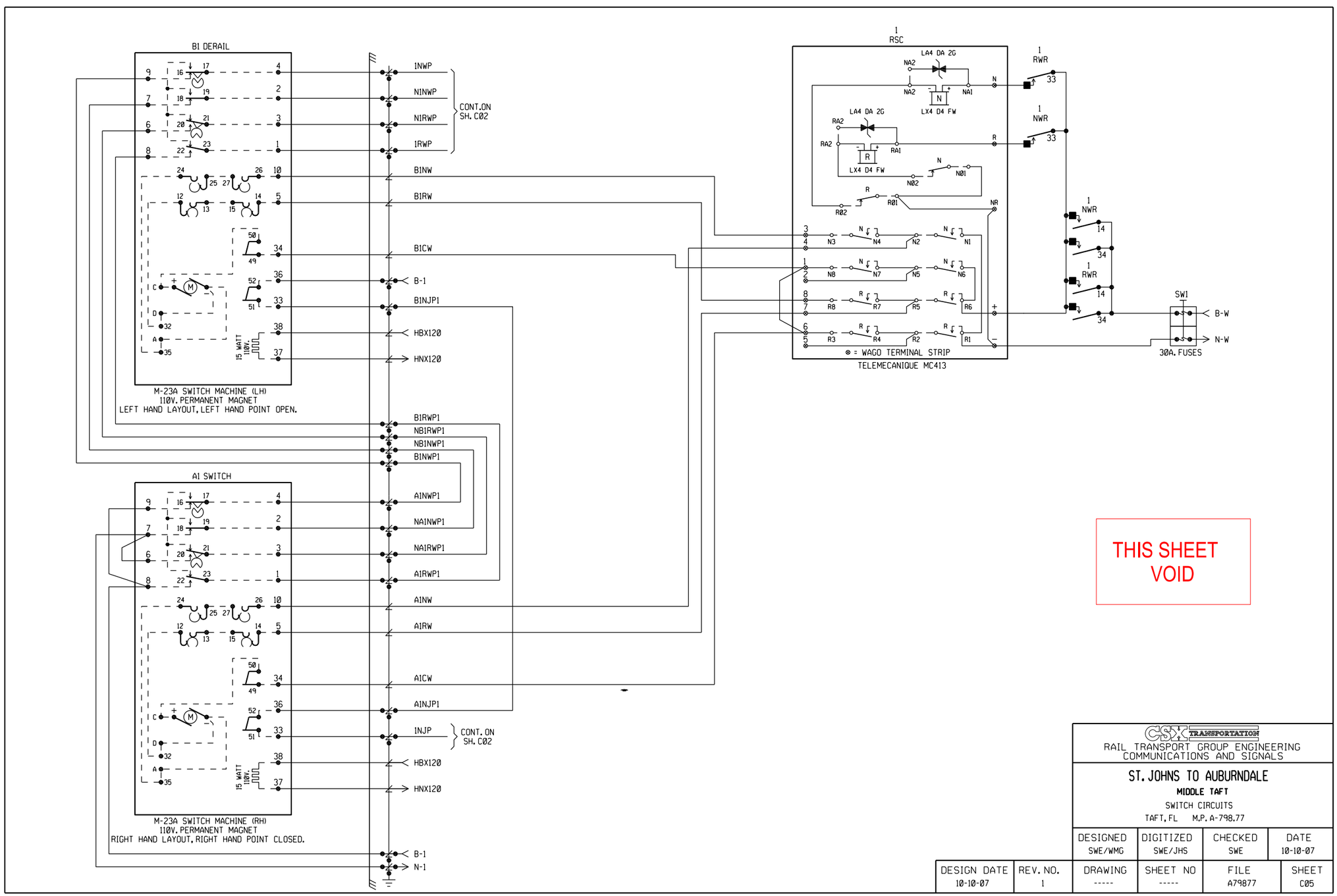
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
CP 799
SIGNAL LIGHTING CIRCUITS
M.P. A-798.77

SHEET NO.
403

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G79877.012V



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CSX TRANSPORTATION
RAIL TRANSPORT GROUP ENGINEERING
COMMUNICATIONS AND SIGNALS

ST. JOHNS TO AUBURNDALE
MIDDLE TAFT
SWITCH CIRCUITS
TAFT, FL M.P. A-798.77

DESIGNED	DIGITIZED	CHECKED	DATE
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DESIGN DATE	REV. NO.	DRAWING	SHEET NO	FILE	SHEET
10-10-07	1	-----	-----	A79877	C05

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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

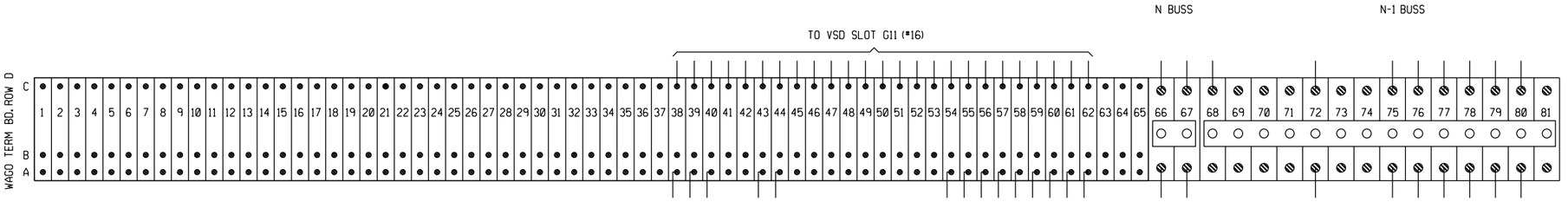
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CFRC P2S	ORANGE	423446-9-52-02

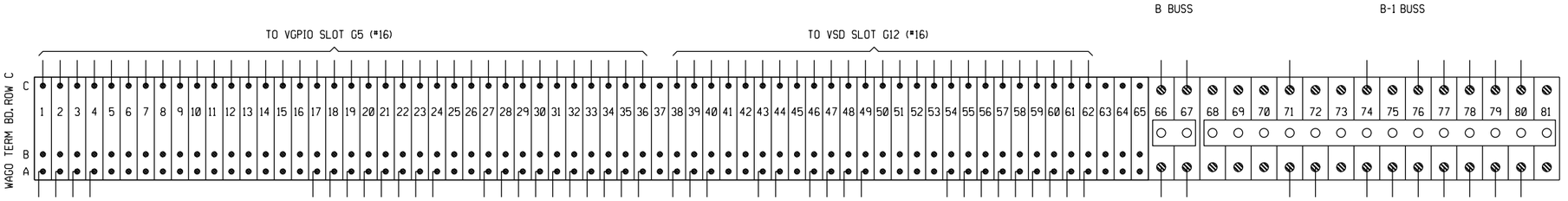
CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
CP 799
SWITCH CIRCUITS
M.P. A-798.77

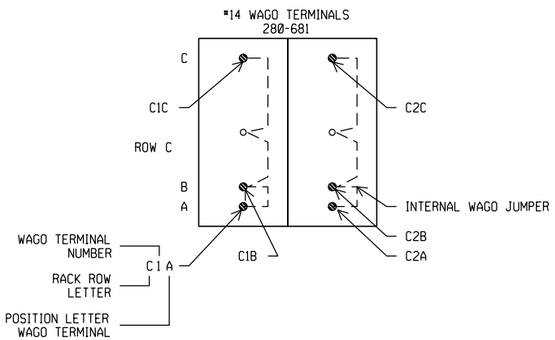
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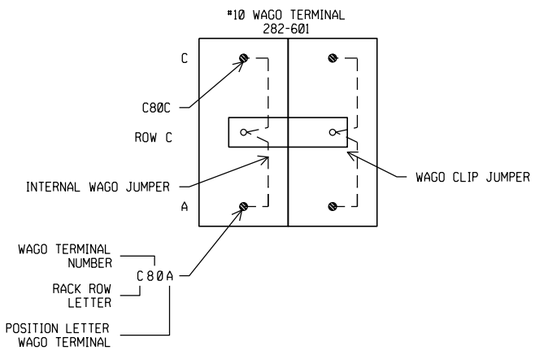
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DRAWING NO.
G79877.0I3V









THIS SHEET VOID

NOTES:

1. D66A & D66C TO N SUPPLY.
2. C66A & C66C TO B SUPPLY.
3. D79A & D79C TO N-1 SUPPLY.
4. C79A & C79C TO B-1 SUPPLY.

CSX TRANSPORTATION
RAIL TRANSPORT GROUP ENGINEERING
COMMUNICATIONS AND SIGNALS

ST. JOHNS TO AUBURNDALE
MIDDLE TAFT
WAGO TERMINAL BOARDS
TAFT, FL M.P. A-798.77

DESIGNED	DIGITIZED	CHECKED	DATE
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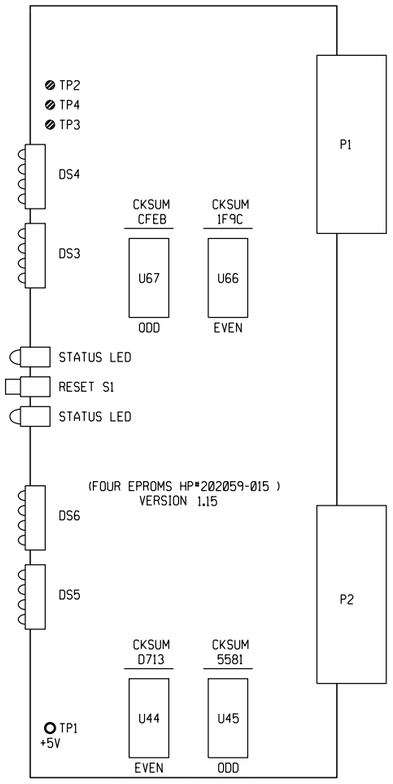
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
CP 799
WAGO TERMINAL BOARDS
M.P. A-798.77

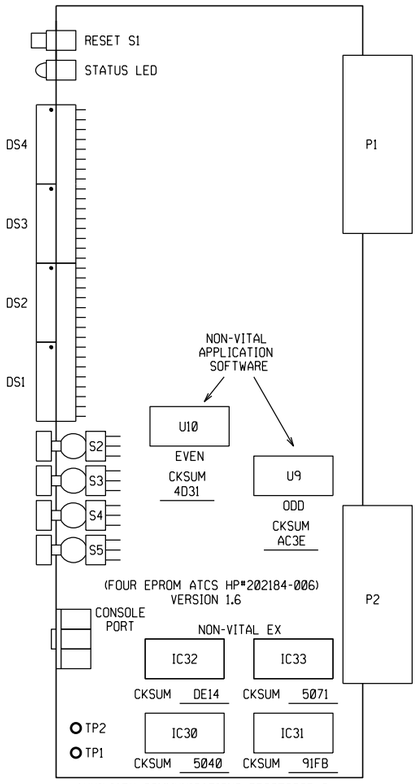
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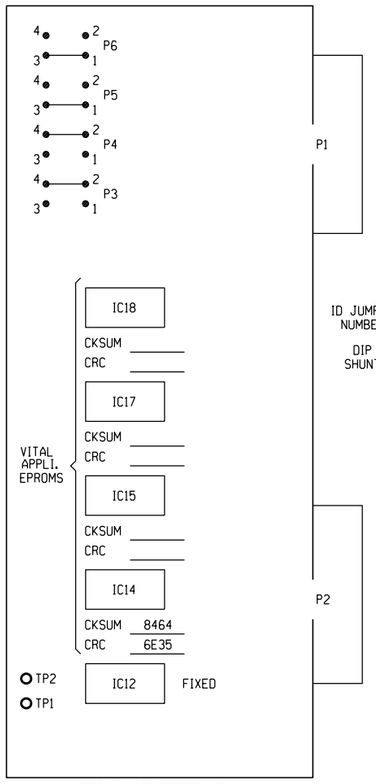
DRAWING NO.
G79877.014V



VITAL LOGIC PROCESSOR
SLOT G1



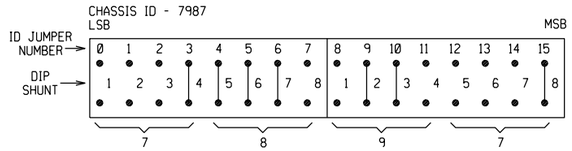
AUXILIARY COMMUNICATIONS PROCESSOR 3
SLOT G2



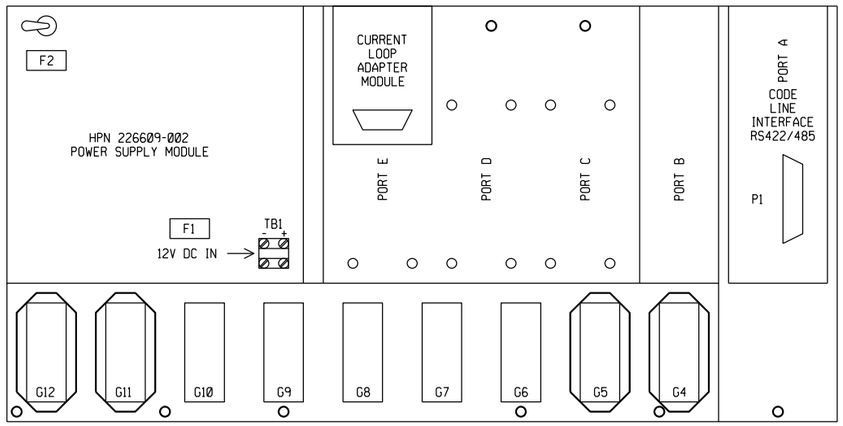
SITE SPECIFIC MODULE
SLOT G3

SITE SPECIFIC MODULE
JUMPER LOCATIONS
SLOT G3

	EPROM	P3	P4	P5	P6
	27C64	1-3	1-3	1-3	1-3
	27C128	1-3	1-3	1-3	1-3
	27C256	2-4	1-3	1-3	1-3
X	27C512	2-4	2-4	1-3	1-3
	27C010	2-4	2-4	2-4	1-3



THIS SHEET
VOID



VITAL HARMON LOGIC CONTROLLER (REAR VIEW)

CSX TRANSPORTATION
RAIL TRANSPORT GROUP ENGINEERING
COMMUNICATIONS AND SIGNALS

ST. JOHNS TO AUBURNDALE
MIDDLE TAFT
VHLC CHECKSUMS
TAFT, FL M.P. A-798.77

DESIGNED	DIGITIZED	CHECKED	DATE
SWE/WMG	SWE/JHS	SWE	10-10-07

DESIGN DATE	REV. NO.	DRAWING	SHEET NO	FILE	SHEET
10-10-07	1	-----	-----	A79877	C07

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DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

XORAIL
5011 GATE PARKWAY BUILDING 100
SUITE 400 JACKSONVILLE FLORIDA 32256
(904) 443-0083 (MAIN)
(904) 443-0089 (FAX)
CERT. OF AUTHORIZATION NO. 9875
ENGINEER OF RECORD
IVORY L. WHITE, JR, P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
CP 799
VHLC CHECKSUMS
M.P. A-798.77

SHEET NO.
406

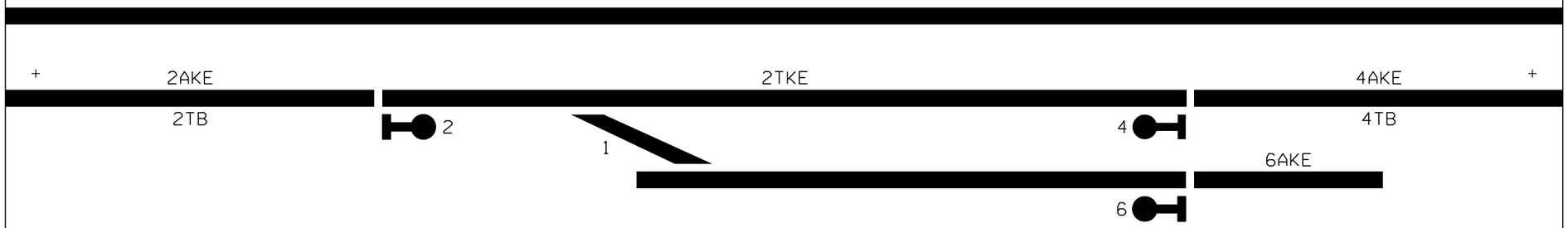
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CSX TRANSPORTATION

MIDDLE TAFT

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RAIL TRANSPORT GROUP ENGINEERING
COMMUNICATIONS AND SIGNALS

ST. JOHNS TO AUBURNDALE
MIDDLE TAFT
VHLC FACE PLATE
TAFT, FL M.P. A-798.77

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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

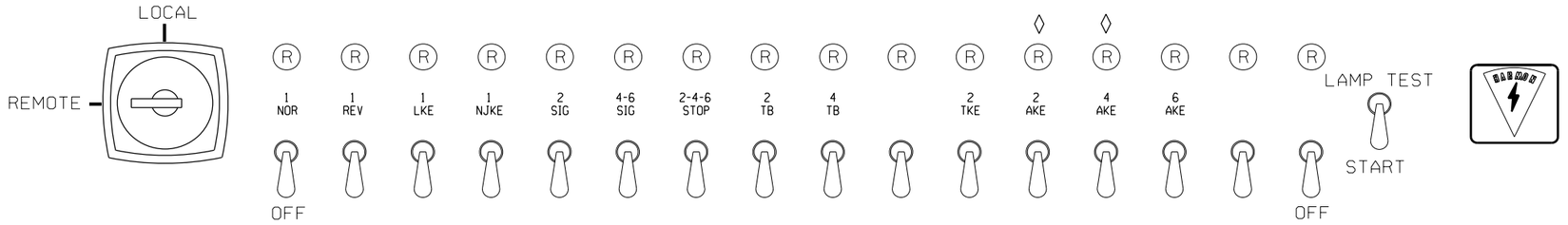
CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
CP 799
VHLC FACE PLATE
M.P. A-798.77

SHEET NO.
407

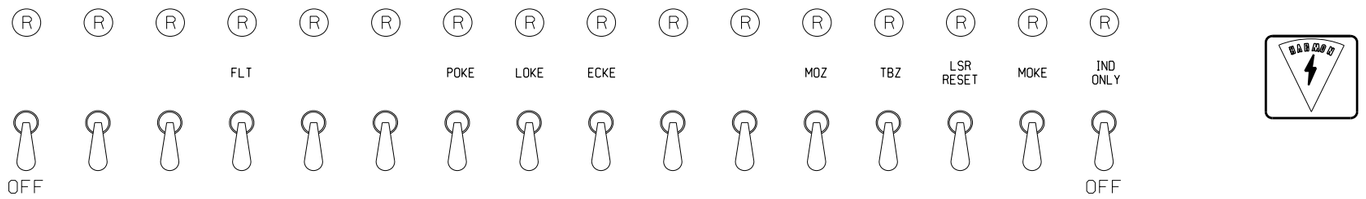
$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G79877.016V

LOCAL CONTROL PANEL



LOCAL CONTROL PANEL EXPANSION



NOTE:

1. WHERE "KE" APPEARS AT END OF WORD ONLY INDICATION IS OPERATIVE.
2. ◊ = INDICATED ON PANEL ONLY.

THIS SHEET VOID

CSX TRANSPORTATION
RAIL TRANSPORT GROUP ENGINEERING
COMMUNICATIONS AND SIGNALS

ST. JOHNS TO AUBURNDALE
MIDDLE TAFT
LOCAL CONTROL PANEL
TAFT, FL M.P. A-798.77

DESIGNED	DIGITIZED	CHECKED	DATE
SWE/WMG	SWE/JHS	SWE	10-10-07

DESIGN DATE	REV. NO.	DRAWING	SHEET NO	FILE	SHEET
10-10-07	1	-----	-----	A79877	C09

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ENGINEER OF RECORD
IVORY L. WHITE, JR., P.E.
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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

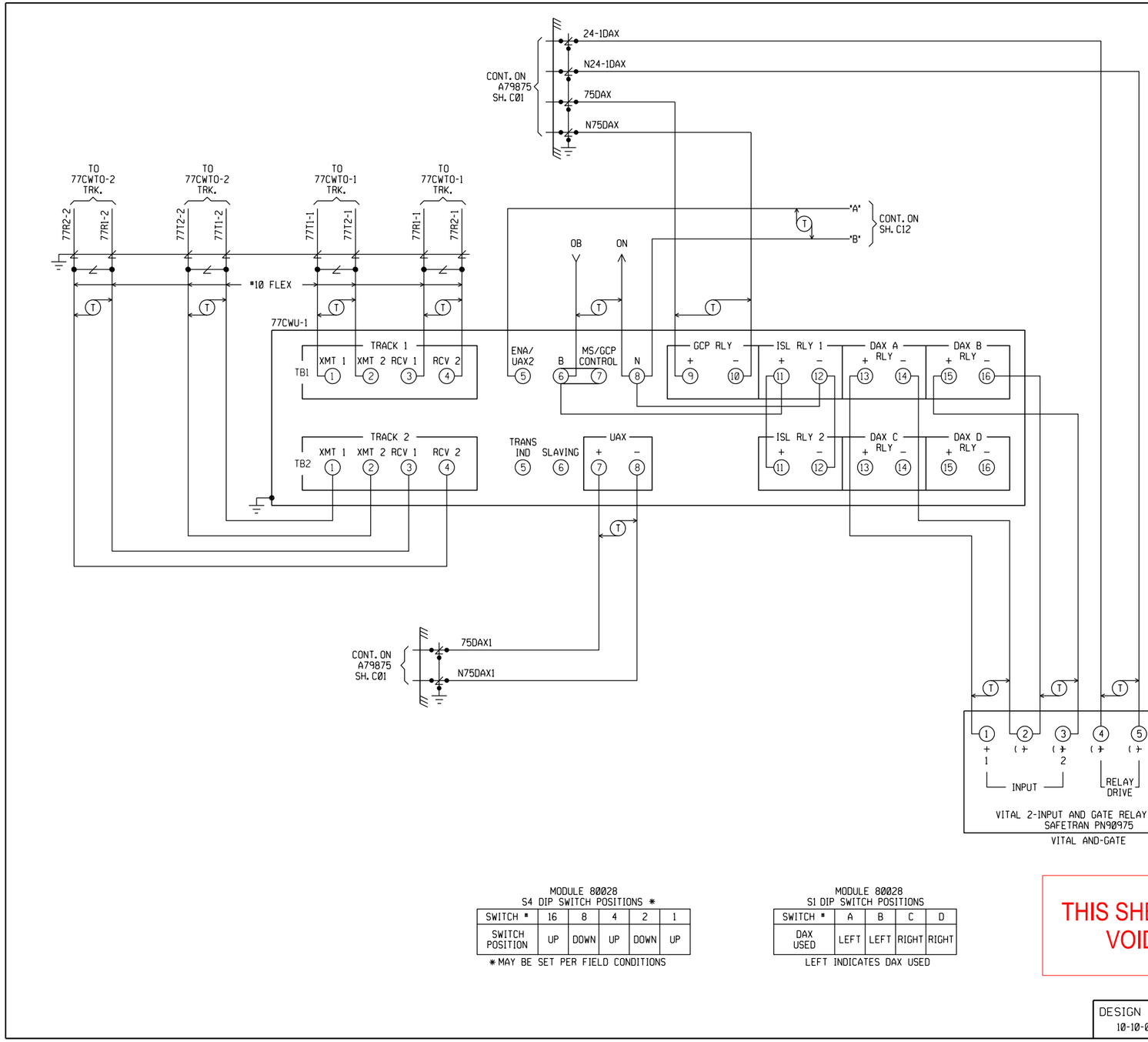
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
CP 799
LOCAL CONTROL PANEL
M.P. A-798.77

SHEET NO.
408

$USER$ $DATE$ $TIME$ $FILE$

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G79877.0I7V

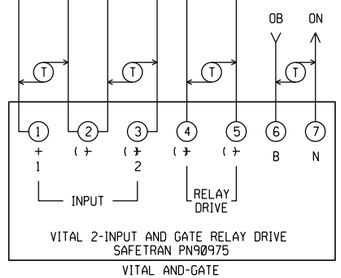


77CWU-1
3000D2 MODULES REQUIRED

M1	M2	M3	M4	M5	M6	M7	M8	M9	M10
80211 IPI ISLAND (NOT USED)	80211 IPI ISLAND (NOT USED)	80012 TRANSCEIVER	80012 TRANSCEIVER	80013 RELAY DRIVE	80214 PROCESSOR	80115 RECORDER (NOT USED)	80016 DAX	80016 DAX (NOT USED)	80020-1 CONTROL INTERFACE

M11	M12	M13	M14	M15	M16	M17	M18	M19	M20	M21
80211 IPI ISLAND (NOT USED)	80211 IPI ISLAND (NOT USED)	80012 TRANSCEIVER	80012 TRANSCEIVER	80013 RELAY DRIVE	80214 PROCESSOR	80115 RECORDER (NOT USED)	80016 DAX	80016 DAX (NOT USED)	80020-2 CONTROL INTERFACE	80028 TRANSFER TIMER

FRONT VIEW



VITAL 2-INPUT AND GATE RELAY DRIVE
SAFETRAN PN90975
VITAL AND-GATE

MODULE 80028
S4 DIP SWITCH POSITIONS *

SWITCH *	16	8	4	2	1
SWITCH POSITION	UP	DOWN	UP	DOWN	UP

*MAY BE SET PER FIELD CONDITIONS

MODULE 80028
S1 DIP SWITCH POSITIONS

SWITCH *	A	B	C	D
DAX USED	LEFT	LEFT	RIGHT	RIGHT

LEFT INDICATES DAX USED

THIS SHEET VOID

CSX TRANSPORTATION
RAIL TRANSPORT GROUP ENGINEERING
COMMUNICATIONS AND SIGNALS

ST. JOHNS TO AUBURNDALE
MIDDLE TAFT
REMOTE CROSSING DETECTION CIRCUITRY
TAFT, FL M.P. A-798.77

DESIGNED	DIGITIZED	CHECKED	DATE
SWE/WMG	SWE/JHS	SWE	10-10-07

DESIGN DATE	REV. NO.	DRAWING	SHEET NO	FILE	SHEET
10-10-07	1	-----	-----	A79877	C10

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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

REMOTE CROSSING DETECTION CIRCUITRY
M.P. A-798.77

SHEET NO.
409

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G79877.018V

3000 GCP APPLICATION DESIGN CARD

EQUIPMENT: 3000 ☐ 3000ND ☐ 3000D2 ■ 3000ND2 ☐

ISLAND FREQUENCY : T1: N/A KHZ T2: N/A KHZ 77CWU-1

SOFTWARE LEVEL ..... (DISPLAYED DURING BOOT-UP)		☆☆
NUMBER OF TRACKS (NUMBER OF TRANSCEIVER MODULES, 1 OR 2)		1 ☐ 2 ■
FREQUENCY (MS/GCP)	T1:	970 HZ
	T2:	348 HZ
UNIDIRECTIONAL / BIDIRECTIONAL	T1:	UNI ■ BI ☐
	T2:	UNI ■ BI ☐
XMIT LEVEL	T1:	HI ☐ MED ■
	T2:	HI ☐ MED ■
PREDICTOR/MOTION SENSOR	T1:	PRED ■ MS ☐
	T2:	PRED ■ MS ☐
WARNING TIME SELECTED	T1:	30 SEC.
	T2:	30 SEC.
APPROACH DISTANCE SELECTED	T1:	307 FT.
	T2:	1845 FT.
APPROACH DISTANCE COMPUTED	T1:	NOT REQUIRED •
	T2:	NOT REQUIRED •
UAX PICKUP DELAY (UAX1) (Ø = OFF) ...		5 SEC.
ENA/UAX2 DELAY (Ø = ENA)		Ø SEC.
ISLAND DISTANCE (BETWEEN FEED WIRES)	T1:	N/A ☆ FT.
	T2:	N/A ☆ FT.
NUMBER OF DAX'S		Ø ☐ 1 ☐ 2 ■ 3 ☐ 4 ☐
DAX A TRACK ASSIGNMENT		T1 ■ T2 ☐
DAX A DISTANCE (Ø = PREEMPT)		3028 FT.
DAX A WARNING TIME		28 SEC.
DAX B TRACK ASSIGNMENT		T1 ☐ T2 ■
DAX B DISTANCE (Ø = PREEMPT)		3335 FT.
DAX B WARNING TIME		28 SEC.
DAX C TRACK ASSIGNMENT		T1 ☐ T2 ☐
DAX C DISTANCE (Ø = PREEMPT)		FT.
DAX C WARNING TIME		SEC.
DAX D TRACK ASSIGNMENT		T1 ☐ T2 ☐
DAX D DISTANCE (Ø = PREEMPT)		FT.
DAX D WARNING TIME		SEC.
SLAVING MASTER/SLAVE		MASTER ■ SLAVE ☐
PASSWORD ENABLED		DISABLED ■ ENABLED ☐
RECORDER INSTALLED		NOT INSTALLED ■ INSTALLED ☐
RS-232-C BAUD RATE		BPS
RS-232-C DATE BITES		7 ☐ 8 ☐
RS-232-C STOP BITS		1 ☐ 2 ☐
RS-232-C PARITY		NONE ☐ MARK ☐
		ODD ☐ EVEN ☐ SPACE ☐
DATE (E.G., MON 13 MAY 1991) .. TIME (E.G., 06:25:43 PM)		NOT REQUIRED • NOT REQUIRED •
DAYLIGHT SAVINGS		ON ☐ OFF ■

EXPANDED PROGRAMMING DESIGN

SWITCH TO MS (ENTER EZ VALUE)	T1:	Ø EZ
	T2:	Ø EZ
TRANSFER DELAY MS TO GCP (Ø = OFF) ..	T1:	Ø SEC.
	T2:	Ø SEC.
PRIME PREDICTION OFFSET (Ø = OFF) ..	T1:	44 FT.
	T2:	351 FT.
PICKUP DELAY PRIME		15 SEC.
PICKUP DELAY DAX A		15 SEC.
PICKUP DELAY DAX B		15 SEC.
PICKUP DELAY DAX C		Ø SEC.
PICKUP DELAY DAX D		Ø SEC.
COMPENSATION VALUE	T1:	NOT REQUIRED ••
COMPENSATION VALUE	T2:	NOT REQUIRED ••
ENHANCED DETECTION (ED)	T1:	ON ☐ OFF ■
	T2:	ON ☐ OFF ■
BACK TO BACK T1 AND T2 ..... (WHEN ED IS ON)		NO ■ YES ☐
STATION STOP TIMER ..... (WHEN ED IS ON)	T1:	N/A (SEE NOTE1) SEC.
	T2:	N/A (SEE NOTE1) SEC.
# OF TRACK WIRES - 4 OR 6	T1:	4 ■ 6 ☐
	T2:	4 ■ 6 ☐
LOW EX ADJUSTMENT	T1:	Ø
	T2:	Ø
LOW EZ DETECTION	T1:	ON ☐ OFF ■
	T2:	ON ☐ OFF ■
LOW EZ DETECTION TIMER	T1:	N/A (SEE NOTE2) MIN.
	T2:	N/A (SEE NOTE2) MIN.
POSITIVE START (Ø = OFF) ..... (ENTER EZ VALUE)	T1:	Ø EZ
	T2:	Ø EZ
POSITIVE START TIMEOUT (Ø = NONE) ... (WHEN POTISIVE START IS ON)	T1:	Ø MIN.
	T2:	Ø MIN.
SET AT OPERATION		NORMAL ■ DIAGNOSTIC ☐
DIAGNOSTIC MESSAGES		ON ☐ OFF ■
DAX MESSAGES		ON ☐ OFF ■
ADVANCE PREEMP TIMER (Ø = OFF)		Ø SEC.

•• THE COMPENSATION VALUE IS PROVIDED BY THE 3000 GCP SYSTEM AND NO ADDITIONAL PROGRAMMING IS NORMALLY REQUIRED.

• PROGRAMMED AT INSTALLATION DURING CALIBRATION PROCEDURE

☆ = 120' MINIMUM ISLAND DISTANCE TO BE ENTERED BY FIELD PERSONNEL FOR NON-DAXING APPLICATIONS WHEN ROAD IS 20' OR LESS WIDE.

☆☆ = INDICATE ON AS-IN-SERVICE DRAWINGS

THIS SHEET VOID

CSX TRANSPORTATION
RAIL TRANSPORT GROUP ENGINEERING
COMMUNICATIONS AND SIGNALS

ST. JOHNS TO AUBURNDALE
MIDDLE TAFT
REMOTE DETECTION DEVICE PROGRAM
TAFT, FL M.P. A-798.77

DESIGNED	DIGITIZED	CHECKED	DATE
SWE/WMG	SWE/JHS	SWE	10-10-07

DESIGN DATE	REV. NO.	DRAWING	SHEET NO	FILE	SHEET
10-10-07	1	-----	-----	A79877	C11

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5011 GATE PARKWAY BUILDING 100
SUITE 400 JACKSONVILLE FLORIDA 32256
(904) 443-0083 (MAIN)
(904) 443-0089 (FAX)
CERT. OF AUTHORIZATION NO. 9875
ENGINEER OF RECORD
IVORY L. WHITE, JR., P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

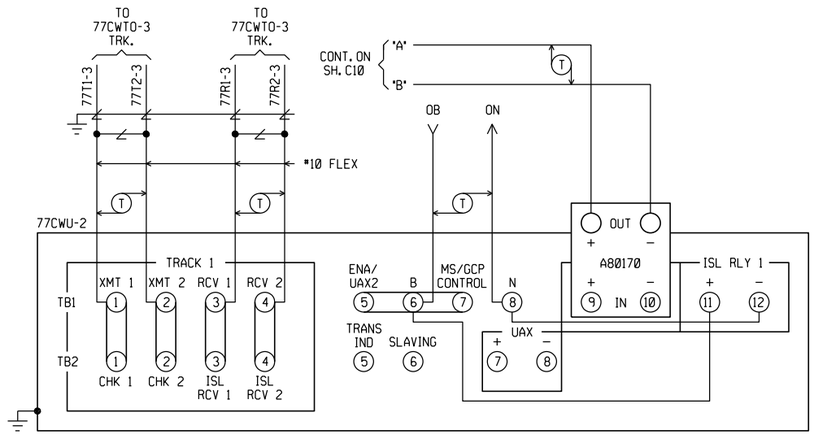
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
REMOTE DETECTION DEVICE PROGRAM
M.P. A-798.77

SHEET NO. 410

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G79877.019V



77CWU-2
3000ND2 MODULES REQUIRED

M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12
80211 IPI ISLAND (NOT USED)	80012 TRANSCEIVER	80013 RELAY DRIVE	80214 PROCESSOR	80015 RECORDER (NOT USED)	80029 CONTROL INTERFACE	80115 RECORDER (NOT USED)	80214 PROCESSOR	80013 RELAY DRIVE	80012 TRANSCEIVER	80211 IPI ISLAND	80028 TRANSFER TIMER

FRONT VIEW

80153 PRINTED CIRCUIT BOARD LOCATED IN SLOT M6 BEHIND 80029

THIS SHEET VOID

MODULE 80028
S4 DIP SWITCH POSITIONS *

SWITCH #	16	8	4	2	1
SWITCH POSITION	UP	DOWN	UP	DOWN	UP

*MAY BE SET PER FIELD CONDITIONS

MODULE 80028
S1 DIP SWITCH POSITIONS

SWITCH #	A	B	C	D
DAX USED	RIGHT	RIGHT	RIGHT	RIGHT

LEFT INDICATES DAX USED

CSX TRANSPORTATION
RAIL TRANSPORT GROUP ENGINEERING
COMMUNICATIONS AND SIGNALS

ST. JOHNS TO AUBURNDALE
MIDDLE TAFT
REMOTE CROSSING DETECTION CIRCUITRY
TAFT, FL M.P. A-798.77

DESIGNED	DIGITIZED	CHECKED	DATE
SWE/WMG	SWE/JHS	SWE	10-10-07

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10-10-07	1	-----	-----	A79877	C12

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STATE OF FLORIDA
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CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

REMOTE CROSSING DETECTION CIRCUITRY
M.P. A-798.77

SHEET NO.
411

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G79877.020V

3000 GCP APPLICATION DESIGN CARD

EQUIPMENT: 3000 ☐ 3000ND ☐ 3000D2 ☐ 3000ND2 ■

ISLAND FREQUENCY : T1: N/A KHZ T2: N/A KHZ 77 CWU-2

SOFTWARE LEVEL ..... (DISPLAYED DURING BOOT-UP)		☆☆	
NUMBER OF TRACKS (NUMBER OF TRANSCEIVER MODULES, 1 OR 2)		1 ■	2 ☐
FREQUENCY (MS/GCP)	T1:	790	HZ
	T2:	N/A	HZ
UNIDIRECTIONAL / BIDIRECTIONAL	T1:	UNI ■	BI ☐
	T2:	UNI ☐	BI ☐
XMIT LEVEL	T1:	HI ☐	MED ■
	T2:	HI ☐	MED ☐
PREDICTOR/MOTION SENSOR	T1:	PRED ■	MS ☐
	T2:	PRED ☐	MS ☐
WARNING TIME SELECTED	T1:	30	SEC.
	T2:	N/A	SEC.
APPROACH DISTANCE SELECTED	T1:	711	FT.
	T2:	N/A	FT.
APPROACH DISTANCE COMPUTED	T1:	NOT REQUIRED •	
	T2:	NOT REQUIRED •	
UAX PICKUP DELAY (UAX1) (Ø = OFF) ...		0	SEC.
ENA/UAX2 DELAY (Ø = ENA)		0	SEC.
ISLAND DISTANCE (BETWEEN FEED WIRES)	T1:	N/A ☆	FT.
	T2:	N/A ☆	FT.
NUMBER OF DAX'S		Ø ■ 1 ☐ 2 ☐ 3 ☐ 4 ☐	
DAX A TRACK ASSIGNMENT		T1 ☐	T2 ☐
DAX A DISTANCE (Ø = PREEMPT)			FT.
DAX A WARNING TIME			SEC.
DAX B TRACK ASSIGNMENT		T1 ☐	T2 ☐
DAX B DISTANCE (Ø = PREEMPT)			FT.
DAX B WARNING TIME			SEC.
DAX C TRACK ASSIGNMENT		T1 ☐	T2 ☐
DAX C DISTANCE (Ø = PREEMPT)			FT.
DAX C WARNING TIME			SEC.
DAX D TRACK ASSIGNMENT		T1 ☐	T2 ☐
DAX D DISTANCE (Ø = PREEMPT)			FT.
DAX D WARNING TIME			SEC.
SLAVING MASTER/SLAVE		MASTER ■	SLAVE ☐
PASSWORD ENABLED		DISABLED ■	ENABLED ☐
RECORDER INSTALLED		NOT INSTALLED ■	INSTALLED ☐
RS-232-C BAUD RATE			BPS
RS-232-C DATE BITES		7 ☐	8 ☐
RS-232-C STOP BITS		1 ☐	2 ☐
RS-232-C PARITY		NONE ☐	MARK ☐
		ODD ☐ EVEN ☐	SPACE ☐
DATE (E.G., MON 13 MAY 1991) .. TIME (E.G., 06:25:43 PM)		NOT REQUIRED • NOT REQUIRED •	
DAYLIGHT SAVINGS		ON ☐	OFF ■

EXPANDED PROGRAMMING DESIGN

SWITCH TO MS (ENTER EZ VALUE)	T1:	0	EZ
	T2:	N/A	EZ
TRANSFER DELAY MS TO GCP (Ø = OFF) ..	T1:	0	SEC.
	T2:	N/A	SEC.
PRIME PREDICTION OFFSET (Ø = OFF) ..	T1:	186	FT.
	T2:	N/A	FT.
PICKUP DELAY PRIME		15	SEC.
PICKUP DELAY DAX A		0	SEC.
PICKUP DELAY DAX B		0	SEC.
PICKUP DELAY DAX C		0	SEC.
PICKUP DELAY DAX D		0	SEC.
COMPENSATION VALUE	T1:	NOT REQUIRED ••	
COMPENSATION VALUE	T2:	NOT REQUIRED ••	
ENHANCED DETECTION (ED)	T1:	ON ☐	OFF ■
	T2:	ON ☐	OFF ■
BACK TO BACK T1 AND T2 ..... (WHEN ED IS ON)		NO ■	YES ☐
STATION STOP TIMER ..... (WHEN ED IS ON)	T1:	N/A (SEE NOTE1)	SEC.
	T2:	N/A (SEE NOTE1)	SEC.
# OF TRACK WIRES - 4 OR 6	T1:	4 ■	6 ☐
	T2:	4 ■	6 ☐
LOW EX ADJUSTMENT	T1:	0	
	T2:	0	
LOW EZ DETECTION	T1:	ON ☐	OFF ■
	T2:	ON ☐	OFF ■
LOW EZ DETECTION TIMER	T1:	N/A (SEE NOTE2)	MIN.
	T2:	N/A (SEE NOTE2)	MIN.
POSITIVE START (Ø = OFF) ..... (ENTER EZ VALUE)	T1:	0	EZ
	T2:	0	EZ
POSITIVE START TIMEOUT (Ø = NONE) ... (WHEN POTISIVE START IS ON)	T1:	0	MIN.
	T2:	0	MIN.
SET AT OPERATION		NORMAL ■	DIAGNOSTIC ☐
DIAGNOSTIC MESSAGES		ON ☐	OFF ■
DAX MESSAGES		ON ☐	OFF ■
ADVANCE PREEMP TIMER (Ø = OFF)		0	SEC.

•• THE COMPENSATION VALUE IS PROVIDED BY THE 3000 GCP SYSTEM AND NO ADDITIONAL PROGRAMMING IS NORMALLY REQUIRED.

• PROGRAMMED AT INSTALLATION DURING CALIBRATION PROCEDURE

☆ = 120' MINIMUM ISLAND DISTANCE TO BE ENTERED BY FIELD PERSONNEL FOR NON-DAXING APPLICATIONS WHEN ROAD IS 20' OR LESS WIDE.

☆☆ = INDICATE ON AS-IN-SERVICE DRAWINGS

THIS SHEET VOID

CSX TRANSPORTATION
RAIL TRANSPORT GROUP ENGINEERING
COMMUNICATIONS AND SIGNALS

ST. JOHNS TO AUBURNDALE
MIDDLE TAFT
REMOTE DETECTION DEVICE PROGRAM
TAFT, FL M.P. A-798.77

DESIGNED	DIGITIZED	CHECKED	DATE
SWE/WMG	SWE/JHS	SWE	10-10-07

DESIGN DATE	REV. NO.	DRAWING	SHEET NO	FILE	SHEET
10-10-07	1	-----	-----	A79877	C13

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REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

XORAIL
5011 GATE PARKWAY BUILDING 100
SUITE 400 JACKSONVILLE FLORIDA 32256
(904) 443-0083 (MAIN)
(904) 443-0089 (FAX)
CERT. OF AUTHORIZATION NO. 9875
ENGINEER OF RECORD
IVORY L. WHITE, JR., P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

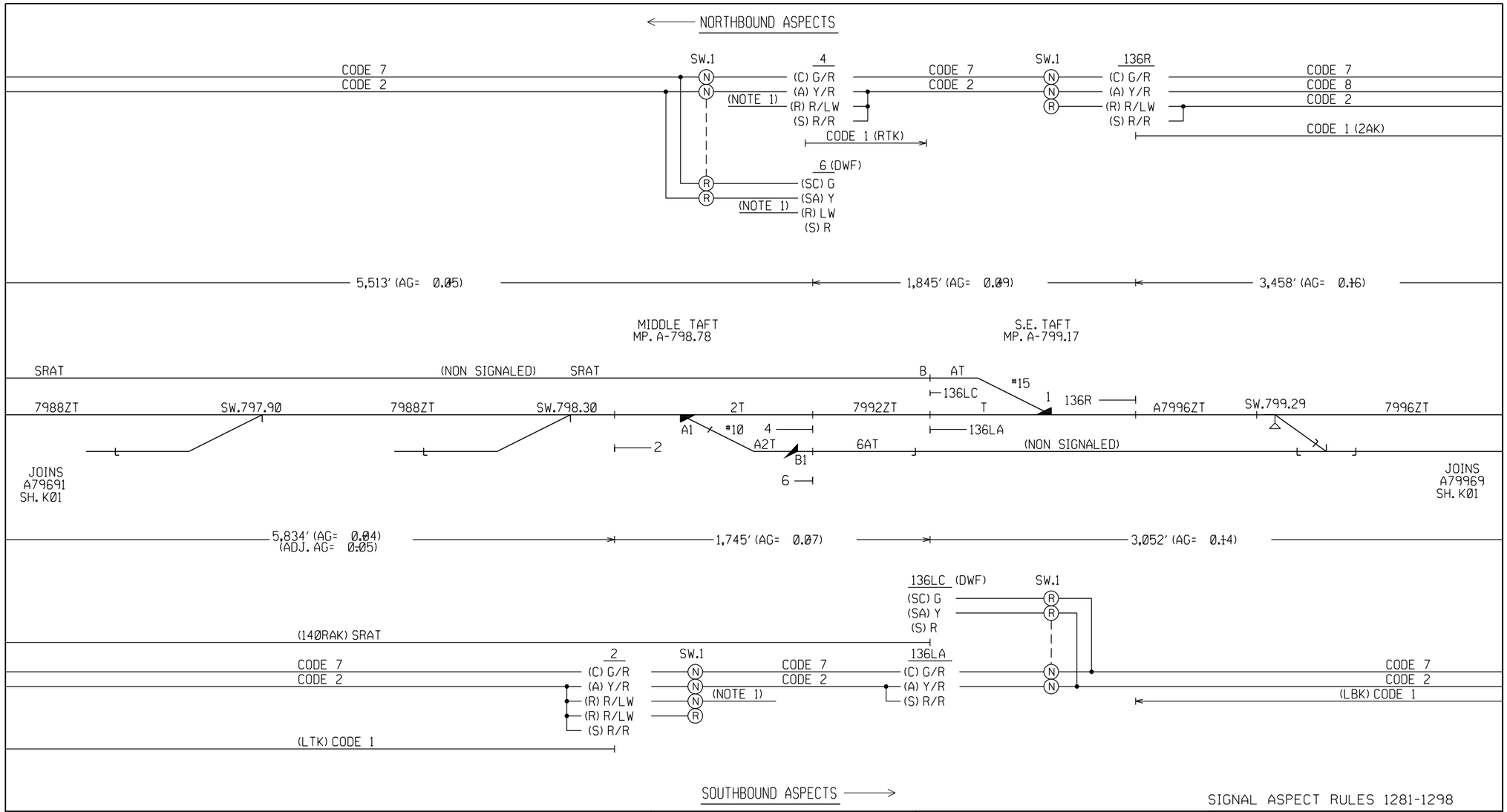
CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

REMOTE DETECTION DEVICE PROGRAM
M.P. A-798.77

SHEET NO.
412

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G79878.001V



GENERAL NOTES:

AG = AVERAGE GRADE	(C) = CLEAR	(LC) = LIMITED CLEAR
EQ = EQUATED DISTANCE	(AL1) = APPROACH LIMITED	(LA) = LIMITED APPROACH
FS = FOLLOWING STICK	(AM) = APPROACH MEDIUM	(MAA) = MEDIUM ADVANCE APPROACH
ERS = ENGINE RETURN STICK	(AA) = ADVANCE APPROACH	(MC) = MEDIUM CLEAR
G = GREEN	(AS) = APPROACH SLOW	(MAM) = MEDIUM APPROACH MEDIUM
Y = YELLOW	(A) = APPROACH	(MAS) = MEDIUM APPROACH SLOW
R = RED	(R) = RESTRICTING	(MA) = MEDIUM APPROACH
LW = LUNAR WHITE	(S) = STOP	(SC) = SLOW CLEAR
DWF = DWARF SIGNAL	(RP) = RESTRICTED PROCEED	(SAS) = SLOW APPROACH SLOW
FG = FLASHING GREEN		(SA) = SLOW APPROACH
FY = FLASHING YELLOW		(N) = P.O. SWITCH NORMAL
		(R) = P.O. SWITCH REVERSE

NOTE:
(1) RESTRICTING ASPECTS FOR FOLLOWING MOVES & ENGINE RETURNS AVAILABLE FOR ALL SIGNALED ROUTES.

60 MPH MAXIMUM AUTHORIZED SPEED FREIGHT. AUTHORITY FOR MOVEMENT CPS-261/ABS-261 TIMETABLE #4 DATED 01-01-05

REVISIONS

REV. NO.	PROJECT NO.	DESIGN DATE	IN SERVICE DATE	REVISION DATE
1	FL2006094A	10-10-07	05-20-08	07-01-08

THIS SHEET VOID

CSX TRANSPORTATION
RAIL TRANSPORT GROUP ENGINEERING
COMMUNICATIONS AND SIGNALS

ST. JOHNS TO AUBURNDALE
MIDDLE TAFT TO S.E. TAFT
NORTHBOUND ASPECT CHART
TAFT, FL M.P. A-798.78

DESIGNED	DIGITIZED	CHECKED	DATE
SWE/WMG	SWE/JLG	SWE	10-10-07
DRAWING	SHEET NO	FILE	SHEET
-----	-----	A79878	K01

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CERT. OF AUTHORIZATION NO. 9875
ENGINEER OF RECORD
IVORY L. WHITE, JR, P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
MIDDLE TAFT TO S.E. TAFT
NORTHBOUND ASPECT CHART
M.P. A-798.78

SHEET NO.
413

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.

G79908.001

INDEX

CONTENTS

SH. NO.		REVISION NO. 1	2	3	4	5	6	7	8	9
1	TITLE, NOTES, INDEX & REVISIONS	⧄								
2	TRACK & SIGNAL PLAN	⧄								
3	ELECTRIC LOCK CIRCUITS	⧄								

⧄ = DESIGN COMPLETED

⧄ = REVISION COMPLETED

NEW SHEET

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STATE OF FLORIDA
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ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

ELECTRIC LOCK
TITLE, NOTES, INDEX & REVISIONS

M.P. A-799.08

SHEET NO.

414

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G79908.002

← NORTH TO JACKSONVILLE

PS 42179+53
#10 T.O.

42182+57
798.24 (AX)

42168+06
797.94 (AX)

100' MINIMUM UNLOCK CIRCUIT

SP.
B-1
N-1
Ø8NWP2
NØ8NWP2

5 COND. #14 U.G.

T-21
SL-25

(✕)

SW. 799.08

76CWTO-2
348 HZ

Ø8WLTO
20.0KHZ

7996-2ZT

A7996-1ZT

348 HZ
76CWTO-4

JOINS
MP 798.76
SH. G79876.002

Ø8WLTO

NØ8WLTO

TO
Ø8
TRCU

5 SP.
B-1
N-1
Ø8WL
NØ8WL
Ø8NWP
NØ8NWP
Ø8D

40"

12 COND. #14 U.G.

2 #6 U.G. TRK.

12 COND. #14 U.G.

12 COND. #14 U.G.

3 SP.
Ø8WLTOR
NØ8WLTOR
B-1
N-1
Ø8WL
NØ8WL
Ø8NWP
NØ8NWP
Ø8D

76CWTO-2
348 HZ

7996-2ZT

A7996-1ZT

348 HZ
76CWTO-4

JOINS
MP 799.29
SH. G79929.002

NOTE:
(✕) = LOCATION OF CASE.

NEW SHEET

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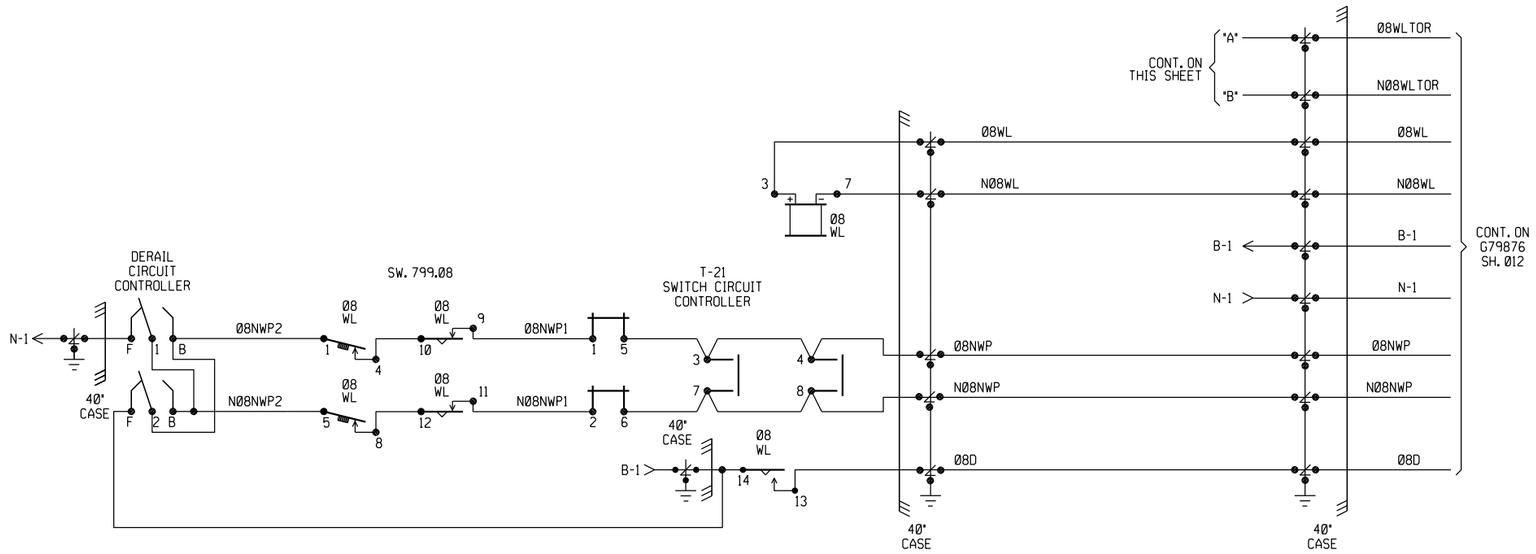
ELECTRIC LOCK TRACK & SIGNAL PLAN

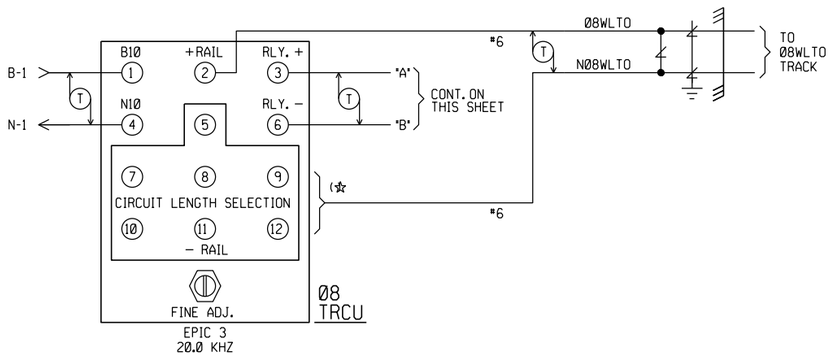
M.P. A-799.08

SHEET NO.
415

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G79908.003





(☆ = (- RAIL) FIELD SELECT PER ADJUSTMENT PROCEDURE TO SET SHUNT ZONE OF 100'

NOTE:

1. ●⁄● = LPC-10512-1 (15A, BLUE LEAD) HYBRID LOW VOLTAGE ARRESTER, UNLESS NOTED.

NEW SHEET

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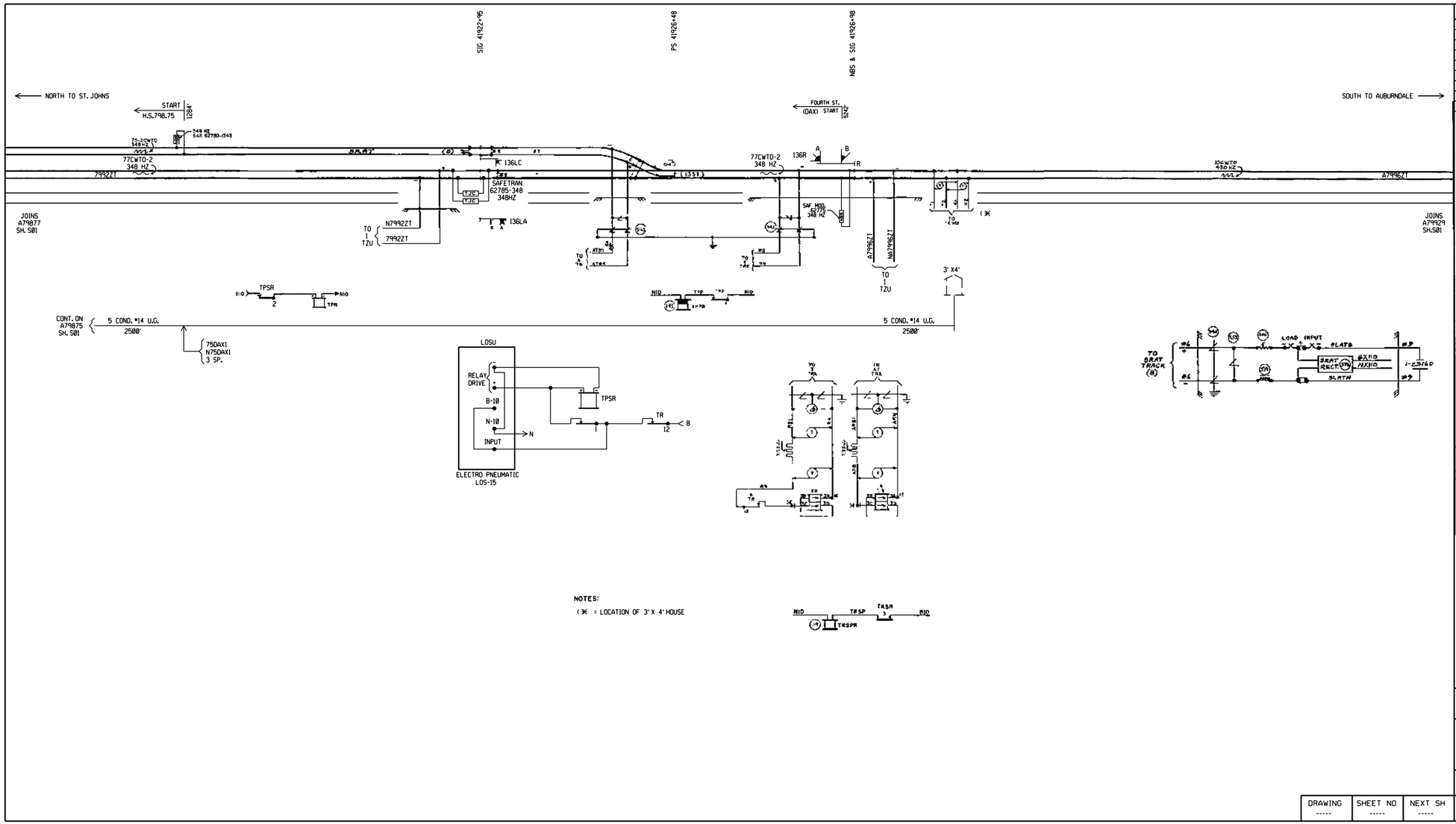
CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

ELECTRIC LOCK
ELECTRIC LOCK CIRCUITS
M.P. A-799.08

SHEET NO.
416

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G79917.001V



NOTES:

(✱ = LOCATION OF 3' X 4' HOUSE

REVISIONS
04-18-86 REVISED PER MARKED PRINT J.F.K.
01-15-88 REPORT J.D.G. 06-12-87
12-04-90 ORS J.S.H.
12-06-94 SWE FL93005
CREATED VECTOR ABC 05-06-99 FL1998180
03-10-01 HAR FL1996106
12-12-01 IRS FL2001140
06-28-04 IRS FL2004070
07-01-08 SWE FL2006094

CSX TRANSPORTATION
RAIL TRANSPORT GROUP ENGINEERING
COMMUNICATIONS AND SIGNALS

ST. JOHNS TO AUBURNDALE
SOUTH END TAFT
TRACK AND SIGNAL PLAN
TAFT, FL M.P. A-799.17

DESIGNED	DIGITIZED	CHECKED	DATE
U.S. & S.			

DRAWING	SHEET NO	NEXT SH	NEXT FILE	NEXT SH	FILE	SHEET
-----	-----	-----	A79917	E01	A79917	S01

RASTER FILE: S0016933.CIT

MS FILE: A79917.S01

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STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
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CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
S.E. TAFT
TRACK & SIGNAL PLAN
M.P. A-799.17

SHEET NO.
417

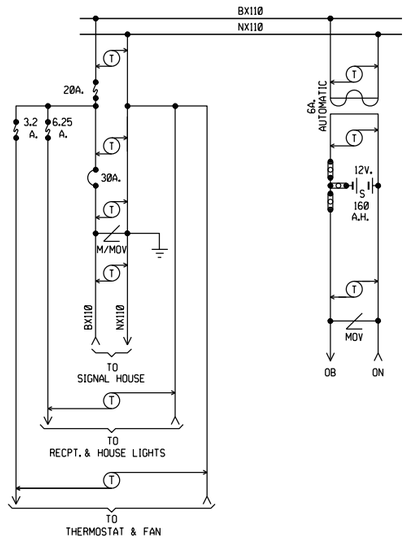
DRAWING NO.
G79917.002V

75UAXR		
1	F	B51
2	F	

ICWU
MODULES REQUIRED

2EA.	80012 TRANCEIVER MODULE
2EA.	80013 RELAY DRIVE MODULE
2EA.	80014 PROCESSOR MODULE
1EA.	80154 CONTROL INTERFACE
1EA.	80019 KEYBOARD/DISPLAY CONTROL UNIT
1EA.	80028 TRANSFER MODULE

EQUIPMENT		
REF.	NOMENCLATURE	TYPE
	ICWU	MOTION SENSOR/GRADE CROSSING PREDICTOR SAFETRAN MODEL 3000ND2 FREQ.430HZ.



NOTES:
1 - REFERENCES ARE PER SCMS-13.
2 - ARRESTERS ARE PER SCMS-22.
3 - GROUND CONNECTIONS ARE PER SCMS-16.
4 - SHELF RELAY PLACEMENT ON CONSIST CHART HAS NO SIGNIFICANCE.
5 - PLUG-IN RELAYS ARE VIEWED FROM THE FRONT OF RACK.
6 - ALL FUSES TO BE SLOW BLOW.
7 - WIRING
A - FEED TO ALL BUSSES, LIGHT CIRCUITS, MOTORS CIRCUITS AND 110-VOLT FEED FROM ENTRANCE TO POWER BUSS, TO BE #10 FLEX.
B - FROM POWER BUSS TO RECTIFIER AND TRANSFORMER TO BE #14 FLEX.
C - ALL OTHERS TO BE #16 FLEX UNLESS NOTED.

THE OPERATION OF ANY CIRCUITS AND EQUIPMENT SHOWN HEREIN MUST BE CHECKED BY POINT TO POINT BREAKDOWN AND COMPLETE OPERATIONAL TESTING OF THE SYSTEM (OR SECTIONS OF THE SYSTEM) INTO WHICH THEY ARE CONNECTED.

3' X 4' HOUSE

REVISIONS
12-06-94 SWE FL93003
05-06-99 ABC FL1998180
07-01-08 SWE FL2006094

CSXT TRANSPORTATION
RAIL TRANSPORT GROUP ENGINEERING
COMMUNICATIONS AND SIGNALS

ST. JOHNS TO AUBURNDALE
SOUTH END TAFT
EQUIPMENT
TAFT, FL M.P. A-799.17

DESIGNED	DIGITIZED	CHECKED	DATE
SWE	SWE	SWE	3-23-93

DRAWING	SHEET NO	NEXT SH	NEXT FILE	NEXT SH	FILE	SHEET
-----	-----	-----	A79917	C01	A79917	E01

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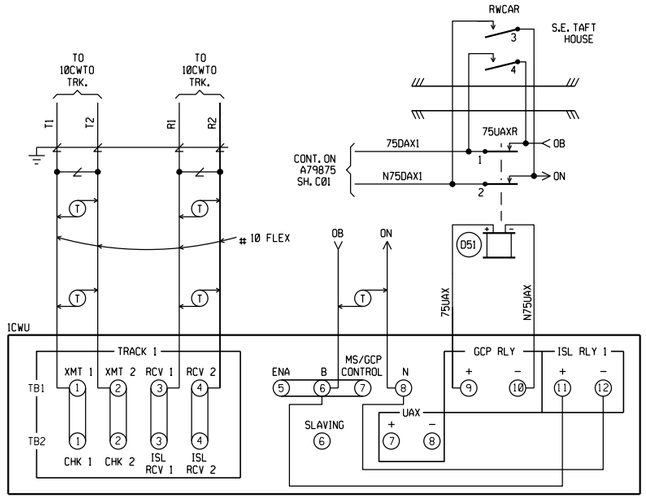
CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
S.E. TAFT
EQUIPMENT
M.P. A-799.17

SHEET NO.
418

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.

G79917.003V



MODULE 80028

S4 DIP SWITCH POSITIONS *

SWITCH *	16	8	4	2	1
SWITCH POSITION	UP	DOWN	UP	DOWN	UP

* MAY BE SET PER FIELD CONDITIONS

3'X 4' HOUSE

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REVISIONS
12-06-94 SWE FL93003
05-06-99 ABC FL1998100
04-07-06 CSX FL2006028
07-01-08 SWE FL2006094

CSX TRANSPORTATION

RAIL TRANSPORT GROUP ENGINEERING
COMMUNICATIONS AND SIGNALS

ST. JOHNS TO AUBURNDALE

SOUTH END TAFT

CIRCUITS

TAFT, FL M.P. A-799.17

DESIGNED	DIGITIZED	CHECKED	DATE
SWE	SWE	SWE	3-23-93

DRAWING	SHEET NO	NEXT SH	NEXT FILE	NEXT SH	FILE	SHEET
-----	-----	-----	A79917	C02	A79917	C01

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CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

S.E. TAFT CIRCUITS

M.P. A-799.17

SHEET NO.

419

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G79917.004V

3000 GCP APPLICATION DESIGN CARD

EQUIPMENT: 3000 [ ] 3000D2 [■]
3000ND [ ] 3000ND2 [ ]

ISLAND FREQUENCY : T1: ____ KHZ T2: ____ KHZ ____1____ CWU

NUMBER OF TRACKS (NUMBER OF TRANSCEIVER MODULES, 1 OR 2		1 [■]	2 [ ]
FREQUENCY (MS/GCP)		430 HZ	
UNIDIRECTIONAL/BIDIRECTIONAL	T1:	UNI [■]	BI [ ]
	T2:	UNI [ ]	BI [ ]
XMIT LEVEL	T1:	HI [■] MED [ ]	LOW [ ]
	T2:	HI [ ] MED [ ]	LOW [ ]
PREDICTOR/MOTION SENSOR	T1:	PRED [■]	MS [ ]
	T2:	PRED [ ]	MS [ ]
WARNING TIME SELECTED	T1:	30 SEC.	
	T2:	____ SEC.	
APPROACH DISTANCE SELECTED	T1:	1464 FT.	
	T2:	____ FT.	
APPROACH DISTANCE COMPUTED	T1:	NOT REQUIRED •	
	T2:	NOT REQUIRED •	
UAX PICKUP DELAY (Ø = OFF)		Ø SEC.	
ISLAND DISTANCE (BETWEEN FEED WIRES)	T1:	☆ FT.	
	T2:	☆ FT.	
NUMBER OF DAXS		Ø [ ] 1 [ ] 2 [ ] 3 [ ] 4 [ ]	
DAX A TRACK ASSIGNMENT		T1 [ ]	T2 [ ]
DAX A DISTANCE (Ø = PREEMPT)		____ FT.	
DAX A WARNING TIME		____ SEC.	
DAX B TRACK ASSIGNMENT		T1 [ ]	T2 [ ]
DAX B DISTANCE (Ø = PREEMPT)		____ FT.	
DAX B WARNING TIME		____ SEC.	
DAX C TRACK ASSIGNMENT		T1 [ ]	T2 [ ]
DAX C DISTANCE (Ø = PREEMPT)		____ FT.	
DAX C WARNING TIME		____ SEC.	
DAX D TRACK ASSIGNMENT		T1 [ ]	T2 [ ]
DAX D DISTANCE (Ø = PREEMPT)		____ FT.	
DAX D WARNING TIME		____ SEC.	
SLAVING MASTER/SLAVE		MASTER [ ]	SLAVE [ ]
PASSWORD ENABLED		DISABLED [■]	ENABLED [ ]
RECORDER INSTALLED		NOT INSTALLED [■]	INSTALLED [ ]
RS-232-C BAUD RATE		____ BPS	
RS-232-C DATE BITES		7 [ ]	8 [ ]
RS-232-C STOP BITS		1 [ ]	2 [ ]
RS-232-C PARITY		NONE [ ]	MARK [ ]
		ODD [ ]	SPACE [ ]
		EVEN [ ]	
DATE (E.G., MON 13 MAY 1991) ..		NOT REQUIRED •	
TIME (E.G., 06:25:43 PM)		NOT REQUIRED •	
DAYLIGHT SAVINGS		ON [ ]	OFF [■]

• PROGRAMMED AT INSTALLATION DURING CALIBRATION PRODEDURE
☆ = (FOR INFORMATION ONLY 120' MIN.) NO ENTRY NEEDED

EXPANDED PROGRAMMING DESIGN

SWITCH TO MS (ENTER EZ VALUE)	T1:	OFF EZ
	T2:	____ EZ
TRANSFER DELAY MS TO GCP (Ø = OFF) ..	T1:	OFF SEC.
	T2:	____ SEC.
PRIME PREDICTION OFFSET (Ø = OFF)	T1:	2196 FT.
	T2:	____ FT.
PICKUP DELAY PRIME		15 SEC.
PICKUP DELAY DAX A		____ SEC.
PICKUP DELAY DAX B		____ SEC.
PICKUP DELAY DAX C		____ SEC.
PICKUP DELAY DAX D		____ SEC.
COMPENSATION VALUE		T1: NOT REQUIRED ••
COMPENSATION VALUE		T2: NOT REQUIRED ••

•• THE COMPENSATION VALUE IS PROVIDED BY THE 3000 GCP SYSTEM AND NO ADDITIONAL PROGRAMMING IS NORMALLY REQUIRED.

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REVISIONS
12-06-94 SWE FL93003
05-06-99 ABC FL99B180
07-01-08 SWE FL20060094

CSX TRANSPORTATION
RAIL TRANSPORT GROUP ENGINEERING
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ST. JOHNS TO AUBURNDALE
SOUTH END TAFT
CIRCUITS
TAFT, FL M.P. A-799.17

DESIGNED	DIGITIZED	CHECKED	DATE
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DRAWING	SHEET NO	NEXT SH	NEXT FILE	NEXT SH	FILE	SHEET
-----	-----	-----	A79917	C03	A79917	C02

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ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

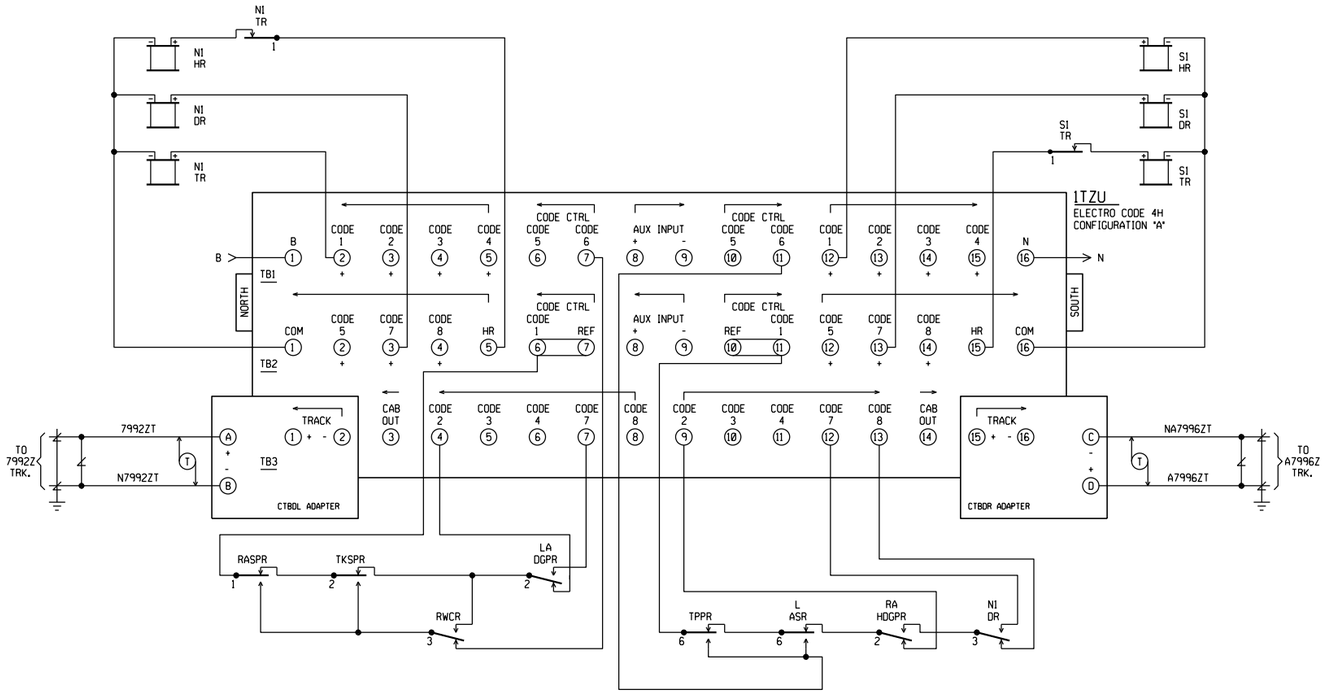
CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
S.E. TAFT CIRCUITS
M.P. A-799.17

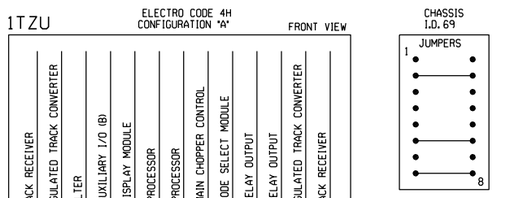
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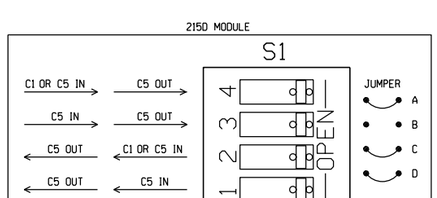
DRAWING NO.

G79917.005V





EXE. NAME EC4HQ
U2 $E34D U4 $4E26
APPL. NAME EOS
REV. NO. 1.0
CS. U1 & U3 $0DF8



THE OPERATION OF ANY CIRCUITS AND EQUIPMENT SHOWN HEREIN MUST BE CHECKED BY POINT TO POINT BREAKDOWN AND COMPLETE OPERATIONAL TESTING OF THE SYSTEM (OR SECTIONS OF THE SYSTEM) INTO WHICH THEY ARE CONNECTED.

REVISIONS
05-06-99 ABC FL1998180
07-01-08 SWE FL2006094

CSX TRANSPORTATION
RAIL TRANSPORT GROUP ENGINEERING
COMMUNICATIONS AND SIGNALS

ST. JOHNS TO AUBURNDALE
SOUTH END TAFT
CIRCUITS
TAFT, FL M.P. A-799.17

DESIGNED	DIGITIZED	CHECKED	DATE
SWE	SWE	SWE	09-28-98

DRAWING	SHEET NO	NEXT SH	NEXT FILE	NEXT SH	FILE	SHEET
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REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

XORAIL
5011 GATE PARKWAY BUILDING 100
SUITE 400 JACKSONVILLE FLORIDA 32256
(904) 443-0083 (MAIN)
(904) 443-0089 (FAX)
CERT. OF AUTHORIZATION NO. 9875
ENGINEER OF RECORD
IVORY L. WHITE, JR., P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

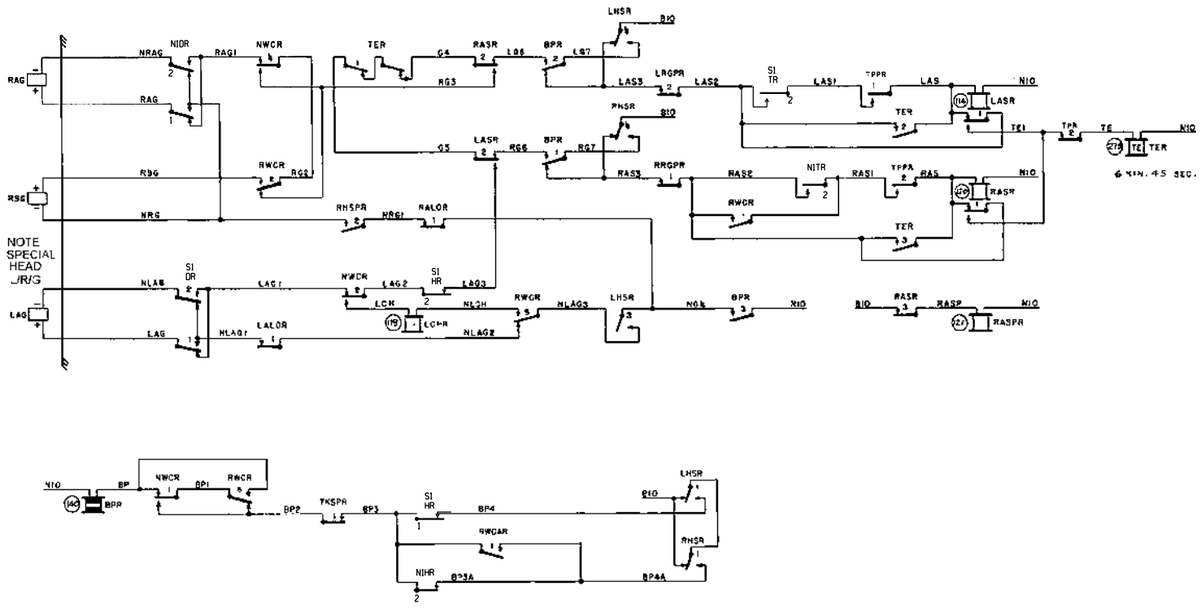
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
S.E. TAFT
BLANK
M.P. A-799.17

SHEET NO.
421

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G79917.006V



THIS SHEET VOID

THE OPERATION OF ANY CIRCUITS AND EQUIPMENT SHOWN HEREIN MUST BE CHECKED BY POINT TO POINT BREAKDOWN AND COMPLETE OPERATIONAL TESTING OF THE SYSTEM (OR SECTIONS OF THE SYSTEM) INTO WHICH THEY ARE CONNECTED.

REVISIONS
04-18-86 REVISED PER MARKED PRINTS J.F.K.
01-15-88 REPORT J.G.G. 06-12-87
12-04-90 ORS J.S.H.
12-06-94 SWE FL93003
CREATED VECTOR 05-06-99 ABC FL1998180
07-01-08 SWE FL2006094

CSX TRANSPORTATION
RAIL TRANSPORT GROUP ENGINEERING
COMMUNICATIONS AND SIGNALS

ST. JOHNS TO AUBURNDALE
SOUTH END TAFT
CIRCUITS
TAFT, FL M.P. A-799.17

DESIGNED	DIGITIZED	CHECKED	DATE
U.S. & S.			08-04-55

DRAWING	SHEET NO	NEXT SH	NEXT FILE	NEXT SH	FILE	SHEET
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RASTER FILE: S0016934.CIT

MS FILE: A79917.C04

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REVISIONS

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IVORY L. WHITE, JR. P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

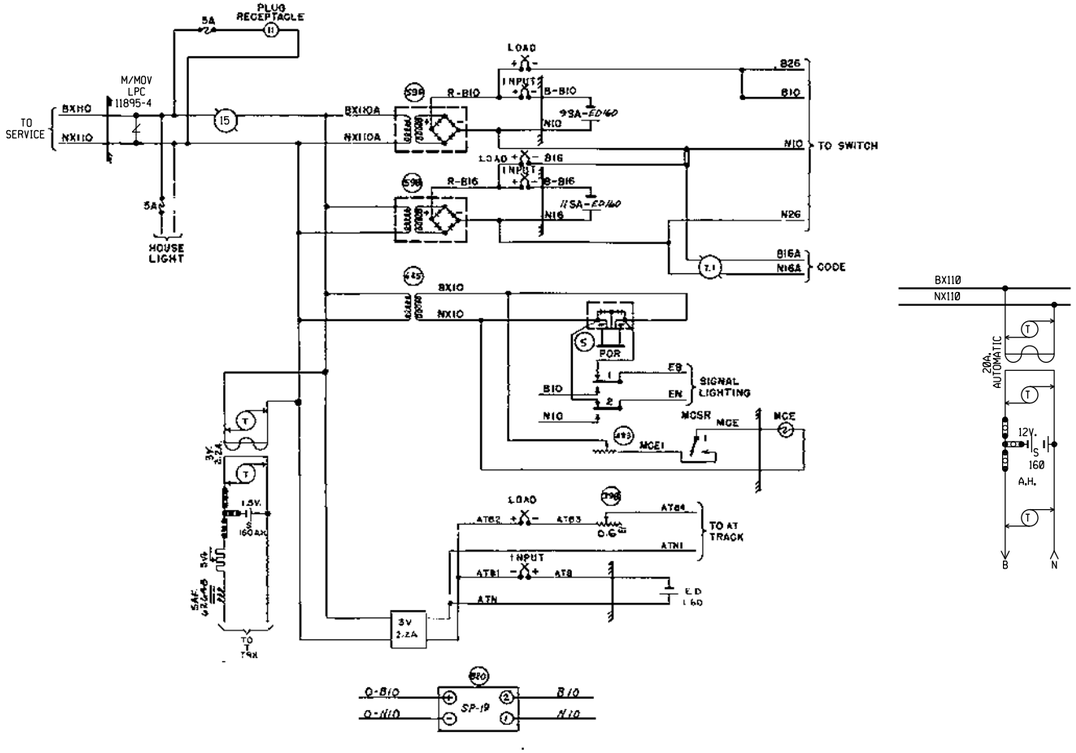
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
S.E. TAFT CIRCUITS
M.P. A-799.17

SHEET NO.
422

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G79917.007V



NOTES -
ALL BATTERIES IN BATTERY BOX
⊗ = TWISTED PAIR-2 TURNS PER FOOT
= TO BE WIRED AS SHOWN

REVISIONS
01-15-88 REPORT J.O.G. 06-12-87
08-04-89 AIS PER R.T.P. 10-21-88 ORS
12-04-90 ORS J.S.H.
12-06-94 SWE FL93003
CREATED VECTOR 05-06-99 ABC FL1998180
03-10-01 HAR FL1996106
07-01-08 SWE FL2006094

CSX TRANSPORTATION
RAIL TRANSPORT GROUP ENGINEERING
COMMUNICATIONS AND SIGNALS

ST. JOHNS TO AUBURNDALE
SOUTH END TAFT
CIRCUITS
TAFT, FL M.P. A-799.17

DESIGNED	DIGITIZED	CHECKED	DATE
U.S. & S.			08-04-55

DRAWING	SHEET NO	NEXT SH	NEXT FILE	NEXT SH	FILE	SHEET
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RASTER FILE: S0016935.CIT

MS FILE: A79917.C05

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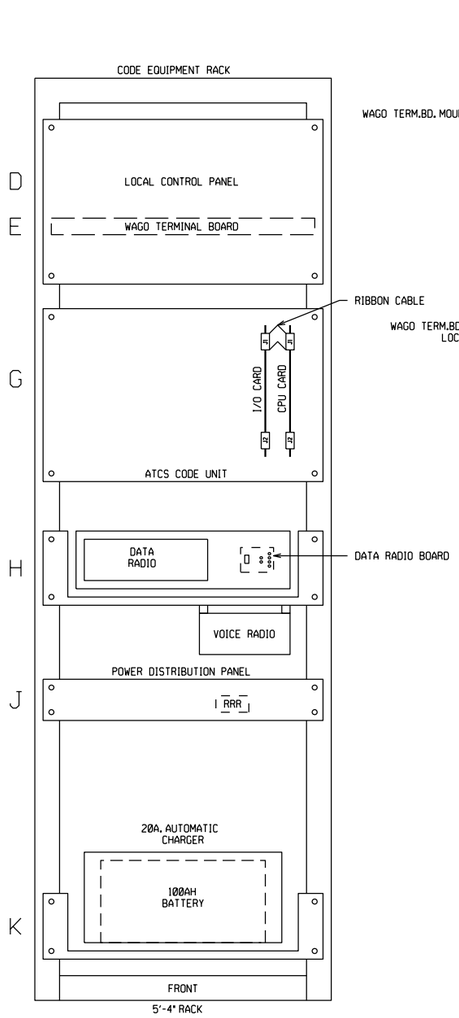
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

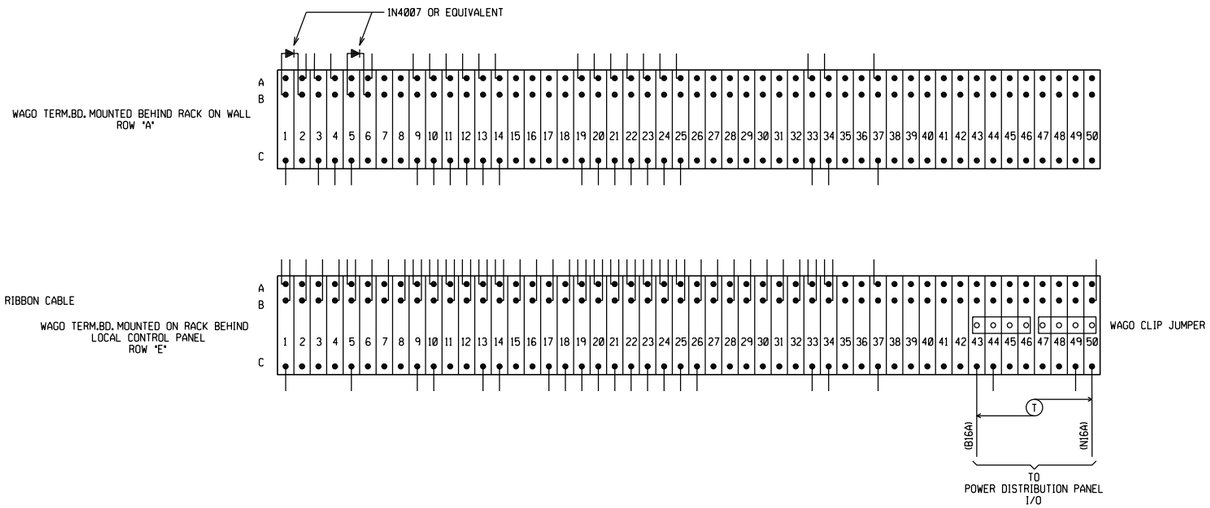
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
S.E. TAFT
CIRCUITS
M.P. A-799.17

SHEET NO.
423

DRAWING NO.
G79917.008V



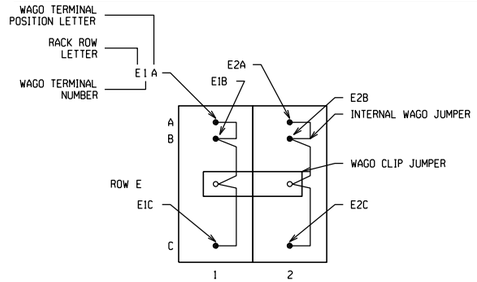


50 CONDUCTOR CABLE COLOR CODE

CODE EQUIPMENT		
REF.	NOMENCLATURE	TYPE
ROW D	LOCAL CONTROL PANEL	DEI PN ATCS-LCP
ROW E	WAGO CONN 50 POSITION	DEI PN 809-DEV/PTC-1
ROW G	CODE RACK CPU BOARD	DEI PN ATCS-CPU
ROW G	CODE RACK I/O BOARD	DEI PN ATCS-I/O
ROW G	CPU/IO CABLE	DEI PN ATCS-0994-61
ROW G	CODE RACK CARD CAGE	DEI PN 185-602899
ROW G	CONN. 18 POS. (2 EA.)	DEI PN 231-318/207-000
ROW G	CONN. 20 POS. (2 EA.)	DEI PN 231-320/027-000
ROW H	DATA/VOICE RADIO SHELF	DEI PN ATCSI-0963-61D
ROW H	CPU/RADIO DATA CABLE	DEI PN ATCSI-0999-61
ROW H	RADIO POWER CABLE	DEI PN ATCSI-1000-61
ROW H	DATA RADIO BOARD	DEI PN ATCSI-0936-11
ROW H	DATA RADIO BOARD CABLE	DEI PN ATCSI-0963-61
ROW J	RRR (REMOTE RADIO RESET)	RELAY CRYDOM PN D1D40
ROW J	POWER DISTRIBUTION PANEL	DEI PN PDP
ROW K	SHELF	DEI PN ATCSI-0963-61V
ROW K	NRS 12V/20A CHARGER	CSXT - 020-0053390
ROW K	BATTERY GNB 100AH	GNB PN MSA2460

WAGO TERM. BD. "A" (CONTROLS)	
WIRE COLOR	TERMINAL NO.
BLACK	1
WHITE	
RED	
GREEN	
ORANGE	5
BLUE	
WHITE / BLACK	
RED / BLACK	
GREEN / BLACK	9
ORANGE / BLACK	10
BLUE / BLACK	11
BLACK / WHITE	12
RED / WHITE	13
GREEN / WHITE	14
BLUE / WHITE	
BLACK / RED	
WHITE / RED	
ORANGE / RED	
BLUE / RED	
RED / GREEN	
ORANGE / GREEN	
BLACK / WHITE / RED	
WHITE / BLACK / RED	
RED / BLACK / WHITE	
GREEN / BLACK / WHITE	37

WAGO TERM. BD. "A" (INDICATIONS)	
WIRE COLOR	TERMINAL NO.
ORANGE / BLACK / WHITE	19
BLUE / BLACK / WHITE	20
BLACK / RED / GREEN	21
WHITE / RED / GREEN	22
RED / BLACK / GREEN	23
GREEN / BLACK / ORANGE	24
ORANGE / BLACK / GREEN	25
BLUE / WHITE / ORANGE	
BLACK / WHITE / ORANGE	
WHITE / RED / ORANGE	
ORANGE / WHITE / BLUE	
WHITE / RED / BLUE	
BLACK / WHITE / GREEN	
WHITE / BLACK / GREEN	
RED / WHITE / GREEN	33
GREEN / WHITE / BLUE	34
ORANGE / RED / GREEN	
BLUE / RED / GREEN	
BLACK / WHITE / BLUE	
WHITE / BLACK / BLUE	
RED / WHITE / BLUE	
GREEN / ORANGE / RED	
ORANGE / RED / BLUE	
BLUE / RED / ORANGE	
BLACK / ORANGE / RED	



REVISIONS
05-06-99 ABC FL1998180
03-10-01 HAR FL1996106
07-01-08 SWE FL2006094

CSXT TRANSPORTATION
RAIL TRANSPORT GROUP ENGINEERING
COMMUNICATIONS AND SIGNALS

ST. JOHNS TO AUBURNDALE
SOUTH END TAFT
CIRCUITS
TAFT, FL M.P. A-799.17

DESIGNED	DIGITIZED	CHECKED	DATE
HAR./RWR	HAR./RWR	HAR./GOJ	12-27-96

DRAWING	SHEET NO	NEXT SH	NEXT FILE	NEXT SH	FILE	SHEET
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REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

XORAIL
5011 GATE PARKWAY BUILDING 100
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CERT. OF AUTHORIZATION NO. 9875
ENGINEER OF RECORD
IVORY L. WHITE, JR, P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

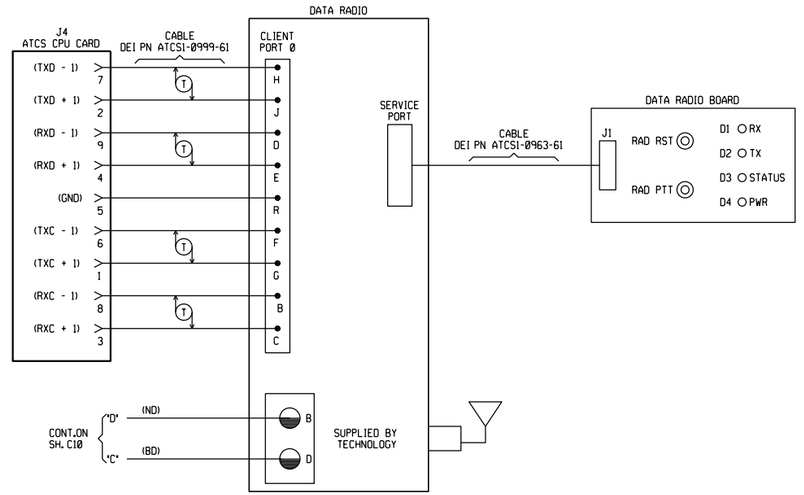
CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
S.E. TAFT CIRCUITS
M.P. A-799.17

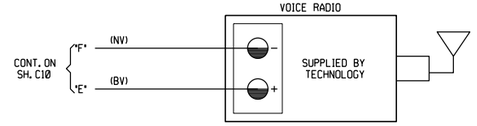
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424

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G79917.009V

LOCATION NAME	LOCATION NUMBER	STATION NUMBER	SLOT NO.	CONTROL WORD NO. 1								INDICATION WORD NO. 1								INDICATION WORD NO. 2							
				1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
SOUTH END OF TAFT	1739	53	2	NWS	SPARE	RWS	SPARE	LHS	MCS	RHS	SPARE	NWK	TK	RWK	LBK	LHK	RTK	RHK	MOK	SPARE	SPARE	SPARE	SPARE	SPARE	SPARE	ECK	POK





REVISIONS
05-06-99 ABC FL1998180
03-10-01 HAR FL1996106
07-01-08 SWE FL2006894

CSX TRANSPORTATION
RAIL TRANSPORT GROUP ENGINEERING
COMMUNICATIONS AND SIGNALS

ST. JOHNS TO AUBURNDALE
SOUTH END TAFT
CIRCUITS
TAFT, FL M.P. A-799.17

DESIGNED	DIGITIZED	CHECKED	DATE
HAR./RWR	HAR./RWR	HAR./GOJ	12-27-96

DRAWING	SHEET NO	NEXT SH	NEXT FILE	NEXT SH	FILE	SHEET
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STATE OF FLORIDA
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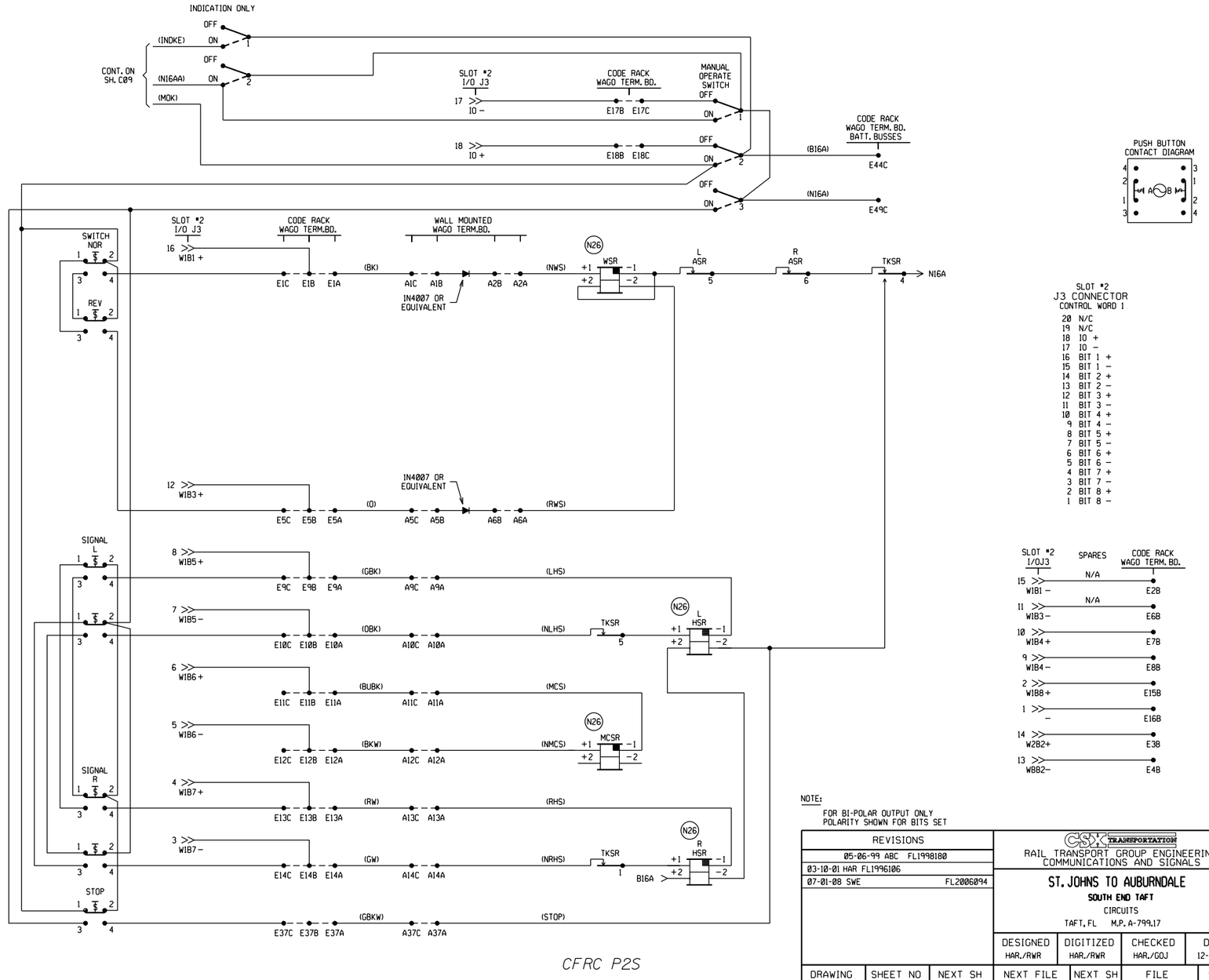
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
S.E. TAFT
CIRCUITS
M.P. A-799.17

SHEET NO.
425

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G79917.0I0V



CFRC P2S

NOTE:
FOR BI-POLAR OUTPUT ONLY
POLARITY SHOWN FOR BITS SET

REVISIONS
05-06-99 ABC FL1998180
03-10-01 HAR FL1996106
07-01-08 SWE FL2006094

CSX TRANSPORTATION
RAIL TRANSPORT GROUP ENGINEERING
COMMUNICATIONS AND SIGNALS

ST. JOHNS TO AUBURNDALE
SOUTH END TAFT
CIRCUITS
TAFT, FL M.P. A-799.17

DESIGNED	DIGITIZED	CHECKED	DATE
HAR./RWR	HAR./RWR	HAR./GOJ	12-27-96

DRAWING	SHEET NO	NEXT SH	NEXT FILE	NEXT SH	FILE	SHEET
-----	-----	-----	A79917	C09	A79917	C08

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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

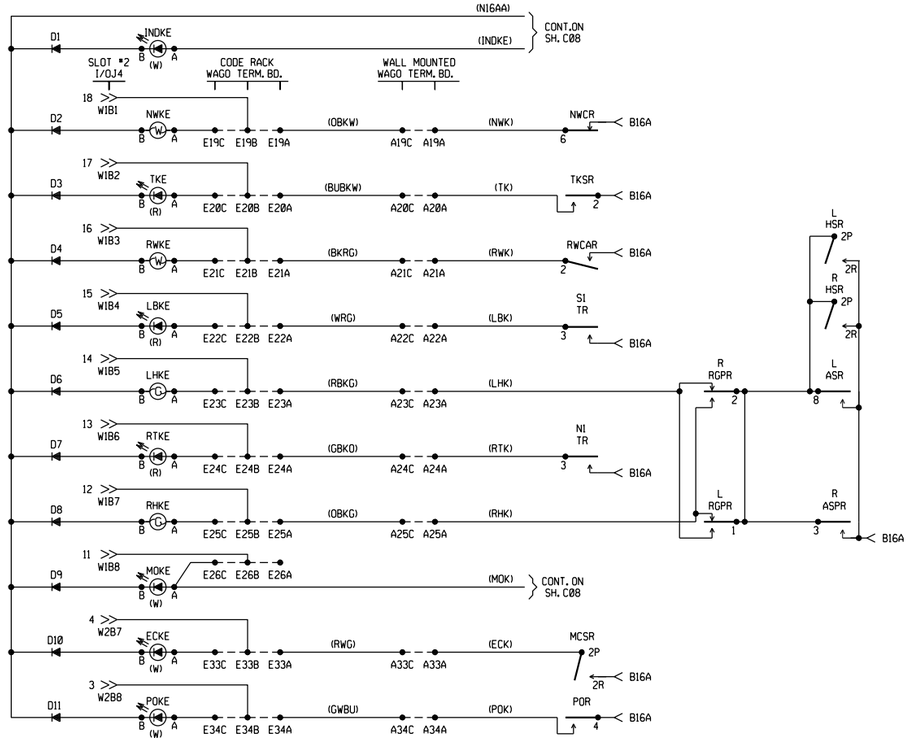
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
S.E. TAFT
CIRCUITS
M.P. A-799.17

SHEET NO.
426

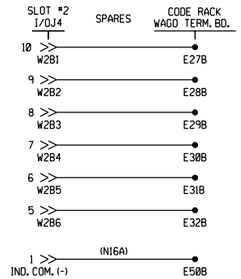
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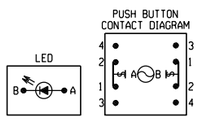
DRAWING NO.
G79917.011V





SLOT #2
J4 CONNECTOR
INDICATION WORD 1
18-BIT 1
17-BIT 2
16-BIT 3
15-BIT 4
14-BIT 5
13-BIT 6
12-BIT 7
11-BIT 8
INDICATION WORD 2
10-BIT 1
9-BIT 2
8-BIT 3
7-BIT 4
6-BIT 5
5-BIT 6
4-BIT 7
3-BIT 8
2-N/C
1-IND. COM(-)





REVISIONS
05-06-99 ABC FL1998180
03-10-01 HAR FL1996106
07-01-08 SWE FL2006894

CSXT TRANSPORTATION
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ST. JOHNS TO AUBURNDALE
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TAFT, FL M.P. A-799.17

DESIGNED	DIGITIZED	CHECKED	DATE
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-----	-----	-----	A79917	C10	A79917	C09

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STATE OF FLORIDA
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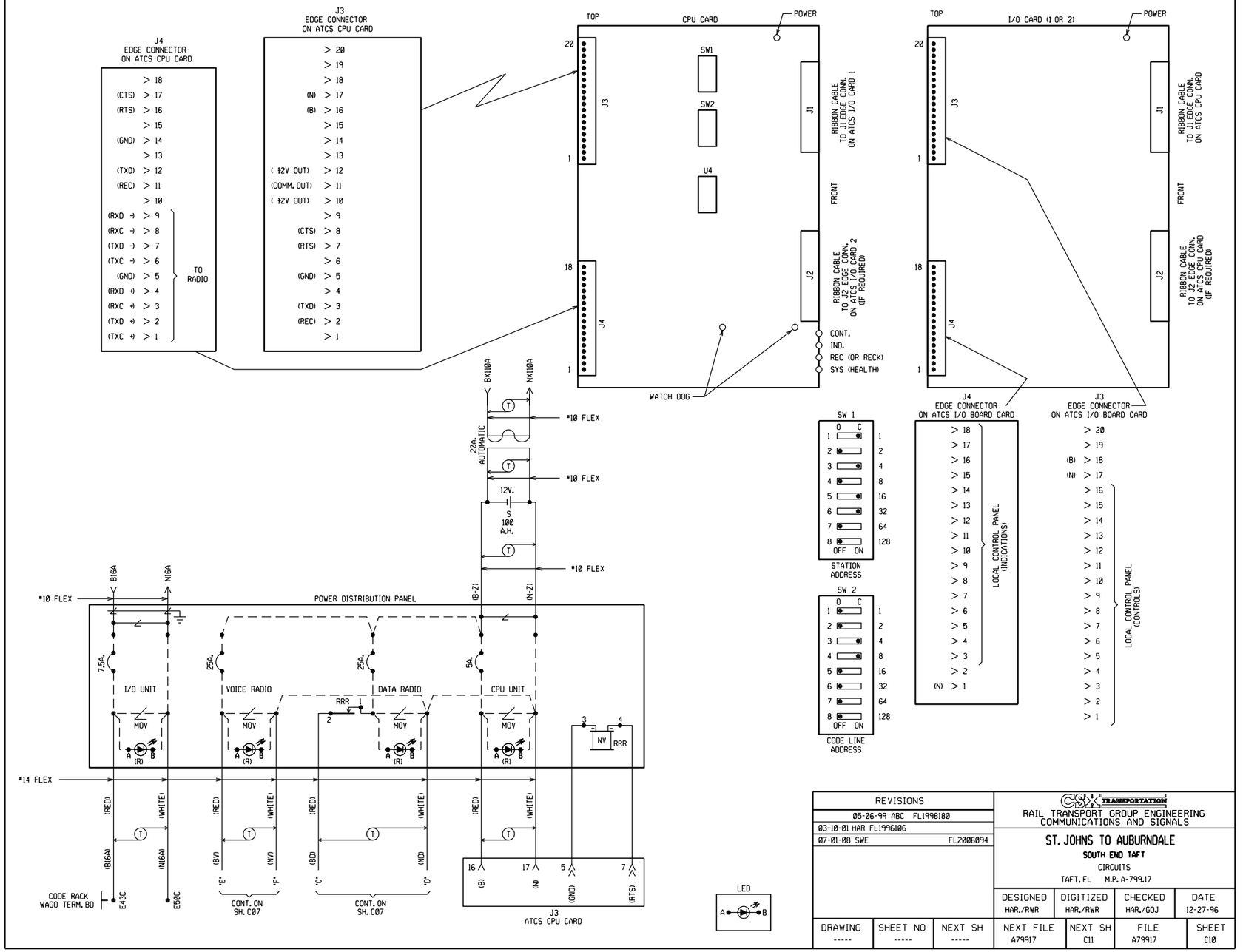
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
S.E. TAFT
CIRCUITS
M.P. A-799.17

SHEET NO.
427

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G79917.012V



REVISIONS
05-06-99 ABC FL1998180
03-10-01 HAR FL1996106
07-01-08 SWE FL2006094

CSX TRANSPORTATION
RAIL TRANSPORT GROUP ENGINEERING
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ST. JOHNS TO AUBURNDALE
SOUTH END TAFT
CIRCUITS
TAFT, FL M.P. A-799.17

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STATE OF FLORIDA
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CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
S.E. TAFT
CIRCUITS
M.P. A-799.17

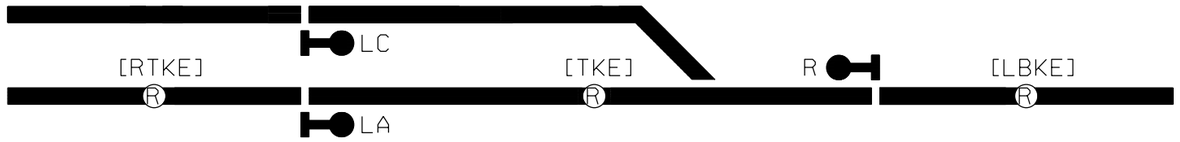
SHEET NO.
428

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DRAWING NO.
G79917.013V

SOUTH END TAFT

Ⓦ POKE Ⓦ ECKE



SWITCH

NOR Ⓦ

REV Ⓦ

SIGNAL

L G R G

STOP Ⓡ

MANUAL OPERATE

ON Ⓦ

OFF MOKE

INDICATION ONLY

ON Ⓦ

OFF INDKE

NOTES:
1. [ ] FOR INFORMATION ONLY NOT ETCHED ON PANEL
2. PANEL 19" RACK MOUNT
3. USE 28 VDC LAMPS AND LED'S

REVISIONS
05-06-99 ABC FL1998180
03-10-01 HAR FL1996106
07-01-08 SWE FL2006894

CSX TRANSPORTATION
RAIL TRANSPORT GROUP ENGINEERING
COMMUNICATIONS AND SIGNALS

ST. JOHNS TO AUBURNDALE
SOUTH END TAFT
CIRCUITS
TAFT, FL M.P. A-799.17

DESIGNED	DIGITIZED	CHECKED	DATE
HAR./RWR	HAR./RWR	HAR./GOJ	12-27-96

DRAWING	SHEET NO	NEXT SH	NEXT FILE	NEXT SH	FILE	SHEET
-----	-----	-----	A79912	C12	A79917	C11

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REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

XORAIL
5011 GATE PARKWAY BUILDING 100
SUITE 400 JACKSONVILLE FLORIDA 32256
(904) 443-0083 (MAIN)
(904) 443-0089 (FAX)
CERT. OF AUTHORIZATION NO. 9875
ENGINEER OF RECORD
IVORY L. WHITE, JR, P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
S.E. TAFT
CIRCUITS
M.P. A-799.17

SHEET NO.
429

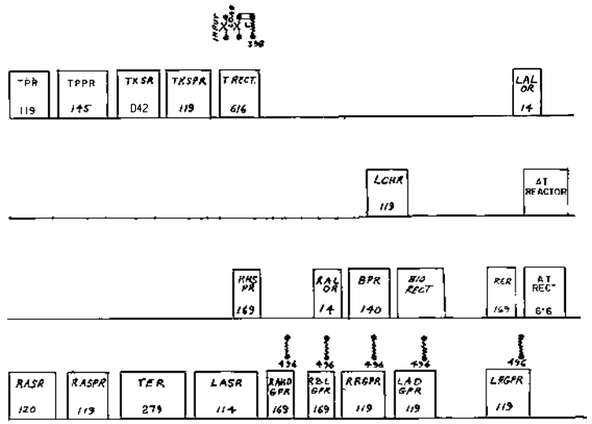
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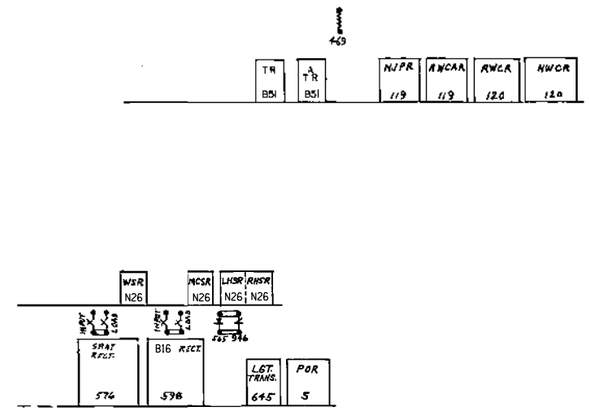
SITR			SIHR			SIDR			NITR			NIHR			NIDR			TPSR		
1	F	D41	1	F	D41	1	FB	D41	1	F	D41	1		D41	1	FB	D41	1	F	D51
2	B		2	F		2	FB		2	B		2	F		2	FB		2	F	
3	B					3	FB		3	B		3	F		3	FB				
4						4	F		4			4			4	FB				

LOSU
LOS-15

ITZU
ELECTROCODE 4H CONFIGURATION 'A'



LEFT SIDE



RIGHT SIDE

REVISIONS
04-21-86 REVISED PER MARKED PRINT J.F.K.
01-15-88 REPORT J.O.G. 06-12-87
12-04-90 ORS J.S.H.
12-06-94 SWE FL93003
CREATED VECTOR 05-06-99 ABC FL1998180
03-10-01 HAR FL1996106
04-07-06 CSX FL2006028
07-01-08 SWE FL2006094

CSX TRANSPORTATION
RAIL TRANSPORT GROUP ENGINEERING
COMMUNICATIONS AND SIGNALS

ST. JOHNS TO AUBURNDALE
SOUTH END TAFT
CIRCUITS
TAFT, FL M.P. A-799.17

DESIGNED	DIGITIZED	CHECKED	DATE
	F.L.R.		04-29-76

DRAWING	SHEET NO	NEXT SH	NEXT FILE	NEXT SH	FILE	SHEET
-----	-----	-----	A79917	C13	A79917	C12

RASTER FILE: S0016937.CIT

MS FILE: A79917.C12

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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

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CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
S.E. TAFT
CIRCUITS
M.P. A-799.17

SHEET NO.
430

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G79917.015V

CONNECTIONS TO BE INSTALLED BETWEEN RELAY HOUSE, DP-25 BOX AND SWITCH MOVEMENT

SW MOVT DP-25 BOX

RELAY HOUSE

135

ADD JUMPERS

FOR DETAIL WIRING SWITCH MOVEMENT AND CONTROLLER SEE SHEET 61180 Sh. 3

WIRE AS SHOWN

SWITCH
RIGHT HAND SWITCH MOVEMENT
RIGHT HAND POINTS NORMALLY CLOSED

REMOVE ALL JUMPERS EXCEPT AS SHOWN

DJAL SELECTOR LEVER CONTACT

REVISIONS
12-04-90 ORS J.S.H.
CREATED VECTOR 03-10-01 HAR FL1996106
07-01-08 SWE FL20060094

CSX TRANSPORTATION
RAIL TRANSPORT GROUP ENGINEERING COMMUNICATIONS AND SIGNALS

ST. JOHNS TO AUBURNDALE
SOUTH END TAFT
CIRCUITS
TAFT, FL M.P. A-799.17

DESIGNED	DIGITIZED	CHECKED	DATE
US&S	HAR/CSM	US&S	03-10-01

DRAWING	SHEET NO	NEXT SH	NEXT FILE	NEXT SH	FILE	SHEET
-----	-----	-----	A79917	C14	A79917	C13

S0016936.CIT A79917.C13

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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

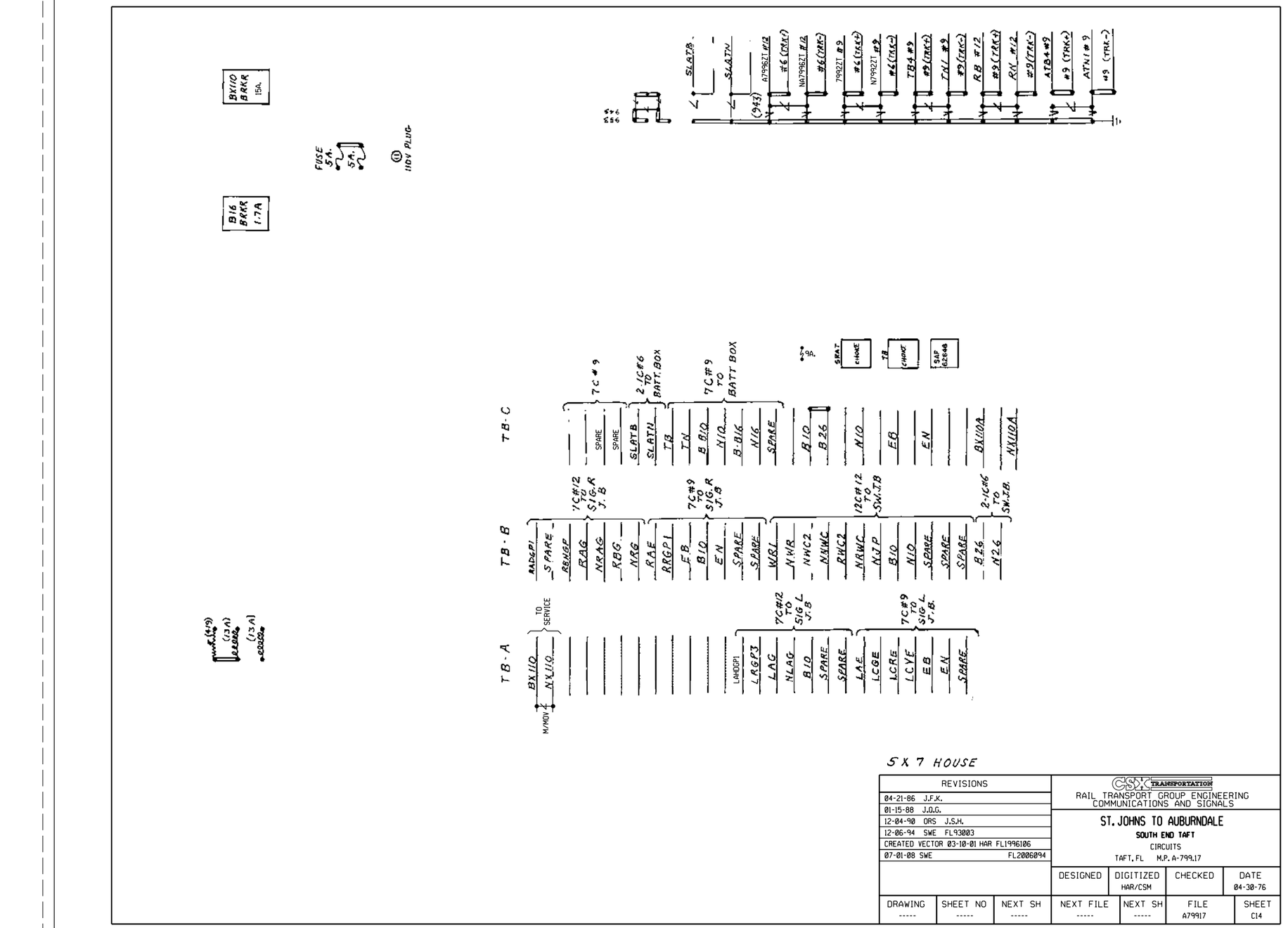
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
S.E. TAFT CIRCUITS
M.P. A-799.17

SHEET NO.
431

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G79917.016V



REVISIONS
04-21-86 J.F.K.
01-15-88 J.O.G.
12-04-90 ORS J.S.H.
12-06-94 SWE FL93003
CREATED VECTOR 03-10-01 HAR FL1996106
07-01-08 SWE FL2006094

CSX TRANSPORTATION
RAIL TRANSPORT GROUP ENGINEERING
COMMUNICATIONS AND SIGNALS

ST. JOHNS TO AUBURNDALE
SOUTH END TAFT
CIRCUITS
TAFT, FL M.P. A-799.17

DESIGNED	DIGITIZED	CHECKED	DATE
	HAR/CSM		04-30-76

DRAWING	SHEET NO	NEXT SH	NEXT FILE	NEXT SH	FILE	SHEET
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S0016938.CIT A79917.C14

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STATE OF FLORIDA
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ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
S.E. TAFT CIRCUITS
M.P. A-799.17

SHEET NO.
432

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G79929.001

INDEX

CONTENTS

	SH. NO.		REVISION NO. 1	2	3	4	5	6	7	8	9
1	I01	TITLE, NOTES, INDEX, AND REVISIONS	⊠	⊠/							
2	S01	TRACK AND SIGNAL PLAN	⊠	⊠/							
3	E01	POWER DISTRIBUTION	⊠	⊠/							
4	C01	ELECTRO CODE 5 UNIT TRACK I/O	⊠	⊠/							
5	C02	ELECTRO CODE 5 UNIT COLORLIGHT BACKPLANE (BP-1)	⊠								
6	C03	ELECTRO CODE 5 UNIT PROGRAM	⊠	⊠/							

⊠/ = DESIGN COMPLETED
⊠ = REVISION COMPLETED

RED = IN
YELLOW = OUT

THIS SHEET REDRAWN

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P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

ELECTRIC LOCK CROSSOVER
TITLE, NOTES, INDEX & REVISIONS
M.P. A-799.29

SHEET NO.
433

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G79929.002

100' MINIMUM UNLOCK CIRCUIT

NORTH TO ST. JOHNS NORTH TO JACKSONVILLE

(2EA.) TJC-1
348 HZ

76CWTO-2
348 HZ
7996-2ZT

SAF. MOD.
62785-
430 HZ

TJC
TJC

76CWTO-4 10CWTO
A7996-1ZT 348 HZ 430 HZ
A7996ZT [NIZT]

WLTO
20.0KHZ

(*)

JOINS
A79917
SH. S01
JOINS
G79908.002

NIZT
NNIZT
TO
1
TZU

SIZT
NSIZT
TO
1
TZU

42190+54
PS 41933+09.1
=10 T.O.

SW.799.29
T-21
SL-25

SPARE
SPARE
SPARE
SPARE
SPARE
SPARE
SPARE
B-1
N-1
WL
NWL
NWP
NNWP
D

42197+28
PS 41936+85.1
=10 T.O.

10CWTO
430 HZ

SPARE
B-1
N-1
NWP2
NNWP2

VINELAND RD.
(CR-513)
DAX START

NBS 41941+62
3660'

SAF MOD.
62780-1543
430 HZ
NBS

42209+38
PS 41951+92

76CWTO-2
348 HZ

76CWTO-4
348 HZ

SOUTH TO AUBURNDALE

7996-2ZT

7996-1ZT
7996ZT [SIZT]

JOINS
A79969
SH. S01
JOINS
G79968.002

4'X 4'

2 #6 U.G. TRK.
2 #6 U.G. TRK.
2-7 COND. #14 U.G.
5 COND. #14 U.G.
3 COND. #6 W/GND.
(150')

BX120-1
BX120-2
NX120
GND.

RED = IN
YELLOW = OUT

THIS SHEET
REDRAWN

NOTE:
1. [ ] = TAGGING PURPOSES ONLY
2. (*) = LOCATION OF HOUSE

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CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

ELECTRIC LOCK CROSSOVER TRACK AND SIGNAL PLAN

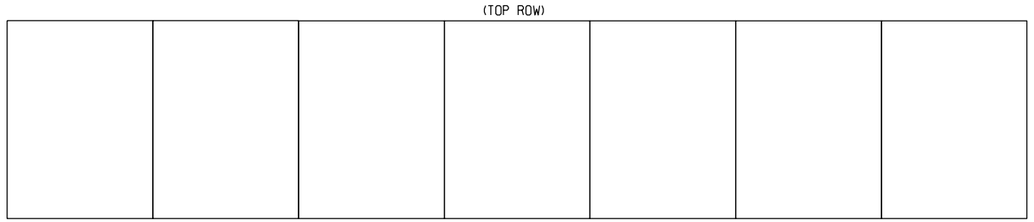
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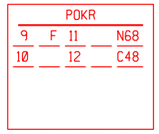
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434

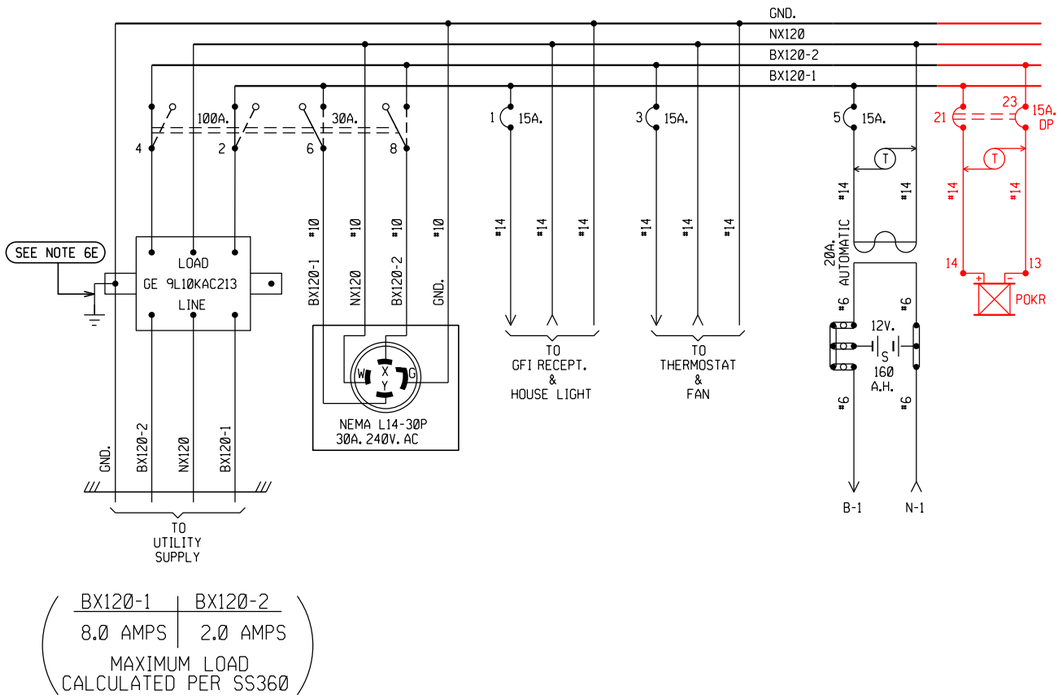
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G79929.003

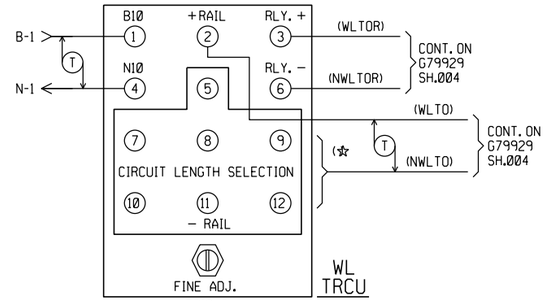






BX120-1	BX120-2
8.0 AMPS	2.0 AMPS

MAXIMUM LOAD CALCULATED PER SS360



(☆ = (- RAIL) FIELD SELECT PER ADJUSTMENT PROCEDURE TO SET SHUNT ZONE OF 100'

NOTES:

1 - REFERENCES ARE PER SCMS-13.
2 - ARRESTERS ARE PER SS382.
3 - SHELF RELAY PLACEMENT ON CONSIST CHART HAS NO SIGNIFICANCE.
4 - PLUG-IN RELAYS ARE VIEWED FROM THE FRONT OF RACK.
5 - BATTERY A.H. CAPACITY SHOWN IS THE MINIMUM REQUIREMENT.
6 - WIRING
  A - FEED TO ALL BUSSES, LIGHT CIRCUITS, MOTOR CIRCUITS TO BE #10 FLEX.
  B - 120-VOLT FEED FROM ENTRANCE TO POWER BUSS TO BE #10 FLEX.
  C - ALL TRACK WIRES TO BE #10 FLEX.
  D - ALL OTHERS TO BE #16 FLEX UNLESS NOTED.
  E - GROUND WIRE NOT NECESSARY WHEN GE ARRESTER IS MOUNTED ON GROUND PLANE OR METAL ENCLOSURE AFFIXED DIRECTLY TO BUNGALOW METALLIC STRUCTURAL MEMBER.
7 - CIRCUIT INTERRUPTERS 2 & 4 ARE MECHANICALLY INTERLOCKED WITH CIRCUIT INTERRUPTERS 6 & 8.

( ) = NOTE

RED = IN

THIS SHEET REDRAWN

4'X 4' RELAY HOUSE

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CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

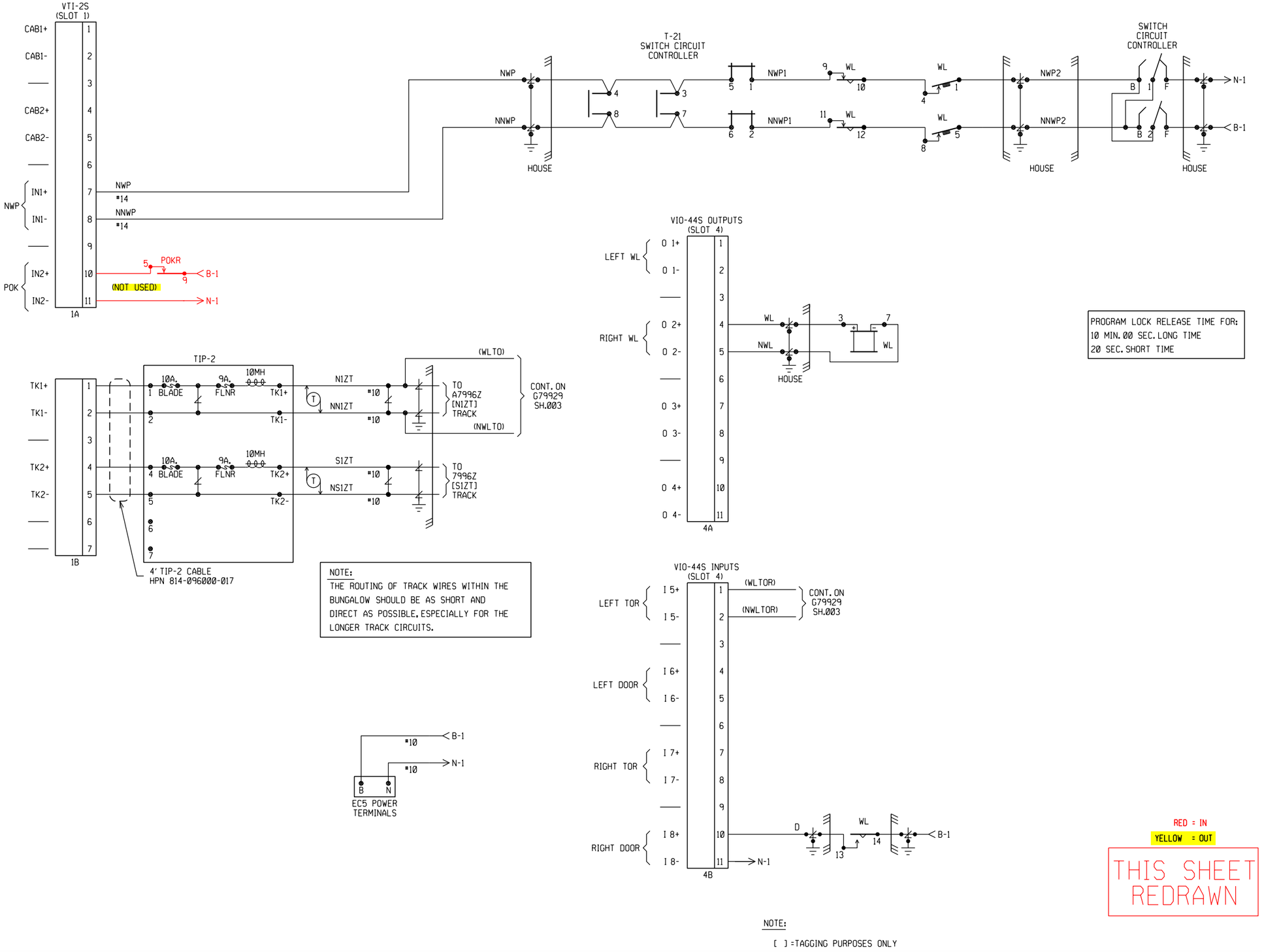
ELECTRIC LOCK CROSSOVER POWER DISTRIBUTION

M.P. A-799.29

SHEET NO. 435

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G79929.004



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CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

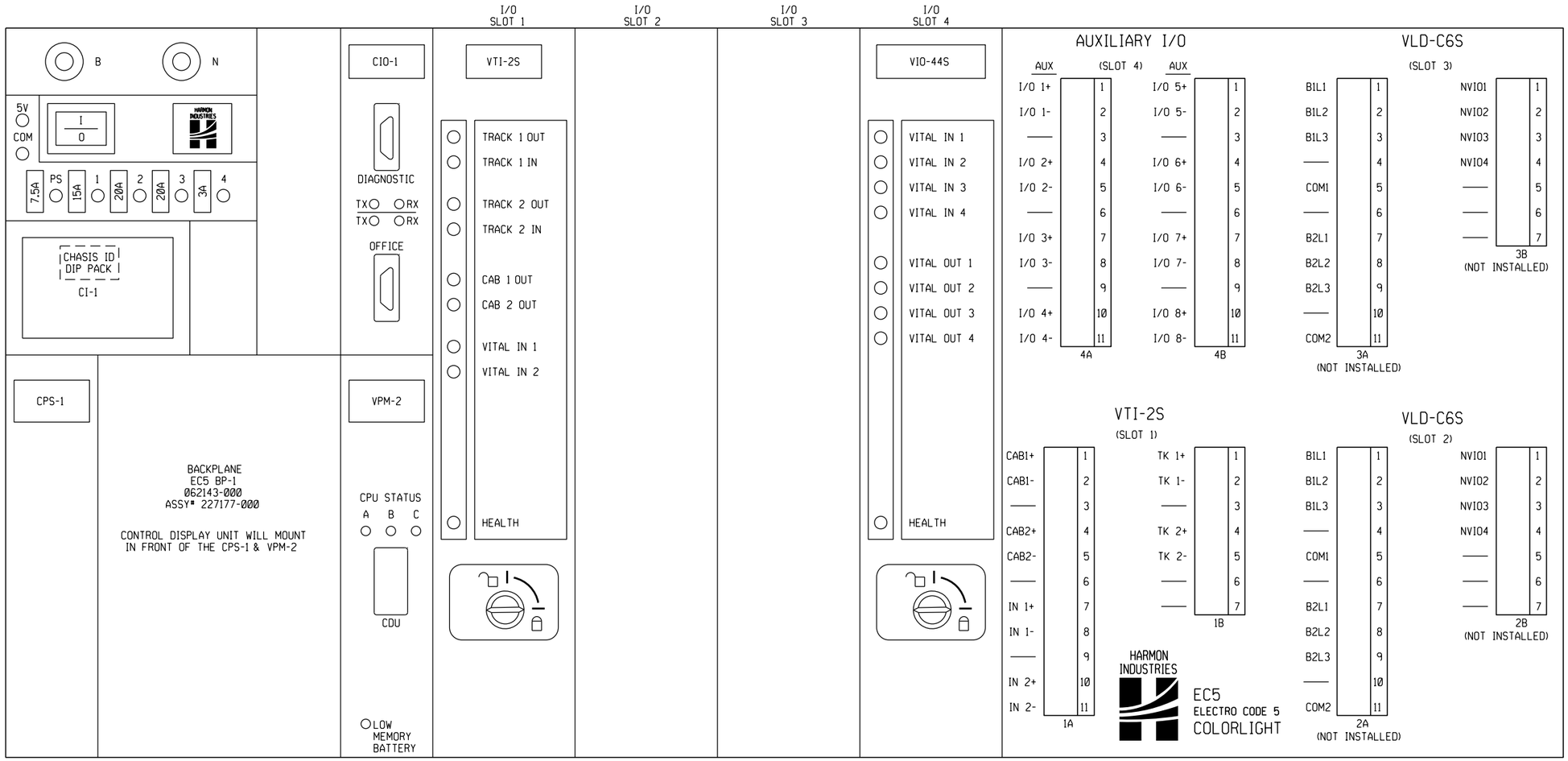
ELECTRIC LOCK CROSSOVER ELECTRO CODE 5 UNIT TRACK I/O

M.P. A-799.29

SHEET NO. 436

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G79929.005



EC5 COLORLIGHT BACKPLANE (BP-1)

CDU-1 = CONTROL DISPLAY UNIT
CPS-1 = CENTRAL POWER SUPPLY
VPM-2 = VITAL PERIPHERAL MASTER MODULE
CI-1 = CHASSIS INFORMATION MODULE
CIO-1 = COMMUNICATION INPUT/OUTPUT MODULE
VTI-2S = VITAL TRACK INTERFACE
VIO-44S = VITAL INPUT/OUTPUT MODULE.

THIS SHEET REDRAWN

EC5 UNIT

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CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

ELECTRIC LOCK CROSSOVER ELECTRO CODE UNIT COLORLIGHT BACKPLANE (BP-1)

M.P. A-799.29

SHEET NO. 437

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G79929.006

VITAL CONFIGURATION SETTINGS

SETT.	BIT NAME	TRUE	FALSE	BIT MEANING
1	SW1		X	CORRESPONDENCE WITH DIP SHUNT BIT 1
2	SW2		X	CORRESPONDENCE WITH DIP SHUNT BIT 2
3	SW3		X	CORRESPONDENCE WITH DIP SHUNT BIT 3
4	SW4		X	CORRESPONDENCE WITH DIP SHUNT BIT 4
5	SW5		X	CORRESPONDENCE WITH DIP SHUNT BIT 5
6	LOL POR		X	LAMP-OUT LEFT, POWER-OFF RIGHT
7	POL LOR	X	X	POWER-OFF LEFT, LAMP-OUT RIGHT
8	MCODE LEFT		X	TRUE IF A CONTROL POINT IS NOT IMMEDIATELY TO THE LEFT. FALSE IF A CONTROL POINT IS IMMEDIATELY TO THE LEFT.
9	MCODE RIGHT	X	X	TRUE IF A CONTROL POINT IS NOT IMMEDIATELY TO THE RIGHT. FALSE IF A CONTROL POINT IS IMMEDIATELY TO THE RIGHT.
10	LC1SW		X	(FOR SETTING 10 THRU 13, SEE CHART BELOW)
11	LC5SW		X	(FOR SETTING 10 THRU 13, SEE CHART BELOW)
12	RC1SW		X	(FOR SETTING 10 THRU 13, SEE CHART BELOW)
13	RC5SW		X	(FOR SETTING 10 THRU 13, SEE CHART BELOW)
14	KILL 5		X	TRUE CODE 5 TRANSMISSION WILL CEASE WITH THE NWP INPUT FALSE. FALSE CODE 5 WILL FUNCTION BASED ON NORMAL VITAL CONFIGURATION SETTINGS 10 THRU 13 SELECTIONS.

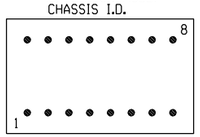
DIAGNOSTIC AND OFFICE PORT PIN ASSIGNMENT

PIN	SIGNAL	SIGNAL NAME
1	CD	CARRIER DETECT
2	RX	RECEIVE DATA
3	TX	TRANSMIT DATA
4	DTR	DTE
5	GND	COMMON SIGNAL RETURN
6	DSR	DCE
7	RTS	REQUEST TO SEND
8	CTS	CLEAR TO SEND
9	RI	RING INDICATOR

CHART FOR SETTINGS 10 THRU 13

SETTING COMBINATION	RESULTANT
LC1SW - TRUE AND LC5SW - FALSE	CODE 1 IN RIGHT (TRACK 2), CODE 5 OUT LEFT (TRACK 1)
LC1SW - FALSE AND LC5SW - TRUE	CODE 5 IN RIGHT (TRACK 2), CODE 5 OUT LEFT (TRACK 1)
LC1SW - FALSE AND LC5SW - FALSE	CODE 5 NOT TRANSMITTED LEFT (TRACK 1)
LC1SW - TRUE AND LC5SW - TRUE	CODE 5 TRANSMITTED LEFT (TRACK 1) CONTINUOUSLY
RC1SW - TRUE AND RC5SW - FALSE	CODE 1 IN LEFT (TRACK 1), CODE 5 OUT RIGHT (TRACK 2)
RC1SW - FALSE AND RC5SW - TRUE	CODE 5 IN LEFT (TRACK 1), CODE 5 OUT RIGHT (TRACK 2)
RC1SW - FALSE AND RC5SW - FALSE	CODE 5 NOT TRANSMITTED RIGHT (TRACK 2)
RC1SW - TRUE AND RC5SW - TRUE	CODE 5 TRANSMITTED RIGHT (TRACK 2) CONTINUOUSLY

(OPERATION MODE)
CHASSIS I.D.



APP NAME: 5CSXRL01 REV.: 1.1
CS: $B49B
CRC: $66F5

RED = IN
YELLOW = OUT

THIS SHEET REDRAWN

EC5 UNIT

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REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

XORAIL
5011 GATE PARKWAY BUILDING 100
SUITE 400 JACKSONVILLE FLORIDA 32256
(904) 443-0083 (MAIN)
(904) 443-0089 (FAX)

CERT. OF AUTHORIZATION NO. 9875

ENGINEER OF RECORD
IVORY L. WHITE, JR, P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

ELECTRIC LOCK CROSSOVER ELECTRO CODE 5 UNIT PROGRAM

M.P. A-799.29

SHEET NO.
438

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G79968.001

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⊘ = DESIGN COMPLETED

⊗ = REVISION COMPLETED

NEW SHEET

NOTE:
(⊗) = LOCATION OF HOUSE.

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P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

CP-800
TITLE, NOTES, INDEX & REVISIONS
M.P. A-799.68

SHEET NO.
439

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G79968.002

SIGS 42207+78
PS 42208+28 #15 T.O.
PS 42211+33 #15 T.O.
PS 42211+83 #15 T.O.

TAFT-VINELAND RD. 42207+09

NORTH TO JACKSONVILLE

HAR MOD. NBS-2 348 HZ

7996-2ZT

7996-1ZT

HAR MOD. NBS-2 348 HZ

JOINS G79929.002

6ZT N6ZT — TO A TIP-2

2ZT N2ZT — TO A TIP-2

C 6 B A

C 2 C B A

6TB1 6TN — TO 6 TCU

2TB1 2TN — TO 2 TCU

(X)

A1 B1 E E E E

6T 2T

A6T 6T 4T

3

2RB1 2RN — TO 2 TR

4RB1 4RN — TO 4 TR

JOINS G79968.003

2 SP. 6BGE 6BYE 6BLWE 6BRE 6BEN
2 SP. 6AGE 6AYE 6ARE 6AREN 6AEN

SP. 2AGE 2AYE 2ARE 2AREN 2AEN 2BGE 2BYE 2BRE 2BEN
2 SP. 2CGE 2CYE 2CLWE 2CRE 2CEN

3 SP. 1NWP N1NWP N1RWP 1RWP B-1 B1NJP1 B1RWP1 NB1RWP1 NB1NWP1 B1NWP1
3 SP. B1NW B1RW B1CW *6

5 SP. A1NWP1 NA1NWP1 NA1RWP1 A1RWP1 A1NJP1 1NJP B-1 N-1
3 SP. A1NW A1RW A1CW *6

6 SP. 3NWP N3NWP N3RWP 3RWP B-1 N-1 3NJP
3 SP. 3NW 3RW 3CW *6

LOC. A 8' X 10'

19 COND. U.G.	19 COND. U.G.
7 & 10 COND. #9 U.G.	4 #6 U.G. TRK.
2 - 7 COND. #9 U.G.	19 COND. U.G.
8 #6 U.G. TRK	6 PR. U.G. COMM CABLE
TO 96F FIBER PULL BOX — 24F SM FIBER	3 COND. #2 W/GND.
TO 96F FIBER PULL BOX — 24F SM FIBER	(XXX')

6 PR. U.G. COMM CABLE

BX120-1 BX120-2 NX120 GND.

TIP-B/RING/B 5 PR. SP.

NEW SHEET

NOTE:
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CERT. OF AUTHORIZATION NO. 9875
ENGINEER OF RECORD IVORY L. WHITE, JR., P.E. P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
CP-800
TRACK & SIGNAL PLAN
M.P. A-799.68

SHEET NO. 440

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G79968.003

← NORTH TO JACKSONVILLE

SIGS 42215+79

DRL 42213+00

PS 42217+11
#15 T.O.

SIGS 42217+61

A6T

6T

4T

JOINS G79968.002

12AT

12ARB1 12ARN — TO 12A TR

RING-10

C 12

A4RB1 A4RN — TO A4 TR

B5 E

A5 E (X)

6RB1 6RN — TO 6 TR

A6RB1 A6RN — TO A6 TR

BEGIN TCS

BEGIN DTC

10

8

4

4TB1 4TN — TO 4 TCU

RING-10

10AT

8006-2ZT

8006-1ZT

JOINS G80057.002

4ZT N4ZT — TO B TIP-2

8ZT N8ZT — TO B TIP-2

10ARB1 10ARN — TO 10A TR

3 SP.
5NWP
N5NWP
N5RWP
5RWP
B-1
B5NJP1
B5RWP1
NB5RWP1
NB5NWP1
B5NWP1
3 SP.
B5NW
B5RW
B5CW
*6

SP.
12GE
12YE
12LWE
12RE
12REN
12EN

5 SP.
A5NWP1
NA5NWP1
NA5RWP1
A5RWP1
A5NJP1
5NJP
B-1
N-1
3 SP.
A5NW
A5RW
A5CW
*6

2 SP.
4BGE
4BYE
4BLWE
4BRE
4BEN

2 SP.
4AGE
4AYE
4ARE
4AREN
4AEN

SP.
8AGE
8AYE
8ARE
8AREN
8AEN
8BGE
8BYE
8BRE
8BEN

2 SP.
8CGE
8CYE
8CLWE
8CRE
8CEN

SP.
10ARE
10AEN
10BGE
10BYE
10BRE
10BEN

2 SP.
10CGE
10CYE
10CLWE
10CRE
10CEN

LOC. B
8' X 8'

19 COND. U.G.	19 COND. U.G.
7 COND. #9 U.G.	2-7 COND. #9 U.G.
4 #6 U.G. TRK.	7 & 10 COND. #9 U.G.
6 PR. U.G. COMM CABLE	2-7 COND. #9 U.G.
3 COND. #2 W/GND.	12 #6 U.G. TRK.

6 PR. U.G. COMM CABLE

(XXX')

TIP-B/RING/B
5 PR. SP.

BX120-1
BX120-2
NX120
GND.

NEW SHEET

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CERT. OF AUTHORIZATION NO. 9875
ENGINEER OF RECORD
IVORY L. WHITE, JR., P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

CP-800
TRACK & SIGNAL PLAN
M.P. A-799.68

SHEET NO.
441

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G79968.004

CIO-MDA OFFICE CONFIGURATION MENU

SERIAL PORT 2 PROTOCOL	ATCS SPEC 250	
CONTROL WORDS	4	X
INDICATION WORDS	5	X
BAUD RATE	9600	X
LOCAL TIME ZONE IN RELATION TO GMT	-5	X
OBSERVE DAYLIGHT SAVINGS TIME	YES	X
DAYLIGHT SAVINGS TIME START MONTH	MARCH	X
DAYLIGHT SAVINGS START WEEK	2	X
DAYLIGHT SAVINGS TIME END MONTH	NOVEMBER	X
DAYLIGHT SAVINGS END WEEK	1	X
PAGE SIZE	19	X
CONTROL LATCHING	LATCHED	X
INDICATION DELAY	0.0 SEC.	X

CIO-MDA ATCS CONFIGURATION

ITEM	SETTING	
CPC PROTOCOL	ATCS SPEC 250	X
ADDRESS IDENT DIGIT	7	X
ADDRESS LENGTH (10, 12, 14)	14	X
RAILROAD NUMBER	605	X
STATION ADDRESS	527035	X
STATION NODE	02	X
MCP ADDRESS	527035	X
MCP NODE NUMBER	02	X
OFFICE ADDRESS	5527	X
OFFICE NODE NUMBER	10	X
CDC ADDRESS	5026	X
CDC NODE NUMBER	10	X
IND. REFRESH	1 MIN.	X
IND. PRIORITY	4	X
LOG PRIORITY	7	X

OFFICE SETTINGS

ITEM	SETTING
SITE ID	CP 800 A
CHASSIS ID	68

VITAL APPLICATION INFORMATION

ITEM	SETTING
NAME	XXXXXXXXXX
INDEX	001
EPT CRC	XXXX
EPT CHECKSUM	XXXX

NON-VITAL APPLICATION INFORMATION

ITEM	SETTING
NAME	XXXXXXXXXX
INDEX	001
EPT CRC	XXXX
EPT CHECKSUM	XXXX

REMOTE ETHERNET SETTINGS

ITEM	SETTING	
REMOTE 1 SOURCE NETWORK ID	XXX	
REMOTE 1 DESTINATION NET ID	XXX	
REMOTE 1 DATE TIME UPDATE	DISABLED	X
REMOTE 1 PORT	8280	X

(ONLY REQUIRED IF ETHERNET REMOTE INSTALLED)

ADDRESS TYPE	RAILROAD ID NUMBER			CODE LINE ADDRESS			STATION ADDRESS			SUB DEVICE		INTERNAL DEVICE	
1	2	3	4	5	6	7	8	9	10	11	12	13	14
7	6	0	5	5	2	7	0	3	5	0	2	0	2

★ SERIAL PORT 3 REMOTE SETTINGS

ITEM	SETTING	
BAUD RATE	9600	X
PARITY	NONE	X
STOP BITS	1	X
TYPE	ASYNCHRONOUS	X
MODE	POINT TO POINT	X
REMOTE 1 SOURCE NETWORK ID	XXX	
REMOTE 1 DESTINATION NET ID	XXX	
REMOTE 1 DATE TIME UPDATE	DISABLED	X

(ONLY REQUIRED IF SERIAL REMOTE (HARD-WIRED) INSTALLED)

SERIAL PORT 1 LCP SETTINGS

ITEM	SETTING
LCP ENABLE	ENABLED

VITAL TIMERS

NAME	SETTING	
2TER	3 MIN 54 SEC	
4TER	4 MIN 54 SEC	
6TER	6 MIN 6 SEC	
8TER	4 MIN 54 SEC	
2TPER	00 MIN 15 SEC	X
4TPER	00 MIN 15 SEC	X
6TPER	00 MIN 15 SEC	X

GFD-1 SETTINGS

ITEM	SETTING	
BATTERY 1 NAME	B-1	X
BATTERY 1 FAULT STATUS	NO FAULT	X
BATTERY 1 CALIBRATED VOLTAGE	13.5	X
BATTERY 1 GROUND FAULT THRESHOLD	8	X
BATTERY 1 GROUND FAULT TIME	30	X
BATTERY 1 LOW BATTERY ALARM VOLTAGE	8.0	X
BATTERY 1 HIGH BATTERY ALARM VOLTAGE	16.5	X
BATTERY 2 NAME	NONE	X
BATTERY 2 FAULT STATUS	NO FAULT	X
BATTERY 2 CALIBRATED VOLTAGE	13.5	X
BATTERY 2 GROUND FAULT THRESHOLD	8	X
BATTERY 2 GROUND FAULT TIME	30	X
BATTERY 2 LOW BATTERY ALARM VOLTAGE	8.0	X
BATTERY 2 HIGH BATTERY ALARM VOLTAGE	16.5	X
BATTERY 3 NAME	NONE	X
BATTERY 3 FAULT STATUS	NO FAULT	X
BATTERY 3 CALIBRATED VOLTAGE	13.5	X
BATTERY 3 GROUND FAULT THRESHOLD	8	X
BATTERY 3 GROUND FAULT TIME	30	X
BATTERY 3 LOW BATTERY ALARM VOLTAGE	8.0	X
BATTERY 3 HIGH BATTERY ALARM VOLTAGE	16.5	X

EQUIPMENT TIMERS

1WOTER	00 MIN 30 SEC	X
3WOTER	00 MIN 30 SEC	X
5WOTER	00 MIN 30 SEC	X

FIELD SELECTABLE SWITCH OVERLOAD TIMER
10 SECONDS FOR HIGH VOLTAGE MACHINE
30 SECONDS FOR LOW VOLTAGE MACHINE

NOTES:

1. X = STATUS SET/CHANGED USING THE CDU-1, ALL OTHER SET IN THE ACE PROGRAM.
2. VPM-3 ETHERNET PORT ENET1 IP ADDRESS IS 192.168.0.11.
3. ★ = SERIAL PORT ASSIGNMENTS ARE DESIGNATED IN SOFTWARE COMPILER.
4. X = TO BE FILLED OUT DURING FIELD/FACTORY TESTING.

NEW SHEET

LOCATION A

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XORAIL
5011 GATE PARKWAY BUILDING 100
SUITE 400 JACKSONVILLE FLORIDA 32256
(904) 443-0083 (MAIN)
(904) 443-0089 (FAX)
CERT. OF AUTHORIZATION NO. 9875
ENGINEER OF RECORD
IVORY L. WHITE, JR., P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
CP-800
ELECTROLOGIXS PROGRAM
M.P. A-799.68

SHEET NO.
442

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G79968.005

OFFICE SETTINGS

ITEM	SETTING
SITE ID	CP 800 B
CHASSIS ID	69

VITAL APPLICATION INFORMATION

ITEM	SETTING
NAME	XXXXXXXXXX
INDEX	001
EPT CRC	XXXX
EPT CHECKSUM	XXXX

NON-VITAL APPLICATION INFORMATION

ITEM	SETTING
NAME	XXXXXXXXXX
INDEX	001
EPT CRC	XXXX
EPT CHECKSUM	XXXX

CIO-CLA DIAGNOSTIC PORT SETTINGS

ITEM	SETTING	
BAUD RATE	9600	X
PARITY	NONE	X
DATA BITS	8	X
STOP BITS	1	X
FLOW CONTROL	DISABLED	X

REMOTE ETHERNET SETTINGS

ITEM	SETTING	
REMOTE 1 SOURCE NETWORK ID	XXX	
REMOTE 1 DESTINATION NET ID	XXX	
REMOTE 1 DATE TIME UPDATE	DISABLED	X
REMOTE 1 PORT	8280	X

(ONLY REQUIRED IF ETHERNET REMOTE INSTALLED)

★ SERIAL PORT 3 REMOTE SETTINGS

ITEM	SETTING	
BAUD RATE	9600	X
PARITY	NONE	X
STOP BITS	1	X
TYPE	ASYNCHRONOUS	X
MODE	POINT TO POINT	X
REMOTE 1 SOURCE NETWORK ID	XXX	
REMOTE 1 DESTINATION NET ID	XXX	
REMOTE 1 DATE TIME UPDATE	DISABLED	X

(ONLY REQUIRED IF SERIAL REMOTE (HARD-WIRED) INSTALLED)

GFD-1 SETTINGS

ITEM	SETTING	
BATTERY 1 NAME	B-1	X
BATTERY 1 FAULT STATUS	NO FAULT	X
BATTERY 1 CALIBRATED VOLTAGE	13.5	X
BATTERY 1 GROUND FAULT THRESHOLD	8	X
BATTERY 1 GROUND FAULT TIME	30	X
BATTERY 1 LOW BATTERY ALARM VOLTAGE	8.0	X
BATTERY 1 HIGH BATTERY ALARM VOLTAGE	16.5	X
BATTERY 2 NAME	NONE	X
BATTERY 2 FAULT STATUS	NO FAULT	X
BATTERY 2 CALIBRATED VOLTAGE	13.5	X
BATTERY 2 GROUND FAULT THRESHOLD	8	X
BATTERY 2 GROUND FAULT TIME	30	X
BATTERY 2 LOW BATTERY ALARM VOLTAGE	8.0	X
BATTERY 2 HIGH BATTERY ALARM VOLTAGE	16.5	X
BATTERY 3 NAME	NONE	X
BATTERY 3 FAULT STATUS	NO FAULT	X
BATTERY 3 CALIBRATED VOLTAGE	13.5	X
BATTERY 3 GROUND FAULT THRESHOLD	8	X
BATTERY 3 GROUND FAULT TIME	30	X
BATTERY 3 LOW BATTERY ALARM VOLTAGE	8.0	X
BATTERY 3 HIGH BATTERY ALARM VOLTAGE	16.5	X

NOTES:

1. X = STATUS SET/CHANGED USING THE CDU-1, ALL OTHER SET IN THE ACE PROGRAM.
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NEW SHEET

LOCATION B

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STATE OF FLORIDA
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ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
CP-800
ELECTROLOGIXS PROGRAM
M.P. A-799.68

SHEET NO.
443

$USER$ $DATE$ $TIME$ $FILE$

ADDRESS TYPE	RAILROAD ID NUMBER			CODE LINE ADDRESS			STATION ADDRESS			SUB DEVICE		INTERNAL DEVICE	
1	2	3	4	5	6	7	8	9	10	11	12	13	14
7	6	0	5	5	2	7	0	3	5	0	2	0	2

OFFICE TO ELECTROLOGIXS COMMUNICATION MODULE
SERIAL COMMUNICATION BITS

CONTROLS FROM OFFICE

WORD	1	2	3	4	5	6	7	8
1	C1 NWS	C1 RWS	C3 NWS	C3 RWS	C5 NWS	C5 RWS		
2	C2-12 GS	C4 GS	C2-4-12 STOP	C6 GS	C8-10 GS	C6-8-10 STOP	C2 TBS	C2 TBSO
3	C4 TBS	C4 TBSO	C6 TBS	C6 TBSO	C8 TBS	C8 TBSO	C10 TBS	C10 TBSO
4	C12 TBS	C12 TBSO	CECS	CECSO				

INDICATIONS TO OFFICE

WORD	1	2	3	4	5	6	7	8
1	1 NWK	1 RWK	1 LK	1 NJK	3 NWK	3 RWK	3 LK	3 NJK
2	5 NWK	5 RWK	5 LK	5 NJK	2-12 GK	4 GK	2-4-12 TEK	6 GK
3	8-10 GK	6-8-10 TEK	2 TBK	4 TBK	6 TBK	8 TBK	10 TBK	12 TBK
4	2 TK	4 TK	6 TK	2 AK	4 AK	6 AK	8 AK	10 AK
5	12 AK	2 BDK	6 BDK	SMOKE	POK	LOK	(⋊) ECK	MOK

TEMP SHEET ONLY
THIS SHEET IS TO BE VOID AND
REMOVED WHEN A.I.S. IS COMPLETE

NOTE:
(⋊) = INTRUSION ALARM INDICATION

= NOTE

NEW SHEET

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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

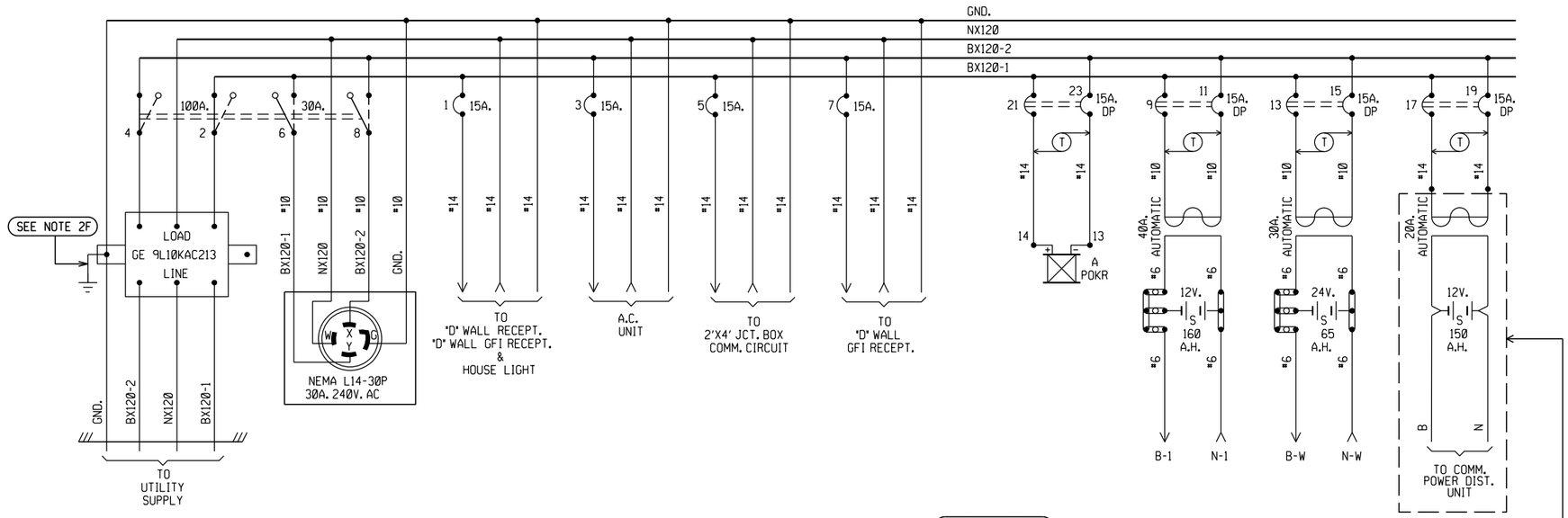
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
CP-800
OFFICE CONTROL & INDICATION EQUIVALENT CIRCUITS
M.P. A-799.68

SHEET NO.
444

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G79968.006



BX120-1	BX120-2
22.0 AMPS	25.0 AMPS

MAXIMUM LOAD

INCLUDES WORST CASE COMMS SOLUTION OF 14 AMPS

SEE NOTE 4

SHOP TO AFFIX LABEL ON CHARGERS - CHARGERS WIRED FOR 240V

FIELD VERIFY SIZE OF CHARGER AND BATTERY VOLTAGE FOR AS IN SERVICE, INSTALLED BY COMMS. DEPT.

NOTES:

1 - BATTERY A.H. CAPACITY SHOWN IS THE MINIMUM REQUIREMENT.
2 - WIRING
  A - FEED TO ALL BUSSES, LIGHT CIRCUITS, MOTOR CIRCUITS TO BE #10 FLEX.
  B - 120-VOLT FEED FROM ENTRANCE TO POWER BUSS TO BE #10 FLEX.
  C - ALL TRACK WIRES TO BE #10 FLEX.
  D - ALL OTHERS TO BE #16 FLEX UNLESS NOTED.
  E - ALL BATTERY OUTPUTS TO BE #6
  F - GROUND WIRE NOT NECESSARY WHEN GE ARRESTER IS MOUNTED ON GROUND PLANE OR METAL ENCLOSURE AFFIXED DIRECTLY TO BUNGALOW METALLIC STRUCTURAL MEMBER.
3 - CIRCUIT INTERRUPTERS 2 & 4 ARE MECHANICALLY INTERLOCKED WITH CIRCUIT INTERRUPTERS 6 & 8.
4 - CHARGERS TO BE WIRED FOR 240VAC
5 - CIRCUIT BREAKER PANEL - QO124L125G (24 SPACES)

( ) = NOTE

NEW SHEET

LOCATION A

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.003, F.A.C.

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

XORAIL
5011 GATE PARKWAY BUILDING 100
SUITE 400 JACKSONVILLE FLORIDA 32256
(904) 443-0083 (MAIN)
(904) 443-0089 (FAX)
CERT. OF AUTHORIZATION NO. 9875
ENGINEER OF RECORD
IVORY L. WHITE, JR., P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
CP-800
POWER DISTRIBUTION
M.P. A-799.68

SHEET NO.
445

$USER$ $DATE$ $TIME$ $FILE$

ELECTROLOGIXS RACK

A1NWR			A1RWR			2VSTOP			6VSTOP			2TR			4TR				
13	B		13	B		12	FB		12	FB		12			12				
14	F	B45	14	F	B45	15	F	B77	15	F	B77	15		B51	15		B51		
33	B	C30	33	B	C30	22	F	C30	22	F	C30	22		C30	22		C30		
34	F		34	F		25			25			23	F		23	F			
						32	F		32	F		25	F		25	F			
						35	F		35	F		32			32				
												35			35				

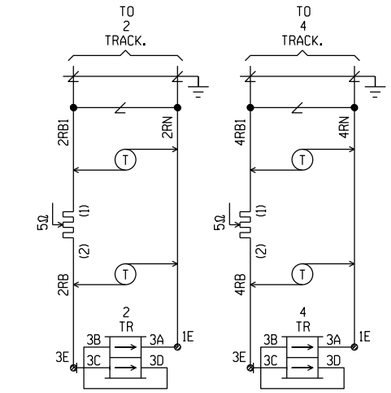
ROW A

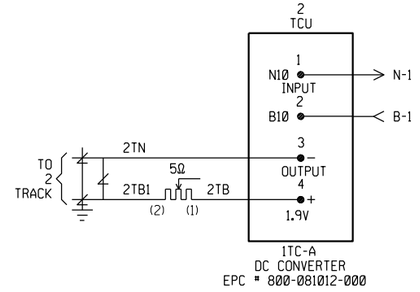
B1NWR			B1RWR			2VSTOPP			3NWR			3RWR		
13	B		13	B		12	F		13	B		13	B	
14	F	B45	14	F	B45	15		B77	14	F	B45	14	F	B45
33	B	C30	33	B	C30	22		C30	33	B	C30	33	B	C30
34	F		34	F		25			34	F		34	F	
						32	F							
						35	F							

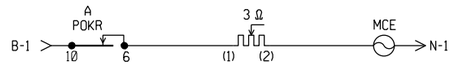
ROW B

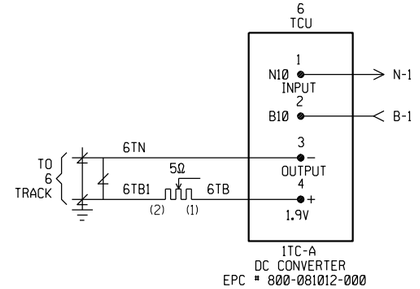
APOKR				
9	F	11		N68
10	F	12		C48

WALL MOUNTED









RELAY IDENTIFICATION AND CROSS REFERENCE			
TYPE	GRS	SAFETRAN	DETAILS
B8	A62-277	400004	4FB-2F-1B, NEUTRAL, 500 OHMS
B45	A62-429	400520	2F-2B (HD), BIASED NEUTRAL, 500 OHMS
B51	A62-120	400510	4FB-2F-1B, BIASED NEUTRAL, 2 OHMS
B77	A62-580	400023	6FB (HD), NEUTRAL, 500 OHMS
C30	A62-506		PLUGBOARD KIT FOR B1 RELAYS
C48	SOCKET SURFACE MOUNT FOR PB TYPE KHAU RELAYS		
N68	4-DT, 12K OHMS, NEUTRAL POTTER BRUMFIELD RELAY (240VAC)		

NOTES:
1 - SHELF RELAY PLACEMENT ON CONSIST CHART HAS NO SIGNIFICANCE.
2 - PLUG-IN RELAYS ARE VIEWED FROM THE FRONT OF RACK.

NEW SHEET

LOCATION A
8'X 10' RELAY HOUSE

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.003, F.A.C.

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

XORAIL
5011 GATE PARKWAY BUILDING 100
SUITE 400 JACKSONVILLE FLORIDA 32256
(904) 443-0083 (MAIN)
(904) 443-0089 (FAX)
CERT. OF AUTHORIZATION NO. 9875
ENGINEER OF RECORD
IVORY L. WHITE, JR, P.E.
P.E. LICENSE NO. 58808

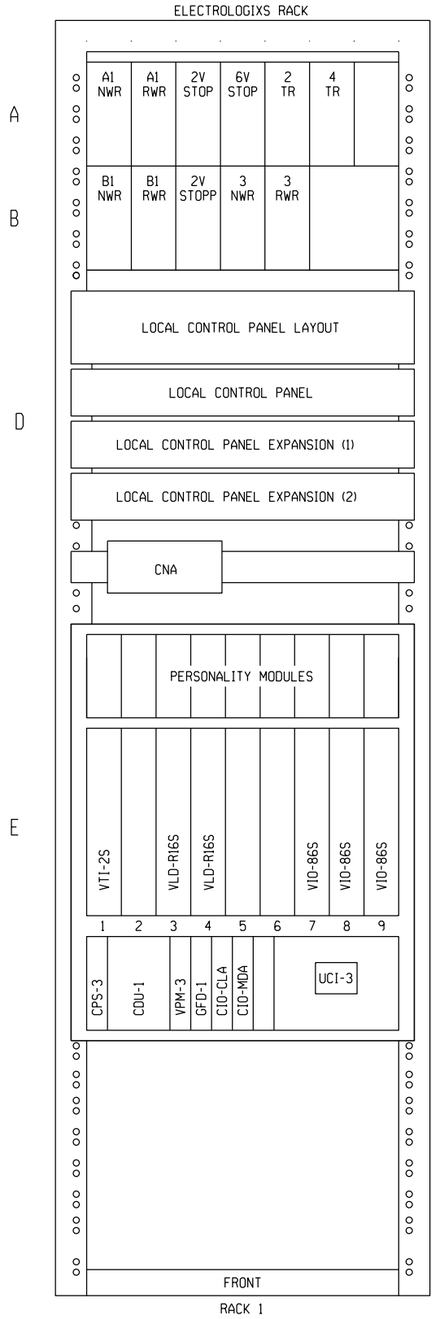
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

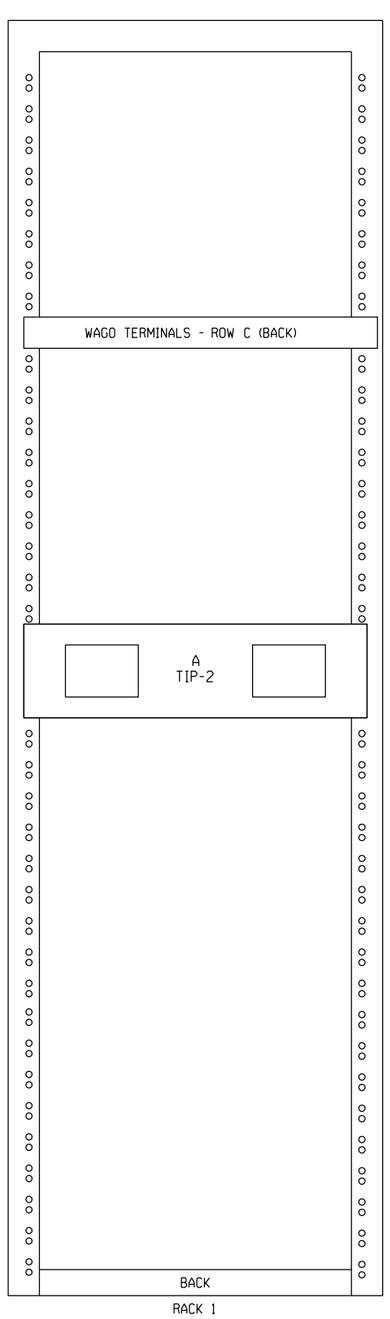
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
CP-800
RELAY DETAIL AND TRACK CIRCUITS
M.P. A-799.68

SHEET NO.
446

$USER$ $DATE$ $TIME$ $FILE$





ELECTROLOGIXS EQUIPMENT RACK 84" X 19"			
REF.	DESCRIPTION	P/N	QTY
---	ASSY RACK 19"		1 EA.
A-B	RLY B1 PLBD KIT NO FLAG	007062-003	11 EA.
A-B	KIT RLY FL E-POST MOD	005634-000	11 EA.
A-B	BAR MTG 19" W/BLU PAINT	122272-001	3 EA.
A-B	TIE BAR RELAY 19" W/BLU PAINT	123160-002	2 EA.
(C) I-50	WAGO TERMINALS BLOCK ASSY	202292-058	1 EA.
(C)	DIN RAIL 35 X 7.5 FOR 19" RACK	124422-000	1 EA.
C	TIP-2	800-096000-011	1 EA.
ROW C	TIP-2 CABLE 8'	814-096000-017	1 EA.
ROW D	SYSTEM LCP	250726-000	1 EA.
ROW D	LOCAL CONTROL PANEL EXPANSION UNIT	250726-001	2 EA.
ROW D	COMMUNICATIONS NETWORK ADAPTER (CNA)		1 EA.
ROW E	ELECTROLOGIXS CHASSIS	300752-000	1 EA.
E1	VTI-2S PERSONALITY MODULE	227442-000	1 EA.
E1	VTI-2S MODULE	251123-000	1 EA.
E3-E4	VLD-R16S PERSONALITY MODULE	227539-000	2 EA.
E3-E4	VLD-R16S MODULE	251381-000	2 EA.
E7-E8-E9	VIO-86S PERSONALITY MODULE	227537-000	3 EA.
E7-E8-E9	VIO-86S MODULE	251380-000	3 EA.
ROW E	CPS-3 MODULE	251456-000	1 EA.
ROW E	CDU-1	251124-000	1 EA.
ROW E	VPM-3 MODULE	251432-100	1 EA.
ROW E	GFD-1 MODULE	251333-000	1 EA.
ROW E	CIO-CLA MODULE	251329-100	1 EA.
ROW E	CABLE (CLA TO LCP CPU)	075113-020	1 EA.
ROW E	CIO-MDA MODULE	251332-000	1 EA.
ROW E	UCI-3 MODULE	251495-000	1 EA.

BACK

NEW SHEET

LOCATION A

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REVISIONS					
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ENGINEER OF RECORD
IVORY L. WHITE, JR, P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

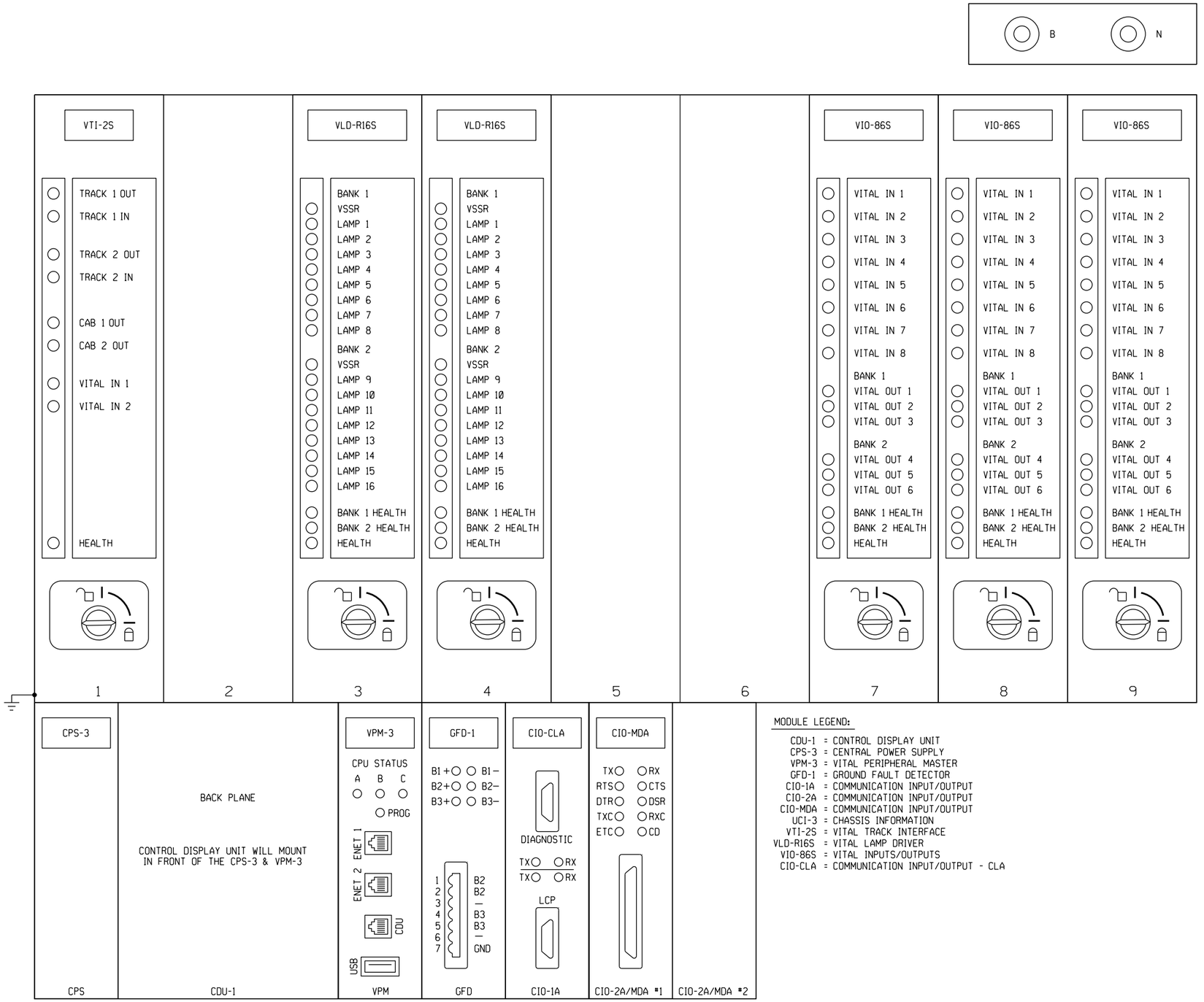
CP-800
RACK 1 LAYOUT

M.P. A-799.68

SHEET NO.
447

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G79968.009



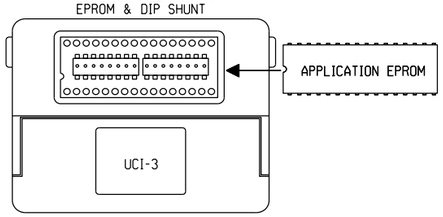
MODULE LEGEND:

CDU-1 = CONTROL DISPLAY UNIT
CPS-3 = CENTRAL POWER SUPPLY
VPM-3 = VITAL PERIPHERAL MASTER
GFD-1 = GROUND FAULT DETECTOR
CIO-1A = COMMUNICATION INPUT/OUTPUT
CIO-2A = COMMUNICATION INPUT/OUTPUT
CIO-MDA = COMMUNICATION INPUT/OUTPUT
UCI-3 = CHASSIS INFORMATION
VTI-2S = VITAL TRACK INTERFACE
VLD-R16S = VITAL LAMP DRIVER
VIO-86S = VITAL INPUTS/OUTPUTS
CIO-CLA = COMMUNICATION INPUT/OUTPUT - CLA

CIO-CLA MODULE
DIAGNOSTIC PORT
PIN ASSIGNMENT

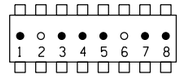
PIN	SIGNAL	SIGNAL NAME
1	CD	CARRIER DETECT
2	RX	RECEIVE DATA
3	TX	TRANSMIT DATA
4	DTR	DTE
5	GND	COMMON SIGNAL RETURN
6	DSR	DCE
7	RTS	REQUEST TO SEND
8	CTS	CLEAR TO SEND
9	RI	RING INDICATOR

TYPICAL INSTALLATION OF
EPROM & DIP SHUNT



CHASSIS ID - 68

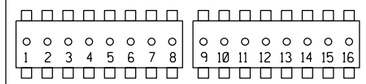
CHASSIS ID DIP SHUNTS
LOCATED ON BACKPLANE
UNDERNEATH UCI-3 MODULE



○ = TAB INTACT (MADE)
● = TAB PUNCHED OUT (BROKEN)

VITAL SELECTION ID-N/A

VITAL SELECTION DIP SHUNTS
LOCATED INSIDE UCI-3 MODULE
UNDERNEATH EPROM



○ = TAB INTACT (MADE)
● = TAB PUNCHED OUT (BROKEN)

NEW SHEET

LOCATION A

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REVISIONS

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ENGINEER OF RECORD
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P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

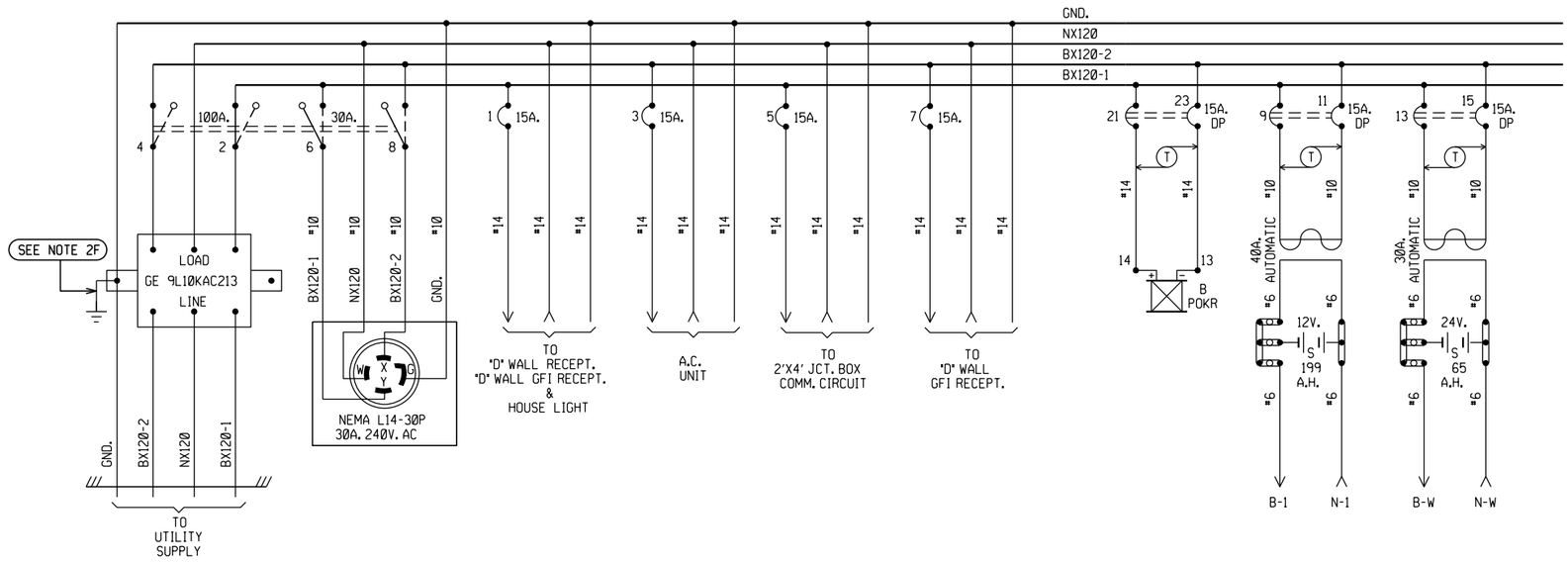
CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

CP-800
ELECTROLOGIXS MODULE CONFIGURATION
M.P. A-799.68

SHEET NO.
448

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G79968.010



BX120-1	BX120-2
20.5 AMPS	18.5 AMPS

MAXIMUM LOAD

MAXIMUM LOAD SHOWN BASED ON WORST CASE SIGNAL AND SIGNAL RELATED COMMUNICATION EQUIPMENT

SEE NOTE 4

SHOP TO AFFIX LABEL ON CHARGERS - CHARGERS WIRED FOR 240V

NOTES:

1 - BATTERY A.H. CAPACITY SHOWN IS THE MINIMUM REQUIREMENT.
2 - WIRING
  A - FEED TO ALL BUSSES, LIGHT CIRCUITS, MOTOR CIRCUITS TO BE #10 FLEX.
  B - 120-VOLT FEED FROM ENTRANCE TO POWER BUSS TO BE #10 FLEX.
  C - ALL TRACK WIRES TO BE #10 FLEX.
  D - ALL OTHERS TO BE #16 FLEX UNLESS NOTED.
  E - ALL BATTERY OUTPUTS TO BE #6
  F - GROUND WIRE NOT NECESSARY WHEN GE ARRESTER IS MOUNTED ON GROUND PLANE OR METAL ENCLOSURE AFFIXED DIRECTLY TO BUNGALOW METALLIC STRUCTURAL MEMBER.
3 - CIRCUIT INTERRUPTERS 2 & 4 ARE MECHANICALLY INTERLOCKED WITH CIRCUIT INTERRUPTERS 6 & 8.
4 - CHARGERS TO BE WIRED FOR 240VAC
5 - CIRCUIT BREAKER PANEL - QO124L125G (24 SPACES)

( ) = NOTE

NEW SHEET

LOCATION B
8'X 8' RELAY HOUSE

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REVISIONS					
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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

CP-800
POWER DISTRIBUTION
M.P. A-799.68

SHEET NO.
449

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G79968.011

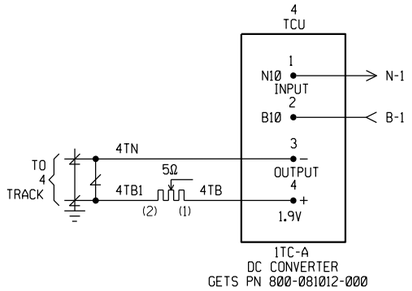
ELECTROLOGIXS RACK

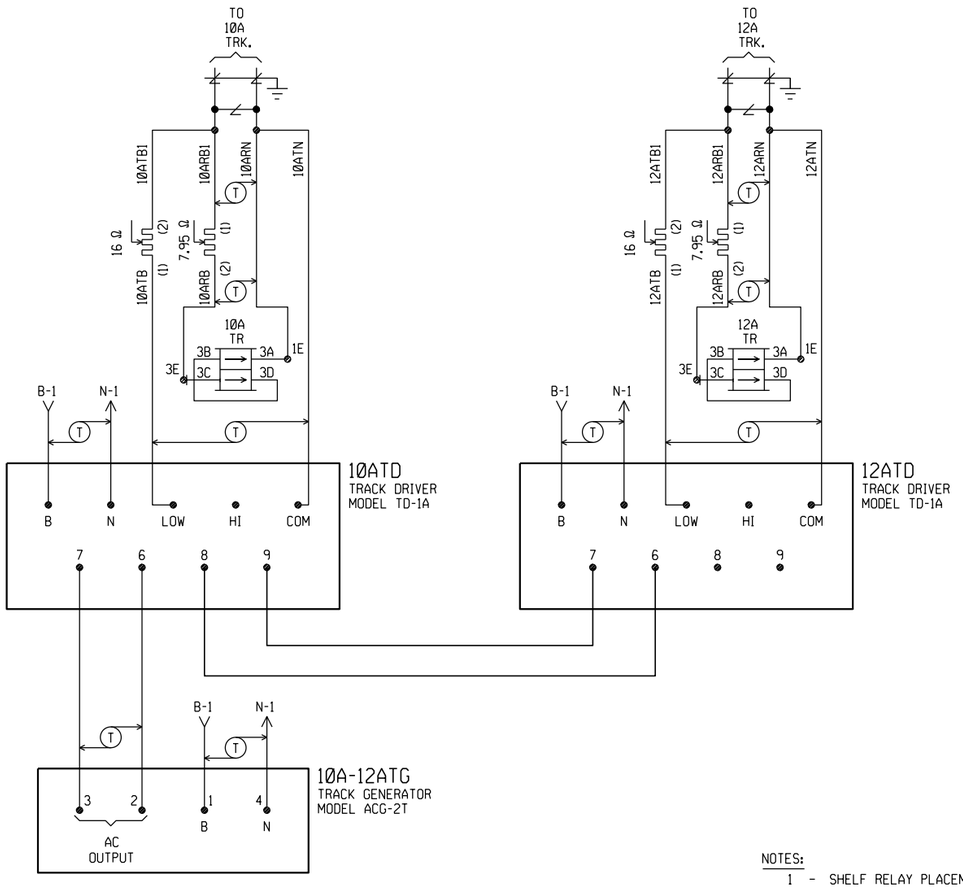
A5NWR	A5RWR	4VSTOP	8VSTOP	10VSTOP	6TR	A4TR	
13 B B45	13 B B45	12 FB B77	12 FB B77	12 FB B77	12 B51	12 B51	
14 F C30	14 F C30	15 F C30	15 F C30	15 C30	15 C30	15 C30	
33 B	33 B	22 F	22 F	22 F	22	22	
34 F	34 F	25	25	25 F	23 F	23 F	
		32 F	32 F	32 F	25 F	25 F	
		35 F	35 F	35 F	32	32	
					35	35	
B5NWR	**B5RWR**	**12VSTOP**	**8VSTOPP**	**12ATR**	**A6TR**	**10ATR**	ROW B
13 B B45	13 B B45	12 FB B77	12 B77	12 B51	12 B51	12 B51	
14 F C30	14 F C30	15 F C30	15 C30	15 C30	15 C30	15 C30	
33 B	33 B	22	22 F	22	22	22	
34 F	34 F	25	25	23 F	23 F	23 F	
		32 F	32 F	25 F	25 F	25 F	
		35 F	35 F	32	32	32	
				35	35	35	

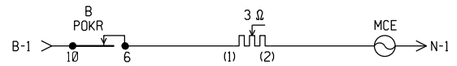
BPOKR

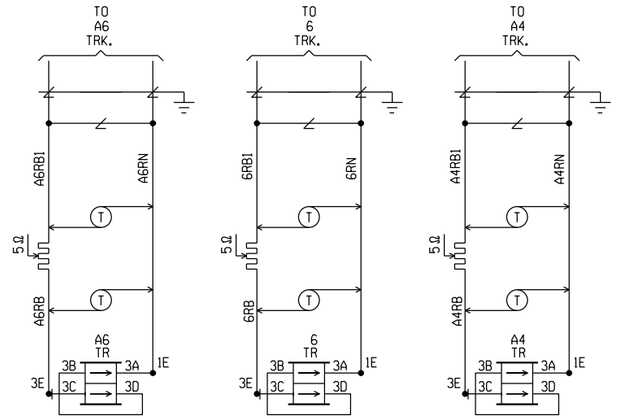
9 F	11		N68
10 F	12		C48

WALL MOUNTED









RELAY IDENTIFICATION AND CROSS REFERENCE			
TYPE	GRS	SAFETRAN	DETAILS
B8	A62-277	400004	4FB-2F-1B, NEUTRAL, 500 OHMS
B45	A62-429	400520	2F-2B (HD), BIASED NEUTRAL, 500 OHMS
B51	A62-120	400510	4FB-2F-1B, BIASED NEUTRAL, 2 OHMS
B77	A62-580	400023	6FB (HD), NEUTRAL, 500 OHMS
C30	A62-506		PLUGBOARD KIT FOR B1 RELAYS
C48	SOCKET SURFACE MOUNT FOR PB TYPE KHAU RELAYS		
N68	4-DT, 12K OHMS, NEUTRAL POTTER BRUMFIELD RELAY (240VAC)		

NOTES:
1 - SHELF RELAY PLACEMENT ON CONSIST CHART HAS NO SIGNIFICANCE.
2 - PLUG-IN RELAYS ARE VIEWED FROM THE FRONT OF RACK.

NEW SHEET

LOCATION B
8'X 8' RELAY HOUSE

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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

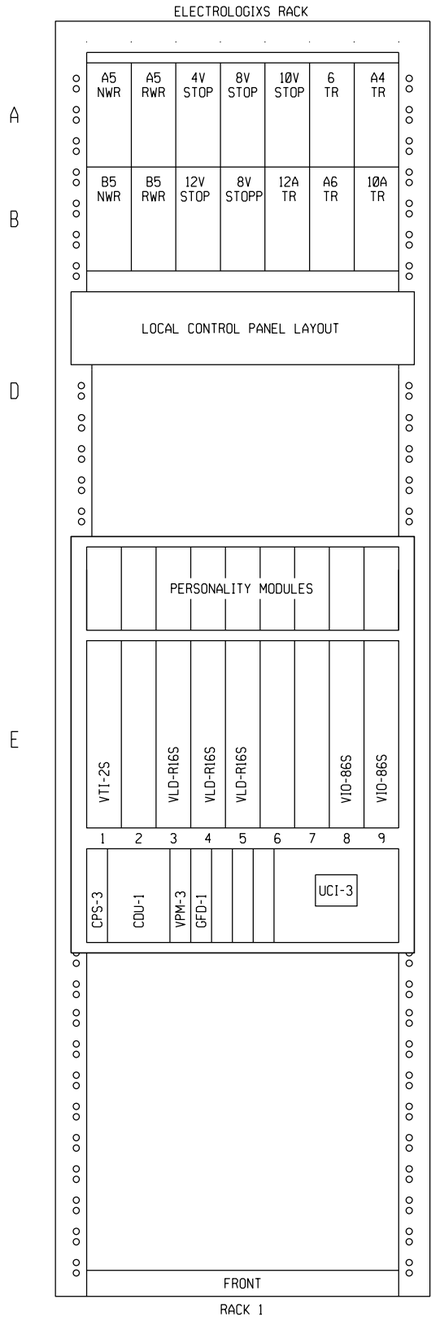
CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

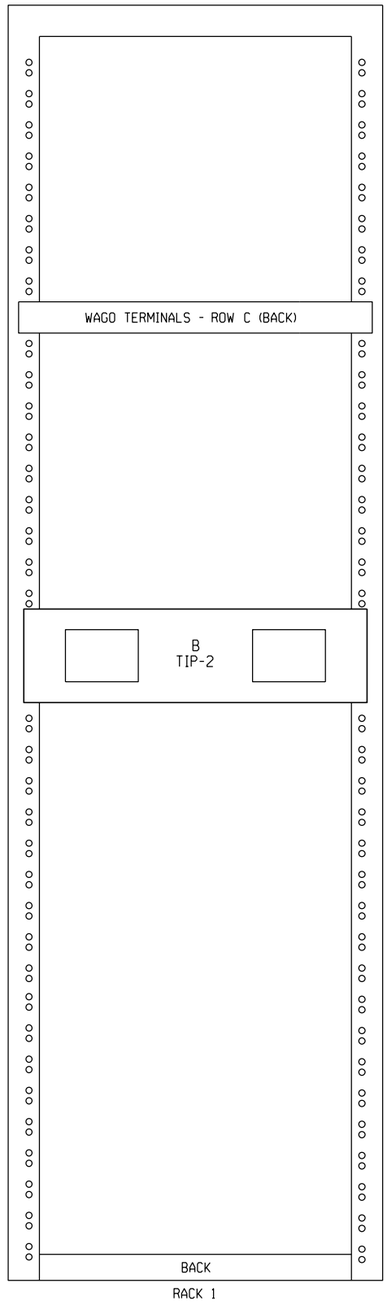
CP-800
RELAY DETAIL AND TRACK CIRCUITS
M.P. A-799.68

SHEET NO.
450

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G79968.012





ELECTROLOGIXS EQUIPMENT RACK 84" X 19"			
REF.	DESCRIPTION	P/N	QTY
---	ASSY RACK 19"		1 EA.
A-B	RLY B1 PLBD KIT NO FLAG	007062-003	14 EA.
A-B	KIT RLY FL E-POST MOD	005634-000	14 EA.
A-B	PNL B1 W/2 PB RELAY MTG	124694-000	2 EA.
A-B	BAR MTG 19" W/BLU PAINT	122272-001	3 EA.
A-B	TIE BAR RELAY 19" W/BLU PAINT	123160-002	2 EA.
(C) I-50	WAGO TERMINALS BLOCK ASSY	202292-058	1 EA.
(C)	DIN RAIL 35 X 7.5 FOR 19" RACK	124422-000	1 EA.
C	TIP-2	800-096000-011	1 EA.
C	TIP-2 CABLE 8'	814-096000-017	1 EA.
ROW E	ELECTROLOGIXS CHASSIS	300752-000	1 EA.
E1	VTI-2S PERSONALITY MODULE	227442-000	1 EA.
E1	VTI-2S MODULE	251123-000	1 EA.
E3-E4-E5	VLD-R16S PERSONALITY MODULE	227539-000	3 EA.
E3-E4-E5	VLD-R16S MODULE	251381-000	3 EA.
E8-E9	VIO-86S PERSONALITY MODULE	227537-000	2 EA.
E8-E9	VIO-86S MODULE	251380-000	2 EA.
ROW E	CPS-3 MODULE	251456-000	1 EA.
ROW E	CDU-1	251124-000	1 EA.
ROW E	VPM-3 MODULE	251432-100	1 EA.
ROW E	GFD-1 MODULE	251333-000	1 EA.
ROW E	UCI-3 MODULE	251495-000	1 EA.

BACK

NEW SHEET

LOCATION B

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.003, F.A.C.

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

XORAIL
5011 GATE PARKWAY BUILDING 100
SUITE 400 JACKSONVILLE FLORIDA 32256
(904) 443-0083 (MAIN)
(904) 443-0089 (FAX)
CERT. OF AUTHORIZATION NO. 9875
ENGINEER OF RECORD
IVORY L. WHITE, JR., P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

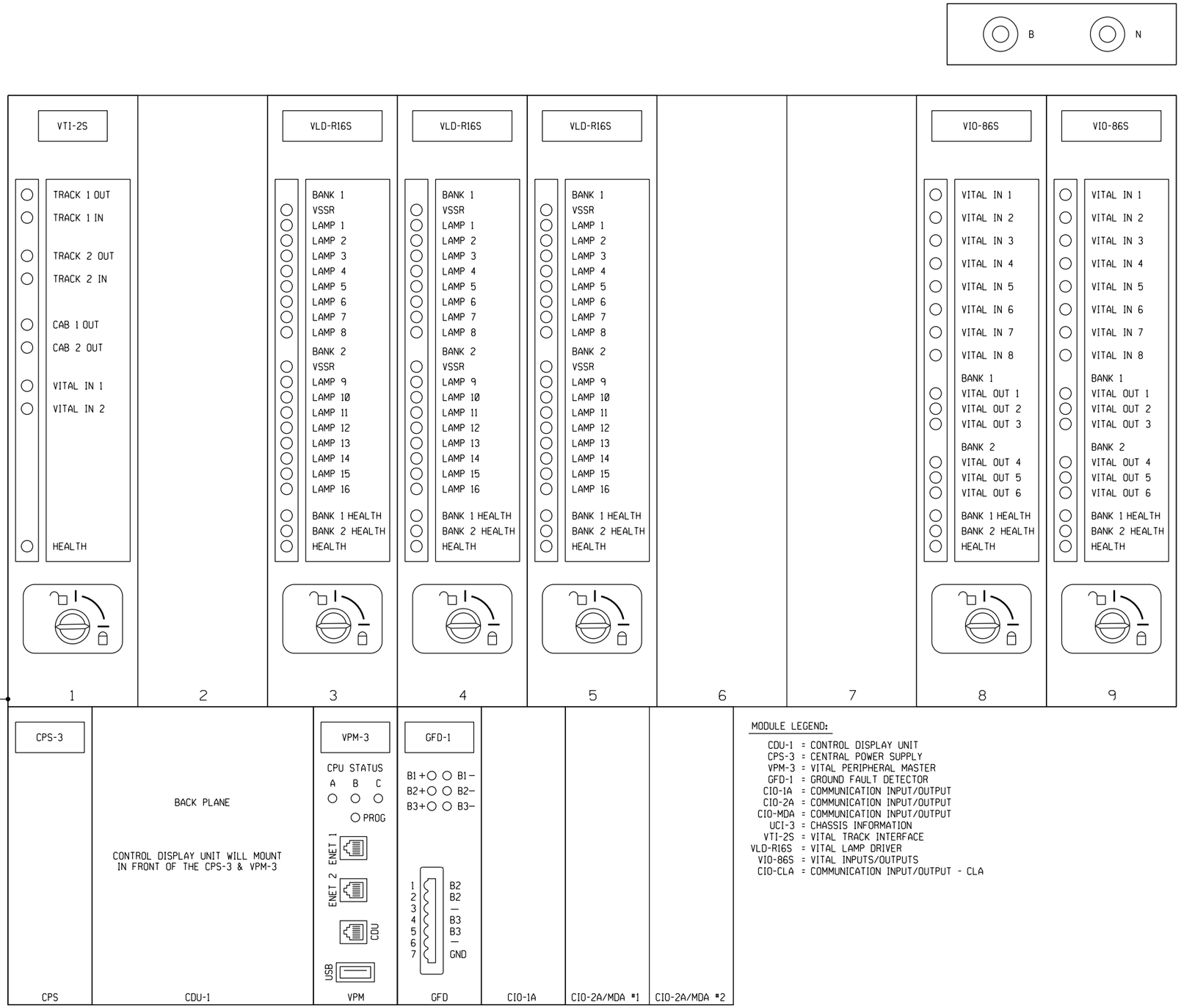
CP-800
RACK 1 LAYOUT

M.P. A-799.68

SHEET NO.
451

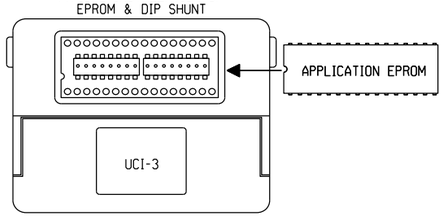
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DRAWING NO.
G79968.013



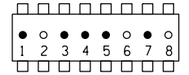
CIO-CLA MODULE DIAGNOSTIC PORT PIN ASSIGNMENT		
PIN	SIGNAL	SIGNAL NAME
1	CD	CARRIER DETECT
2	RX	RECEIVE DATA
3	TX	TRANSMIT DATA
4	DTR	DTE
5	GND	COMMON SIGNAL RETURN
6	DSR	DCE
7	RTS	REQUEST TO SEND
8	CTS	CLEAR TO SEND
9	RI	RING INDICATOR

TYPICAL INSTALLATION OF EPROM & DIP SHUNT



CHASSIS ID - 69

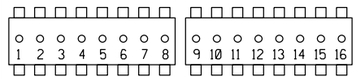
CHASSIS ID DIP SHUNTS
LOCATED ON BACKPLANE
UNDERNEATH UCI-3 MODULE



○ = TAB INTACT (MADE)
● = TAB PUNCHED OUT (BROKEN)

VITAL SELECTION ID-N/A

VITAL SELECTION DIP SHUNTS
LOCATED INSIDE UCI-3 MODULE
UNDERNEATH EPROM



○ = TAB INTACT (MADE)
● = TAB PUNCHED OUT (BROKEN)

MODULE LEGEND:

CDU-1 = CONTROL DISPLAY UNIT
CPS-3 = CENTRAL POWER SUPPLY
VPM-3 = VITAL PERIPHERAL MASTER
GFD-1 = GROUND FAULT DETECTOR
CIO-1A = COMMUNICATION INPUT/OUTPUT
CIO-2A = COMMUNICATION INPUT/OUTPUT
CIO-MDA = COMMUNICATION INPUT/OUTPUT
UCI-3 = CHASSIS INFORMATION
VTI-2S = VITAL TRACK INTERFACE
VLD-R16S = VITAL LAMP DRIVER
VIO-86S = VITAL INPUTS/OUTPUTS
CIO-CLA = COMMUNICATION INPUT/OUTPUT - CLA

NEW SHEET

LOCATION B

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REVISIONS

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XORAIL
5011 GATE PARKWAY BUILDING 100
SUITE 400 JACKSONVILLE FLORIDA 32256
(904) 443-0083 (MAIN)
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CERT. OF AUTHORIZATION NO. 9875
ENGINEER OF RECORD
IVORY L. WHITE, JR, P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

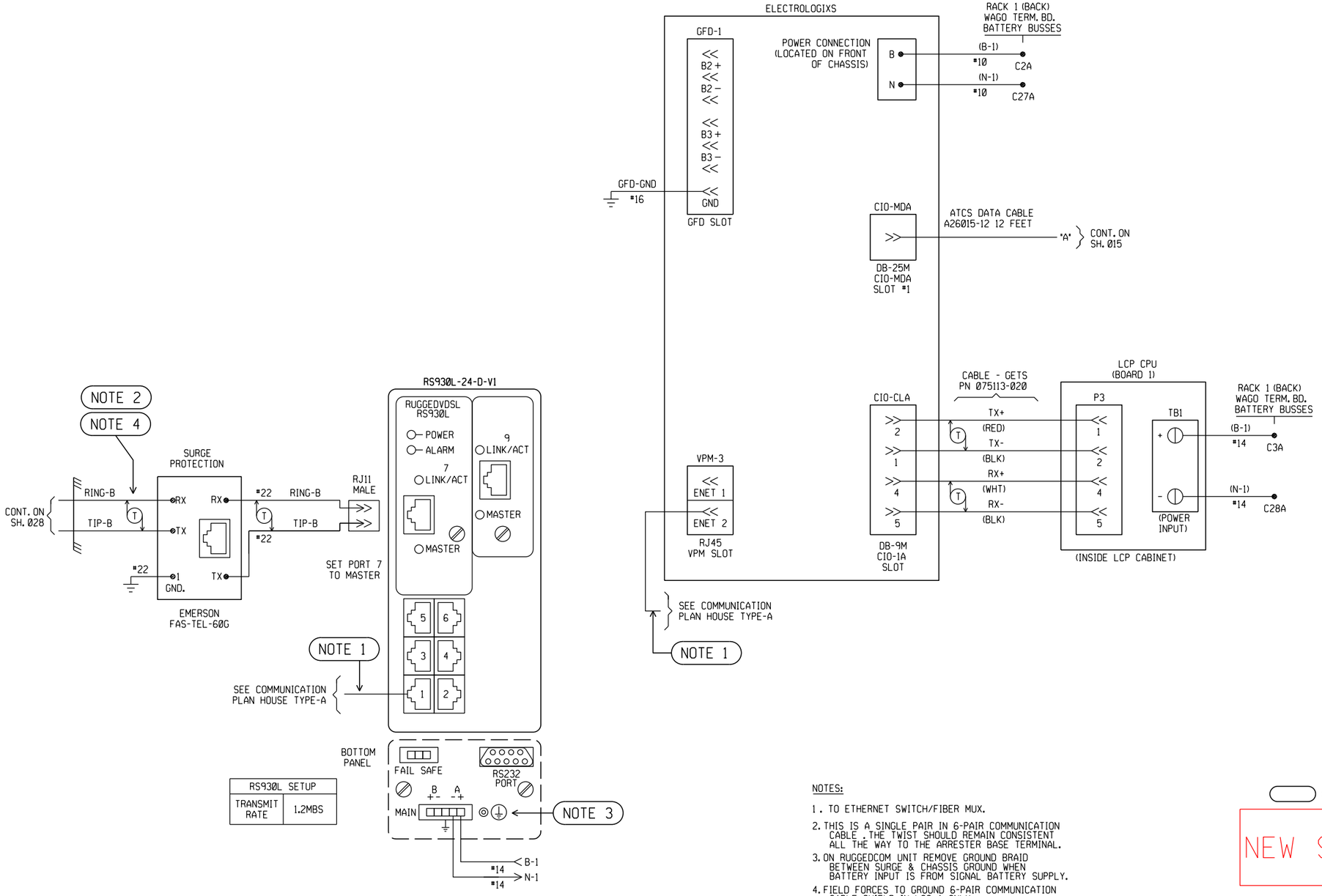
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
CP-800
ELECTROLOGIXS MODULE CONFIGURATION
M.P. A-799.68

SHEET NO.
452

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G79968.014



NOTES:

1. TO ETHERNET SWITCH/FIBER MUX.
2. THIS IS A SINGLE PAIR IN 6-PAIR COMMUNICATION CABLE . THE TWIST SHOULD REMAIN CONSISTENT ALL THE WAY TO THE ARRESTER BASE TERMINAL.
3. ON RUGGEDCOM UNIT REMOVE GROUND BRAID BETWEEN SURGE & CHASSIS GROUND WHEN BATTERY INPUT IS FROM SIGNAL BATTERY SUPPLY.
4. FIELD FORCES TO GROUND 6-PAIR COMMUNICATION CABLE SHIELD IN LOC. A ONLY.

( ) = NOTE

NEW SHEET

LOCATION A

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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

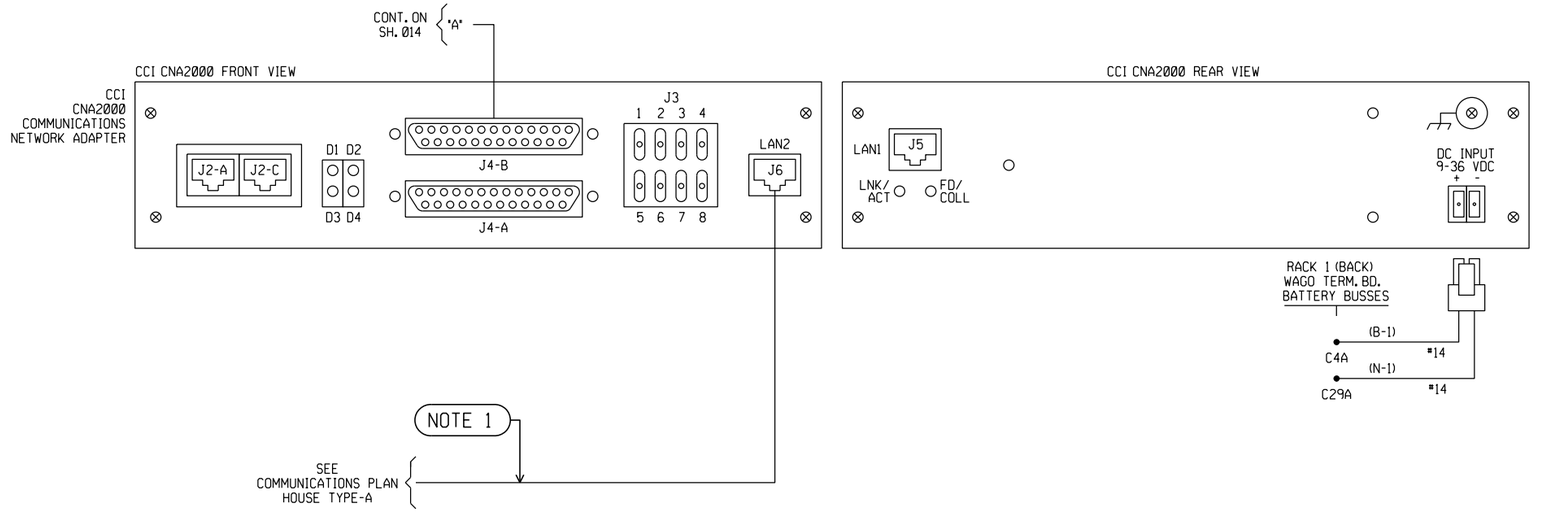
CP-800
ELECTROLOGIXS CIRCUITS

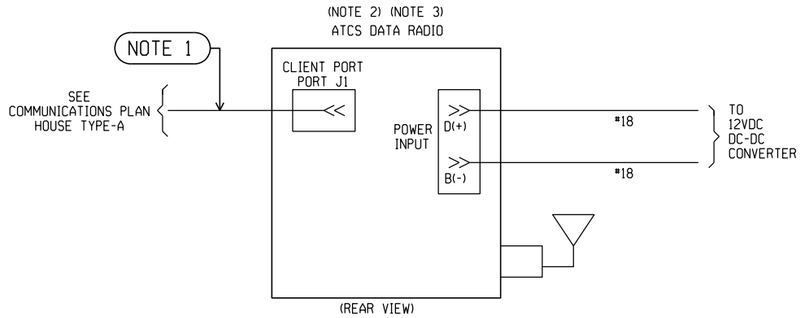
M.P. A-799.68

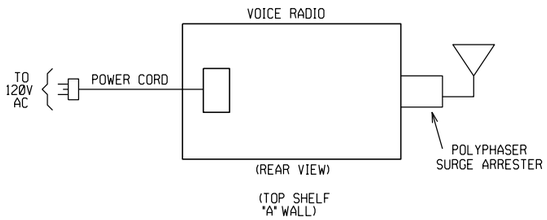
SHEET NO.
453

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G79968.015







= NOTE

NEW SHEET

NOTE:
1. TO ETHERNET SWITCH/FIBER MUX.
2. SEE COMMUNICATION PLAN FOR DETAIL
3. RADIO FOR BACK UP OFFICE COMMUNICATION.

LOCATION A

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

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CERT. OF AUTHORIZATION NO. 9875
ENGINEER OF RECORD
IVORY L. WHITE, JR, P.E.
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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

CP-800 OFFICE COMMUNICATION CIRCUITS

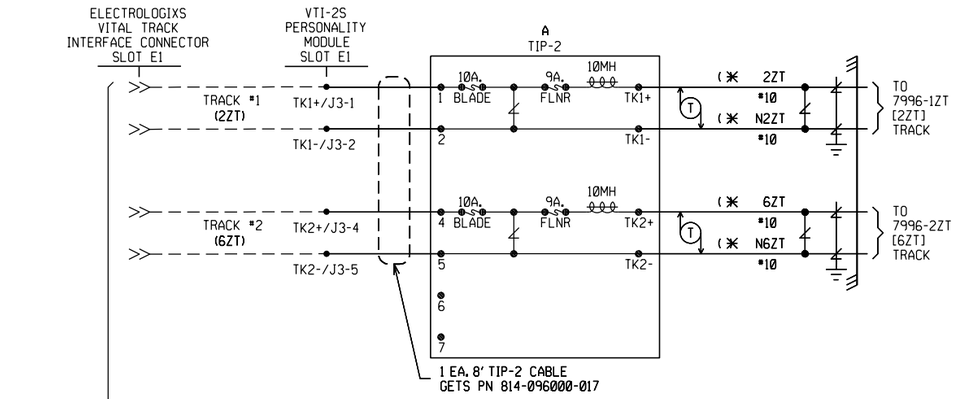
M.P. A-799.68

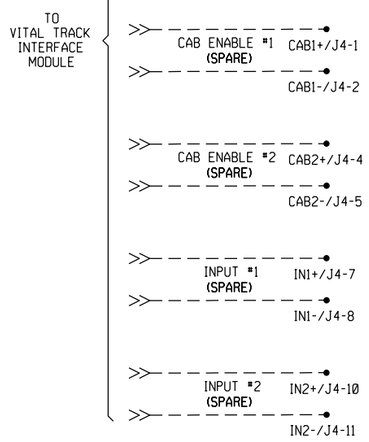
SHEET NO. 454

$USER$ $DATE$ $TIME$ $FILE$

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DRAWING NO.
G79968.016





THE ROUTING OF TRACK WIRES WITHIN THE BUNGALOW SHOULD BE AS SHORT AND DIRECT AS POSSIBLE, ESPECIALLY FOR THE LONGER TRACK CIRCUITS.

VTI-2S
PERSONALITY MODULE
SLOT E1
PLUG CONNECTORS

J3			J4	
TK1+	■	1	CAB1+	□ 1
TK1-	■	2	CAB1-	□ 2
—	□	3	—	□ 3
TK2+	■	4	CAB2+	□ 4
TK2-	■	5	CAB2-	□ 5
—	□	6	—	□ 6
—	□	7	IN1+	□ 7
			IN1-	□ 8
			—	□ 9
			IN2+	□ 10
			IN2-	□ 11

■ = WIRE PRESENT

NOTES:
1. [ ] = TAGGING PURPOSES ONLY
2. ---- = INTERNAL CONNECTION
3. (*) = WIRED BY RAILROAD

( ) = NOTE

NEW SHEET

LOCATION A

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REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

XORAIL
5011 GATE PARKWAY BUILDING 100
SUITE 400 JACKSONVILLE FLORIDA 32256
(904) 443-0083 (MAIN)
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CERT. OF AUTHORIZATION NO. 9875
ENGINEER OF RECORD
IVORY L. WHITE, JR, P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

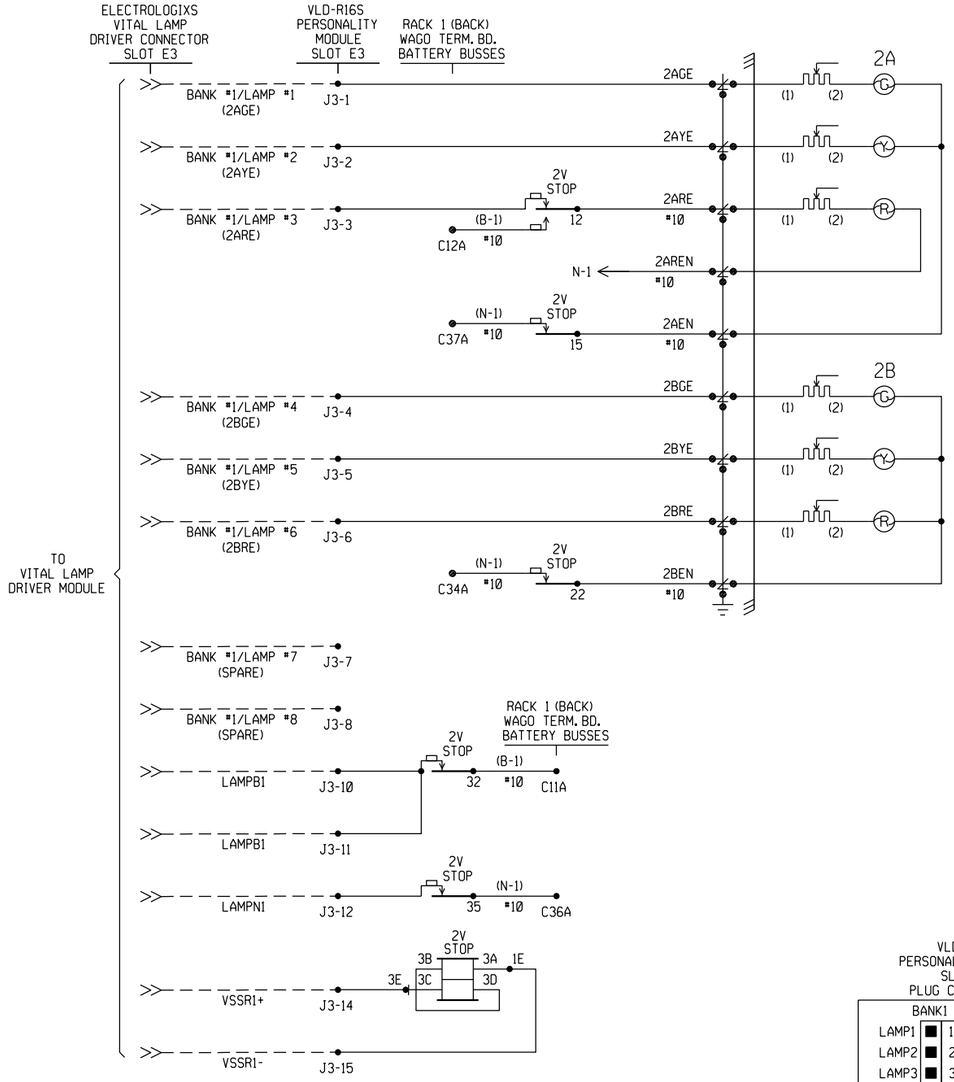
CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

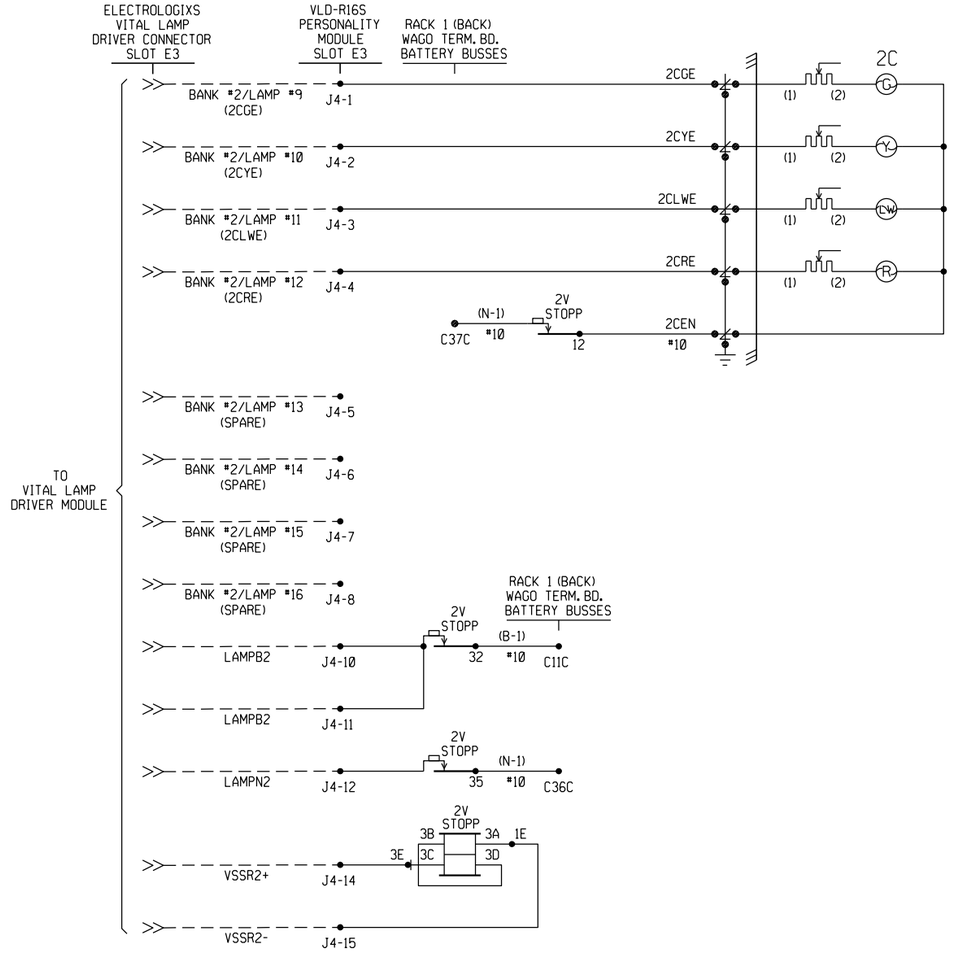
CP-800
ELECTROLOGIXS TRACK CIRCUITS
M.P. A-799.68

SHEET NO.
455

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G79968.017





VLD-R16S
PERSONALITY MODULE
SLOT E3
PLUG CONNECTORS

BANK1			BANK2		
LAMP1	■	1	LAMP9	■	1
LAMP2	■	2	LAMP10	■	2
LAMP3	■	3	LAMP11	■	3
LAMP4	■	4	LAMP12	■	4
LAMP5	■	5	LAMP13	□	5
LAMP6	■	6	LAMP14	□	6
LAMP7	□	7	LAMP15	□	7
LAMP8	□	8	LAMP16	□	8
—	□	9	—	□	9
LAMPB1	■	10	LAMPB2	■	10
LAMPB1	■	11	LAMPB2	■	11
LAMPN1	■	12	LAMPN2	■	12
—	□	13	—	□	13
VSSR1+	■	14	VSSR2+	■	14
VSSR1-	■	15	VSSR2-	■	15
	J3			J4	

■ = WIRE PRESENT

NOTES:

1. ●⁄● = LPC-10512-1 (15A, BLUE LEAD) HYBRID LOW VOLTAGE ARRESTER, UNLESS NOTED.
2. ---- = INTERNAL CONNECTION
3. ALL HOUSE WIRING THIS SHEET #14 FLEX UNLESS NOTED.
4. ALL RESISTORS ARE 3 OHM, 15 WATTS.

NEW SHEET

LOCATION A

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REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

XORAIL
5011 GATE PARKWAY BUILDING 100
SUITE 400 JACKSONVILLE FLORIDA 32256
(904) 443-0083 (MAIN)
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CERT. OF AUTHORIZATION NO. 9875
ENGINEER OF RECORD
IVORY L. WHITE, JR, P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

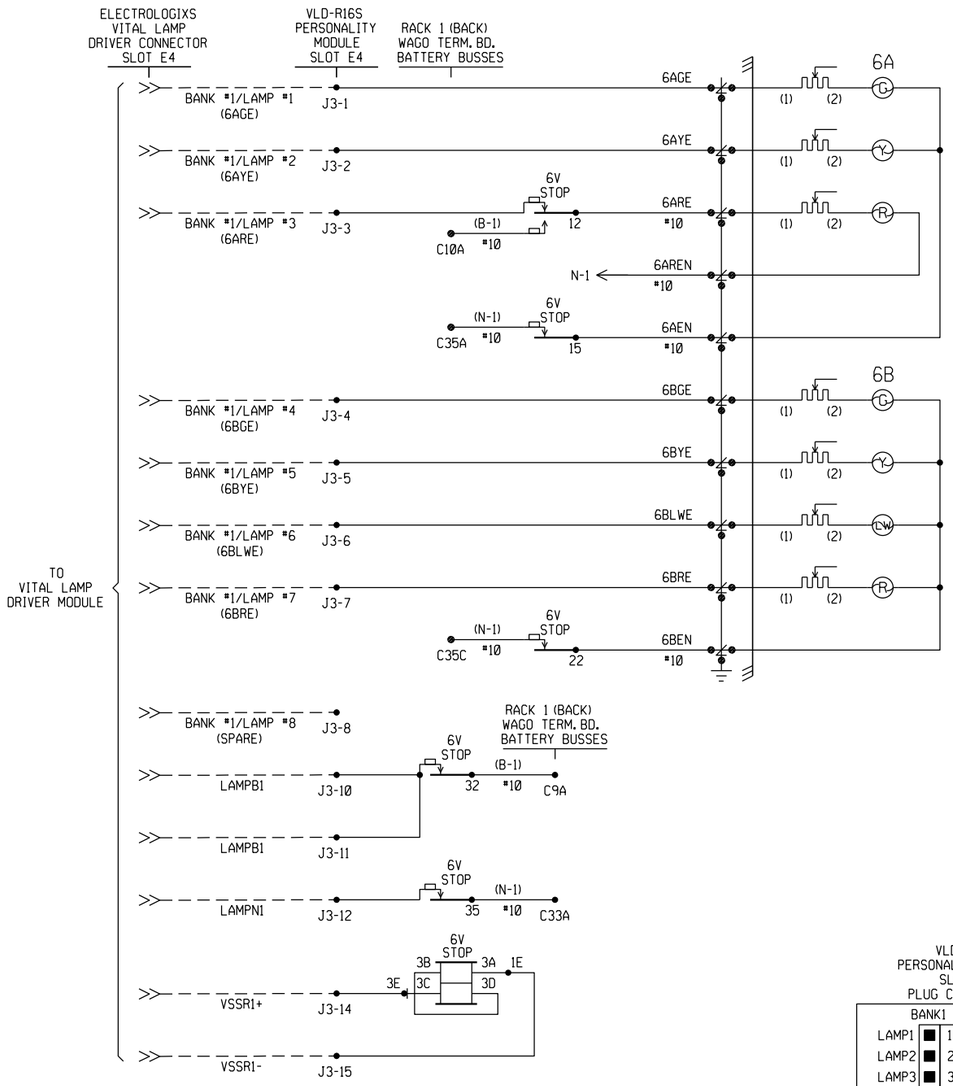
CP-800
SIGNAL 2 LIGHTING CIRCUITS

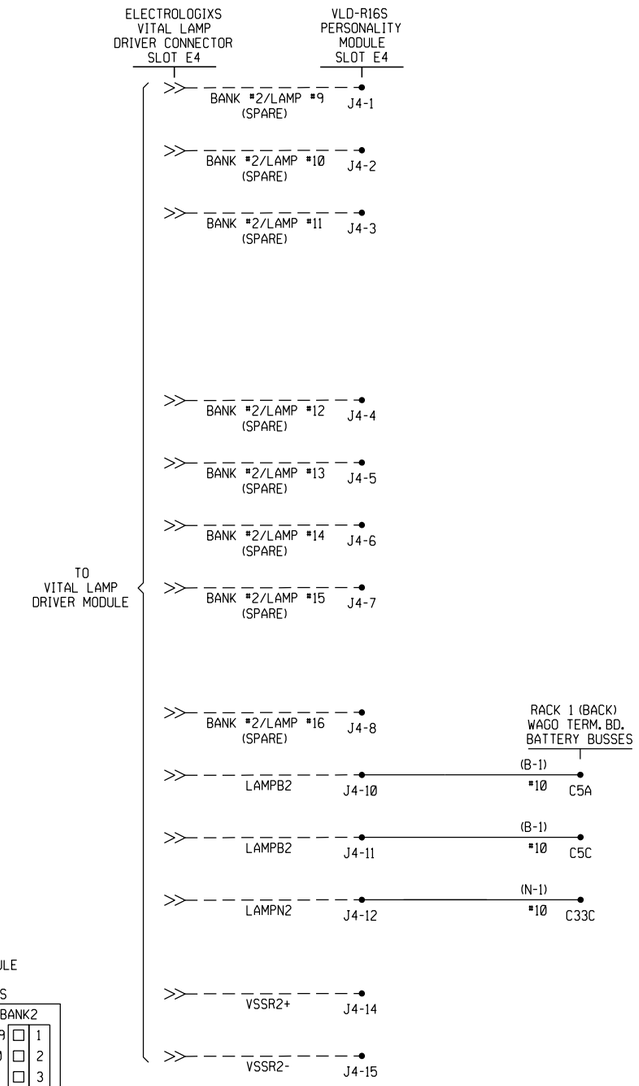
M.P. A-799.68

SHEET NO.
456

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G79968.018





VLD-R16S PERSONALITY MODULE SLOT E4 PLUG CONNECTORS

BANK1			BANK2		
LAMP1	■	1	LAMP9	□	1
LAMP2	■	2	LAMP10	□	2
LAMP3	■	3	LAMP11	□	3
LAMP4	■	4	LAMP12	□	4
LAMP5	■	5	LAMP13	□	5
LAMP6	■	6	LAMP14	□	6
LAMP7	■	7	LAMP15	□	7
LAMP8	□	8	LAMP16	□	8
—	□	9	—	□	9
LAMPB1	■	10	LAMPB2	■	10
LAMPB1	■	11	LAMPB2	■	11
LAMPN1	■	12	LAMPN2	■	12
—	□	13	—	□	13
VSSR1+	■	14	VSSR2+	□	14
VSSR1-	■	15	VSSR2-	□	15
	J3			J4	

■ = WIRE PRESENT

NOTES:

1. ●⁄● = LPC-10512-1 (15A, BLUE LEAD) HYBRID LOW VOLTAGE ARRESTER, UNLESS NOTED.
2. ---- = INTERNAL CONNECTION
3. ALL HOUSE WIRING THIS SHEET #14 FLEX UNLESS NOTED.
4. ALL RESISTORS ARE 3 OHM, 15 WATTS.

NEW SHEET

LOCATION A

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IVORY L. WHITE, JR, P.E.
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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

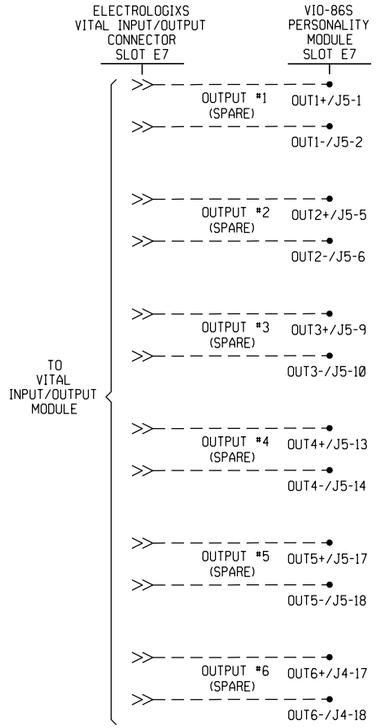
CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
CP-800
SIGNAL 6
LIGHTING CIRCUITS
M.P. A-799.68

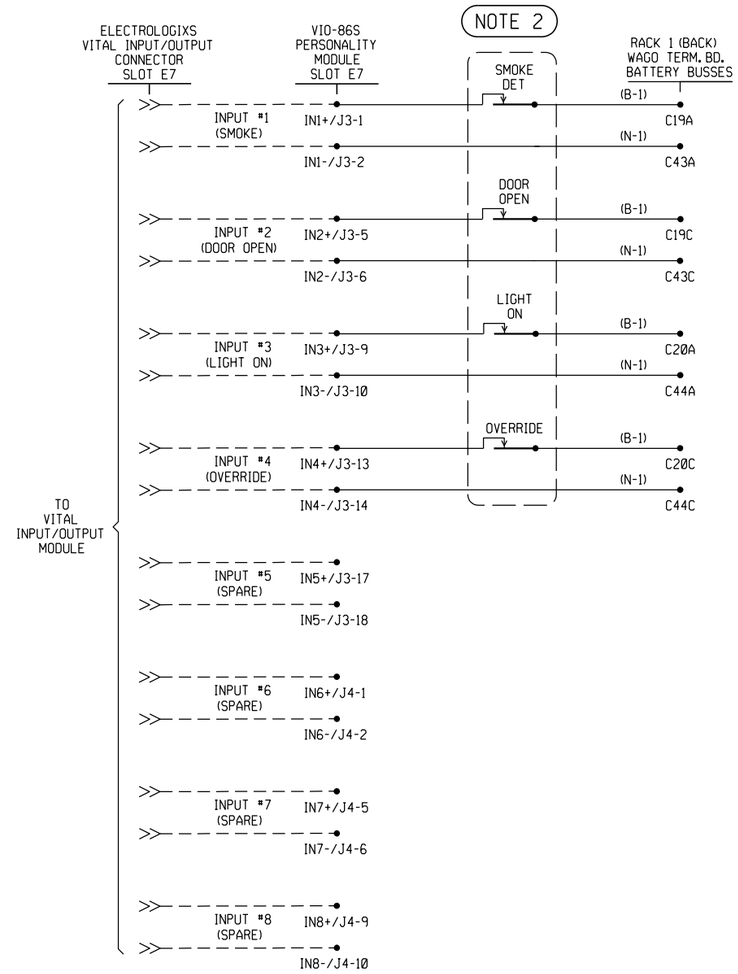
SHEET NO.
457

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.

G79968.Ø19





VIO-86S
PERSONALITY MODULE
SLOT E7
PLUG CONNECTORS

J3			J4			J5		
IN1+	■	1	IN6+	□	1	OUT1+	□	1
IN1-	■	2	IN6-	□	2	OUT1-	□	2
——	□	3	——	□	3	——	□	3
——	□	4	——	□	4	——	□	4
IN2+	■	5	IN7+	□	5	OUT2+	□	5
IN2-	■	6	IN7-	□	6	OUT2-	□	6
——	□	7	——	□	7	——	□	7
——	□	8	——	□	8	——	□	8
IN3+	■	9	IN8+	□	9	OUT3+	□	9
IN3-	■	10	IN8-	□	10	OUT3-	□	10
——	□	11	——	□	11	——	□	11
——	□	12	——	□	12	——	□	12
IN4+	■	13	——	□	13	OUT4+	□	13
IN4-	■	14	——	□	14	OUT4-	□	14
——	□	15	——	□	15	——	□	15
——	□	16	——	□	16	——	□	16
IN5+	□	17	OUT6+	□	17	OUT5+	□	17
IN5-	□	18	OUT6-	□	18	OUT5-	□	18

■ = WIRE PRESENT

NOTE:

1. ---- = INTERNAL CONNECTION
2. PROVIDED WITH HOUSE.

= NOTE

NEW SHEET

LOCATION A

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DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

ELECTROLOGIXS I/O CIRCUITS

M.P. A-799.68

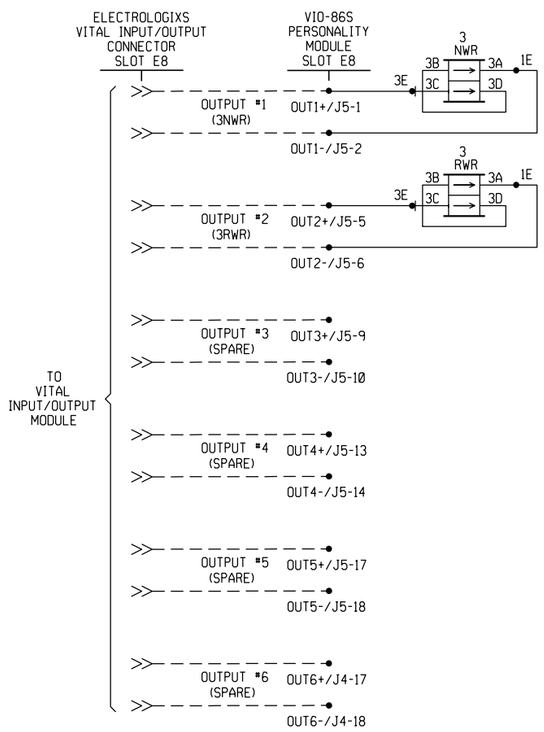
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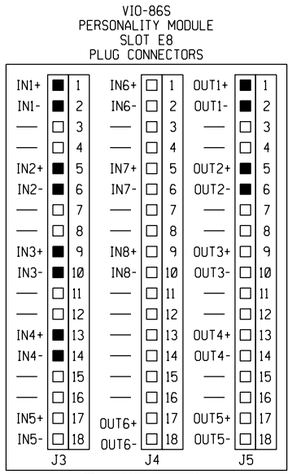
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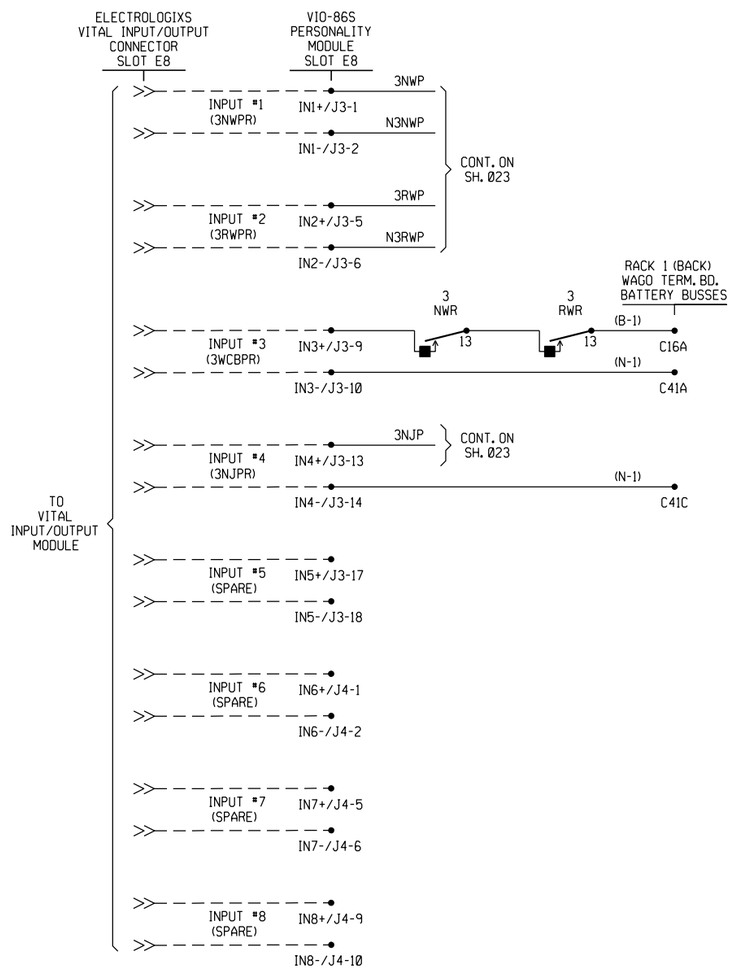
$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.

G79968.020







NOTE:

1. ---- = INTERNAL CONNECTION

NEW SHEET

LOCATION A

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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

CP-800
ELECTROLOGIXS I/O CIRCUITS

M.P. A-799.68

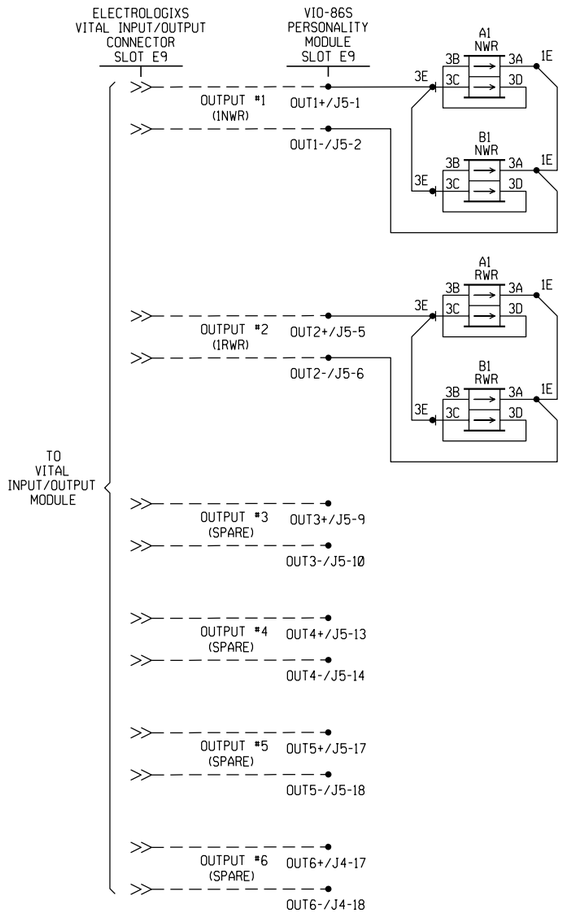
SHEET NO.

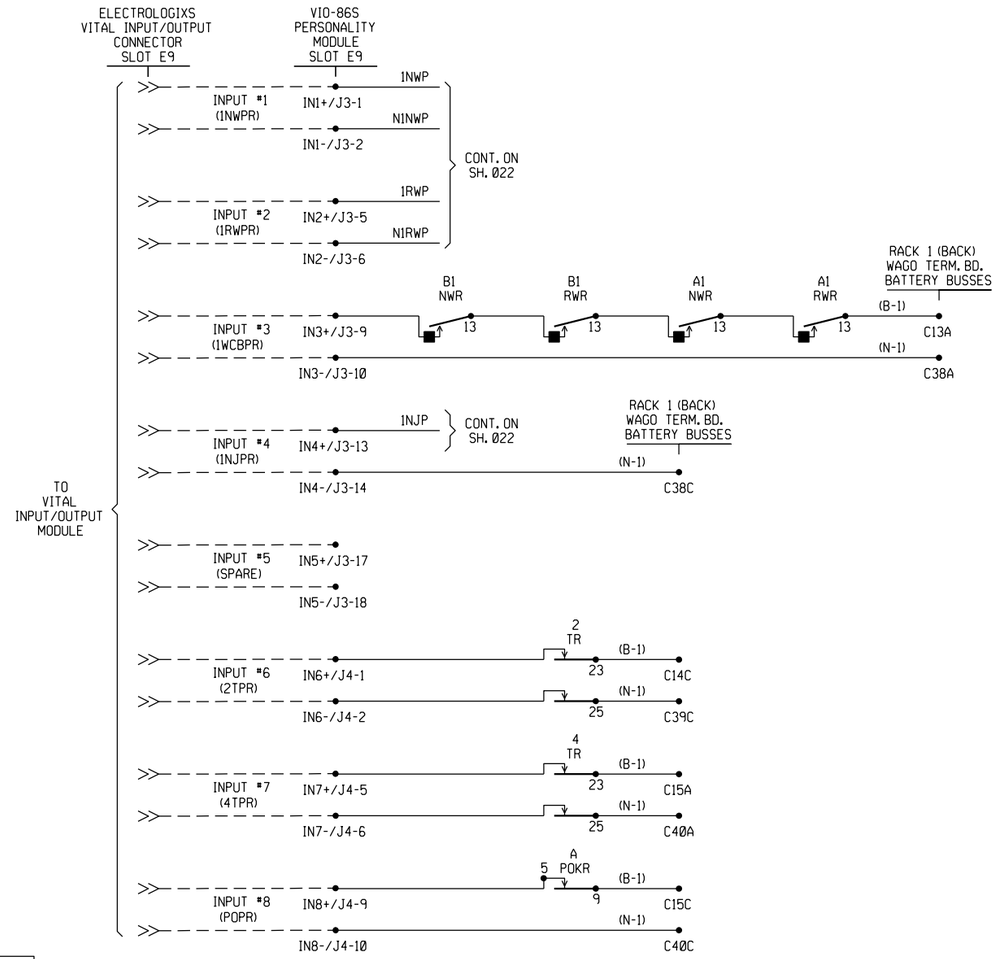
459

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.

G79968.Ø21





VIO-86S
PERSONALITY MODULE
SLOT E9
PLUG CONNECTORS

J3			J4			J5		
IN1+	■	1	IN6+	■	1	OUT1+	■	1
IN1-	■	2	IN6-	■	2	OUT1-	■	2
——	□	3	——	□	3	——	□	3
——	□	4	——	□	4	——	□	4
IN2+	■	5	IN7+	■	5	OUT2+	■	5
IN2-	■	6	IN7-	■	6	OUT2-	■	6
——	□	7	——	□	7	——	□	7
——	□	8	——	□	8	——	□	8
IN3+	■	9	IN8+	■	9	OUT3+	□	9
IN3-	■	10	IN8-	■	10	OUT3-	□	10
——	□	11	——	□	11	——	□	11
——	□	12	——	□	12	——	□	12
IN4+	■	13	——	□	13	OUT4+	□	13
IN4-	■	14	——	□	14	OUT4-	□	14
——	□	15	——	□	15	——	□	15
——	□	16	——	□	16	——	□	16
IN5+	□	17	OUT6+	□	17	OUT5+	□	17
IN5-	□	18	OUT6-	□	18	OUT5-	□	18

■ = WIRE PRESENT

NOTE:

1. ---- = INTERNAL CONNECTION

NEW SHEET

LOCATION A

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REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

XORAIL
5011 GATE PARKWAY BUILDING 100
SUITE 400 JACKSONVILLE FLORIDA 32256
(904) 443-0083 (MAIN)
(904) 443-0089 (FAX)
CERT. OF AUTHORIZATION NO. 9875
ENGINEER OF RECORD
IVORY L. WHITE, JR., P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

CP-800
ELECTROLOGIXS I/O CIRCUITS

M.P. A-799.68

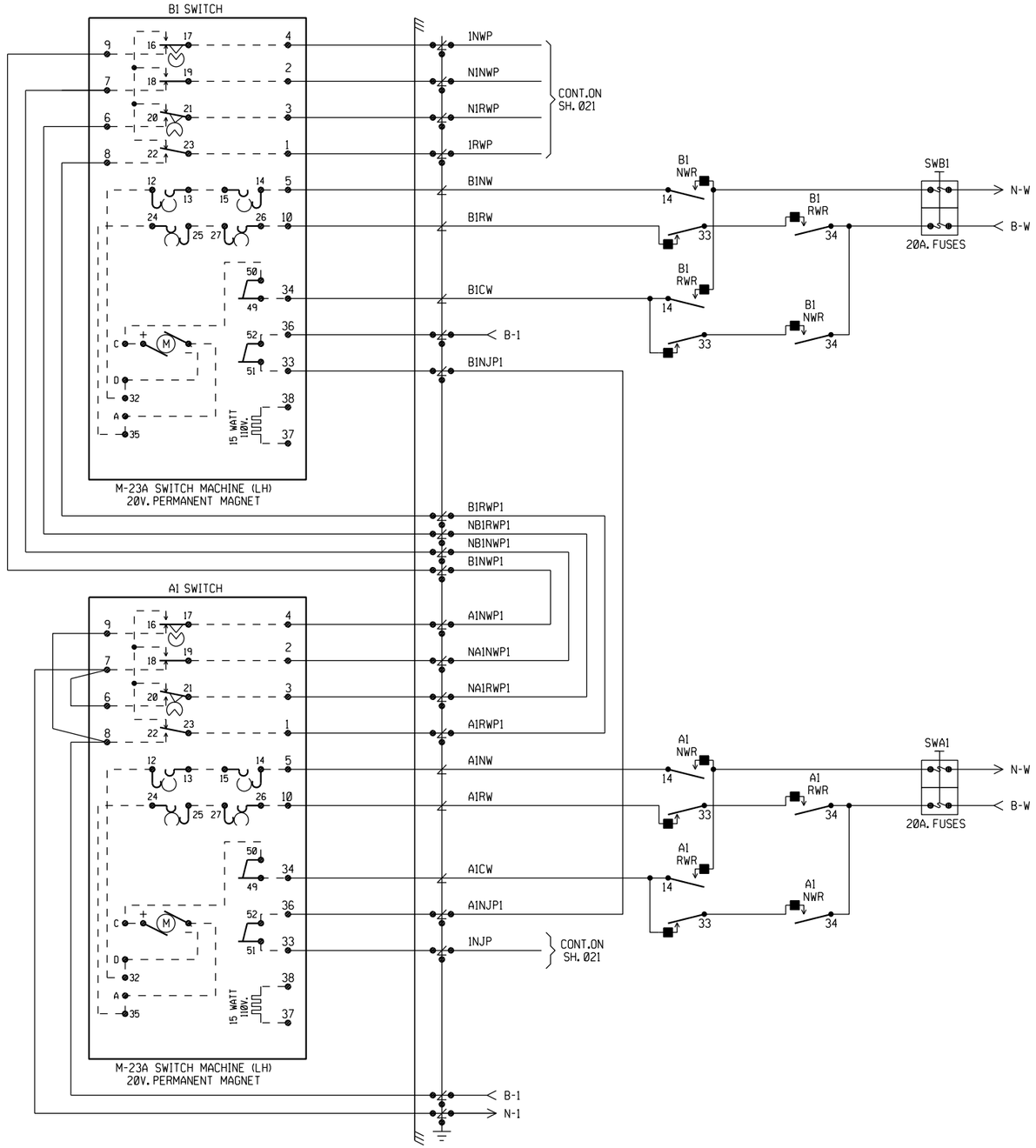
SHEET NO.

460

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.

G79968.022



LEFT HAND LAYOUTS, LEFT HAND POINTS CLOSED.

NEW SHEET

NOTES:

1. ●⁄● = LPC-10512-1 (15A, BLUE LEAD) HYBRID LOW VOLTAGE ARRESTER, UNLESS NOTED.
2. ---- = INTERNAL CONNECTION

LOCATION A

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REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

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5011 GATE PARKWAY BUILDING 100
SUITE 400 JACKSONVILLE FLORIDA 32256
(904) 443-0083 (MAIN)
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CERT. OF AUTHORIZATION NO. 9875

ENGINEER OF RECORD
IVORY L. WHITE, JR., P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

CP-800
SWITCH 1 CIRCUITS

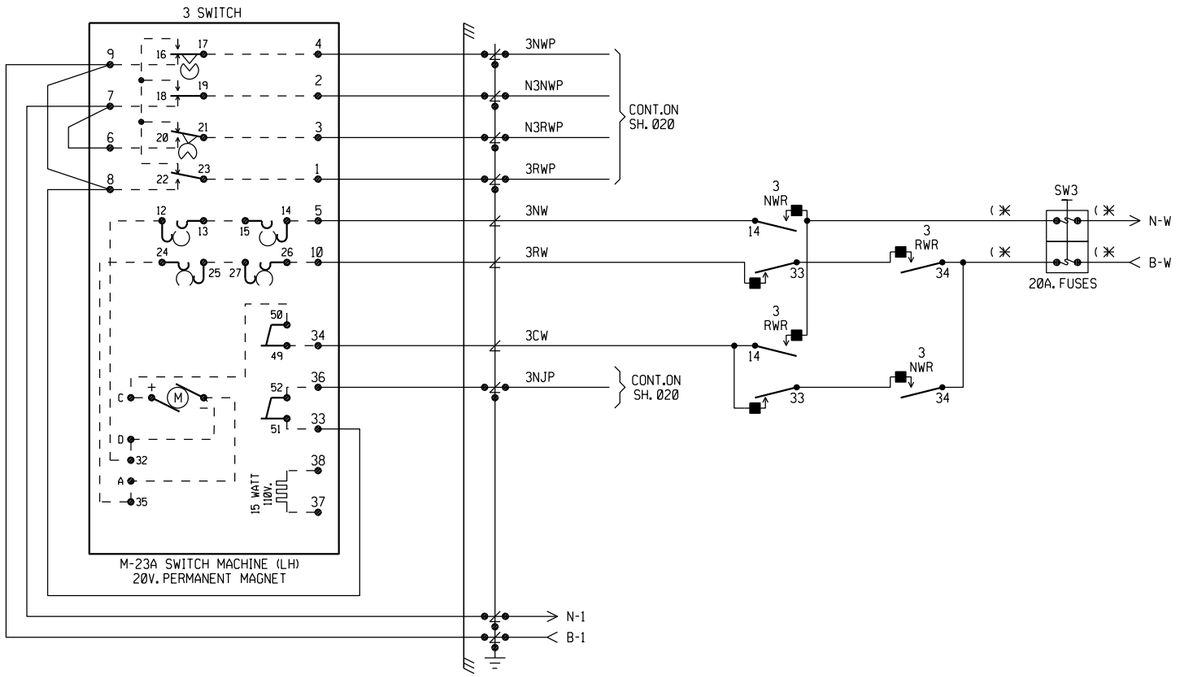
M.P. A-799.68

SHEET NO. **461**

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.

G79968.023



LEFT HAND LAYOUT, LEFT HAND POINT CLOSED.

NOTES:

1. = LPC-10512-1 (15A, BLUE LEAD) HYBRID LOW VOLTAGE ARRESTER, UNLESS NOTED.
2. ---- = INTERNAL CONNECTION

NEW SHEET

LOCATION A

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

XORAIL
5011 GATE PARKWAY BUILDING 100
SUITE 400 JACKSONVILLE FLORIDA 32256
(904) 443-0083 (MAIN)
(904) 443-0089 (FAX)
CERT. OF AUTHORIZATION NO. 9875
ENGINEER OF RECORD
IVORY L. WHITE, JR., P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

CP-800
SWITCH 3 CIRCUITS

M.P. A-799.68

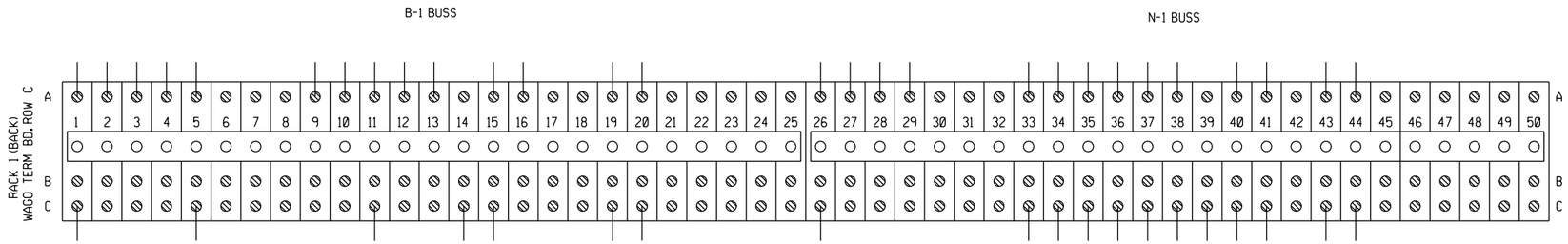
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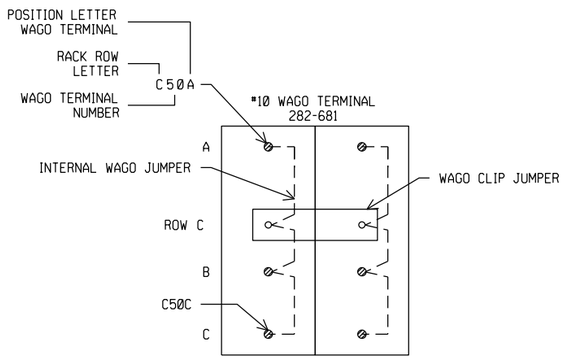
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$USER$ $DATE$ $TIME$ $FILE$

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DRAWING NO.
G79968.024





NEW SHEET

NOTES:

1. C1A & C1C TO B-1 SUPPLY.
2. C26A & C26C TO N-1 SUPPLY.

LOCATION A

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REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

XORAIL
5011 GATE PARKWAY BUILDING 100
SUITE 400 JACKSONVILLE FLORIDA 32256
(904) 443-0083 (MAIN)
(904) 443-0089 (FAX)

CERT. OF AUTHORIZATION NO. 9875

ENGINEER OF RECORD
IVORY L. WHITE, JR., P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

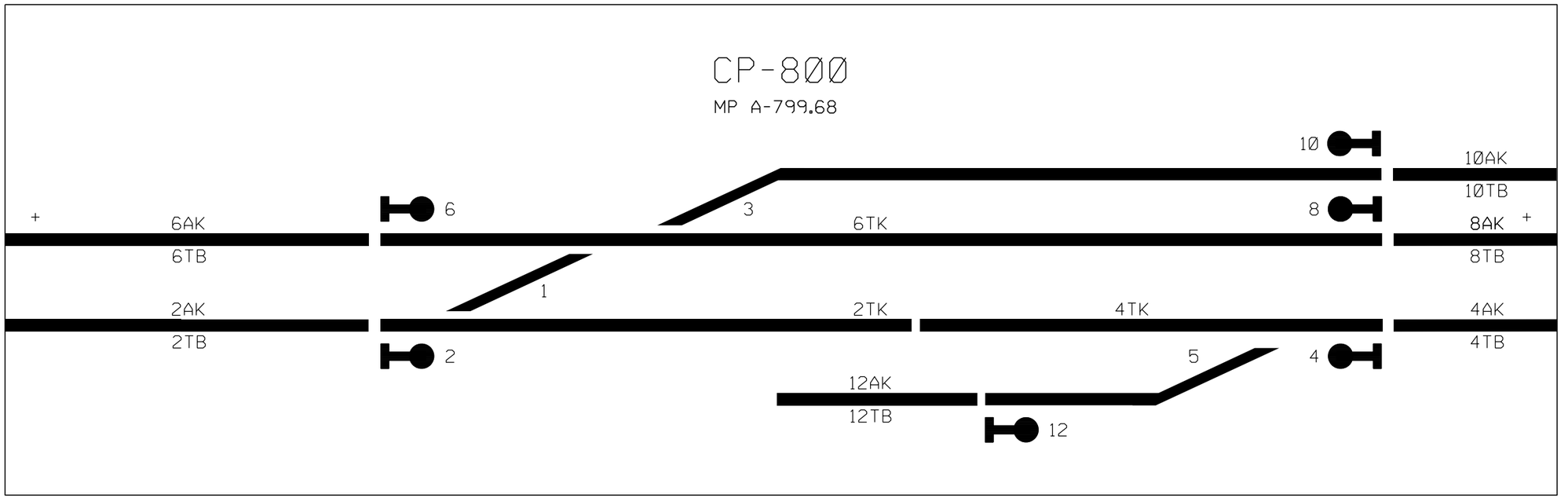
CP-800
WAGO TERMINAL BOARDS

M.P. A-799.68

SHEET NO.
463

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G79968.025



NEW SHEET

LOCATION A

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

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5011 GATE PARKWAY BUILDING 100
SUITE 400 JACKSONVILLE FLORIDA 32256
(904) 443-0083 (MAIN)
(904) 443-0089 (FAX)

CERT. OF AUTHORIZATION NO. 9875

ENGINEER OF RECORD
IVORY L. WHITE, JR., P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

CP-800
LOCAL CONTROL PANEL LAYOUT
M.P. A-799.68

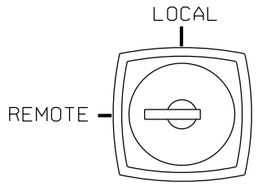
SHEET NO.
464

$USER$ $DATE$ $TIME$ $FILE$

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DRAWING NO.
G79968.026

LOCAL CONTROL PANEL



R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
1 NOR	1 REV	1 LK	1 NJK	3 NOR	3 REV	3 LK	3 NJK	5 NOR	5 REV	5 LK	5 NJK	2-12 SIG	4 SIG	2-4-12 STOP	6 SIG	LAMP TEST
OFF															OFF	START

LOCAL CONTROL PANEL EXPANSION

R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
8-10 SIG	6-8-10 STOP	2 TK	4 TK	6 TK	2 AK	4 AK	6 AK	8 AK	10 AK	12 AK	2 TB	4 TB	6 TB	8 TB	10 TB	
OFF															OFF	

LOCAL CONTROL PANEL EXPANSION

R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
12 TB	A-B LINK	2 BDK	6 BDK		A POK	B POK	A GFDK	B GFDK	A LOK	B LOK	ECK		MOK	LSR RESET	IND ONLY	
OFF															OFF	

NOTE:

1. WHERE "K" APPEARS AT END OF WORD ONLY INDICATION IS OPERATIVE.

NEW SHEET

LOCATION A

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

XORAIL
5011 GATE PARKWAY BUILDING 100
SUITE 400 JACKSONVILLE FLORIDA 32256
(904) 443-0083 (MAIN)
(904) 443-0089 (FAX)

CERT. OF AUTHORIZATION NO. 9875

ENGINEER OF RECORD
IVORY L. WHITE, JR., P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
CP-800
LOCAL CONTROL & EXPANSION PANELS
M.P. A-799.68

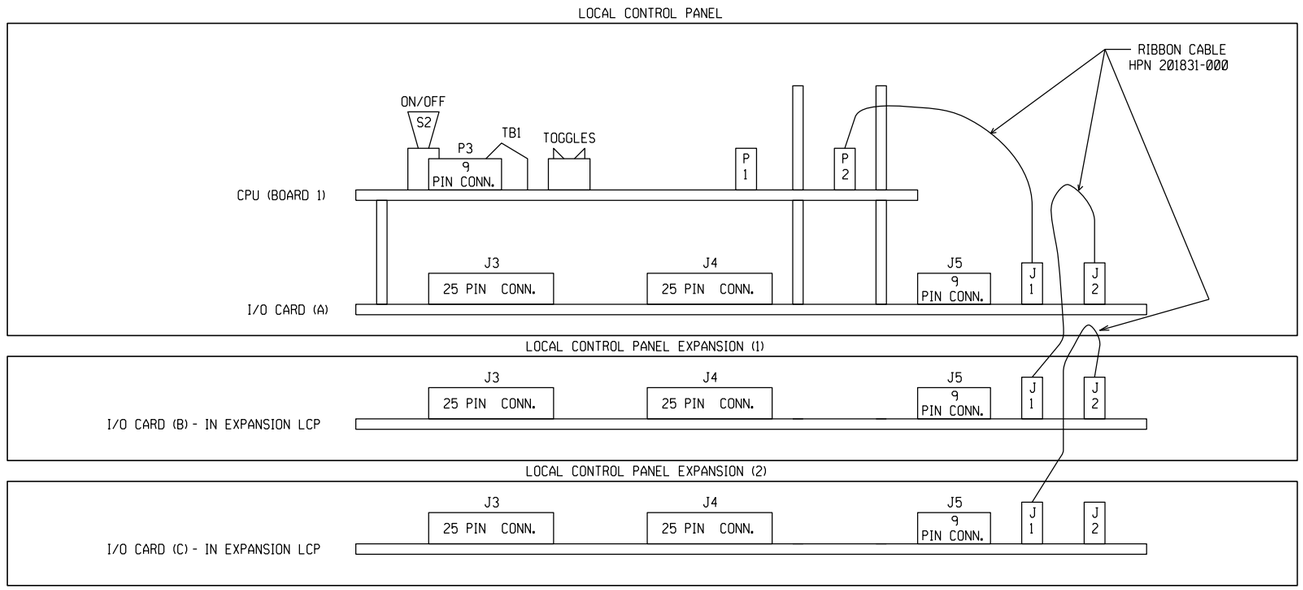
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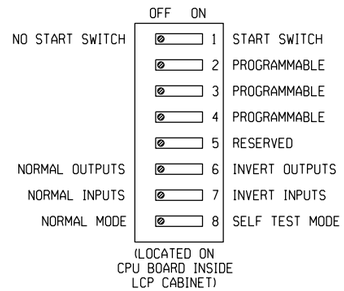
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DRAWING NO.

G79968.Ø27





NEW SHEET

LOCATION A

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REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

XORAIL
5011 GATE PARKWAY BUILDING 100
SUITE 400 JACKSONVILLE FLORIDA 32256
(904) 443-0083 (MAIN)
(904) 443-0089 (FAX)

CERT. OF AUTHORIZATION NO. 9875

ENGINEER OF RECORD
IVORY L. WHITE, JR., P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

CP-800
LOCAL CONTROL & EXPANSION PANEL I/O CARDS

M.P. A-799.68

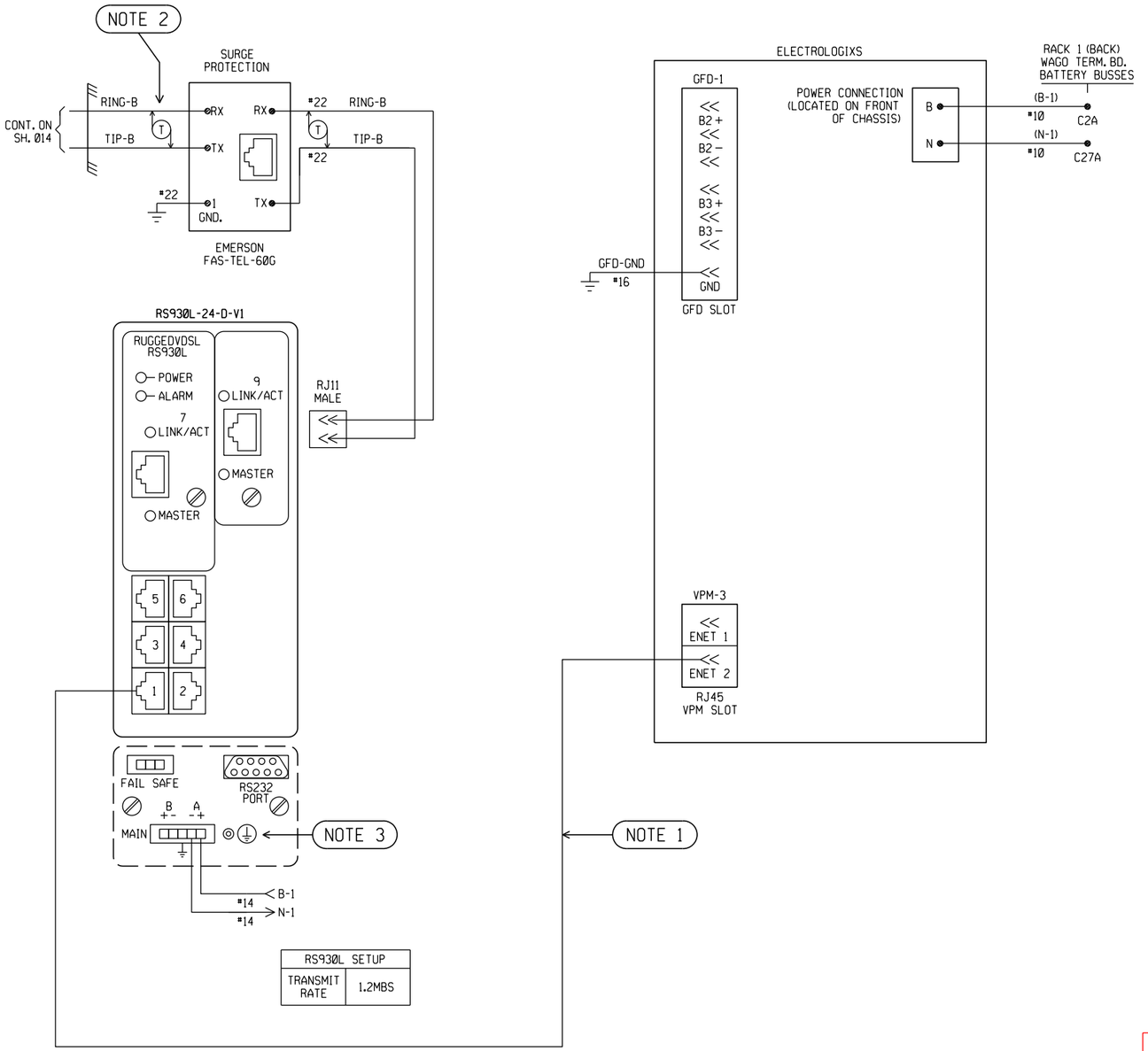
SHEET NO.

466

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.

G79968.028



NOTES:

1. CABLE CAT 6 PATCH MOLDED SNAGLESS YELLOW 20 FEET; CSD PN 10-5075-00-20 UNSHIELDED
2. THIS IS A SINGLE PAIR IN 6-PAIR COMMUNICATION CABLE . THE TWIST SHOULD REMAIN CONSISTENT ALL THE WAY TO THE ARRESTER BASE TERMINAL.
3. ON RUGGEDCOM UNIT REMOVE GROUND BRAID BETWEEN SURGE & CHASSIS GROUND WHEN BATTERY INPUT IS FROM SIGNAL BATTERY SUPPLY.

NEW SHEET

LOCATION B

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

XORAIL
5011 GATE PARKWAY BUILDING 100
SUITE 400 JACKSONVILLE FLORIDA 32256
(904) 443-0083 (MAIN)
(904) 443-0089 (FAX)

CERT. OF AUTHORIZATION NO. 9875

ENGINEER OF RECORD
IVORY L. WHITE, JR., P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

CP-800
ELECTROLOGIXS CIRCUITS

M.P. A-799.68

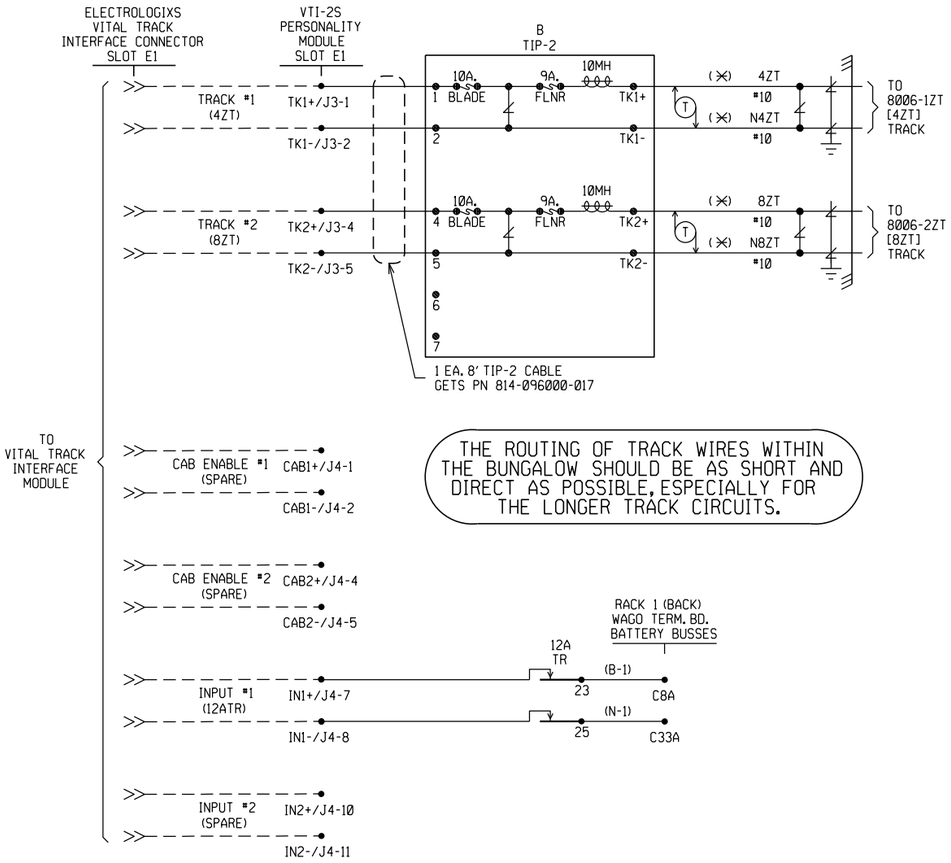
SHEET NO.

467

$USER$ $DATE$ $TIME$ $FILE$

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DRAWING NO.
G79968.029



THE ROUTING OF TRACK WIRES WITHIN THE BUNGALOW SHOULD BE AS SHORT AND DIRECT AS POSSIBLE, ESPECIALLY FOR THE LONGER TRACK CIRCUITS.

VTI-2S PERSONALITY MODULE SLOT E1 PLUG CONNECTORS

J3			J4	
TK1+	■	1	CAB1+	1
TK1-	■	2	CAB1-	2
—	□	3	—	3
TK2+	■	4	CAB2+	4
TK2-	■	5	CAB2-	5
—	□	6	—	6
—	□	7	IN1+	■ 7
			IN1-	■ 8
			—	9
			IN2+	10
			IN2-	11

■ = WIRE PRESENT

NOTES:
1. [ ] = TAGGING PURPOSES ONLY
2. ---- = INTERNAL CONNECTION
3. (✕) = WIRED BY RAILROAD

( ) = NOTE

NEW SHEET

LOCATION B

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REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

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SUITE 400 JACKSONVILLE FLORIDA 32256
(904) 443-0083 (MAIN)
(904) 443-0089 (FAX)
CERT. OF AUTHORIZATION NO. 9875
ENGINEER OF RECORD IVORY L. WHITE, JR., P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

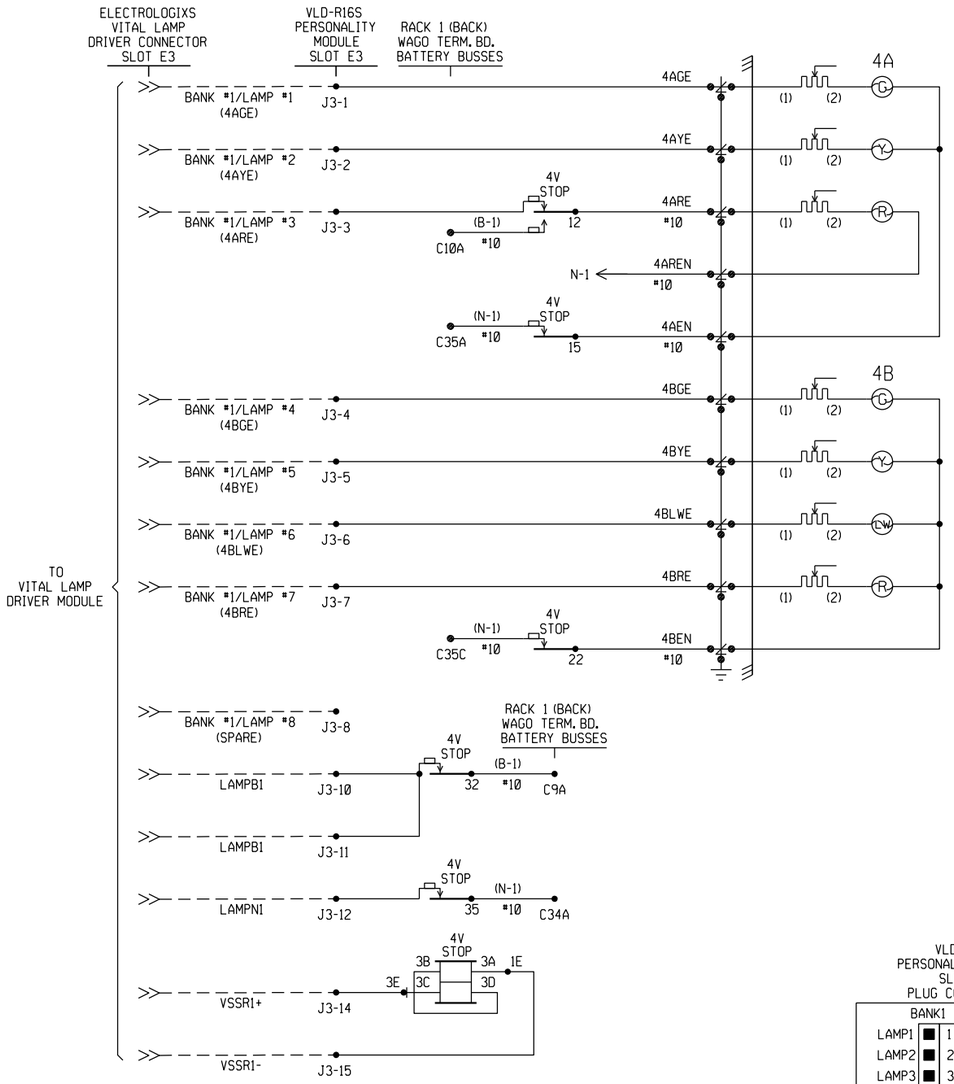
CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

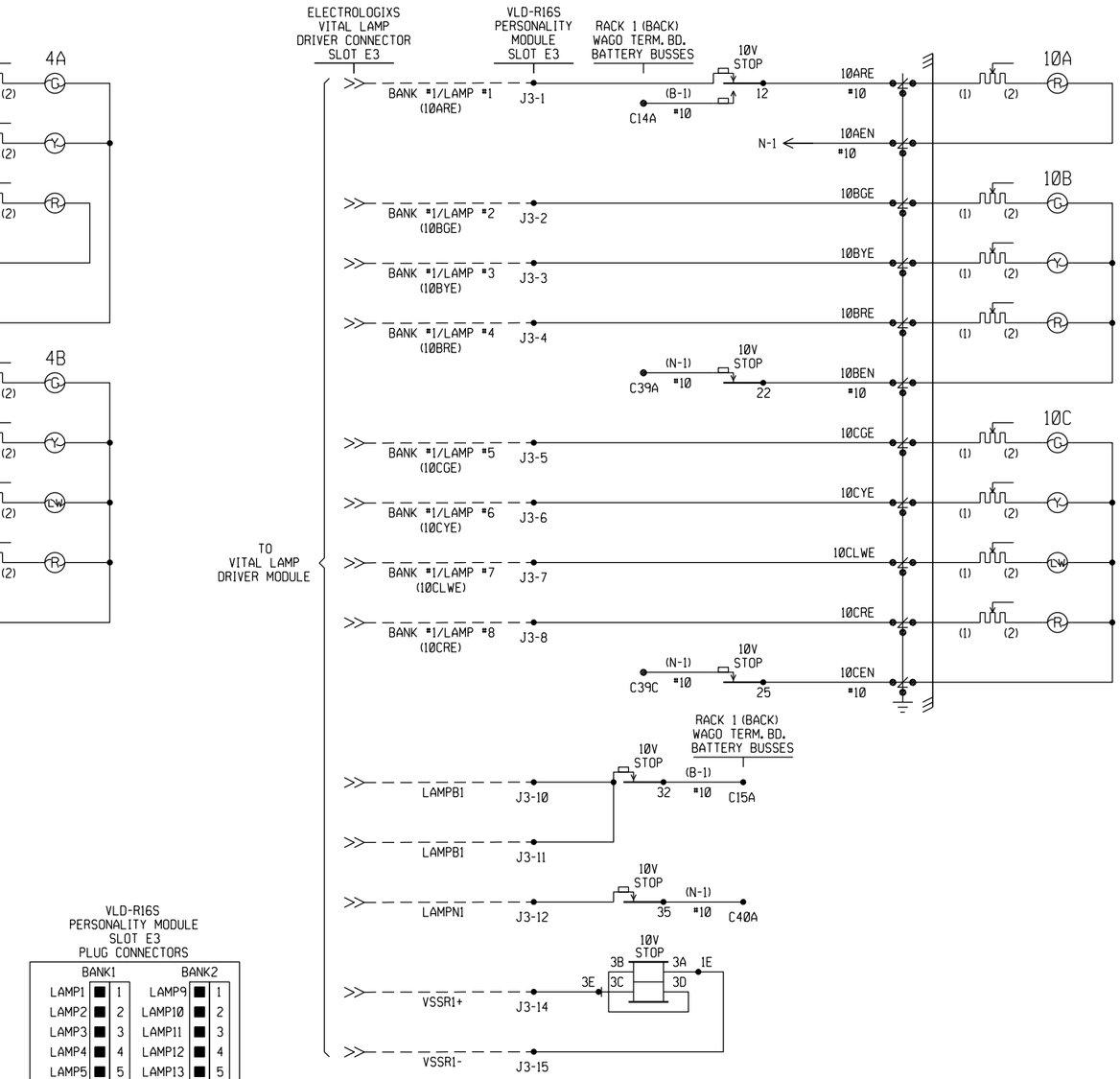
CP-800
ELECTROLOGIXS TRACK CIRCUITS
M.P. A-799.68

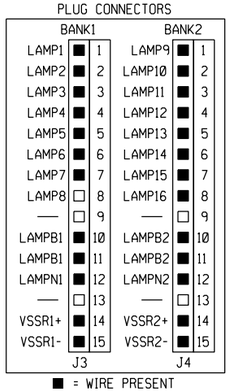
SHEET NO.
468

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G79968.030







NOTES:

1. ●⁄● = LPC-10512-1 (15A, BLUE LEAD) HYBRID LOW VOLTAGE ARRESTER, UNLESS NOTED.
2. ---- = INTERNAL CONNECTION
3. ALL HOUSE WIRING THIS SHEET #14 FLEX UNLESS NOTED.
4. ALL RESISTORS ARE 3 OHM, 15 WATTS.

NEW SHEET

LOCATION B

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

XORAIL
5011 GATE PARKWAY BUILDING 100
SUITE 400 JACKSONVILLE FLORIDA 32256
(904) 443-0083 (MAIN)
(904) 443-0089 (FAX)
CERT. OF AUTHORIZATION NO. 9875
ENGINEER OF RECORD
IVORY L. WHITE, JR., P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

CP-800

SIGNALS 4 & 10 LIGHTING CIRCUITS

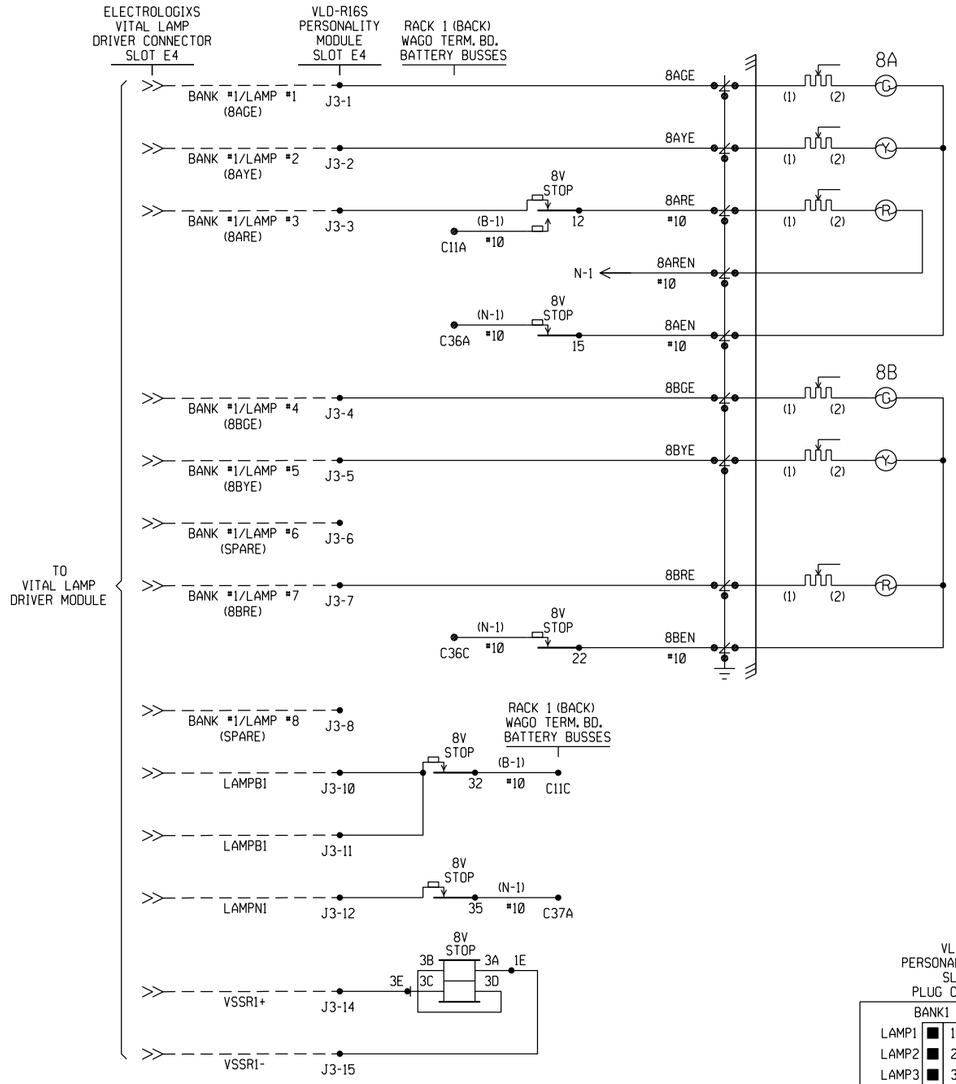
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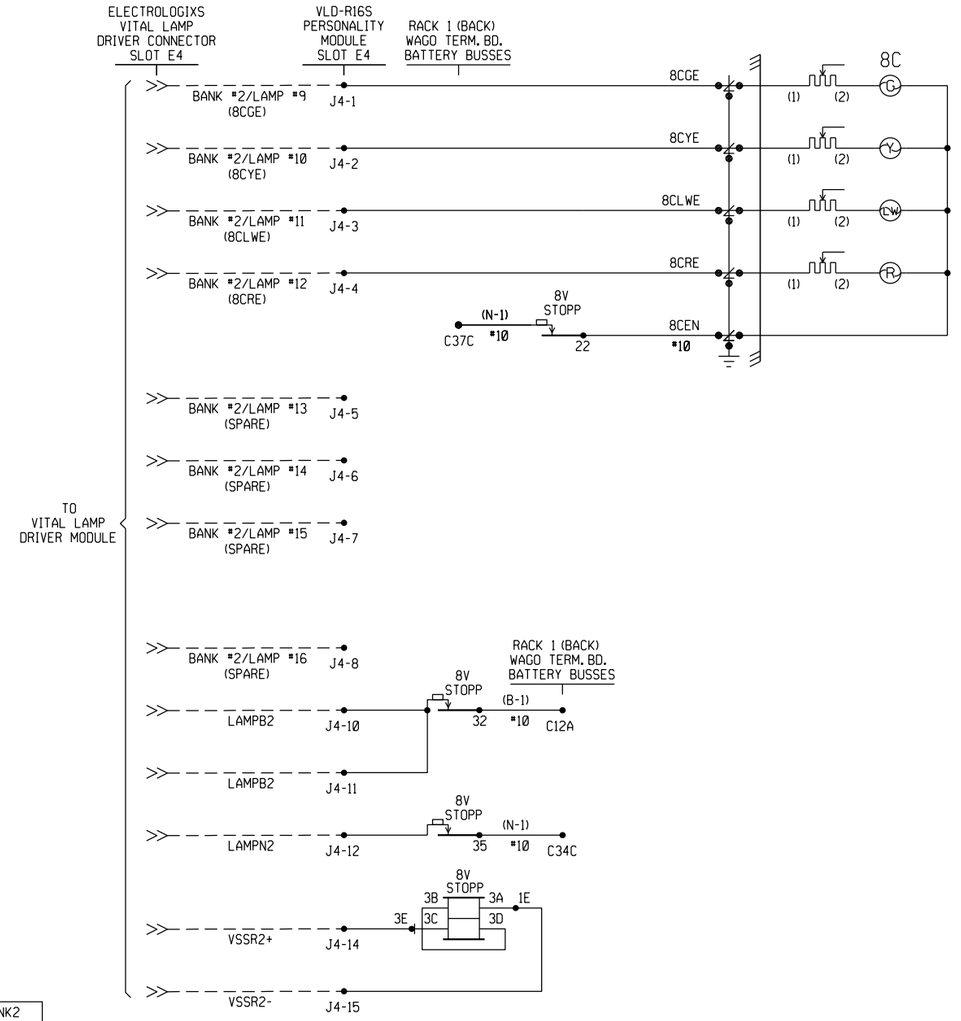
SHEET NO. 469

$USER$ $DATE$ $TIME$ $FILE$

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DRAWING NO.
G79968.031





VLD-R16S
PERSONALITY MODULE
SLOT E4
PLUG CONNECTORS

BANK1			BANK2		
LAMP1	■	1	LAMP9	■	1
LAMP2	■	2	LAMP10	■	2
LAMP3	■	3	LAMP11	■	3
LAMP4	■	4	LAMP12	■	4
LAMP5	■	5	LAMP13	□	5
LAMP6	□	6	LAMP14	□	6
LAMP7	■	7	LAMP15	□	7
LAMP8	□	8	LAMP16	□	8
—	□	9	—	□	9
LAMPB1	■	10	LAMPB2	■	10
LAMPB1	■	11	LAMPB2	■	11
LAMPN1	■	12	LAMPN2	■	12
—	□	13	—	□	13
VSSR1+	■	14	VSSR2+	■	14
VSSR1-	■	15	VSSR2-	■	15
	J3			J4	

■ = WIRE PRESENT

NOTES:

1. ●⁄● = LPC-10512-1 (15A, BLUE LEAD) HYBRID LOW VOLTAGE ARRESTER, UNLESS NOTED.
2. ---- = INTERNAL CONNECTION
3. ALL HOUSE WIRING THIS SHEET #14 FLEX UNLESS NOTED.
4. ALL RESISTORS ARE 3 OHM, 15 WATTS.

NEW SHEET

LOCATION B

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REVISIONS					
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STATE OF FLORIDA
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ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

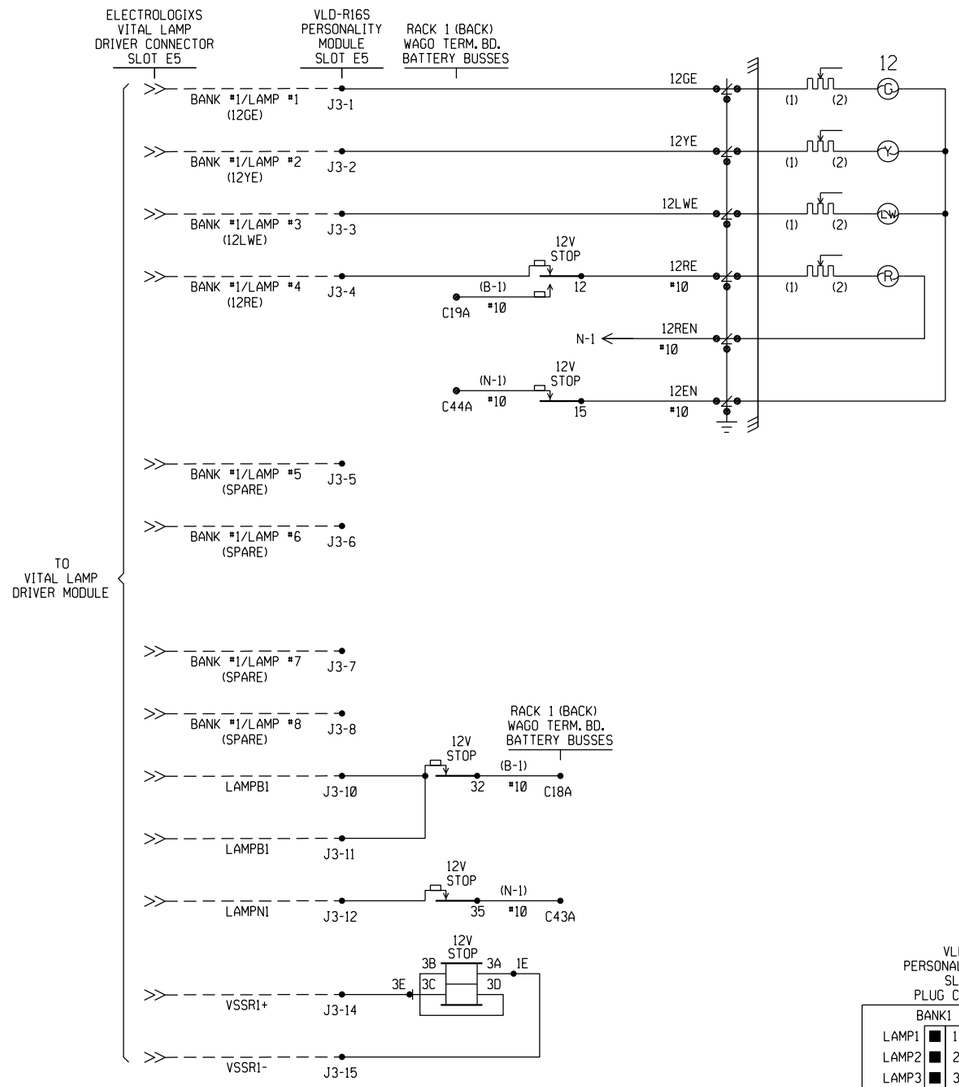
CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

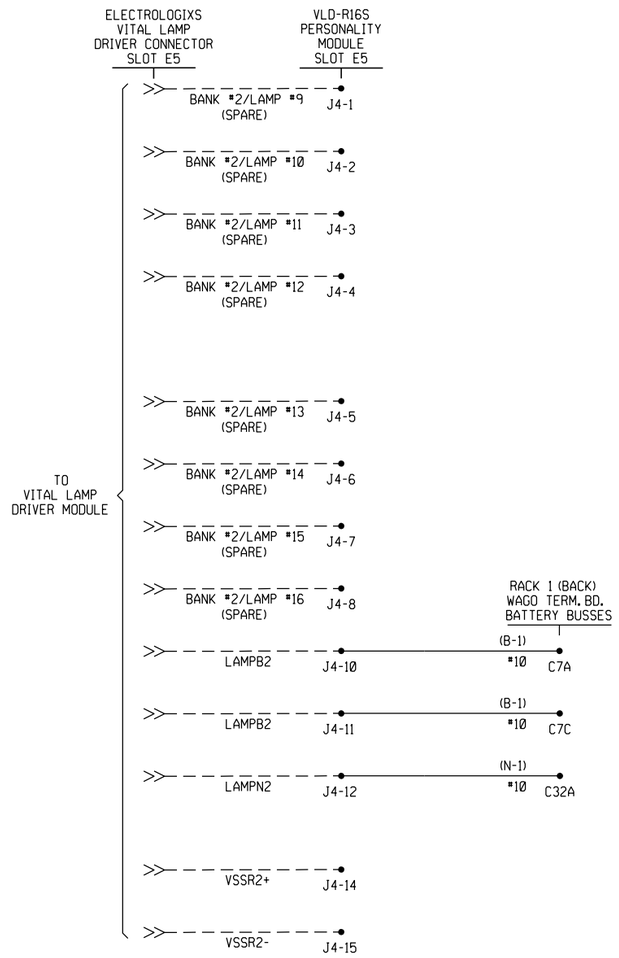
CP-800
SIGNAL & LIGHTING CIRCUITS
M.P. A-799.68

SHEET NO.
470

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G79968.Ø32





VLD-R16S
PERSONALITY MODULE
SLOT E5
PLUG CONNECTORS

BANK1			BANK2		
LAMP1	■	1	LAMP9	□	1
LAMP2	■	2	LAMP10	□	2
LAMP3	■	3	LAMP11	□	3
LAMP4	■	4	LAMP12	□	4
LAMP5	□	5	LAMP13	□	5
LAMP6	□	6	LAMP14	□	6
LAMP7	□	7	LAMP15	□	7
LAMP8	□	8	LAMP16	□	8
——	□	9	——	□	9
LAMPB1	■	10	LAMPB2	■	10
LAMPB1	■	11	LAMPB2	■	11
LAMPN1	■	12	LAMPN2	■	12
——	□	13	——	□	13
VSSR1+	■	14	VSSR2+	□	14
VSSR1-	■	15	VSSR2-	□	15
	J3			J4	

■ = WIRE PRESENT

NOTES:

1. ●⁄● = LPC-10512-1 (15A, BLUE LEAD) HYBRID LOW VOLTAGE ARRESTER, UNLESS NOTED.
2. ---- = INTERNAL CONNECTION
3. ALL HOUSE WIRING THIS SHEET #14 FLEX UNLESS NOTED.
4. ALL RESISTORS ARE 3 OHM, 15 WATTS.

NEW SHEET

LOCATION B

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.003, F.A.C.

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

XORAIL
5011 GATE PARKWAY BUILDING 100
SUITE 400 JACKSONVILLE FLORIDA 32256
(904) 443-0083 (MAIN)
(904) 443-0089 (FAX)
CERT. OF AUTHORIZATION NO. 9875
ENGINEER OF RECORD
IVORY L. WHITE, JR, P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

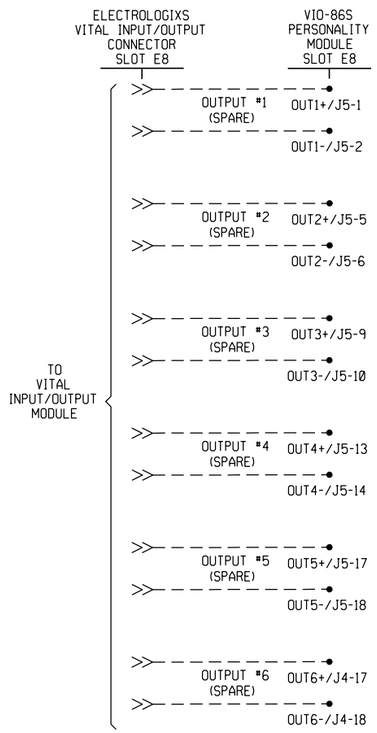
CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

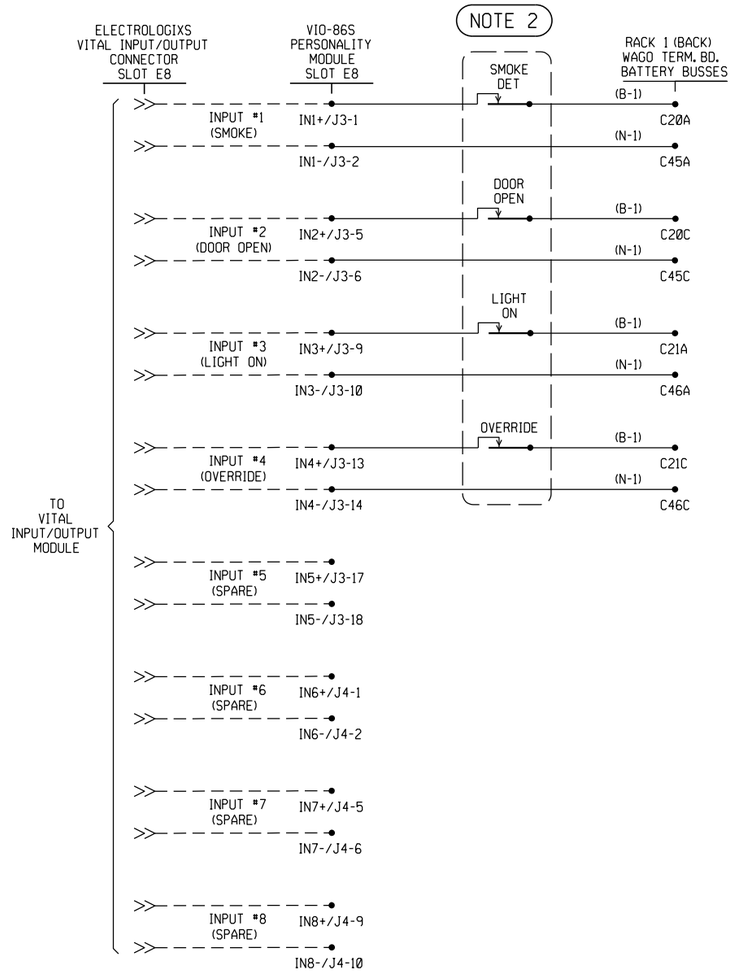
CP-800
SIGNAL 12 LIGHTING CIRCUITS
M.P. A-799.68

SHEET NO.
471

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G79968.Ø33





VIO-86S
PERSONALITY MODULE
SLOT E8
PLUG CONNECTORS

J3			J4			J5	
IN1+	■	1	IN6+	□	1	OUT1+	□ 1
IN1-	■	2	IN6-	□	2	OUT1-	□ 2
——	□	3	——	□	3	——	□ 3
——	□	4	——	□	4	——	□ 4
IN2+	■	5	IN7+	□	5	OUT2+	□ 5
IN2-	■	6	IN7-	□	6	OUT2-	□ 6
——	□	7	——	□	7	——	□ 7
——	□	8	——	□	8	——	□ 8
IN3+	■	9	IN8+	□	9	OUT3+	□ 9
IN3-	■	10	IN8-	□	10	OUT3-	□ 10
——	□	11	——	□	11	——	□ 11
——	□	12	——	□	12	——	□ 12
IN4+	■	13	——	□	13	OUT4+	□ 13
IN4-	■	14	——	□	14	OUT4-	□ 14
——	□	15	——	□	15	——	□ 15
——	□	16	——	□	16	——	□ 16
IN5+	□	17	OUT6+	□	17	OUT5+	□ 17
IN5-	□	18	OUT6-	□	18	OUT5-	□ 18

■ = WIRE PRESENT

NOTE:
1. ---- = INTERNAL CONNECTION
2. PROVIDED WITH HOUSE.

( ) = NOTE

NEW SHEET

LOCATION B

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REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

XORAIL
5011 GATE PARKWAY BUILDING 100
SUITE 400 JACKSONVILLE FLORIDA 32256
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CERT. OF AUTHORIZATION NO. 9875
ENGINEER OF RECORD
IVORY L. WHITE, JR., P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

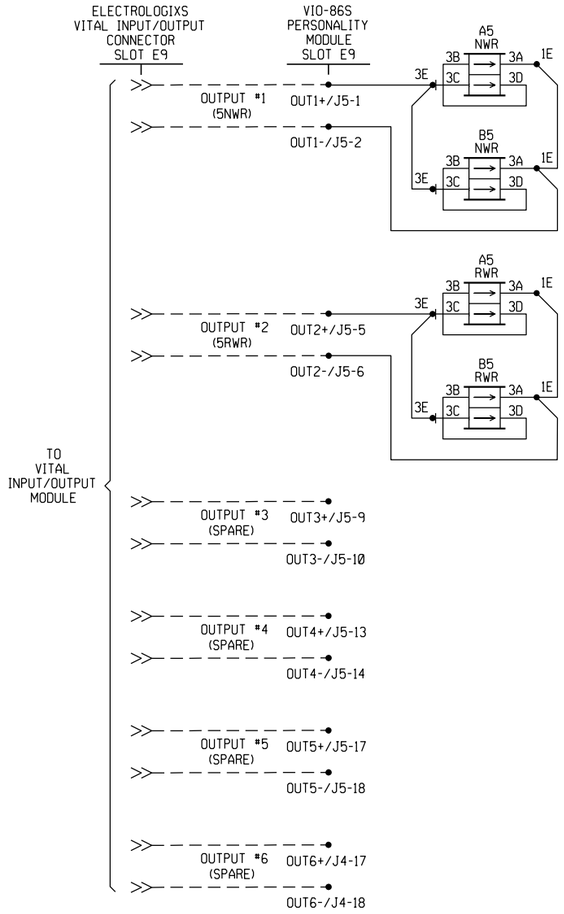
CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

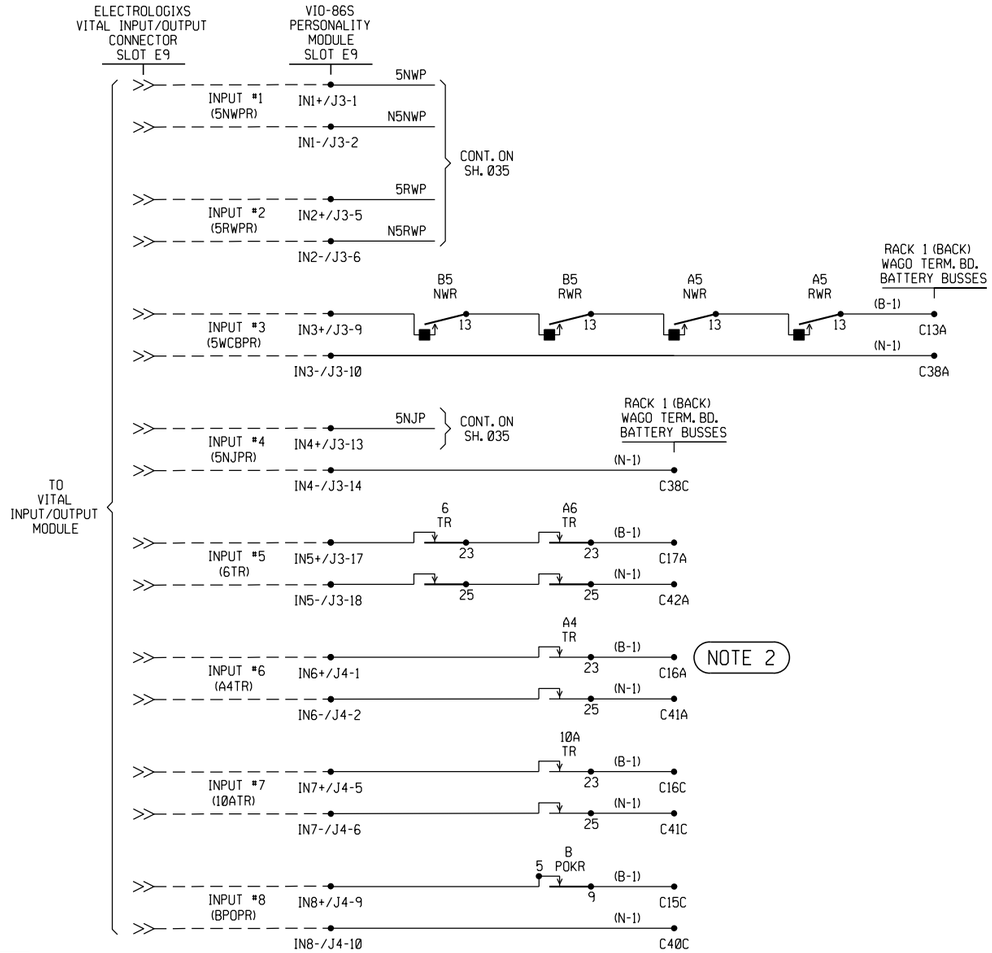
CP-800
ELECTROLOGIXS I/O CIRCUITS

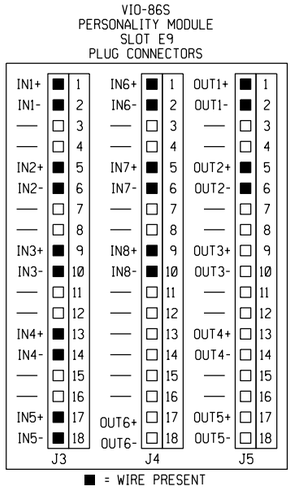
M.P. A-799.68

SHEET NO.
472

$USER$ $DATE$ $TIME$ $FILE$







NOTE:

1. ---- = INTERNAL CONNECTION
2. A4TR COMBINED WITH 4TR IN THE PROGRAM.

⬭ = NOTE

NEW SHEET

LOCATION B

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REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

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SUITE 400 JACKSONVILLE FLORIDA 32256
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(904) 443-0089 (FAX)
CERT. OF AUTHORIZATION NO. 9875
ENGINEER OF RECORD
IVORY L. WHITE, JR., P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

CP-800
ELECTROLOGIXS I/O CIRCUITS

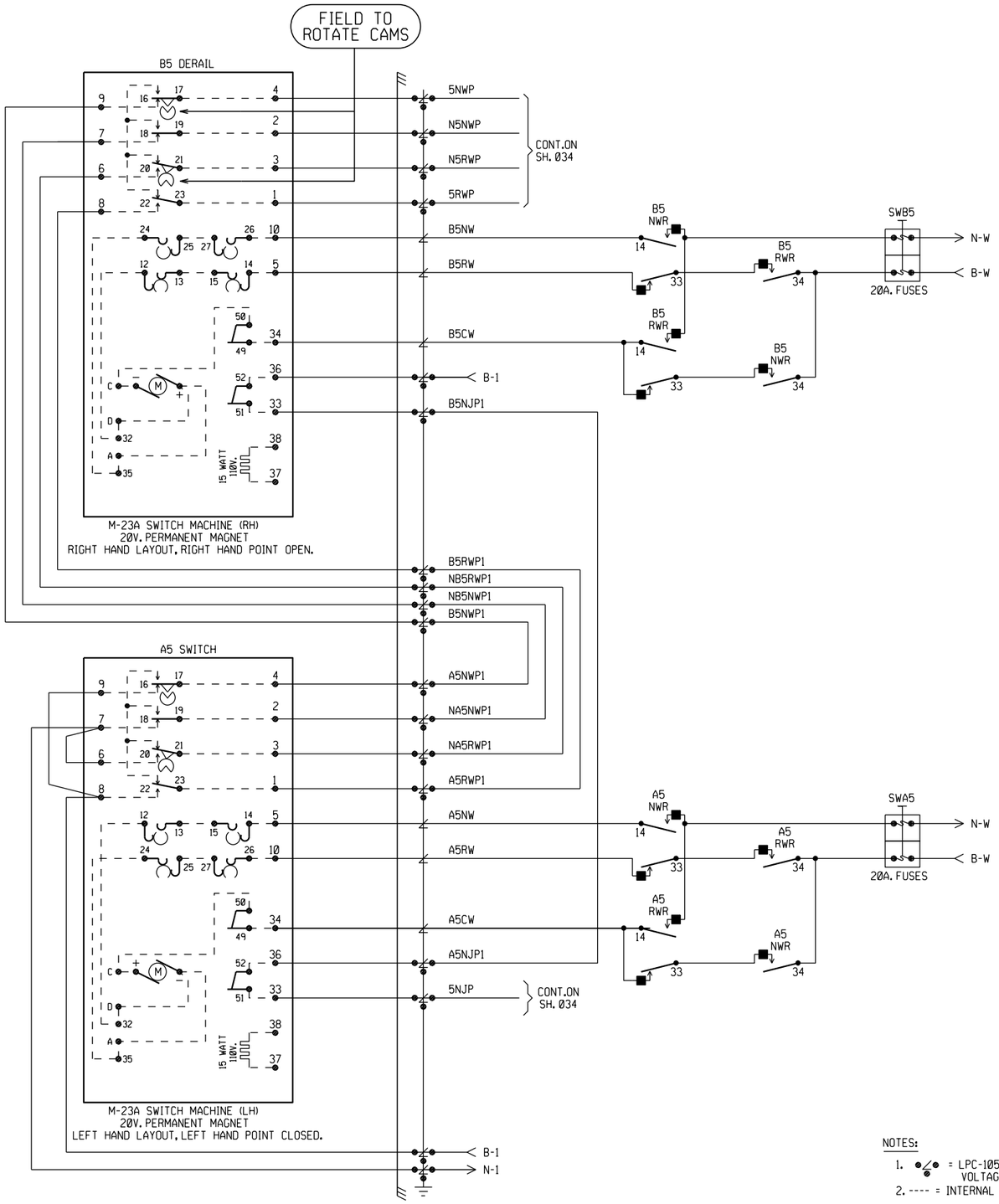
M.P. A-799.68

SHEET NO.
473

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.

G79968.035



LEFT HAND LAYOUTS, LEFT HAND POINTS CLOSED.

= NOTE

NEW SHEET

NOTES:

1. = LPC-10512-1 (15A, BLUE LEAD) HYBRID LOW VOLTAGE ARRESTER, UNLESS NOTED.
2. ---- = INTERNAL CONNECTION

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REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

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(904) 443-0083 (MAIN)
(904) 443-0089 (FAX)
CERT. OF AUTHORIZATION NO. 9875
ENGINEER OF RECORD
IVORY L. WHITE, JR., P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

CP-800
SWITCH 5 CIRCUITS

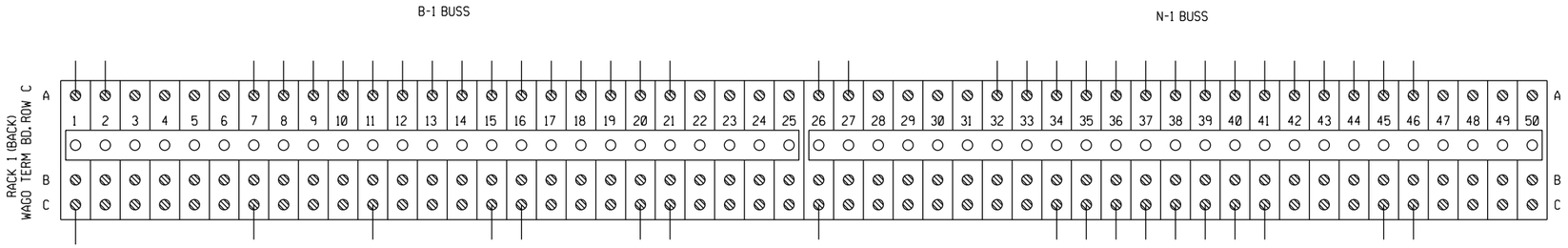
M.P. A-799.68

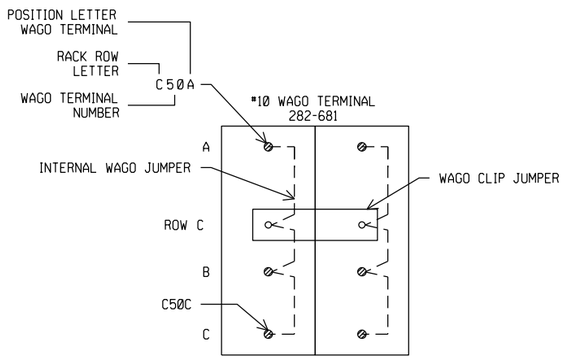
SHEET NO. 474

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.

G79968.036





NOTES:

1. C1A & C1C TO B-1 SUPPLY.
2. C26A & C26C TO N-1 SUPPLY.

LOCATION B

NEW SHEET

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REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

XORAIL
5011 GATE PARKWAY BUILDING 100
SUITE 400 JACKSONVILLE FLORIDA 32256
(904) 443-0083 (MAIN)
(904) 443-0089 (FAX)

CERT. OF AUTHORIZATION NO. 9875

ENGINEER OF RECORD
IVORY L. WHITE, JR., P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

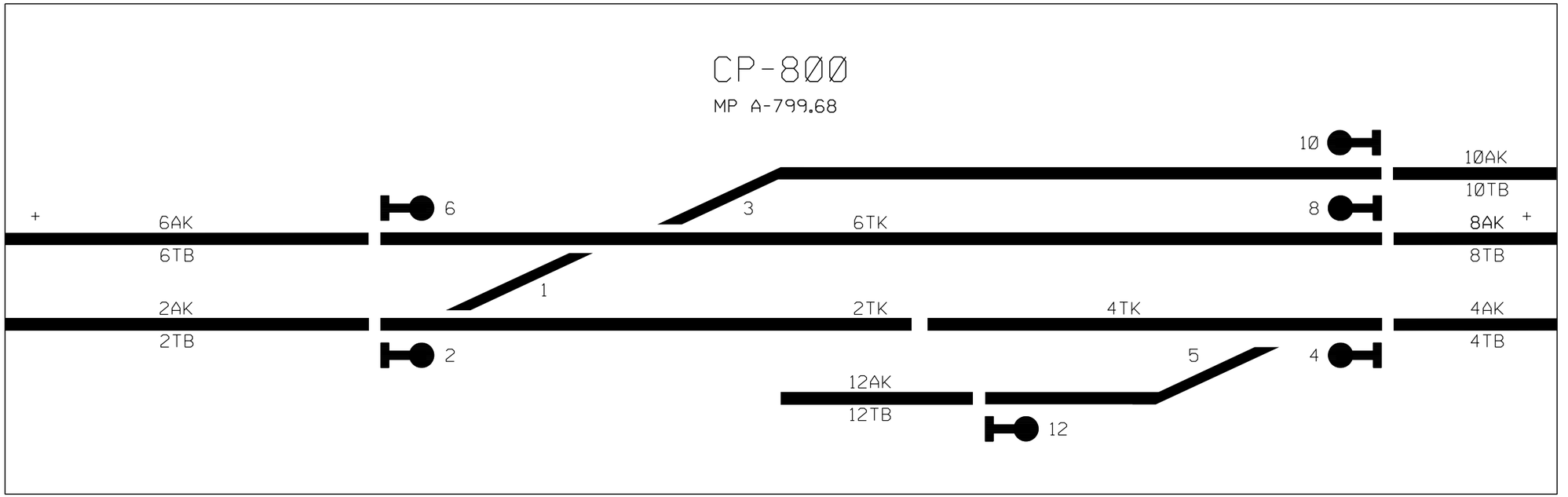
CP-800
WAGO TERMINAL BOARDS

M.P. A-799.68

SHEET NO. 475

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G79968.037



NEW SHEET

LOCATION B

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

XORAIL
5011 GATE PARKWAY BUILDING 100
SUITE 400 JACKSONVILLE FLORIDA 32256
(904) 443-0083 (MAIN)
(904) 443-0089 (FAX)

CERT. OF AUTHORIZATION NO. 9875

ENGINEER OF RECORD
IVORY L. WHITE, JR., P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

CP-800
LOCAL CONTROL PANEL LAYOUT
M.P. A-799.68

SHEET NO.
476

$USER$ $DATE$ $TIME$ $FILE$

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.003, F.A.C.

DRAWING NO.
G79969.001V

SIG 41953+47
PS 41953+97 #16 T.O.
DR 41954+99
ETC 41955+33
HSE 41957+50 CS & SIG 41957+64 SIG 41958+33
DR 41958+83
PS 41961+06 #10 T.O.
SIG 41961+56

WETHERBEE RD.
4322'
41966+66 DAX START

HAR MOD NBS-1 86 HZ
NBS
JOINS AOU00030 SH. S01 (CSX)

BEGIN TCS TCS
BEGIN DTC DTC

← NORTH TO ST. JOHNS

7996ZT [2ZT]
6AT
(STANTON SPUR)
6AT (RBT)
8006ZT[4ZT]
A2T
2T
4T
A4T
8AT
A3
B3

JOINS A79929 SH. S01

JOINS MP 800.59 SH. T-60032

2ZT N2ZT → TO 1 TZU
2RB1 2RN → TO 2 TR
8ARB1 8ARN → TO 8A TR
2TB1 2TN → TO 2-4 TCU
A2RB1 A2RN → TO A2 TR
A4RB1 A4RN → TO A4 TR
4TB1 4TN → TO 2-4 TCU
6ARB1 6ARN → TO 6A TR
4RB1 4RN → TO 4 TR
4ZT N4ZT → TO 1 TZU

6 SP.
1NWP
N1NWP
1RWP
N1RWP
B-1
N-1
1NJP
SP.
HBX120
HNX120
1NW
1RW
1CW
} #6

2AGE
2AYE
2ARE
2AEN
2BLWE
2BRE
2BEN
3 SP.

RING-10
8'X 8'

8GE
8YE
8LWE
8RE
8EN
2 SP.

6ARE
6AEN
6BGE
6BYE
6BLWE
6BRE
6BEN
3 SP.

3 SP.
3NWP
N3NWP
N3RWP
3RWP
B-1
B3RWP1
NB3RWP1
NB3NWP1
B3NWP1
B3NJP1
SP.
B3NW
B3RW
B3CW
HBX120
HNX120
} #6

5 SP.
A3NWP1
NA3NWP1
A3RWP1
NA3RWP1
B-1
N-1
A3NJP1
3NJP
SP.
A3NW
A3RW
A3CW
HBX120
HNX120
#6

4AGE
4AYE
4ARE
4AEN
4BYE
4BLWE
4BRE
4BEN
2 SP.

TO 8006ZT

19 COND. U.G.
7 COND. #9 U.G.
10 COND. #9 U.G.
10 COND. #9 U.G.
4 #6 U.G. TRK.
14 #6 U.G. TRK.
19 COND. U.G.
19 COND. U.G.
2 #6 U.G. TRK.
10 COND. #9 U.G.
3 COND. #6 W/GND. (200') → SERVICE

BX120-1
BX120-2
NX120
GND.

TO 8' X 8' HOUSE
2 COND. #6 U.G. TRK.

NOTES:
1. (XX) LOCATION OF 8'X 8' HOUSE.

THIS SHEET VOID

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REVISIONS					
REV.	DATE	DESCRIPTION	REV.	DATE	DESCRIPTION
1	12/10/13	IN-SERVICE PER SUNRAIL, FDOT.			

XORAIL
5011 GATE PARKWAY BUILDING 100
SUITE 400 JACKSONVILLE FLORIDA 32256
(904) 443-0083 (MAIN)
(904) 443-0089 (FAX)
CERT. OF AUTHORIZATION NO. 9875
ENGINEER OF RECORD
IVORY L. WHITE, JR, P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

N.E. STANTON MP 799.69
TRACK AND SIGNAL PLAN

SHEET NO. 477

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G79969.002V

RACK	CARD NO.	CODED CIRCUIT INTERFACE OUTPUTS 1	2	3	4	5	6	7	8
1	G4	2ZT	4ZT	UNUSED	UNUSED	UNUSED	UNUSED	UNUSED	UNUSED

RACK	CARD NO.	VITAL SIGNAL LAMP DRIVER OUTPUT BITS 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	SIG STOP	VITAL GENERAL PURPOSE I/O BITS OUTPUTS 1	2	3	4	5	6	7	8	INPUTS 1	2	3	4	5	6	7	8
1	G5																		1 NWR	1 RWR	SPARE	SPARE	SPARE	SPARE	SPARE	SMR	1 NWPR	1 RWPR	1 WCBPR	1 NJPR	SMKR	2 TPR	4 TPR	6A TPR
	G6																		3 NWR	3 RWR	SPARE	SPARE	SPARE	SPARE	SPARE	SPARE	3 NWPR	3 RWPR	3 WCBPR	3 NJPR	8A TPR	SPARE	SPARE	POPR
	G7																																	
	G8																																	
	G9																																	
	G10																																	
	G11	2AGE	2AYE	2ARE	SPARE	SPARE	2BLWE	2BRE	SPARE	6ARE	6BGE	6BYE	6BLWE	6BRE	SPARE	SPARE	SPARE	11V STOP																	
	G12	4AGE	4AYE	4ARE	SPARE	4BYE	4BLWE	4BRE	SPARE	SPARE	8GE	8YE	8LWE	8RE	SPARE	SPARE	SPARE	12V STOP																	

VHLC - LED INDICATIONS (VLP BOARD)			
VLP B	DS4	16	
		15	HEALTH
		14	OFFICELINK
		13	RADIOLINK
	DS3	12	
		11	
		10	8LOPR
		9	
VLP A	DS6	8	2BLOPR
		7	2ALOPR
		6	
		5	6BLOPR
	DS5	4	6ALOPR
		3	
		2	4BLOPR
		1	4ALOPR

THIS SHEET VOID

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REVISIONS

REV.	DATE	DESCRIPTION	REV.	DATE	DESCRIPTION
1	12/10/13	IN-SERVICE PER SUNRAIL, FDOT.			

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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

N.E. STANTON MP 799.69
VHLC I/O EQUIVALENT CIRCUITS

SHEET NO.
478

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G79969.003V

ADDRESS TYPE	RAILROAD ID NUMBER			CODE LINE ADDRESS			STATION ADDRESS			SUB DEVICE		INTERNAL DEVICE	
1	2	3	4	5	6	7	8	9	10	11	12	13	14
7	1	2	5	5	1	2	0	1	1	0	2	0	2

OFFICE TO VHLC AUXILIARY COMMUNICATION PROCESSOR
SERIAL COMMUNICATION BITS

CONTROLS FROM OFFICE

WORD	1	2	3	4	5	6	7	8
1	C1 NWS	C1 RWS	C3 NWS	C3 RWS		C2 GS	C6 GS	C2-6 STOP
2	C4 GS	C8 GS	C4-8 STOP				CFLTS	CFLTSO
3	C2 TBS	C2 TBSO	C4 TBS	C4 TBSO	C6 TBS	C6 TBSO	C8 TBS	C8 TBSO
4	CECS	CECSO			CMOAS	CMOASO		

INDICATIONS TO OFFICE

WORD	1	2	3	4	5	6	7	8
1	1 NWK	1 RWK	1 LK	1 NJK	3 NWK	3 RWK	3 LK	3 NJK
2	2 GK	6 GK	2-6 TEK	4 GK	8 GK	4-8 TEK		
3	2 TK	4 TK		4 AK	6 AK	8 AK		
4			2 TBK	4 TBK	6 TBK	8 TBK		
5				FLTK			POK	LOK
6	ECK			MOK				

LSR PROGRAM TIME

2TER	562	SEC.
4TER	455	SEC.
6TER	70	SEC.
8TER	70	SEC.

SWITCH OVERLOAD

1WOTER	30	SEC.
3WOTER	10	SEC.

THE FOLLOWING LOGGING SHOULD BE SET-UP (ATCS V1.6)

1. DATE & TIME
2. MEMORY LOG ENABLES
   - 0. CONTROL / INDICATION OFF
   - 1. GENISYS PROTOCOL OFF
   - 2. CODE LINE MONITOR OFF
   - 3. SHARED RAM ERRORS OFF
   - 4. CCI INFORMATION OFF
   - 5. CCI ERRORS ON
   - 6. I/O ERRORS ON
   - 7. I/O MESSAGES OFF
   - 8. ACP RECORDERS OFF
   - 9. VLP RECORDERS ON
   - 10. LCP I/O OFF
   - 11. TURNED OFF ALL DIAGNOSTIC PORT LOGGING
3. DIAGNOSTIC PORT LOG ENABLES
   - 0. CONTROL / INDICATION OFF
   - 1. GENISYS PROTOCOL OFF
   - 2. CODE LINE MONITOR OFF
   - 3. SHARED RAM INFORMATION OFF
   - 4. SHARED RAM ERRORS OFF
   - 5. CCI INFORMATION OFF
   - 6. CCI ERRORS ON
   - 7. I/O ERRORS ON
   - 8. I/O MESSAGES ON
   - 9. ACP RECORDERS ON
   - 10. VLP RECORDERS ON
   - 11. LCP INPUTS OFF

SETUP INFORMATION

- 0. DISPLAY ACP SETUP INFORMATION
- 1. DISPLAY VLP SETUP INFORMATION
- 2. ENTER GENERAL INFORMATION
- 3. ENTER INDICATION INFORMATION
- 4. ENTER ATCS INFORMATION
- 5. MNEMONICS INFORMATION
- 6. SAVE IN EPROM
- 7. INITIALIZE EPROM

ACP>2

GENERAL INFORMATION

DIAGNOSTIC PORT SETUP: BAUD 9600 PARITY NONE DATA BITS 8	
ENTER PASSWORD	HARMON
ENTER NUMBER OF LCP I/O MODULES	3
ENTER ACP EQUATION STABILITY COUNT	05
ENTER MEMORY LOG QUEUES I/O	45
ENTER MEMORY LOG QUEUES RECORDER	45
ENTER MEMORY LOG QUEUES ERROR	10
ENTER TIME ZONE (HOURS WEST OF GMT)	6
ENTER DAYLIGHT SAVINGS TIME APPLIES ?	ENABLED

ACP>3

INDICATION SETUP INFORMATION

ENTER NUMBER OF INDICATION BITS	48
ENTER INDICATION DELAY (SEC)	0.0
ENTER RECALL DELAY (SEC)	0.0
ENTER AUTOMATIC RECALL AFTER CONTROL	DISABLED
ENTER INDICATION PRIORITY	4
ENTER INDICATION REFRESH RATE	1
ENTER REMOTE LOGGING PRIORITY	7

ACP>4

ATCS INFORMATION

ENTER CPC PROTOCOL	2
ENTER ADDRESS IDENTIFIER DIGIT	7
ENTER ADDRESS LENGTH (10, 12, 14)	14
ENTER RAILROAD NUMBER	125
ENTER UNIT ADDRESS	512011
ENTER VHLC NODE NUMBER	02
ENTER MCP ADDRESS	512011
ENTER MCP NODE NUMBER	01
ENTER CPC ADDRESS	5512
ENTER CPC NODE NUMBER	12
ENTER HMC ADDRESS	3000
ENTER HMC NODE NUMBER	10
ENTER CDC ADDRESS	5026
ENTER CDC NODE NUMBER	10
ENTER MCP BAUD RATE	9600

THIS SHEET VOID

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REVISIONS

REV.	DATE	DESCRIPTION	REV.	DATE	DESCRIPTION
1	12/10/13	IN-SERVICE PER SUNRAIL, FDOT.			
2	07/11/14	AIS PER FDOT COMMENTS			

XORAIL
5011 GATE PARKWAY BUILDING 100
SUITE 400 JACKSONVILLE FLORIDA 32256
(904) 443-0083 (MAIN)
(904) 443-0089 (FAX)
CERT. OF AUTHORIZATION NO. 9875
ENGINEER OF RECORD
IVORY L. WHITE, JR, P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

N.E. STANTON MP 799.69
OFFICE CONTROL AND INDICATION EQUIVALENT CIRCUITS

SHEET NO.
479

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G79969.004V

VITAL HARMON LOGIC CONTROLLER RACK

ROW A

1NWR	1RWR	3NWR	3RWR	6ATR	11VSTOP	12VSTOP	2TR	A2TR
13 B — B45	13 B — B45	13 B — B45	13 B — B45	12 — B51	12 F —	12 F —	12 — B51	12 — B51
14 F — C30	14 F — C30	14 F — C30	14 F — C30	15 — C30	15 FB — B77	15 FB — B77	15 — C30	15 — C30
33 B —	33 B —	33 B —	33 B —	22 —	22 F — C30	22 F — C30	22 —	22 —
34 F —	34 F —	34 F —	34 F —	23 F —	25 F —	25 F —	23 F —	23 F —
				25 F —	32 FB —	32 FB —	25 F —	25 F —
				32 —	35 —	35 —	32 —	32 —
				35 —			35 —	35 —

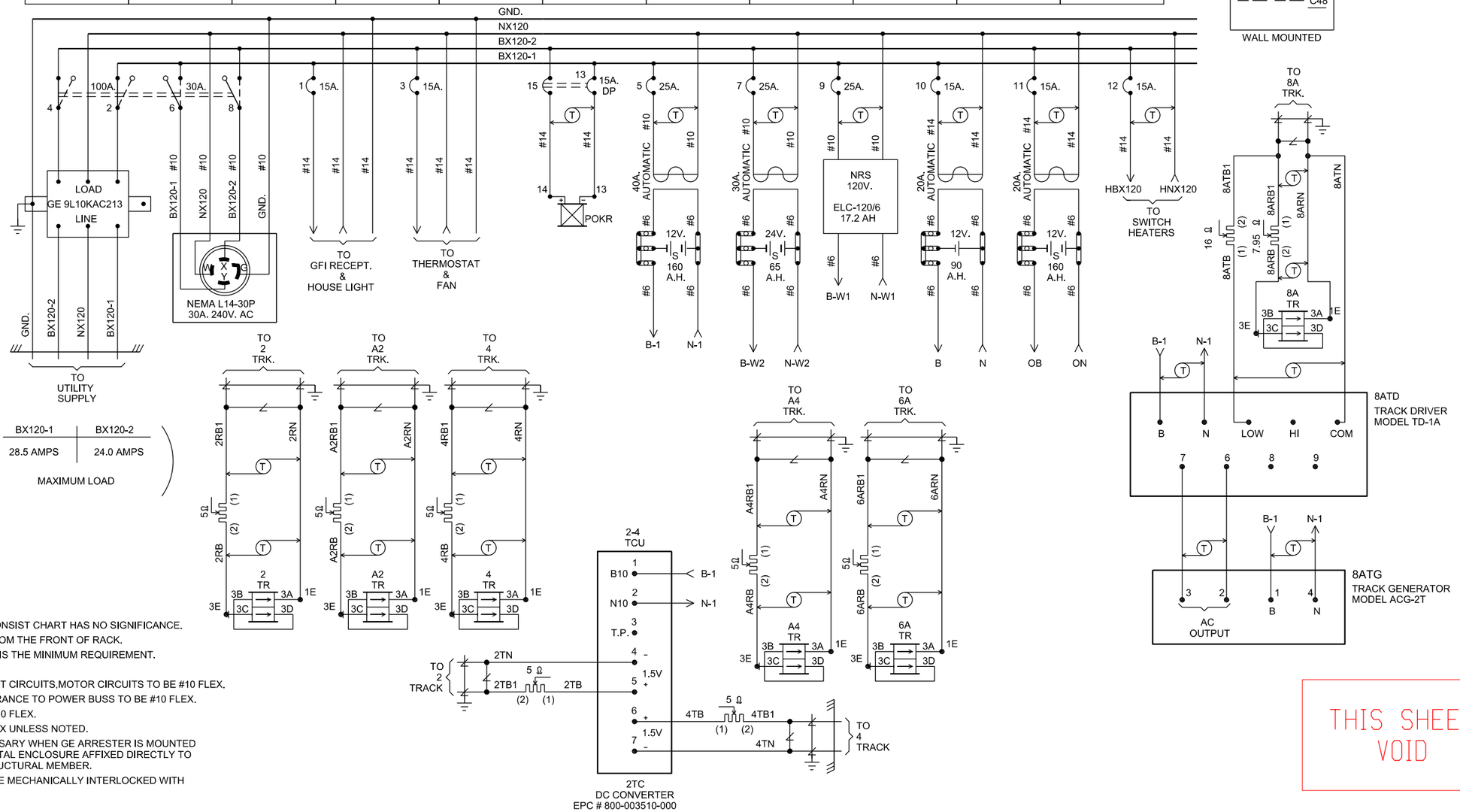
ROW B

4TR	A4TR	8ATR	1NWPR
12 — B51	12 — B51	12 — B51	12 — B8
15 — C30	15 — C30	15 — C30	15 — C30
22 —	22 —	22 —	22 —
23 F —	23 F —	23 F —	23 F —
25 F —	25 F —	25 F —	25 F —
32 —	32 —	32 —	32 —
35 —	35 —	35 —	35 —

POKR

9	F	11	N68
10		12	C48

WALL MOUNTED



BX120-1	BX120-2
28.5 AMPS	24.0 AMPS

MAXIMUM LOAD

NOTES:

1 - SHELF RELAY PLACEMENT ON CONSIST CHART HAS NO SIGNIFICANCE.
2 - PLUG-IN RELAYS ARE VIEWED FROM THE FRONT OF RACK.
3 - BATTERY A.H. CAPACITY SHOWN IS THE MINIMUM REQUIREMENT.
4 - WIRING
  A - FEED TO ALL BUSSES, LIGHT CIRCUITS,MOTOR CIRCUITS TO BE #10 FLEX.
  B - 120-VOLT FEED FROM ENTRANCE TO POWER BUSS TO BE #10 FLEX.
  C - ALL TRACK WIRES TO BE #10 FLEX.
  D - ALL OTHERS TO BE #16 FLEX UNLESS NOTED.
  E - GROUND WIRE NOT NECESSARY WHEN GE ARRESTER IS MOUNTED ON GROUND PLANE OR METAL ENCLOSURE AFFIXED DIRECTLY TO BUNGALOW METALLIC STRUCTURAL MEMBER.
5 - CIRCUIT INTERRUPTERS 2 & 4 ARE MECHANICALLY INTERLOCKED WITH CIRCUIT INTERRUPTERS 6 & 8.

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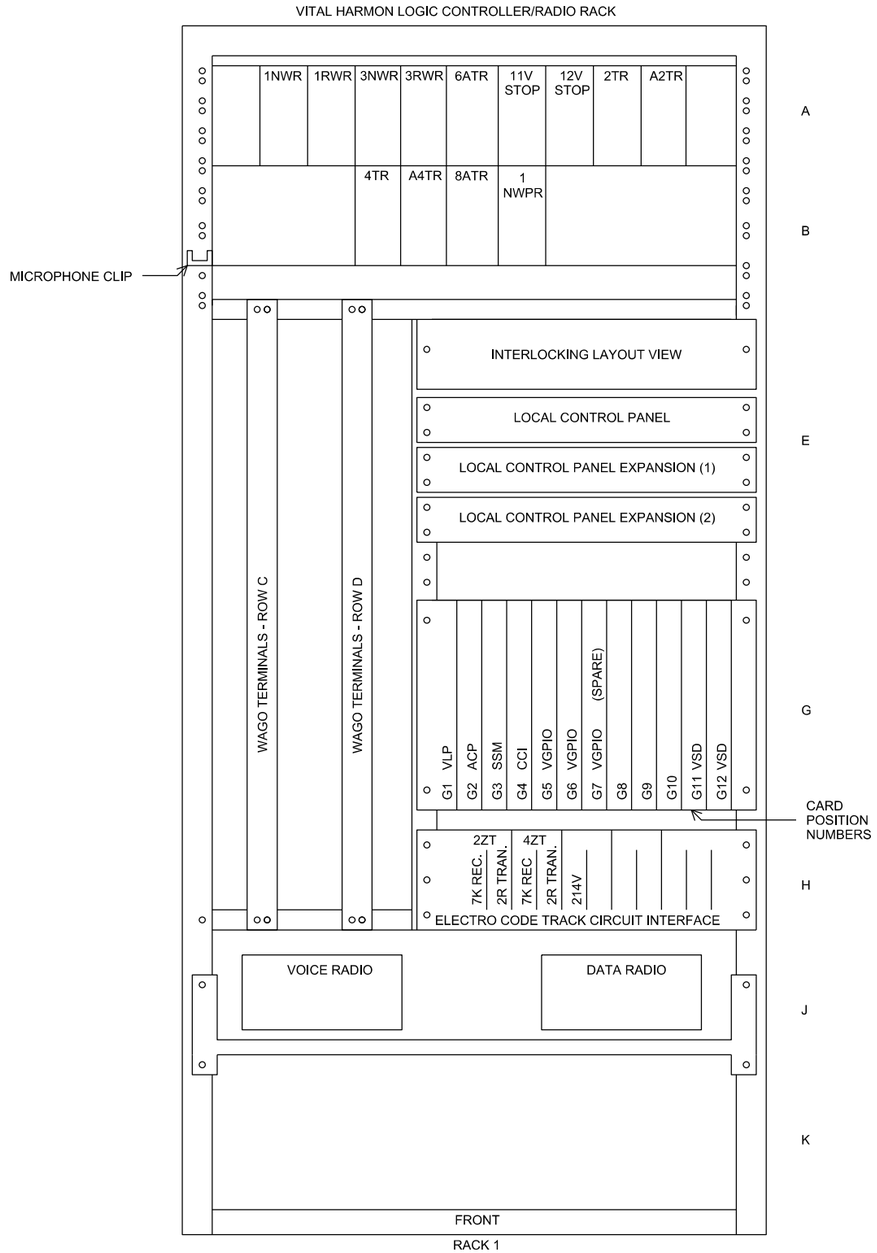
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

N.E. STANTON MP 799.69
POWER DISTRIBUTION

SHEET NO.
480

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G79969.005V



020.2305500.1 GETS 300664-010 (INCLUDES ITEMS BELOW)

VITAL HARMON LOGIC CONTROLLER/RADIO EQUIPMENT RACK 84" X 30"			
REF.	DESCRIPTION	GETS P/N	QTY
---	ASSY RACK 30" CSX	202624-000	1 EA.
A	BAR 30" GRS MTG	123332-002	2 EA.
A	TIE BAR RLY 30" RK	123333-002	1 EA.
A	RLY B1 PLBD KIT NO FLAG	007062-003	13 EA.
A	KIT RLY FL E-POST MOD	005634-000	13 EA.
B	KIT VHLC RELAY PLUGBOARD	J0702051145	1 EA.
B	KIT VHLC RELAY BAR	M34603401	1 EA.
(C-D) 1-65	WAGO TERMINALS #14 (65 X 2)	132280-681	130 EA.
(C-D) 66-81	WAGO TERMINALS #10 (16 X 2)	132282-601	32 EA.
(C-D)	RAIL DIN SLOTTED 35 X 15	122947-001	2 EA.
E	SYSTEM LCP	180286-000	1 EA.
E	LOCAL CONTROL PANEL EXPANSION UNIT	250726-001	2 EA.
G1	VITAL LOGIC PROCESSOR	226610-100	1 EA.
G2	AUXILIARY COM. PROCESSOR 3	226611-300	1 EA.
G3	SITE SPECIFIC MODULE	226612-003	1 EA.
G4	CODED CIRCUIT INTERFACE	226802-001	1 EA.
G4	CABLE - CODED CIRCUIT INTERFACE	200123-001	1 EA.
G5-G7	VITAL GENERAL PURPOSE I/O	227209-012	3 EA.
G5-G7	CABLE - VITAL GEN. PURPOSE I/O	200124-110	3 EA.
G11-G12	VITAL SIGNAL DRIVER	226801-000	2 EA.
G11-G12	CABLE - VITAL SIGNAL DRIVER	200125-010	2 EA.
ROW G	POWER SUPPLY MODULE	226609-002	1 EA.
ROW H	ECTCI CABINET WITH TSS-1	812-085007-244	1 EA.
ROW H	2R REGULATED TRK. CONVERTER	810-083900-001	1 EA.
ROW H	7K TRACK RECEIVER	810-002000-051	1 EA.
ROW H	214V PROCESSOR	810-083004-017	1 EA.
PORT A	RS-422/485 ISOLATED MODULE	226927-000	1 EA.
PORT E	CURRENT LOOP ADAPTER MODULE	226859-000	1 EA.
ROW J	VOICE RADIO (MOTOROLA MCS2000 RADIO)	SUPPLIED	1 EA.
ROW J	DATA RADIO (SAFETRAN)	SUPPLIED	1 EA.
ROW J	CABLE MCP POWER	ATCS1-1000-61	1 EA.
ROW J	CABLE MCP CLIENT PORT 10'	202051-010	1 EA.

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ENGINEER OF RECORD
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P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

N.E. STANTON MP 799.69
RACK 1 LAYOUT

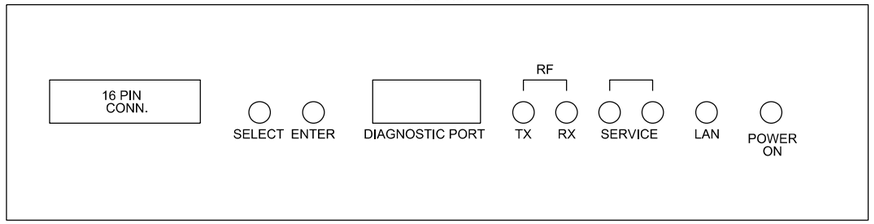
SHEET NO.
481

$USER$ $DATE$ $TIME$ $FILE$ FL2006094

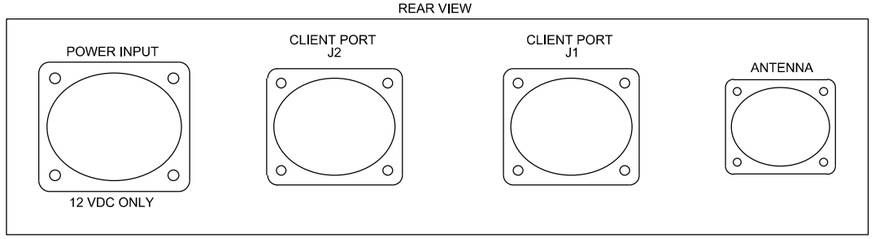
DRAWING NO.
G79969.006V

SAFETRAN DATA RADIO

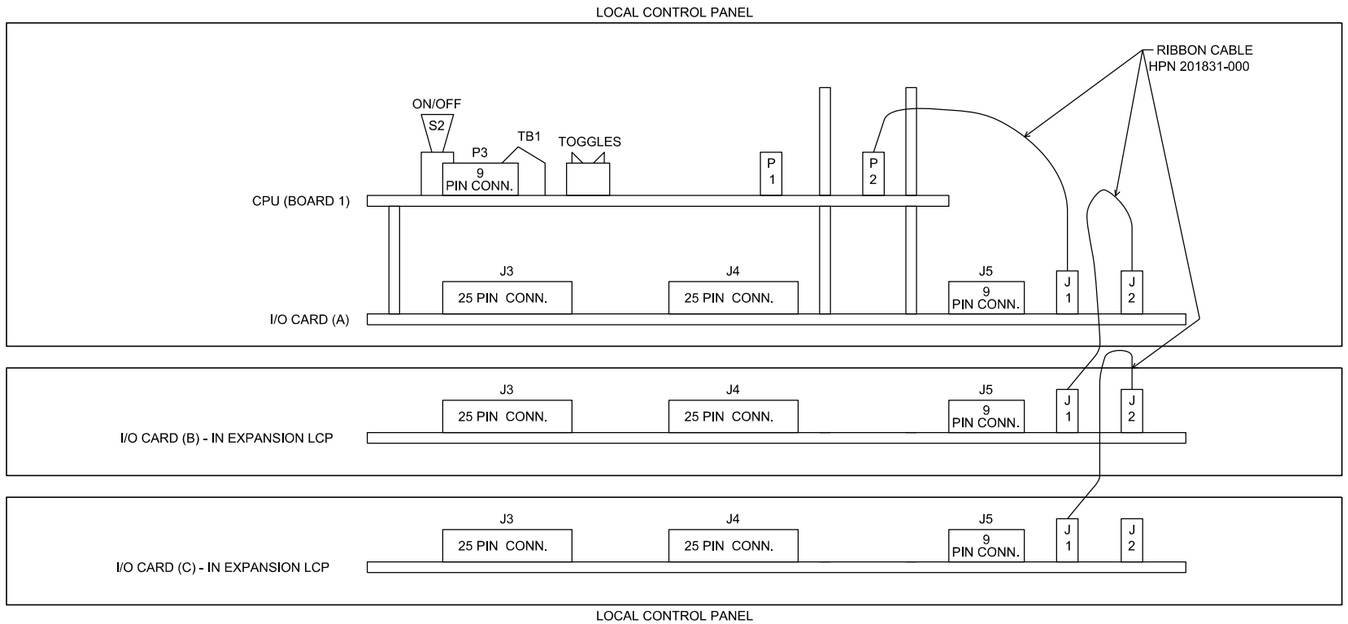
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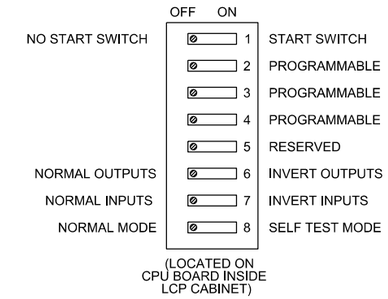
REAR VIEW



LOCAL CONTROL PANEL



LOCAL CONTROL PANEL



(LOCATED ON CPU BOARD INSIDE LCP CABINET)

THIS SHEET VOID

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ENGINEER OF RECORD
IVORY L. WHITE, JR, P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

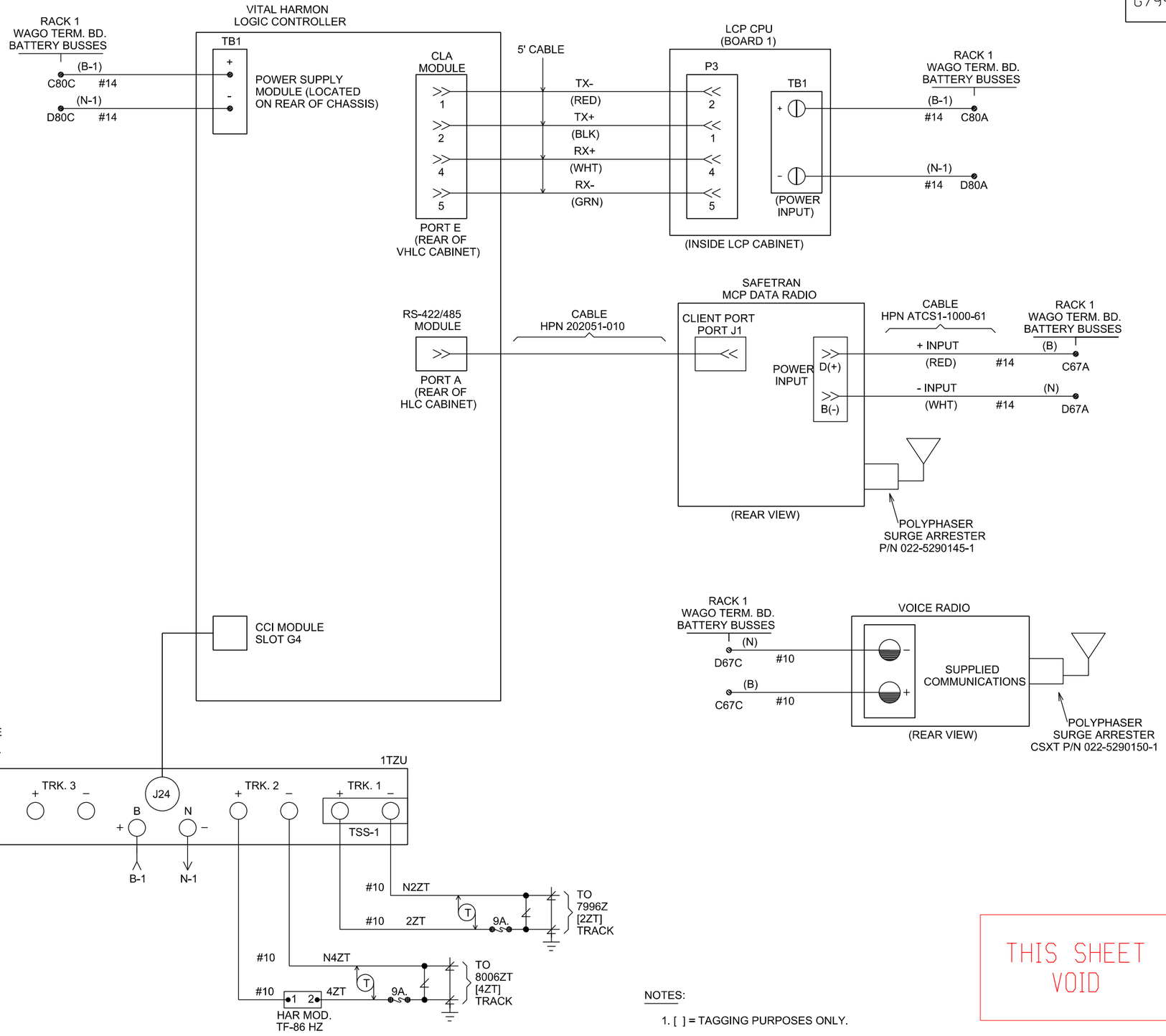
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

N.E. STANTON MP 799.69
LCP I/O CARD AND DATA RADIO LAYOUT

SHEET NO.
482

$USER$ $DATE$ $TIME$ FL2206094 $FILES$

DRAWING NO.
G79969.007V



THIS SHEET
VOID

NOTES:

1. [ ] = TAGGING PURPOSES ONLY.

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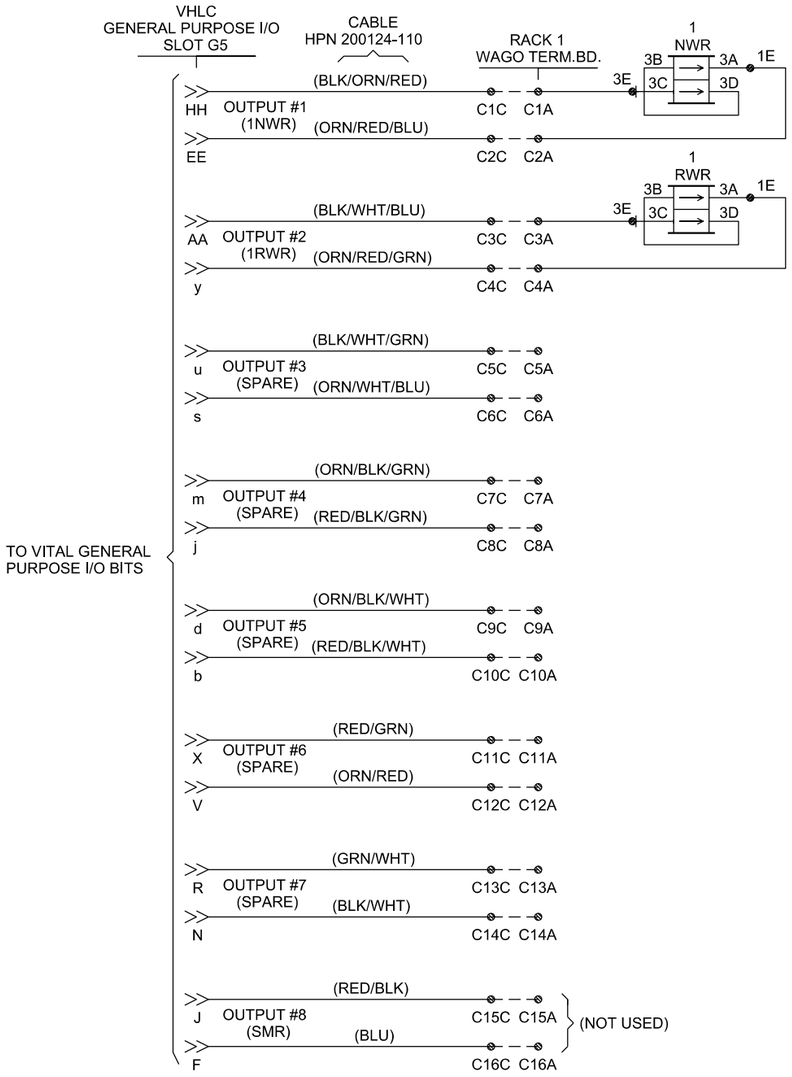
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

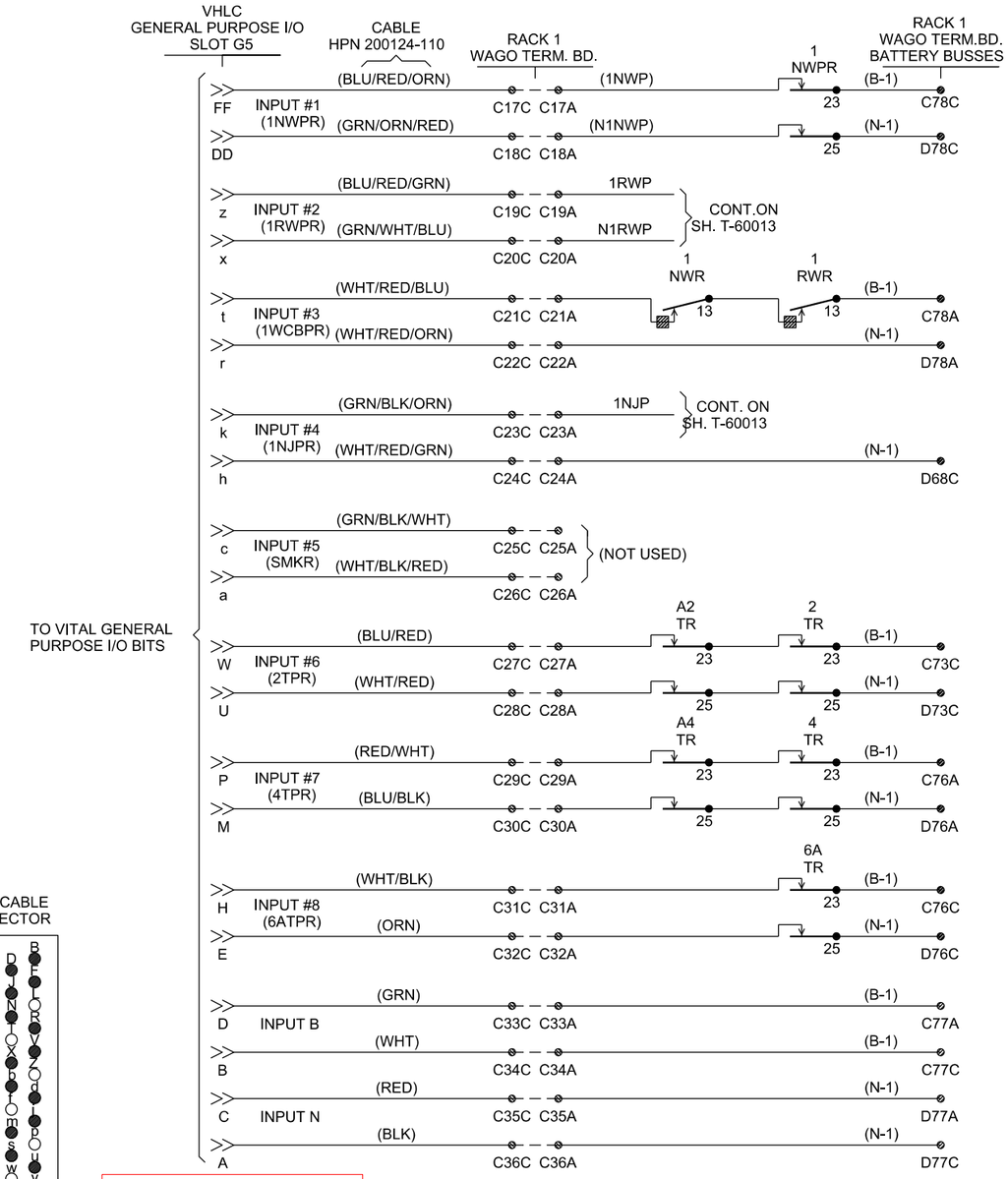
N.E. STANTON MP 799.69
VHLC CIRCUITS

SHEET NO.
483

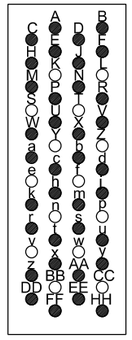
$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G79969.008V





VGPIO CABLE CONNECTOR



THIS SHEET VOID

NOTES:

1. ALL WIRING #14 UNLESS NOTED OTHERWISE.

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REVISIONS

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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

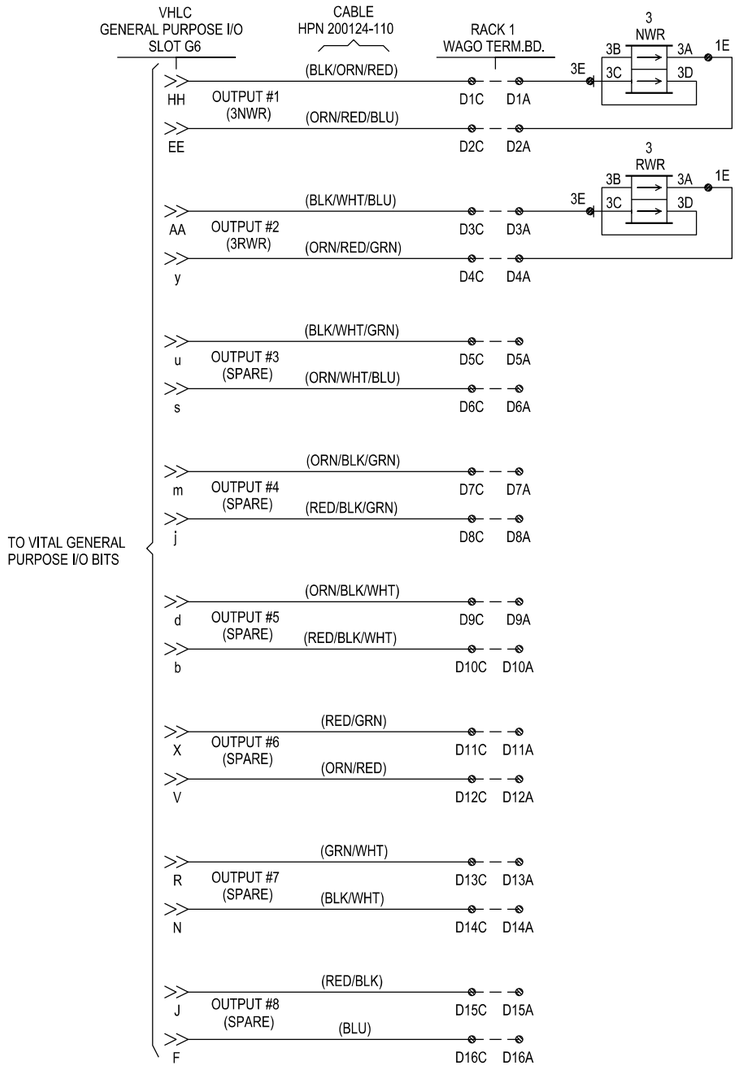
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CFRC P2S	ORANGE	423446-9-52-02

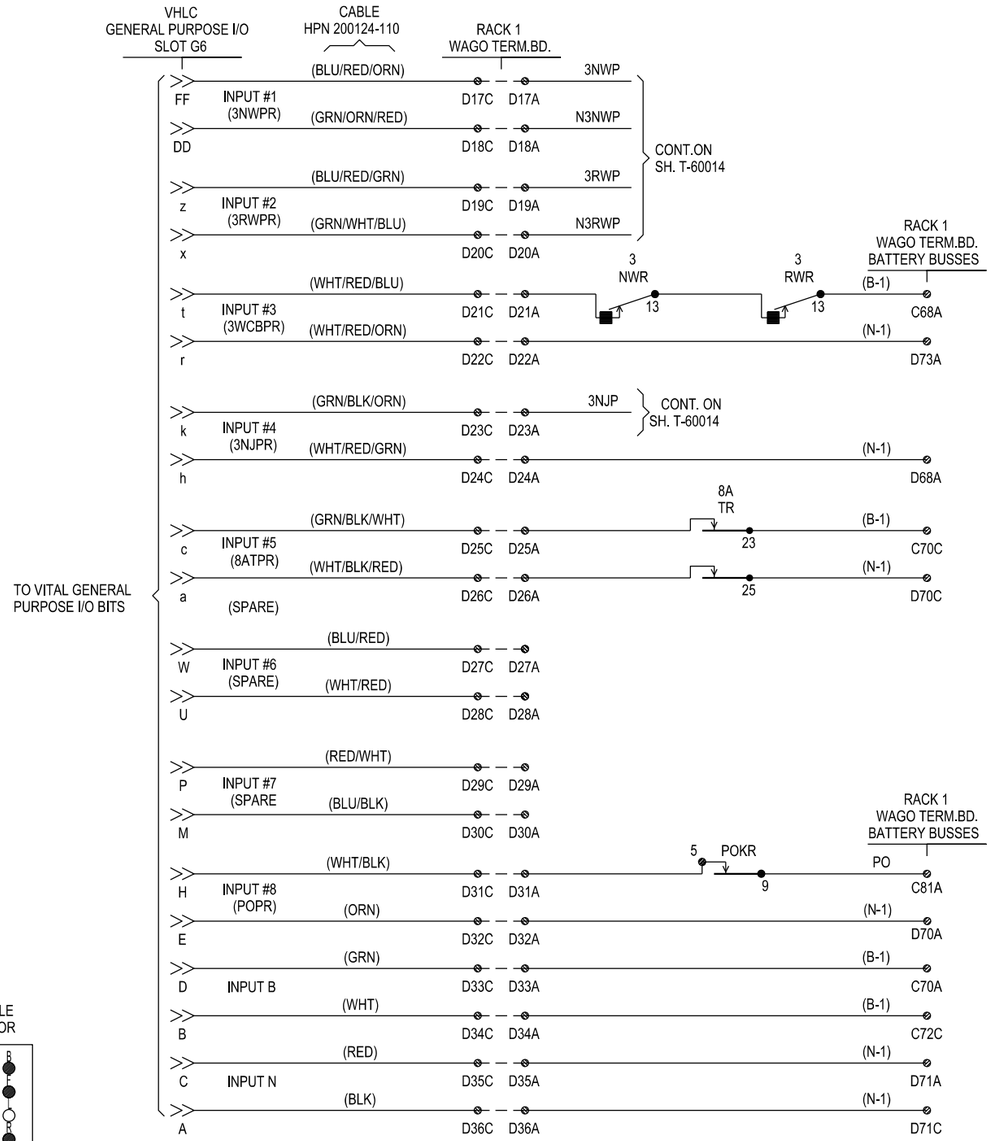
N.E. STANTON MP 799.69
VHLC I/O CIRCUITS

SHEET NO.
484

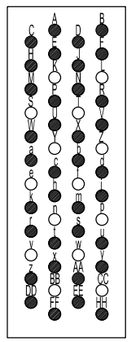
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DRAWING NO.
G79969.009V





VGPIO CABLE
CONNECTOR



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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

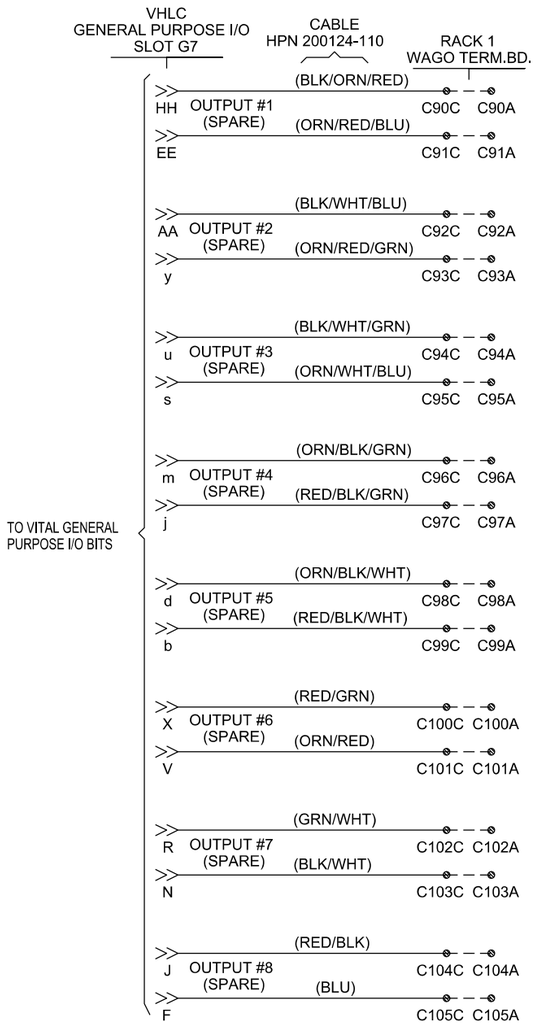
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CFRC P2S	ORANGE	423446-9-52-02

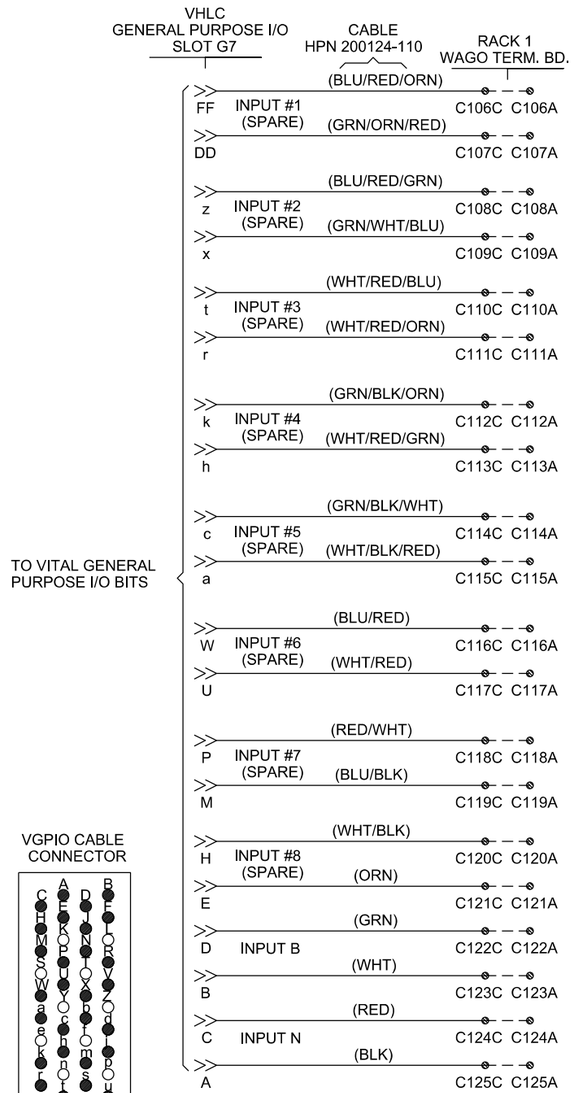
N.E. STANTON MP 799.69
VHLC I/O CIRCUITS

SHEET NO.
485

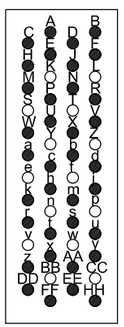
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DRAWING NO.
G79969.Ø10V





VGPIO CABLE
CONNECTOR



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STATE OF FLORIDA
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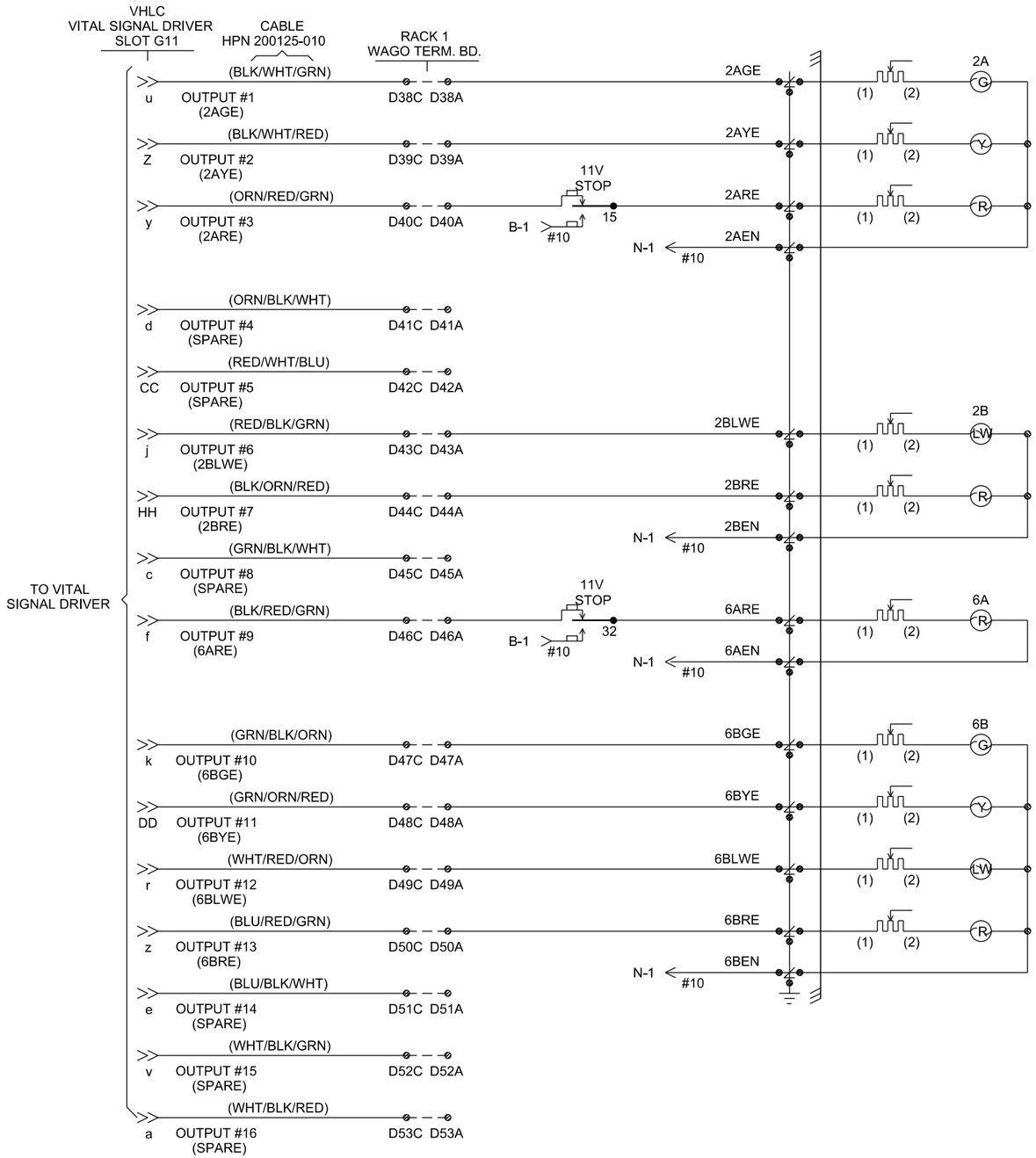
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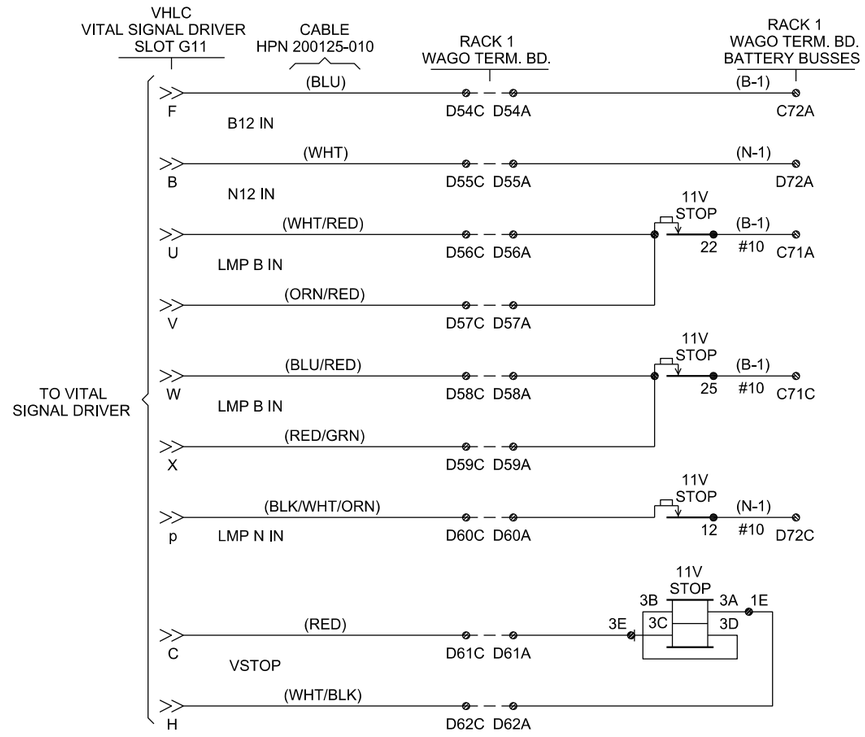
N.E. STANTON MP 799.69
VHLC I/O CIRCUITS

SHEET NO.
486

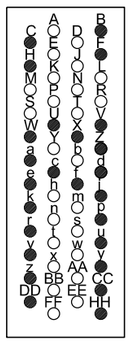
$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G79969.Ø11V





VSD CABLE
CONNECTOR



NOTES:
1. ALL WIRING FROM WAGOS #14, ALL OTHER WIRING #10 UNLESS OTHERWISE NOTED.
2. ALL RESISTORS ARE 3 OHM, 15 WATTS.

THIS SHEET VOID

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IVORY L. WHITE, JR, P.E.
P.E. LICENSE NO. 58608

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

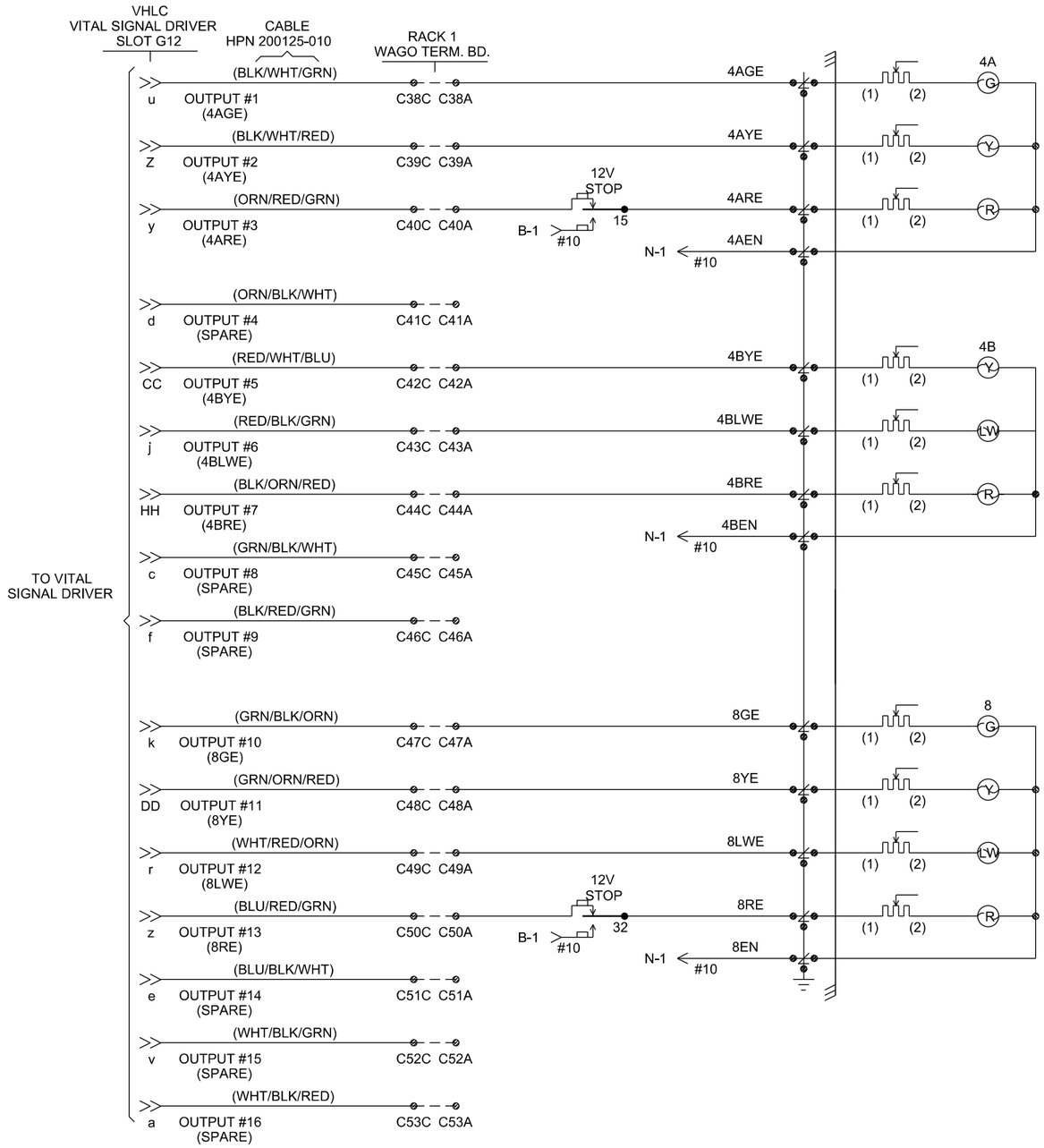
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

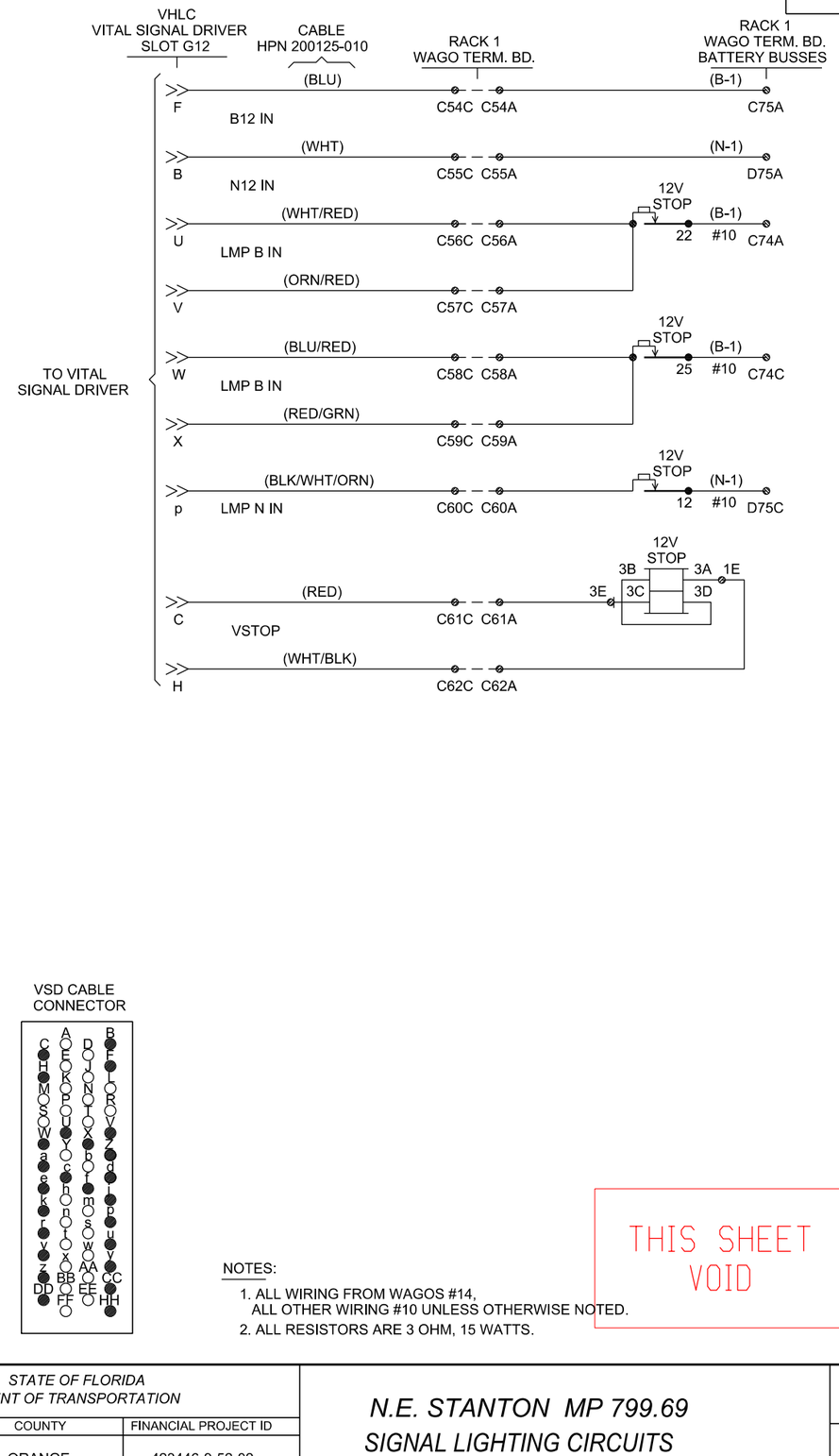
N.E. STANTON MP 799.69
SIGNAL LIGHTING CIRCUITS

SHEET NO.
487

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G79969.Ø12V





VSD CABLE CONNECTOR

NOTES:

1. ALL WIRING FROM WAGOS #14, ALL OTHER WIRING #10 UNLESS OTHERWISE NOTED.
2. ALL RESISTORS ARE 3 OHM, 15 WATTS.

THIS SHEET VOID

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REVISIONS					
REV.	DATE	DESCRIPTION	REV.	DATE	DESCRIPTION
1	12/10/13	IN-SERVICE PER SUNRAIL, FDOT.			

XORAIL
5011 GATE PARKWAY BUILDING 100
SUITE 400 JACKSONVILLE FLORIDA 32256
(904) 443-0083 (MAIN)
(904) 443-0089 (FAX)
CERT. OF AUTHORIZATION NO. 9875
ENGINEER OF RECORD
IVORY L. WHITE, JR, P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

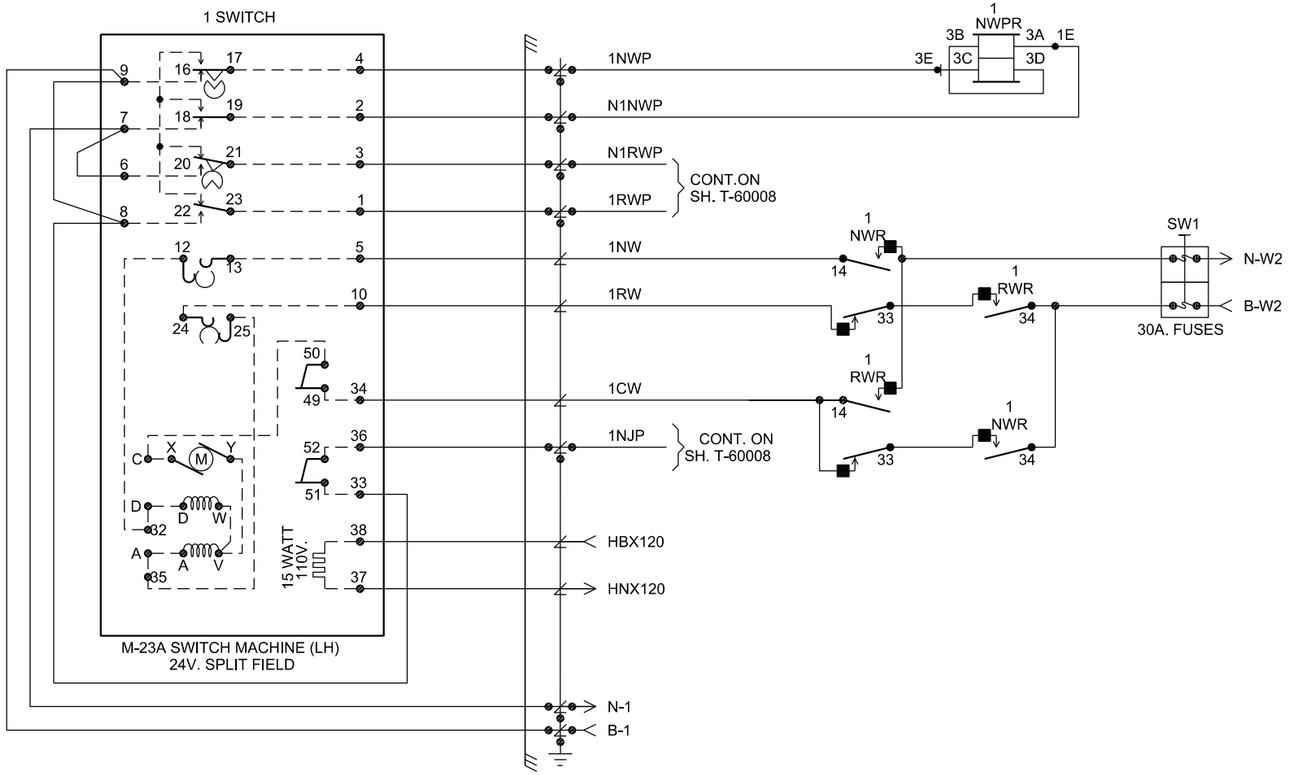
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

N.E. STANTON MP 799.69
SIGNAL LIGHTING CIRCUITS

SHEET NO.
488

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G79969.Ø13V



LEFT HAND LAYOUT, LEFT HAND POINT CLOSED.

THIS SHEET VOID

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REVISIONS					
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STATE OF FLORIDA
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ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

N.E. STANTON MP 799.69
SWITCH CIRCUITS

SHEET NO.
489

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G79969.Ø14V

B3 DERAIL

M-23A SWITCH MACHINE (RH)
110V. PERMANENT MAGNET
RIGHT HAND LAYOUT, RIGHT HAND POINT OPEN.

A3 SWITCH

M-23A SWITCH MACHINE (LH)
110V.PERMANENT MAGNET
LEFT HAND LAYOUT, LEFT HAND POINT CLOSED.

3NWP
N3NWP
N3RWP
3RWP
CONT.ON SH. T-60009
B3NW
B3RW
B3CW
B-1
B3NJP1
HBX120
HNX120
B3RWP1
NB3RWP1
NB3NWP1
B3NWP1
A3NWP1
NA3NWP1
NA3RWP1
A3RWP1
A3NW
A3RW
A3CW
A3NJP1
3NJP
CONT. ON SH. T-60009
HBX120
HNX120
B-1
N-1

3 RSC
LA4 DA 2G
LX4 D4 FW
⊗ = WAGO TERMINAL STRIP
TELEMECANIQUE MC413

3 RWR
3 NWR
3 NWR
3 RWR
SW3
30A. FUSES
B-W1
N-W1

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THIS SHEET VOID

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P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

N.E. STANTON MP 799.69
SWITCH CIRCUITS

SHEET NO.
490

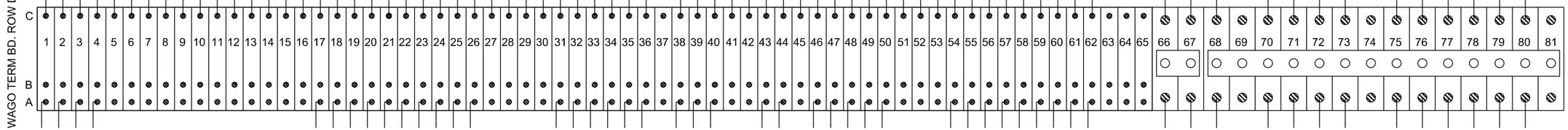
$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G79969.Ø15V

N BUSS
N-1 BUSS

TO VGPIO SLOT G6 (#16)
TO VSD SLOT G11 (#16)

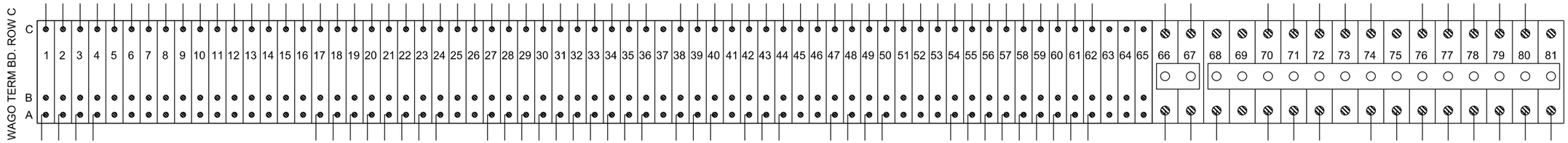
WAGO TERM BD. ROW D



B BUSS
B-1 BUSS

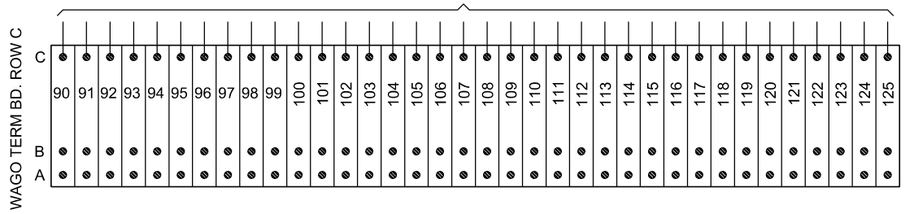
TO VGPIO SLOT G5 (#16)
TO VSD SLOT G12 (#16)

WAGO TERM BD. ROW C

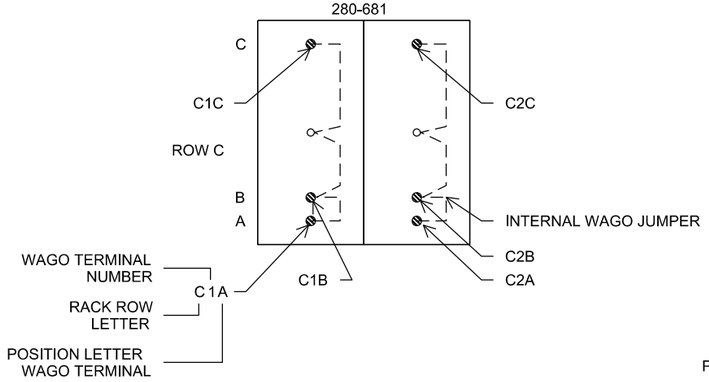


TO VGPIO SLOT G7 (#16)

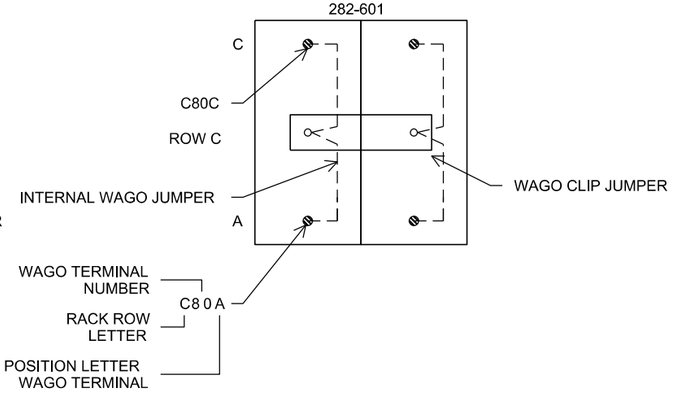
WAGO TERM BD. ROW C



#14 WAGO TERMINALS
280-681



#10 WAGO TERMINAL
282-601



THIS SHEET VOID

NOTES:

1. D66A & D66C TO N SUPPLY.
2. C66A & C66C TO B SUPPLY.
3. D79A & D79C TO N-1 SUPPLY.
4. C79A & C79C TO B-1 SUPPLY.

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REVISIONS

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ENGINEER OF RECORD
IVORY L. WHITE, JR., P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

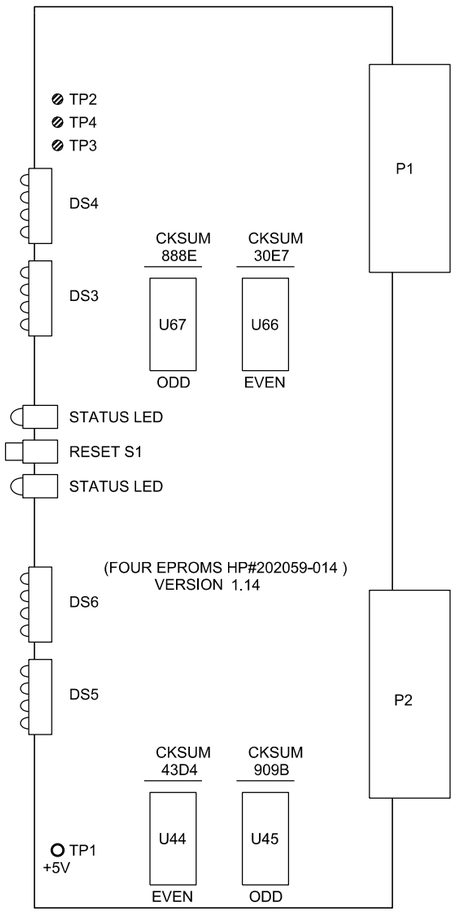
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

N.E. STANTON MP 799.69
WAGO TERMINAL BOARDS

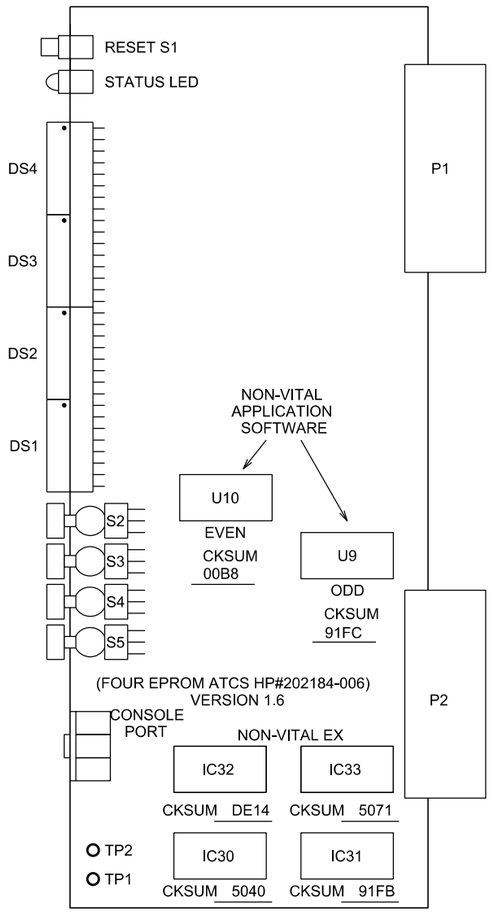
SHEET NO.
491

$USER$ $DATE$ $TIME$ $FILE$

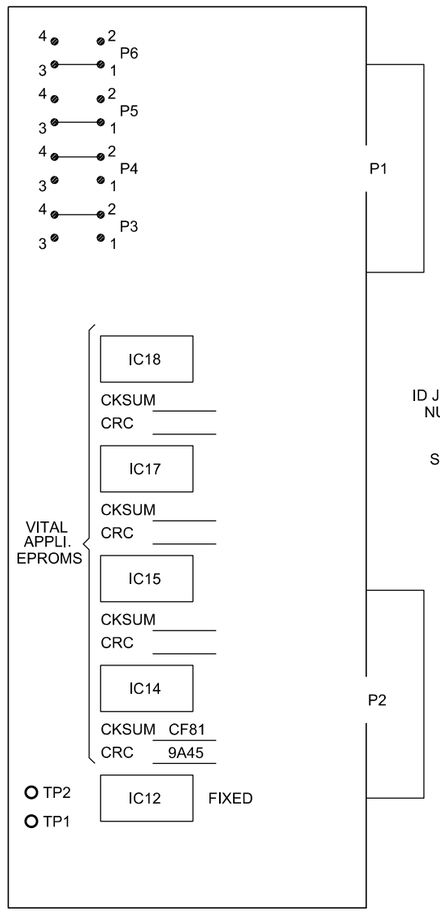
DRAWING NO.
G79969.Ø16V



VITAL LOGIC PROCESSOR
SLOT G1



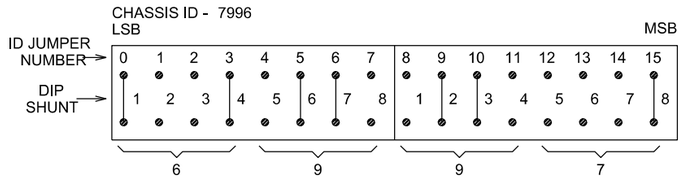
AUXILIARY COMMUNICATIONS PROCESSOR 3
SLOT G2

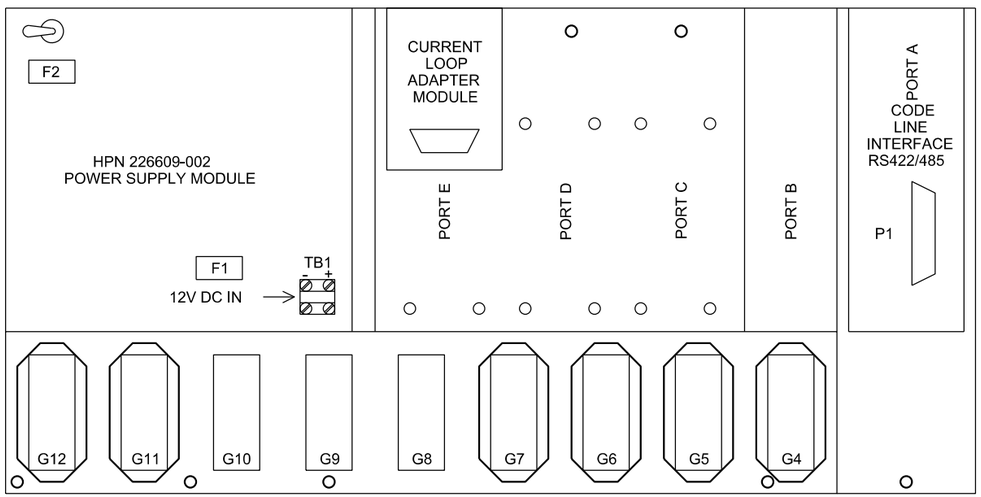


SITE SPECIFIC MODULE
SLOT G3

SITE SPECIFIC MODULE
JUMPER LOCATIONS
SLOT G3

	EPROM	P3	P4	P5	P6
	27C64	1-3	1-3	1-3	1-3
	27C128	1-3	1-3	1-3	1-3
	27C256	2-4	1-3	1-3	1-3
X	27C512	2-4	2-4	1-3	1-3
	27C010	2-4	2-4	2-4	1-3





VITAL HARMON LOGIC CONTROLLER (REAR VIEW)

THIS SHEET VOID

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ENGINEER OF RECORD
IVORY L. WHITE, JR., P.E.
P.E. LICENSE NO. 58608

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

N.E. STANTON MP 799.69
VLHC CHECKSUMS

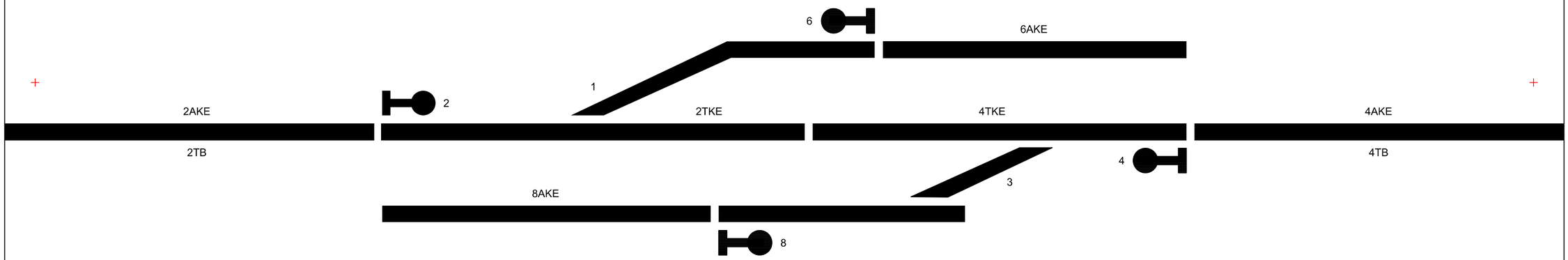
SHEET NO.
492

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G79969.Ø17V

STANTON

MP A-799.69



THIS SHEET
VOID

REVISIONS					
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CERT. OF AUTHORIZATION NO. 9875

ENGINEER OF RECORD
IVORY L. WHITE, JR, P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

N.E. STANTON MP 799.69
VHLC FACE PLATE

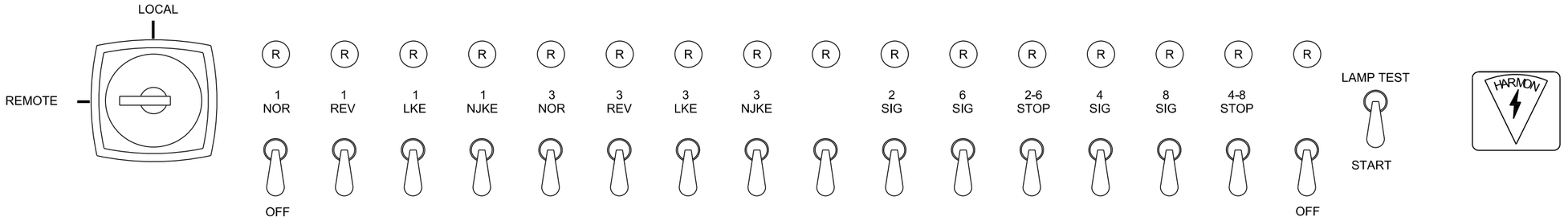
SHEET NO.
493

$USER$ $DATE$ $TIME$ $FILE$

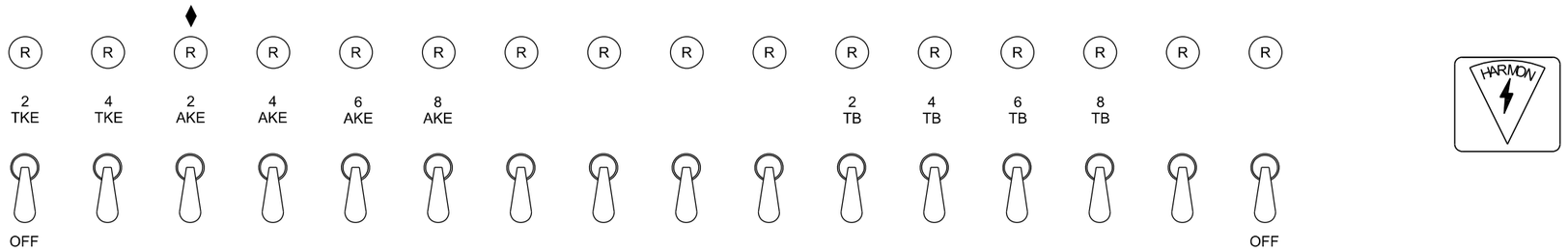
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DRAWING NO.
G79969.Ø18V

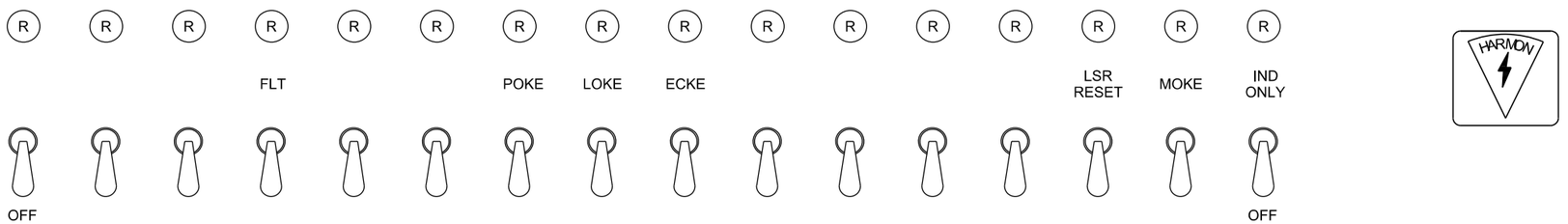
LOCAL CONTROL PANEL



LOCAL CONTROL PANEL EXPANSION



LOCAL CONTROL PANEL EXPANSION



NOTES:

1. WHERE "KE" APPEARS AT END OF WORD ONLY INDICATION IS OPERATIVE.
2. ♦= INDICATED ON LOCAL CONTROL PANEL ONLY.

THIS SHEET VOID

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IVORY L. WHITE, JR, P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

N.E. STANTON MP 799.69
LOCAL CONTROL PANEL

SHEET NO.
494

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80057.001

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2	TRACK & SIGNAL PLAN	⊠	⊠							
3	TRACK & SIGNAL PLAN	⊠	⊠							
4	ELECTROLOGIXS PROGRAM	⊠								
5	POWER DISTRIBUTION	⊠	⊠							
6	RELAY DETAIL & TRACK CIRCUITS	⊠								
7	RACK 1 LAYOUT	⊠								
8	RACK 2 LAYOUT	⊠								
9	ELECTROLOGIXS MODULE CONFIGURATION	⊠								
10	ELECTROLOGIXS CIRCUITS	⊠								
11	OFFICE COMMUNICATION CIRCUITS	⊠								
12	ELECTROLOGIXS TRACK CIRCUITS	⊠								
13	SIGNALS 2 & 8 LIGHTING CIRCUITS	⊠								
14	SIGNAL 4 LIGHTING CIRCUITS	⊠								
15	SIGNAL 6 LIGHTING CIRCUITS	⊠								
16	SIGNAL 10 LIGHTING CIRCUITS	⊠								
17	ELECTROLOGIXS I/O CIRCUITS	⊠								
18	ELECTROLOGIXS I/O CIRCUITS	⊠								
19	SWITCH 1 CIRCUITS	⊠								
20	SWITCH 3 CIRCUITS	⊠								
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22	LOCAL CONTROL PANEL LAYOUT	⊠								
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26	XP4 CIRCUITS #1 MAIN	⊠								
27	XP4 CIRCUITS #2 MAIN	⊠								
28	XP4 UNIT SETUP	⊠								

⊠ = DESIGN COMPLETED

⊠ = REVISION COMPLETED

NEW SHEET

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STATE OF FLORIDA
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ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
CP-801
TITLE, NOTES, INDEX & REVISIONS
M.P. A-800.57

SHEET NO.
495

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80057.002

42224+16
800.77 (AX)

← NORTH TO JACKSONVILLE

42242+02
801.15 (AX)

SIGS 42255+26

42256+08
801.25 (AX)

PS 42257+26
*15 T.O.

HAR MOD.
NBS-1
790 HZ

10AT

57-1CWTO-2
86 HZ

8006-2ZT [6ZT]

8006-1ZT [2ZT]

86 HZ
57-1CWTO-1

JOINS
G79968.003

RING-10

57-1T1-1
57-1R1-1
57-1T2-1
57-1R2-1
57-1T1-2
57-1R1-2
57-1T2-2
57-1R2-2

TO
57-1
CWU

2ZT
N2ZT

TO
1
TIP-2

6ZT
N6ZT

TO
1
TIP-2

10ARBI
10ARN

TO
10A
TR

C B A 10
C B A 6
C B A 2

NBS

HAR MOD.
NBS-1
790 HZ

A4T

(X)

E

1

A4RBI
A4RN

TO
A4
TR

4RBI
4RN

TO
4
TR

2RBI
2RN

TO
2
TR

57-2CWTO-2
790 HZ

4T

2T

790 HZ
57-2CWTO-1

JOINS
G80057.003

2 SP.
10CGE
10CYE
10CLWE
10CRE
10CEN

SP.
10ARE
10AEN
10BGE
10BYE
10BRE
10BEN

2 SP.
2AGE
2AYE
2ARE
2AREN
2AEN

2 SP.
2BGE
2BYE
2BLWE
2BRE
2BEN

SP.
6AGE
6AYE
6ARE
6AREN
6AEN
6BGE
6BYE
6BRE
6BEN

2 SP.
6CGE
6CYE
6CLWE
6CRE
6CEN

6 SP.
1NWP
N1NWP
N1RWP
1RWP
1NJP
B-1
N-1
3 SP.
1NW
1RW
1CW
*6

8' X 10'

2-7 COND.*9 U.G. — 19 COND. U.G.

7 & 10 COND.*9 U.G. — 19 COND. U.G. — 19 COND. U.G.

2-7 COND.*9 U.G. — 19 COND. U.G. — 19 COND. U.G.

20 *6 U.G. TRK. — 7 & 10 COND. *9 U.G. — 7 & 10 COND. *9 U.G.

TO 96F
FIBER PULL
BOX

24F SM FIBER — 2-7 COND. *9 U.G. — 2-7 COND. *9 U.G.

24F SM FIBER — 16 *6 U.G. TRK. — 16 *6 U.G. TRK.

1-12 COND. *14, 1-7 COND. *14 U.G. — 1-12 COND. *14, 1-7 COND. *14 U.G.

3 COND. *2 W/GND.

(XXX')

BX120-1
BX120-2
NX120
GND.

25-2AX57
N25-2AX57
25-1AX57
N25-1AX57
3 SP.

77-1AX57
N77-1AX57
77-2AX57
N77-2AX57
15-1AX57
N15-1AX57
15-2AX57
N15-2AX57
4 SP.

NEW SHEET

NOTE:
(X) = LOCATION OF HOUSE.

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REVISIONS

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SUITE 400 JACKSONVILLE FLORIDA 32256
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(904) 443-0089 (FAX)

CERT. OF AUTHORIZATION NO. 9875

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IVORY L. WHITE, JR., P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

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CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

CP-801

TRACK & SIGNAL PLAN

M.P. A-800.57

SHEET NO.

496

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80057.003

← NORTH TO JACKSONVILLE

PS 42257+76
#15 T.O.

PS 42260+81
#15 T.O.

SIGS 42261+31

4T
2T

57-2CWTO-2
790 HZ

790 HZ
57-2CWTO-1

JOINS
G80057.002

A3
B3
E
E

2TB2
2TN
4TB2
4TN
TO
2-4
TCU

57-2T1-1
57-2R1-1
57-2T2-1
57-2R2-1
57-2T1-2
57-2R1-2
57-2T2-2
57-2R2-2
TO
57-2
CWU

8 A B C
4 A B C

4ZT
N4ZT
TO
2
TIP-2

8ZT
N8ZT
TO
2
TIP-2

#1 #3 #5
#2 #4 #6
DTL

15CWTO-2
114 HZ
25CWTO-2
156 HZ
77CWTO-2
86 HZ

8020-2ZT [8ZT]
8020-1ZT [4ZT]

86 HZ
77CWTO-2
156 HZ
25CWTO-2
114 HZ
15CWTO-2

JOINS
G80077.002

5 SP.
A3NWP1
NA3NWP1
NA3RWP1
A3RWP1
A3NJP1
3NJP
B-1
N-1
3 SP.
A3NW
A3RW
A3CW
#6

3 SP.
3NWP
N3NWP
N3RWP
3RWP
B-1
B3NJP1
B3RWP1
NB3RWP1
NB3NWP1
B3NWP1
3 SP.
B3NW
B3RW
B3CW
#6

2 SP.
4CGE
4CYE
4CLWE
4CRE
4CEN

SP.
4AGE
4AYE
4ARE
4AREN
4AEN
4BGE
4BYE
4BRE
4BEN

2 SP.
8AGE
8AYE
8ARE
8AREN
8AEN

2 SP.
8BGE
8BYE
8BLWE
8BRE
8BEN

19 COND. U.G.
19 COND. U.G.
7 & 10 COND. #9 U.G.
2-7 COND. #9 U.G.
16 #6 U.G. TRK.
1-12 COND. #14, 1-7 COND. #14 U.G.

CONT. ON
SH. G80077.002
MP 800.77

25-2AX57
N25-2AX57
25-1AX57
N25-1AX57
3 SP.

77-1AX57
N77-1AX57
77-2AX57
N77-2AX57
15-1AX57
N15-1AX57
15-2AX57
N15-2AX57
4 SP.

TO BE INSTALLED
IN PARALLEL PER
MANUFACTURER INSTRUCTIONS

SHUNT CASE
DTL
NBS
DTL #1 & #2
HARMON FSS-1A 86 HZ MULTI FREQ. NBS
HPN 250849-000
HARMON FSS LOAD 4.000'
HPN 227032-015

SHUNT CASE
DTL
NBS
DTL #3 & #4
HARMON FSS-1A 114 HZ MULTI FREQ. NBS
HPN 250849-000
HARMON FSS LOAD 1.750'
HPN 227032-006

SHUNT CASE
DTL
NBS
DTL #5 & #6
HARMON FSS-1A 156 HZ MULTI FREQ. NBS
HPN 250849-000
HARMON FSS LOAD 250'
HPN 227032-000

= NOTE

NEW SHEET

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REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

XORAIL
5011 GATE PARKWAY BUILDING 100
SUITE 400 JACKSONVILLE FLORIDA 32256
(904) 443-0083 (MAIN)
(904) 443-0089 (FAX)
CERT. OF AUTHORIZATION NO. 9875
ENGINEER OF RECORD
IVORY L. WHITE, JR., P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
CP 801
TRACK & SIGNAL PLAN
M.P. A-800.57

SHEET NO.
497

$USER$ $DATE$ $TIME$ $FILE$

CIO-MDA OFFICE CONFIGURATION MENU

SERIAL PORT 2 PROTOCOL	ATCS SPEC 250	
CONTROL WORDS	4	X
INDICATION WORDS	4	X
BAUD RATE	9600	X
LOCAL TIME ZONE IN RELATION TO GMT	-5	X
OBSERVE DAYLIGHT SAVINGS TIME	YES	X
DAYLIGHT SAVINGS TIME START MONTH	MARCH	X
DAYLIGHT SAVINGS START WEEK	2	X
DAYLIGHT SAVINGS TIME END MONTH	NOVEMBER	X
DAYLIGHT SAVINGS END WEEK	1	X
PAGE SIZE	19	X
CONTROL LATCHING	LATCHED	X
INDICATION DELAY	0.0 SEC.	X

CIO-MDA ATCS CONFIGURATION

ITEM	SETTING	
CPC PROTOCOL	ATCS SPEC 250	X
ADDRESS IDENT DIGIT	7	X
ADDRESS LENGTH (10, 12, 14)	14	X
RAILROAD NUMBER	605	X
STATION ADDRESS	527036	X
STATION NODE	02	X
MCP ADDRESS	527036	X
MCP NODE NUMBER	02	X
OFFICE ADDRESS	5527	X
OFFICE NODE NUMBER	10	X
CDC ADDRESS	5026	X
CDC NODE NUMBER	10	X
IND. REFRESH	1 MIN.	X
IND. PRIORITY	4	X
LOG PRIORITY	7	X

OFFICE SETTINGS

ITEM	SETTING
LOCATION ID	CP 801
CHASSIS ID	57

VITAL APPLICATION INFORMATION

ITEM	SETTING
NAME	XXXXXXXXXX
INDEX	001
EPT CRC	XXXX
EPT CHECKSUM	XXXX

NON-VITAL APPLICATION INFORMATION

ITEM	SETTING
NAME	XXXXXXXXXX
INDEX	001
EPT CRC	XXXX
EPT CHECKSUM	XXXX

CIO-1A DIAGNOSTIC PORT SETTINGS

ITEM	SETTING	
BAUD RATE	9600	X
PARITY	NONE	X
DATA BITS	8	X
STOP BITS	1	X
FLOW CONTROL	DISABLED	X

SERIAL PORT 1 LCP SETTINGS

ITEM	SETTING
LCP ENABLE	ENABLED

VITAL TIMERS

NAME	SETTING
2TER	04 MIN 04 SEC
4TER	06 MIN 28 SEC
6TER	05 MIN 42 SEC
8TER	06 MIN 28 SEC
4TPER	00 MIN 15 SEC
10TER	01 MIN 10 SEC
2TPER	00 MIN 15 SEC

EQUIPMENT TIMERS

NAME	SETTING	
1WOTER	00 MIN 30 SEC	X
3WOTER	00 MIN 30 SEC	

FIELD SELECTABLE SWITCH OVERLOAD TIMER
10 SECONDS FOR HIGH VOLTAGE MACHINE
30 SECONDS FOR LOW VOLTAGE MACHINE

ADDRESS TYPE	RAILROAD ID NUMBER			CODE LINE ADDRESS			STATION ADDRESS			SUB DEVICE		INTERNAL DEVICE	
1	2	3	4	5	6	7	8	9	10	11	12	13	14
7	6	0	5	5	2	7	0	3	6	0	2	0	2

GFD-1 SETTINGS

ITEM	SETTING	
BATTERY 1 NAME	B-1	X
BATTERY 1 FAULT STATUS	NO FAULT	X
BATTERY 1 CALIBRATED VOLTAGE	13.5	X
BATTERY 1 GROUND FAULT THRESHOLD	8	X
BATTERY 1 GROUND FAULT TIME	30	X
BATTERY 1 LOW BATTERY ALARM VOLTAGE	8.0	X
BATTERY 1 HIGH BATTERY ALARM VOLTAGE	16.5	X
BATTERY 2 NAME	BATTERY 2	X
BATTERY 2 FAULT STATUS	NO FAULT	X
BATTERY 2 CALIBRATED VOLTAGE	13.5	X
BATTERY 2 GROUND FAULT THRESHOLD	8	X
BATTERY 2 GROUND FAULT TIME	30	X
BATTERY 2 LOW BATTERY ALARM VOLTAGE	8.0	X
BATTERY 2 HIGH BATTERY ALARM VOLTAGE	16.5	X
BATTERY 3 NAME	BATTERY 3	X
BATTERY 3 FAULT STATUS	NO FAULT	X
BATTERY 3 CALIBRATED VOLTAGE	13.5	X
BATTERY 3 GROUND FAULT THRESHOLD	8	X
BATTERY 3 GROUND FAULT TIME	30	X
BATTERY 3 LOW BATTERY ALARM VOLTAGE	8.0	X
BATTERY 3 HIGH BATTERY ALARM VOLTAGE	16.5	X

NOTES:

1. X = STATUS SET/CHANGED USING THE CDU-1, ALL OTHERS SET IN THE ACE PROGRAM.
2. VPM-3 ETHERNET PORT ENET1 IP ADDRESS IS 192.168.0.11.
3. X = TO BE FILLED OUT DURING FIELD/FACTORY TESTING.

NEW SHEET

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ENGINEER OF RECORD
IVORY L. WHITE, JR., P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
CP-801
ELECTROLOGIXS PROGRAM
M.P. A-800.57

SHEET NO.
498

$USER$ $DATE$ $TIME$ $FILE$

ADDRESS TYPE	RAILROAD ID NUMBER				CODE LINE ADDRESS			STATION ADDRESS			SUB DEVICE		INTERNAL DEVICE	
1	2	3	4		5	6	7	8	9	10	11	12	13	14
7	6	0	5		5	2	7	0	3	6	0	2	0	2

OFFICE TO ELECTROLOGIXS COMMUNICATION MODULE
SERIAL COMMUNICATION BITS

CONTROLS FROM OFFICE

WORD	1	2	3	4	5	6	7	8
1	C1 NWS	C1 RWS	C3 NWS	C3 RWS	C2 GS	C4 GS	C2-4 STOP	C6-10 GS
2	C8 GS	C6-8-10 STOP						
3	C2 TBS	C2 TBSO	C4 TBS	C4 TBSO	C6 TBS	C6 TBSO	C8 TBS	C8 TBSO
4	C10 TBS	C10 TBSO	CECS	CECSO				

INDICATIONS TO OFFICE

WORD	1	2	3	4	5	6	7	8
1	1 NWK	1 RWK	1 LK	1 NJK	3 NWK	3 RWK	3 LK	3 NJK
2	2 GK	4 GK	2-4 TEK	6-10 GK	8 GK	6-8-10 TEK		
3	2 TK	4 TK	2 AK	4 AK	6 AK	8 AK	10 AK	4 AAK
4		8 AAK	2 TBK	4 TBK	6 TBK	8 TBK	10 TBK	
5				4 BDK		8 BDK	POK	LOK
6	(✕) ECK	GFDK	SMOKE	MOK				

TEMP SHEET ONLY
THIS SHEET IS TO BE VOID AND
REMOVED WHEN A.I.S. IS COMPLETE

NOTE:
(✕) = INTRUSION ALARM INDICATION
( ) = NOTE

NEW SHEET

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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

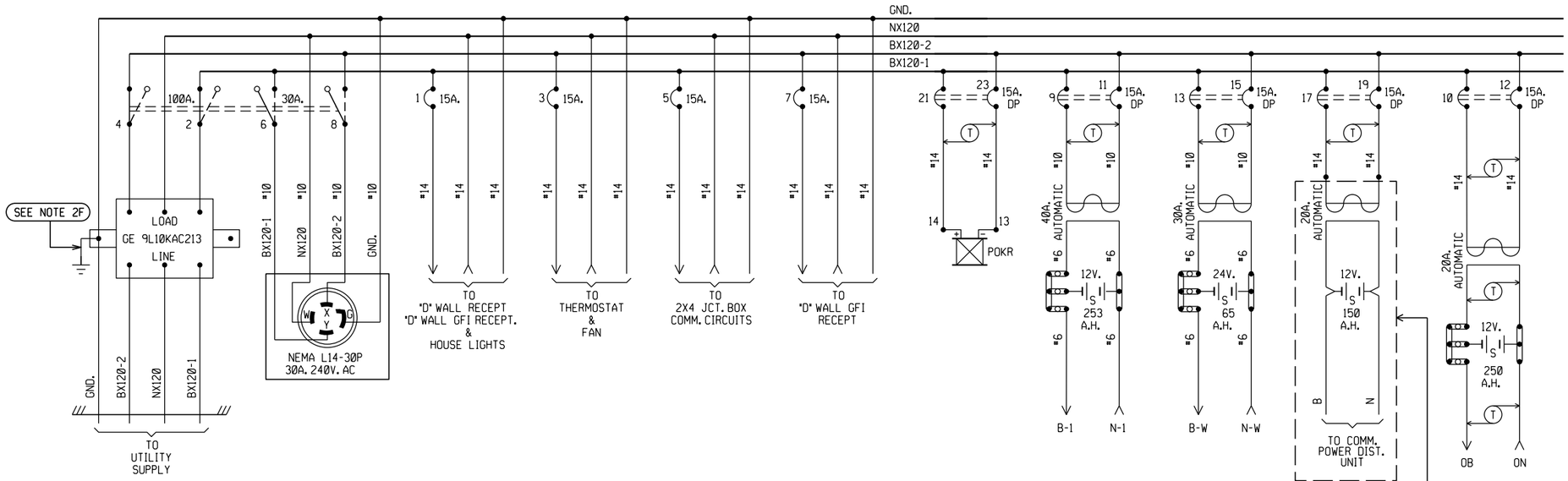
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
CP-801
OFFICE CONTROL & INDICATION EQUIVALENT CIRCUITS
M.P. A-800.57

SHEET NO.
499

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80057.005



BX120-1	BX120-2
24.5 AMPS	27.5 AMPS

MAXIMUM LOAD

INCLUDES WORST CASE COMMS SOLUTION OF 14 AMPS

SEE NOTE 4

SHOP TO AFFIX LABEL ON CHARGERS - CHARGERS WIRED FOR 240V

FIELD VERIFY SIZE OF CHARGER AND BATTERY VOLTAGE FOR AS IN SERVICE, INSTALLED BY COMMS. DEPT.

NOTES:

1 - BATTERY A.H. CAPACITY SHOWN IS THE MINIMUM REQUIREMENT.
2 - WIRING
  A - FEED TO ALL BUSSES, LIGHT CIRCUITS, MOTOR CIRCUITS TO BE #10 FLEX.
  B - 120-VOLT FEED FROM ENTRANCE TO POWER BUSS TO BE #10 FLEX.
  C - ALL TRACK WIRES TO BE #10 FLEX.
  D - ALL OTHERS TO BE #16 FLEX UNLESS NOTED.
  E - ALL BATTERY OUTPUTS TO BE #6.
  F - GROUND WIRE NOT NECESSARY WHEN GE ARRESTER IS MOUNTED ON GROUND PLANE OR METAL ENCLOSURE AFFIXED DIRECTLY TO BUNGALOW METALLIC STRUCTURAL MEMBER.
3 - CIRCUIT INTERRUPTERS 2 & 4 ARE MECHANICALLY INTERLOCKED WITH CIRCUIT INTERRUPTERS 6 & 8.
4 - CHARGERS TO BE WIRED FOR 240VAC
5 - CIRCUIT BREAKER PANEL - Q0124L125G (24 SPACES)

( ) = NOTE

NEW SHEET

8'X 10' RELAY HOUSE

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P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

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CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

CP-801
POWER DISTRIBUTION
M.P. A-800.57

SHEET NO.
500

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80057.006

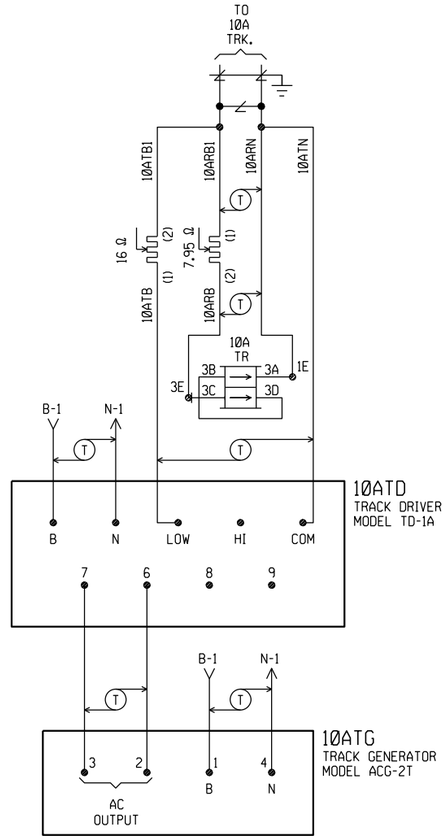
RELAY RACK (RACK 2)

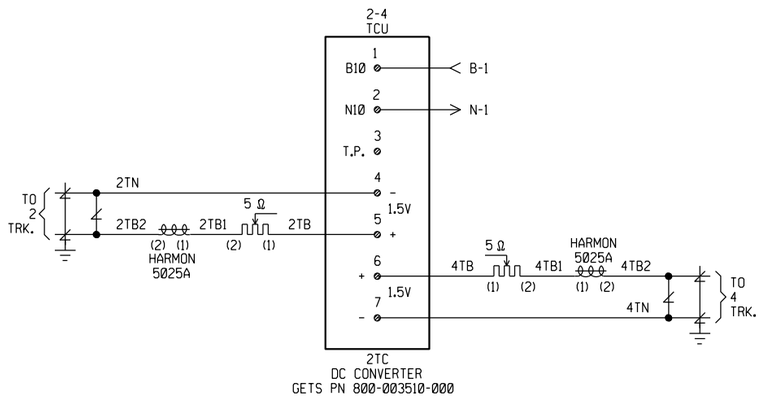
1NWR	1RWR	2VSTOP	4VSTOP	6VSTOP	8VSTOP	10VSTOP	
13 B B45	13 B B45	12 FB B77	12 FB B77	12 FB B77	12 FB B77	12 FB B77	ROW A
14 F C30	14 F C30	15 F C30	15 F C30	15 F C30	15 F C30	15 C30	
33 B	33 B	22 F	22 F	22 F	22 F	22 F	
34 F	34 F	25	25	25	25	25	
		32 F	32 F	32 F	32 F	32 F	
		35 F	35 F	35 F	35 F	35 F	
A3NWR	A3RWR		4VSTOPP	6VSTOPP		10VSTOPP	
13 B B45	13 B B45		12 F B77	12 F B77		12 F B77	ROW B
14 F C30	14 F C30		15 C30	15 C30		15 C30	
33 B	33 B		22	22		22	
34 F	34 F		25	25		25	
			32 F	32 F		32 F	
			35 F	35 F		35 F	
B3NWR	B3RWR	2TR	4TR	A4TR	10ATR		
13 B B45	13 B B45	12 B51	12 B51	12 B51	12 B51		ROW C
14 F C30	14 F C30	15 C30	15 C30	15 C30	15 C30		
33 B	33 B	22	22	22	22		
34 F	34 F	23 F	23 F	23 F	23 F		
		25 F	25 F	25 F	25 F		
		32	32	32	32		
		35	35	35	35		

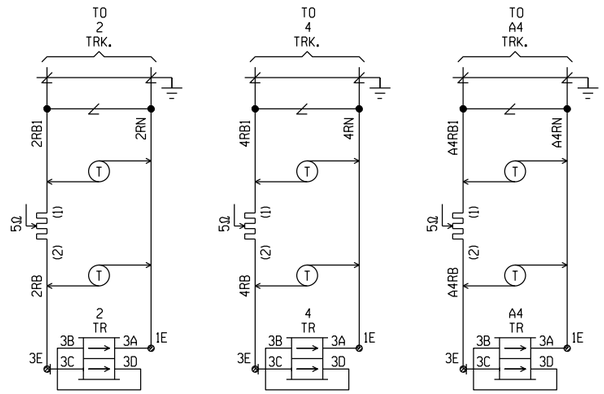
POKR

9	F	11		N68
10	F	12		C48

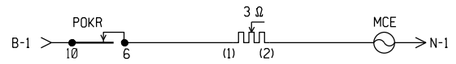
WALL MOUNTED







RELAY IDENTIFICATION AND CROSS REFERENCE			
TYPE	GRS	SAFETRAN	DETAILS
B8	A62-277	400004	4FB-2F-1B, NEUTRAL, 500 OHMS
B45	A62-429	400520	2F-2B (HD), BIASED NEUTRAL, 500 OHMS
B51	A62-120	400510	4FB-2F-1B, BIASED NEUTRAL, 2 OHMS
B77	A62-580	400023	6FB (HD), NEUTRAL, 500 OHMS
C30	A62-506		PLUGBOARD KIT FOR BI RELAYS
C48	SOCKET SURFACE MOUNT FOR PB TYPE KHAU RELAYS		
N68	4-DT, 12K OHMS, NEUTRAL POTTER BRUMFIELD RELAY (240VAC)		



NEW SHEET

NOTES:

1 - SHELF RELAY PLACEMENT ON CONSIST CHART HAS NO SIGNIFICANCE.
2 - PLUG-IN RELAYS ARE VIEWED FROM THE FRONT OF RACK.

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REVISIONS

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CERT. OF AUTHORIZATION NO. 9875
ENGINEER OF RECORD
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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

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CFRC P2S	ORANGE	423446-9-52-02

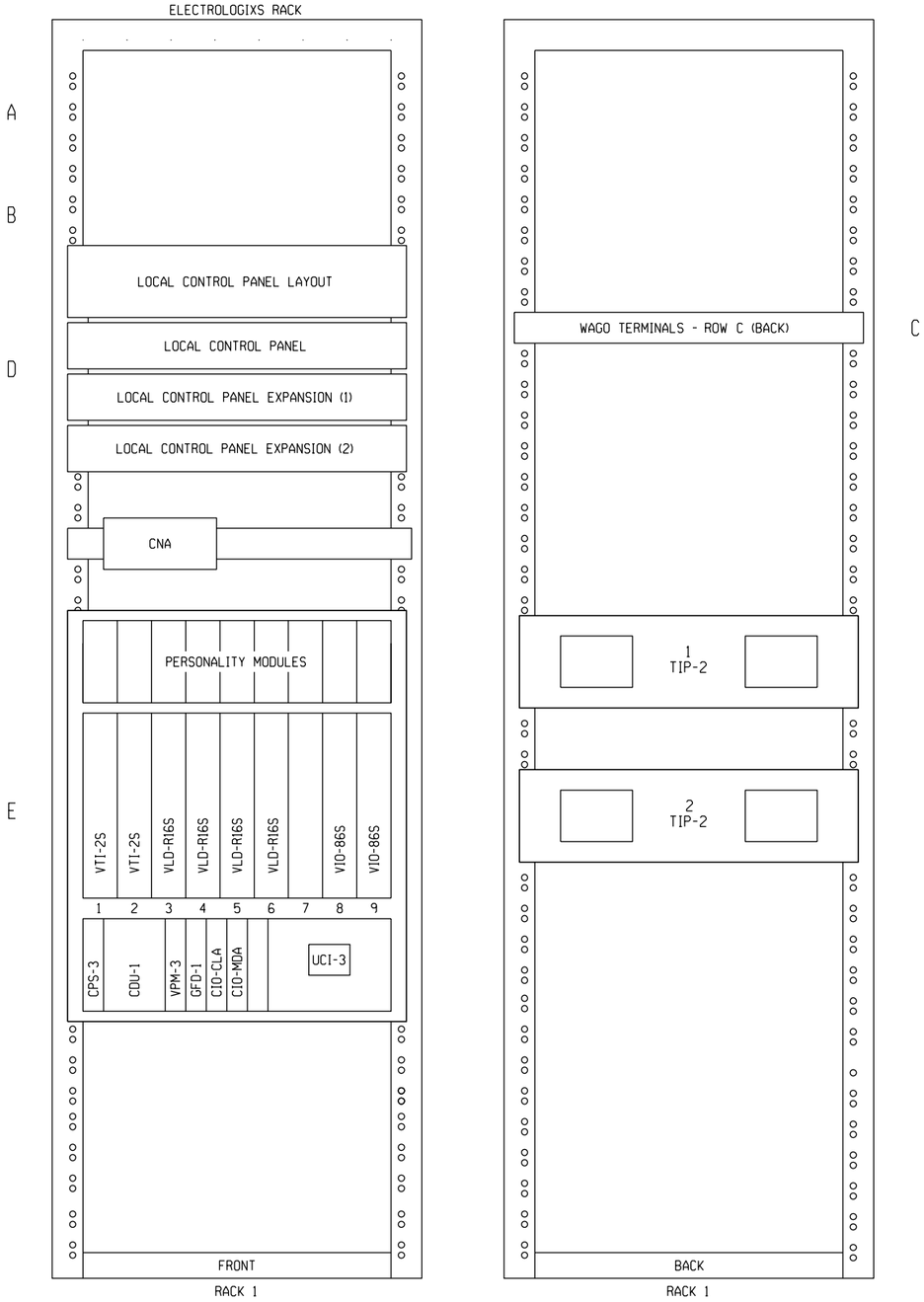
CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
CP-801
RELAY DETAIL & TRACK CIRCUITS
M.P. A-800.57

SHEET NO.
501

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.

G80057.007



ELECTROLOGIXS EQUIPMENT RACK 84" X 19"			
REF.	DESCRIPTION	P/N	QTY.
---	ASSY RACK 19"		1 EA.
BACK (C) 1-50	WAGO TERMINALS BLOCK ASSY	202292-058	1 EA.
BACK (C)	DIN RAIL 35 X 7.5 FOR 19" RACK	124422-000	1 EA.
ROW C	TIP-2	800-096000-011	2 EA.
ROW C	TIP-2 CABLE 8'	814-096000-017	2 EA.
ROW D	SYSTEM LCP	250726-000	1 EA.
ROW D	LOCAL CONTROL PANEL EXPANSION UNIT	250726-001	2 EA.
ROW D	COMMUNICATIONS NETWORK ADAPTER (CNA)	028-1232009-1	1 EA.
ROW E	ELECTROLOGIXS CHASSIS	300752-000	1 EA.
E1-E2	VTI-2S PERSONALITY MODULE	227442-000	2 EA.
E1-E2	VTI-2S MODULE	251123-000	2 EA.
E3-E6	VLD-R16S PERSONALITY MODULE	227539-000	4 EA.
E3-E6	VLD-R16S MODULE	251381-000	4 EA.
E8-E9	VIO-86S PERSONALITY MODULE	227537-000	2 EA.
E8-E9	VIO-86S MODULE	251380-000	2 EA.
ROW E	CPS-3 MODULE	251456-000	1 EA.
ROW E	CDU-1	251124-000	1 EA.
ROW E	VPM-3 MODULE	251432-100	1 EA.
ROW E	GFD-1 MODULE	251333-000	1 EA.
ROW E	CIO-CLA MODULE	251329-100	1 EA.
ROW E	CABLE (CIO-CLA TO LCP)	075113-020	1 EA.
ROW E	CIO-MDA MODULE	251332-000	1 EA.
ROW E	UCI-3 MODULE	251495-000	1 EA.

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CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

CP-801

RACK 1 LAYOUT

M.P. A-800.57

SHEET NO.

502

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.

G80057.008

RACK 2

A	1 NWR	1 RWR	2V STOP	4V STOP	6V STOP	8V STOP	10V STOP
B	A3 NWR	A3 RWR		4V STOPP	6V STOPP		10V STOPP
C	B3 NWR	B3 RWR	2 TR	4 TR	A4 TR	10A TR	

FRONT

NEW SHEET

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CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

CP-801

RACK 2 LAYOUT

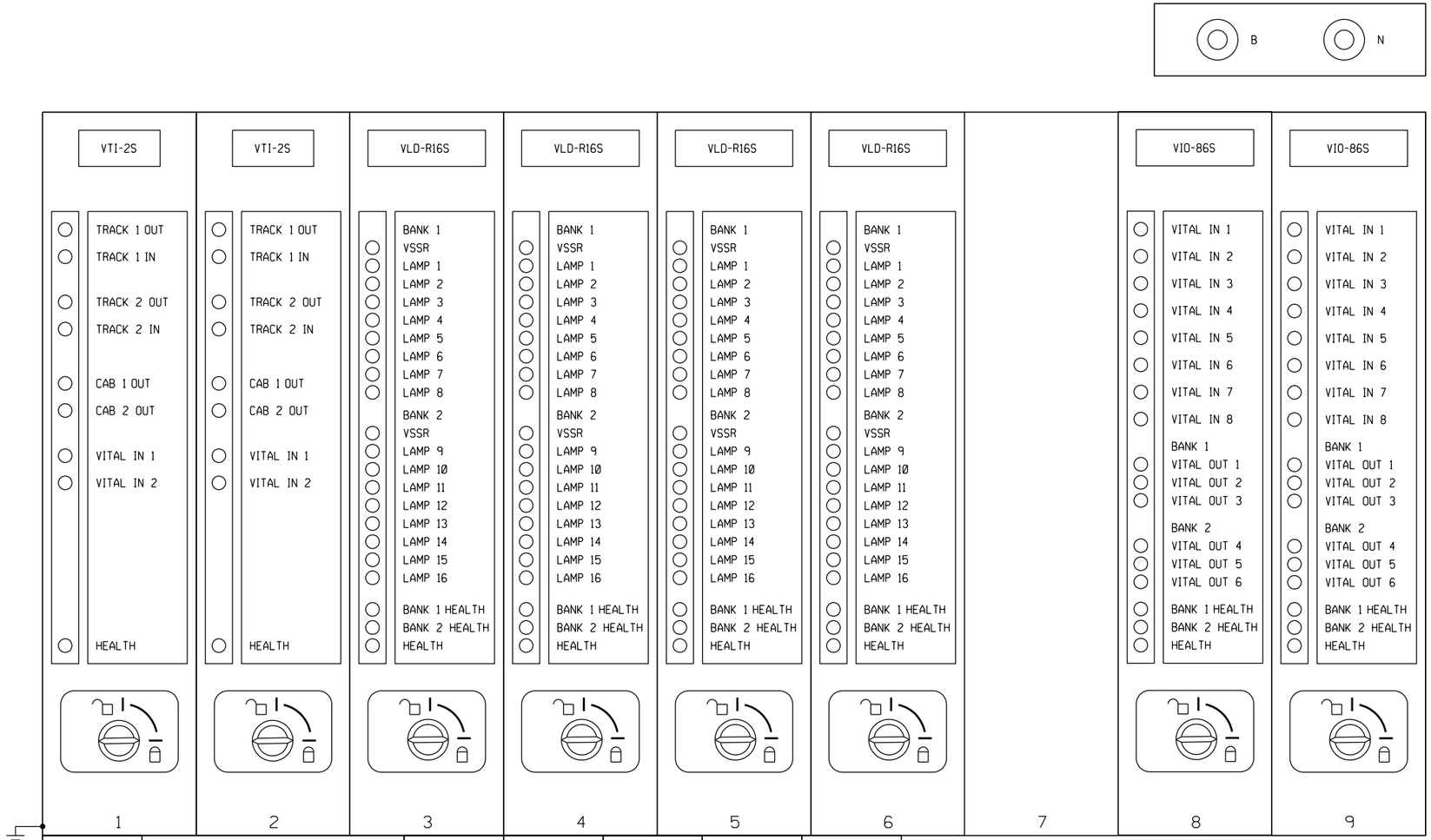
M.P. A-800.57

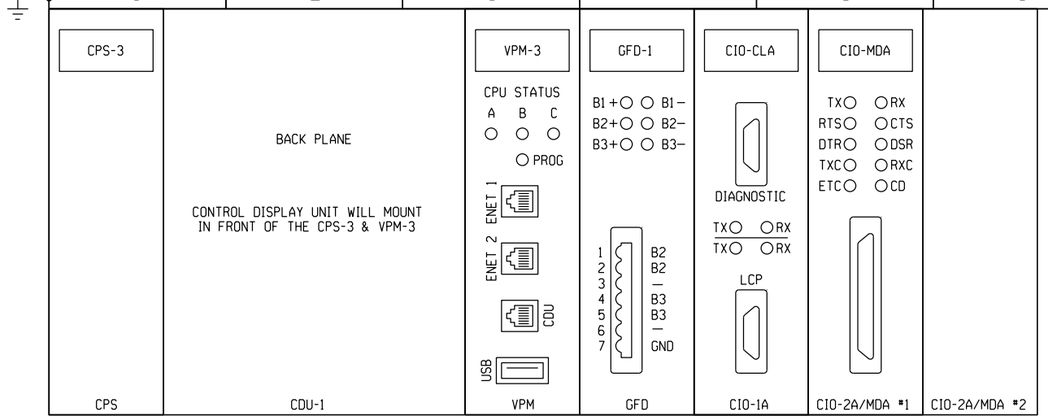
SHEET NO.

503

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80057.009





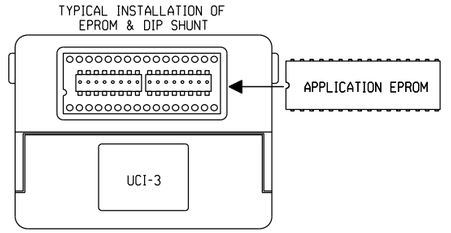
MODULE LEGEND:

CDU-1 = CONTROL DISPLAY UNIT
CPS-3 = CENTRAL POWER SUPPLY
VPM-3 = VITAL PERIPHERAL MASTER
GFD-1 = GROUND FAULT DETECTOR
CIO-1A = COMMUNICATION INPUT/OUTPUT
CIO-2A = COMMUNICATION INPUT/OUTPUT
CIO-MDA = COMMUNICATION INPUT/OUTPUT
UCI-3 = CHASSIS INFORMATION
VTI-2S = VITAL TRACK INTERFACE
VLD-R16S = VITAL LAMP DRIVER
VIO-86S = VITAL INPUTS/OUTPUTS
CIO-CLA = COMMUNICATION INPUT/OUTPUT-CLA

CIO-CLA MODULE
DIAGNOSTIC PORT
PIN ASSIGNMENT

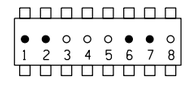
PIN	SIGNAL	SIGNAL NAME
1	CD	CARRIER DETECT
2	RX	RECEIVE DATA
3	TX	TRANSMIT DATA
4	DTR	DTE
5	GND	COMMON SIGNAL RETURN
6	DSR	DCE
7	RTS	REQUEST TO SEND
8	CTS	CLEAR TO SEND
9	RI	RING INDICATOR

TYPICAL INSTALLATION OF
EPROM & DIP SHUNT



CHASSIS ID - 57

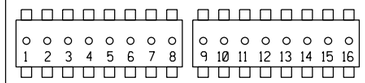
CHASSIS ID DIP SHUNTS
LOCATED ON BACKPLANE
UNDERNEATH UCI-3 MODULE



○ = TAB INTACT (MADE)
● = TAB PUNCHED OUT (BROKEN)

VITAL SELECTION ID-N/A

VITAL SELECTION DIP SHUNTS
LOCATED INSIDE UCI-3 MODULE
UNDERNEATH EPROM



○ = TAB INTACT (MADE)
● = TAB PUNCHED OUT (BROKEN)

NEW SHEET

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REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

XORAIL
5011 GATE PARKWAY BUILDING 100
SUITE 400 JACKSONVILLE FLORIDA 32256
(904) 443-0083 (MAIN)
(904) 443-0089 (FAX)
CERT. OF AUTHORIZATION NO. 9875
ENGINEER OF RECORD
IVORY L. WHITE, JR, P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

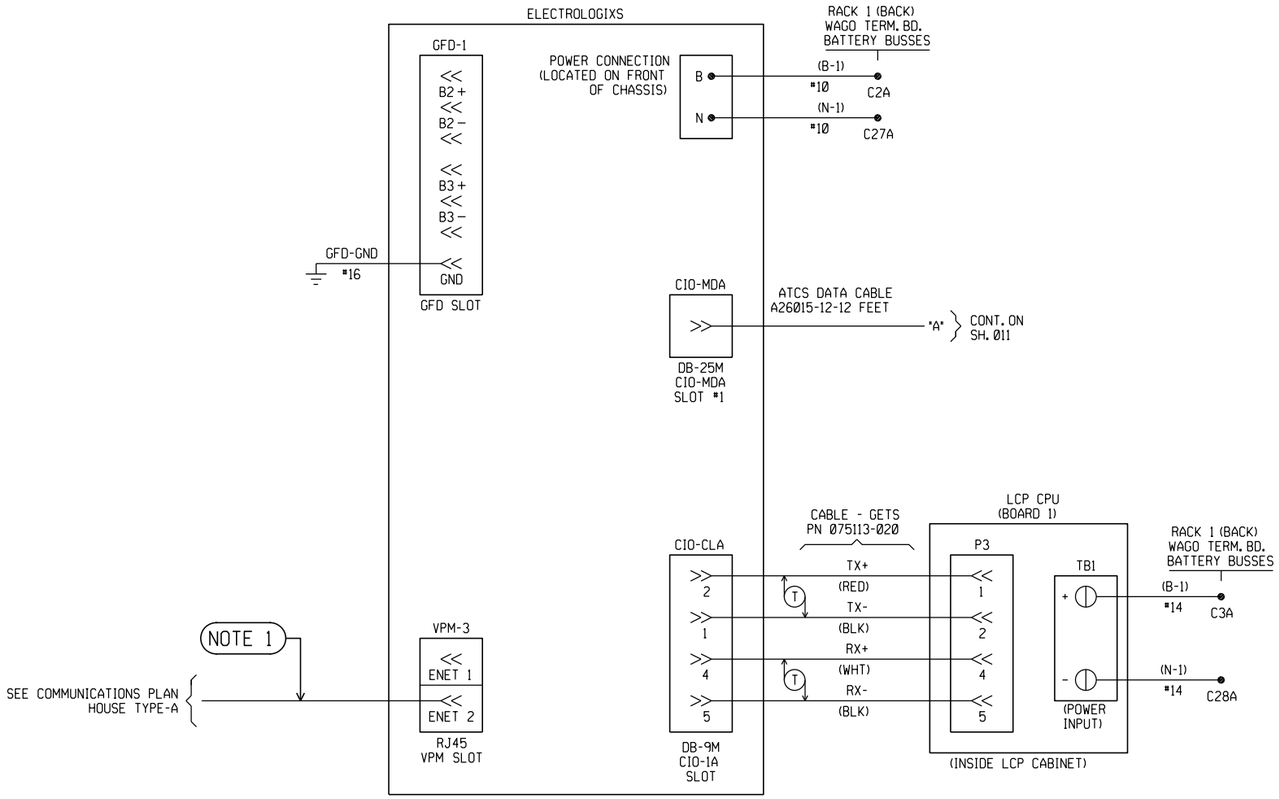
CP-801
ELECTROLOGIXS MODULE CONFIGURATION
M.P. A-800.57

SHEET NO.
504

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.

G80057.010



= NOTE

NEW SHEET

NOTES:

1. TO ETHERNET SWITCH/FIBER MUX.

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.003, F.A.C.

REVISIONS					
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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

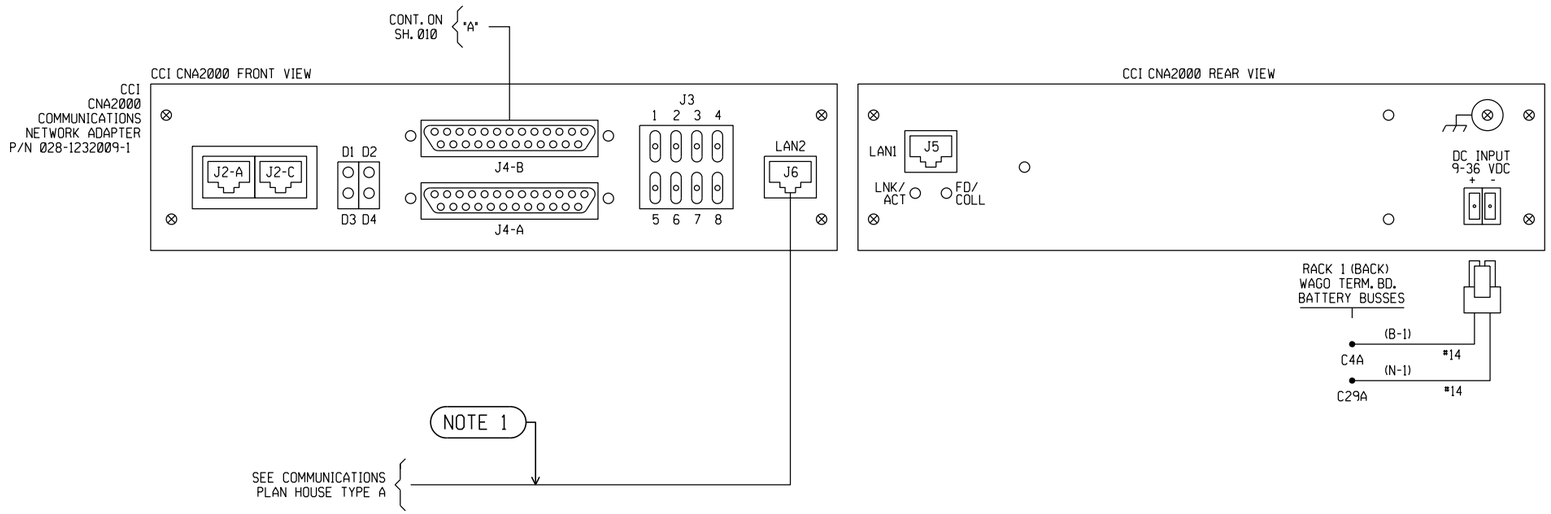
CP-801
ELECTROLOGIXS CIRCUITS
M.P. A-800.57

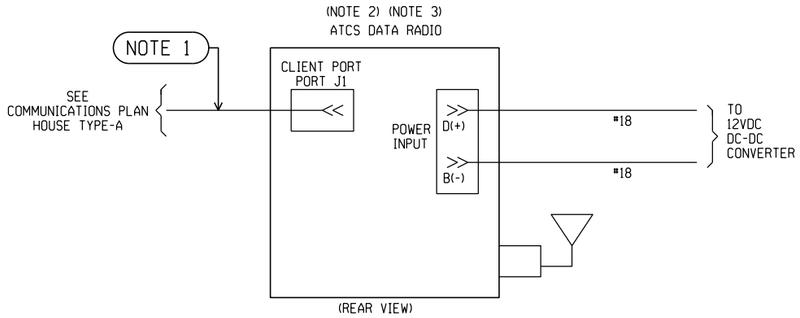
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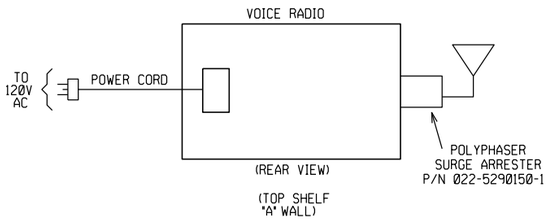
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$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80057.011







= NOTE

NEW SHEET

NOTES:

1. TO ETHERNET SWITCH/FIBER MUX.
2. SEE COMMUNICATION PLAN FOR DETAIL.
3. RADIO FOR BACKUP OFFICE COMMUNICATOR.

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.003, F.A.C.

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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

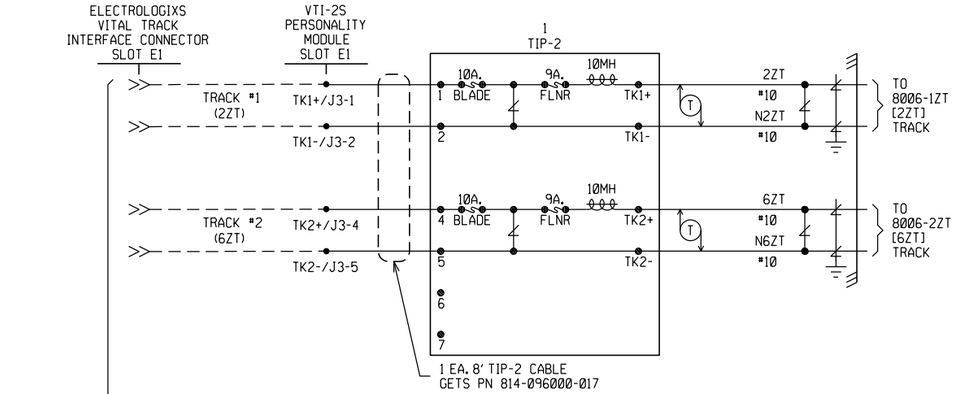
CP-801
OFFICE COMMUNICATION CIRCUITS

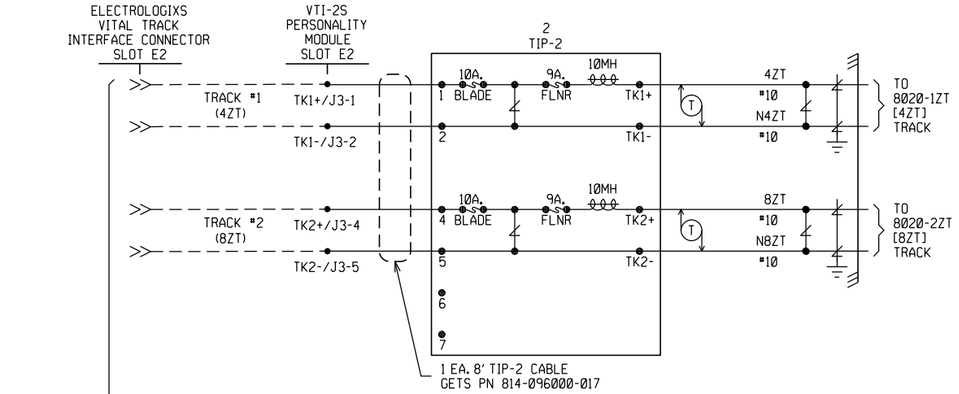
M.P. A-800.57

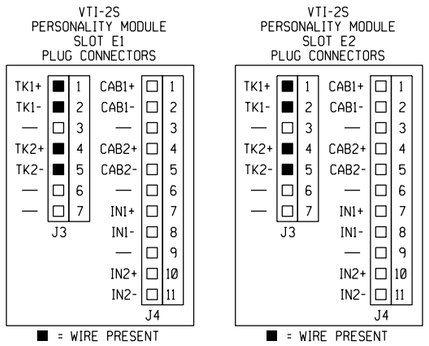
SHEET NO.
506

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80057.012







THE ROUTING OF TRACK WIRES WITHIN THE BUNGALOW SHOULD BE AS SHORT AND DIRECT AS POSSIBLE, ESPECIALLY FOR THE LONGER TRACK CIRCUITS.

( ) = NOTE

NEW SHEET

NOTES:
1. [ ] = TAGGING PURPOSES ONLY
2. ---- = INTERNAL CONNECTION

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ENGINEER OF RECORD IVORY L. WHITE, JR, P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

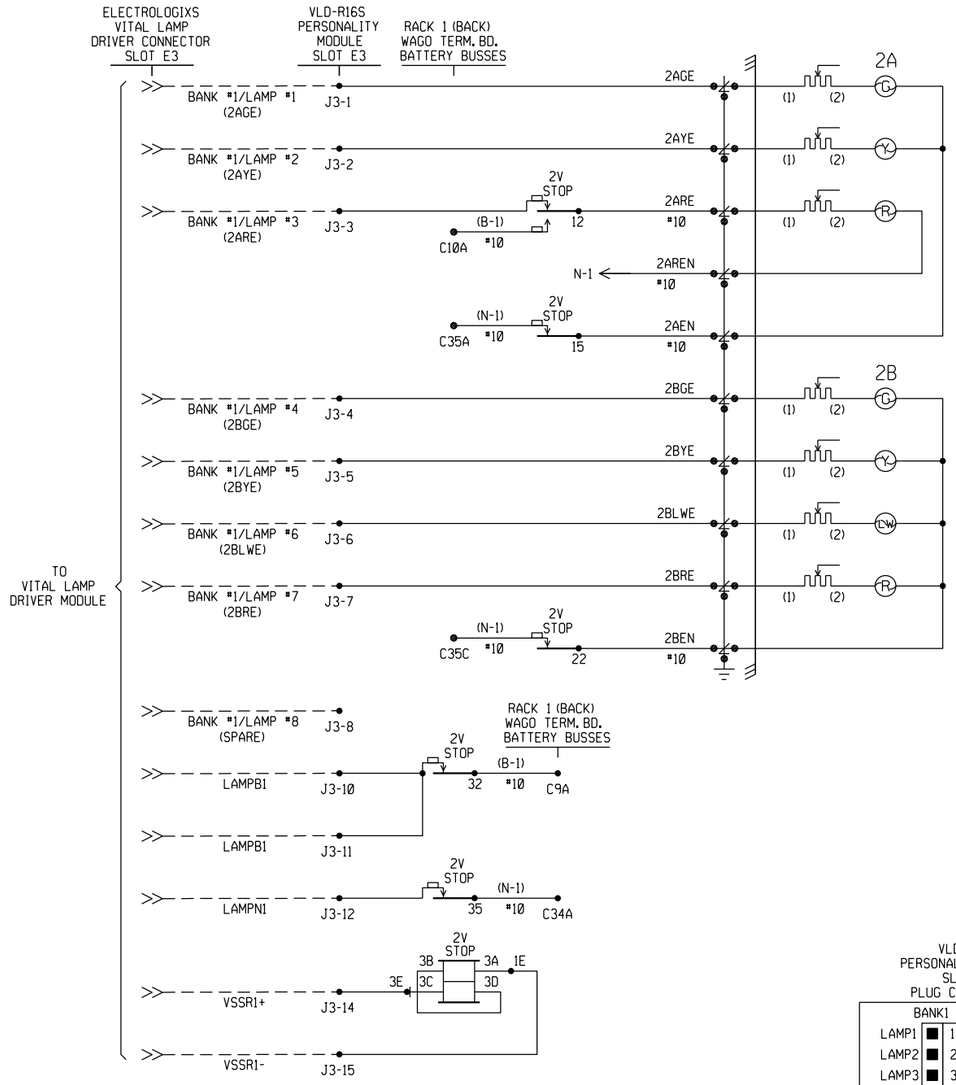
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

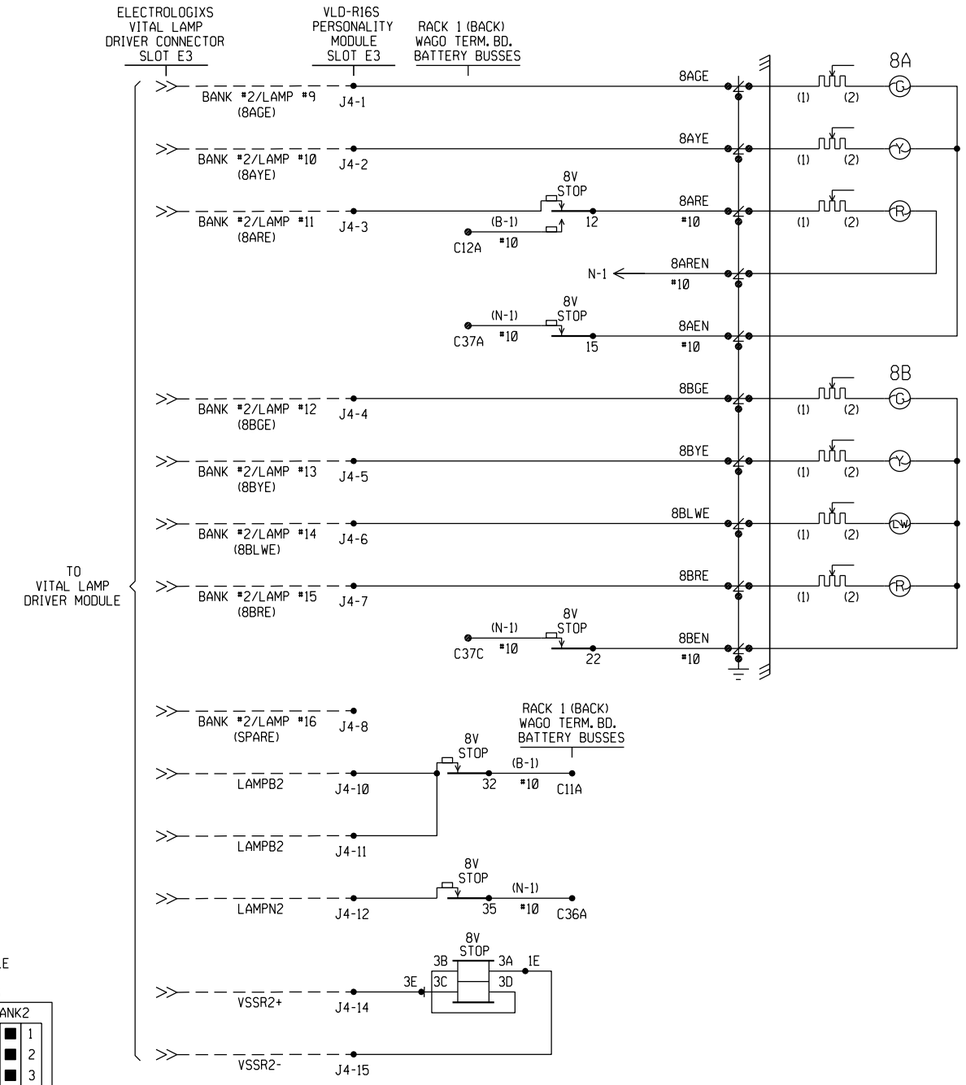
CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
CP-801
ELECTROLOGIXS TRACK CIRCUITS
M.P. A-800.57

SHEET NO.
507

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80057.013





VLD-R16S
PERSONALITY MODULE
SLOT E3
PLUG CONNECTORS

BANK1			BANK2		
LAMP1	■	1	LAMP9	■	1
LAMP2	■	2	LAMP10	■	2
LAMP3	■	3	LAMP11	■	3
LAMP4	■	4	LAMP12	■	4
LAMP5	■	5	LAMP13	■	5
LAMP6	■	6	LAMP14	■	6
LAMP7	■	7	LAMP15	■	7
LAMP8	□	8	LAMP16	□	8
——	□	9	——	□	9
LAMPB1	■	10	LAMPB2	■	10
LAMPB1	■	11	LAMPB2	■	11
LAMPN1	■	12	LAMPN2	■	12
——	□	13	——	□	13
VSSR1+	■	14	VSSR2+	■	14
VSSR1-	■	15	VSSR2-	■	15
J3			J4		

■ = WIRE PRESENT

NOTES:

1. ●⁄● = LPC-10512-1 (15A, BLUE LEAD) HYBRID LOW VOLTAGE ARRESTER, UNLESS NOTED.
2. ---- = INTERNAL CONNECTION
3. ALL HOUSE WIRING THIS SHEET #14 FLEX UNLESS NOTED.
4. ALL RESISTORS ARE 3 OHM, 15 WATTS.

NEW SHEET

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.003, F.A.C.

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

XORAIL
5011 GATE PARKWAY BUILDING 100
SUITE 400 JACKSONVILLE FLORIDA 32256
(904) 443-0083 (MAIN)
(904) 443-0089 (FAX)
CERT. OF AUTHORIZATION NO. 9875
ENGINEER OF RECORD
IVORY L. WHITE, JR., P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

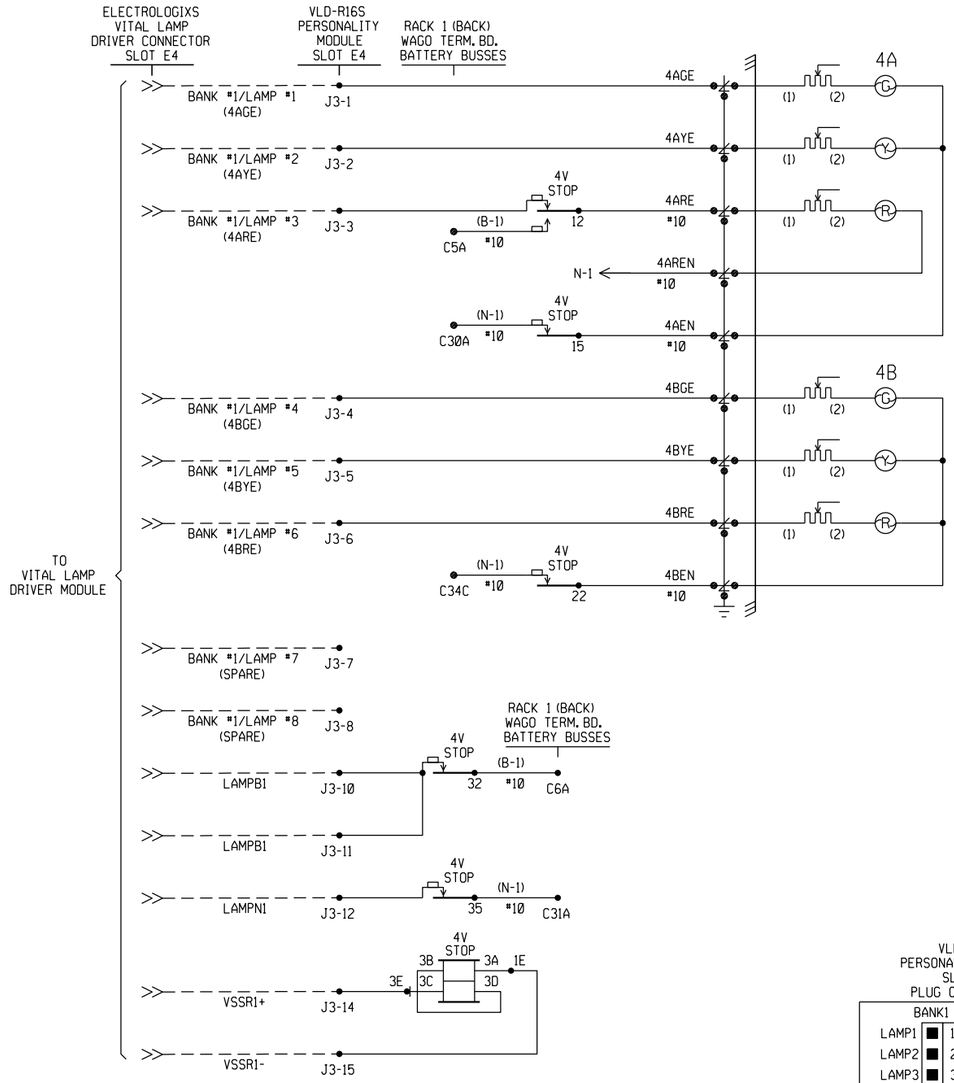
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

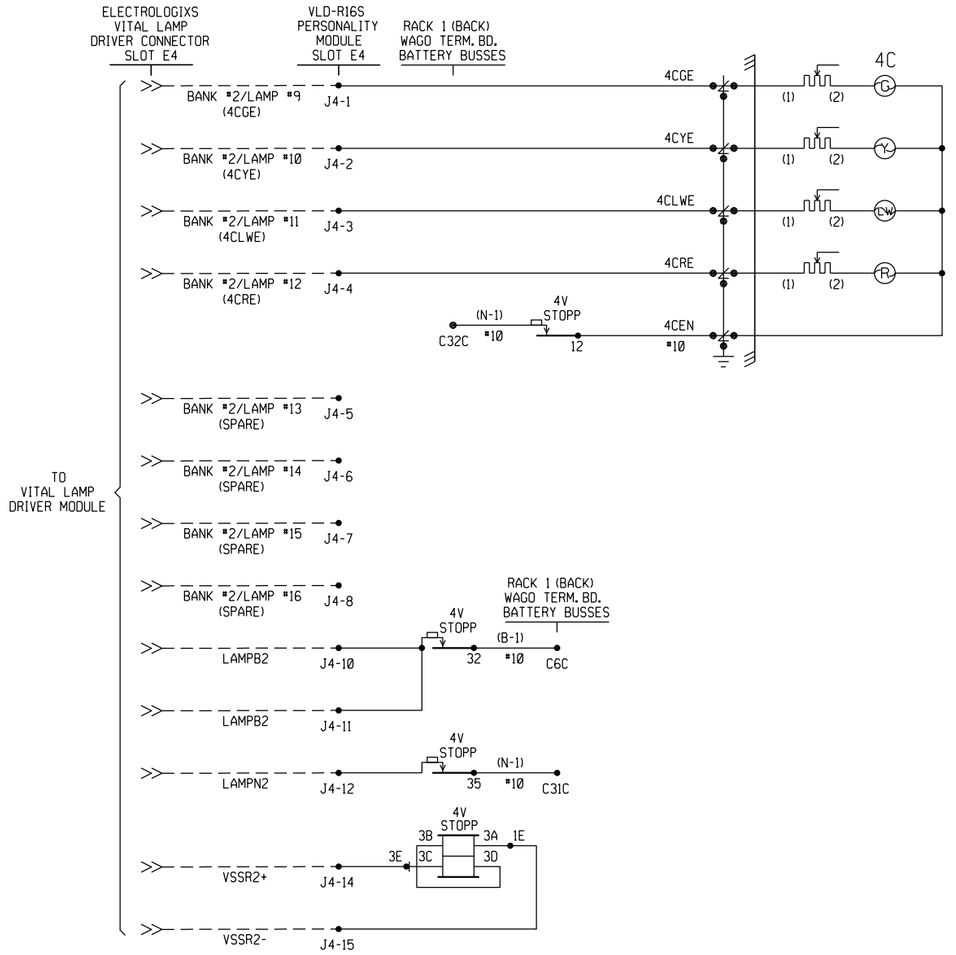
CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
CP-801
SIGNALS 2 & 8
LIGHTING CIRCUITS
M.P. A-800.57

SHEET NO.
508

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80057.014





VLD-R16S
PERSONALITY MODULE
SLOT E4
PLUG CONNECTORS

BANK1			BANK2		
LAMP1	■	1	LAMP9	■	1
LAMP2	■	2	LAMP10	■	2
LAMP3	■	3	LAMP11	■	3
LAMP4	■	4	LAMP12	■	4
LAMP5	■	5	LAMP13	□	5
LAMP6	■	6	LAMP14	□	6
LAMP7	□	7	LAMP15	□	7
LAMP8	□	8	LAMP16	□	8
—	□	9	—	□	9
LAMPB1	■	10	LAMPB2	■	10
LAMPB1	■	11	LAMPB2	■	11
LAMPN1	■	12	LAMPN2	■	12
—	□	13	—	□	13
VSSR1+	■	14	VSSR2+	■	14
VSSR1-	■	15	VSSR2-	■	15
	J3			J4	

■ = WIRE PRESENT

NOTES:

1. ●⁄● = LPC-10512-1 (15A, BLUE LEAD) HYBRID LOW VOLTAGE ARRESTER, UNLESS NOTED.
2. ---- = INTERNAL CONNECTION
3. ALL HOUSE WIRING THIS SHEET #14 FLEX UNLESS NOTED.
4. ALL RESISTORS ARE 3 OHM, 15 WATTS.
5. VSSR2 IS COMBINED IN THE PROGRAM WITH THE VSSR1 OUTPUT.

NEW SHEET

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.003, F.A.C.

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

XORAIL
5011 GATE PARKWAY BUILDING 100
SUITE 400 JACKSONVILLE FLORIDA 32256
(904) 443-0083 (MAIN)
(904) 443-0089 (FAX)
CERT. OF AUTHORIZATION NO. 9875
ENGINEER OF RECORD
IVORY L. WHITE, JR., P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

CP-801

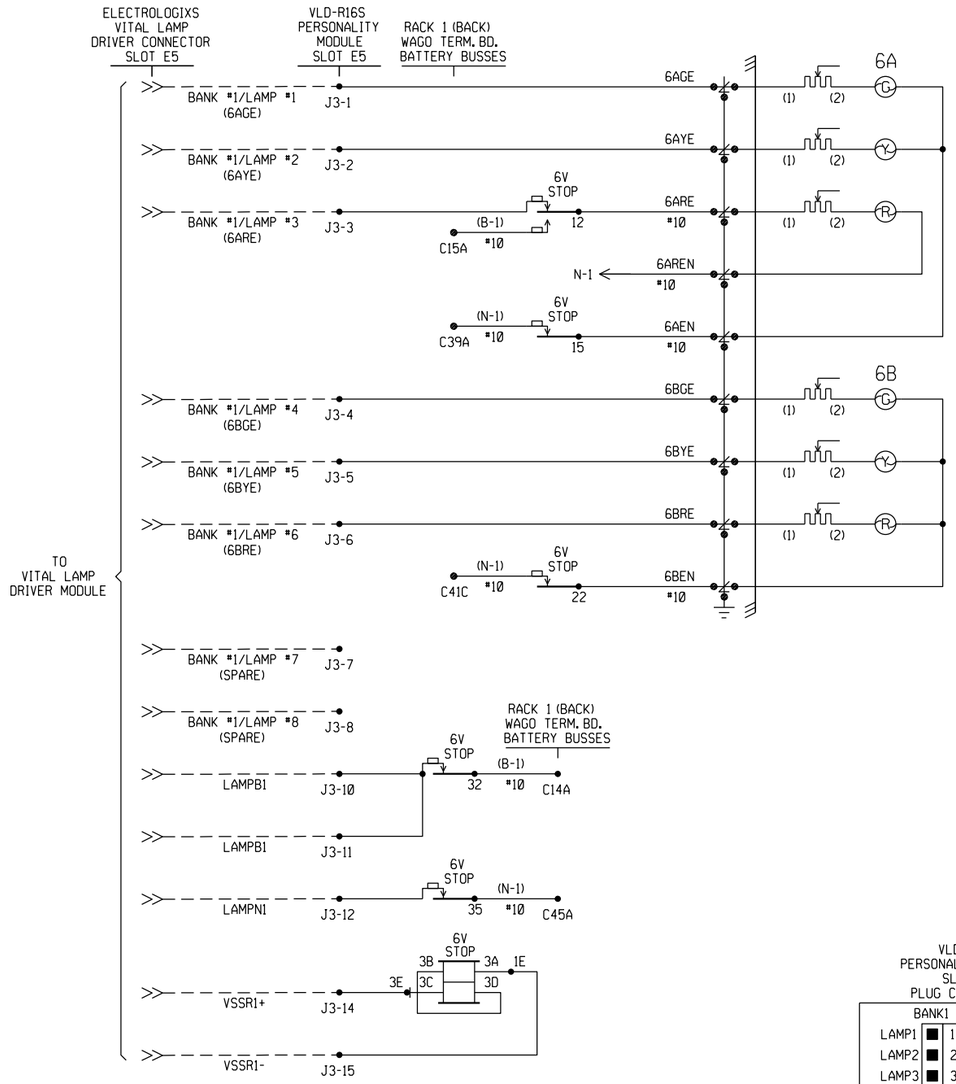
SIGNAL 4 LIGHTING CIRCUITS

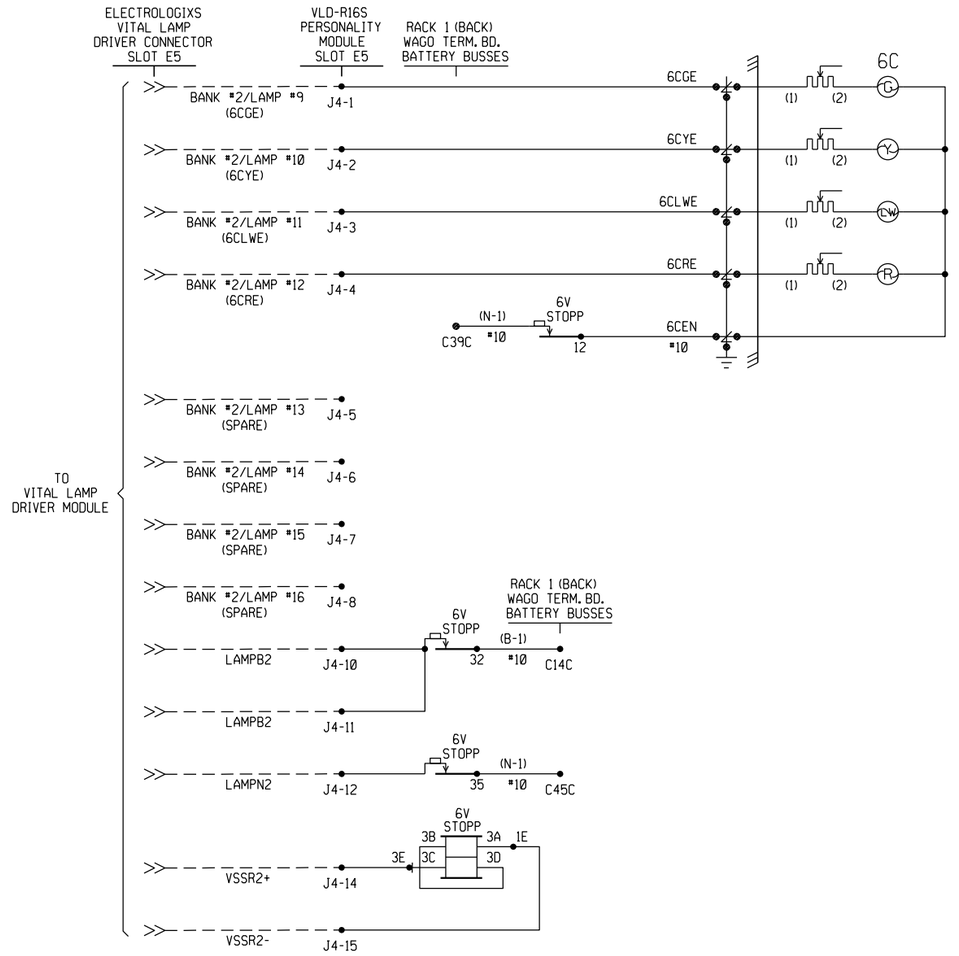
M.P. A-800.57

SHEET NO.
509

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80057.015





VLD-R16S
PERSONALITY MODULE
SLOT E5
PLUG CONNECTORS

BANK1			BANK2		
LAMP1	■	1	LAMP9	■	1
LAMP2	■	2	LAMP10	■	2
LAMP3	■	3	LAMP11	■	3
LAMP4	■	4	LAMP12	■	4
LAMP5	■	5	LAMP13	□	5
LAMP6	■	6	LAMP14	□	6
LAMP7	□	7	LAMP15	□	7
LAMP8	□	8	LAMP16	□	8
—	□	9	—	□	9
LAMPB1	■	10	LAMPB2	■	10
LAMPB1	■	11	LAMPB2	■	11
LAMPN1	■	12	LAMPN2	■	12
—	□	13	—	□	13
VSSR1+	■	14	VSSR2+	■	14
VSSR1-	■	15	VSSR2-	■	15
	J3			J4	

■ = WIRE PRESENT

NOTES:

1. ●⁄● = LPC-10512-1 (15A, BLUE LEAD) HYBRID LOW VOLTAGE ARRESTER, UNLESS NOTED.
2. ---- = INTERNAL CONNECTION
3. ALL HOUSE WIRING THIS SHEET #14 FLEX UNLESS NOTED.
4. ALL RESISTORS ARE 3 OHM, 15 WATTS.
5. VSSR2 IS COMBINED IN THE PROGRAM WITH THE VSSR1 OUTPUT.

NEW SHEET

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.003, F.A.C.

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

XORAIL
5011 GATE PARKWAY BUILDING 100
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CERT. OF AUTHORIZATION NO. 9875
ENGINEER OF RECORD
IVORY L. WHITE, JR., P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

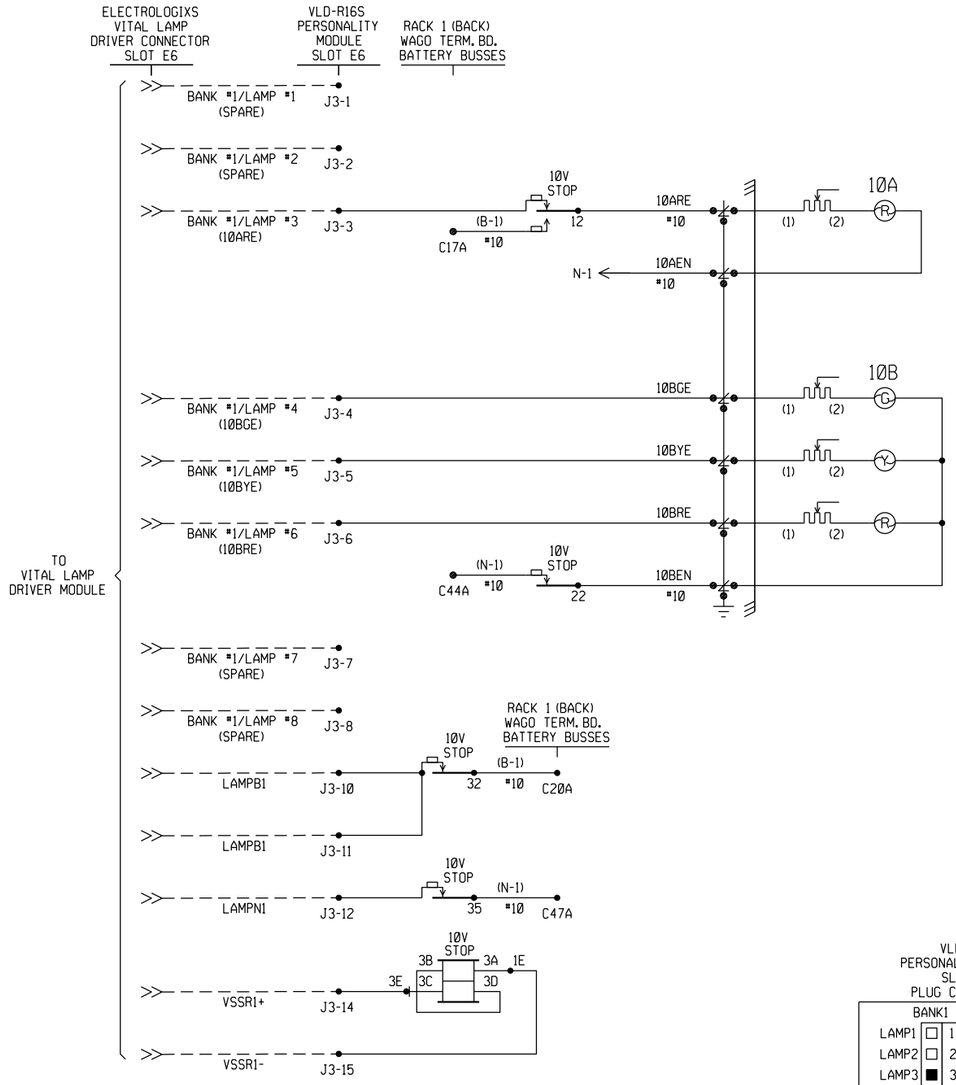
CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

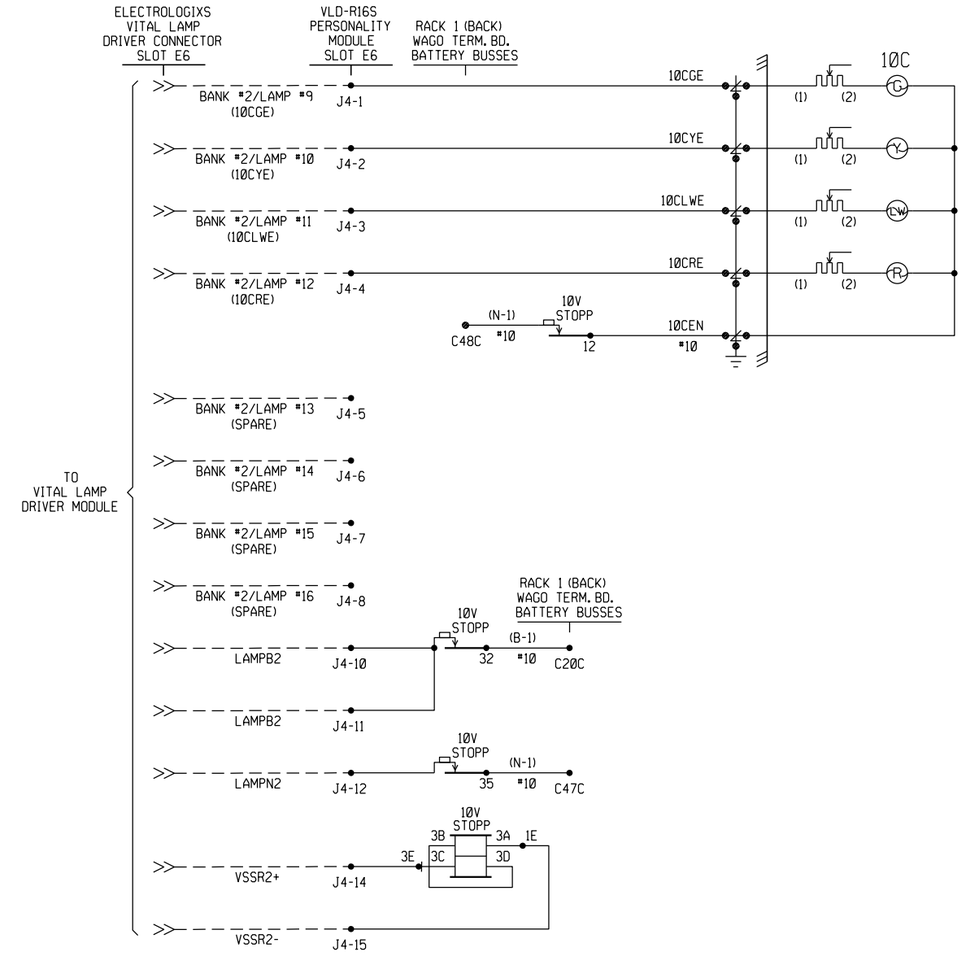
CP-801
SIGNAL 6 LIGHTING CIRCUITS
M.P. A-800.57

SHEET NO.
510

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80057.016





VLD-R16S PERSONALITY MODULE SLOT E6 PLUG CONNECTORS

BANK1			BANK2		
LAMP1	□	1	LAMP9	■	1
LAMP2	□	2	LAMP10	■	2
LAMP3	■	3	LAMP11	■	3
LAMP4	■	4	LAMP12	■	4
LAMP5	■	5	LAMP13	□	5
LAMP6	■	6	LAMP14	□	6
LAMP7	□	7	LAMP15	□	7
LAMP8	□	8	LAMP16	□	8
—	□	9	—	□	9
LAMPB1	■	10	LAMPB2	■	10
LAMPB1	■	11	LAMPB2	■	11
LAMPN1	■	12	LAMPN2	■	12
—	□	13	—	□	13
VSSR1+	■	14	VSSR2+	■	14
VSSR1-	■	15	VSSR2-	■	15
	J3			J4	

■ = WIRE PRESENT

NOTES:

1. ●⁄● = LPC-10512-1 (15A, BLUE LEAD) HYBRID LOW VOLTAGE ARRESTER, UNLESS NOTED.
2. ---- = INTERNAL CONNECTION
3. ALL HOUSE WIRING THIS SHEET #14 FLEX UNLESS NOTED.
4. ALL RESISTORS ARE 3 OHM, 15 WATTS.
5. VSSR2 IS COMBINED IN THE PROGRAM WITH THE VSSR1 OUTPUT.

NEW SHEET

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REVISIONS					
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CERT. OF AUTHORIZATION NO. 9875
ENGINEER OF RECORD
IVORY L. WHITE, JR, P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

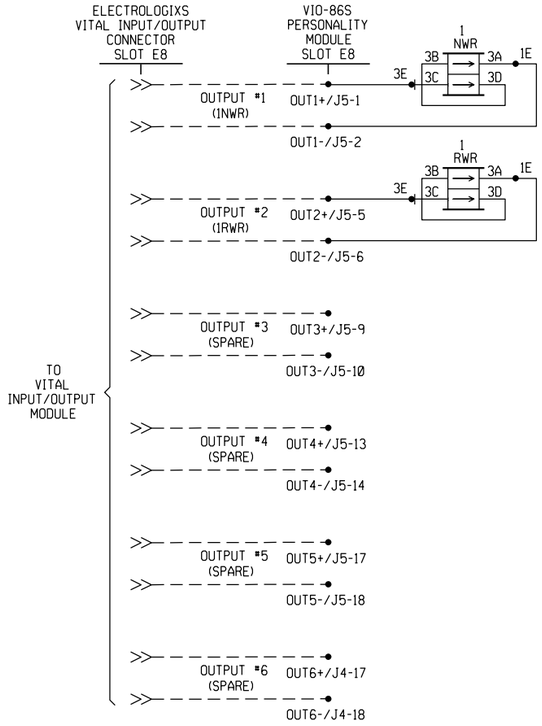
CP-801

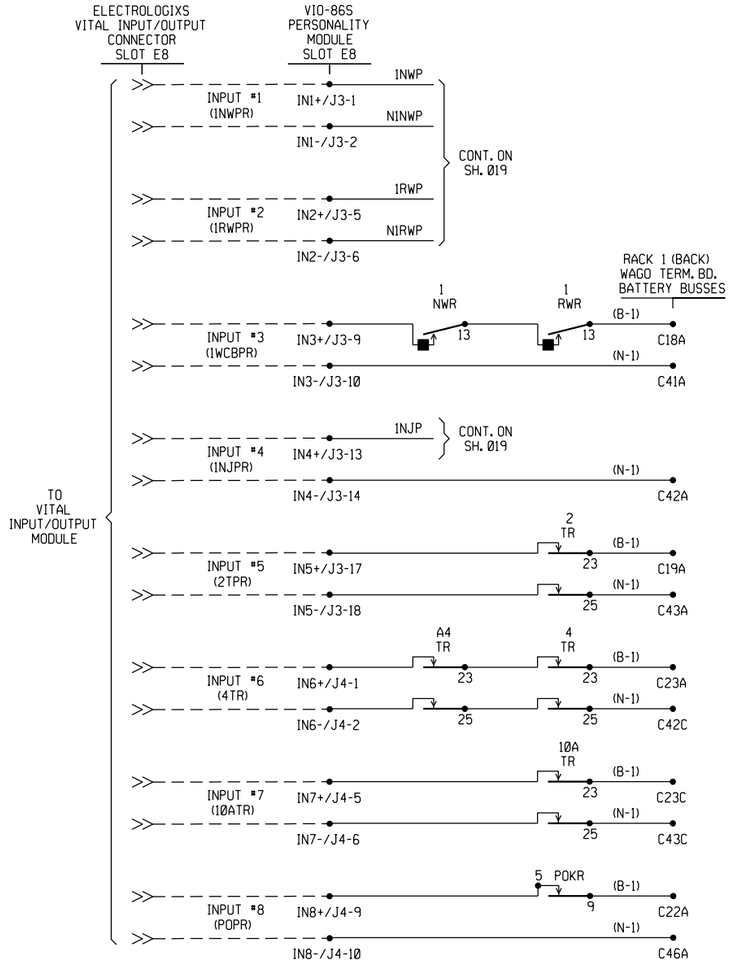
SIGNAL 10 LIGHTING CIRCUITS

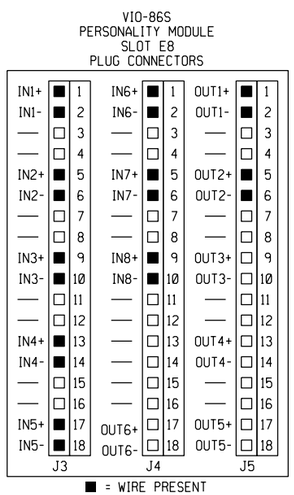
M.P. A-800.57

SHEET NO. 511

$USER$ $DATE$ $TIME$ $FILE$







NEW SHEET

NOTE:
1. ---- = INTERNAL CONNECTION

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STATE OF FLORIDA
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ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

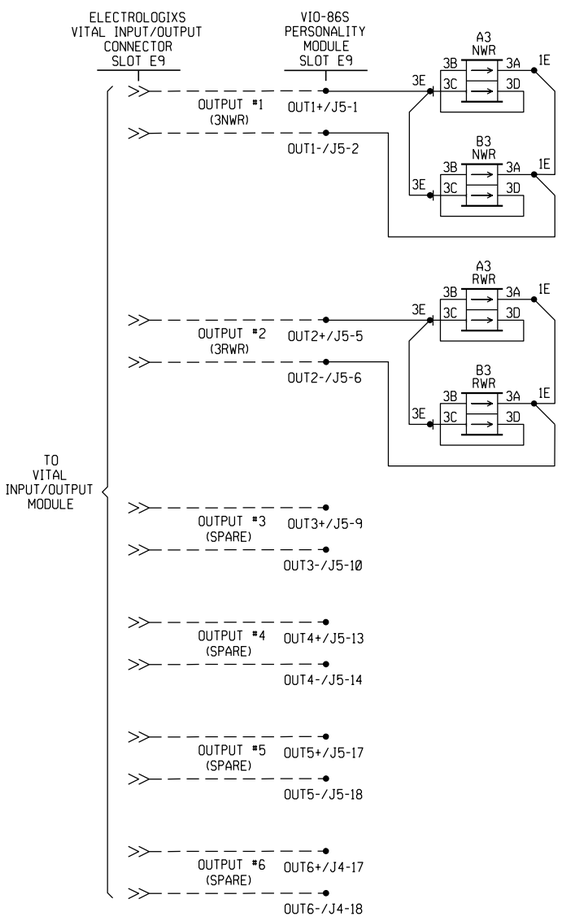
CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

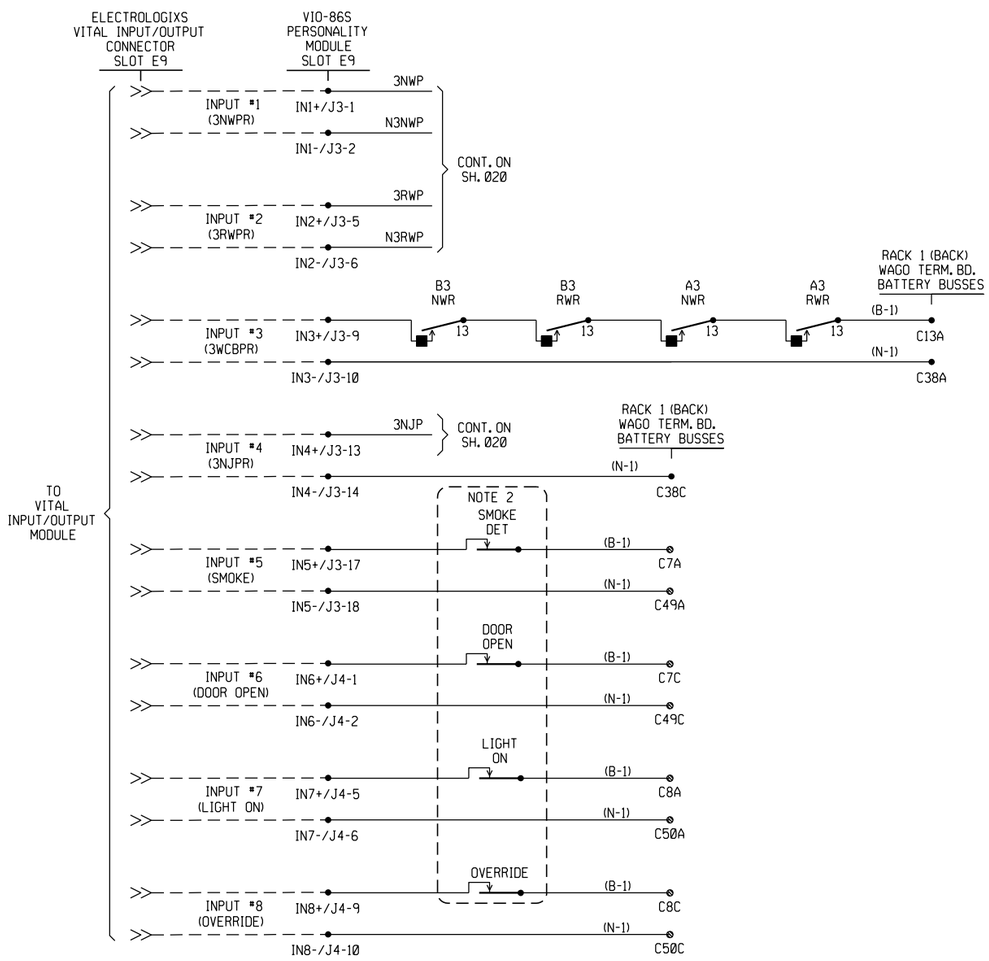
CP-801
ELECTROLOGIXS I/O CIRCUITS

M.P. A-800.57

SHEET NO. 512

$USER$ $DATE$ $TIME$ $FILE$





VIO-86S
PERSONALITY MODULE
SLOT E9
PLUG CONNECTORS

J3			J4			J5		
IN1+	■	1	IN6+	■	1	OUT1+	■	1
IN1-	■	2	IN6-	■	2	OUT1-	■	2
——	□	3	——	□	3	——	□	3
——	□	4	——	□	4	——	□	4
IN2+	■	5	IN7+	■	5	OUT2+	■	5
IN2-	■	6	IN7-	■	6	OUT2-	■	6
——	□	7	——	□	7	——	□	7
——	□	8	——	□	8	——	□	8
IN3+	■	9	IN8+	■	9	OUT3+	□	9
IN3-	■	10	IN8-	■	10	OUT3-	□	10
——	□	11	——	□	11	——	□	11
——	□	12	——	□	12	——	□	12
IN4+	■	13	——	□	13	OUT4+	□	13
IN4-	■	14	——	□	14	OUT4-	□	14
——	□	15	——	□	15	——	□	15
——	□	16	——	□	16	——	□	16
IN5+	■	17	OUT6+	□	17	OUT5+	□	17
IN5-	■	18	OUT6-	□	18	OUT5-	□	18

■ = WIRE PRESENT

NEW SHEET

NOTE:
1. ---- = INTERNAL CONNECTION
2. PROVIDED WITH HOUSE.

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.003, F.A.C.

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

XORAIL
5011 GATE PARKWAY BUILDING 100
SUITE 400 JACKSONVILLE FLORIDA 32256
(904) 443-0083 (MAIN)
(904) 443-0089 (FAX)
CERT. OF AUTHORIZATION NO. 9875
ENGINEER OF RECORD
IVORY L. WHITE, JR, P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

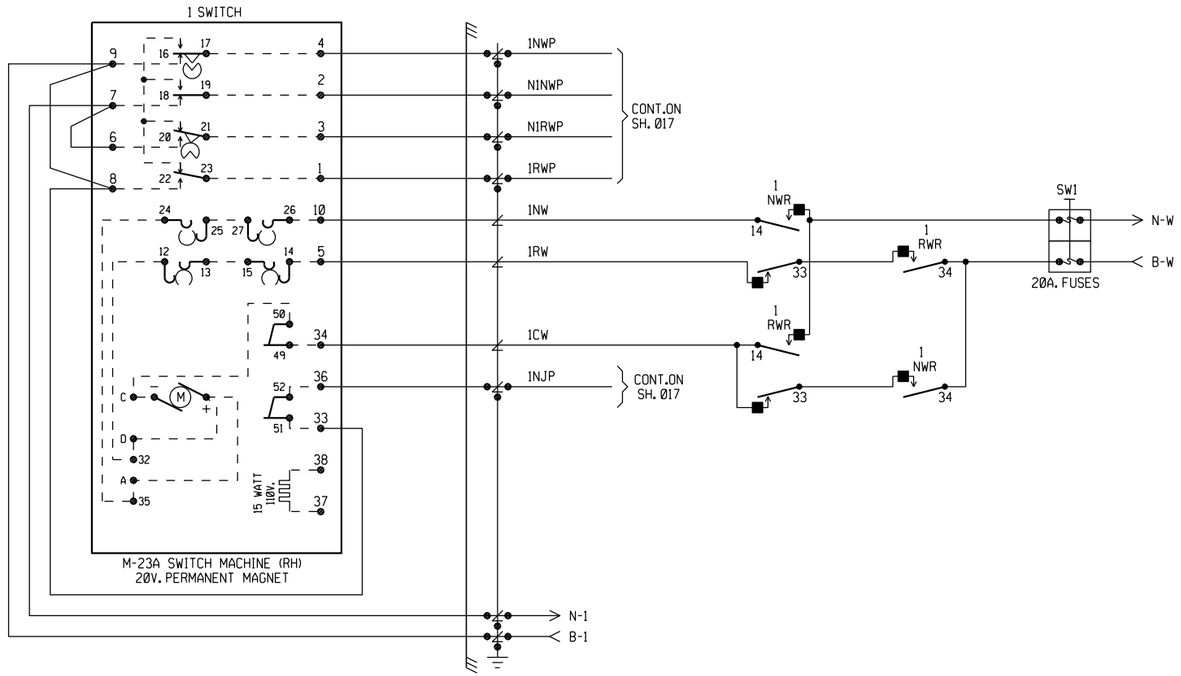
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

CP-801
ELECTROLOGIXS I/O CIRCUITS
M.P. A-800.57

SHEET NO.
513

$USER$ $DATE$ $TIME$ $FILE$



RIGHT HAND LAYOUT, RIGHT HAND POINT CLOSED.

NOTES:

1. ●⁄● = LPC-10512-1 (15A, BLUE LEAD) HYBRID LOW VOLTAGE ARRESTER, UNLESS NOTED.
2. ---- = INTERNAL CONNECTION

NEW SHEET

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REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

XORAIL
5011 GATE PARKWAY BUILDING 100
SUITE 400 JACKSONVILLE FLORIDA 32256
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(904) 443-0089 (FAX)
CERT. OF AUTHORIZATION NO. 9875
ENGINEER OF RECORD
IVORY L. WHITE, JR, P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

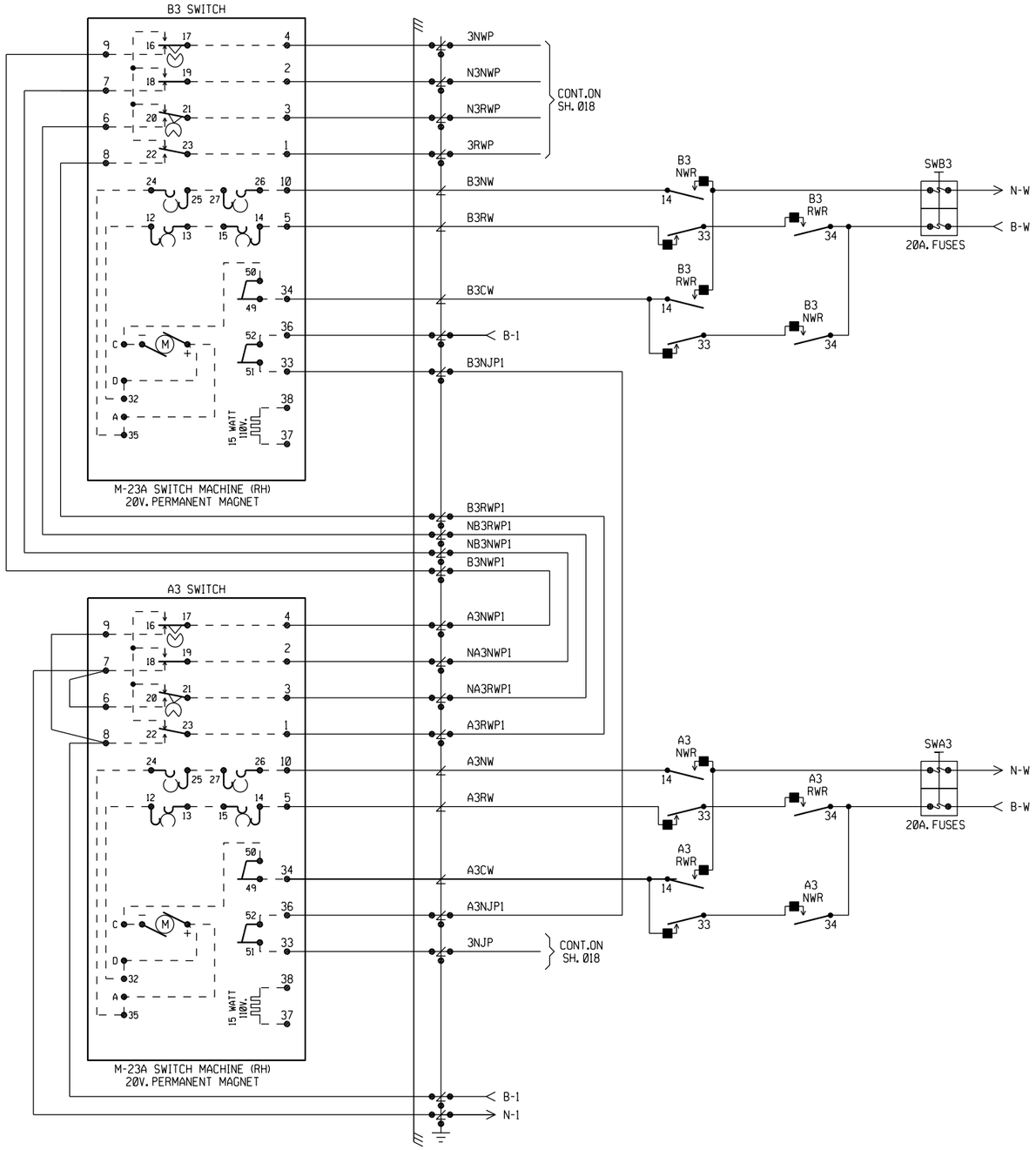
CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

CP-801
SWITCH 1 CIRCUITS
M.P. A-800.57

SHEET NO.
514

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80057.020



RIGHT HAND LAYOUTS, RIGHT HAND POINTS CLOSED.

NEW SHEET

NOTES:

1. ●/● = LPC-10512-1 (15A, BLUE LEAD) HYBRID LOW VOLTAGE ARRESTER, UNLESS NOTED.
2. ---- = INTERNAL CONNECTION

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.003, F.A.C.

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

XORAIL
5011 GATE PARKWAY BUILDING 100
SUITE 400 JACKSONVILLE FLORIDA 32256
(904) 443-0083 (MAIN)
(904) 443-0089 (FAX)
CERT. OF AUTHORIZATION NO. 9875
ENGINEER OF RECORD
IVORY L. WHITE, JR., P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

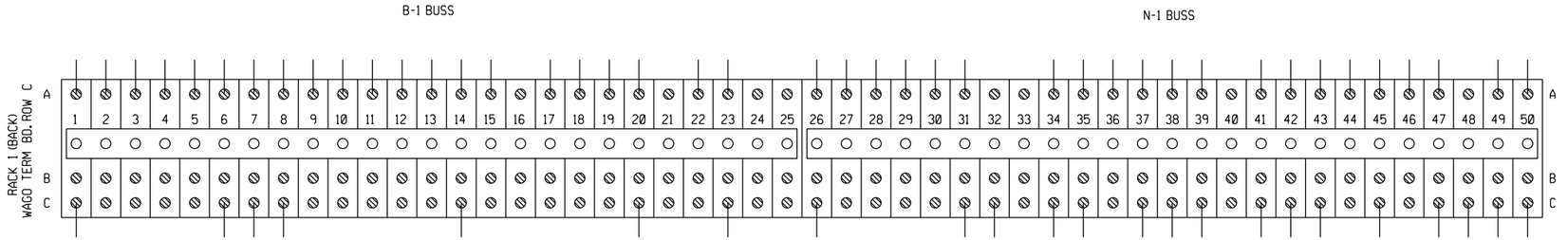
CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

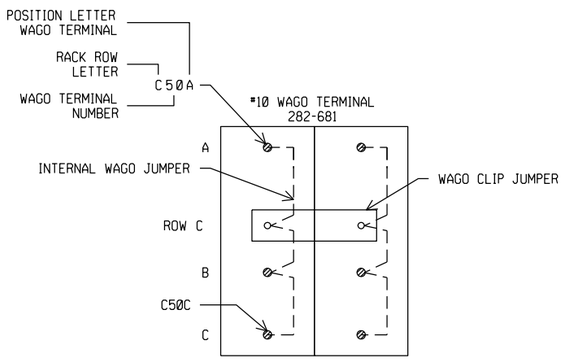
CP-801
SWITCH 3 CIRCUITS
M.P. A-800.57

SHEET NO.
515

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80057.021





NOTES:

1. C1A & C1C TO B-1 SUPPLY.
2. C26A & C26C TO N-1 SUPPLY.

NEW SHEET

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REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

XORAIL
5011 GATE PARKWAY BUILDING 100
SUITE 400 JACKSONVILLE FLORIDA 32256
(904) 443-0083 (MAIN)
(904) 443-0089 (FAX)

CERT. OF AUTHORIZATION NO. 9875

ENGINEER OF RECORD
IVORY L. WHITE, JR., P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

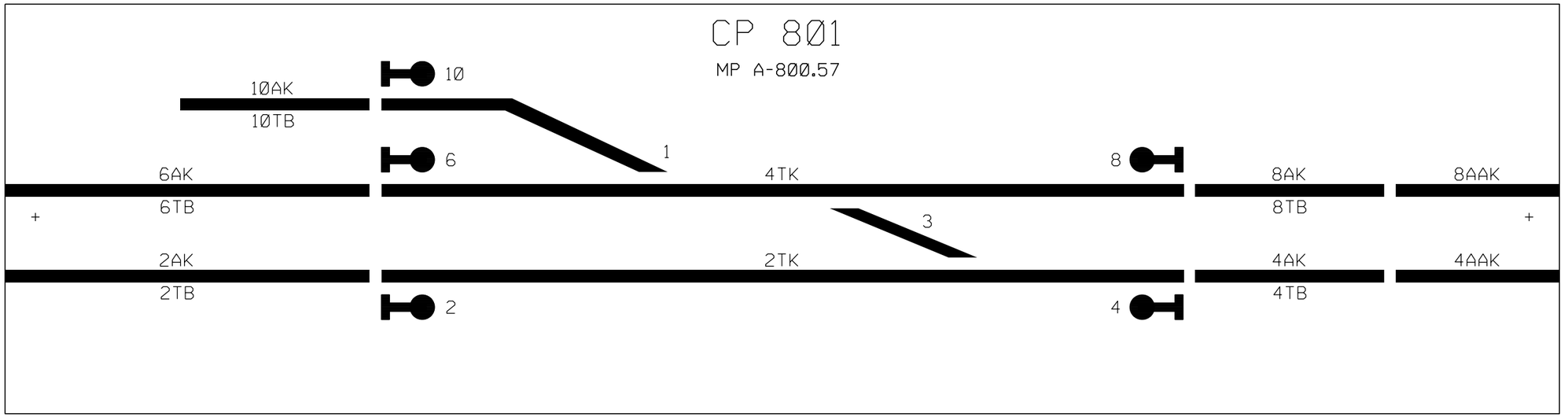
CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

CP-801
WAGO TERMINAL BOARD
M.P. A-800.57

SHEET NO. 516

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80057.022



NEW SHEET

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REVISIONS					
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XORAIL
5011 GATE PARKWAY BUILDING 100
SUITE 400 JACKSONVILLE FLORIDA 32256
(904) 443-0083 (MAIN)
(904) 443-0089 (FAX)

CERT. OF AUTHORIZATION NO. 9875

ENGINEER OF RECORD
IVORY L. WHITE, JR., P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

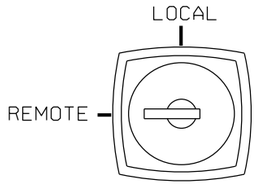
CP-801
LOCAL CONTROL PANEL LAYOUT
M.P. A-800.57

SHEET NO.
517

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80057.023

LOCAL CONTROL PANEL



1 NOR	1 REV	1 LK	1 NJK	3 NOR	3 REV	3 LK	3 NJK	2 SIG	4 SIG	2-4 STOP	6-10 SIG	8 SIG	6-8-10 STOP		
OFF															OFF

LAMP TEST
START

LOCAL CONTROL PANEL EXPANSION

2 TK	4 TK	2 AK	4 AK	6 AK	8 AK	10 AK	4 AAK		8 AAK	2 TB	4 TB	6 TB	8 TB	10 TB	
OFF															OFF

LOCAL CONTROL PANEL EXPANSION

		4 BDK		8 BDK	POK		GFDK		LOK		ECK		MOK	LSR RESET	IND ONLY
OFF															OFF

NEW SHEET

NOTE:

1. WHERE 'K' APPEARS AT END OF WORD ONLY INDICATION IS OPERATIVE.

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

XORAIL
5011 GATE PARKWAY BUILDING 100
SUITE 400 JACKSONVILLE FLORIDA 32256
(904) 443-0083 (MAIN)
(904) 443-0089 (FAX)

CERT. OF AUTHORIZATION NO. 9875

ENGINEER OF RECORD
IVORY L. WHITE, JR., P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

CP-801
LOCAL CONTROL & EXPANSION PANELS
M.P. A-800.57

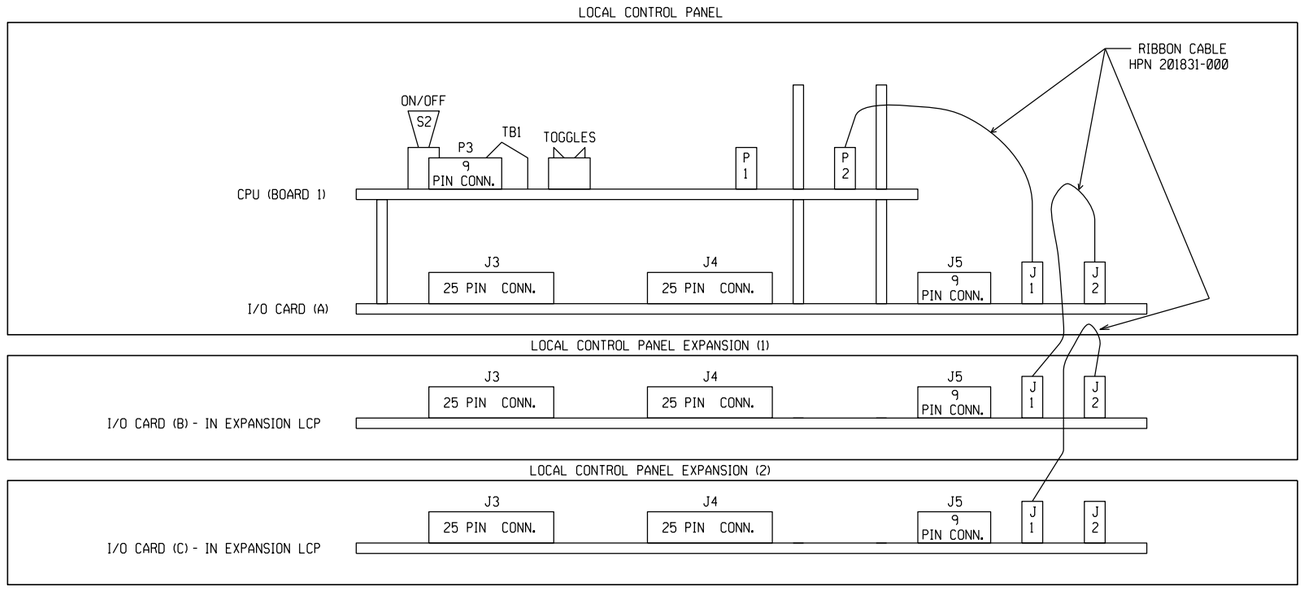
SHEET NO.
518

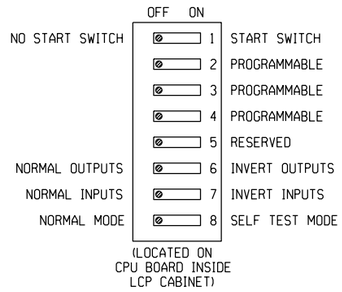
$USER$ $DATE$ $TIME$ $FILE$

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DRAWING NO.

G80057.024





NEW SHEET

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REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

XORAIL
5011 GATE PARKWAY BUILDING 100
SUITE 400 JACKSONVILLE FLORIDA 32256
(904) 443-0083 (MAIN)
(904) 443-0089 (FAX)

CERT. OF AUTHORIZATION NO. 9875

ENGINEER OF RECORD
IVORY L. WHITE, JR., P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

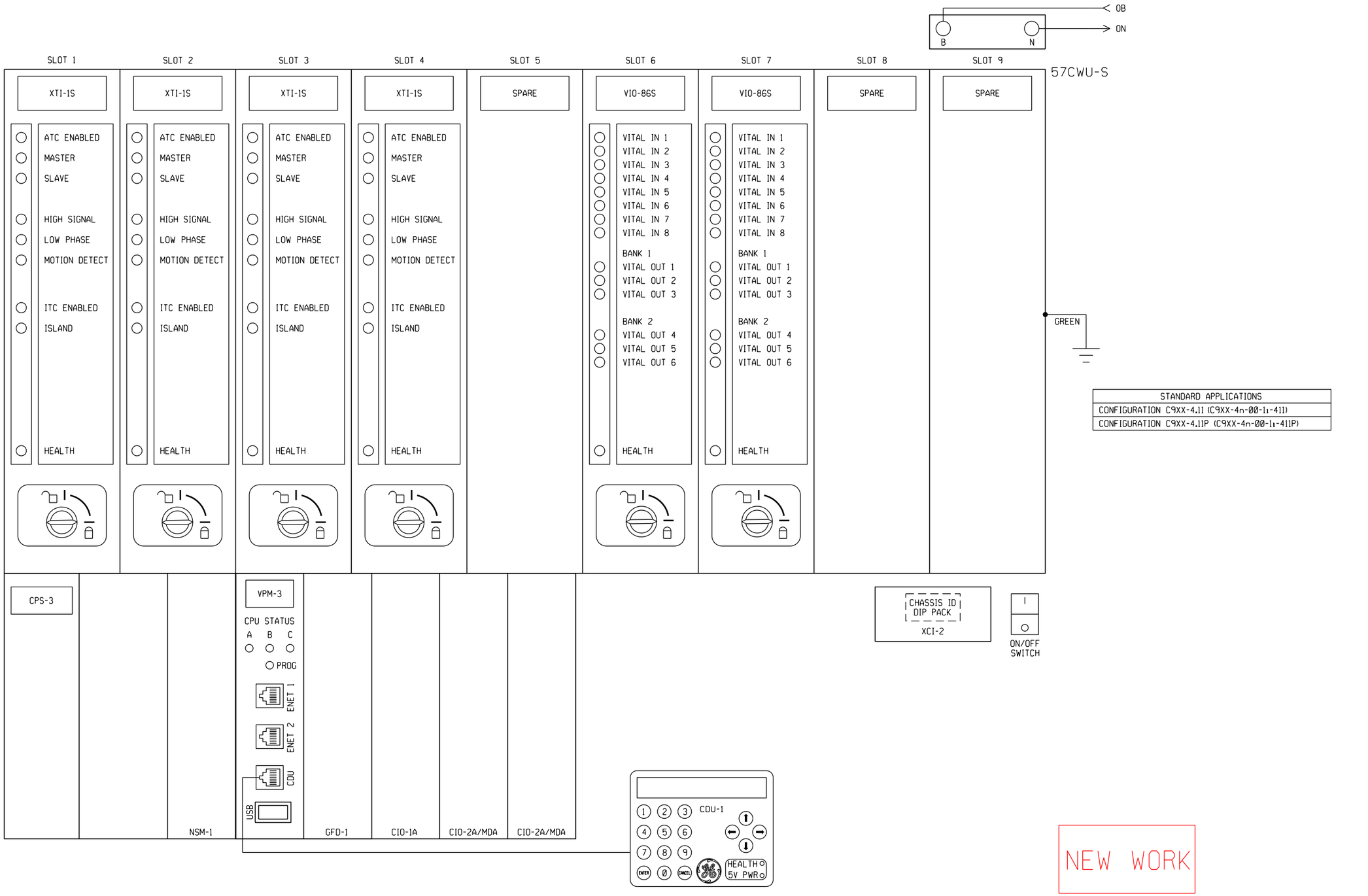
CP-801
LOCAL CONTROL & EXPANSION PANEL I/O CARDS
M.P. A-800.57

SHEET NO.

519

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80057.025



STANDARD APPLICATIONS
CONFIGURATION C9XX-4.11 (C9XX-4n-00-1₁-411)
CONFIGURATION C9XX-4.11P (C9XX-4n-00-1₁-411P)

NEW WORK

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REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

TRANSPORTATION
AECOM TECHNICAL SERVICES, Inc.
300 Colonial Center Pkwy, Suite 130
Lake Mary, FL. 32746
T 407.549.4200 F 407.549.4201
Certificate of Authorization No. 8115
www.aecom.com

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

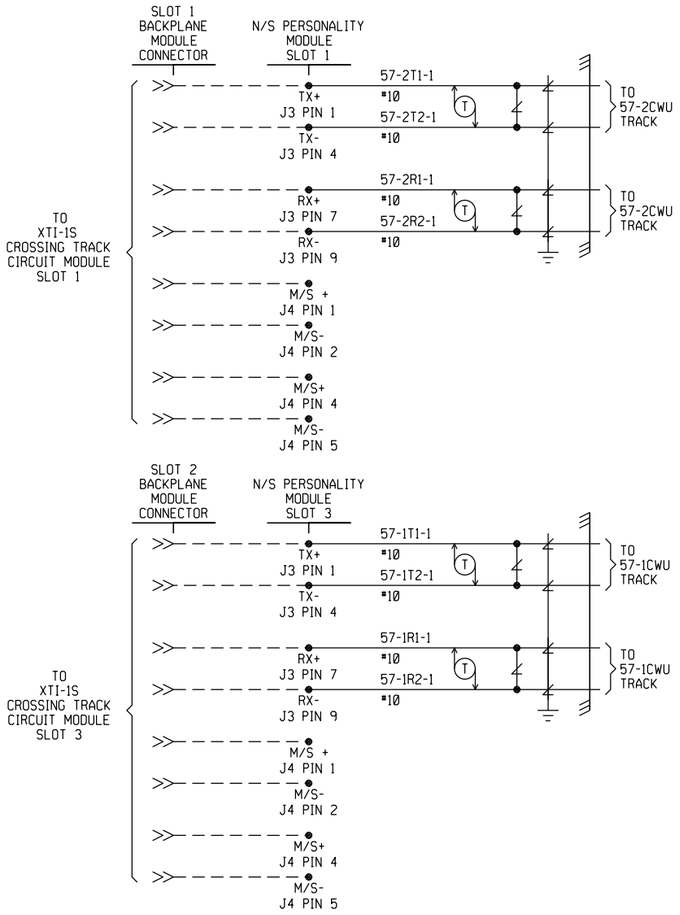
CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

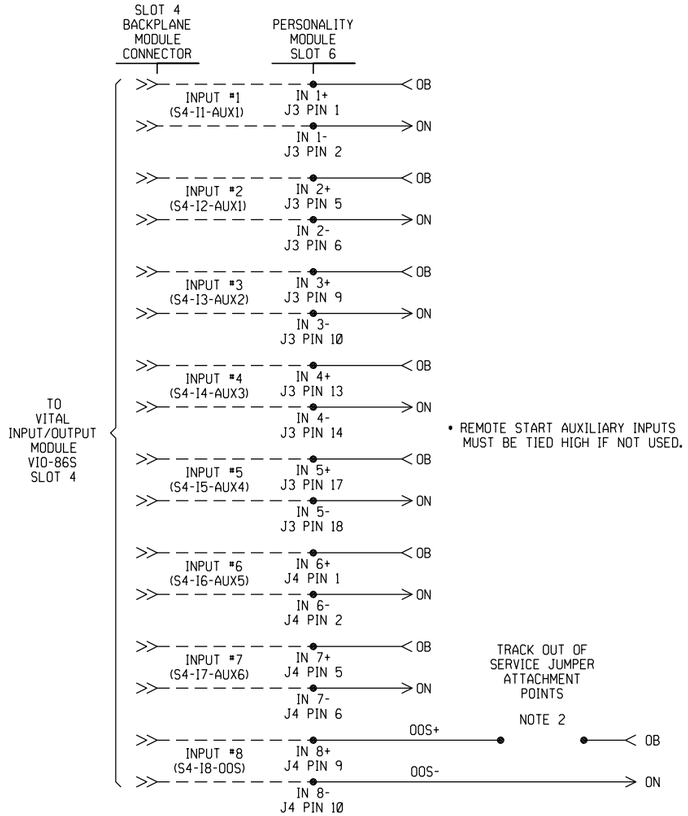
CP-801
XP4 MODULE LAYOUT

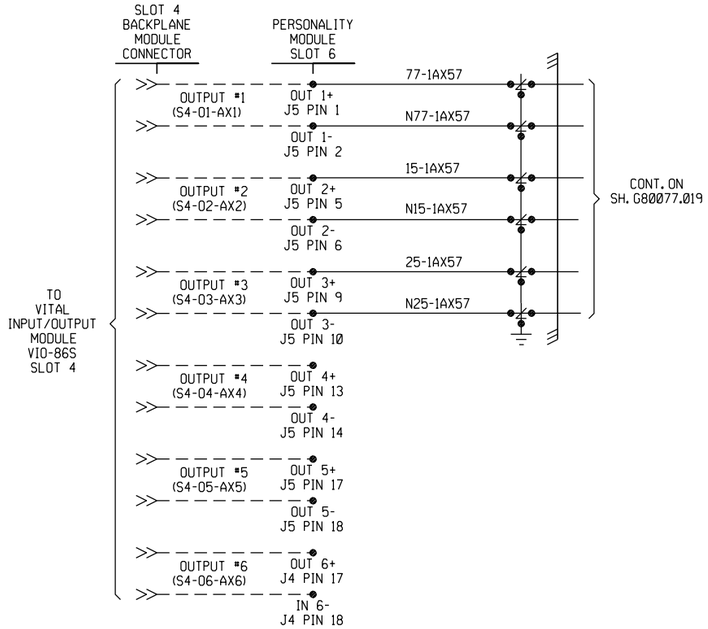
SHEET NO.
520

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80057.026







SLOT 6 I/O	
INPUT 1	POSITIVE CONTROL AUXILIARY INPUT 1 (AUX1)
INPUT 2	POSITIVE CONTROL AUXILIARY INPUT 1 (AUX1)
INPUT 3	POSITIVE CONTROL AUXILIARY INPUT 2 (AUX 2)
INPUT 4	POSITIVE CONTROL AUXILIARY INPUT 3 (AUX 3)
INPUT 5	POSITIVE CONTROL AUXILIARY INPUT 4 (AUX 4)
INPUT 6	POSITIVE CONTROL AUXILIARY INPUT 5 (AUX 5)
INPUT 7	POSITIVE CONTROL AUXILIARY INPUT 6 (AUX 6)
INPUT 8	OUT OF SERVICE JUMPER INPUT (OOS)
OUTPUT 1	AX1 OUTPUT
OUTPUT 2	AX2 OUTPUT (OPTIONAL)
OUTPUT 3	AX3 OUTPUT (OPTIONAL)
OUTPUT 4	AX4 OUTPUT (OPTIONAL)
OUTPUT 5	AX5 OUTPUT (OPTIONAL)
OUTPUT 6	AX6 OUTPUT (OPTIONAL)

NOTES
1. ALL WIRE THIS SHEET #16 AWG UNLESS NOTED.
2. APPROACH DISABLE JUMPER INPUT. THIS INPUT IS USED IN COMBINATION WITH THE SOFT APPROACH DISABLE ACCESSED THROUGH THE CDU-1 KEYPAD. BOTH BITS MUST BE HIGH TO DISABLE AN APPROACH. THE OPERATOR IS SOLELY RESPONSIBLE FOR CROSSING PROTECTION WHEN THE APPROACH DISABLE FUNCTION IS ACTIVATED.

NEW WORK

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REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

TRANSPORTATION
AECOM TECHNICAL SERVICES, Inc.
300 Colonial Center Pkwy, Suite 130
Lake Mary, FL. 32746
T 407.549.4200 F 407.549.4201
Certificate of Authorization No. 8115
www.aecom.com

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

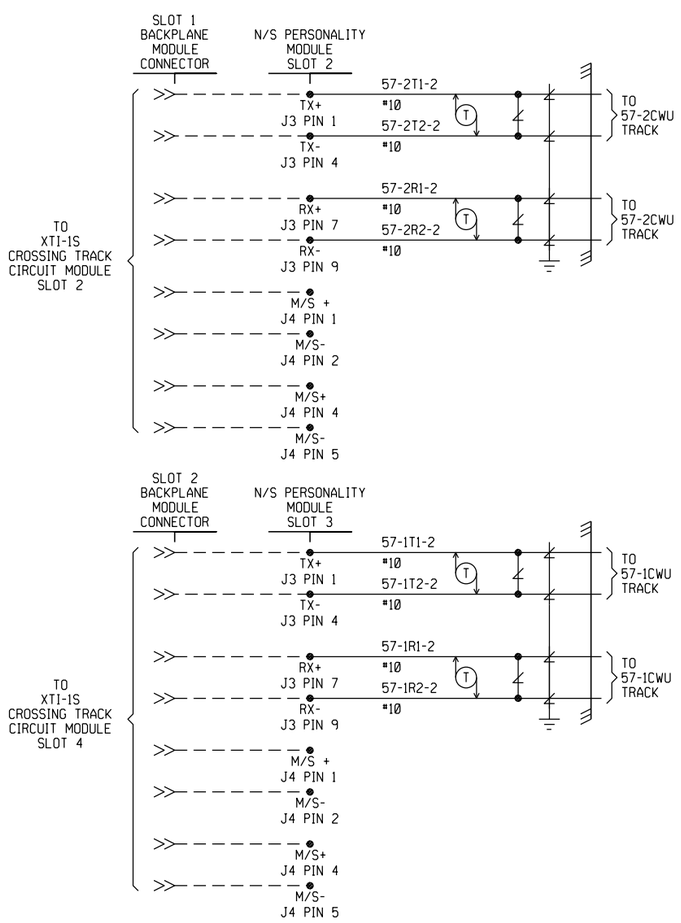
CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

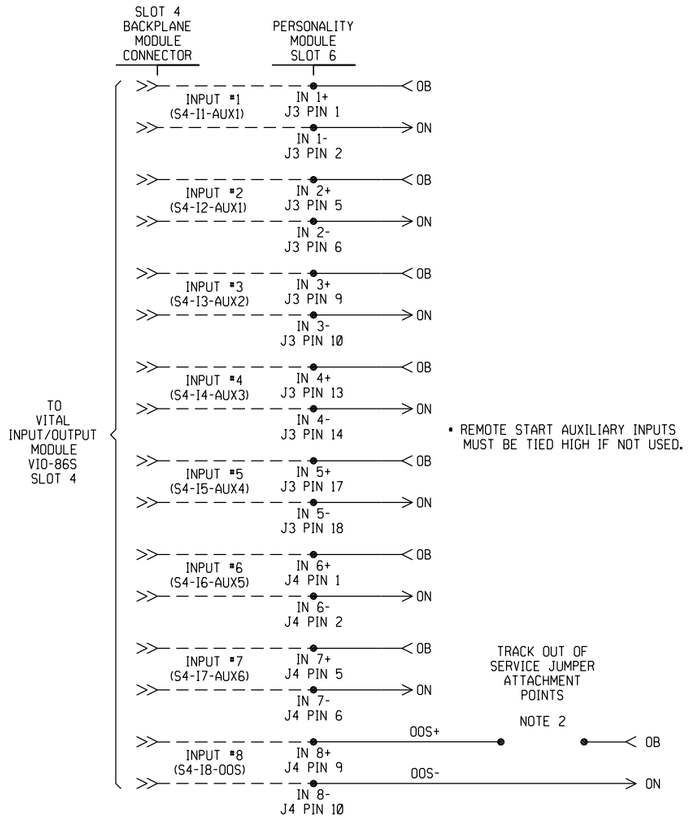
CP-801 (#1 MAIN) 4 SLOT REMOTE XP4 CROSSING DET & I/O CIRCUITS

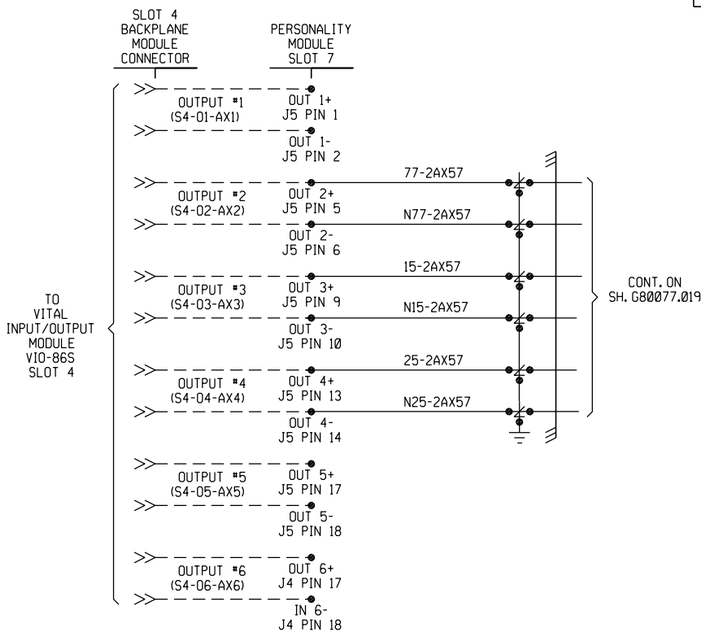
SHEET NO.
521

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80057.027







SLOT 7 I/O	
INPUT 1	POSITIVE CONTROL AUXILIARY INPUT 1 (AUX1)
INPUT 2	POSITIVE CONTROL AUXILIARY INPUT 1 (AUX1)
INPUT 3	POSITIVE CONTROL AUXILIARY INPUT 2 (AUX 2)
INPUT 4	POSITIVE CONTROL AUXILIARY INPUT 3 (AUX 3)
INPUT 5	POSITIVE CONTROL AUXILIARY INPUT 4 (AUX 4)
INPUT 6	POSITIVE CONTROL AUXILIARY INPUT 5 (AUX 5)
INPUT 7	POSITIVE CONTROL AUXILIARY INPUT 6 (AUX 6)
INPUT 8	OUT OF SERVICE JUMPER INPUT (OOS)
OUTPUT 1	AX1 OUTPUT
OUTPUT 2	AX2 OUTPUT (OPTIONAL)
OUTPUT 3	AX3 OUTPUT (OPTIONAL)
OUTPUT 4	AX4 OUTPUT (OPTIONAL)
OUTPUT 5	AX5 OUTPUT (OPTIONAL)
OUTPUT 6	AX6 OUTPUT (OPTIONAL)

NOTES
1. ALL WIRE THIS SHEET #16 AWG UNLESS NOTED.
2. APPROACH DISABLE JUMPER INPUT. THIS INPUT IS USED IN COMBINATION WITH THE SOFT APPROACH DISABLE ACCESSED THROUGH THE CDU-1 KEYPAD. BOTH BITS MUST BE HIGH TO DISABLE AN APPROACH. THE OPERATOR IS SOLELY RESPONSIBLE FOR CROSSING PROTECTION WHEN THE APPROACH DISABLE FUNCTION IS ACTIVATED.

NEW WORK

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REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

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Lake Mary, FL. 32746
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www.aecom.com

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

CP-801 (#2 MAIN) 4 SLOT REMOTE XP4 CROSSING DET & I/O CIRCUITS

SHEET NO. 522

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80057.028

	MDR1				MDR2				MDR3				MDR4			
NAME	77-1AX57-1				77-1AX57-2				77-2AX57-1				77-2AX57-2			
WARNING TIME	34				34				34				34			
CW/MD	CW				CW				CW				CW			
AP TIME(PREEMPT)	NA				NA				NA				NA			
CWE-WT	80				80				80				80			
AUX RECOVERY DELAY	0				0				0				0			
	TK1	TK2	TK3	TK4	TK1	TK2	TK3	TK4	TK1	TK2	TK3	TK4	TK1	TK2	TK3	TK4
TRACK ASSIGNED	ASSIGNED	NOT ASSIGNED	NOT ASSIGNED	NOT ASSIGNED	NOT ASSIGNED	NOT ASSIGNED	ASSIGNED	NOT ASSIGNED	NOT ASSIGNED	ASSIGNED	NOT ASSIGNED	NOT ASSIGNED	NOT ASSIGNED	NOT ASSIGNED	NOT ASSIGNED	ASSIGNED
OFFSET DISTANCE	694′	NA	NA	NA	NA	NA	1304′	NA	NA	694′	NA	NA	NA	NA	NA	1304′
MD RESTART	0•	NA	NA	NA	NA	NA	0•	NA	NA	0•	NA	NA	NA	NA	NA	0•
SUDDEN SHUNT ZONE	0•	NA	NA	NA	NA	NA	0•	NA	NA	0•	NA	NA	NA	NA	NA	0•
POSITIVE START – PSEN	DISABLE	NA	NA	NA	NA	NA	DISABLE	NA	NA	DISABLE	NA	NA	NA	NA	NA	DISABLE
POSITIVE START – PSRX	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POSITIVE START – PST	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POST JOINT DETECT – PJEN	DISABLE	NA	NA	NA	NA	NA	DISABLE	NA	NA	DISABLE	NA	NA	NA	NA	NA	DISABLE
POST JOINT DETECT – PJRX	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POST JOINT DETECT – PJDT	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

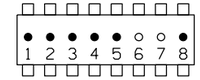
	MDR5				MDR6				MDR7				MDR8			
NAME	15-1AX57-1				15-1AX57-2				15-2AX57-1				15-2AX57-2			
WARNING TIME	33				33				33				33			
CW/MD	CW				CW				CW				CW			
AP TIME(PREEMPT)	NA				NA				NA				NA			
CWE-WT	80				80				80				80			
AUX RECOVERY DELAY	0				0				0				0			
	TK1	TK2	TK3	TK4	TK1	TK2	TK3	TK4	TK1	TK2	TK3	TK4	TK1	TK2	TK3	TK4
TRACK ASSIGNED	ASSIGNED	NOT ASSIGNED	NOT ASSIGNED	NOT ASSIGNED	NOT ASSIGNED	NOT ASSIGNED	ASSIGNED	NOT ASSIGNED	NOT ASSIGNED	ASSIGNED	NOT ASSIGNED	NOT ASSIGNED	NOT ASSIGNED	NOT ASSIGNED	NOT ASSIGNED	ASSIGNED
OFFSET DISTANCE	2053′	NA	NA	NA	NA	NA	2663′	NA	NA	2053′	NA	NA	NA	NA	NA	2663′
MD RESTART	0•	NA	NA	NA	NA	NA	0•	NA	NA	0•	NA	NA	NA	NA	NA	0•
SUDDEN SHUNT ZONE	0•	NA	NA	NA	NA	NA	0•	NA	NA	0•	NA	NA	NA	NA	NA	0•
POSITIVE START – PSEN	DISABLE	NA	NA	NA	NA	NA	DISABLE	NA	NA	DISABLE	NA	NA	NA	NA	NA	DISABLE
POSITIVE START – PSRX	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POSITIVE START – PST	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POST JOINT DETECT – PJEN	DISABLE	NA	NA	NA	NA	NA	DISABLE	NA	NA	DISABLE	NA	NA	NA	NA	NA	DISABLE
POST JOINT DETECT – PJRX	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POST JOINT DETECT – PJDT	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

	MDR9				MDR10				MDR11				MDR12			
NAME	25-1AX57-1				25-1AX57-2				25-2AX57-1				25-2AX57-2			
WARNING TIME	26				26				26				26			
CW/MD	CW				CW				CW				CW			
AP TIME(PREEMPT)	NA				NA				NA				NA			
CWE-WT	80				80				80				80			
AUX RECOVERY DELAY	0				0				0				0			
	TK1	TK2	TK3	TK4	TK1	TK2	TK3	TK4	TK1	TK2	TK3	TK4	TK1	TK2	TK3	TK4
TRACK ASSIGNED	ASSIGNED	NOT ASSIGNED	NOT ASSIGNED	NOT ASSIGNED	NOT ASSIGNED	NOT ASSIGNED	ASSIGNED	NOT ASSIGNED	NOT ASSIGNED	ASSIGNED	NOT ASSIGNED	NOT ASSIGNED	NOT ASSIGNED	NOT ASSIGNED	NOT ASSIGNED	ASSIGNED
OFFSET DISTANCE	2723′	NA	NA	NA	NA	NA	3333′	NA	NA	2723′	NA	NA	NA	NA	NA	3333′
MD RESTART	0•	NA	NA	NA	NA	NA	0•	NA	NA	0•	NA	NA	NA	NA	NA	0•
SUDDEN SHUNT ZONE	0•	NA	NA	NA	NA	NA	0•	NA	NA	0•	NA	NA	NA	NA	NA	0•
POSITIVE START – PSEN	DISABLE	NA	NA	NA	NA	NA	DISABLE	NA	NA	DISABLE	NA	NA	NA	NA	NA	DISABLE
POSITIVE START – PSRX	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POSITIVE START – PST	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POST JOINT DETECT – PJEN	DISABLE	NA	NA	NA	NA	NA	DISABLE	NA	NA	DISABLE	NA	NA	NA	NA	NA	DISABLE
POST JOINT DETECT – PJRX	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POST JOINT DETECT – PJDT	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NOTES:
• = FIELD ADJUSTMENT
NA = NOT APPLICABLE

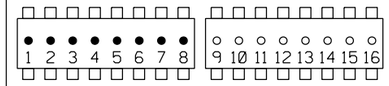
APPLICATION SOFTWARE INFORMATION	
NAME	XXXXXXXX
REV.	1.0
CHECKSUM	XXXX
CRC	XXXX

CHASSIS ID DIP SHUNTS
LOCATED ON BACKPLANE
UNDERNEATH XCI-2 MODULE



○ = TAB INTACT (MADE)
● = TAB PUNCHED OUT (BROKEN)

VITAL SELECTION DIP SHUNTS
LOCATED INSIDE XCI-2 MODULE
UNDERNEATH EPROM



○ = TAB INTACT (MADE)
● = TAB PUNCHED OUT (BROKEN)

BASIC TRACK SETUP				
	TRACK 1	TRACK 2	TRACK 3	TRACK 4
FREQUENCY	790HZ	790HZ	86HZ	86HZ
MASTER/SLAVE	MASTER	MASTER	MASTER	MASTER
RX ADJUST	100 •	100 •	100 •	100 •
TCA	•	•	•	•
DIRECTION MODE	UNI	UNI	UNI	UNI
LIA	•	•	•	•
ADVANCED APPROACH	•	•	•	•
NBS COMP RX	•	•	•	•
TRK ISLAND ASSIGN	NA	NA	NA	NA
APPROACH LENGTH	610	610	3378	3378
AUTO RX	ENABLE	ENABLE	ENABLE	ENABLE

ADVANCED TRACK SETUP					
		TRACK 1	TRACK 2	TRACK 3	TRACK 4
MOTION DET TIMER	MDEN	DISABLE	DISABLE	DISABLE	DISABLE
	MDTT	10 MIN	10 MIN	10 MIN	10 MIN
FALSE SHUNT	FSEN	DISABLE	DISABLE	DISABLE	DISABLE
	FSRX	NA	NA	NA	NA
	FST	NA	NA	NA	NA
APPROACH RELEASE	AREN	DISABLE	DISABLE	DISABLE	DISABLE
	ARRX	NA	NA	NA	NA
	ART	NA	NA	NA	NA
LOS TIME		16 SEC	16 SEC	16 SEC	16 SEC
IJ-LOS TIME		5 SEC	5 SEC	5 SEC	5 SEC
NRML_SHRT_VRYSHRT		•	•	•	•

ISLAND SETUP				
	TRACK 1	TRACK 2	TRACK 3	TRACK 4
ENABLE/DISABLE	DISABLE	DISABLE	DISABLE	DISABLE
FREQUENCY	NA	NA	NA	NA
LOSS OF SHUNT	NA	NA	NA	NA
FAULT DELAY	NA	NA	NA	NA

VPM3 ETHERNET SETUP	
	IP ADDRESS
ETHERNET PORT 1 (TOP)	192.168.0.11
ETHERNET PORT 2 (BOTTOM)	192.168.1.12

DESIGN NOTE:

1. MDR1 & MDR2 MUST BE COMBINED IN SERIES IN THE XP4 SOFTWARE TO DRIVE A SINGLE 77-1AX57 OUTPUT.

2. MDR3 & MDR4 MUST BE COMBINED IN SERIES IN THE XP4 SOFTWARE TO DRIVE A SINGLE 77-2AX57 OUTPUT.

3. MDR5 & MDR6 MUST BE COMBINED IN SERIES IN THE XP4 SOFTWARE TO DRIVE A SINGLE 15-1AX57 OUTPUT.

4. MDR7 & MDR8 MUST BE COMBINED IN SERIES IN THE XP4 SOFTWARE TO DRIVE A SINGLE 15-2AX57 OUTPUT.

5. MDR9 & MDR10 MUST BE COMBINED IN SERIES IN THE XP4 SOFTWARE TO DRIVE A SINGLE 25-1AX57 OUTPUT.

6. MDR11 & MDR12 MUST BE COMBINED IN SERIES IN THE XP4 SOFTWARE TO DRIVE A SINGLE 25-2AX57 OUTPUT.

NEW SHEET

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REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

TRANSPORTATION
AECOM TECHNICAL SERVICES, Inc.
300 Colonial Center Pkwy, Suite 130
Lake Mary, FL. 32746
T 407.549.4200 F 407.549.4201
Certificate of Authorization No. 8115
www.aecom.com

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

CP-801
XP4 UNIT SETUP

SHEET NO.
523

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80059.001V

INDEX

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T-60032	TRACK AND SIGNAL PLAN	⊠								
T-60033	MICROLOK II I/O ASSIGNMENTS	⊠								
T-60034	OFFICE CONTROL AND INDICATION ASSIGNMENTS	⊠								
T-60035	PROGRAM CONFIGURATION	⊠	⊠							
T-60036	POWER DISTRIBUTION	⊠	⊠							
T-60037	RACK 1 LAYOUT	⊠								
T-60038	CARDFILE PCB KEYING	⊠								
T-60039	PCB ADDRESSING	⊠								
T-60040	CPU AND LCP CIRCUITS	⊠								
T-60041	RADIO CIRCUITS	⊠	⊠							
T-60042	MICROLOK II TRACK CIRCUITS	⊠								
T-60043	MICROLOK II I/O CIRCUITS	⊠								
T-60044	MICROLOK II I/O CIRCUITS	⊠								
T-60045	SIGNAL LIGHTING CIRCUITS	⊠								
T-60046	SIGNAL LIGHTING CIRCUITS	⊠								
T-60047	SWITCH CIRCUITS	⊠								
T-60048	WAGO TERMINAL BOARDS	⊠								
T-60049	LOCAL PANEL FACEPLATE	⊠								
T-60050	LOCAL CONTROL AND EXPANSION PANEL	⊠								
T-60051	LCP AND EXPANSION I/O MODULES	⊠								
T-60052	EQUIPMENT RACK 2 LAYOUT	⊠								
T-60053	XP4 UNIT AND COMM	⊠								
T-60054	XP4 UNIT XT1-1S	⊠								
T-60055	RACK 2 WAGO	⊠								
T-60056	XP4 UNIT SETUP	⊠								
T-60057	EXTERNAL CIRCUITS	⊠								

⊠ = DESIGN COMPLETED

⊠ = REVISION COMPLETED

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REVISIONS

REV.	DATE	DESCRIPTION	REV.	DATE	DESCRIPTION
1	12/10/13	IN-SERVICE PER SUNRAIL, FDOT.			

XORAIL
5011 GATE PARKWAY BUILDING 100
SUITE 400 JACKSONVILLE FLORIDA 32256
(904) 443-0083 (MAIN)
(904) 443-0089 (FAX)
CERT. OF AUTHORIZATION NO. 9875
ENGINEER OF RECORD
IVORY L. WHITE, JR, P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

TITLE, NOTES, INDEX & REVISIONS
M.P. A-800.59

SHEET NO.
524

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80059.002V

ETC 41995+57
SIGS 41998+57
PS 42001+14 T.O.#10
SIG 42001+64

NORTH TO JACKSONVILLE
FAIRWAY WOODS BLVD.
41988+34
DAX START

8006ZT [2ZT]
JOINS MP 799.69 SH. T-60001
6AT
86 HZ
2T
A2T
970 HZ
[4ZT] A8032ZT
JOINS MP 800.77 SH. T-60072
A1
DTL #1
DTL #2
59T1-1 59R1-1 59T2-1 59R2-1 — TO 59 CWU-1
6ARB1 6ARN — TO 6A TR
2ZT N2ZT — TO 2 TIP
A2RB1 A2RN — TO A2 TR
2RB1 2RN — TO 2 TR
59T1-2 59R1-2 59T2-2 59R2-2 — TO 59 CWU-2
2TB1 2TN — TO 2 TCU
4ZT N4ZT — TO 4 TIP

SPARE SPARE 2AGE 2AYE 2ARE 2AEB 2BGE 2BLWE 2BRE 2BEB

SPARE SPARE SPARE SPARE SPARE SPARE 1NWP N1NWP N1RWP 1RWP 1NJP N-1 B-1 1NW 1RW 1CW SPARE SPARE SPARE — #6

8'X 8'

10 COND. #9 U.G.
14 #6 U.G. TRK.
(2) 7 COND. #9 U.G.
19 COND. U.G.
8 #6 U.G. TRK.
7 COND. & 10 COND. #9 U.G.
7 COND. #14 U.G.
3 COND. #6 W/GND.
(150')

CONT. ON SH. T-60072 MP 800.77

SPARE SPARE 6CGE 6CYE 6CLWE 6CRE 6CEB — SPARE SPARE SPARE 6ARE 6AEB 6BRE 6BEB

BX120-1 BX120-2 NX120 GND.

77AX59 N77AX59 15AX59 N15AX59 3 SP.

SPARE SPARE SPARE 4AGE 4AYE 4ARE 4AEB 4BGE 4BRE 4BEB — SPARE SPARE SPARE 4CGE 4CLWE 4CRE 4CEB

DTL #1

1 EA. FSS-1/2F 970 HZ
HPN 250849-005
1 EA. FSS 750'
HPN 227032-002

DTL #2

1 EA SAF M.F. NBS 86HZ
SAF 62775-8621
1 EA GCP STI 3600'
SAF 8V617-3600
1 EA SAF M.F. NBS 211HZ
SAF 62775-8621
1 EA GCP STI 1600'
SAF 8V617-1600

NOTES:

1. ( ) = LOCATION OF HOUSE
2. [ ] = TAGGING PURPOSE ONLY
3. FLASHING ASPECTS ARE NOT SHOWN ON S01, SHOWN ONLY ON ASPECT CHART AND PROFILE.

THIS SHEET VOID

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REVISIONS

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XORAIL
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IVORY L. WHITE, JR., P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

S.E. STANTON TRACK & SIGNAL PLAN

M.P. A-800.59

SHEET NO. 525

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80059.003V

RACK	CARD NO.	EC OUTPUTS A	EC OUTPUTS B
1	G12	2ZT	NA
	G14	4ZT	NA

RACK	CARD NO.	VITAL LAMP DRIVER OUTPUT BITS 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	G7																
	G8																
	G9	2AGE	2AYE	2ARE	(2BGE)	2BRE	SPARE	2BLWE	SPARE	6ARE	SPARE	SPARE	6BRE	6CGE	6CYE	6CLWE	6CRE
	G10	4AGE	4AYE	4ARE	4BGE	SPARE	4BRE	4CGE	SPARE	4CLWE	4CRE	SPARE	SPARE	SPARE	SPARE	SPARE	SPARE
	G11																
	G12																
	G13																

MIXED VITAL I/O BITS — OUTPUTS 1	2	3	4	5	6	7	8	INPUTS 1	2	3	4	5	6	7	8
1NWR	1RWR	SPARE	SPARE	SPARE	SPARE	SPARE	SPARE	1NWPR	1RWPR	1 WCBPR	1 NJPR	AINWP FUTURE USE	6ATR	2TPR	POPR
SPARE	SPARE	SPARE	SPARE	SPARE	SPARE	SPARE	SPARE	SMOKE	DOOR OPEN	LIGHT ON	OVER RIDE	SPARE	SPARE	SPARE	SPARE

GEN II CPU - LED INDICATIONS	
1	OFFICELINK
2	HEALTH
3	
4	
5	
6	
7	
8	

MLK II CPU - LED INDICATIONS	
1	2LSR
2	4LSR
3	6LSR
4	2FSR (2TERSR)
5	4FSR (4TERSR)
6	
7	
8	

( ) = FLASH

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REVISIONS

REV.	DATE	DESCRIPTION	REV.	DATE	DESCRIPTION
1	12/10/13	IN-SERVICE PER SUNRAIL, FDOT.			

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P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

S.E. STANTON MP 800.59 MICROLOK II I/O ASSIGNMENTS

SHEET NO.
526

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80059.004V

ADDRESS TYPE	RAILROAD ID NUMBER			CODE LINE ADDRESS			STATION ADDRESS			SUB DEVICE		INTERNAL DEVICE	
1	2	3	4	5	6	7	8	9	10	11	12	13	14
7	6	A	5	5	2	7	A	3	2	0	2	0	2

OFFICE TO COMMUNICATION MODULE
SERIAL COMMUNICATION BITS

CONTROLS FROM OFFICE

WORD	1	2	3	4	5	6	7	8
1	C1 NWS	C1 RWS			C2-6 GS	C4 GS	C2-4-6 STOP	
2	C2 TBS	C2 TBSO	C4 TBS	C4 TBSO	C6 TBS	C6 TBSO		
3							FLTS	FLTSO
4	CECS	CECSO	MOAS	MOASO				

INDICATIONS TO OFFICE

WORD	1	2	3	4	5	6	7	8
1	1 NWK	1 RWK	1 LK	1 NJK	2-6 GK	4 GK	2-4-6 TEK	
2	2 TK				6 AK			
3	2 TBK	4 TBK	6 TBK				POK	LOK
4	(1) ECK	FLTK	SMOKE	MOK				

DESIGN NOTES:

1. X = WILL INDICATE SITE SPECIFIC NOMENCLATURE.
2. Y = CODE LINE ADDRESS
3. Z = STATION ADDRESS

NOTES:
1. (1) INTRUSION ALARM INDICATION.

THIS SHEET VOID

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REVISIONS

REV.	DATE	DESCRIPTION	REV.	DATE	DESCRIPTION
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P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

OFFICE CONTROL AND INDICATION ASSIGNMENTS

M.P. A-800.59

SHEET NO.
527

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80059.005V

MICROLOK II CONFIGURATIONS SHEET

LOCATION: S.E. STANTON

MILE POST: MP 800.59

	USED	
BINARY 0	X	PROG ID1
BINARY 2		PROG ID2
BINARY 4		PROG ID3

THIS TABLE SHOWS THE VALUES TO BE ENTERED DURING SYSTEM CONFIGURATION	VALUE TO ENTER	
GENERAL		
EVENT CLASS LOGGING THRESHOLDS (ALL):	1	DEFAULT SETTINGS
LOGIC TIME-OUT:	5,000 MS	
DEBUG PORT ADDRESS:	1	
DEBUG PORT SPEED:	9,600 BAUD	
PASSWORD:	MICROLOKII	
TK1 SIDE A LENGTH: (MASTER)	3,701'	(2ZT)
TK2 SIDE A LENGTH: (MASTER)	7,406'	(4ZT)

GENISYS II CARD ATCS ADDRESSING			
PART I		PART II	
ATCS MCP	76A5527A32A1A1	STATION CONFIG	ENABLE
ATCS HEALTH	AAAAAAAAAAAAA	STATION ADDRESS	76A5527A32A2A2
ATCS DEFAULT HOST	26A5A15527	HOST ADDRESS	26A5A15527
MLK II APP	GEN II APP	MLK II EXEC	GEN II EXEC
PROG NAME: ML_CP_SESTANTON.RO	NV_CP_SESTANTON.RO	MLKIIEXEC V850 CS4E98 CRC2FD6.SR	GEN11_V740_CS8C1F_CRC8C12.SR
CRC: 48E5	E68D	79DF	CD79
CK SUM: CCEE	D48E	ED60	EC0E

CARD CONFIGURATION				
CARD	GENERAL ENABLE	SIDE A ENABLE	SIDE B ENABLE	
SLOT 7 (IN 8 OUT 8)	X			
SLOT 8 (IN 8 OUT 8)	X			
SLOT 9 (LAMP 16)	X			
SLOT 10 (LAMP 16)	X			
SLOT 12 (MX TRACK)				NOT USED
SLOT 14 (MX TRACK)				NOT USED
EC SLOT 12 (E CODE)	X	X		
EC SLOT 14 (E CODE)	X	X		
SLOT 20 (INPUT 16)				NOT USED
	LINK ENABLE	POINT TO POINT		
GEN II (GENISYS)	X	X		
COMMS (MICROLOK)	X	X		

TIMERS		
	MILL SECONDS	
2TER	552,000	
4TER	364,000	
6TER	70,000	
1WOTER	30,000	✕✕
2T LOS	15,000	

✕✕ = USE 30,000 FOR LV MACHINES

ADDRESS JUMPERS								
CARD		1	2	3	4	5	6	
SLOT 7 (IN 8 OUT 8)	CLOSE						X	
	OPEN	X	X	X	X	X		
SLOT 8 (IN 8 OUT 8)	CLOSE		X				X	
	OPEN	X		X	X	X		
SLOT 9 (LAMP 16)	CLOSE							
	OPEN	X	X	X	X	X	X	
SLOT 10 (LAMP 16)	CLOSE		X					
	OPEN	X		X	X	X	X	
SLOT 12 (MX TRACK)	CLOSE							NOT USED
	OPEN							
SLOT 14 (MX TRACK)	CLOSE							NOT USED
	OPEN							
SLOT 12 (ECODE TRACK)	CLOSE			X			X	
	OPEN	X	X		X	X		
SLOT 14 (ECODE TRACK)	CLOSE		X	X			X	
	OPEN	X			X	X		
SLOT 20 (INPUT 16)	CLOSE							NOT USED
	OPEN							

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REVISIONS					
REV.	DATE	DESCRIPTION	REV.	DATE	DESCRIPTION
1	12/10/13	IN-SERVICE PER SUNRAIL, FDOT.			

XORAIL
5011 GATE PARKWAY BUILDING 100
SUITE 400 JACKSONVILLE FLORIDA 32256
(904) 443-0083 (MAIN)
(904) 443-0089 (FAX)
CERT. OF AUTHORIZATION NO. 9875
ENGINEER OF RECORD
IVORY L. WHITE, JR, P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

S.E. STANTON
PROGRAM CONFIGURATION
M.P. A-800.59

SHEET NO.
528

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
C80059.006V

MICROLOK II CONTROLLER RACK #1

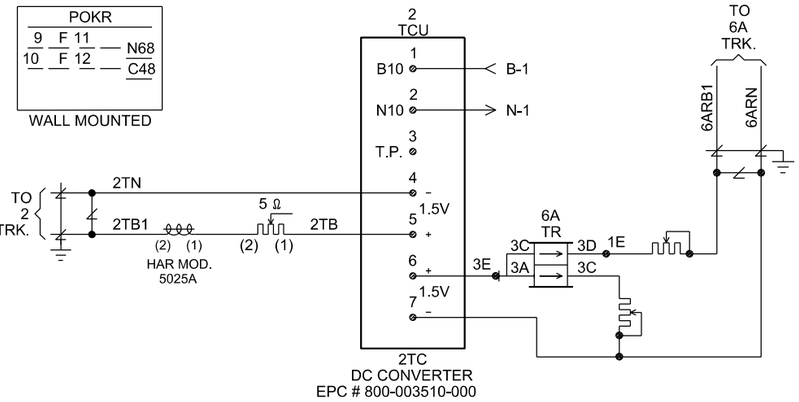
1NWR			1RWR			VCOR			VCOPR			2TR			A2TR			6ATR		
13	B	B45	13	B	B45	12	FB	B43	12	F	B77	12		B51	12		B51	12	B	B51
14	F	C30	14	F	C30	15	FB	C30	15	F	C30	15		C30	15		C30	15		C30
33	B		33	B		22			22			22			22			22	B	
34	F		34	F		23	F		25			23	F		23	F		23		
						25	F		32	F		25	F		25	F		25		
						32	FB		35	F		32			32			32		
						35						35			35			35		

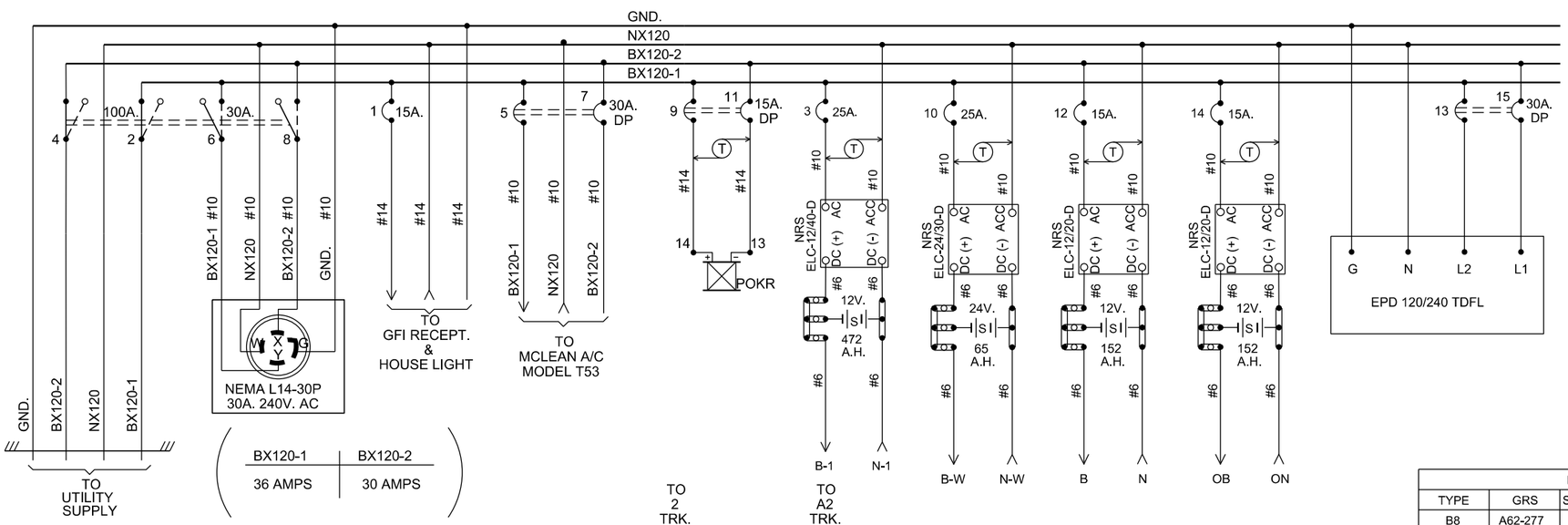
XP-4 EQUIPMENT RACK #2

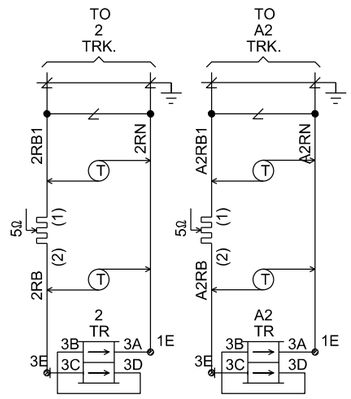
77AX59R			15AX59R		
12	F	B8	12	F	B8
15	F	C30	15	F	C30
22			22		
23			23		
25			25		
32			32		
35			35		

A1

A



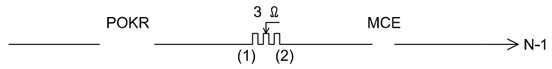




NOTES:

1 - SHELF RELAY PLACEMENT ON CONSIST CHART HAS NO SIGNIFICANCE.
2 - PLUG-IN RELAYS ARE VIEWED FROM THE FRONT OF RACK.
3 - BATTERY A.H. CAPACITY SHOWN IS THE MINIMUM REQUIREMENT.
4 - WIRING
  A - 120-VOLT FEED FROM ENTRANCE TO POWER BUSS TO BE #10 FLEX.
  B - ALL TRACK WIRES TO BE #10 FLEX.
  C - ALL OTHERS TO BE #16 FLEX UNLESS NOTED.
5 - CIRCUIT INTERRUPTERS 2 & 4 ARE MECHANICALLY INTERLOCKED WITH CIRCUIT INTERRUPTERS 6 & 8.
6 - BATTERIES - B1 = MICROLOK
  OB = ELECTRONIC EQUIPMENT
  B-W = SWITCHES
  B = RADIO EQUIPMENT

RELAY IDENTIFICATION AND CROSS REFERENCE			
TYPE	GRS	SAFETRAN	DETAILS
B8	A62-277	400004	4FB-2F-1B, NEUTRAL, 500 OHMS
B43	A62-122	400502	4FB-2F-1B, BIASED NEUTRAL, 500 OHMS
B45	A62-429	400520	2F-2B (HD), BIASED NEUTRAL, 2 OHMS
B51	A62-120	400510	4FB-2F-1B, BIASED NEUTRAL, 2 OHMS
B77	A62-580	400023	6FB (HD), NEUTRAL, 500 OHMS
C30	A62-506		PLUGBOARD KIT FOR B1 RELAYS
C48	SOCKET SURFACE MOUNT FOR PB TYPE KHAU RELAYS		
N68	4-DT, 12K OHMS, NEUTRAL POTTER BRUMFIELD RELAY (240VAC)		



THIS SHEET VOID

REVISIONS					
REV.	DATE	DESCRIPTION	REV.	DATE	DESCRIPTION
1	12/10/13	IN-SERVICE PER SUNRAIL, FDOT.			
2	07/11/14	AIS PER FDOT COMMENTS			

XORAIL
5011 GATE PARKWAY BUILDING 100
SUITE 400 JACKSONVILLE FLORIDA 32256
(904) 443-0083 (MAIN)
(904) 443-0089 (FAX)
CERT. OF AUTHORIZATION NO. 9875
ENGINEER OF RECORD
IVORY L. WHITE, JR, P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

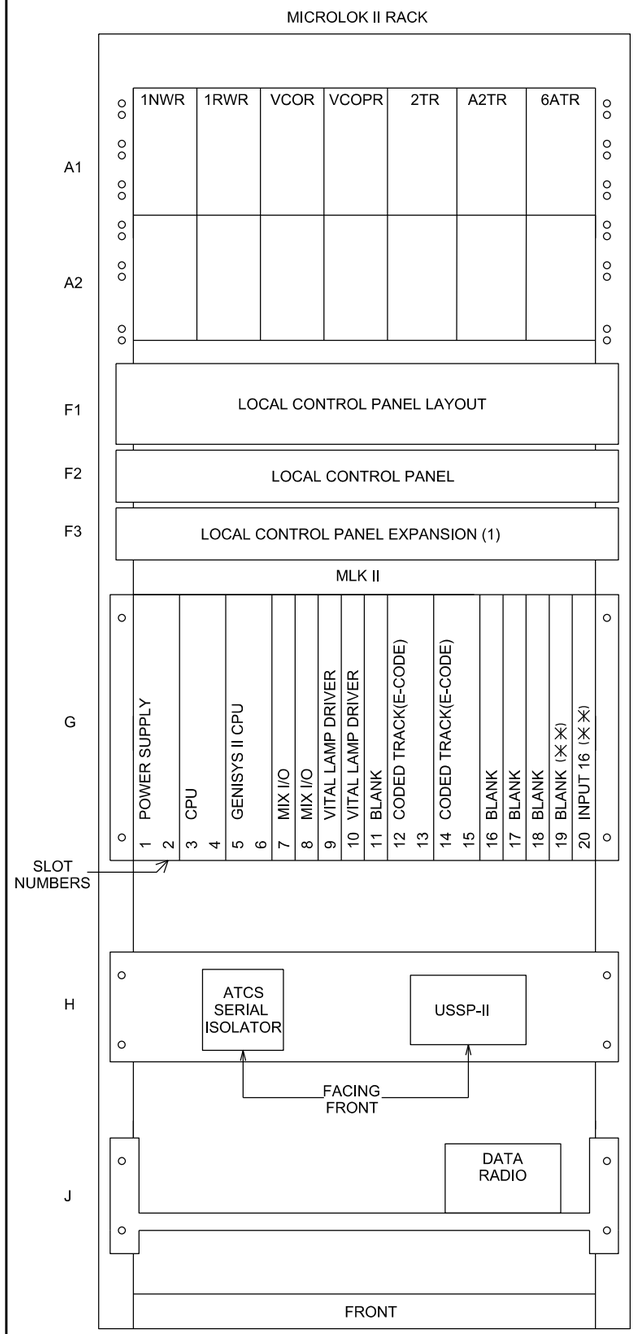
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

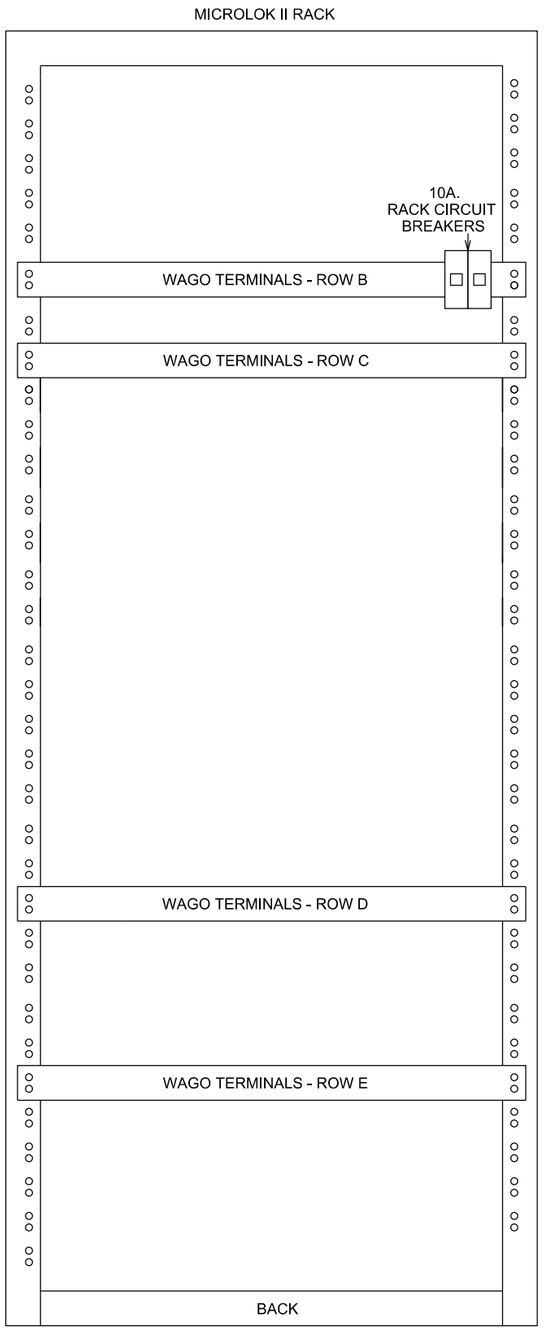
S.E. STANTON MP 800.59
POWER DISTRIBUTION

SHEET NO.
529

$USER$ $DATE$ $TIME$ $FILE$

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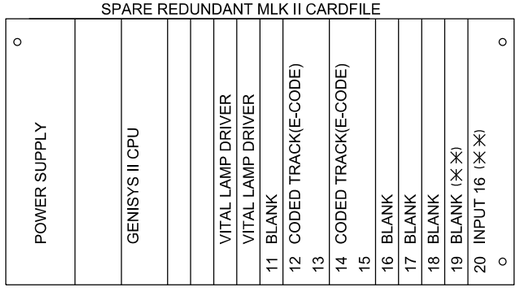


MICROLOK II EQUIPMENT RACK PN N16930701			
REF.	DESCRIPTION	US&S P/N	QTY
--	ALUMINUM RACK 19"	J0702051633	1 EA.
A1	RLY B1 PLBD KIT NO FLAG	J0702051145	6 EA.
A1	VOLTAGE TEST TERM. KIT	J7261530305	6 EA.
A1-A2	BAR RELAY MOUNTING	M34603401	3 EA.
ROW B	DIN RAIL ASSEMBLY WITH BREAKERS	N16932301	1 EA.
ROW C	DIN RAIL ASSEMBLY	N16932302	1 EA.
ROW D	DIN RAIL ASSEMBLY	N16932303	1 EA.
ROW E	DIN RAIL ASSEMBLY	N16932304	1 EA.
ROW F1	LOCATION FACEPLATE	CUSTOM	1 EA.
ROW F2	GETS SYSTEM LCP	250726-000	1 EA.
ROW F3	GETS LOCAL CONTROL PANEL EXPANSION UNIT	250726-001	2 EA.
G	MICROLOK II CARDFILE	N16902101	1 EA.
G	PEG, KEYING FOR CARDFILE	J7091460473	49 EA.
G	KIT, REAR CONNECTION COVER	X18000903	1 EA.
G1-G2	POWER SUPPLY	N16661203	1 EA.
G1-G2	CABLE POWER SUPPLY	N16911702	1 EA.
G3-G4	CPU (PTC READY)	N17067602	1 EA.
G3-G4	CABLE CPU (PTC READY)	N16915602	1 EA.
G5-G6	GENISYS II CPU	N17061302	1 EA.
G5-G6	CABLE GENISYS II CPU ATCS	N16930301	1 EA.
G7-G8	MIX I/O	N17061601	2 EA.
G7-G8	CABLE MIX I/O	N16912402	2 EA.
G9-G10	VITAL LAMP DRIVER	N17060101	2 EA.
G9-G10	CABLE VITAL LAMP DRIVER	N16912102	2 EA.
G12-G14	CODED TRACK (E-CODE)	N4519100701	2 EA.
G12-G14	CABLE CODED TRACK (E-CODE)	N16913102	2 EA.
G20	INPUT 16	N17061001	1 EA.
G20	CABLE INPUT 16	N16912202	1 EA.
ROW H	PANEL EIA	M50400203	1 EA.
ROW H	USSP-11 SURGE SUPPRESSOR	N4515520504	1 EA.
ROW H	ATCS ISOLATOR	N16404701	1 EA.
ROW J	SHELF VENTED BLACK 19" RACK	J0702051962	1 EA.
ROW J	DATA RADIO	TBD	1 EA.
ROW J	CABLE ATCS ISOLATOR TO RADIO	N16919901	1 EA.

SPARE REDUNDANT MLK II CARDFILE MATERIAL

SPARE	MICROLOK II CARDFILE	N16902101	1 EA.
SPARE	PEG, KEYING FOR CARDFILE	J7091460473	49 EA.
SPARE	KIT, REAR CONNECTION COVER	X18000903	1 EA.
SPARE	POWER SUPPLY	N16661203	1 EA.
SPARE	CPU (PTC READY)	N17067602	1 EA.
SPARE	GENISYS II CPU	N17061302	1 EA.
SPARE	MIX I/O	N17061601	1 EA.
SPARE	VITAL LAMP DRIVER	N17060101	2 EA.
SPARE	CODED TRACK (E-CODE)	N4519100701	2 EA.
SPARE	INPUT 16	N17061001	1 EA. (NOT USED)

SPARE REDUNDANT MLK II CARDFILE



THIS SHEET VOID

NOTE:
(※)

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REV.	DATE	DESCRIPTION	REV.	DATE	DESCRIPTION
1	12/10/13	IN-SERVICE PER SUNRAIL, FDOT.			

XORAIL
5011 GATE PARKWAY BUILDING 100
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ENGINEER OF RECORD
IVORY L. WHITE, JR., P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

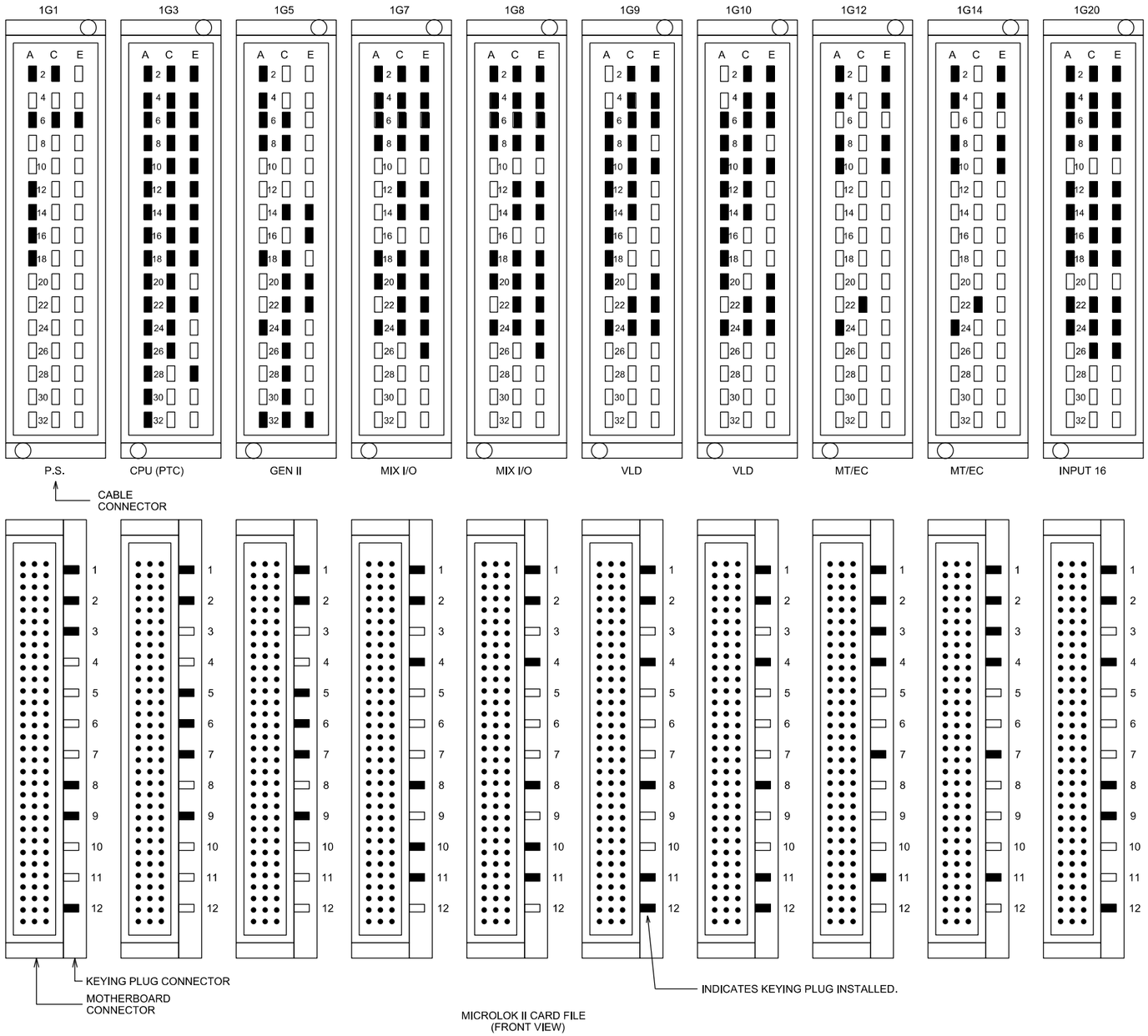
S.E. STANTON MP 800.59
RACK 1 LAYOUT

SHEET NO. 530

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.

G80059.008V



MICROLOK II CARD FILE
(FRONT VIEW)

NOTES:

NOT USED

USED

CABLE CONNECTORS ARE SHOWN WITH STANDARD WIRING.
NOT ALL WIRES MAY BE USED AT THIS LOCATION.

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ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

S.E. STANTON
CARDFILE PCB KEYING

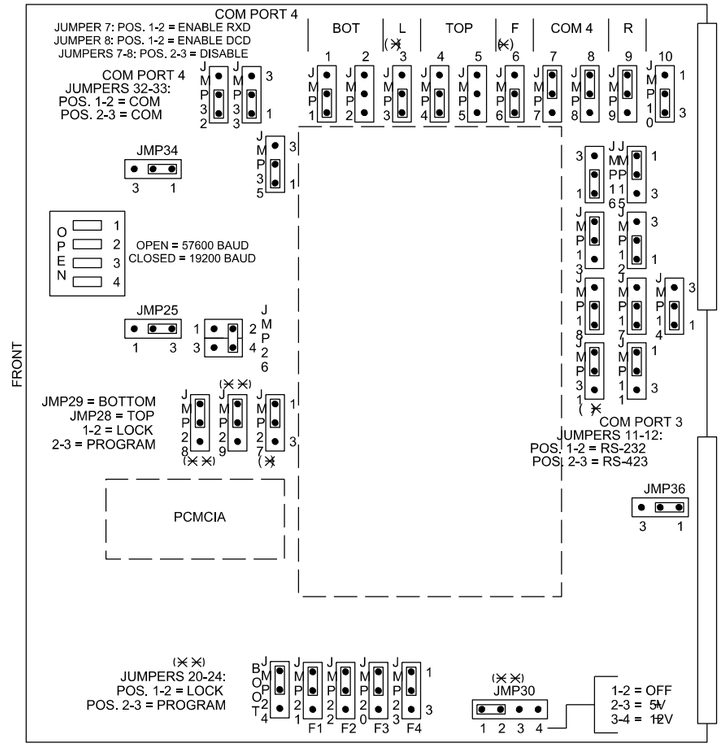
M.P. A-800.59

SHEET NO. 531

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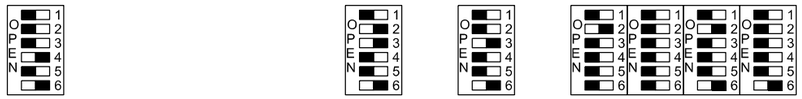
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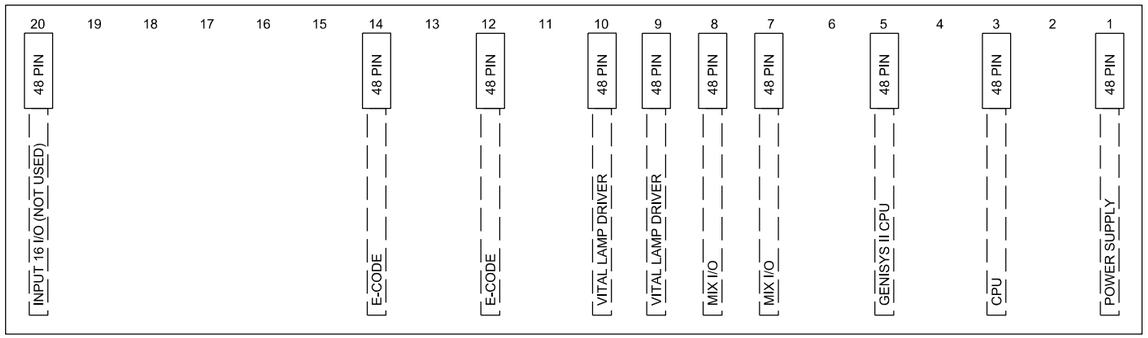
G80059.009V



CPU (PTC) BOARD
JUMPER SETTINGS

JUMPER ID	JUMPER POSITION
JMP 1	2-3
JMP 2	(NOT INSTALLED)
JMP 3	2-3 (✻)
JMP 4	2-3
JMP 5	(NOT INSTALLED)
JMP 6	2-3 (✻)
JMP 7	1-2
JMP 8	1-2
JMP 9	1-2
JMP 10	2-3
JMP 11	1-2
JMP 12	1-2
JMP 13	2-3
JMP 14	1-2
JMP 15	1-2
JMP 16	1-2
JMP 17	1-2
JMP 18	1-2
JMP 20	1-2 (✻✻)
JMP 21	1-2 (✻✻)
JMP 22	1-2 (✻✻)
JMP 23	1-2 (✻✻)
JMP 24	1-2 (✻✻)
JMP 25	2-3
JMP 26	2-4
JMP 27	1-2 (✻)
JMP 28	1-2 (✻✻)
JMP 29	1-2 (✻✻)
JMP 30	1-2 (✻✻)
JMP 31	1-2 (✻)
JMP 32	1-2
JMP 33	1-2
JMP 34	1-2
JMP 35	1-2
JMP 36	1-2





MICROLOK II (REAR VIEW)

NOTES:

1. (✻✻) MUST CHANGE JUMPERS IN THE FIELD FROM 2-3 TO 1-2 TO LOCK PROGRAM.
2. (✻) IF HEADER POSTS ARE NOT INSTALLED, NO JUMPER IS REQUIRED.
3. JUMPERS 11 AND 12 SHOULD BE POSITION 1-2 WHEN USING AN RS-232 CABLE. THE POSITION SHOULD BE 2-3 WHEN USING AN RS-423 CABLE.

THIS SHEET VOID

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REVISIONS

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XORAIL
5011 GATE PARKWAY BUILDING 100
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ENGINEER OF RECORD
IVORY L. WHITE, JR, P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

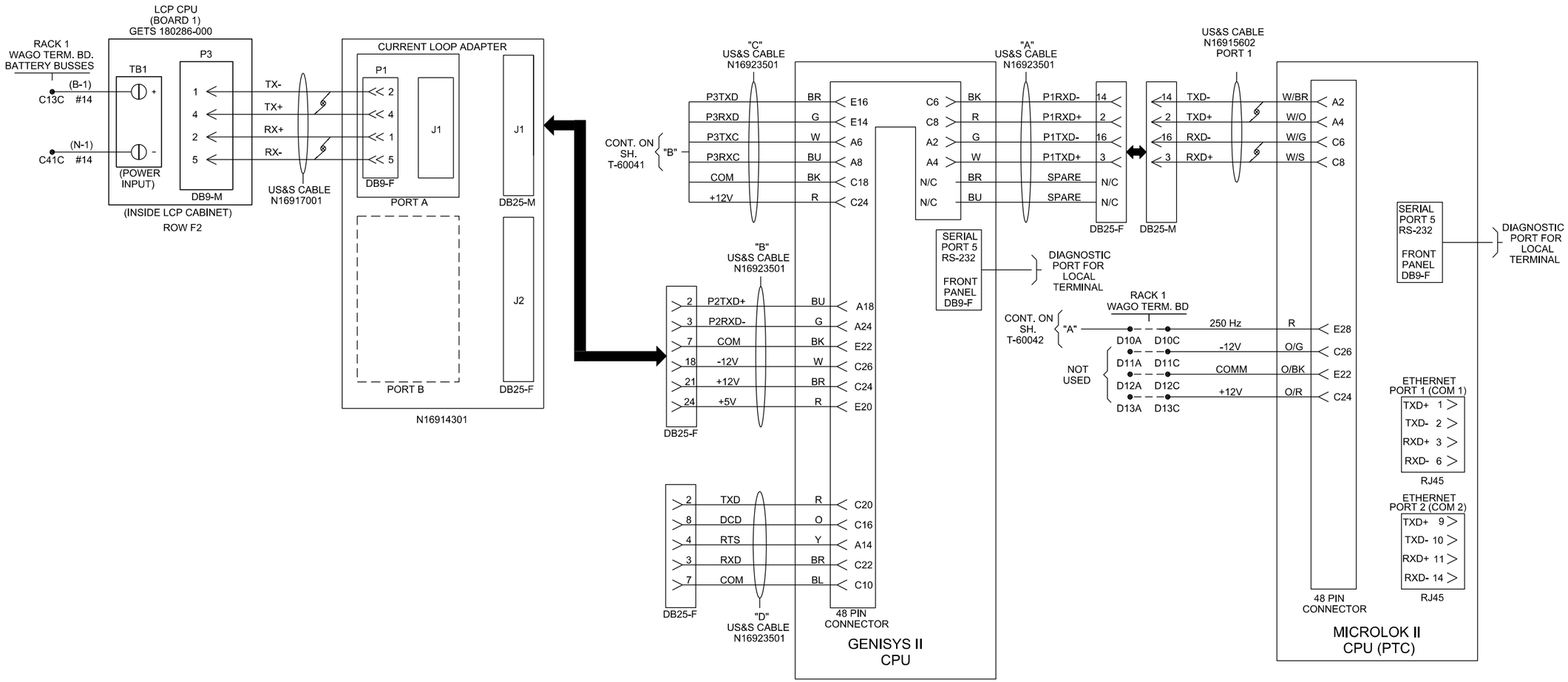
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

S.E. STANTON
PCB ADDRESSING
M.P. A-800.59

SHEET NO.
532

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80059.0I0V



NOTE:

1. CPU PORT 2, 3 AND 4 SPARE

THIS SHEET
VOID

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STATE OF FLORIDA
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ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

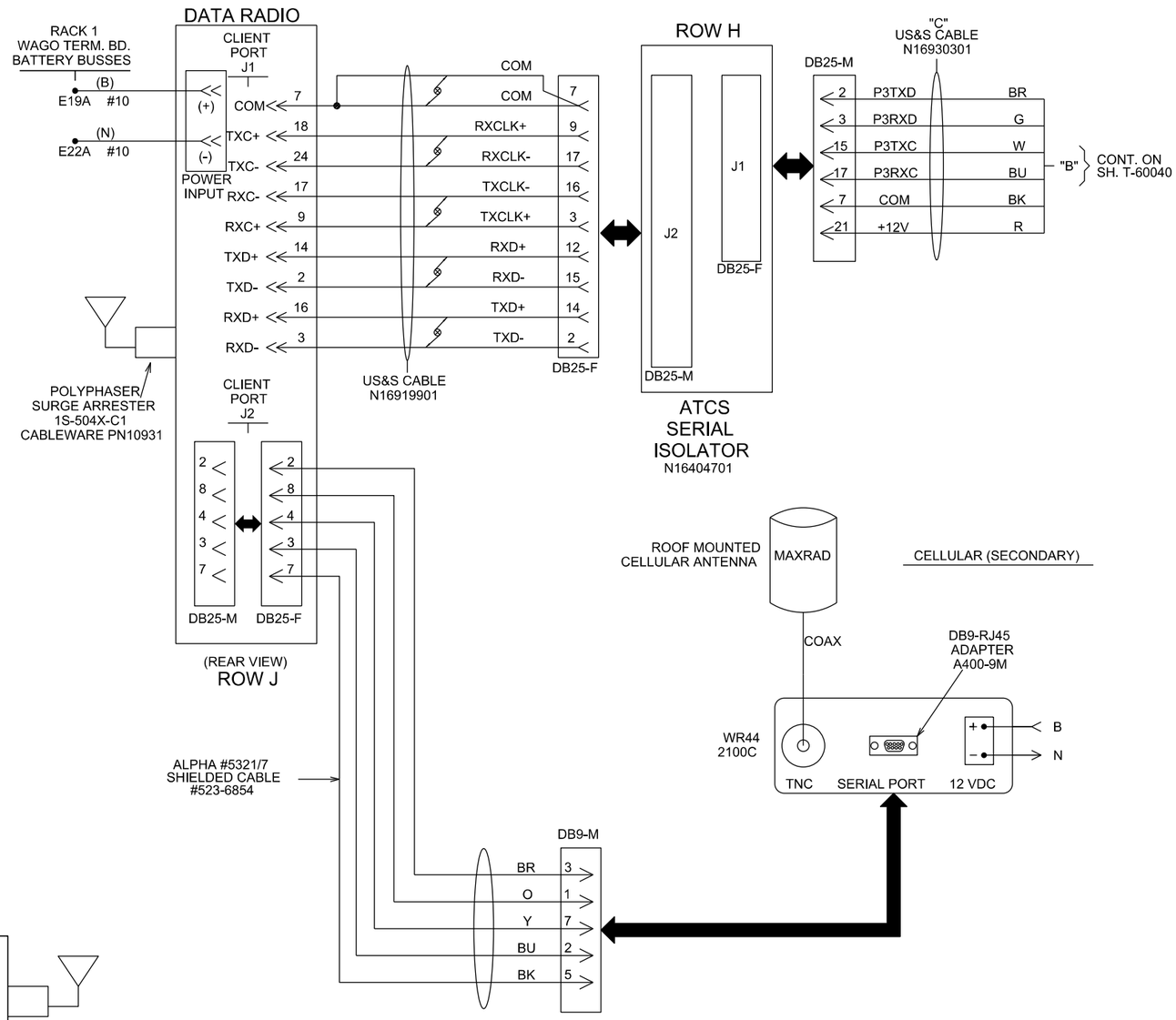
S.E. STANTON
CPU AND LCP CIRCUITS

M.P. A-800.59

SHEET NO.
533

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80059.0IIV



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ENGINEER OF RECORD
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P.E. LICENSE NO. 58808

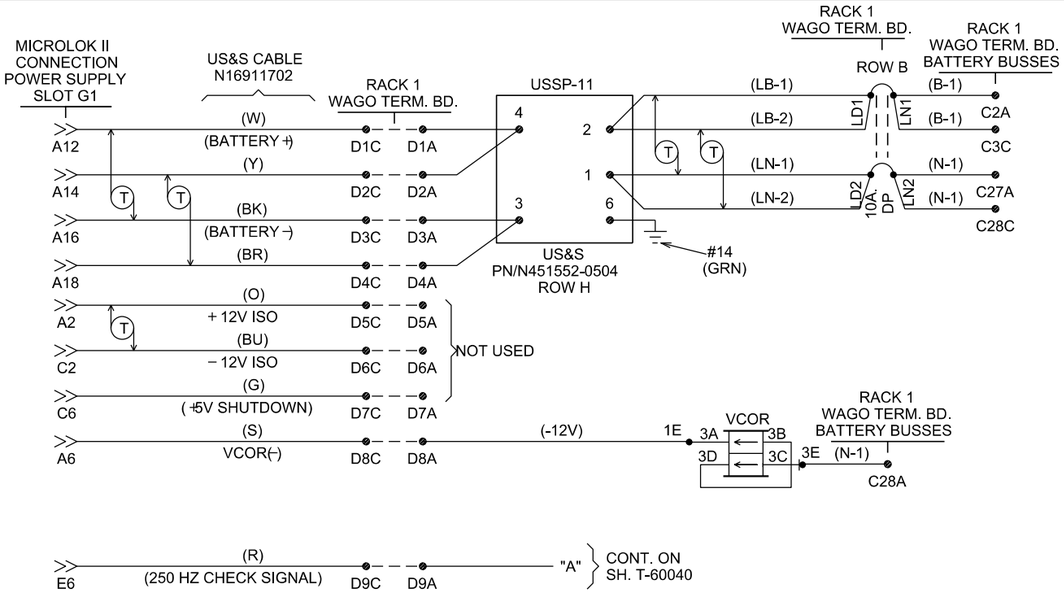
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

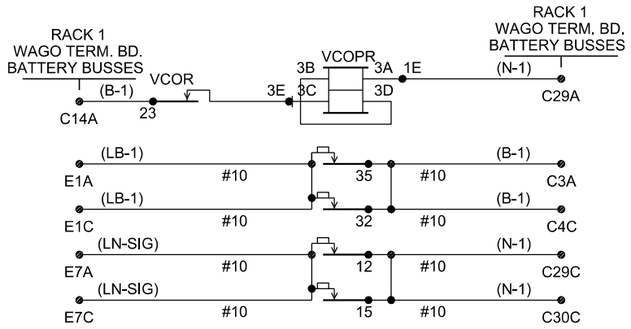
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

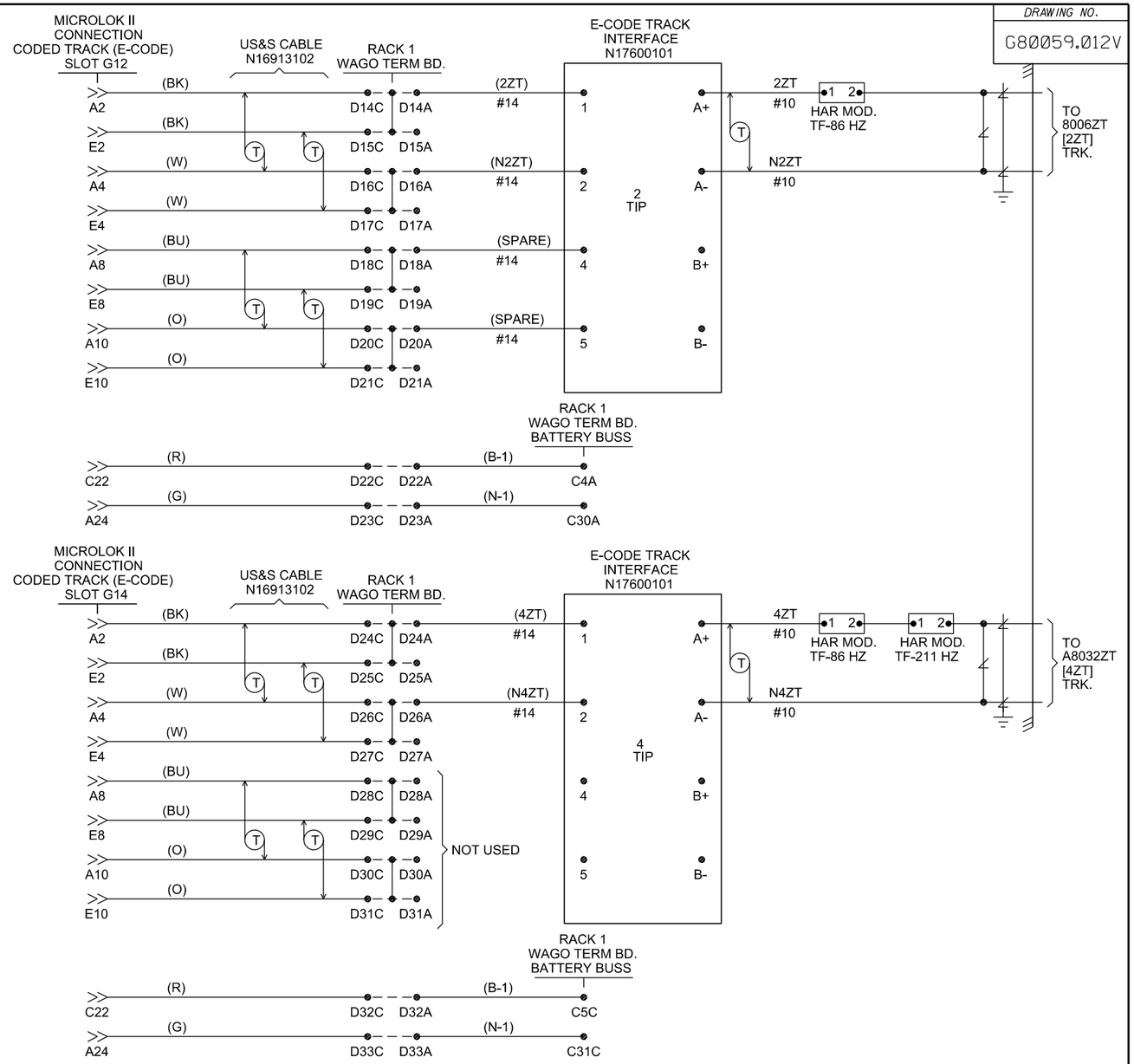
S.E. STANTON
RADIO CIRCUITS
M.P. A-800.59

SHEET NO.
534

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STATE OF FLORIDA
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ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

S.E. STANTON MP 800.59
MICROLOK II TRACK CIRCUITS

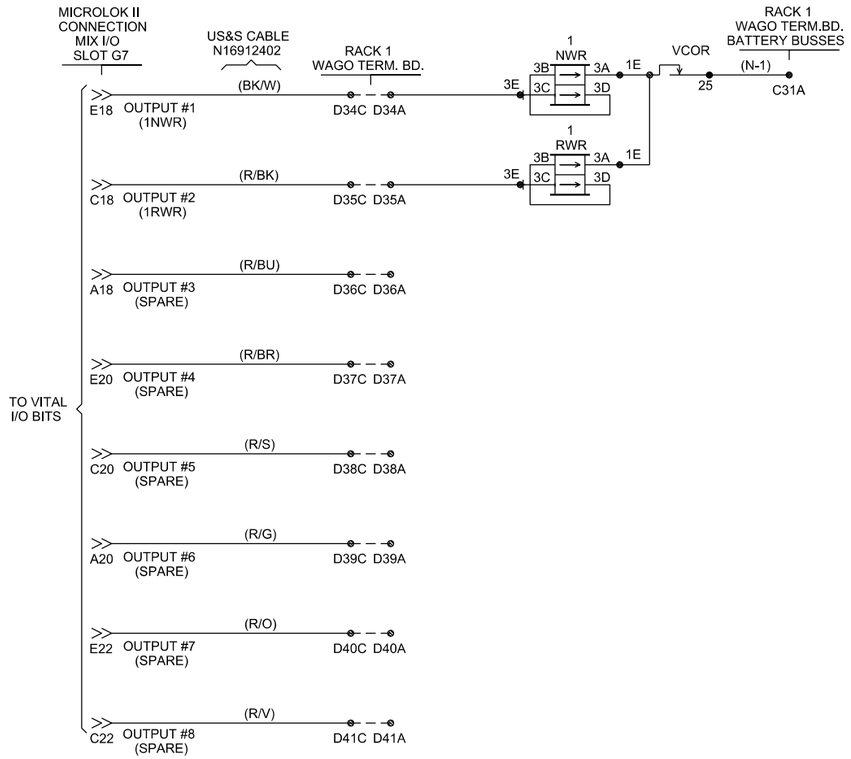
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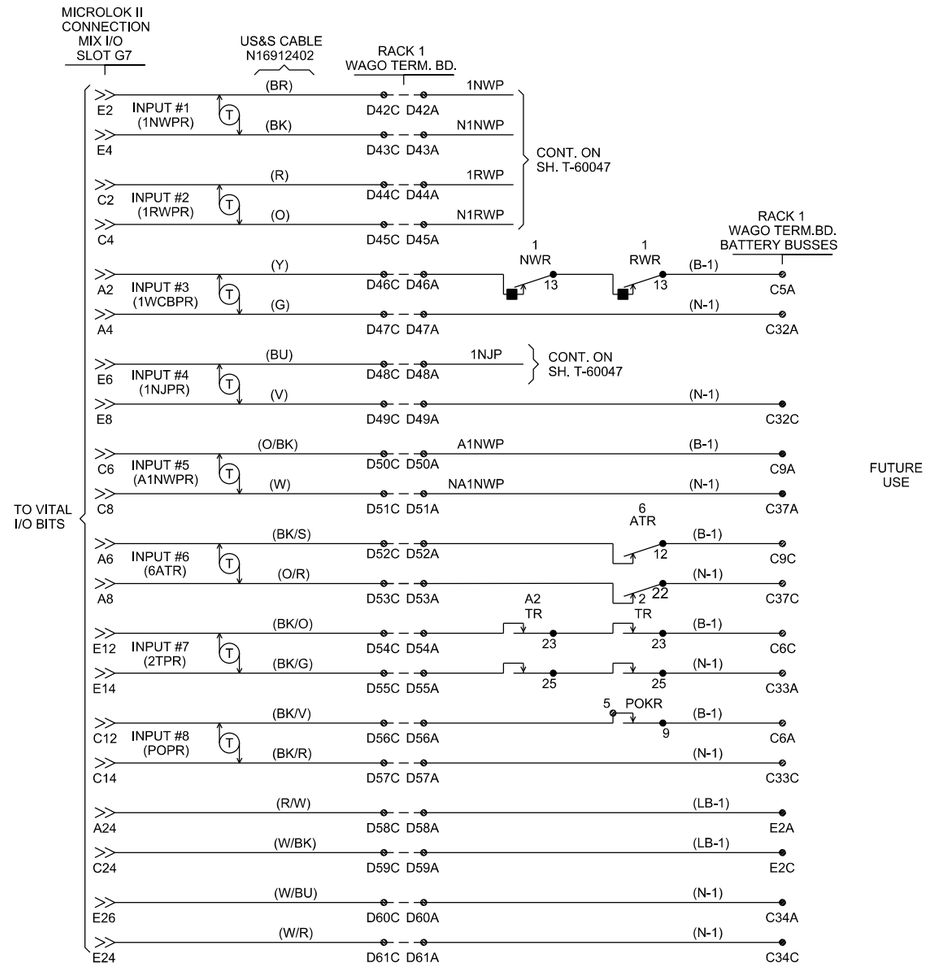
SHEET NO. 535

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.

G80059.013V





NOTE:

1. ALL WIRING #16 UNLESS NOTED OTHERWISE.

THIS SHEET VOID

REVISIONS					
REV.	DATE	DESCRIPTION	REV.	DATE	DESCRIPTION
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XORAIL
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CERT. OF AUTHORIZATION NO. 9875
ENGINEER OF RECORD
IVORY L. WHITE, JR, P.E.
P.E. LICENSE NO. 58608

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

S.E. STANTON
MICROLOK II I/O CIRCUITS

M.P. A-800.59

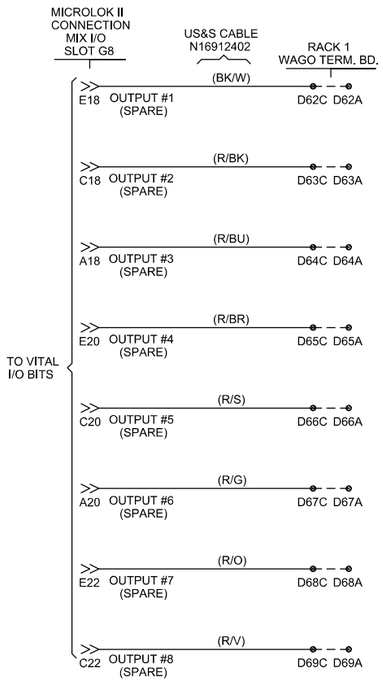
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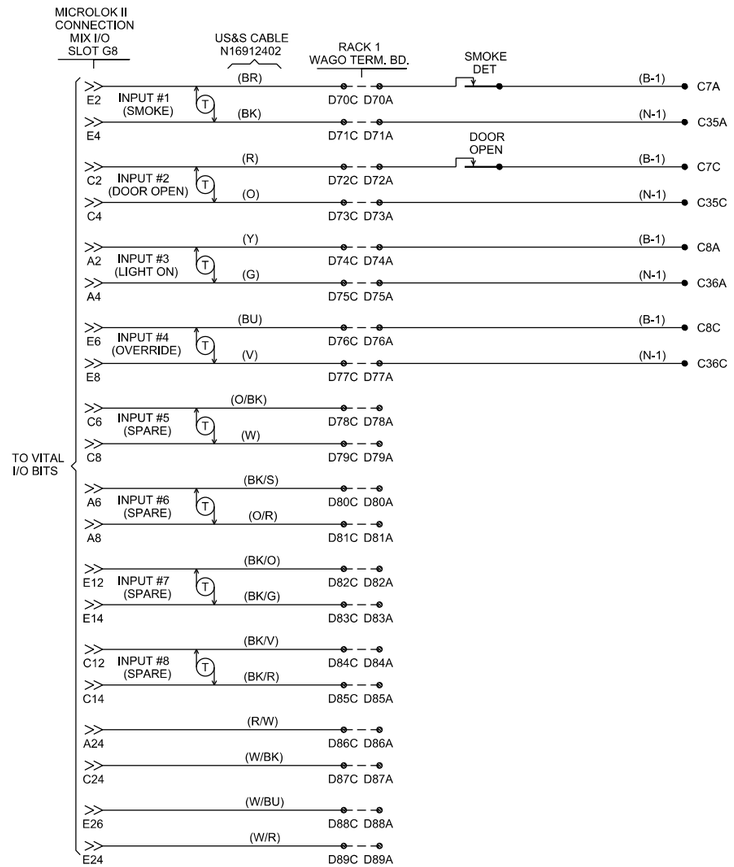
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DRAWING NO.

G80059.014V





NOTES:

1. ALL WIRING #16 UNLESS NOTED OTHERWISE.
2. WHEN THIS CARD IS USED ALL UNUSED NWP INPUTS REQUIRE B-1 & N-1 INSTALLED TO APPROPRIATE WAGO.

THIS SHEET VOID

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S.E. STANTON
MICROLOK II I/O CIRCUITS

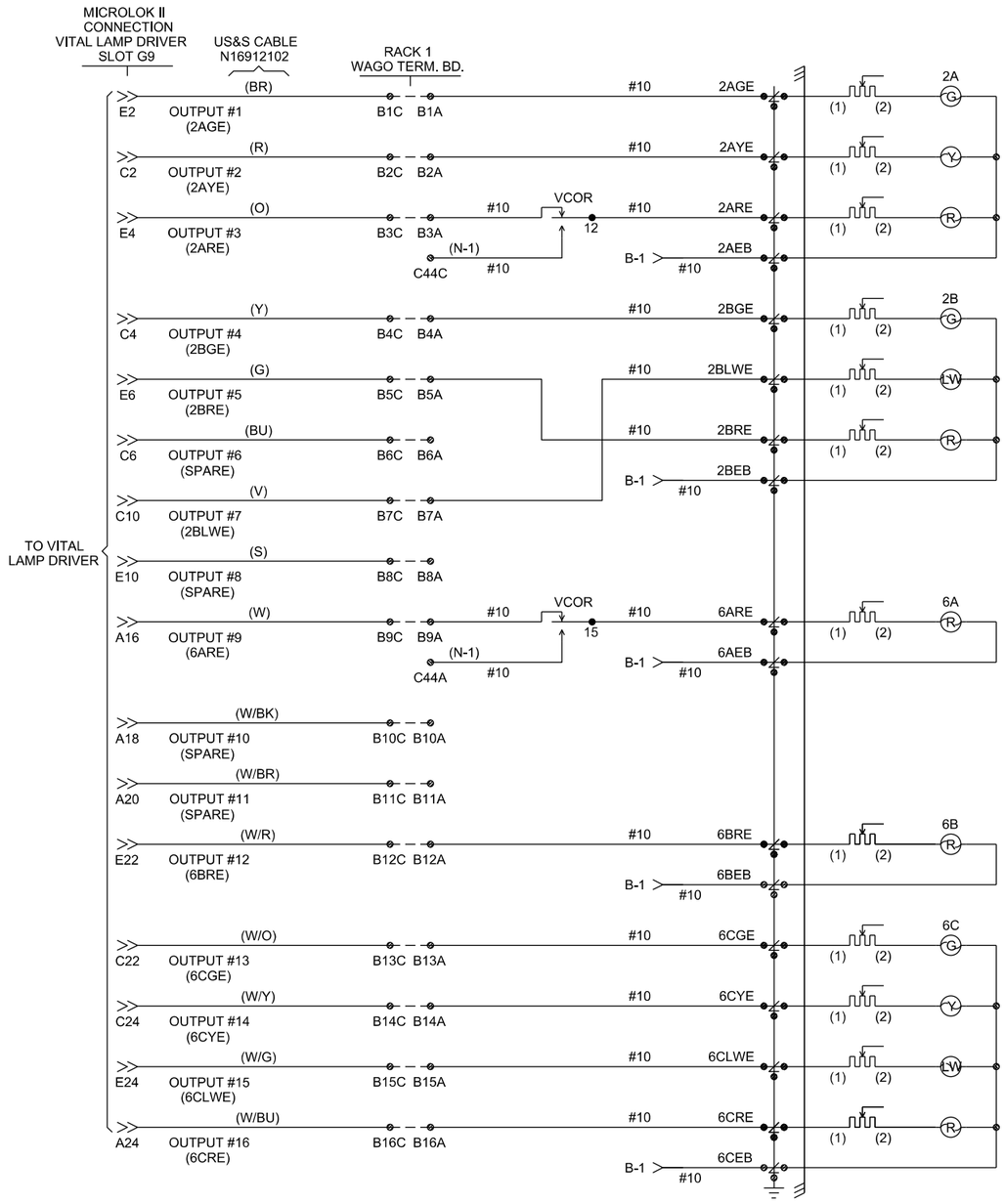
M.P. A-800.59

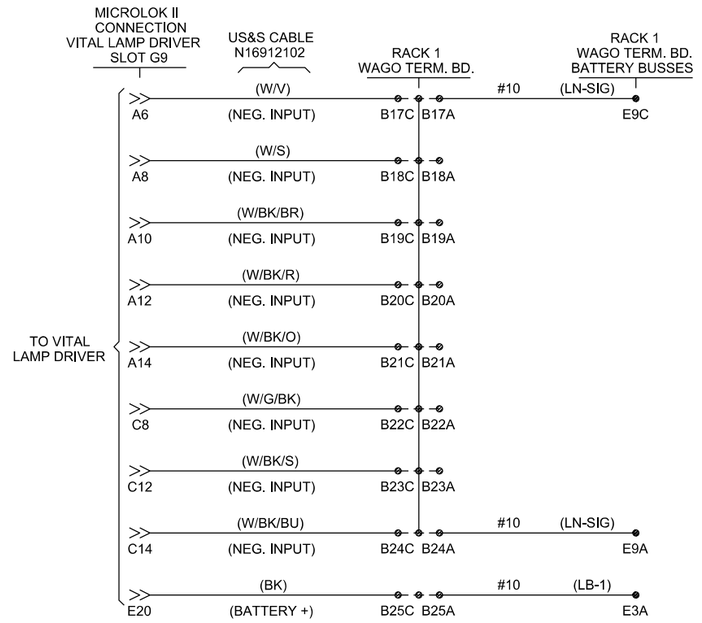
SHEET NO.

537

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80059.015V





NOTES:
1. ALL WIRING FROM WAGOS #16, UNLESS OTHERWISE NOTED.
2. ALL RESISTORS ARE 3 OHM, 15 WATTS.

THIS SHEET VOID

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.003, F.A.C.

REVISIONS					
REV.	DATE	DESCRIPTION	REV.	DATE	DESCRIPTION
1	12/10/13	IN-SERVICE PER SUNRAIL, FDOT.			

XORAIL
5011 GATE PARKWAY BUILDING 100
SUITE 400 JACKSONVILLE FLORIDA 32256
(904) 443-0083 (MAIN)
(904) 443-0089 (FAX)
CERT. OF AUTHORIZATION NO. 9875
ENGINEER OF RECORD
IVORY L. WHITE, JR, P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

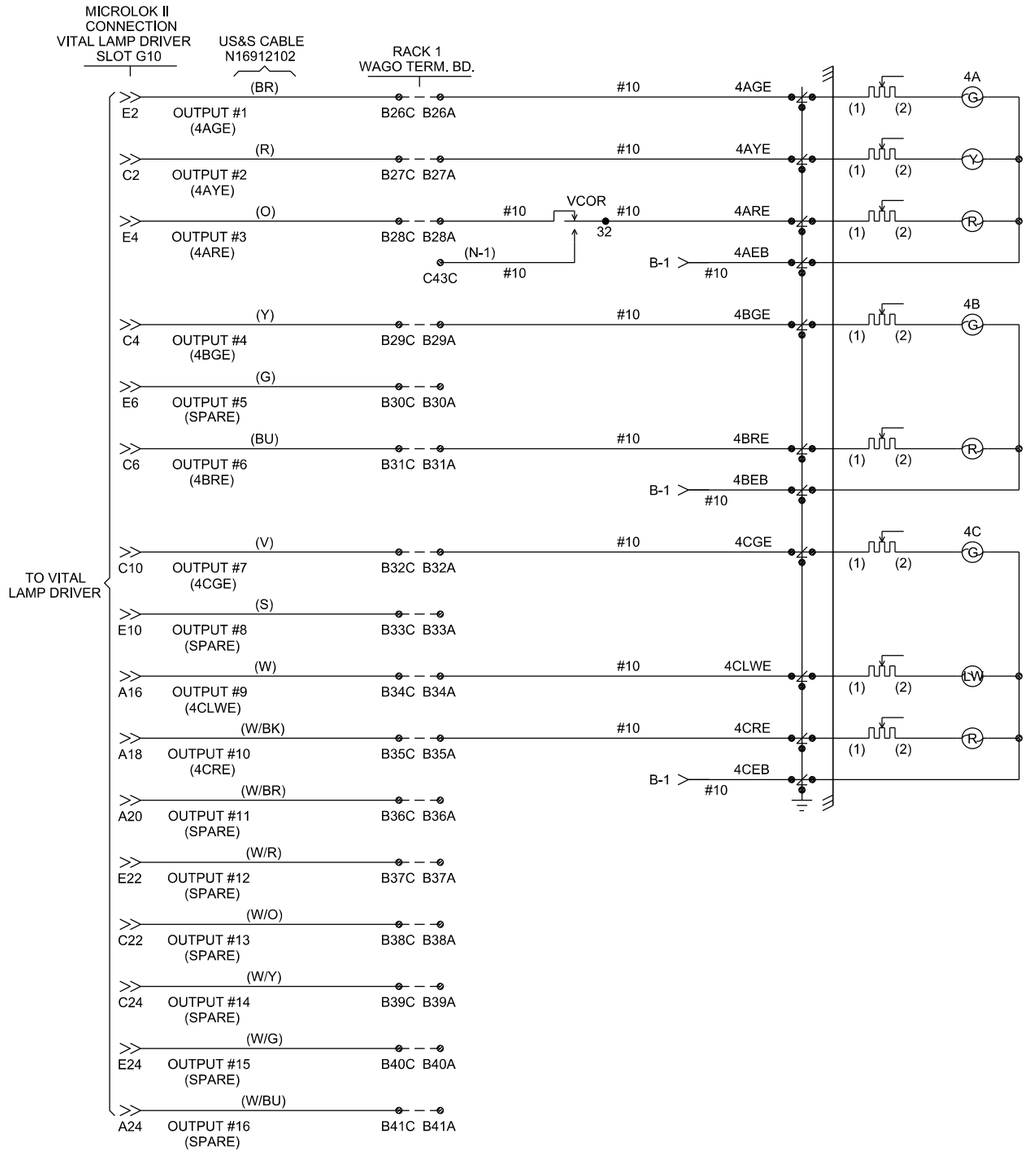
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

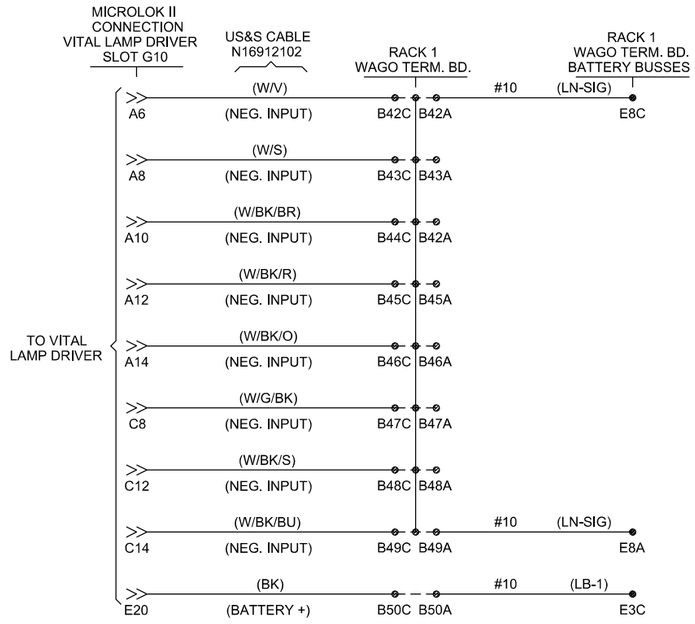
S.E. STANTON
SIGNAL LIGHTING CIRCUITS
M.P. A-800.59

SHEET NO.
538

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80059.016V





NOTES:

1. ALL WIRING FROM WAGOS #16, UNLESS OTHERWISE NOTED.
2. ALL RESISTORS ARE 3 OHM, 15 WATTS.

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REVISIONS

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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

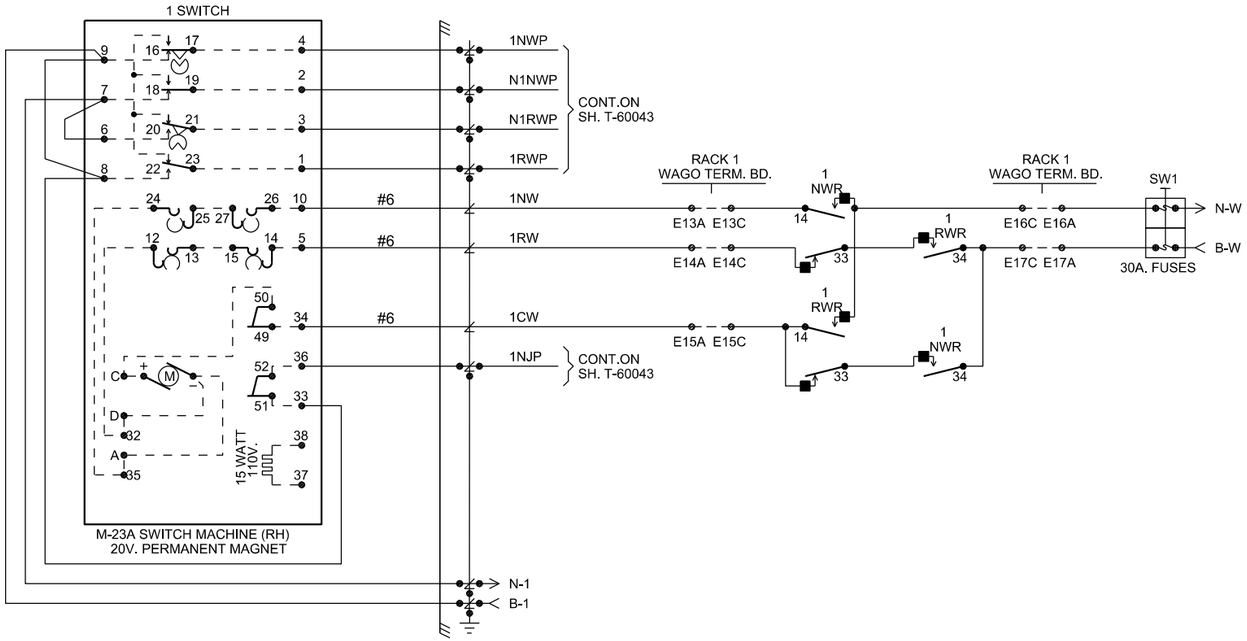
S.E. STANTON
SIGNAL LIGHTING CIRCUITS
M.P. A-800.59

SHEET NO.
539

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.

G80059.017V



NOTES:

1. ●⁄● = LPC-10512-1 (15A, BLUE LEAD) HYBRID LOW VOLTAGE ARRESTER, UNLESS NOTED.
2. ---- = INTERNAL CONNECTION

THIS SHEET VOID

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REVISIONS					
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P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

S.E. STANTON SWITCH CIRCUITS

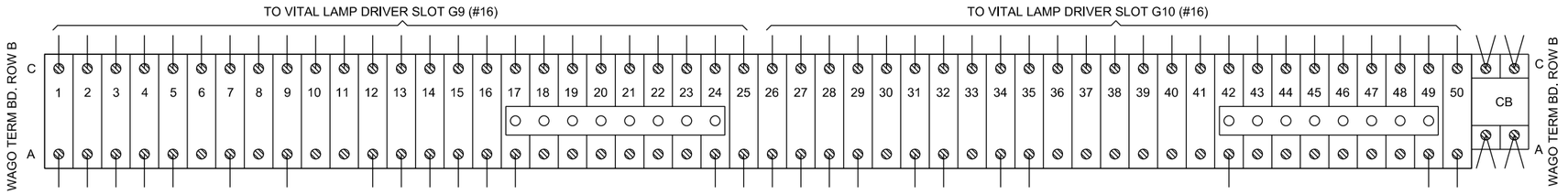
M.P. A-800.59

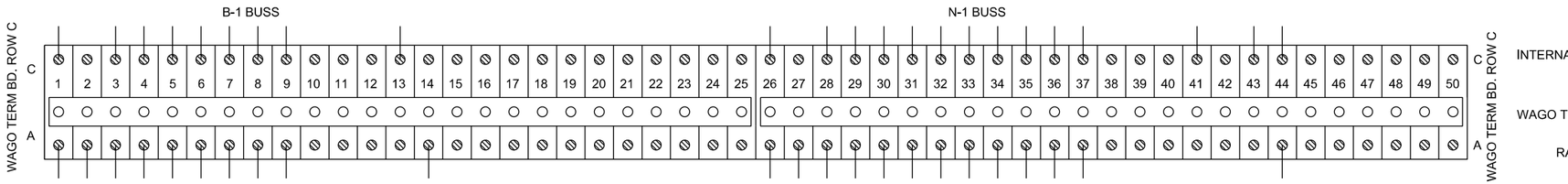
SHEET NO.

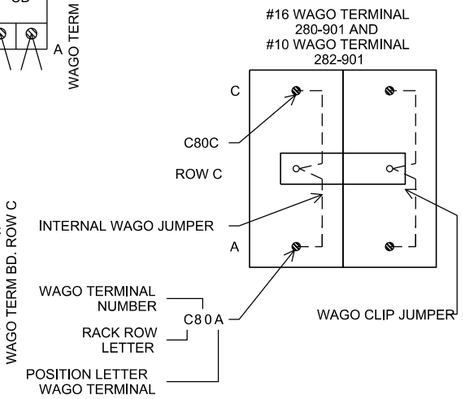
540

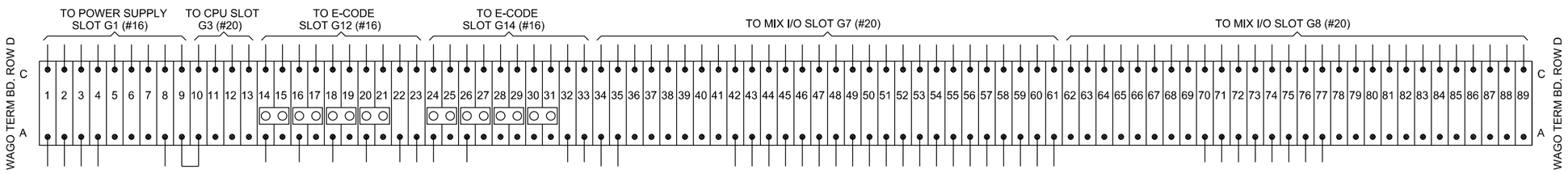
$USER$ $DATE$ $TIME$ $FILE$

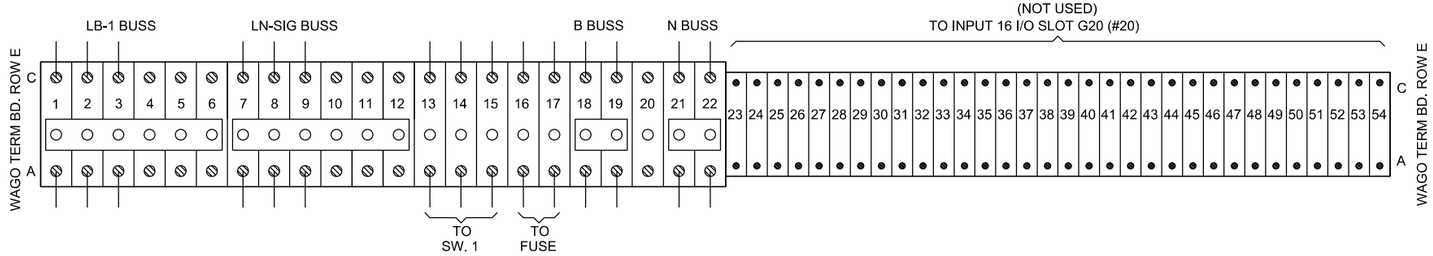
DRAWING NO.
G80059.0I8V











NOTES:

1. C1A & C1C TO B-1 SUPPLY.
2. C26A & C26C TO N-1 SUPPLY.
3. E18A & E18C TO B SUPPLY.
4. E21A & E21C TO N SUPPLY.
5. ROW B TERMINALS 1-50 ARE WAGO PART #282-901.
6. ROW C TERMINALS 1-50 ARE WAGO PART #282-901.
7. ROW D TERMINALS 1-89 ARE WAGO PART #280-901.
8. ROW E TERMINALS 1-22 ARE WAGO PART #282-901.
9. ROW C TERMINALS 23-54 ARE WAGO PART #280-901.
10. ROW B WEIDMULLER J7256940255 CIRCUIT BREAKER (10 AMP.)

THIS SHEET VOID

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REVISIONS

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XORAIL
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(904) 443-0083 (MAIN)
(904) 443-0089 (FAX)
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ENGINEER OF RECORD
IVORY L. WHITE, JR, P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

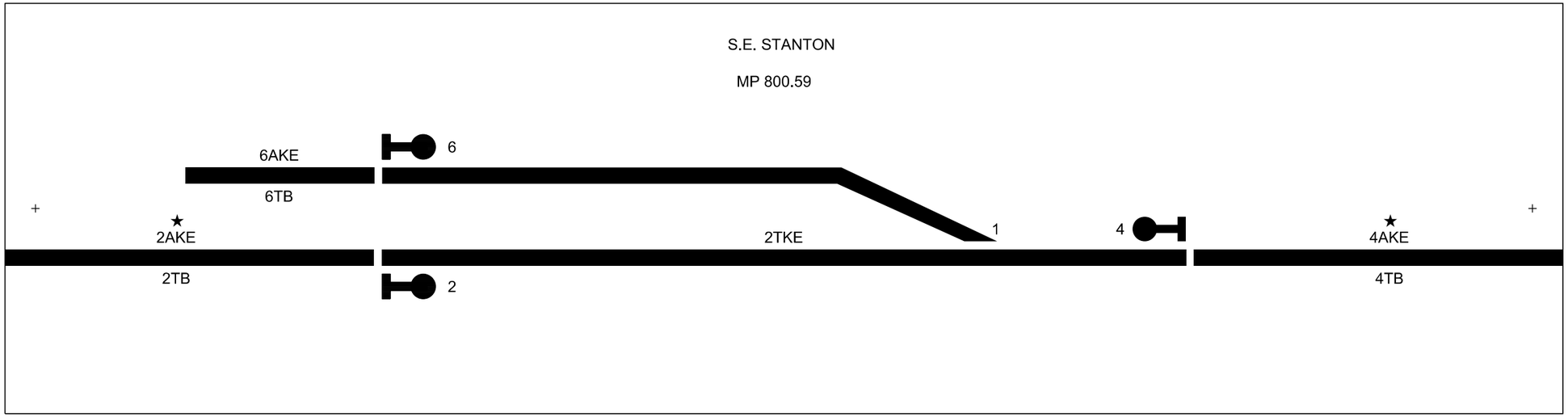
S.E. STANTON
WAGO TERMINAL BOARDS

M.P. A-800.59

SHEET NO.
541

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80059.019



★ PANEL INDICATION ONLY

THIS SHEET
VOID

REVISIONS					
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P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

S.E. STANTON MP 800.59
LOCAL PANEL FACEPLATE

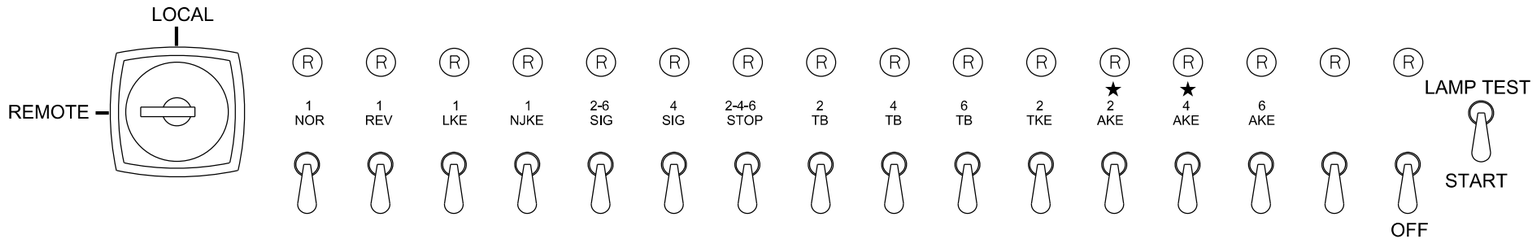
SHEET NO.
542

$USER$ $DATE$ $TIME$ $FILE$

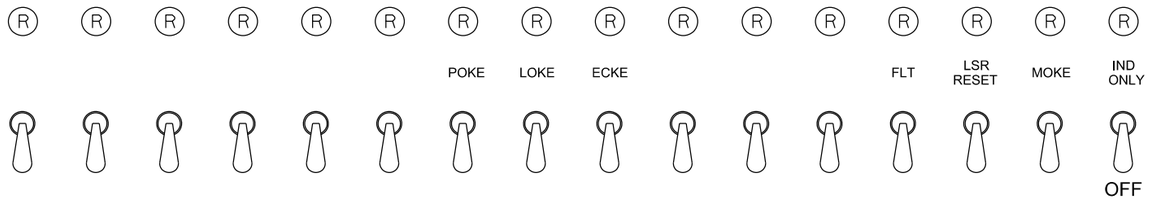
NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.003, F.A.C.

DRAWING NO.
G80059.020V

LOCAL CONTROL PANEL



LOCAL CONTROL PANEL EXPANSION



NOTES:

1. WHERE "KE" APPEARS AT END OF WORD ONLY INDICATION IS OPERATIVE.

★ PANEL INDICATION ONLY

THIS SHEET VOID

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REVISIONS					
REV.	DATE	DESCRIPTION	REV.	DATE	DESCRIPTION
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XORAIL
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ENGINEER OF RECORD
IVORY L. WHITE, JR, P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

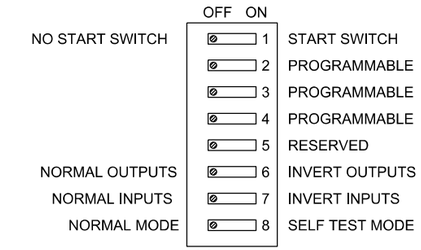
LOCAL CONTROL AND EXPANSION PANEL
M.P. A-800.59

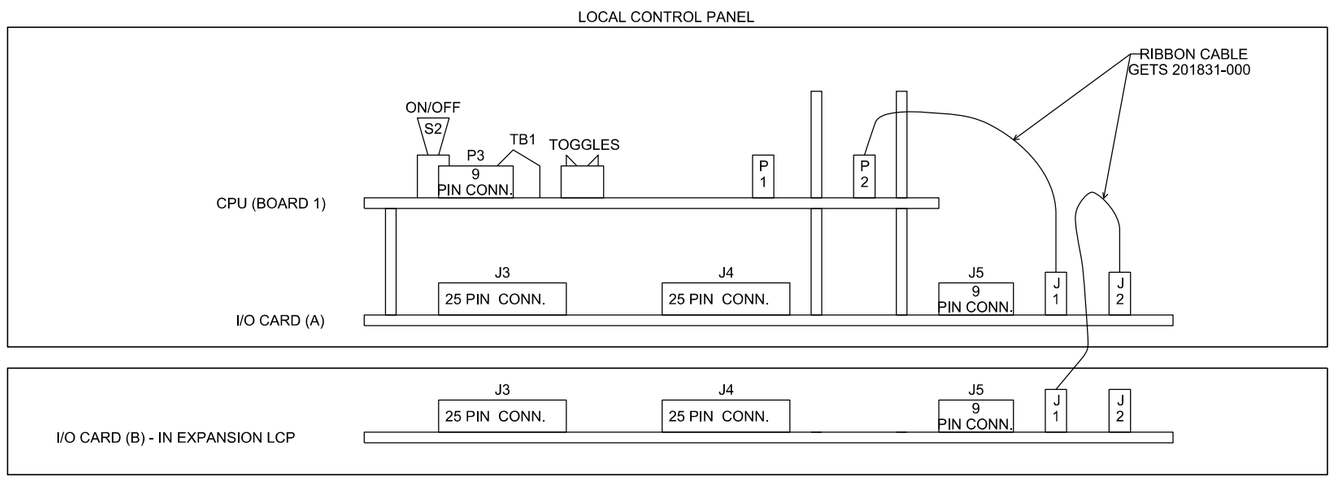
SHEET NO.
543

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.

G80059.02IV





THIS SHEET VOID

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REVISIONS

REV.	DATE	DESCRIPTION	REV.	DATE	DESCRIPTION
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XORAIL
5011 GATE PARKWAY BUILDING 100
SUITE 400 JACKSONVILLE FLORIDA 32256
(904) 443-0083 (MAIN)
(904) 443-0089 (FAX)
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ENGINEER OF RECORD
IVORY L. WHITE, JR, P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

LCP AND EXPANSION I/O MODULES

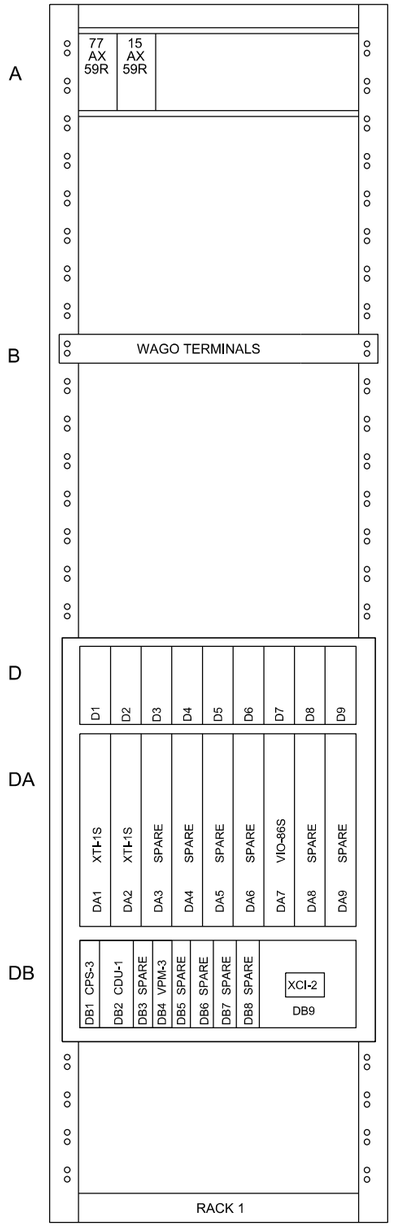
M.P. A-800.59

SHEET NO. 544

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.

G80059.022V



PART NUMBERS

XP4 EQUIPMENT RACK 1		
REF.	PART NUMBER	DESCRIPTION
A	SEE CHART	RELAYS
B	202292-057	WAGO TERMINAL BLOCK
D	300752-000	9-SLOT ELECTROLOGIXS CHASSIS
D1-D2	227481-000	XTI-1S NORMAL PERSONALITY MODULE (2X)
D7	227537-000	VIO-86S VITAL I/O PERSONALITY MODULE
DA1-DA2	251336-000	XTI-1S CROSSING TRACK INTERFACE MODULE (2X)
DA7	251380-000	VIO-86S VITAL I/O MODULE
DB1	251456-000	CPS-3 CENTRAL POWER SUPPLY
DB2	251124-000	CDU-1 CONTROL DISPLAY UNIT
DB4	251432-200	VPM-3 CROSSING PROCESSOR MODULE
DB9	251442-000	XCI-2 APPLICATION EPROM/FLASH MEMORY MODULE (PTC CAPABLE)

RELAY IDENTIFICATION AND CROSS REFERENCE			
TYPE	GRS	SAFETRAN	DETAILS
B8	A62-277	400004	4FB-2F-1B, NEUTRAL, 500 OHMS
C30	A62-506		PLUGBOARD KIT FOR B1 RELAYS

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ENGINEER OF RECORD
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P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

S.E. STANTON
EQUIPMENT RACK 2 LAYOUT

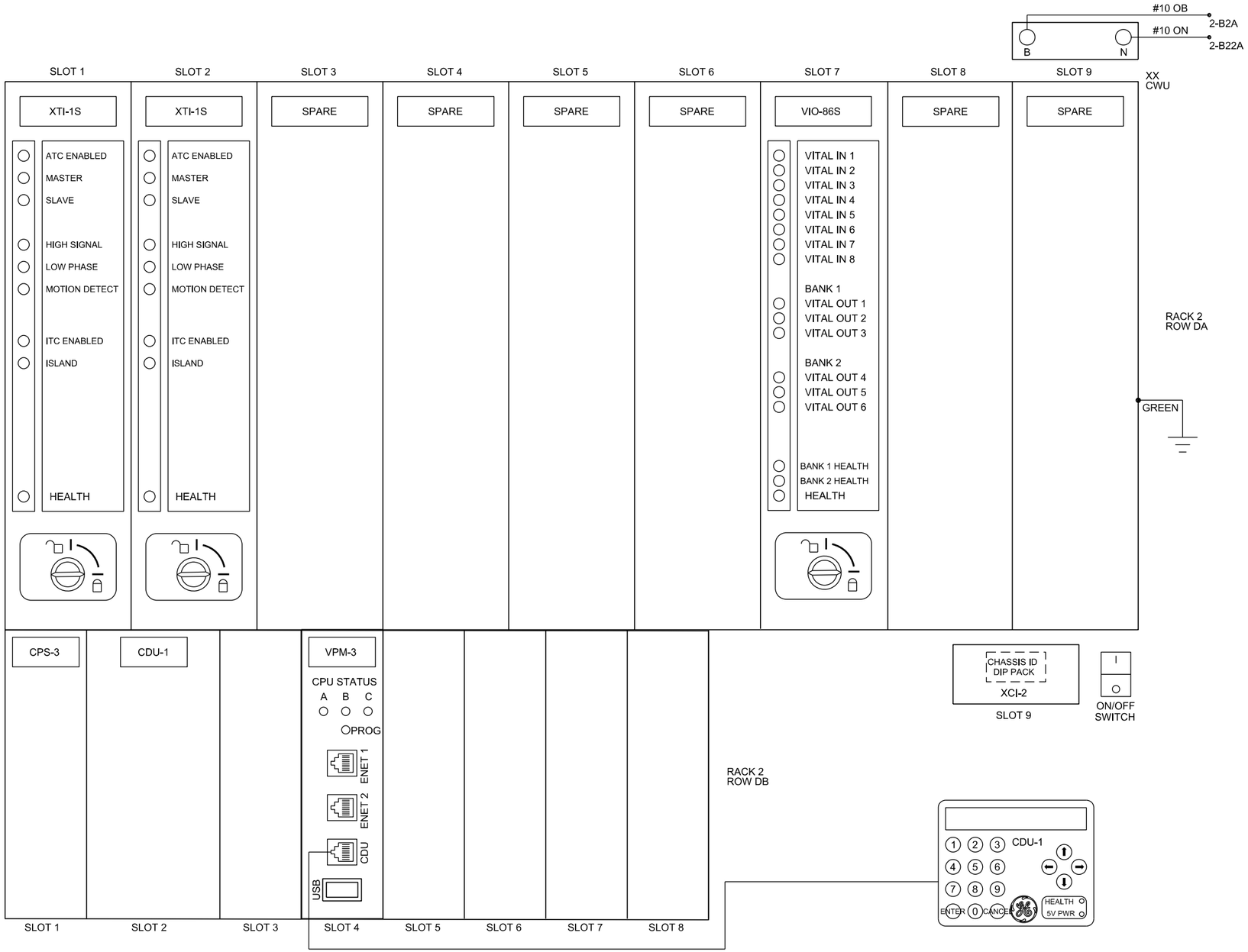
M.P. A-800.59

SHEET NO.

545

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80059.023V



THIS SHEET
VOID

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ENGINEER OF RECORD
IVORY L. WHITE, JR, P.E.
P.E. LICENSE NO. 58608

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

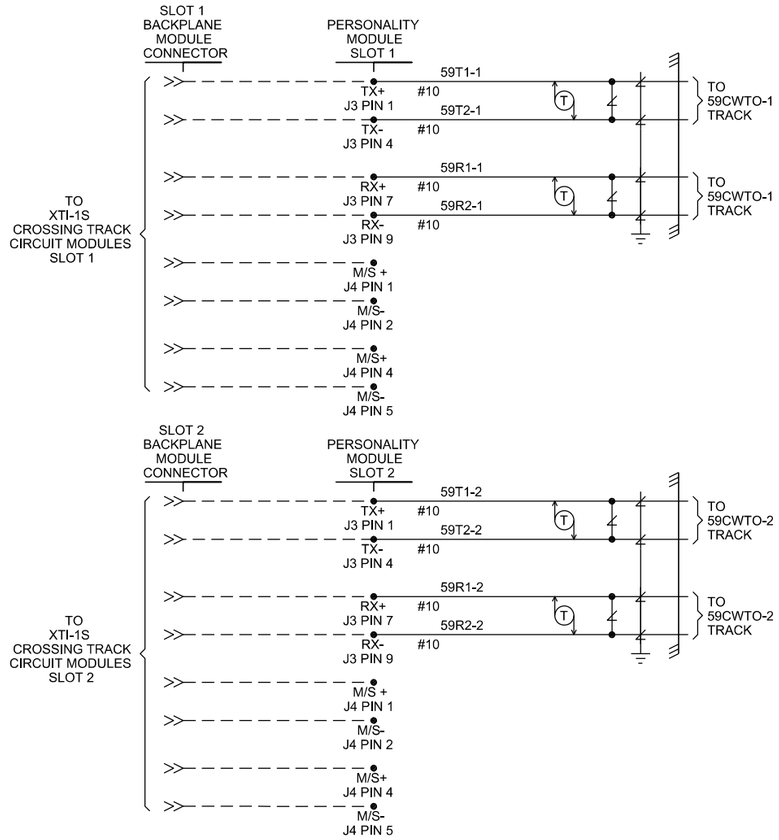
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

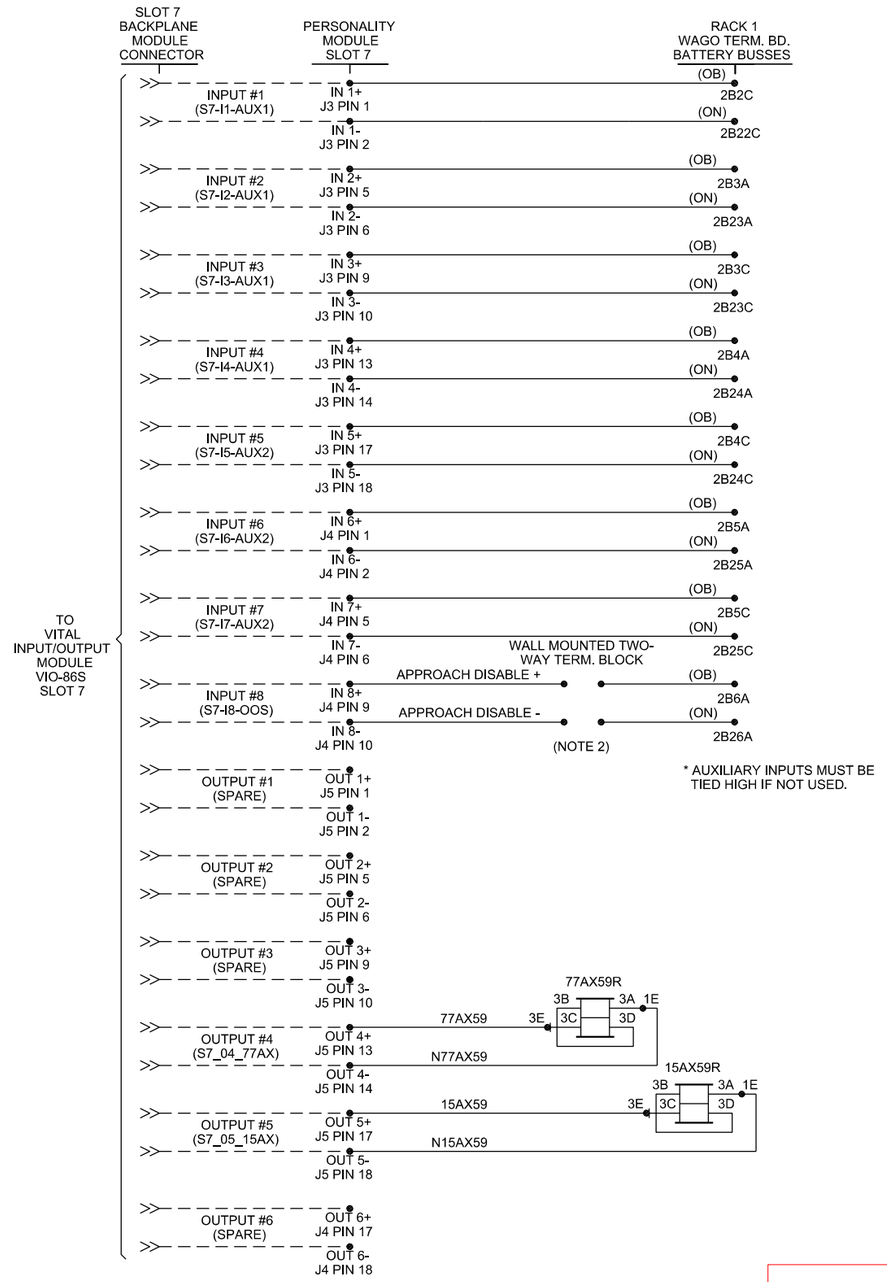
S.E. STANTON
XP4 UNIT AND COMM
M.P. A-800.59

SHEET NO.
546

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80059.024V





SLOT 7 I/O	
INPUT 1	POSITIVE CONTROL AUXILIARY INPUT 1
INPUT 2	POSITIVE CONTROL AUXILIARY INPUT 2
INPUT 3	POSITIVE CONTROL AUXILIARY INPUT 3
INPUT 4	POSITIVE CONTROL AUXILIARY INPUT 4
INPUT 5	POSITIVE CONTROL AUXILIARY INPUT 5
INPUT 6	POSITIVE CONTROL AUXILIARY INPUT 6
INPUT 7	POSITIVE CONTROL AUXILIARY INPUT 7
INPUT 8	APPROACH DISABLE JUMPER INPUT
OUTPUT 1	SPARE
OUTPUT 2	SPARE
OUTPUT 3	SPARE
OUTPUT 4	77AX59
OUTPUT 5	15AX59
OUTPUT 6	SPARE

NOTES
1. ALL WIRE THIS SHEET #16 AWG UNLESS NOTED.
2. APPROACH DISABLE JUMPER INPUT. THIS INPUT IS USED IN COMBINATION WITH THE SOFT APPROACH DISABLE ACCESSED THROUGH THE CDU-1 KEYPAD. INPUTS MUST BE HIGH TO DISABLE AN APPROACH. THE OPERATOR IS SOLELY RESPONSIBLE FOR CROSSING PROTECTION WHEN THE APPROACH DISABLE FUNCTION IS ACTIVATED.

THIS SHEET VOID

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CERT. OF AUTHORIZATION NO. 9875
ENGINEER OF RECORD IVORY L. WHITE, JR, P.E. P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

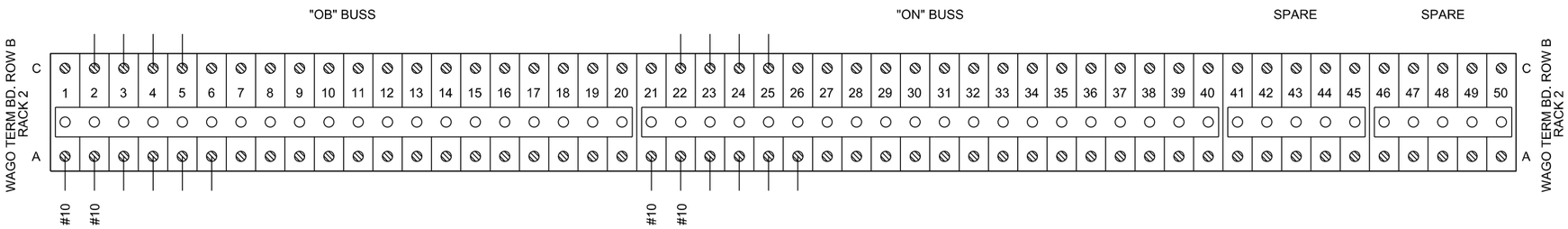
S.E. STANTON
XP4 UNIT XTI-1S
M.P. A-800.59

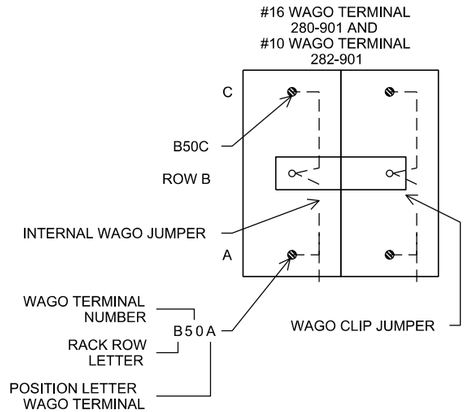
SHEET NO.
547

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.

G80059.025V





NOTES:

1. 2B1A TO OB SUPPLY RACK 2.
2. 2B21A TO ON SUPPLY RACK 2.
3. ROW B TERMINALS 1-50 ARE WAGO PART #282-901.

THIS SHEET VOID

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ENGINEER OF RECORD
IVORY L. WHITE, JR, P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

S.E. STANTON
RACK 2 WAGO
M.P. A-800.59

SHEET NO.
548

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80059.026V

	MDR1				MDR2			
NAME	77AX59				15AX59			
WARNING TIME	30				30			
CW/MD	CW				CW			
AP TIME(PREEMPT)	0				0			
CWE-WT	80				80			
AUX RECOVERY DELAY	0				0			
	TK1	TK2	TK3	TK4	TK1	TK2	TK3	TK4
TRACK ASSIGNED	ASSIGNED	ASSIGNED	NOT ASSIGNED	NOT ASSIGNED	ASSIGNED	ASSIGNED	NOT ASSIGNED	NOT ASSIGNED
OFFSET DISTANCE	1131'	824'	NA	NA	3176'	2869'	NA	NA
MD RESTART	0*	0*	NA	NA	0*	0*	NA	NA
SUDDEN SHUNT ZONE	0*	0*	NA	NA	0*	0*	NA	NA
POSITIVE START PSEN	DISABLE	DISABLE	NA	NA	DISABLE	DISABLE	NA	NA
POSITIVE START PSRX	NA	NA	NA	NA	NA	NA	NA	NA
POSITIVE START PST	NA	NA	NA	NA	NA	NA	NA	NA
POST JOINT DETECT PJEN	DISABLE	DISABLE	NA	NA	DISABLE	DISABLE	NA	NA
POST JOINT DETECT PJRX	NA	NA	NA	NA	NA	NA	NA	NA
POST JOINT DETECT PJDT	NA	NA	NA	NA	NA	NA	NA	NA

BASIC TRACK SETUP				
	TRACK 1	TRACK 2	TRACK 3	TRACK 4
FREQUENCY	86 HZ	970 HZ	*	*
MASTER/SLAVE	MASTER	MASTER	MASTER	MASTER
RX ADJUST	100 *	100 *	100 *	100 *
TCA	*	*	*	*
DIRECTION MODE	UNI	UNI	BI	BI
LIA	*	*	*	*
ADVANCED APPROACH	*	*	*	*
NBS COMP RX	*	*	*	*
TRK ISLAND ASSIGN	NA	NA	NA	NA
APPROACH LENGTH	3491'	307'	*	*
AUTO RX	ENABLE	ENABLE	DISABLE	DISABLE

IXC-20S(-1)				
	IXC 1	IXC 2	IXC 3	IXC 4
LAMP BANK 1				
LAMP BANK 2				
GATE 1 DELAY				
GATE 2 DELAY				
FLASH RATE				

IXC-20S(-2)				
	IXC 1	IXC 2	IXC 3	IXC 4
LAMP BANK 1				
LAMP BANK 2				
GATE 1 DELAY				
GATE 2 DELAY				
FLASH RATE				

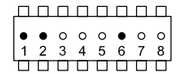
VPM3 ETHERNET SETUP	
	IP ADDRESS
ETHERNET PORT 1 (TOP)	192.168.0.11
ETHERNET PORT 2 (BOTTOM)	192.168.1.12

ADVANCED TRACK SETUP					
		TRACK 1	TRACK 2	TRACK 3	TRACK 4
MOTION DET TIMER	MDEN	DISABLE	DISABLE	DISABLE	DISABLE
MOTION DET TIMER	MDTT	10 MIN	10 MIN	10 MIN	10 MIN
FALSE SHUNT	FSEN	DISABLE	DISABLE	DISABLE	DISABLE
FALSE SHUNT	FSRX	NA	NA	NA	NA
FALSE SHUNT	FST	NA	NA	NA	NA
APPROACH RELEASE	AREN	DISABLE	DISABLE	DISABLE	DISABLE
APPROACH RELEASE	ARRX	NA	NA	NA	NA
APPROACH RELEASE	ART	NA	NA	NA	NA
LOS TIME		16 SEC	16 SEC	16 SEC	16 SEC
IJ-LOS TIME		5 SEC	5 SEC	5 SEC	5 SEC
NRML_SHRT_VRYSHRT		*	*	*	*

ISLAND SETUP				
	TRACK 1	TRACK 2	TRACK 3	TRACK 4
ENABLE/DISABLE	DISABLE	DISABLE	DISABLE	DISABLE
FREQUENCY	X.X KHZ	X.X KHZ	X.X KHZ	X.X KHZ
LOSS OF SHUNT	2 SEC.	2 SEC.	2 SEC.	2 SEC.
FAULT DELAY	1 OR 2	1 OR 2	1 OR 2	1 OR 2

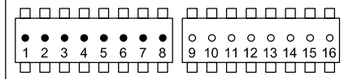
APPLICATION SOFTWARE INFORMATION	
NAME	SINGLEVAPP
REV.	1.0
CHECKSUM	2D87
CRC	1CC7

CHASSIS ID DIP SHUNTS
LOCATED ON BACKPLANE
UNDERNEATH XCI-2 MODULE



○ = TAB INTACT (MADE)
● = TAB PUNCHED OUT (BROKEN)

VITAL SELECTION DIP SHUNTS
LOCATED INSIDE XCI-2 MODULE
UNDERNEATH EPROM



○ = TAB INTACT (MADE)
● = TAB PUNCHED OUT (BROKEN)

NOTES:
= FIELD ADJUSTMENT
NA = NOT APPLICABLE

THIS SHEET VOID

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REVISIONS					
REV.	DATE	DESCRIPTION	REV.	DATE	DESCRIPTION
1	12/10/13	IN-SERVICE PER SUNRAIL, FDOT.			

XORAIL
5011 GATE PARKWAY BUILDING 100
SUITE 400 JACKSONVILLE FLORIDA 32256
(904) 443-0083 (MAIN)
(904) 443-0089 (FAX)
CERT. OF AUTHORIZATION NO. 9875
ENGINEER OF RECORD
IVORY L. WHITE, JR, P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

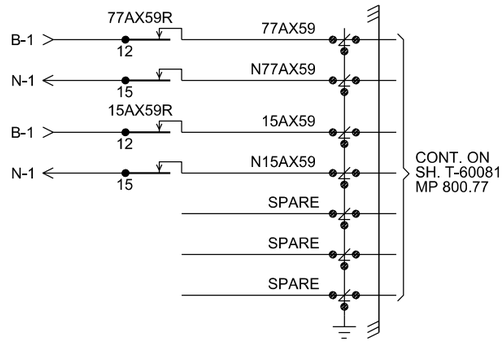
S.E. STANTON
XP4 UNIT SETUP
M.P. A-800.59

SHEET NO.
549

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.

G80059.027V



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VOID

REVISIONS					
REV.	DATE	DESCRIPTION	REV.	DATE	DESCRIPTION
1	12/10/13	IN-SERVICE PER SUNRAIL, FDOT.			

XORAIL
5011 GATE PARKWAY BUILDING 100
SUITE 400 JACKSONVILLE FLORIDA 32256
(904) 443-0083 (MAIN)
(904) 443-0089 (FAX)

CERT. OF AUTHORIZATION NO. 9875

ENGINEER OF RECORD
IVORY L. WHITE, JR, P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

S.E. STANTON EXTERNAL CIRCUITS

M.P. A-800.59

SHEET NO.

550

$USER$ $DATE$ $TIME$ $FILE$

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DRAWING NO.
G80077.001

INDEX

SHEET NUMBER	CONTENTS	REVISION NO. 1	2	3	4	5	6	7	8	9
1	TITLE, NOTES, INDEX AND REVISIONS	⊠	⊠	◪						
2	TRACK AND SIGNAL PLAN	⊠	⊠	⊠	◪					
3	MINIMUM PROGRAM STEPS REPORT CWE-77	⊠	◪							
4	POWER DISTRIBUTION	⊠	⊠	◪						
5	DETECTION DEVICE CONSIST CWE-77	⊠								
6	DETECTION DEVICE CONSIST CWE-77	⊠								
7	DETECTION CIRCUITRY CWE-77	⊠	◪							
8	DETECTION CIRCUITRY CWE-77	⊠	◪							
9	DETECTION CIRCUITRY CWE-77	⊠	◪							
10	DETECTION CIRCUITRY CWE-77	⊠	◪							
11	CROSSING WARNING DEVICE GATE CIRCUITRY	⊠	◪							
12	CROSSING WARNING DEVICE GATE CIRCUITRY	⊠	◪							
13	CROSSING WARNING DEVICE GATE CIRCUITRY	⊠	◪							
14	CROSSING WARNING DEVICE LIGHT CIRCUITRY	⊠	◪							
15	CROSSING WARNING DEVICE LIGHT CIRCUITRY	⊠	◪							
16	CROSSING WARNING DEVICE LIGHT CIRCUITRY	⊠	◪							
17	CROSSING WARNING DEVICE LIGHT CIRCUITRY	◪								
18 17	CROSSING WARNING DEVICE CIRCUITRY	⊠	◪							
19 18	SEAR IIi CONFIGURATION & FUNCTIONS	⊠	◪							
20 19	EXTERNAL CIRCUITS	◪								

◪ = DESIGN COMPLETED

⊠ = REVISION COMPLETED

RED = IN
YELLOW = OUT

RED = IN

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REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
12/10/13		IN-SERVICE PER SUNRAIL, FDOT.			
7/11/14		AIS PER FDOT COMMENTS			
10/07/14	AECOM	ADD 2ND TRACK			

TRANSPORTATION
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300 Colonial Center Pkwy, Suite 130
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ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

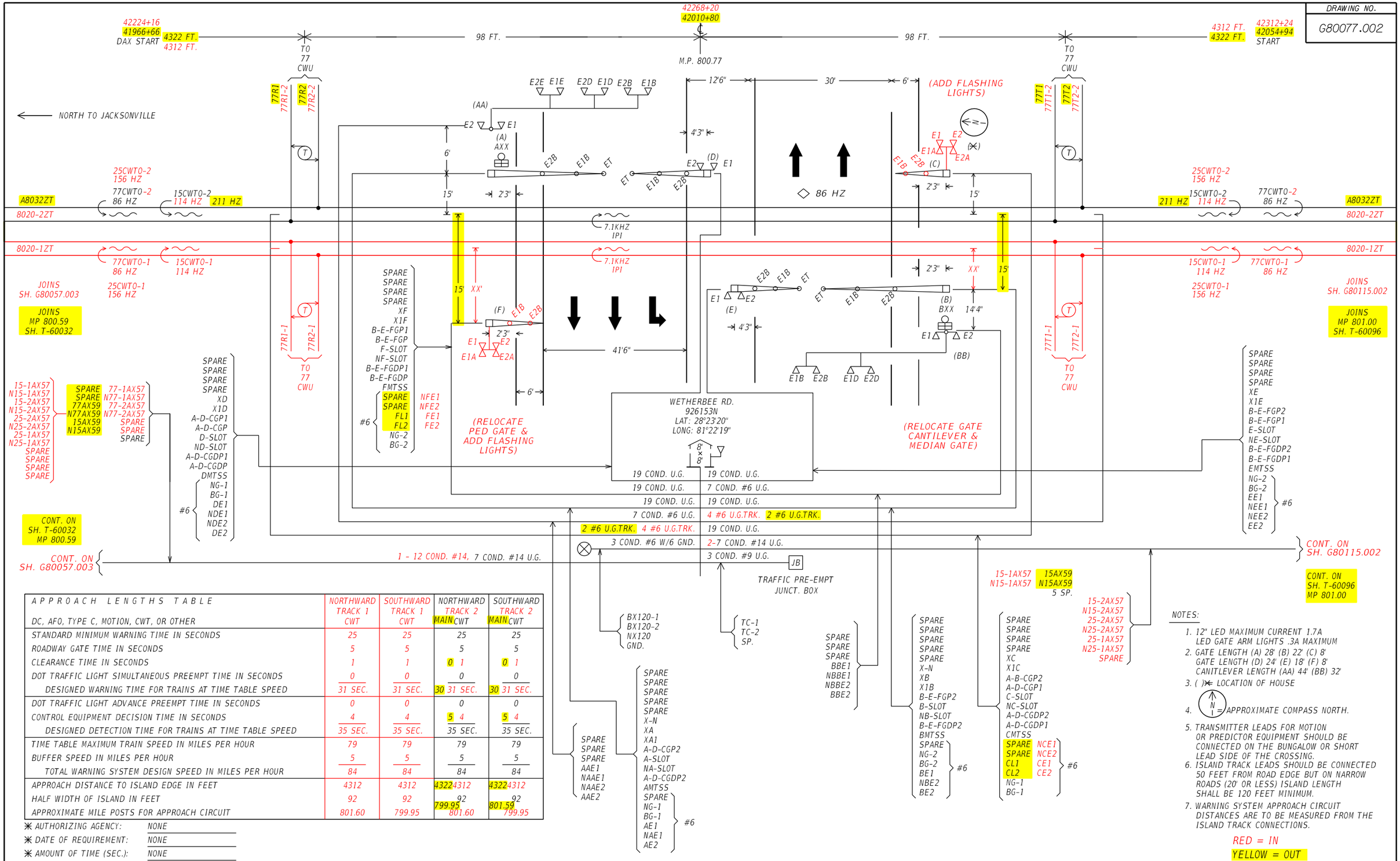
CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

WETHERBEE RD. MP 800.77
INDEX SHEET

SHEET NO.
551

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO. G80077.002



APPROACH LENGTHS TABLE DC, AFO, TYPE C, MOTION, CWT, OR OTHER	NORTHWARD TRACK 1 CWT	SOUTHWARD TRACK 1 CWT	NORTHWARD TRACK 2 MAIN CWT	SOUTHWARD TRACK 2 MAIN CWT
STANDARD MINIMUM WARNING TIME IN SECONDS	25	25	25	25
ROADWAY GATE TIME IN SECONDS	5	5	5	5
CLEARANCE TIME IN SECONDS	1	1	0 1	0 1
DOT TRAFFIC LIGHT SIMULTANEOUS PREEMPT TIME IN SECONDS	0	0	0	0
DESIGNED WARNING TIME FOR TRAINS AT TIME TABLE SPEED	31 SEC.	31 SEC.	30 31 SEC.	30 31 SEC.
DOT TRAFFIC LIGHT ADVANCE PREEMPT TIME IN SECONDS	0	0	0	0
CONTROL EQUIPMENT DECISION TIME IN SECONDS	4	4	5 4	5 4
DESIGNED DETECTION TIME FOR TRAINS AT TIME TABLE SPEED	35 SEC.	35 SEC.	35 SEC.	35 SEC.
TIME TABLE MAXIMUM TRAIN SPEED IN MILES PER HOUR	79	79	79	79
BUFFER SPEED IN MILES PER HOUR	5	5	5	5
TOTAL WARNING SYSTEM DESIGN SPEED IN MILES PER HOUR	84	84	84	84
APPROACH DISTANCE TO ISLAND EDGE IN FEET	4312	4312	4322 4312	4322 4312
HALF WIDTH OF ISLAND IN FEET	92	92	92 799.95	92 801.59
APPROXIMATE MILE POSTS FOR APPROACH CIRCUIT	801.60	799.95	801.60	799.95

✳ AUTHORIZING AGENCY: NONE
✳ DATE OF REQUIREMENT: NONE
✳ AMOUNT OF TIME (SEC.): NONE

NOTES:

1. 12" LED MAXIMUM CURRENT 1.7A LED GATE ARM LIGHTS .3A MAXIMUM
2. GATE LENGTH (A) 28' (B) 22' (C) 8' GATE LENGTH (D) 24' (E) 18' (F) 8' CANITLEVER LENGTH (AA) 44' (BB) 32'
3. ( )✳ LOCATION OF HOUSE
4. N APPROXIMATE COMPASS NORTH.
5. TRANSMITTER LEADS FOR MOTION OR PREDICTOR EQUIPMENT SHOULD BE CONNECTED ON THE BUNGALOW OR SHORT LEAD SIDE OF THE CROSSING.
6. ISLAND TRACK LEADS SHOULD BE CONNECTED 50 FEET FROM ROAD EDGE BUT ON NARROW ROADS (20' OR LESS) ISLAND LENGTH SHALL BE 120 FEET MINIMUM.
7. WARNING SYSTEM APPROACH CIRCUIT DISTANCES ARE TO BE MEASURED FROM THE ISLAND TRACK CONNECTIONS.

RED = IN
YELLOW = OUT

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REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
12/10/13		IN-SERVICE PER SUNRAIL, FDOT.			
07/11/14		AIS PER FDOT COMMENTS			
07/11/14	AECOM	PHASE 2 SOUTH			
10/07/14	AECOM	ADD 2ND TRACK			

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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

WETHERBEE RD. MP 800.77 TRACK AND SIGNAL PLAN

SHEET NO. 552

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80077.003

Minimum Program Steps Report

Location and SIN

DOT Number: 926153N
Milepost Number: 800.77
Site Name: WETHERBEE RD

SIN: 712540900316 *

* Parameter is part of office check number calculation.

MCF and Template Selection

MCF Name: GCP-T6X-02-2.mcf
MCF Revision: 022
MCFCRC: 79225F13

Template = 1A:6 Trk Bi (OCCN) *

* Parameter is part of office check number calculation.

Minimum Program Steps

TEMPLATE: module configuration
Track 2/RIO 1 Slot = Track (OCCN) *
Track 3/PSO 2 Slot = Track (OCCN) *
Track 4/PSO 3 Slot = Track (OCCN) *
Track 5/RIO 2 Slot = Track (OCCN) *
Track 6/RIO 3 Slot = Track (OCCN) *

TEMPLATE: preemption
Preempt Logic = Simult (OCCN) *
Preempt Hlth IP Used = No (OCCN) *

TEMPLATE: track 1-Bi, Island
Track 1 : GCP Frequency = 86 Hz (Field,TCN)
Track 1 : Approach Distance = 4312 ft (Set in Field,TCN)
Track 1 : Prime Warning Time = 31 sec (OCCN) *
Track 1 : Prmpt Warning Time = 31 sec (OCCN) *
Track 1 : Prime UAX = 1P (OCCN) *
Track 1 : GCP Transmit Level = Medium (Set in Field,TCN)
Track 1 : Isl Frequency = 7.1 kHz (Set in Field)

TEMPLATE: track 2-Bi, Island
Track 2 : GCP Frequency = 86 Hz (Field,TCN)
Track 2 : Approach Distance = 4312 ft (Set in Field,TCN)
Track 2 : Prime Warning Time = 31 sec (OCCN) *
Track 2 : Prmpt Warning Time = 31 sec (OCCN) *
Track 2 : Prime UAX = 1P (OCCN) *
Track 2 : GCP Transmit Level = Medium (Set in Field,TCN)
Track 2 : Isl Frequency = 7.1 kHz (Set in Field)

TEMPLATE: track 3-Bi, Island
Track 3 : GCP Frequency = Not Set (Set in Field,TCN)
Track 3 : Approach Distance = 9999 ft (Set in Field,TCN)
Track 3 : GCP Transmit Level = Medium (Set in Field,TCN)
Track 3 : Isl Frequency = Not Set (Set in Field)

TEMPLATE: track 4-Bi, Island
Track 4 : GCP Frequency = Not Set (Set in Field,TCN)
Track 4 : Approach Distance = 9999 ft (Set in Field,TCN)
Track 4 : GCP Transmit Level = Medium (Set in Field,TCN)
Track 4 : Isl Frequency = Not Set (Set in Field)

TEMPLATE: track 5-Bi, Island
Track 5 : GCP Frequency = Not Set (Set in Field,TCN)
Track 5 : Approach Distance = 9999 ft (Set in Field,TCN)
Track 5 : GCP Transmit Level = Medium (Set in Field,TCN)
Track 5 : Isl Frequency = Not Set (Set in Field)

TEMPLATE: track 6-Bi, Island
Track 6 : GCP Frequency = Not Set (Set in Field,TCN)
Track 6 : Approach Distance = 9999 ft (Set in Field,TCN)
Track 6 : GCP Transmit Level = Medium (Set in Field,TCN)
Track 6 : Isl Frequency = Not Set (Set in Field)

TEMPLATE: AND 1 XR
AND 1 XR Track 3 = Not Used (OCCN) *
AND 1 XR Track 4 = Not Used (OCCN) *
AND 1 XR Track 5 = Not Used (OCCN) *
AND 1 XR Track 6 = Not Used (OCCN) *

TEMPLATE: SSCC
SSCC-1 Number of GDs = 1 (OCCN) *
SSCC-2 Number of GPs = 1 (OCCN) *
SSCC-2 Number of GDs = 1 (OCCN) *
SSCC 1 : Lamp Neutral Test = Off (Set in Field)
SSCC 2 : Lamp Neutral Test = Off (Set in Field)

TEMPLATE: OOS
OOS Control = Display+OOS IPs (OCCN) *
OOS Timeout = 1 hrs (Set in Field)
T3 OOS Control = None (OCCN) *
T4 OOS Control = None (OCCN) *

TEMPLATE: OOS T5/T6
T5 OOS Control = None (OCCN) *
T6 OOS Control = None (OCCN) *

TEMPLATE: OP assignment 1
OUT 1.1 = Sim Preempt (OCCN) *

TEMPLATE: IP assignment 1
IN 1.1 = T1 Prime UAX (OCCN) *
IN 2.1 = T2 Prime UAX (OCCN) *

TEMPLATE: IP assignment SSCC
IN 7.2 = Out Of Service IP 2 (OCCN) *
IN 8.2 = Out Of Service IP 1 (OCCN) *
IN 8.4 = GD 2.1 (OCCN) *
IN 8.5 = GP 2.1 (OCCN) *

TEMPLATE: SEAR
SP 3.1 = TSS 5 (OCCN) *
SP 4.1 = TSS 6 (OCCN) *
SP 5.1 = TSS 3 (OCCN) (Hidden) *
SP 6.1 = TSS 4 (OCCN) (Hidden) *

PREDICTORS: track 3
Track 3 : Prime Used = No (OCCN) *

PREDICTORS: track 4
Track 4 : Prime Used = No (OCCN) *

PREDICTORS: track 5
Track 5 : Prime Used = No (OCCN) *

PREDICTORS: track 6
Track 6 : Prime Used = No (OCCN) *

GCP: track 1
Track 1 : Island Distance = 184 ft (Set in Field,TCN)

GCP: track 1 preempt
Track 1 : Prmpt Warning Time = 31 sec (OCCN) (Hidden) *

GCP: track 2
Track 2 : Island Distance = 184 ft (Set in Field,TCN)

GCP: track 2 preempt
Track 2 : Prmpt Warning Time = 31 sec (OCCN) (Hidden) *

ADVANCED: site options
Daylight Savings = On (Set in Field)

SEAR
DI 1 = Gnd Flt Tester 1 (OCCN) *
DI 2 = Gnd Flt Tester 2 (OCCN) *
Rly 1 = Ground Fault Test (OCCN) *
Rly 2 = AC Control (OCCN) *

SEAR: slot 7-8 inputs
IN 7.1 = TSS 1 (OCCN) *
IN 8.1 = TSS 2 (OCCN) *
IN 8.3 = POK 2 (OCCN) *

* Parameter is part of office check number calculation.

Check Numbers

Office Check Number: 4921A2B7
Config. Check Number: 6FC8FC62
(Based on MCF Revision 022)

Parameters not part of office check number calculation:

Track 1 : GCP Frequency = 86 Hz
Track 1 : Approach Distance = 4312 ft (Set in Field)
Track 1 : GCP Transmit Level = Medium (Set in Field)
Track 1 : Isl Frequency = 7.1 kHz
Track 2 : GCP Frequency = 86 Hz
Track 2 : Approach Distance = 4312 ft (Set in Field)
Track 2 : GCP Transmit Level = Medium (Set in Field)
Track 2 : Isl Frequency = 7.1 kHz
Track 3 : GCP Frequency = Not Set (Set in Field)
Track 3 : Approach Distance = 9999 ft (Set in Field)
Track 3 : GCP Transmit Level = Medium (Set in Field)
Track 3 : Isl Frequency = Not Set (Set in Field)
Track 4 : GCP Frequency = Not Set (Set in Field)
Track 4 : Approach Distance = 9999 ft (Set in Field)
Track 4 : GCP Transmit Level = Medium (Set in Field)
Track 4 : Isl Frequency = Not Set (Set in Field)
Track 5 : GCP Frequency = Not Set (Set in Field)
Track 5 : Approach Distance = 9999 ft (Set in Field)
Track 5 : GCP Transmit Level = Medium (Set in Field)
Track 5 : Isl Frequency = Not Set (Set in Field)
Track 6 : GCP Frequency = Not Set (Set in Field)
Track 6 : Approach Distance = 9999 ft (Set in Field)
Track 6 : GCP Transmit Level = Medium (Set in Field)
Track 6 : Isl Frequency = Not Set (Set in Field)
SSCC 1 : Lamp Neutral Test = Off (Set in Field)
SSCC 2 : Lamp Neutral Test = Off (Set in Field)
OOS Timeout = 1 hrs (Set in Field)
Track 1 : Island Distance = 184 ft (Set in Field)
Track 2 : Island Distance = 184 ft (Set in Field)
Daylight Savings = On (Set in Field)

Comments

<none>

Configuration Package File

Filename: 800.77 - WETHERBEE.pac
Date/Time: 10/08/2014 9:45:24
DT Version: 5.5.1

NEW SHEET

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REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
12/10/13		IN-SERVICE PER SUNRAIL, FDOT.			
10/07/14	AECOM	ADD 2ND TRACK			

TRANSPORTATION
AECOM TECHNICAL SERVICES, Inc.
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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
WETHERBEE RD. MP 800.77
MINIMUM PROGRAM STEPS
REPORT CWE-77

SHEET NO.
553

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.

G80077.003A

Minimum Program Steps Report

Location and SIN

DOT Number: 926153N
Milepost Number: 800.77
Site Name: WETHERBEE RD

SIN: 712540900316 *

* Parameter is part of office check number calculation.

MCF and Template Selection

MCF Name: GCP-T6X-02-1.mcf
MCF Revision: 021
MCFCRC: 6076E435

Template = 1A:6 Trk Bi *

* Parameter is part of office check number calculation.

Minimum Program Steps

TEMPLATE: preemption
Preempt Logic = Simult *
Preempt Hlth IP Used = No *

TEMPLATE: track 1-Bi, Island
Track 1 : GCP Frequency = 86 Hz (See Plans)
Track 1 : Approach Distance = 4322 ft (See Plans)
Track 1 : Prime Warning Time = 30 sec (See Plans)
Track 1 : Prime UAX = IP *
Track 1 : GCP Transmit Level = Medium (Set in Field)
Track 1 : Isl Frequency = 7.1 kHz (See Plans)

TEMPLATE: SSCC
SSCC-1 Number of GDs = 1 *
SSCC-2 Number of GPs = 1 *
SSCC-2 Number of GDs = 1 *
SSCC 1 : Lamp Neutral Test = Off (Set in Field)
SSCC 2 : Lamp Neutral Test = Off (Set in Field)

TEMPLATE: OOS
OOS Control = Display+OOS IPs *

TEMPLATE: OP assignment 1
OUT 1.1 = Sim Preempt *

TEMPLATE: IP assignment 1
IN 1.1 = T1 Prime UAX *

TEMPLATE: IP assignment SSCC
IN 7.2 = Not Used *
IN 8.2 = Out Of Service IP 1 *
IN 8.4 = GD 2.1 *
IN 8.5 = GP 2.1 *

TEMPLATE: SEAR
SP 3.1 = TSS 5 *
SP 4.1 = TSS 6 *
SP 5.1 = TSS 3 *
SP 6.1 = TSS 4 *

GCP: track 1
Track 1 : Island Distance = 184 ft *

ADVANCED: site options
Daylight Savings = On *

SSCC: 1
SSCC-1 Gate Delay = 5 sec *
SSCC 1 : Flash Rate = 55 *

SSCC: 2
SSCC-2 Gate Delay = 5 sec *
SSCC 2 : Flash Rate = 55 *

SEAR
DI 1 = Gnd Flt Tester 1 *
DI 2 = Gnd Flt Tester 2 *
Rly 1 = Ground Fault Test *
Rly 2 = AC Control *

SEAR: slot 7-8 inputs
IN 7.1 = TSS 1 *
IN 8.1 = TSS 2 *
IN 8.3 = POK 2 *

* Parameter is part of office check number calculation.

Check Numbers

Office Check No. (DT 4.6.0): 445D5000
Office Check Number: 445D5000
Config. Check Number: 17011003
(Based on MCF Revision 021)

Parameters not part of office check number calculation:

Track 1 : GCP Frequency = 86 Hz
Track 1 : Approach Distance = 4322 ft
Track 1 : Prime Warning Time = 30 sec
Track 1 : GCP Transmit Level = Medium (Set in Field)
Track 1 : Isl Frequency = 7.1 kHz
SSCC 1 : Lamp Neutral Test = Off (Set in Field)
SSCC 2 : Lamp Neutral Test = Off (Set in Field)

Comments

<none>

Configuration Package File

Filename: MP 800.77.pac
Path: J:\Railroads\SunRail\programming\Crossings\MP 785.77\
Date/Time: 10/30/2012 11:31:43
DT Version: 5.5.1

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T-60073

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ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
WETHERBEE RD. MP 800.77
MINIMUM PROGRAM STEPS
REPORT CWE-77

SHEET NO.
554

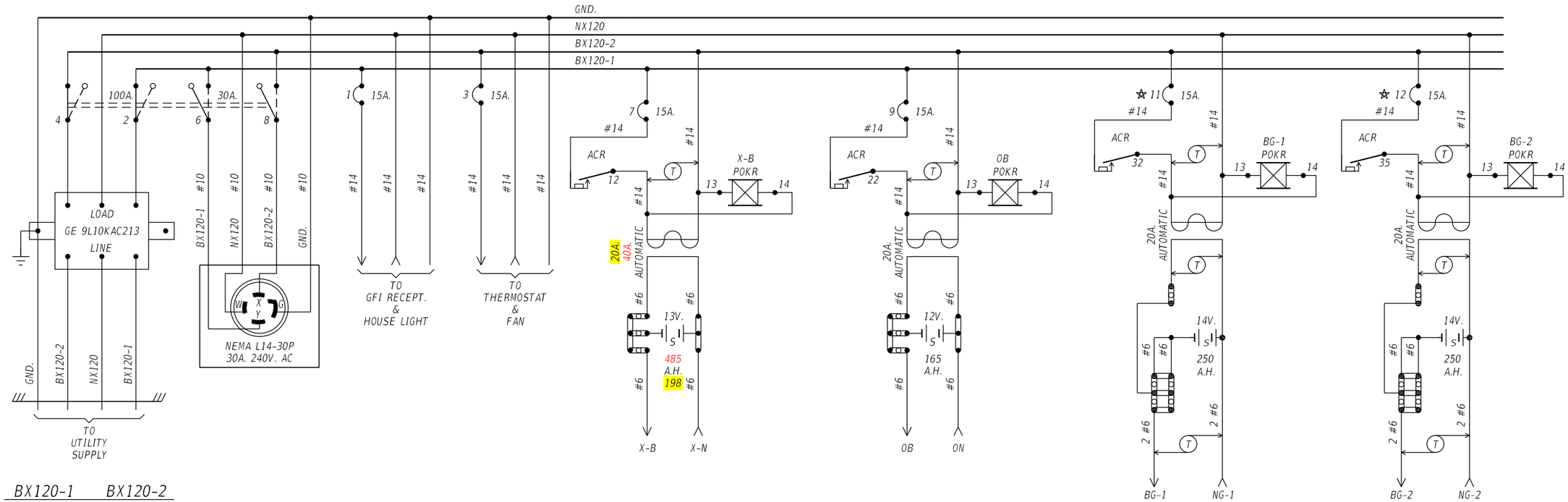
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DRAWING NO.
G80077.004

TOP ROW

77AX59

ACR	X-B POKR	MCR	BG-2 POKR	PER	77-2AX57	77-1AX57
12 B B77	9 11 F	9 F 11	9 11 F	12 B8	12 F B8	12 F B8
15 C30	10 F 12 N66	10 12 N41	10 F 12 N66	15 B8	15 C30	15 C30
22 B	C48	C48	C48	22 C30	22 C40	22 C40
25	C49	C49	C49	23 F	23	23
32 B	OB POKR	BG-1 POKR		25 F	25	25
35 B	9 11 F	9 11 F		32	32	32
	10 F 12 N66	10 F 12 N66		35	35	35
	C48	C48				



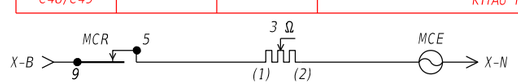
BX120-1 BX120-2

14.0 AMPS | 14.0 AMPS
MAXIMUM LOAD

NOTES:

1 - SHELF RELAY PLACEMENT ON CONSIST CHART HAS NO SIGNIFICANCE.
2 - PLUG-IN RELAYS ARE VIEWED FROM THE FRONT OF RACK.
3 - BATTERY A.H. CAPACITY SHOWN IS THE MINIMUM REQUIREMENT.
4 - WIRING
  A - FEED TO ALL BUSSES, LIGHT CIRCUITS,MOTOR CIRCUITS TO BE #10 FLEX.
  B - 120-VOLT FEED FROM ENTRANCE TO POWER BUSS TO BE #10 FLEX.
  C - ALL TRACK WIRES TO BE #10 FLEX.
  D - ALL OTHERS TO BE #16 FLEX UNLESS NOTED.
  E - GROUND WIRE NOT NECESSARY WHEN GE ARRESTER IS MOUNTED ON GROUND PLANE OR METAL ENCLOSURE AFFIXED DIRECTLY TO BUNGALOW METALLIC STRUCTURAL MEMBER.
5 - CIRCUIT INTERRUPTERS 2 & 4 ARE MECHANICALLY INTERLOCKED WITH CIRCUIT INTERRUPTERS 6 & 8.

RELAY IDENTIFICATION AND CROSS REFERENCE			
TYPE	GRS	SAFETRAN	DETAILS
B8	A62-277	400004	4FB-2F-1B, NEUTRAL, 500 OHMS
B36	A62-353	400213	2FB, NEUTRAL-SLOW RELEASE, 460 OHMS
B62	A62-406	400800	6FB (HD), POWER TRANSFORMER 10 VAC, 100/100 OHMS
B77	A62-580	400023	6FB (HD), NEUTRAL, 500 OHMS
B81	A62-671	400700-X	4FB, FLASHERS W/X-PAK MODULE, 18 OHMS
B82	A62-0741	400004	4FB-2FB, NEUTRAL-LINE, 500 OHMS
C30	A62-506		PLUGBOARD KIT FOR B1 RELAYS
N41			4FB, PB NEUTRAL 12 VAC, 160 OHMS
N66			4PDT, PB NEUTRAL 120 VAC, 3900 OHMS
C48/C49			KHAU TYPE SURFACE MOUNT RELAY SOCKET



8'X 8' RELAY HOUSE W/FARADAY SHIELD

RED = IN
YELLOW = OUT

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.003, F.A.C.

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
12/10/13		IN-SERVICE PER SUNRAIL, FDOT.			
7/11/14		AIS PER FDOT COMMENTS			
10/07/14	AECOM	ADD 2ND TRACK			

TRANSPORTATION
AECOM TECHNICAL SERVICES, Inc.
300 Colonial Center Pkwy, Suite 130
Lake Mary, FL, 32746
T 407.549.4200 F 407.549.4201
Certificate of Authorization No. 8115
www.aecom.com

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

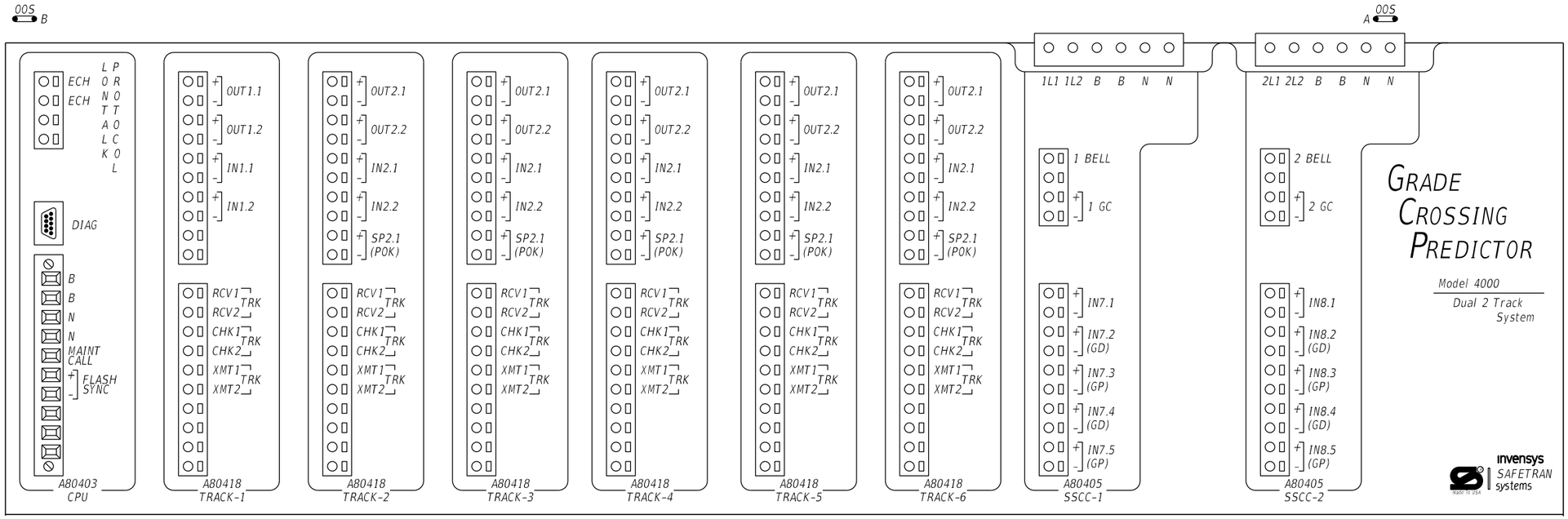
WETHERBEE RD. MP 800.77
POWER DISTRIBUTION

SHEET NO. 555

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.

G80077.005



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REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
12/10/13		IN-SERVICE PER SUNRAIL, FDOT.			

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ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

WETHERBEE RD. MP 800.77 DETECTION DEVICE CONSIST CWE-77

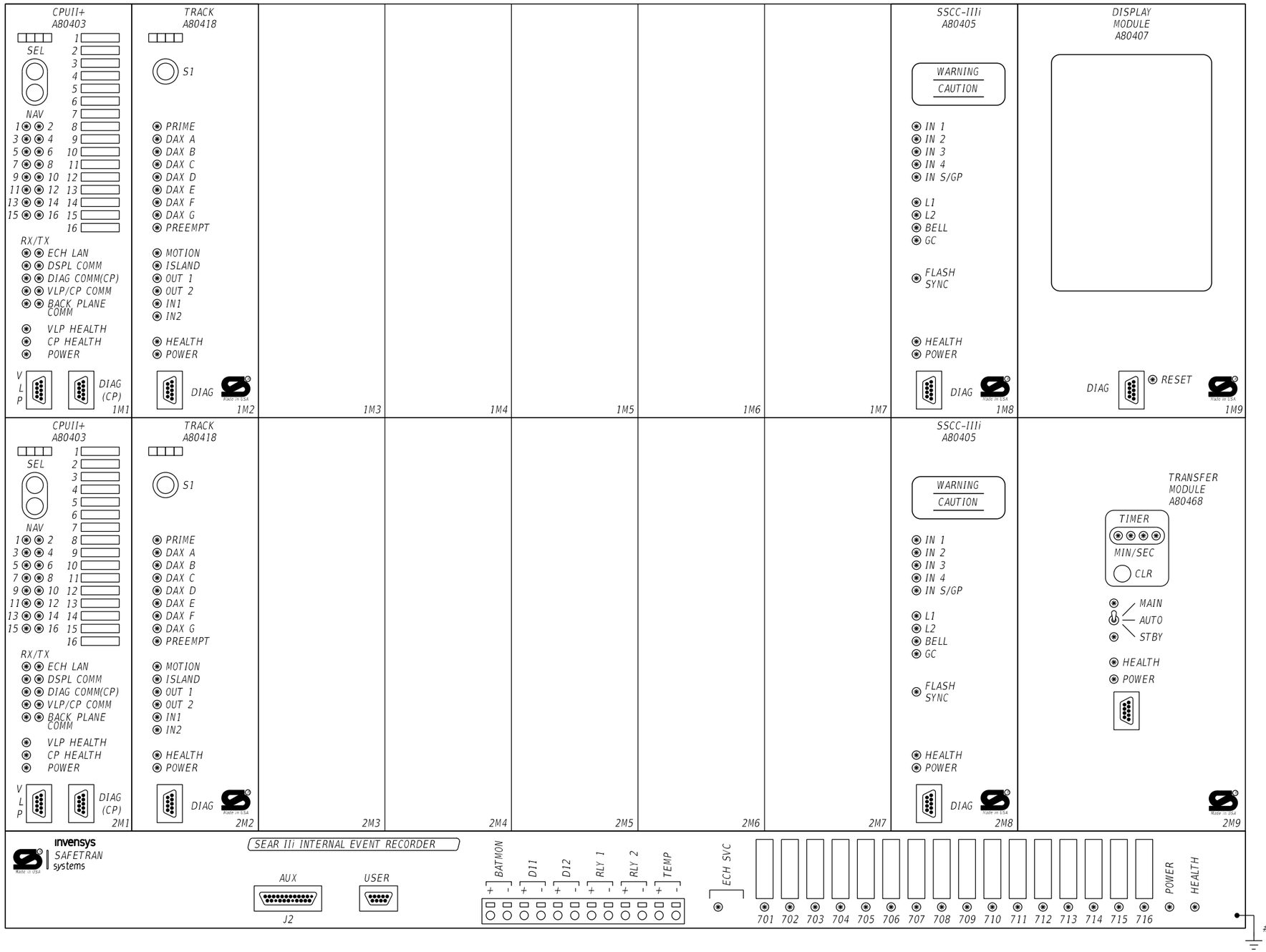
SHEET NO.

556

$USER$ $DATE$ $TIME$ $FILE$

00S B

00S A



GCP 4000 APPLICATION NOTES:

1. THE GRADE CROSSING PREDICTOR (GCP) IS A MODULAR MICROPROCESSOR CONTROLLED SYSTEM THAT IS DEPLOYED TO CONTINUALLY MONITOR THE APPROACHES TO RAILROAD GRADE CROSSINGS AND TO CONTROL THE LAMPS, GATES AND BELLS ASSOCIATED WITH THOSE CROSSINGS. WHEN EQUIPPED WITH THE SEAR IIi MODULE THE GCP 4000 WILL RECORD EVENTS AND REPORT ALARMS WHEN CONNECTED TO AN OFFICE SYSTEM.

2. THE GCP 4000 GCP (A80460) IS A SIX TRACK REDUNDANT UNIT CAPABLE OF DRIVING 4 INDEPENDENT FLASHER AND GATE SIGNALS AND RECORDING EVENTS AND REPORTING ALARMS. THE STANDARD A80460 INCLUDES THE FOLLOWING MODULES:

SLOT	MODULE	FUNCTION	PART NO.
1M1	CPU-II+	MAIN	A80403
1M2	TRACK-1	MAIN	A80418
1M3			
1M4			
1M5			
1M6			
1M7			
1M8	SSCC-IIIi	A SIGNAL	A80405
1M9	DISPLAY MODULE		A80407
2M1	CPU-II+	STANDBY	A80403
2M2	TRACK-1	STANDBY	A80418
2M3			
2M4			
2M5			
2M6			
2M7			
2M8	SSCC-IIIi	B SIGNAL	A80405
2M9	TRANSFER UNIT		A80406
LOWER BAY	SEAR IIi	RECORDER	A80410
OPTIONAL MODULES:			
RIO MODULE			A80413

3. EACH TRACK MODULE HAS TWO PROGRAMMABLE INPUTS AND TWO PROGRAMABLE OUTPUTS.

4. THE SEAR IIi INTERNAL EVENT RECORDER HAS INPUTS FOR ONE BATTERY MONITOR, TWO NON-VITAL INPUTS AND TWO PROGRAMMABLE RELAY DRIVES (HEEL/FRONT).

5. LOCATED ON THE FRONT OF EACH MODULE THERE ARE LED LIGHTS TO INDICATE THE ACTIVITY OF CERTAIN FUNCTIONS OCCURRING INSIDE THE GCP.

6. BETWEEN SLOT 1 & 2 THERE IS A CHASSIS IDENTIFICATION CHIP (CIC) SOCKET AND A ECD CONNECTOR (DB-25 FEMALE).

7. UPON THE FAILURE OF A MODULE IN SLOTS M1-M7 THE AUTOMATIC TRANSFER UNIT SWITCHES TO THE STANDBY MODULES IN SLOTS M10-M16.

8. THE MAIN AND STANDBY MAY USE RIO MODULES IN SLOTS M3, M6, AND M7

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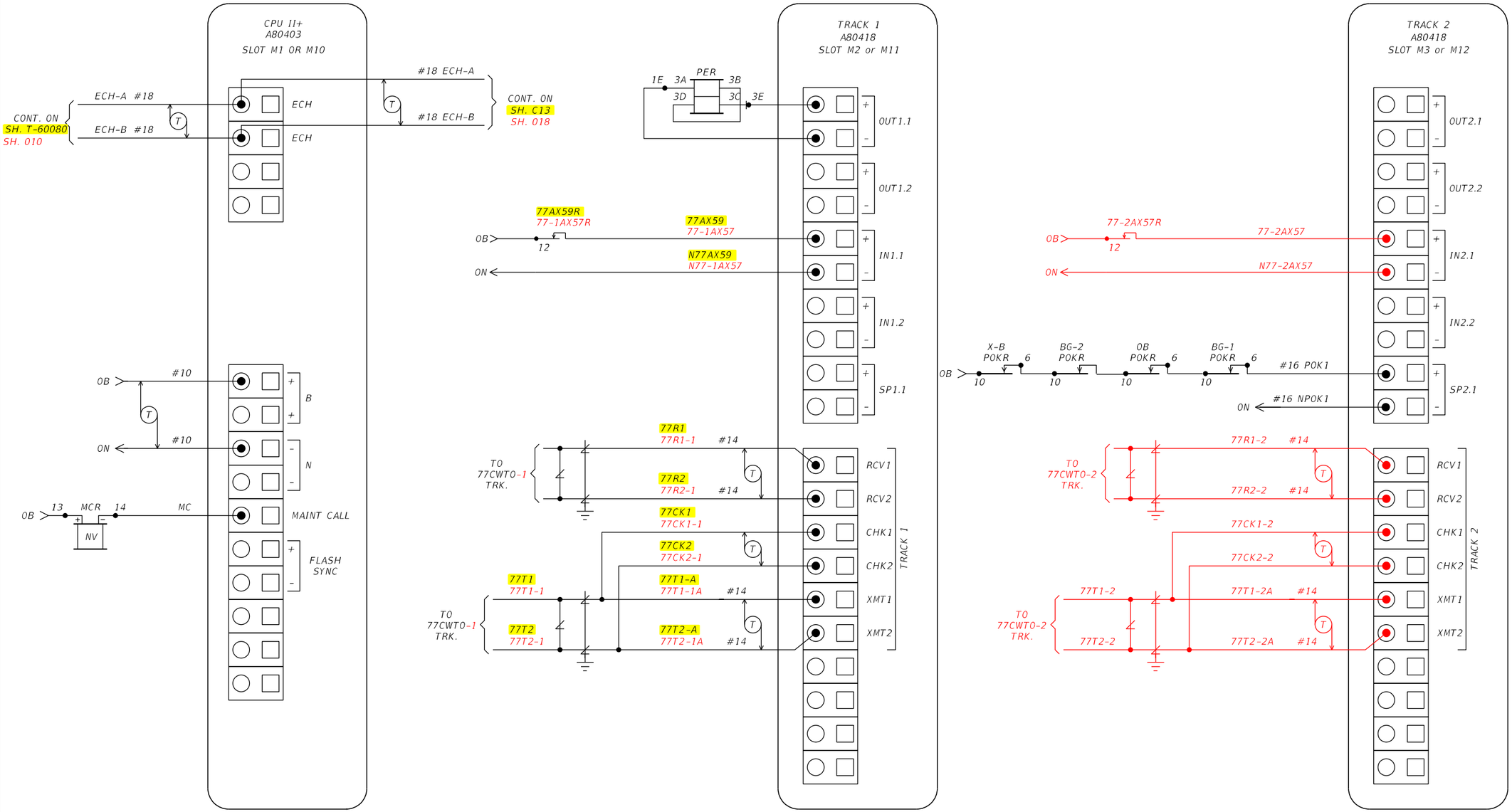
CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

WETHERBEE RD. MP 800.77 DETECTION DEVICE CONSIST CWE-77

SHEET NO. 557

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80077.007



THIS SHEET REDRAWN

RED = IN
YELLOW = OUT

NOTE:

ECHELON CONNECTIONS NOT TO EXCEED 53' IN LENGTH AND TOTAL LENGTH COMBINED NOT TO EXCEED 430' WITH A MAXIMUM OF 8 NODES. RECOMMEND USE BELDEN WIRE CABLE #8461 OR EQUIVALENT.

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REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
12/10/13		IN-SERVICE PER SUNRAIL, FDOT.			
10/07/14	AECOM	ADD 2ND TRACK			

TRANSPORTATION
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ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

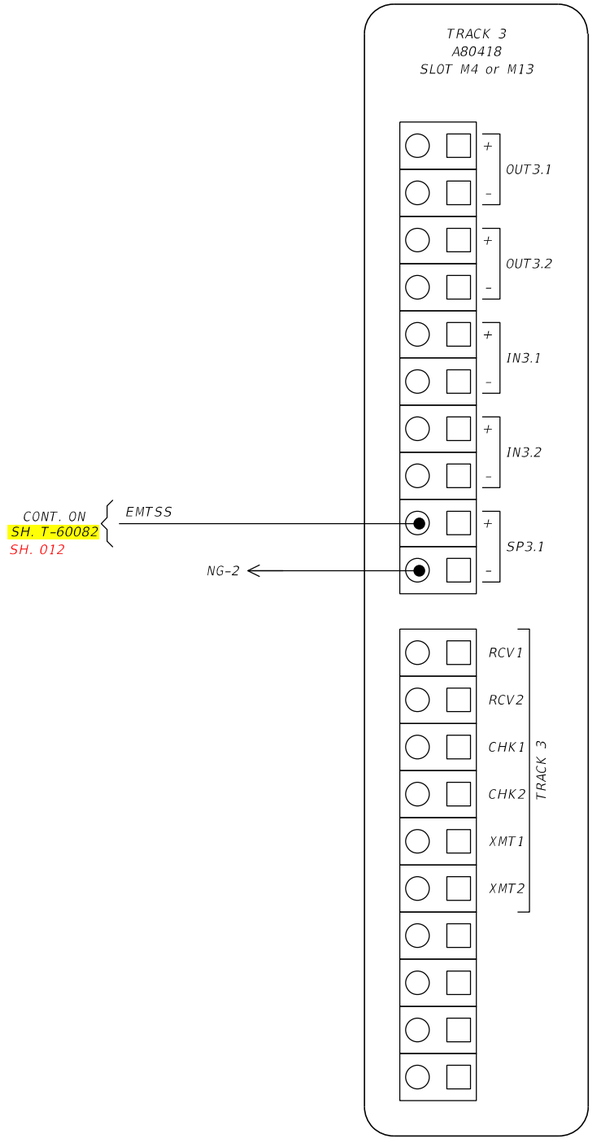
WETHERBEE RD. MP 800.77 DETECTION CIRCUITRY CWE-77

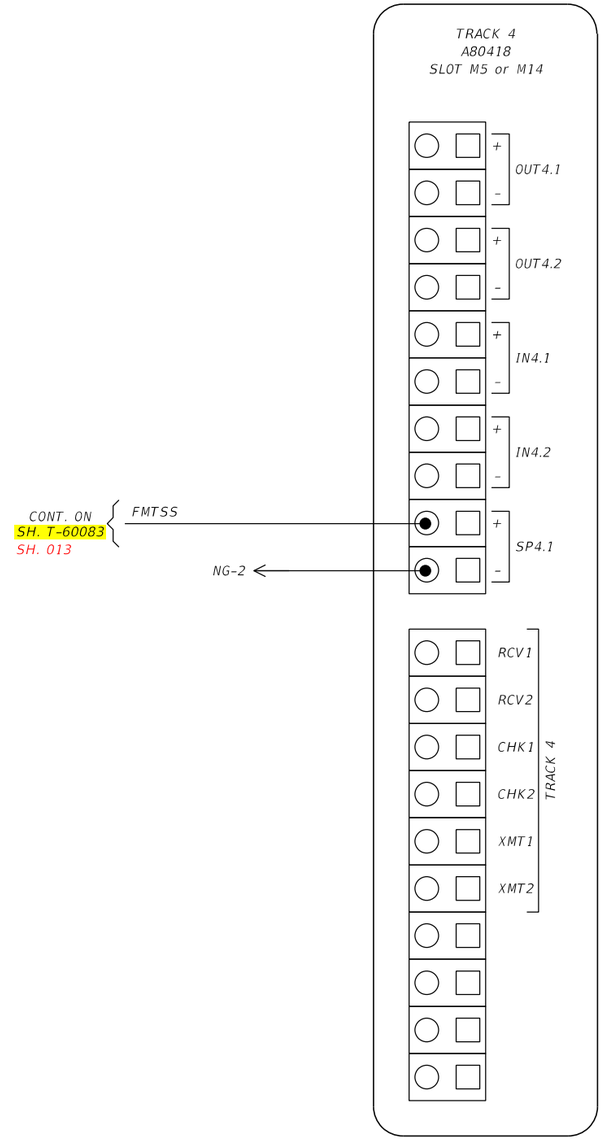
SHEET NO. 558

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.

G80077.008





NOTE:

ECHELON CONNECTIONS NOT TO EXCEED 53' IN LENGTH AND TOTAL LENGTH COMBINED NOT TO EXCEED 430' WITH A MAXIMUM OF 8 NODES. RECOMMEND USE BELDEN WIRE CABLE #8461 OR EQUIVALENT.

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REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
12/10/13		IN-SERVICE PER SUNRAIL, FDOT.			

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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

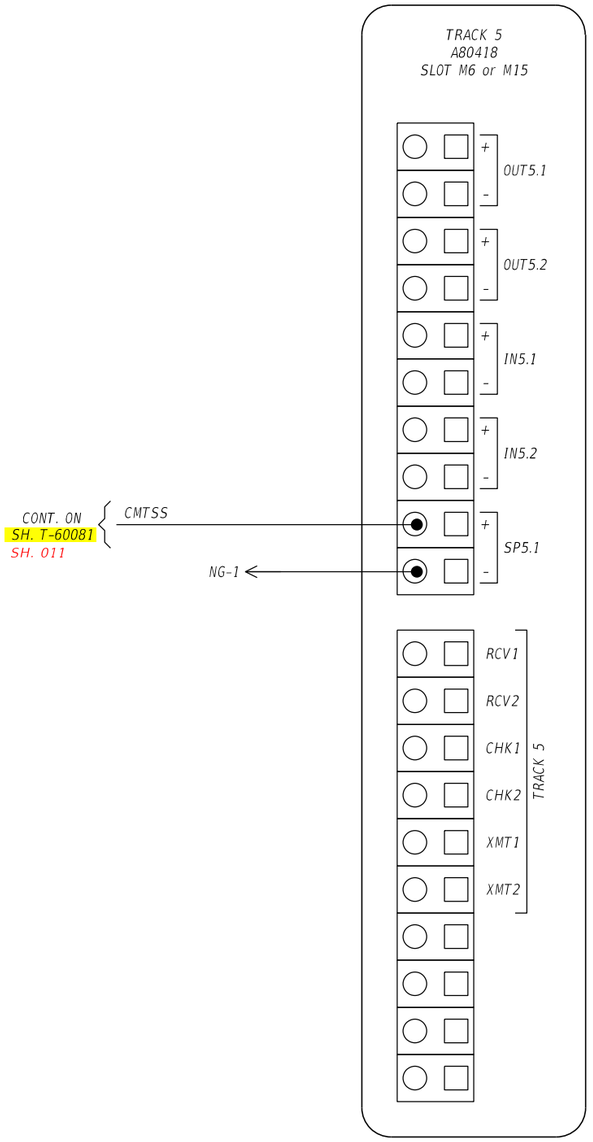
CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

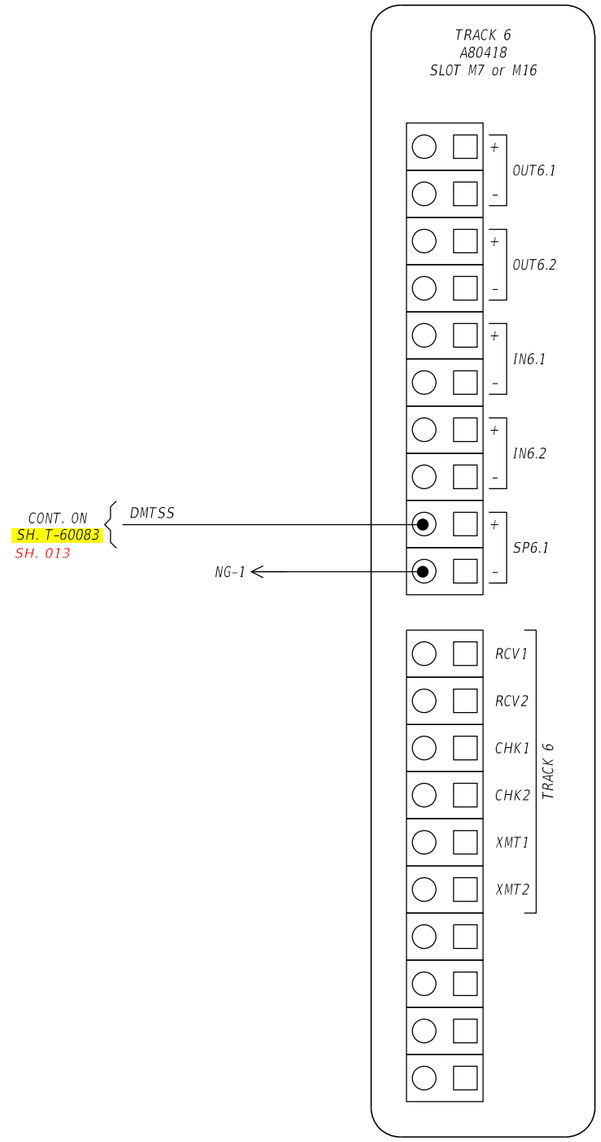
WETHERBEE RD. MP 800.77 DETECTION CIRCUITRY CWE-77

SHEET NO. 559

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80077.009





RED = IN
YELLOW = OUT

NOTE:

ECHELON CONNECTIONS NOT TO EXCEED 53" IN LENGTH AND TOTAL LENGTH COMBINED NOT TO EXCEED 430' WITH A MAXIMUM OF 8 NODES. RECOMMEND USE BELDEN WIRE CABLE #8461 OR EQUIVALENT.

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REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
12/10/13		IN-SERVICE PER SUNRAIL, FDOT.			

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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

WETHERBEE RD. MP 800.77
DETECTION CIRCUITRY
CWE-77

SHEET NO.
560

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80077.010

CURRENT SENSOR #1

CONT. ON SH. T-60077 SH. 007
ECH-A #18
ECH-B #18
iLOD
J1 ECH
ECHELON SERVICE
B
N
PWR
LOD A
LOD B
A80271
OB
ON
#10 CL1
#10 AE1
#10 AAE1
#10 DE1
#10 DE2
#10 AAE2
#10 AE2
#10 CL2
CONT. ON SH. T-60085 SH. 015
CONT. ON SH. T-60086 SH. 016
CONT. ON SH. T-60084 SH. 014
CONT. ON SH. T-60081 011

CURRENT SENSOR #2

ECH-A1 #18
ECH-B1 #18
CONT. ON SH. T-60086 SH. 016
#10 FL1
#10 BE2
#10 BBE2
#10 EE2
#10 EE1
#10 BBE1
#10 BE1
#10 FL2
CONT. ON SH. T-60085 SH. 015
CONT. ON SH. T-60086 SH. 016
CONT. ON SH. T-60084 SH. 014
CONT. ON SH. T-60083 SH. 013

AE1 AE2 X-B X-B X-N X-N
BE2 BE1 X-B X-B X-N X-N
SSCC-1 A80405 SLOT M8
SSCC-2 A80405 SLOT M17
1L1 1L2 + + - -
2L1 2L2 + + - -
B N

SIG (A) LIGHTING AND GATE CONTROL
SIG (B) LIGHTING AND GATE CONTROL

CONT. ON SH. T-60083 SH. 013
X1D X1A X1C X1ACD
A-SLOT D-SLOT C-SLOT NA-SLOT ND-SLOT NC-SLOT
A-D-C-SLOT NA-D-C SLOT
CONT. ON SH. T-60081 SH. 011
A BELL
AGC
AMTSS
NG-1
OB 00S-1 B
A 00S-1 00S-1
ON
A-D-CGDP
A-D-CGP
CONT. ON SH. T-60083 SH. 013
IN7.1
IN7.2
IN7.3
IN7.4 (GD)
IN7.5 (GP)

CONT. ON SH. T-60083 SH. 013
X1F X1E X1B X1BEF
B-SLOT E-SLOT F-SLOT NB-SLOT NE-SLOT NF-SLOT
B-E-F SLOT NB-E-F SLOT
CONT. ON SH. T-60082 SH. 012
B BELL
BGC
BMTSS
NG-2
OB 00S 00S-2 B
A 00S-2 00S 00S-2
#16 POK2
#16 NPOK2
ON
B-E-FGDP
B-E-FGP
NG-2
CONT. ON SH. T-60083 SH. 013
IN8.1
IN8.2
IN8.3
IN8.4 (GD)
IN8.5 (GP)

X-B POKR 7 11
BG-2 POKR 7 11
OB POKR 7 11
BG-1 POKR 7 11

✳ : STEERING DIODES ARE SAF P/N 8A299-6

WARNING

BEFORE REMOVING A TRACK FROM SERVICE COMPLIANCE WITH TRAIN CONTROL JUMPER POLICY, TCR 1525-01, MUST BE ASSURED. TO ENABLE THE REMOVAL OF A TRACK FROM SERVICE, APPLY A JUMPER CONNECTING 00S TERMINAL (A) TO 00S TERMINAL (B).

☆ TEST LINKS MUST BE OPENED TEMPORARILY FOR COLD START OF REPLACEMENT SSCC MODULES AND CLOSED IN SEQUENCE WITH MFR. INSTRUCTIONS. SEE SECTION 8.8 OF 4000GCP REFERENCE MANUAL.

RED = IN
YELLOW = OUT

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REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
12/10/13		IN-SERVICE PER SUNRAIL, FDOT.			
10/07/14	AECOM	ADD 2ND TRACK			

TRANSPORTATION
AECOM TECHNICAL SERVICES, Inc.
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ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

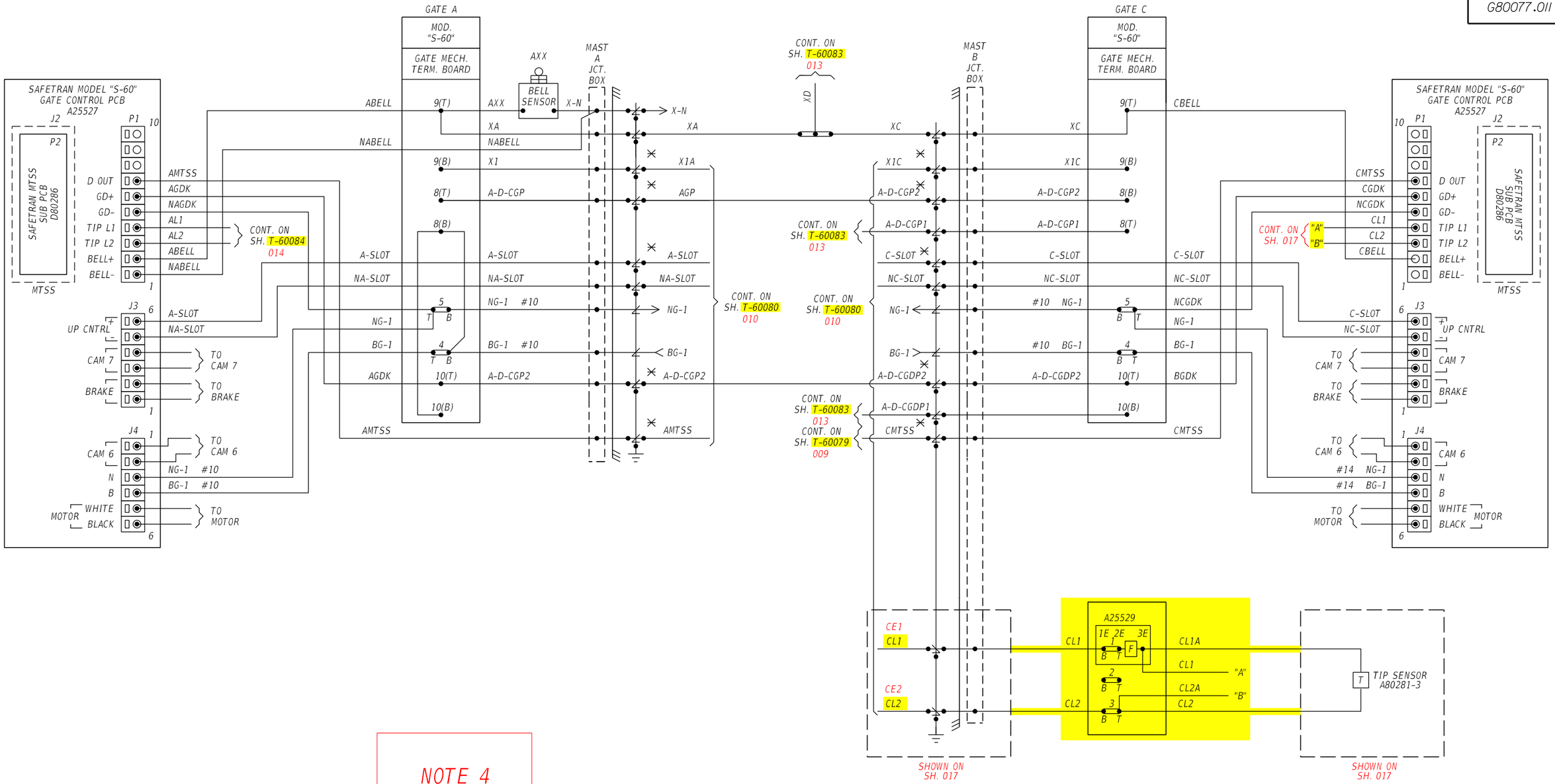
CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

WETHERBEE RD. MP 800.77 DETECTION CIRCUITRY CWE-77

SHEET NO.
561

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80077.011



NOTE 4

RED = IN
YELLOW = OUT

NOTES:
1. ✕ = TEST LINKS MUST BE OPEN TEMPORARILY FOR COLD START OF REPLACEMENT SSCC MODULES AND AND CLOSED IN SEQUENCE WITH MFR. INSTRUCTIONS. SEE SECTION 8.8 OF 4000GCP REFERENCE MANUAL.
2. ⊢●⊣ = TERMINAL IN JCT. BOX BASE
3. ALL WIRING #16 UNLESS NOTED OTHERWISE.
4. EXTERNAL CIRCUITS MOVED TO SH. 020

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.003, F.A.C.

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
12/10/13		IN-SERVICE PER SUNRAIL, FDOT.			
07/11/14	AECOM	PHASE 2 SOUTH			
11/12/14	AECOM	ADD 2ND TRACK			

TRANSPORTATION
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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

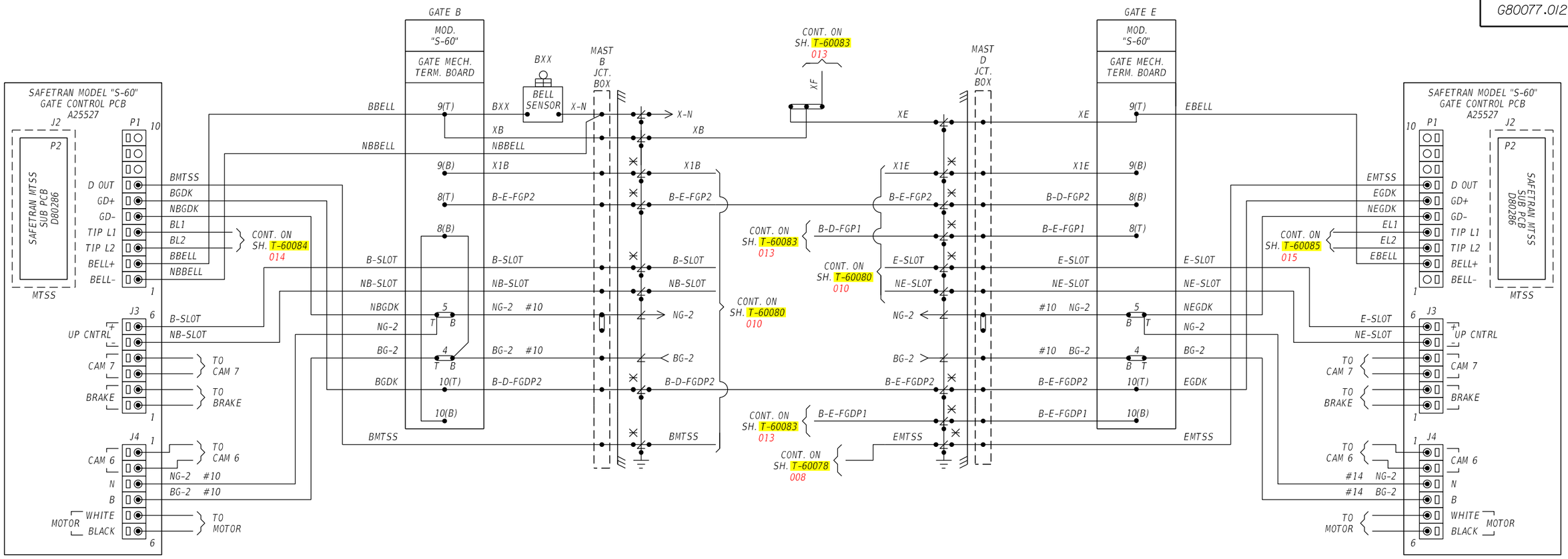
CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

WETHERBEE RD. MP 800.77 CROSSING WARNING DEVICE GATE CIRCUITRY

SHEET NO. 562

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80077.012



NOTES:
1. ✕ = TEST LINKS MUST BE OPEN TEMPORARILY FOR COLD START OF REPLACEMENT SSCC MODULES AND AND CLOSED IN SEQUENCE WITH MFR. INSTRUCTIONS. SEE SECTION 8.8 OF 4000GCP REFERENCE MANUAL.
2. TERMINAL IN JCT. BOX BASE
3. ALL WIRING #16 UNLESS NOTED OTHERWISE.

RED = IN
YELLOW = OUT

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.003, F.A.C.

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
12/10/13		IN-SERVICE PER SUNRAIL, FDOT.			

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STATE OF FLORIDA
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ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

WETHERBEE RD. MP 800.77 CROSSING WARNING DEVICE GATE CIRCUITRY

SHEET NO. 563

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80077.013

SAFETRAN MODEL "S-60" GATE CONTROL PCB A25527
J2 P2 — SAFETRAN MTSS SUB PCB D80286
P1 10 … 1
D OUT — DMTSS
GD+ — DGDK
GD- — NDGDK
TIP L1 — DL1
TIP L2 — DL2
BELL+ — DBELL
BELL- —
MTSS

CONT. ON SH. T-60085 015

J3 6 … 1
UP CNTRL + / −
CAM 7 — TO CAM 7
BRAKE — TO BRAKE

J4 1 … 6
CAM 6 — TO CAM 6
N — NG-1 #10
B — BG-1 #10
MOTOR WHITE — TO MOTOR
MOTOR BLACK — TO MOTOR

GATE D
MOD. "S-60"
GATE MECH. TERM. BOARD

DBELL	9(T)	XD	XD
	9(B)	X1D	X1D
	8(T)	A-D-C-GP1	A-D-C-GP1
	8(B)	A-D-C-GP	A-D-CGP
D-SLOT	D-SLOT	D-SLOT	D-SLOT
ND-SLOT	ND-SLOT	ND-SLOT	ND-SLOT
NG-1	5 T B	NG-1 #10	NG-1
BG-1	4 T B	BG-1 #10	BG-1
DGDK	10(T)	A-DCGDP1	A-DCGDP1
	10(B)	A-DCGDP	A-D-CGDP
DMTSS			DMTSS

MAST A JCT. BOX

CONT. ON SH. T-60081 011 (XD, X1D, A-D-C-GP1)
CONT. ON SH. T-60085 015 (DL1, DL2, DBELL)
CONT. ON SH. T-60080 010 (D-SLOT, ND-SLOT, NG-1, BG-1)
CONT. ON SH. T-60081 011 (A-DCGDP1, A-DCGDP)
CONT. ON SH. T-60079 009 (DMTSS)

CONT. ON SH. T-60082 012 (FX, X1F, B-E-FGP1, B-E-FGP)
CONT. ON SH. T-60080 010 (F-SLOT, NF-SLOT, NG-2, BG-2)
CONT. ON SH. T-60082 012 (B-E-FGDP1, B-E-FGDP)
CONT. ON SH. T-60078 008 (FMTSS)

MAST B JCT. BOX

PEDESTRIAN GATE F
MOD. "S-60"
GATE MECH. TERM. BOARD

FX	9(T)	FBELL
X1F	9(B)	
B-E-F-GP1	8(B)	
B-E-FGP	8(T)	
F-SLOT		F-SLOT
NF-SLOT		NF-SLOT
#10 NG-2	5 B T	NFGDK
#10 BG-2	4 B T	NG-2
B-E-FGDP1	10(T)	BG-2
B-E-FGDP	10(B)	FGDK
FMTSS		FMTSS

SAFETRAN MODEL "S-60" GATE CONTROL PCB A25527
J2 P2 — SAFETRAN MTSS SUB PCB D80286
P1 10 … 1
D OUT — FMTSS
GD+ — FGDK
GD- — NBGDK
TIP L1 — FL1
TIP L2 — FL2
BELL+ — FBELL
BELL- —
MTSS

CONT. ON SH. 017 "C" "D"

J3 6 … 1
F-SLOT
NF-SLOT
UP CNTRL + / −
TO CAM 7 — CAM 7
TO BRAKE — BRAKE

J4 1 … 6
TO CAM 6 — CAM 6
#14 N-G — N
#14 B-G — B
TO MOTOR — WHITE / BLACK MOTOR

FE1 FL1
FE2 FL2
SHOWN ON SH. 017

A25529
1E 2E 3E
FL1 — 1 B T — F — FL1A
FL1 — "C"
2 B T
FL2A — "D"
FL2 — 3 B T — FL2

T TIP SENSOR A80281-3
SHOWN ON SH. 017

NOTES:
1. ✕ = TEST LINKS MUST BE OPEN TEMPORARILY FOR COLD START OF REPLACEMENT SSCC MODULES AND AND CLOSED IN SEQUENCE WITH MFR. INSTRUCTIONS. SEE SECTION 8.8 OF 4000GCP REFERENCE MANUAL.
2. ⊢●⊣ TERMINAL IN JCT. BOX BASE
3. ALL WIRING #16 UNLESS NOTED OTHERWISE.

RED = IN
YELLOW = OUT

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.003, F.A.C.

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
12/10/13		IN-SERVICE PER SUNRAIL, FDOT.			

TRANSPORTATION
AECOM TECHNICAL SERVICES, Inc.
300 Colonial Center Pkwy, Suite 130
Lake Mary, FL. 32746
T 407.549.4200 F 407.549.4201
Certificate of Authorization No. 8115
www.aecom.com

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

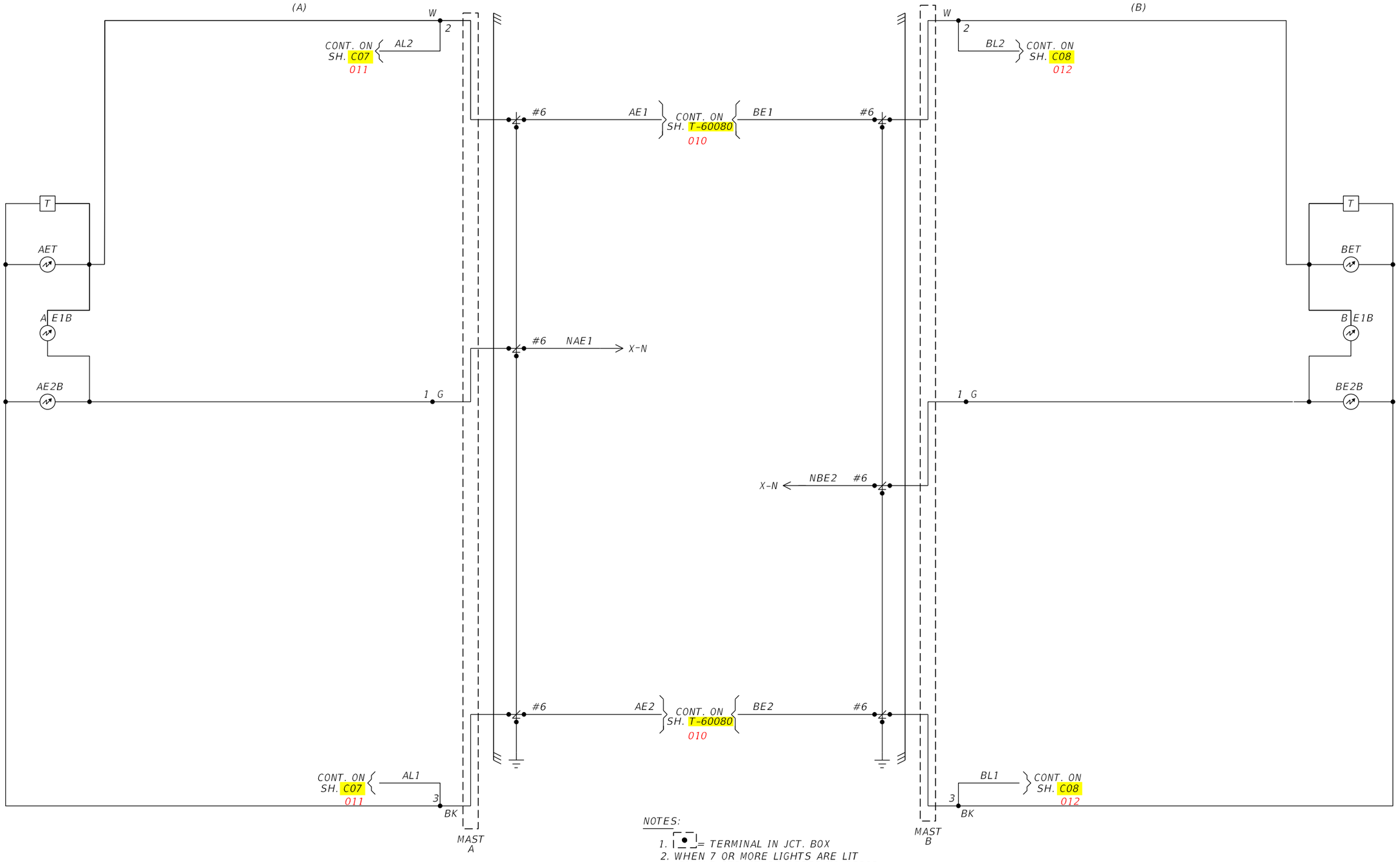
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

WETHERBEE RD. MP 800.77 CROSSING WARNING DEVICE GATE CIRCUITRY

SHEET NO. 564

$USER$ $DATE$ $TIME$ $FILE$



NOTES:

1. [●] = TERMINAL IN JCT. BOX
2. WHEN 7 OR MORE LIGHTS ARE LIT SINGLE STRUCTURE REFER TO SS382 FOR REQUIRED ARRESTER RATING.
3. [T] = TIP SENSOR

RED = IN
YELLOW = OUT

DRAWING NO.
G80077.014

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ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

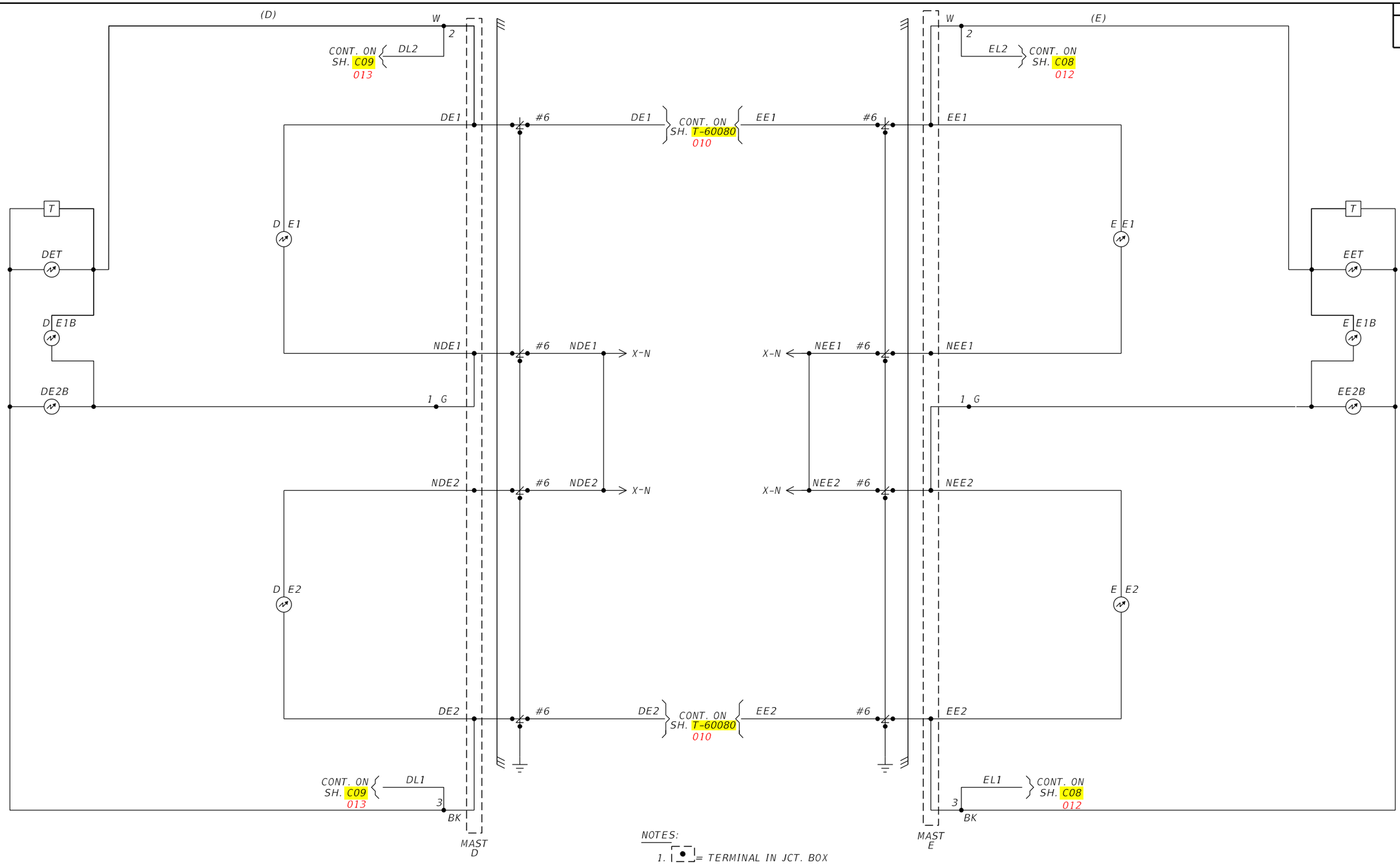
CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

WETHERBEE RD. MP 800.77 CROSSING WARNING DEVICE LIGHT CIRCUITRY

SHEET NO. 565

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80077.015



NOTES:

1. [•] = TERMINAL IN JCT. BOX
2. WHEN 7 OR MORE LIGHTS ARE LIT SINGLE STRUCTURE REFER TO SS382 FOR REQUIRED ARRESTER RATING.
3. [T] = TIP SENSOR

RED = IN
YELLOW = OUT

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REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
12/10/13		IN-SERVICE PER SUNRAIL, FDOT.			

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ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

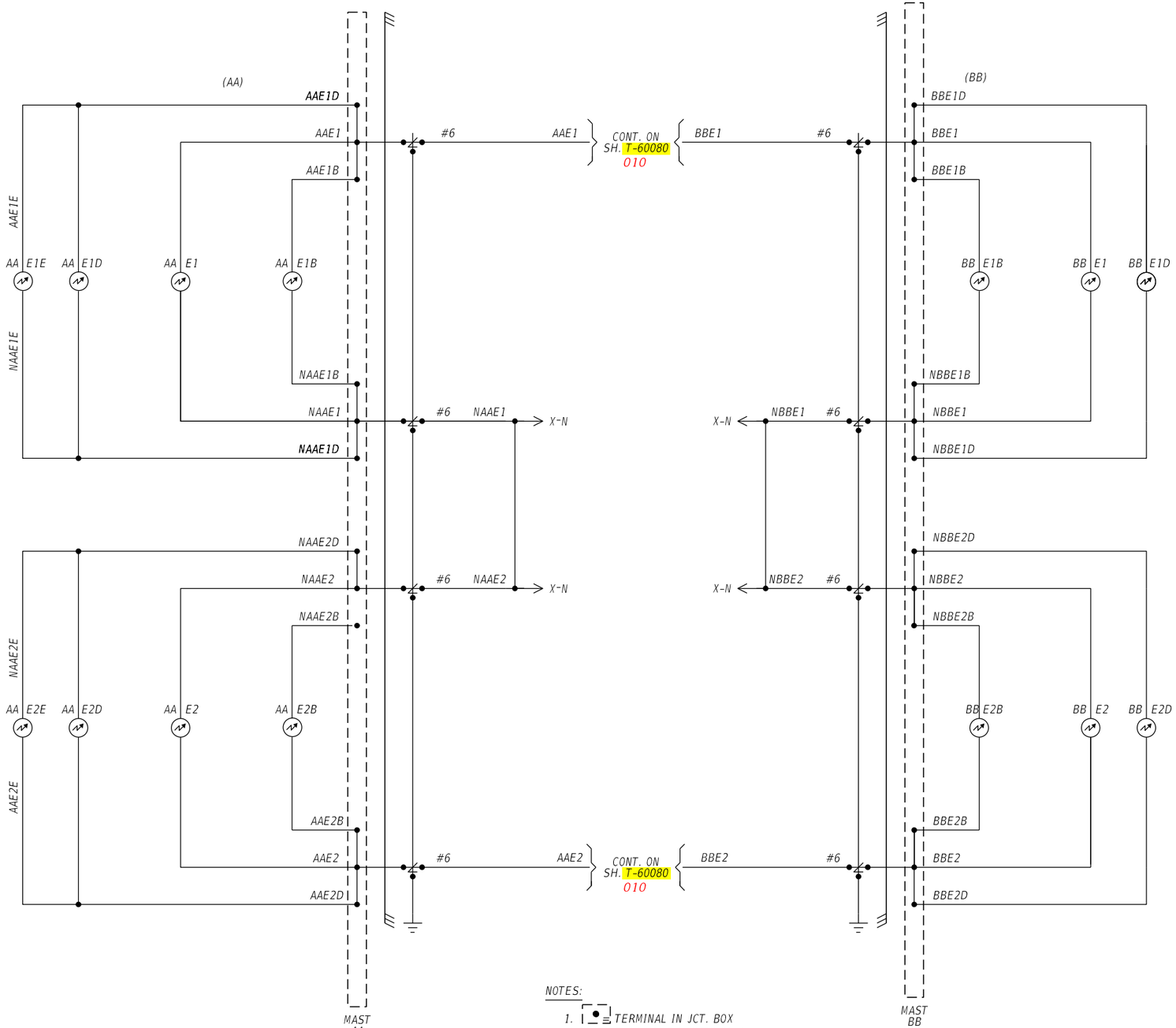
CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

WETHERBEE RD. MP 800.77 CROSSING WARNING DEVICE LIGHT CIRCUITRY

SHEET NO.
566

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80077.016



NOTES:

1. TERMINAL IN JCT. BOX
2. WHEN 7 OR MORE LIGHTS ON A SINGLE STRUCTURE REFER TO SS-382 FOR REQUIRED ARRESTER RATING.

RED = IN
YELLOW = OUT

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DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
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CFRC P2S	ORANGE	423446-9-52-02

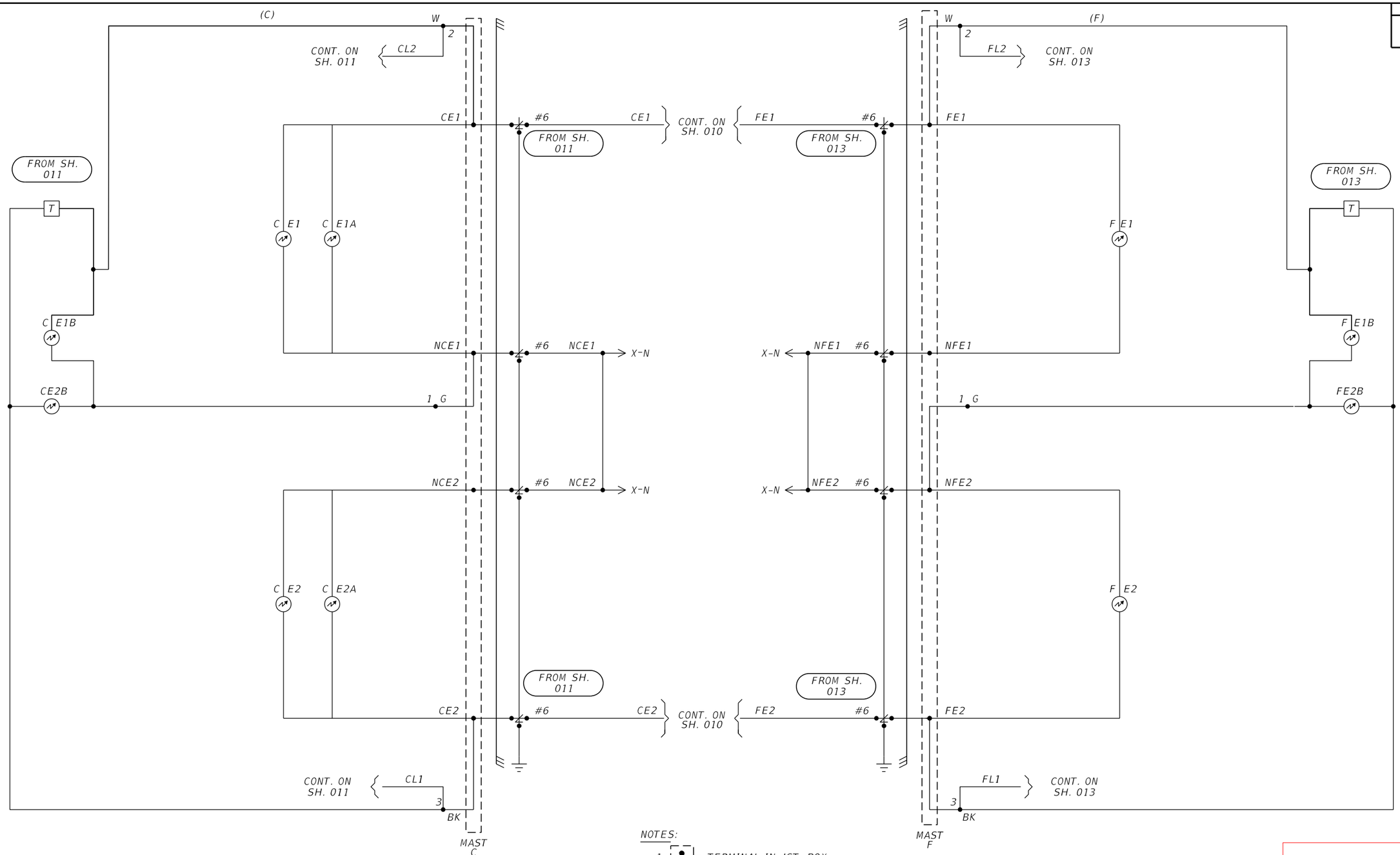
CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

WETHERBEE RD. MP 800.77 CROSSING WARNING DEVICE LIGHT CIRCUITRY

SHEET NO. 567

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80077.017



NOTES:

1. [•] = TERMINAL IN JCT. BOX
2. WHEN 7 OR MORE LIGHTS ARE LIT SINGLE STRUCTURE REFER TO SS382 FOR REQUIRED ARRESTER RATING.
3. [T] = TIP SENSOR

NEW SHEET

( ) = NOTE

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DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
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ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

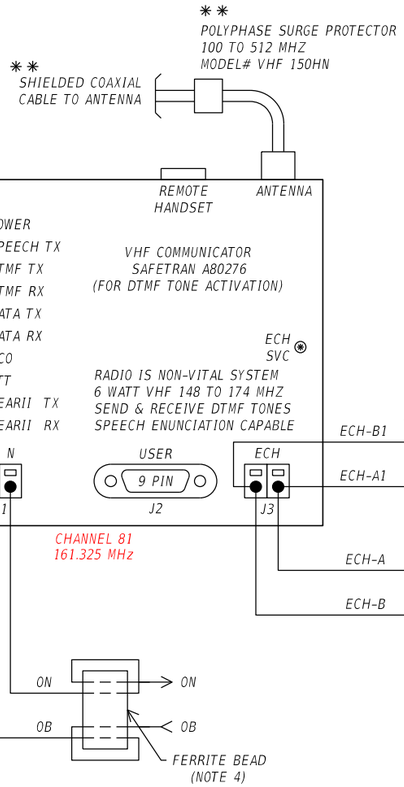
CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

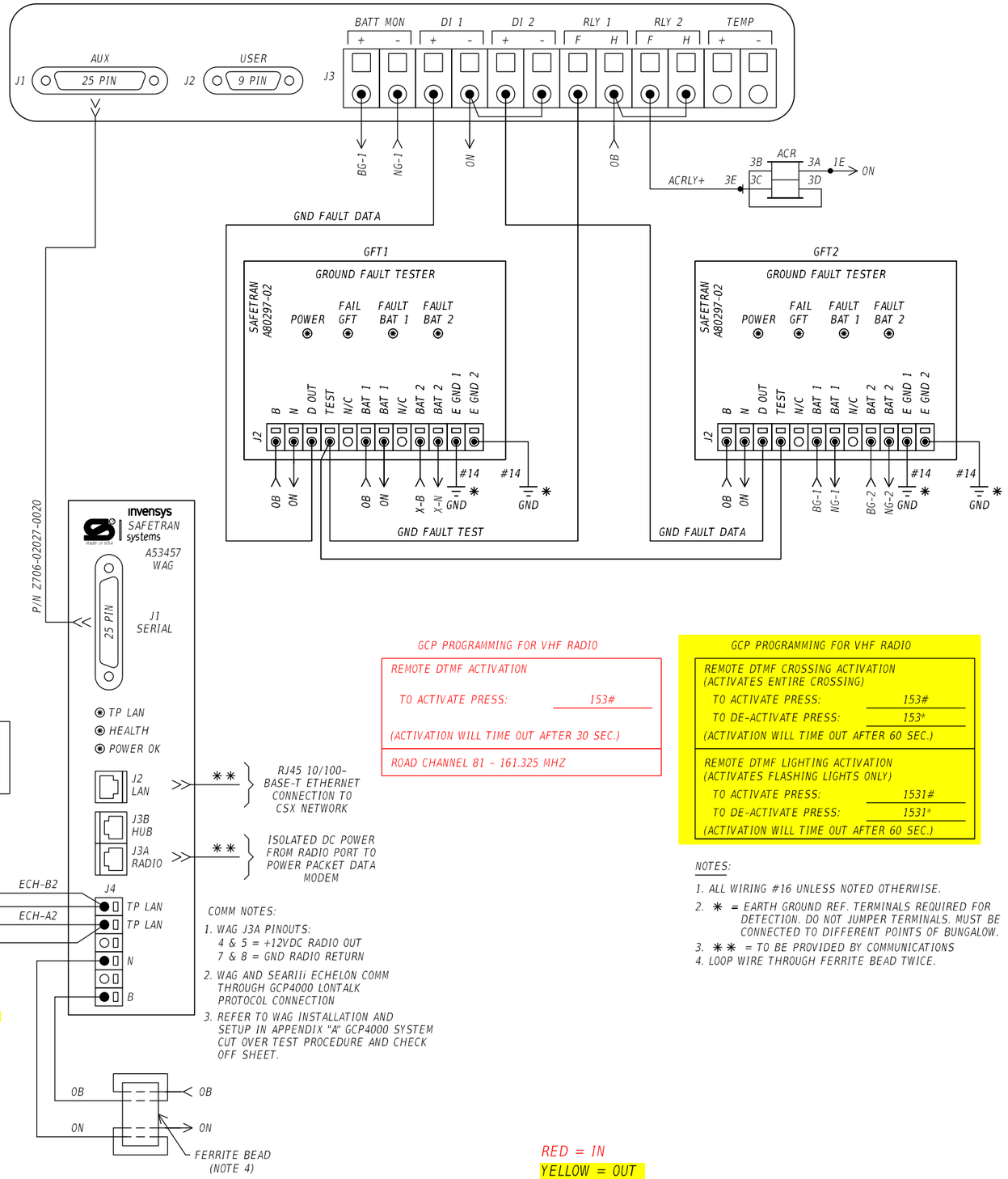
WETHERBEE RD. MP 800.77 CROSSING WARNING DEVICE LIGHT CIRCUITRY

SHEET NO.
568

$USER$ $DATE$ $TIME$ $FILE$

WAYSIDE ACCESS GATEWAY CONFIGURATION	
SITE ATCS ADDRESS	7.125.409.003.01.01 7.125.LLL.GGG.SS.DD
SERIAL INTERFACE	38,400,NONE,8,1/NOFLOW
SERIAL FORMAT	RAW
WAG TEST MODE	DISABLED
ECHELON ADDRESS	01.07
UDP PORTS	5000, 5001, 5002, 5003
ROUTE TABLE EXPIRY	5400 SEC
BROADCAST MEDIUM	IP ETHERNET
TCP PORTS	23, 10023, 6001, 6002
DHCP SERVER	DISABLED
IP ADDRESS	192.168.13.1
TYPE 7 ROUTE LENGTH	12--7RRLLLGGGSS
IP NETWORK MASK	255.255.255.0
WAG CIRCUIT ID	DISABLE
ROUTING REGION DOMAIN 1	OCGSERVER1.JAX.COM
ATCS SERVER UDP PORT NUMBER	6001
TELNET NUMBERS	WAG 6002, SERIAL 10023
DEFAULT GATEWAY IP	192.168.013.031





GCP PROGRAMMING FOR VHF RADIO

REMOTE DTMF ACTIVATION

TO ACTIVATE PRESS: 153#

(ACTIVATION WILL TIME OUT AFTER 30 SEC.)

ROAD CHANNEL 81 - 161.325 MHZ

GCP PROGRAMMING FOR VHF RADIO

REMOTE DTMF CROSSING ACTIVATION
(ACTIVATES ENTIRE CROSSING)

TO ACTIVATE PRESS: 153#

TO DE-ACTIVATE PRESS: 153*

(ACTIVATION WILL TIME OUT AFTER 60 SEC.)

REMOTE DTMF LIGHTING ACTIVATION
(ACTIVATES FLASHING LIGHTS ONLY)

TO ACTIVATE PRESS: 1531#

TO DE-ACTIVATE PRESS: 1531*

(ACTIVATION WILL TIME OUT AFTER 60 SEC.)

NOTES:

1. ALL WIRING #16 UNLESS NOTED OTHERWISE.
2. * = EARTH GROUND REF. TERMINALS REQUIRED FOR DETECTION. DO NOT JUMPER TERMINALS. MUST BE CONNECTED TO DIFFERENT POINTS OF BUNGALOW.
3. ** = TO BE PROVIDED BY COMMUNICATIONS
4. LOOP WIRE THROUGH FERRITE BEAD TWICE.

RED = IN

YELLOW = OUT

DRAWING NO.

G80077.018

G80077.017

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REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
12/10/13		IN-SERVICE PER SUNRAIL, FDOT.			
10/07/14	AECOM	ADD SECOND TRACK			

TRANSPORTATION
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300 Colonial Center Pkwy, Suite 130
Lake Mary, FL 32746
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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

WETHERBEE RD. MP 800.77 CROSSING WARNING DEVICE CIRCUITRY

SHEET NO. 569

$USER$ $DATE$ $TIME$ $FILE$

	DEFAULTS AND/OR STYLE	FIELD RECORD
SEAR IIi EXECUTIVE PROGRAM	VERSION: 9V725A01	VERSION: V
APPLICATION PROGRAM (IF LOADED)	VERSION: 9V864A01	VERSION: N

SITE SET UP PROCEDURE	
FUNCTION	LED DISPLAY
DATE/TIME	XX-XX-XXXX XX:XX:XX
AUTOMACTIC DST ADJUSTMENT	YES
TIME ZONE	EASTERN
SITE NAME	WETHERBEE RD.
MILEPOST	A-800.77
DOT NUMBER	926153N
TESTER TYPE	CROSSING
DATE FORMAT	MM-DD-YYYY
TEMP FORMAT	FAHRENHEIT
INDICATE HOLD (SEC)	0
SITE TYPE	COLLECTOR
SITE ATCS ADDRESS	7.125.409.003.99.01 (7.RRR.LLL.GGG.99.01)
POLL ID	1
OFFICE ADDRESS	2.125.00.0000 (2.RRR.NN.DDDD)
FIELD COMM. DEVICE	VHF COMM. (ECHELON)
MODE	GEN/ATCS
WAMS XID	ENABLED
OFFICE COMM. DEVICE	WAG (ECHELON)
USER PORT BAUD	9600
USER PORT DATA BITS	8
USER PORT PARITY	NONE
USER PORT STOP BITS	1
USER PORT FLOW CONTROL	NONE
AUX PORT BAUD	38,400
AUX PORT DATA BITS	8
AUX PORT PARITY	NONE
AUX PORT STOP BITS	1
AUX PORT FLOW CONTROL	NONE
COMM PORT BAUD	9600
COMM PORT DATA BITS	8
COMM PORT PARITY	NONE
COMM PORT STOP BITS	1
COMM PORT FLOW CONTROL	NONE

	CONTROL SYSTEM CONFIGURATION MENU QUESTIONS	
	OPTION	SELECTION
NOTE 1	RESET NAMES AND MODULES?	YES ☐ NO ☐
	RAILROAD NUMBER	125
	ENTRANCE GATES?	0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ■ 7 ☐ 8 ☐
NOTE 2	EXIT GATES?	0 ■ 1 ☐ 2 ☐ 3 ☐ 4 ☐
	GATE POSITION FAIL?	20 SECS.
	BATTERY BANKS?	1 ☐ 2 ☐ 3 ■
	BATT MON USED?	NO ☐ YES ■
	INTERNAL CROSSING CONTROLLERS?	0 ☐ 1 ☐ 2 ■
	EXTERNAL CROSSING CONTROLLERS?	0 ■ 1 ☐ 2 ☐
	VHF COMMUNICATOR?	YES ■ NO ☐
NOTE 3	ACTIVATION CODE	153
	ACTIVATION TIMEOUT	(60 SEC)
	iLOD MODULES?	0 ☐ 1 ☐ 2 ■ 3 ☐ 4 ☐
NOTE 4	ANY LED BULBS USED?	NO ■ YES ■
	AUTO INSPECTIONS?	YES ■ NO ☐
	BELL SENSOR?	0 ☐ 1 ☐ 2 ■ 3 ☐ 4 ☐
NOTE 5	BELL SENSOR TSS 1?	NO ☐ YES ■
	BELL SENSOR TSS 2?	NO ■ YES ■
	BELL SENSOR TSS 3?	NO ■ YES ☐
	BELL SENSOR TSS 4?	NO ■ YES ☐
	BELL SENSOR TSS 5?	NO ■ YES ☐
	BELL SENSOR TSS 6?	NO ■ YES ☐
	BELL SENSOR TSS 7?	NO ■ YES ☐
	BELL SENSOR TSS 8?	NO ■ YES ☐
	BELL ON?	GATES LOWERING ■ GATES MOVING ☐ ALWAYS ☐
	GFT'S	YES ■ NO ☐
	BATTERIES ON GFT1	1 ☐ 2 ■
NOTE 6	GATE TIP SENSORS?	YES ■ NO ☐
	RTU	NO ■ YES ☐
NOTE 7	VHF VOICE CHANNEL	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐
	DATA CHANNEL	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐
	FULL APPROACH MOVE ALARMS?	ACTIVATED ■ DO NOT ACTIVATE ☐

LIT BULB COUNT ON EACH CIRCUIT	NO.	TYPE OF BULB	CURRENT READING IN AMP. AT APPROX. 10.0 V ARRAY VOLTAGE
CURRENT SENSOR (1) AE1: LAMP SET UP	9	☐ BULBS ■ LED	9.8
CURRENT SENSOR (1) AE2: LAMP SET UP	9	☐ BULBS ■ LED	9.8
CURRENT SENSOR (2) BE1: LAMP SET UP	9	☐ BULBS ■ LED	8.1
CURRENT SENSOR (2) BE2: LAMP SET UP	9	☐ BULBS ■ LED	8.1

VHF RADIO CHANNELS			
1	161.130	5	161.550
2	160.710	6	160.785
3	160.560	7	160.785
4	160.860	8	160.785

NOTE 8

EDIT DIGITAL INPUTS	■ NO	☐ YES
EDIT BATTERIES	■ NO	☐ YES
EDIT RELAYS	■ NO	☐ YES
EDIT INDICATOR LEDS	■ NO	☐ YES
EDIT TEST LED'S	■ NO	☐ YES
EDIT ILOD SENSOR	■ NO	☐ YES
EDIT VHF SETTINGS	■ NO	☐ YES

NOTE 9

MENU ⟶ CONFIGURATION	
MODULE TYPE	WAG
MODULE NAME	DEFAULT
WAG ECHELON NODE	7

NOTE:
REFER TO WAG INSTALLATION AND SETUP IN APPENDIX "A" GCP4000 SYTEM CUT OVER, TEST PROCEDURE AND CHECK OFF SHEET.

MEASURE BATTERY VOLTAGE AT INPUT		
BATTERY VOLTAGE	OB	_____ VOLTS
BATTERY VOLTAGE	X-B	_____ VOLTS
BATTERY VOLTAGE	B-G	_____ VOLTS

NOTES:

1. SELECT YES ON INITIAL SET-UP.
2. OPTION AVAILABLE IF GATES = YES
3. OPTION AVAILABLE IF VHF COMMUNICATOR = YES LAST 3 DIGITS OF DOT NUMBER.
4. OPTION AVAILABLE IF iLODS.
5. OPTION AVAILABLE IF BELL SENSORS.
6. OPTION AVAILABLE IF GATES.
7. OPTION AVAILABLE IF VHF RADIO.
8. ONLY YES IN SPECIAL CIRCUMSTANCES.
9. SELECT "MENU" THEN "CONFIGURATION" FROM SEAR II INTERFACE KEYPAD TO ACCESS MODULE CONFIGURATION MENU.

RED = IN
YELLOW = OUT

DRAWING NO.
G80077.019
G80077.018

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REVISIONS

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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

WETHERBEE RD. MP 800.77 SEAR II i CONFIGURATION & FUNCTIONS

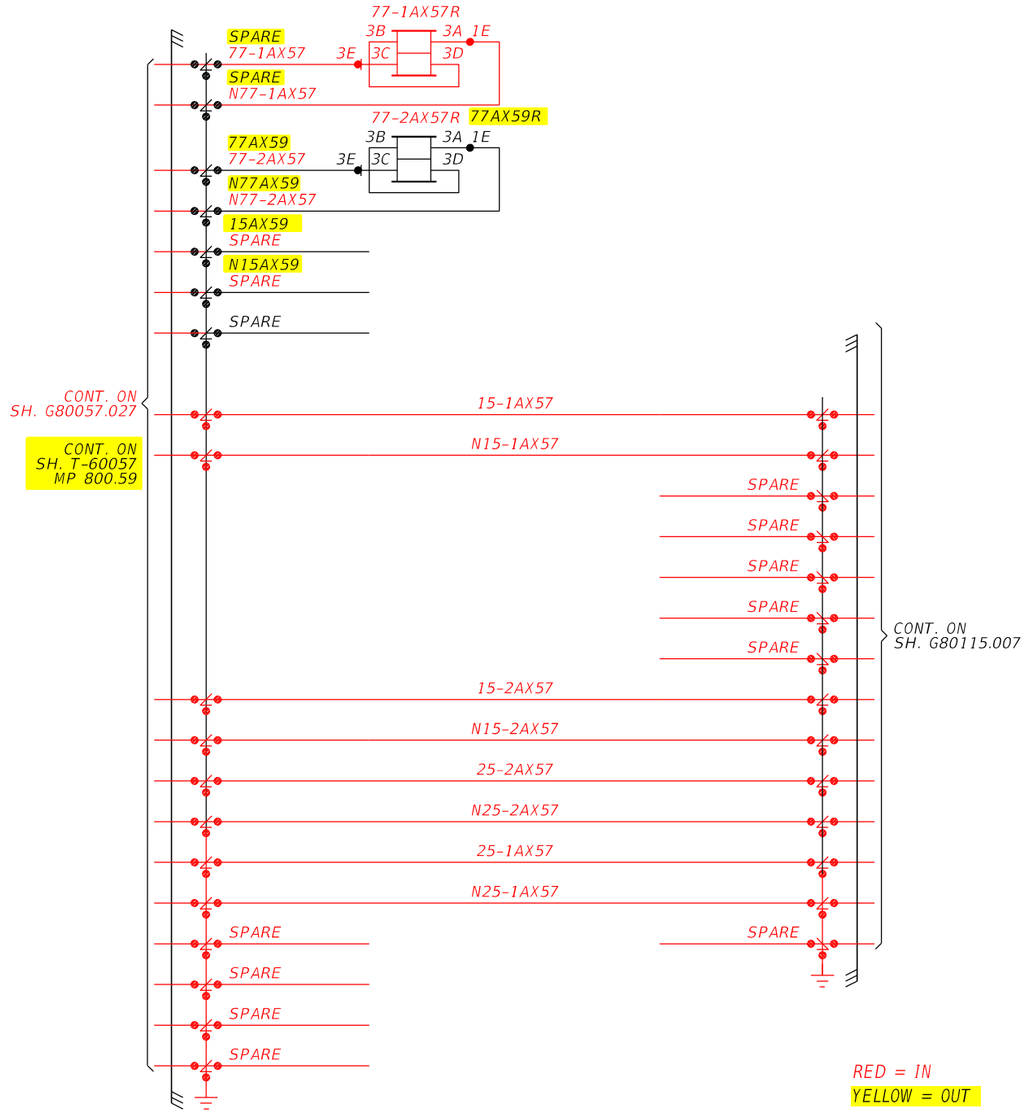
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$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.

G80077.020

G80077.019



THIS SHEET REDRAWN

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DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
10/07/14	AECOM	ADD 2ND TRACK			

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CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

WETHERBEE RD. MP 800.77
EXTERNAL CIRCUITS

SHEET NO.

571

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.

G80100.001

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3	POWER DISTRIBUTION	⧄								
4	TRACK 1 CONTROLLER MODULE WIRING DIAGRAM	⧄								
5	TRACK 2 CONTROLLER MODULE WIRING DIAGRAM	⧄								
6	INTERCONNECT BOARD	⧄								
7	DUAL TRACK INTERFACE WIRING	⧄								
8	1 AND 2 TRACK LAYOUT	⧄								
9	DRAGGER WOOD TIE APPLICATION TRACK 1 AND 2	⧄								
10	SYSTEM PARAMETERS	⧄								

⧄ = DESIGN COMPLETED

⧅ = REVISION COMPLETED

NEW SHEET

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DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

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5011 GATE PARKWAY BUILDING 100
SUITE 400 JACKSONVILLE FLORIDA 32256
(904) 443-0083 (MAIN)
(904) 443-0089 (FAX)
CERT. OF AUTHORIZATION NO. 9875
ENGINEER OF RECORD
IVORY L. WHITE, JR., P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

DEFECT DETECTOR TITLE, NOTES, INDEX & REVISIONS

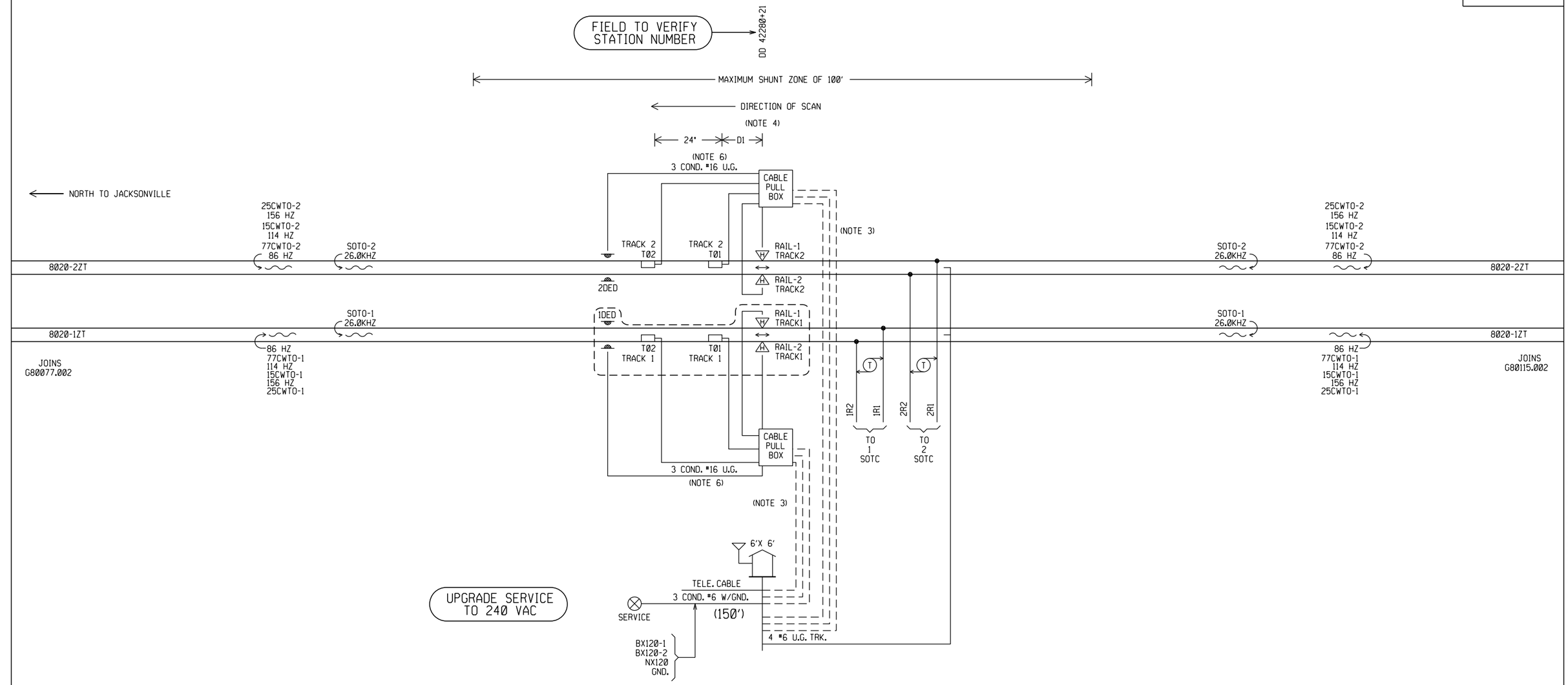
M.P. A-801.00

SHEET NO.

572

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80100.002



TRANSDUCER SPACING			
D1	115 LB RAIL	132 LB RAIL	136 LB RAIL
	10 13/16"	11 5/16"	11 3/8"

NOTE: D1 IS MEASURED FROM THE TRAILING EDGE OF THE MOUNTING CLAMP

NOTES:

1. DETECTOR BUNGALOW AND CABLE PULL BOX MAY BE INSTALLED EITHER SIDE OF TRACKS. MOUNT TRANSDUCERS ON RAIL NEAREST BUNGALOW AND CABLE PULL BOX.
2. LOCATION OF TRACK CIRCUIT FEED AND DRAGGING EQUIPMENT DETECTOR SHOULD BE IN THE VICINITY OF TRANSDUCERS.
3. — — = 2" ELECTRICAL PIPE BEWTEEN CABLE PULL BOX & BUNGALOW.
4. SCANNERS SHOULD BE INSTALLED WITH DIRECTION OF SCAN BEING MAGNETIC NORTH OR EAST.
5. AREA AROUND CABLE PULL BOX MUST BE WELL DRAINED. EXCAVATE AREA & BACKFILL WITH CRUSHED STONE UNDER & AROUND CABLE PULL BOX. TOP OF CABLE PULL BOX TO BE AT GRADE LEVEL.
6. DED CABLE IN FLEX CONDUIT TO CABLE PULL BOX.

( ) = NOTE
( ) = EXISTING

NEW SHEET

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(904) 443-0083 (MAIN)
(904) 443-0089 (FAX)
CERT. OF AUTHORIZATION NO. 9875
ENGINEER OF RECORD
IVORY L. WHITE, JR, P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

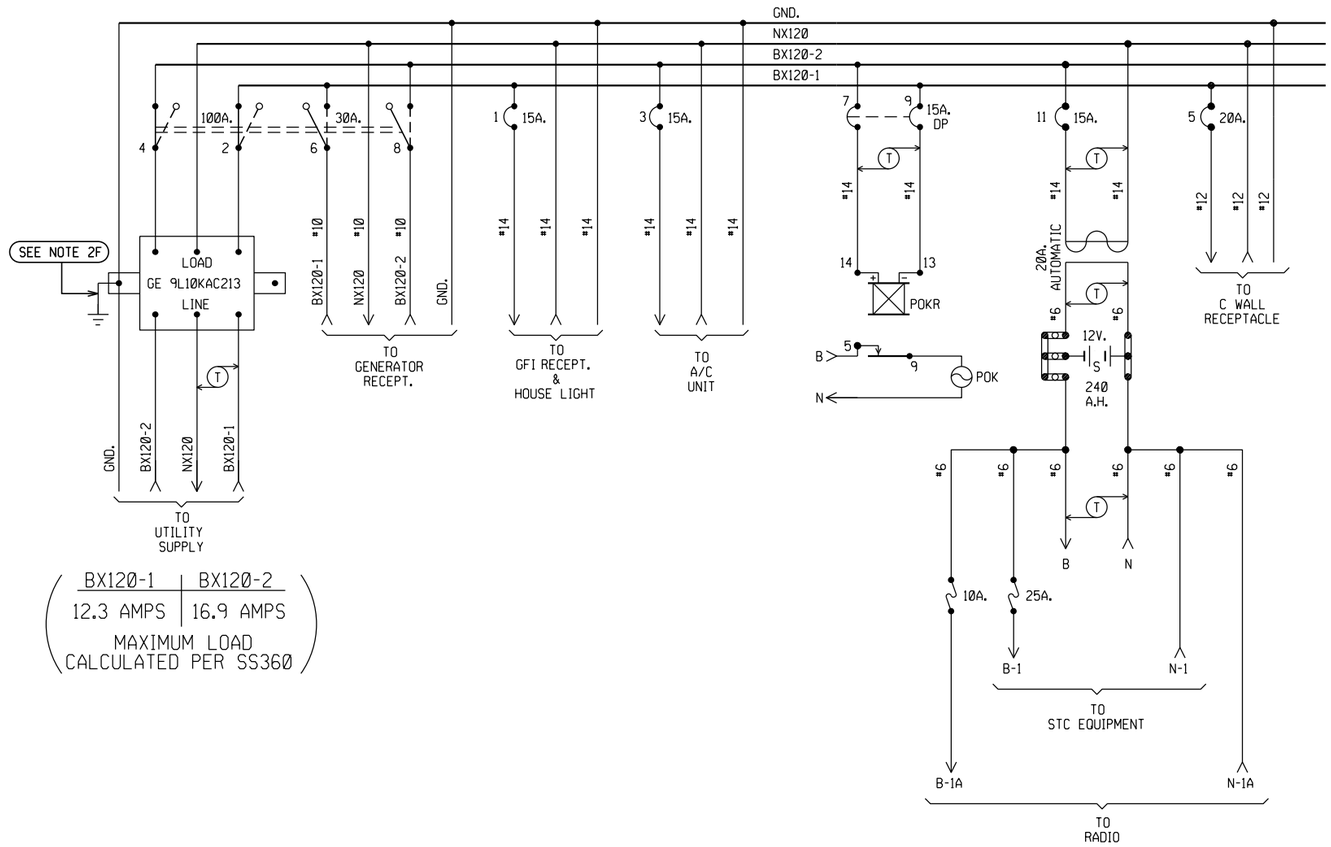
DEFECT DETECTOR SITE LAYOUT

M.P. A-801.00

SHEET NO.
573

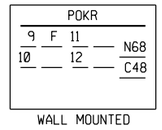
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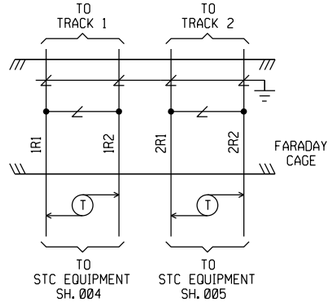
DRAWING NO.
G80100.003



BX120-1	BX120-2
12.3 AMPS	16.9 AMPS

MAXIMUM LOAD CALCULATED PER SS360





NOTES:

1 - BATTERY A.H. CAPACITY SHOWN IS THE MINIMUM REQUIREMENT.
2 - WIRING
  A - FEED TO ALL BUSSES, LIGHT CIRCUITS, MOTOR CIRCUITS TO BE #10 FLEX.
  B - 120-VOLT FEED FROM ENTRANCE TO POWER BUSS TO BE #10 FLEX.
  C - TRACK WIRES TO BE #14 FLEX.
  D - ALL OTHERS TO BE #16 FLEX UNLESS NOTED.
  E - BATTERY OUTPUTS TO BE #6 FLEX
  F - GROUND WIRE NOT NECESSARY WHEN GE ARRESTER IS MOUNTED ON GROUND PLANE OR METAL ENCLOSURE AFFIXED DIRECTLY TO BUNGALOW METALLIC STRUCTURAL MEMBER.
3 - CIRCUIT INTERRUPTERS 2 & 4 ARE MECHANICALLY INTERLOCKED WITH CIRCUIT INTERRUPTERS 6 & 8.

NEW SHEET

6'X 6' RELAY HOUSE

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CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

DEFECT DETECTOR POWER DISTRIBUTION

M.P. A-801.00

SHEET NO.
574

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80100.004

TO COM5 OF SMARTSCAN NG

AEI INTERFACE REQUIRED AT LOCATIONS WHERE AEI EQUIPMENT IS INSTALLED. REMOVE IF NOT APPLICABLE.

AEI INTERFACE

SMARTSCAN NG
TRACK 1

TELCO
TEMP PROBE
DED
SPARE
SOTC
TO1
TO2
SPARE
12 VDC

GREEN RED WHITE BLACK RED BLACK WHITE BLACK WHITE RED BLACK WHITE BLACK WHITE WHITE BLACK RED BLACK

N-1
B-1

TO C WALL RECEPTACLE

TEMPERATURE PROBE

SEE NOTE 1 & 2

TO TELCO
TO 1DED
TO TRACK 1 TØ1
TO TRACK 1 TØ2

FARADAY CAGE
(NOTE 3)

OUT		IN
GREEN	TELCO	
RED		
SHIELD	TEMP	SHIELD
WHITE		WHITE
BLACK	TEMP	BLACK
RED		RED
BLACK	DED	
WHITE		
BLACK	SPARE	
WHITE		
BLACK	TO1	
WHITE		
BLACK	TO2	
WHITE		
WHITE	SPARE	
BLACK		
BROWN	RAIL 1	BROWN
BLACK		BLACK
RED	RAIL 1, 12V, GND	RED
BLACK		BLACK
YELLOW	RAIL 1 SHUTTER	(2) YELLOW
BLUE		
BLACK	RAIL 1 SHUTTER	(2) BLACK
BLACK		
BLACK	RAIL 1 HEATER	BLACK
WHITE	RAIL 1 HEATER	WHITE
BROWN	RAIL 2	BROWN
BLACK		BLACK
RED	RAIL 2, 12V, GND	RED
BLACK		BLACK
YELLOW	RAIL 2 SHUTTER	(2) YELLOW
BLUE		
BLACK	RAIL 2 SHUTTER	(2) BLACK
BLACK		
BLACK	RAIL 2 HEATER	BLACK
WHITE	RAIL 2 HEATER	WHITE

BLACK

TO SCANNER 1 RAIL 1 TRACK 1

TO SCANNER 2 RAIL 2 TRACK 1

AEI INTERFACE REQUIRED AT LOCATIONS WHERE AEI EQUIPMENT IS INSTALLED. REMOVE IF NOT APPLICABLE.

TO TRACK 1 SH. 003 — IR1, IR2

TO AEI INTERFACE

TO SMARTSCAN NG EQUIPMENT

TO AEI READER

ANT. Ø

ANT. 1

NOTES:

1. TEMPERATURE PROBE MOUNTED FIELD SIDE OF BUNGALOW; ON OPPOSITE CORNER FROM RADIO ANTENNA.
2. BOTH TEMPERATURE PROBES MOUNTED ON SAME MAST.
3. ARRESTOR ASSEMBLY FOR TRACK 1 & TRACK 2 LOCATED IN SAME FARADAY CAGE.

( ) = NOTE

NEW SHEET

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CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

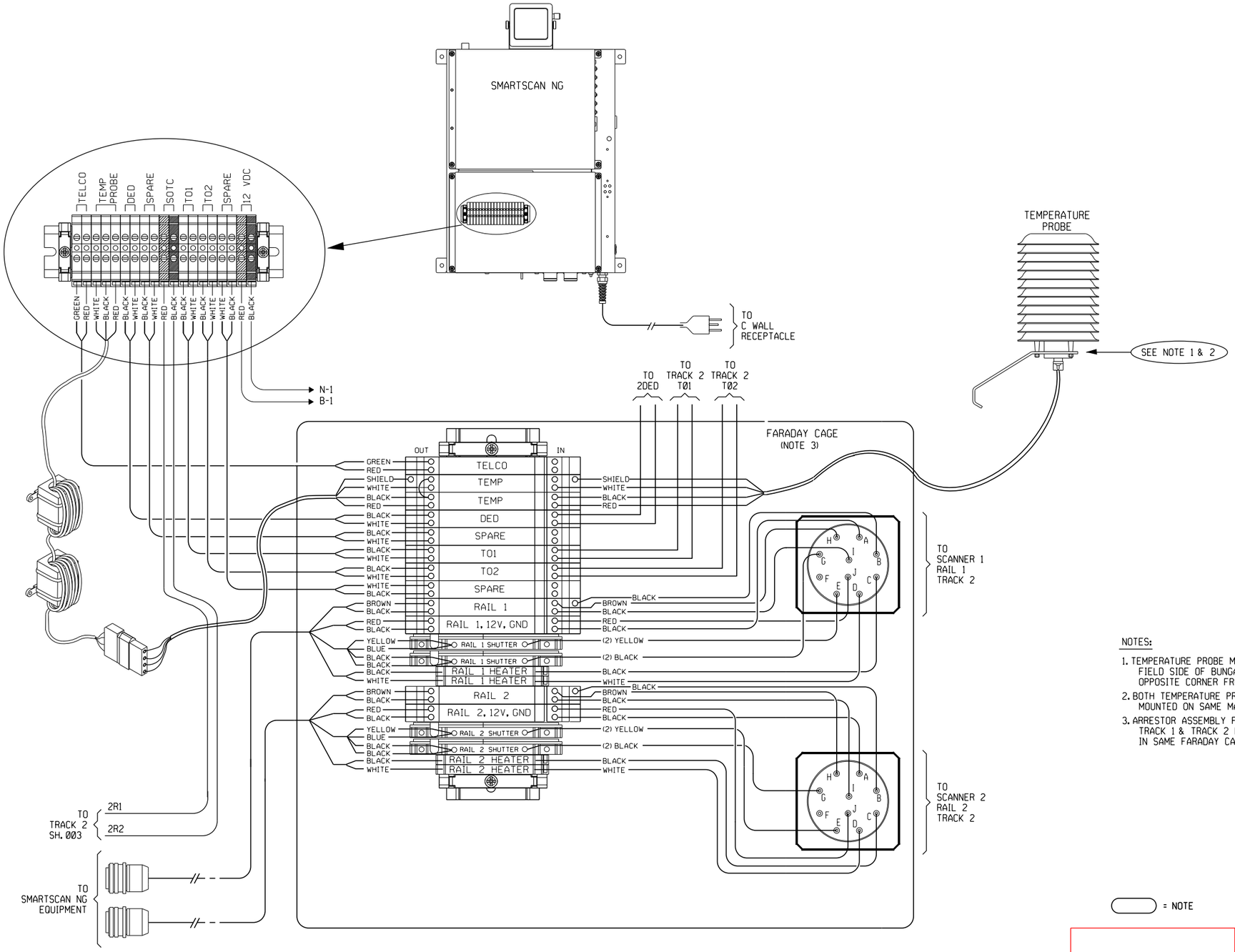
DEFECT DETECTOR TRACK 1 CONTROLLER MODULE WIRING DIAGRAM

M.P. A-801.00

SHEET NO.
575

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80100.005



NOTES:

1. TEMPERATURE PROBE MOUNTED FIELD SIDE OF BUNGALOW; ON OPPOSITE CORNER FROM RADIO ANTENNA.
2. BOTH TEMPERATURE PROBES MOUNTED ON SAME MAST.
3. ARRESTOR ASSEMBLY FOR TRACK 1 & TRACK 2 LOCATED IN SAME FARADAY CAGE.

( ) = NOTE

NEW SHEET

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CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

DEFECT DETECTOR TRACK 2 CONTROLLER MODULE WIRING DIAGRAM

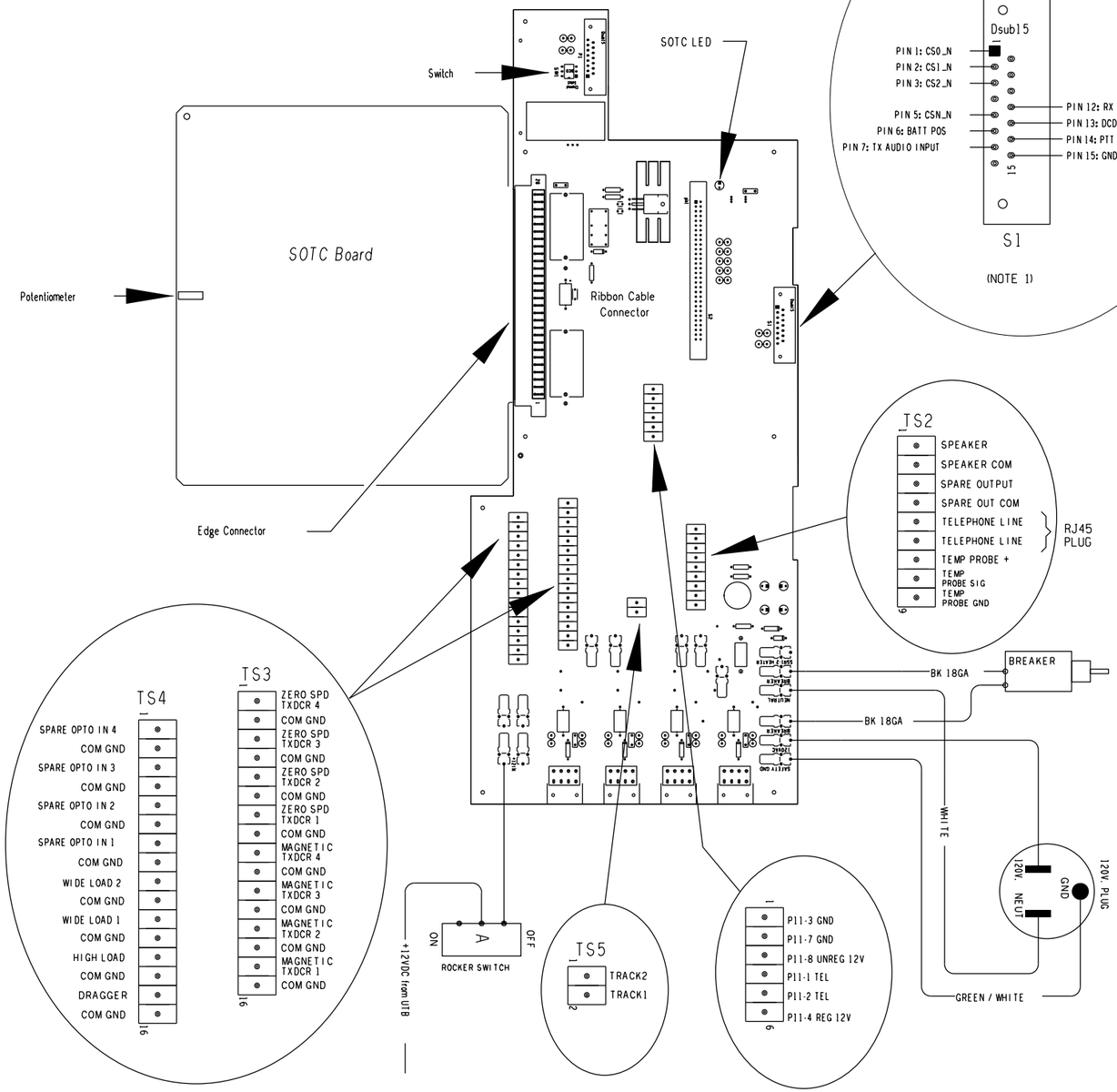
M.P. A-801.00

SHEET NO. 576

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.

G80100.006



NOTE:

1. RADIO ANTENNA MOUNTED TRACK SIDE OF BUNGALOW; ON OPPOSITE CORNER FROM TEMPERATURE PROBE.

NEW SHEET

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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

DEFECT DETECTOR INTERCONNECT BOARD

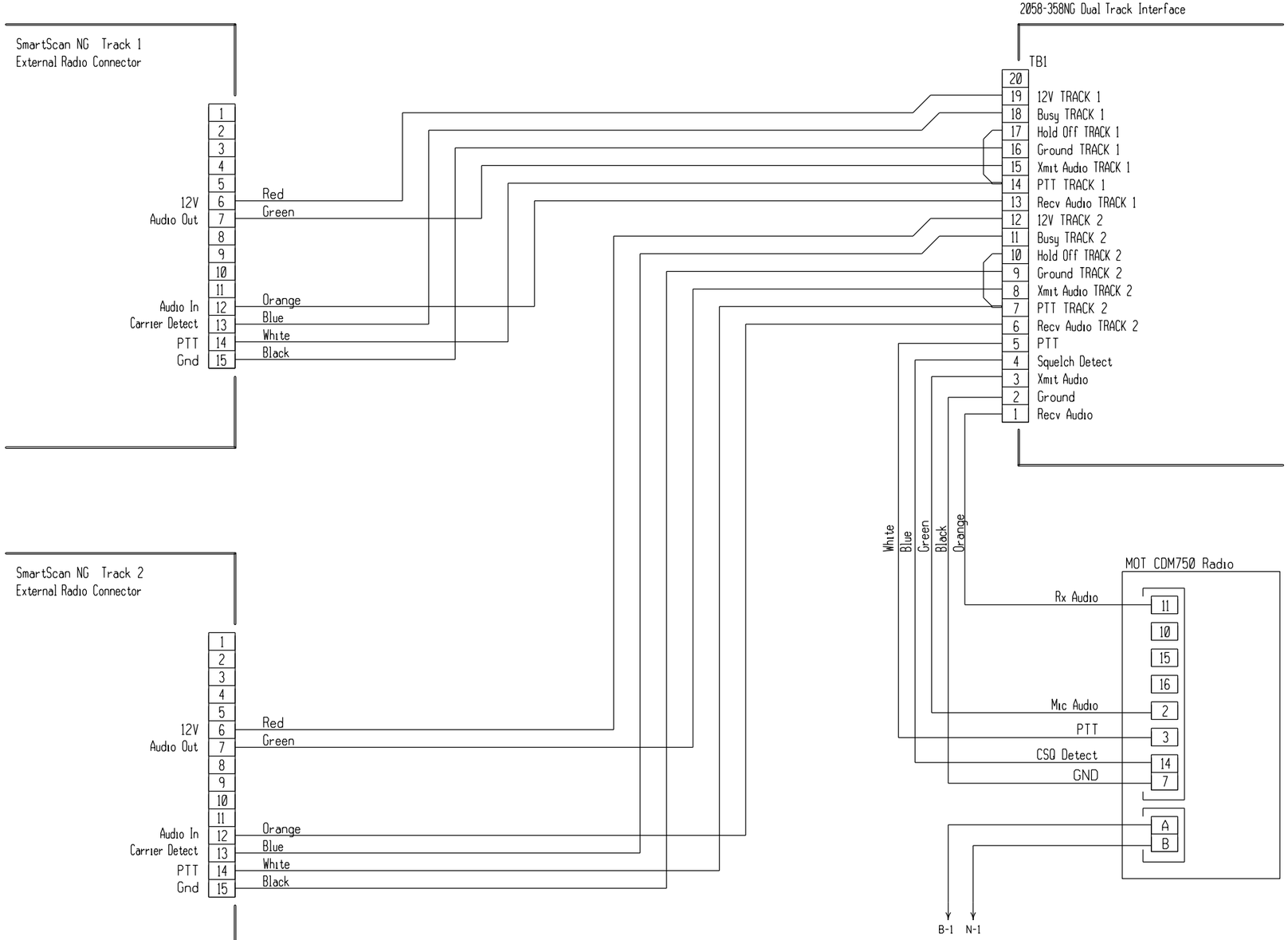
M.P. A-801.00

SHEET NO.

577

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80100.007



NEW SHEET

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CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

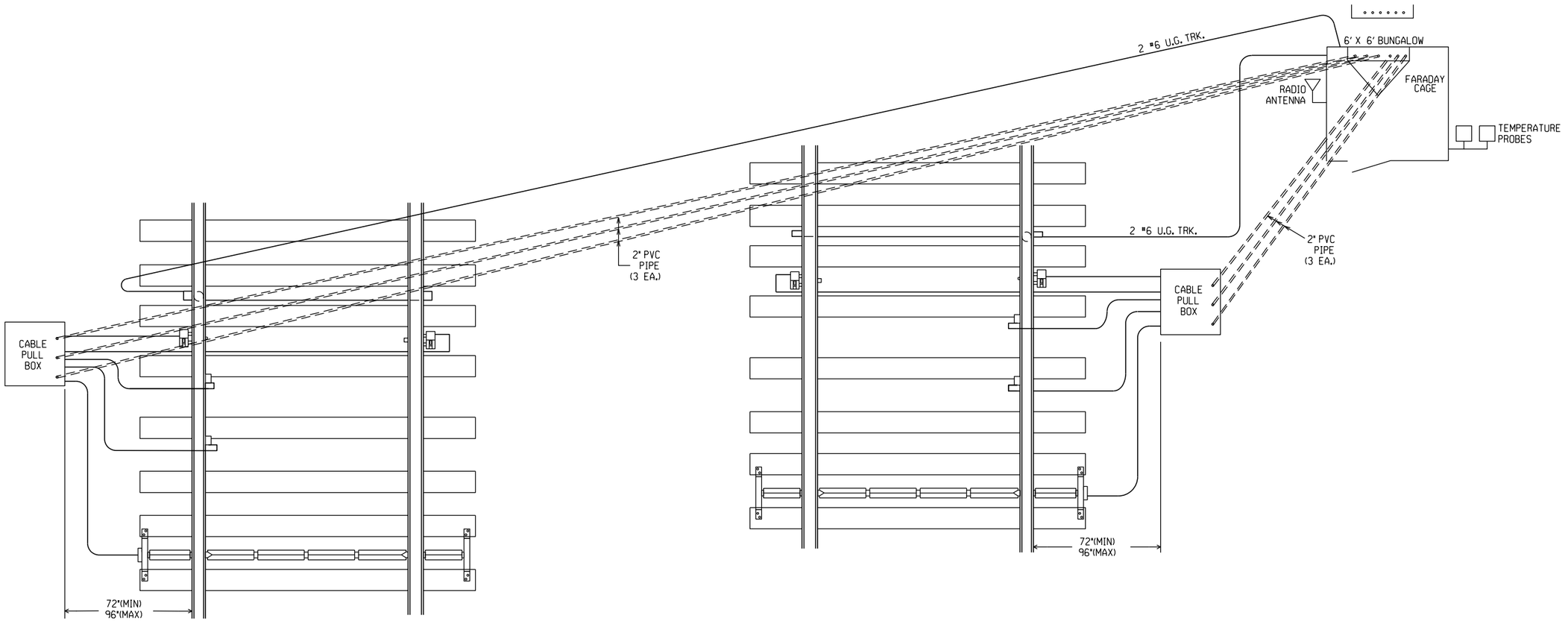
DEFECT DETECTOR DUAL TRACK INTERFACE WIRING

M.P. A-801.00

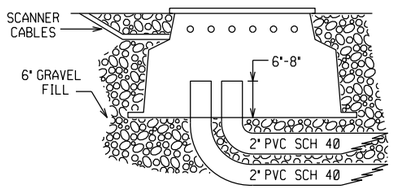
SHEET NO.
578

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80100.008



CABLE PULL BOX VIEW



NOTE: CUT HOLES AS REQUIRED FOR CABLES JUST BELOW BALLAST LINE.

NEW SHEET

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CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

DEFECT DETECTOR 1 AND 2 TRACK LAYOUT

M.P. A-801.00

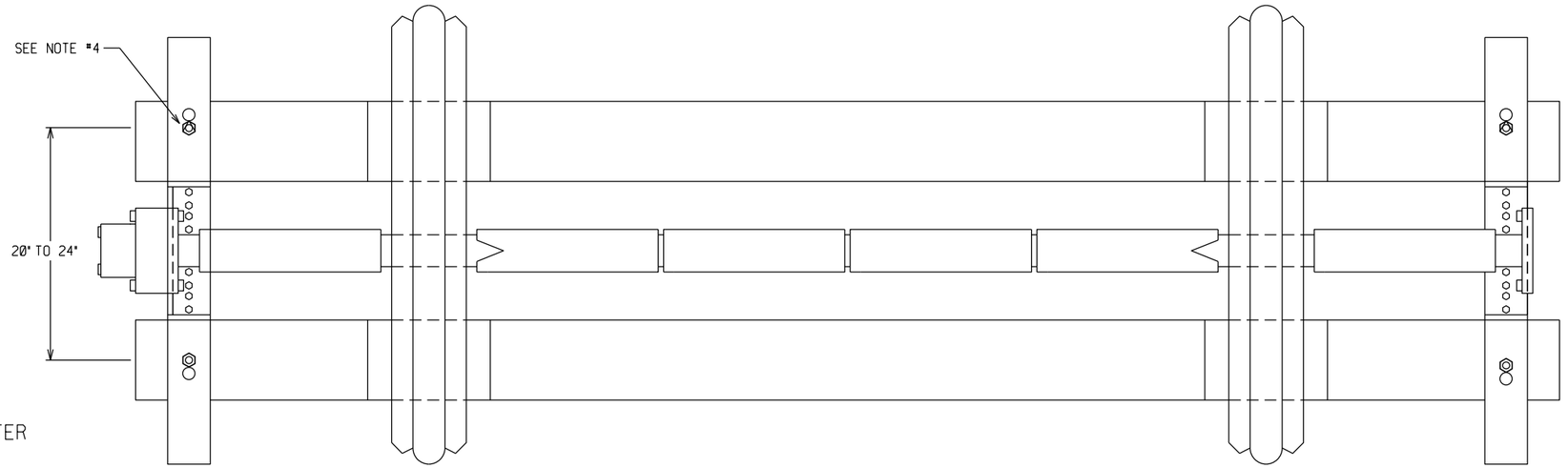
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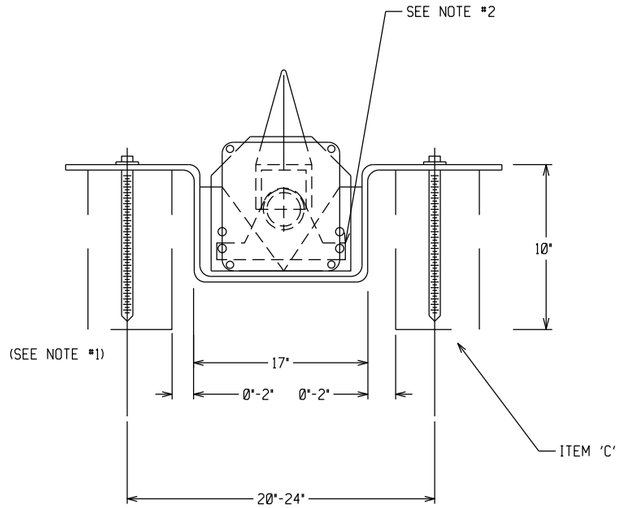
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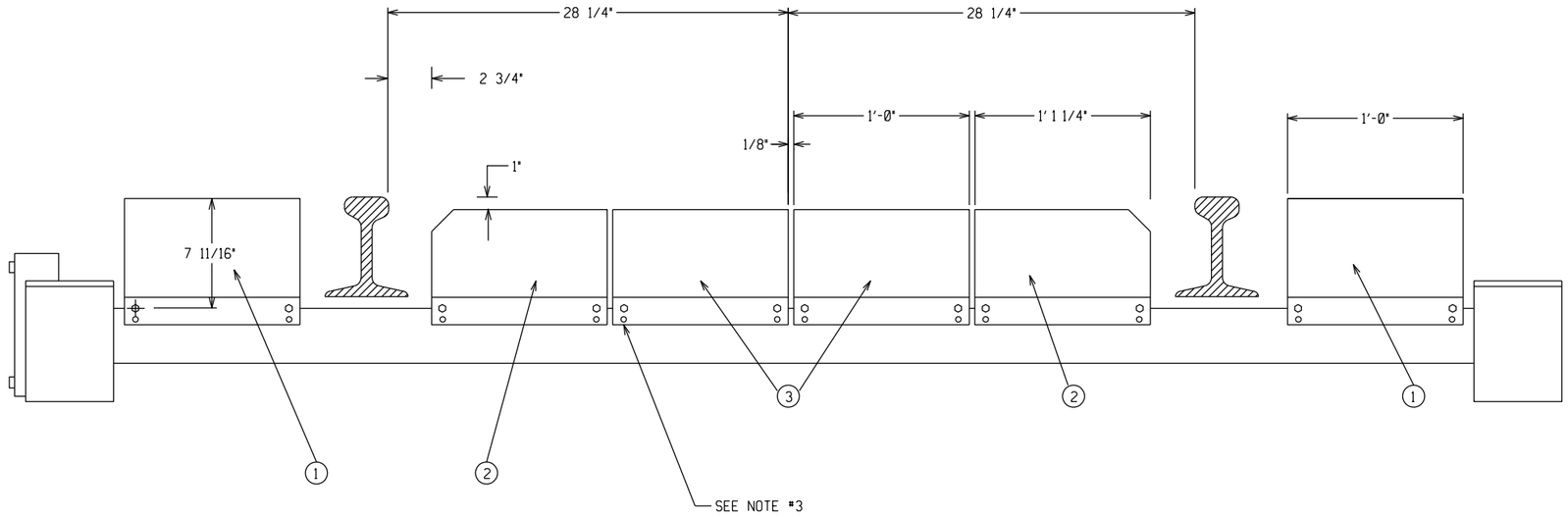
DRAWING NO.
G80100.009

NOTES

1) USE 9 FOOT WOOD TIE. (054.0000900.1)
2) UPPER AND LOWER MOUNTING HOLES ALLOW A 1" CHANGE IN HEIGHT. ENSURE THE DED BAR DOES NOT CONTACT THE BOTTOM OF EITHER RAIL.
3) UPPER & LOWER MOUNTING HOLES ON PADDLES ALLOW A 1" CHANGE IN HEIGHT. MIDDLE & CENTER PADDLES MUST BE 1" BELOW THE TOP OF RAIL AND THE END PADDLES MUST BE LEVEL WITH TOP OF RAIL.
4) SPACE TIES APART ENOUGH TO PROVIDE SWEEPING ROOM BETWEEN D.E.D. AND TIE. DO NOT EXCEED 24" CTC. MOUNT D.E.D. WITH TIE BOLT IN HOLE NEAREST TO CENTER OF TIE. SEE ITEM C BELOW.
5) D.E.D. SHOULD BE GREASED ON A 6-MONTH MAINTENANCE SCHEDULE. (DRAGGER MUST BE DEFLECTED BOTH DIRECTIONS WHILE GREASING)







A. DRAGGING EQUIPMENT DETECTOR, COMPLETE, FOR WOOD TIE. HPN 250143-001
B. HARMON PART NUMBERS FOR ACTUATORS (PADDLES).
   (1) END (HPN# 021312-001)
   (2) MIDDLE (HPN# 121228-001)
   (3) CENTER (HPN# 121227-001)
C. THE D.E.D. IS SECURED USING 4 SCREW LAGS ON EACH END OF THE SADDLE PLATE.

NEW SHEET

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CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

DEFECT DETECTOR DRAGGER WOOD TIE APPLICATION TRACK 1 AND 2

M.P. A-801.00

SHEET NO. 580

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.

G80100.010

TRACK 1

SYSTEM PARAMETERS

DATE:	TIME:	BATTERY:	AMBIENT TEMP.:
TIME ZONE: EASTERN		DAYLIGHT SAVINGS TIME: YES	
MP.		TRACK DIRECTION: N/S	TRACK: SINGLE

ALARM SETTINGS	
ABSOLUTE:	DIFFERENTIAL:
HOT WHEEL:	CARSIDE SLOPE:
CARSIDE MIMIMUM:	COLD RAILS:
COLD RAIL TEMP:	

EQUIPMENT	
DRAGGER:	HIGH LOAD:
WIDE LOAD:	CARSIDE SLOPE:
HOT WHEEL:	CLEARANCE TYPE:
CLEARANCE MODE:	WINTER CYCLE:
TRANSDUCER GAIN:	AEI:
RESISTOR TEST:	GATE DISTANCE:
SELECTED MODEM:	

MODEM SETUP LINE 1 = +++
MODEM SETUP LINE 2 = AT&F
MODEM SETUP LINE 3 = AT &D0 &E1 &E15 S0=1 V0
MODEM SETUP LINE 4 = AT E0 X4 $SB19200
MODEM SETUP LINE 5 = AT &W0

MESSAGES	
AXLES:	SPEED:
TEMPERATURE:	LENGHT:
SLOW:	POWER OFF:
REPEAT NO DEFECTS:	CARS COUNT:
CUSTOMER NAME:	ARRIVAL MESSAGE:
LFT/RT ALARM REF:	CAR ID WITH ALARM:
REQUEST EOT TIMER:	REBROAD DTMF CODE:

SCANNER CALIBRATION DATE	
RAIL1 / DATE: TIME:	RAIL2 / DATE: TIME:

PORT SETTINGS

COM1 TX/RX BAUD 19200/19200 N-8-1
COM2 TX/RX BAUD 19200/19200 N-8-1
COM3 TX/RX BAUD 19200/19200 N-8-1
COM4 TX/RX BAUD 19200/19200 N-8-1

DCS PARAMETERS	
ENABLED: YES	SITE ID:
OWNER CODE: XXXXX	LINE SEGMENT:
RETRY ATTEMPTS: 3	RETRY DELAY: 10
HOST LOGIN ID: STECH XFR	HOST LOGIN PASSWORD: jwdsd1
PHONE #1: XXXXX	PHONE #2: NONE
PHONE #3: NONE	

FIRMWARE VERSIONS
ANALYZER:
COMM:

EPCC DATA	
DATE TESTED:	S/N:

RESISTOR DATA

	VOLTS	DATE	TIME	30	40	50	60	70	80	90	100	110	120	STATUS
RAIL1														
RAIL2														

DIAL IN PHONE NUMBER:	CDMA OPTION:

TRACK 2

SYSTEM PARAMETERS

DATE:	TIME:	BATTERY:	AMBIENT TEMP.:
TIME ZONE: EASTERN		DAYLIGHT SAVINGS TIME: YES	
MP.		TRACK DIRECTION: N/S	TRACK: SINGLE

ALARM SETTINGS	
ABSOLUTE:	DIFFERENTIAL:
HOT WHEEL:	CARSIDE SLOPE:
CARSIDE MIMIMUM:	COLD RAILS:
COLD RAIL TEMP:	

EQUIPMENT	
DRAGGER:	HIGH LOAD:
WIDE LOAD:	CARSIDE SLOPE:
HOT WHEEL:	CLEARANCE TYPE:
CLEARANCE MODE:	WINTER CYCLE:
TRANSDUCER GAIN:	AEI:
RESISTOR TEST:	GATE DISTANCE:
SELECTED MODEM:	

MODEM SETUP LINE 1 = +++
MODEM SETUP LINE 2 = AT&F
MODEM SETUP LINE 3 = AT &D0 &E1 &E15 S0=1 V0
MODEM SETUP LINE 4 = AT E0 X4 $SB19200
MODEM SETUP LINE 5 = AT &W0

MESSAGES	
AXLES:	SPEED:
TEMPERATURE:	LENGHT:
SLOW:	POWER OFF:
REPEAT NO DEFECTS:	CARS COUNT:
CUSTOMER NAME:	ARRIVAL MESSAGE:
LFT/RT ALARM REF:	CAR ID WITH ALARM:
REQUEST EOT TIMER:	REBROAD DTMF CODE:

SCANNER CALIBRATION DATE	
RAIL1 / DATE: TIME:	RAIL2 / DATE: TIME:

PORT SETTINGS

COM1 TX/RX BAUD 19200/19200 N-8-1
COM2 TX/RX BAUD 19200/19200 N-8-1
COM3 TX/RX BAUD 19200/19200 N-8-1
COM4 TX/RX BAUD 19200/19200 N-8-1

DCS PARAMETERS	
ENABLED: YES	SITE ID:
OWNER CODE: XXXXX	LINE SEGMENT:
RETRY ATTEMPTS: 3	RETRY DELAY: 10
HOST LOGIN ID: STECH XFR	HOST LOGIN PASSWORD: jwdsd1
PHONE #1: XXXXX	PHONE #2: NONE
PHONE #3: NONE	

FIRMWARE VERSIONS
ANALYZER:
COMM:

EPCC DATA	
DATE TESTED:	S/N:

RESISTOR DATA

	VOLTS	DATE	TIME	30	40	50	60	70	80	90	100	110	120	STATUS
RAIL1														
RAIL2														

DIAL IN PHONE NUMBER:	CDMA OPTION:

NEW SHEET

NOTE:
1. X = TO BE FILLED OUT DURING FIELD/FACTORY TESTING.

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CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

DEFECT DETECTOR SYSTEM PARAMETERS
M.P. A-801.00

SHEET NO.
581

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.

G80100.01IV

INDEX

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T-60096	SITE LAYOUT - PR MicroHBD 1 TRACK	⊠								
T-60097	POWER DISTRIBUTION	⊠								
T-60098	CIRCUITS	⊠								
T-60099	TIS FIELD INTERFACE PANEL	⊠								
T-60100	HBD1 WIRING	⊠								
T-60101	SYSTEM PARAMETERS	⊠								
T-60102	SYSTEM PARAMETERS	⊠								
T-60103	DRAGGER WOOD TIE APPLICATION	⊠								

⊠ = DESIGN COMPLETED

⊠ = REVISION COMPLETED

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DEFECT DETECTOR
TITLE, NOTES, INDEX & REVISIONS

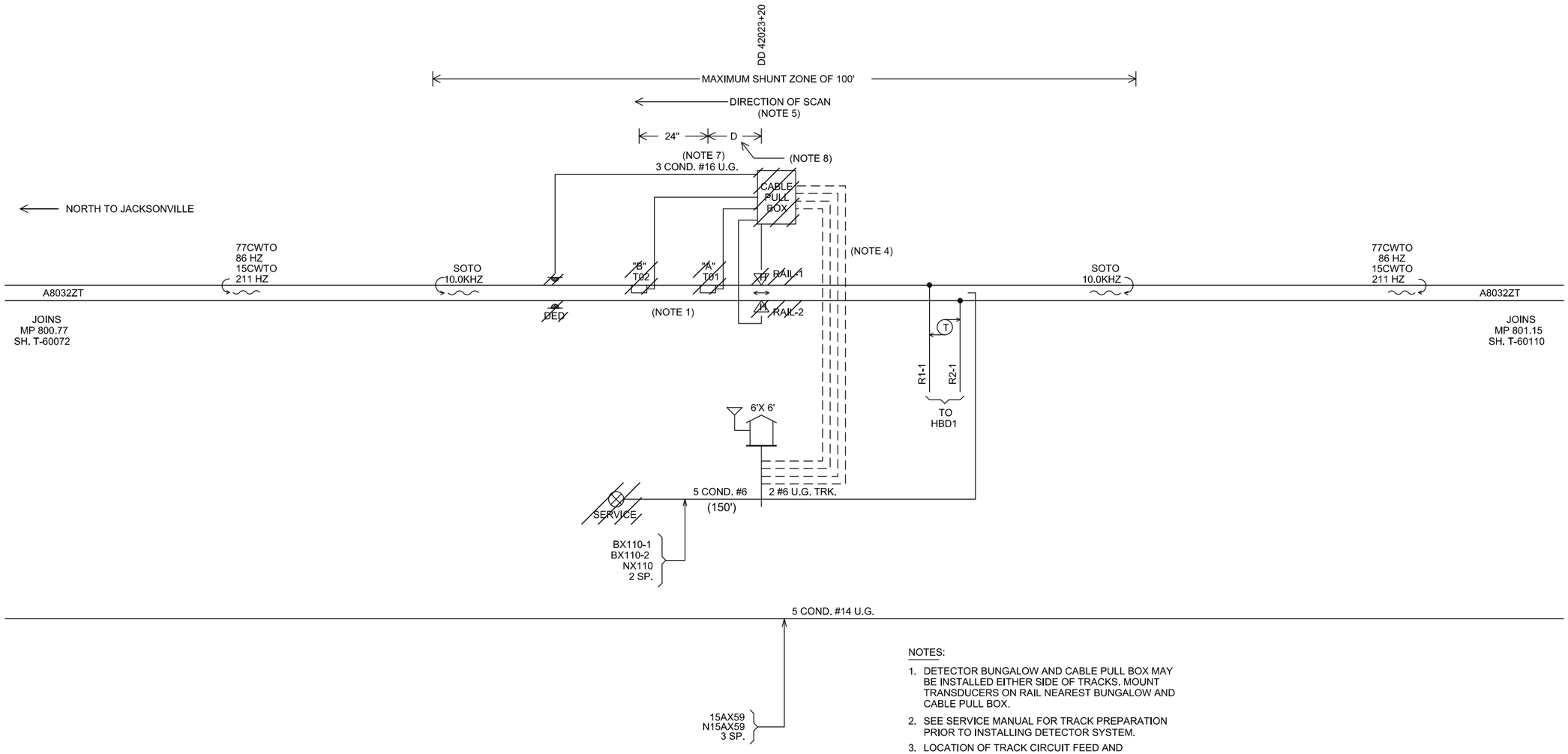
M.P. A-801.00

SHEET NO.

582

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80100.012V



NOTES:

1. DETECTOR BUNGALOW AND CABLE PULL BOX MAY BE INSTALLED EITHER SIDE OF TRACKS. MOUNT TRANSDUCERS ON RAIL NEAREST BUNGALOW AND CABLE PULL BOX.
2. SEE SERVICE MANUAL FOR TRACK PREPARATION PRIOR TO INSTALLING DETECTOR SYSTEM.
3. LOCATION OF TRACK CIRCUIT FEED AND DRAGGING EQUIPMENT DETECTOR SHOULD BE IN THE VICINITY OF TRANSDUCERS.
4. — — = 2" ELECTRICAL PIPE BEWTEEN CABLE PULL BOX & BUNGALOW.
5. SCANNERS SHOULD BE INSTALLED WITH DIRECTION OF SCAN BEING MAGNETIC NORTH OR EAST.
6. AREA AROUND CABLE PULL BOX MUST BE WELL DRAINED. EXCAVATE AREA & BACKFILL WITH CRUSHED STONE UNDER & AROUND CABLE PULL BOX. TOP OF CABLE PULL BOX TO BE AT GRADE LEVEL.
7. DED CABLE IN FLEX CONDUIT TO CABLE PULL BOX.
8. REFER TO (PR) UNIVERSAL ALIGNMENT FIXTURE MANUAL TM83-02-08 TO DETERMINE THE SCANNER ALIGNMENT POINT.

//// = SHOWN ELSEWHERE

THIS SHEET VOID

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REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

XORAIL
5011 GATE PARKWAY BUILDING 100
SUITE 400 JACKSONVILLE FLORIDA 32256
(904) 443-0083 (MAIN)
(904) 443-0089 (FAX)
CERT. OF AUTHORIZATION NO. 9875
ENGINEER OF RECORD
IVORY L. WHITE, JR., P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

DEFECT DETECTOR SITE LAYOUT

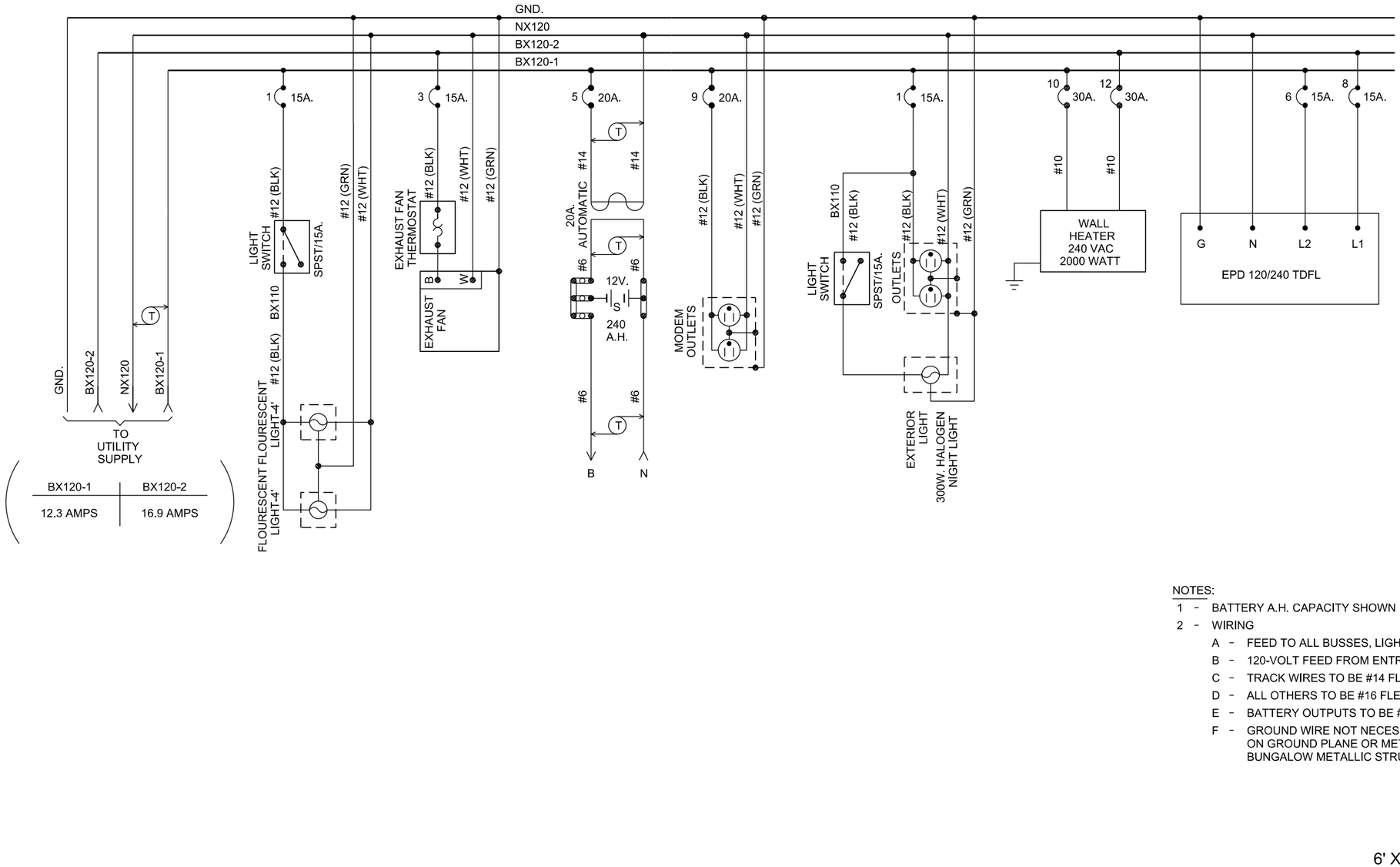
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SHEET NO. 583

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.

G80100.013V



NOTES:

1 - BATTERY A.H. CAPACITY SHOWN IS THE MINIMUM REQUIREMENT.

2 - WIRING

- A - FEED TO ALL BUSSES, LIGHT CIRCUITS,MOTOR CIRCUITS TO BE #10 FLEX.
- B - 120-VOLT FEED FROM ENTRANCE TO POWER BUSS TO BE #10 FLEX.
- C - TRACK WIRES TO BE #14 FLEX.
- D - ALL OTHERS TO BE #16 FLEX UNLESS NOTED.
- E - BATTERY OUTPUTS TO BE #6.
- F - GROUND WIRE NOT NECESSARY WHEN GE ARRESTER IS MOUNTED ON GROUND PLANE OR METAL ENCLOSURE AFFIXED DIRECTLY TO BUNGALOW METALLIC STRUCTURAL MEMBER.

6' X 6' HOUSE

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CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

DEFECT DETECTOR POWER DISTRIBUTION

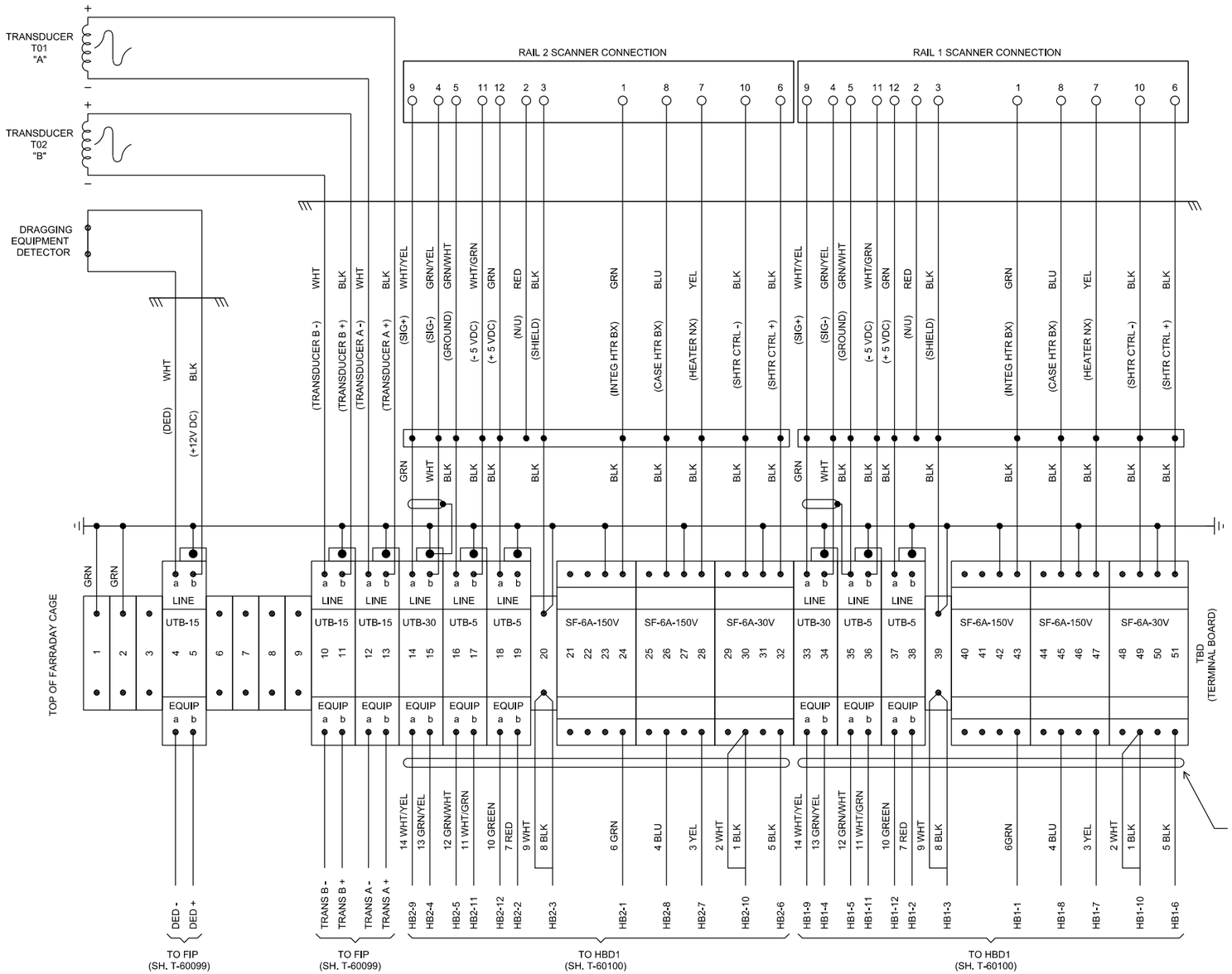
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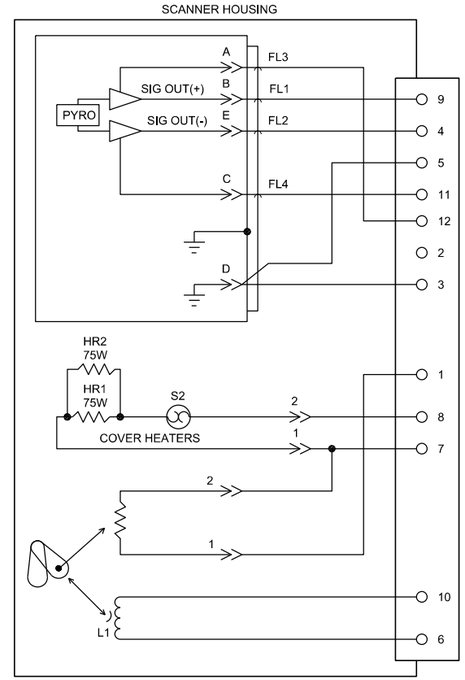
SHEET NO.

584

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80100.014V





NOTES:

1. ALL WIRES SHOWN ARE #16 BLK TEFZEL UNLESS OTHERWISE NOTED.
2. CONNECTIONS SHOWN ON TBD-18,19,37 AND 38 ARE 1 PAIR SHIELDED CABLE.
3. IMPROPERLY WIRED TRANSDUCERS WILL PROVIDE INACCURATE SIGNALS. ENSURE THAT TRANSDUCERS ARE WIRED IN ACCORDANCE WITH THIS CIRCUIT DIAGRAM.

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CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

DEFECT DETECTOR CIRCUITS

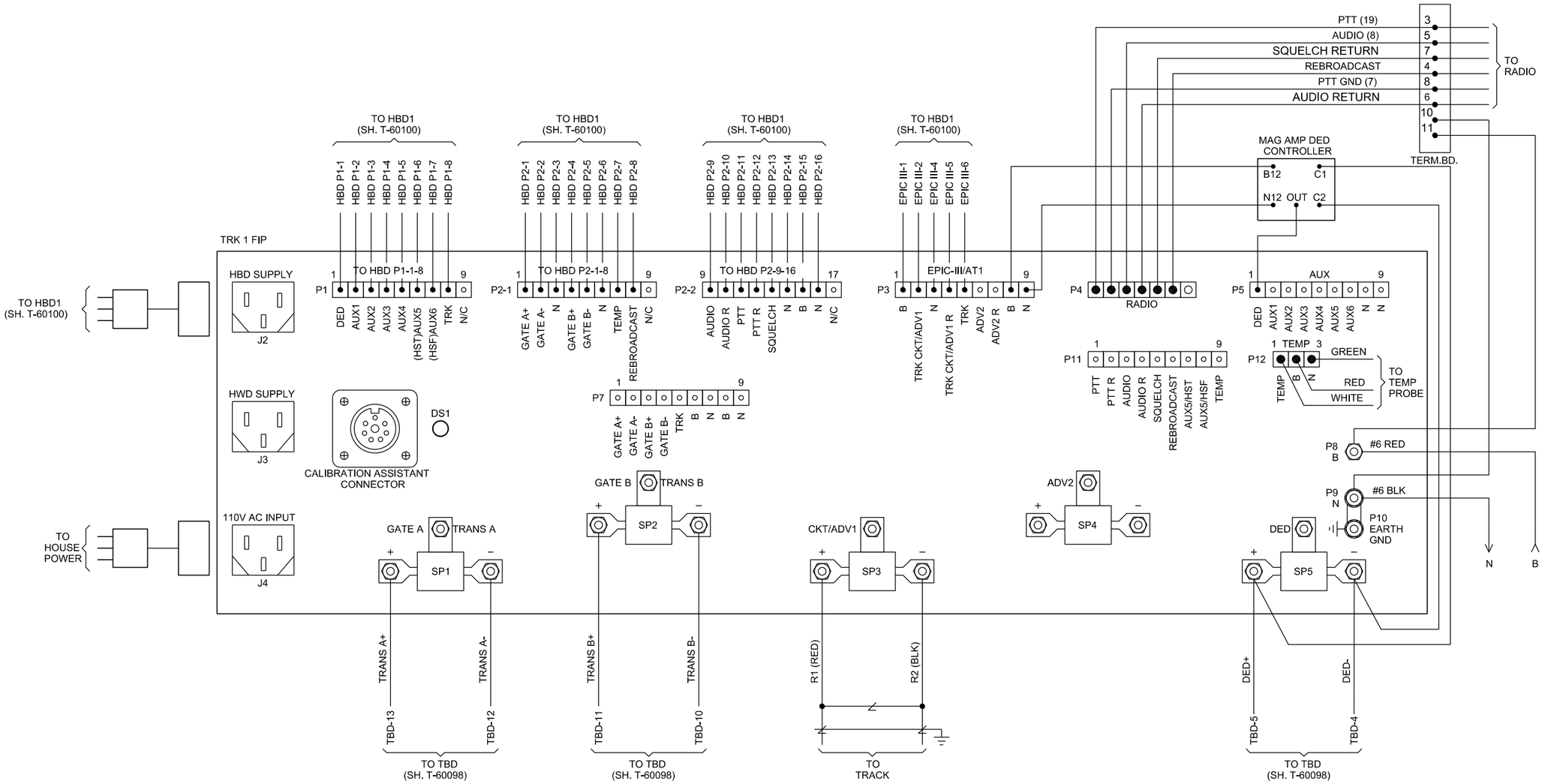
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SHEET NO. 585

$USER$ $DATE$ $TIME$ $FILE$

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G80100.0151V



TIS FIELD INTERFACE PANEL

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CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

DEFECT DETECTOR
TIS FIELD INTERFACE PANEL

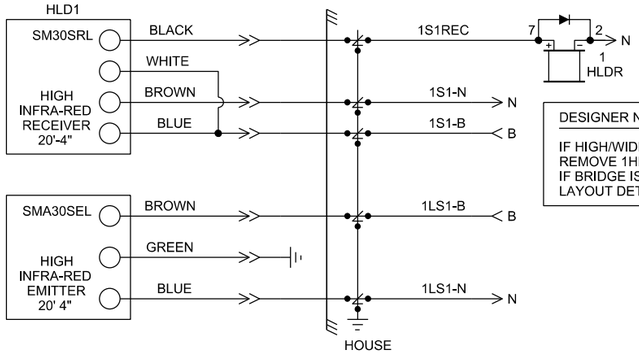
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586

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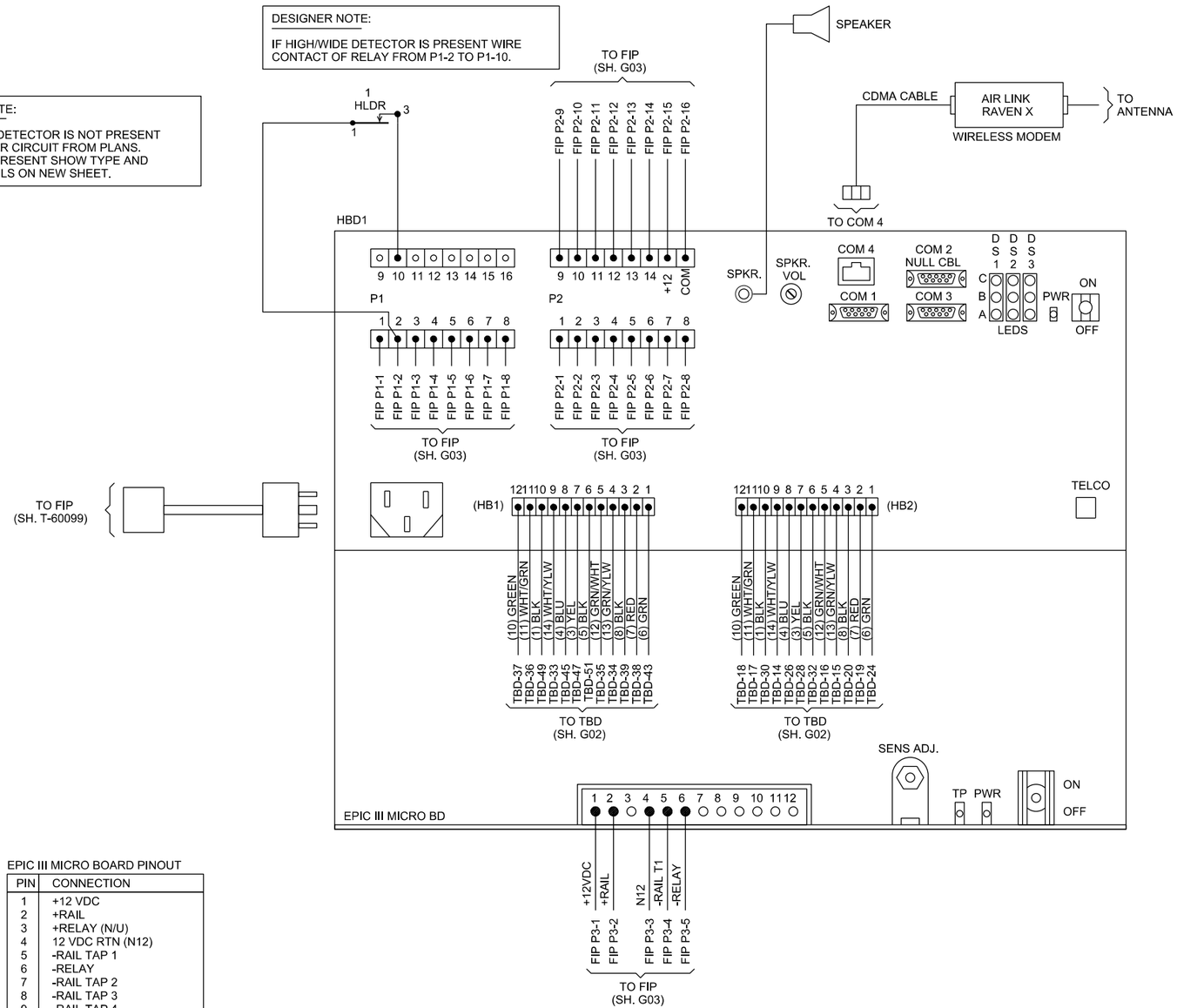


DESIGNER NOTE:

IF HIGH/WIDE DETECTOR IS NOT PRESENT REMOVE 1HLDR CIRCUIT FROM PLANS. IF BRIDGE IS PRESENT SHOW TYPE AND LAYOUT DETAILS ON NEW SHEET.

DESIGNER NOTE:

IF HIGH/WIDE DETECTOR IS PRESENT WIRE CONTACT OF RELAY FROM P1-2 TO P1-10.



MICRO TALKER INPUT/ OUTPUT MAP

P1-1 DRAGGING EQUIPMENT DETECTOR
P1-2 HIGH LOAD 1 DETECTOR
P1-3 HIGH LOAD 2 DETECTOR
P1-4 WIDE LOAD 1 DETECTOR
P1-5 WIDE LOAD 2 DETECTOR
P1-6 RADIO CLAIM OUTPUT
P1-7 RADIO AVAILABLE INPUT
P1-8 TRACK CIRCUIT
P1-9 THROUGH P1-16 ARE ALL COMMON OR GROUND

P2-1 TRANSDUCER A+
P2-2 TRANSDUCER A-
P2-3 GND.
P2-4 TRANSDUCER B+
P2-5 TRANSDUCER B-
P2-6 GND.
P2-7 ANALOG INPUT
P2-8 REBROADCAST

P2-9 AUDIO OUT
P2-10 AUDIO OUT
P2-11 PTT
P2-12 PTT RTN
P2-13 SQUELCH
P2-14 SQUELCH RTN
P2-15 + 12 VDC
P2-16 12 VDC RTN

EPIC III MICRO BOARD PINOUT

PIN	CONNECTION
1	+ 12 VDC
2	+ RAIL
3	+ RAIL (N/U)
4	12 VDC RTN
5	– RAIL TAP 1
6	– RELAY
7	– RAIL TAP 2
8	– RAIL TAP 3
9	– RAIL TAP 4
10	– RAIL TAP 5
11	– RAIL TAP 6
12	– RAIL TAP 7

EPIC III MICRO BOARD PINOUT

PIN	CONNECTION
1	+12 VDC
2	+RAIL
3	+RELAY (N/U)
4	12 VDC RTN (N12)
5	-RAIL TAP 1
6	-RELAY
7	-RAIL TAP 2
8	-RAIL TAP 3
9	-RAIL TAP 4
10	-RAIL TAP 5
11	-RAIL TAP 6
12	-RAIL TAP 7

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CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

DEFECT DETECTOR HBD1 WIRING

M.P. A-801.00

SHEET NO. 587

$USER$ $DATE$ $TIME$ $FILE$

SYSTEM PARAMETERS

HBD Ver 7.7G
Speech Ver 5.0

CPU Board ID : 227448-100 CPU3
SIB Board ID : 227294-004 Pyro ACS II
Analog Board ID : 227261-001 Standard I/O

PORT CONFIGURATION

Baud Rates	
COM1, Local Maintenance	: 2400 baud
COM4, Ethernet	: 115200 baud
COM2, Local Maintenance	: 57600 baud
COM3, Local Maintenance	: 9600 baud
Port Settings	
COM1	: Local Maintenance
COM4	: Ethernet
COM2	: Local Maintenance
COM3	: Local Maintenance
Flow Control	
COM1 Hardware Flow Control	: Disabled
COM4 Hardware Flow Control	: Disabled

TRANSDUCER CONFIGURATION

W - Transducer Miscount Warning Level	: 4
I - Transducer Miscount Integrity Level	: 8
P - Axle Window Timeout Pad	: 40 Percent
T - Transducer Spacing (A to B)	: 24.00 Inch
D - Default Speed	: 60 MPH
A - Distance to Transducer A	: 0.0 Feet
B - Distance to Transducer B	: 0.0 Feet

TRACK CONFIGURATION

M - Milepost Number	: 801.00	☆
MS - Milepost Suffix	: XX	☆
SN - Site Name	: STANTON	☆
BC - AAR Billing Code	: CFRC	
SI - AAR Site ID	: C003	
DIR - Track Direction (A-B)	: N-S	☆
HB - Alarm Side For Ch 1	: RIGHT	
HW - Hot Wheel Alarm Side For Ch 1	: Same Side as Bearing Scanner	
TN - Track Name	: Single Track - Do not broadcast name	
SCAN - Train Scan Direction	: A<->B	
AD - Hot/Cold Wheel Alarm Direction	: A<->B	

TRAIN PROCESSING SETUP

IH - Ignore 1st ... Axles For Heat Alarms	: 0
IA - Ignore 1st ... Axles For High/Wide Alarms	: 0
FT - Announce Sequential Aux Alarms as From / To	: Enabled
HI - Treat Hot Wheel Integs as Warnings	: Disabled
TT - Train Timeout	: 10 s
TCT - Track Circuit Timeout	: 10 s
AEIT - AEI Data Collection Timeout	: 8 s
ST - Slow Train Speed Threshold	: 7 MPH
MTA - Minimum Axles for Train	: 4
MAH - Minimum Axles for High Railer	: 2

SCANNER TEST

ST - Scanner Test		
Enable/Disable Scanner Test	: Enabled	
Min Heat for Scanner Test	: 130 F	
Max Heat for Scanner Test	: 150 F	
# of Warnings Before Integrity Fail	: 0	
Scanner Integrity Heater On Time	: 4 s	
CT - Cold Train Test		
Enable/Disable Cold Train Test	: Enabled	
Min Heat Level for Cold Train Test	: 10 F	
Min Heat for Deviation Test	: 10 F	
Min Axles on Train for Cold Train Test	: 16	
Maximum Cold Trains	: 2	

RADIO

D - Radio	: Enabled	
S - Radio Sharing (Claimed, P1-6 Available, P1-7)		
Enable/Disable Radio Sharing	: Disabled	
Sharing Signal State	: Open	
Sharing Timeout	: 120 sec	
Q - Radio Squelch, P2-13		
Radio Squelch Signal State	: Open	
Radio Squelch Timeout	: 2 sec	☆
R - Rebroadcast, P2-8		
Enable/Disable Rebroadcast	: Disabled	☆
Rebroadcast Signal State	: Open	
Rebroadcast Timeout	: 10 min	
L - Radio Calibration Level	: 0.81	☆
ARE - Automatic Radio Enable Logic	: Disabled	

SPEECH FLAGS

ARR - Broadcast Arrival Message	: Always	
DEP - Broadcast Departure Message	: Always	
SIGN - Broadcast Signoff	: Enabled	
REP - Repeat On No Defect	: Disabled	
TONE - Announce Alarms as Tone Only	: Enabled	
SLOW - Broadcast Slow Train	: Disabled	☆
SPEED - Broadcast Speed	: Enabled	☆
SU - Speed Units	: Standard	
CAR - Broadcast Total Cars	: Disabled	☆
AXLE - Broadcast Total Axles	: Enabled	☆
LEN - Broadcast Train Length	: Enabled	☆
LU - Train Length Units	: Standard	
ALM - Broadcast Total Alarms	: Disabled	
MD - Broadcast Milepost Decimal	: Enabled	
AS - Broadcast Alarm Side for Hot Wheel	: Enabled	
TAG - Car Tag Broadcast Options	: Announce AEI Tag Data Only	
OPT - Optical Sensor Announcment	: Announce Sensor as HIGH/WIDE	
WIRE - Wire Sensor Announcment	: Announce Sensor as SHIFTED	
TEMP - Broadcast Ambient Temperature		
Enable/Disable Ambient Broadcast	: Disabled	☆
Temperature Announcement Units	: Standard	

CALIBRATION

CAL1 - Calibrate Scanner 1	: Calibration Required	☆
CAL2 - Calibrate Scanner 2	: Calibration Required	☆
CF1 - Ch1 Calibration Factor	: 114	☆
CF2 - Ch2 Calibration Factor	: 100	☆
P - Print Calibration Values	: Enabled	
CALT - Calibrate Temperature Probe	: Calibration Required	☆
TF - Temperature Factor	: 100	☆

Note: Calibration required monthly or when scanner, scanner cable, or microHBD unit is/are replaced.

ALARM LIMITS

Hot Bearing High Limit	: 150 F
Differential Bearing High Limit	: 90 F
Differential Bearing Low Limit	: 90 F
Carside Low Limit	: 155 F
Carside Slope	: 1.31
Hot Wheel High Limit	: 900 F
Hot Wheel Warm Limit	: 300 F
Low Battery Threshold	: 9.000 Volts

FILTER CONFIGURATION

Hot Bearing Filter	: 13 Point Median Filter
Peak Detect Filter	: Enabled
Hot Wheel Filter	: Peak Filter
Peak Rising Threshold	: 130 F
Peak Falling Threshold	: 10 F
Peak Count Threshold	: 3
Corrected Bearing Temp. Threshold	: 10 F
Atypical Integrity Fail Enable	: Enabled
Heat Profile Storage Limit	: 100 F

SPEECH OPTIONS

Print Voice Port	: Disabled
# Broadcast Times	: 2
Number of Alarm Tones	: 16
Max Total Alarms	: 4
Max Total Draggers	: 4
Max Total High Load Alarms	: 4
Max Total Wide 1 Load Alarms	: 4
Max Total Wide 2 Load Alarms	: 4
Max Total Hot Bearing Alarms	: 4
Max Total Hot Wheel Alarms	: 4

DESIGN NOTE:

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MODIFICATIONS MADE TO THE DEFAULT VALUE SHOULD BE DENOTED WITH A STAR.

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CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

DEFECT DETECTOR SYSTEM PARAMETERS

M.P. A-801.00

SHEET NO. 588

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.

G80100.018V

ETHERNET CONFIG OPTIONS	
Dynamic IP Configuration	: Disabled
Ethernet User ID	: PRS
Ethernet Password	: **********
HBD Static IP Address	: XX.XXX.XX.XX - CDMA
HBD Static Subnet Address	: 255.255.255.0
HBD Static Gateway Address	: 10.114.10.1 - Verizon 10.112.10.1 - AT&T
HBD HTTP Port	: 80
HBD Telnet Port	: 1023
FTP IP Address	: 10.87.22.140
FTP User ID	: ge s918b
FTP Password	: ********
FTP Temp File Path	: INBOUND
FTP Final File Path	: INBOUND
FTP File Name Prefix	: XXXX
FTP Temp File Extension	: TMP
FTP Final File Extension	: HBD
FTP Automated Reporting	: Enabled
FTP Report Format	: S918
FTP Train Resend Attempts	: 3
FTP Train Resend Time	: 60 sec
FTP Response Timeout	: 60 sec

S918 REPORTING OPTIONS	
Automated Local Serial S918 Reporting	: Enabled
S918 Train Resend Attempts	: 2
S918 Train Resend Time	: 120
S918 Axle Spacing Format	: Axle Spacing in ms
S918 Delimiter Character	: Space Character

DISPLAY SETTINGS	
Display Temperature with Ambient	: No
Remember Password Duration	: 10 min
Display Heat in Metric	: No
Display Distance in Metric	: No
Display Speed in Metric	: No

TRAIN REPORTING OPTIONS	
Report All Trains	: Yes
Report Test Trains	: Yes
Print Car List With Summary	: No
Local Reporting Port	: Disabled
Remote Reporting Port	: Disabled

EQUIPMENT SETUP	
Dragger	: Enabled
Radio	: Enabled
High Load 1	: Disabled
High Load 2	: Disabled
Wide Load 1	: Disabled
Wide Load 2	: Disabled
Wheel Scanner Function	: Disabled
Bearing Scanner	: Enabled
Wheel Scanner Hardware	: Enabled
Hot Wheel Alarm Detection	: Enabled
AC Monitor	: Enabled
Scanner Case Heater	: Enabled
AEI Data Forward	: Disabled

DIGITAL INPUTS

SIGNAL	PCONN -PIN	NORMAL STATE	TYPE	SENSE DIRECTION
Dragger	P1-1	Closed	Input (Recov)	A<->B
High Load 1	P1-2	Closed	Input (Recov)	A<->B
High Load 2	P1-3	Closed	Input (Recov)	A<->B
Wide Load 1	P1-4	Closed	Input (Recov)	A<->B
Wide Load 2	P1-5	Closed	Input (Recov)	A<->B
Radio Claimed	P1-6	Open	Output	
Radio Available	P1-7	Open	Input (Recov)	
Squelch	P2-13	Open	Input (Recov)	
Rebroadcast	P2-8	Open	Input (Recov)	
Track Circuit	P1-8	Open		
Hot Bearing Alarm	None			
Hot/Cold Wheel Alarm	None			
Integrity Alarm	None			
Inverter Output	None			
RF Monitor	None			
Illegal Entry	None			
Slide Fence	None			
Battery Charger Monitor	None			

HEAT PROCESSING	
Scanner Distance To Transducer A	: 8 Inch
Scanner To Axle Window (A Side)	: 4 Inch

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CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

DEFECT DETECTOR SYSTEM PARAMETERS

M.P. A-801.00

SHEET NO.

589

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80100.019V

NOTES

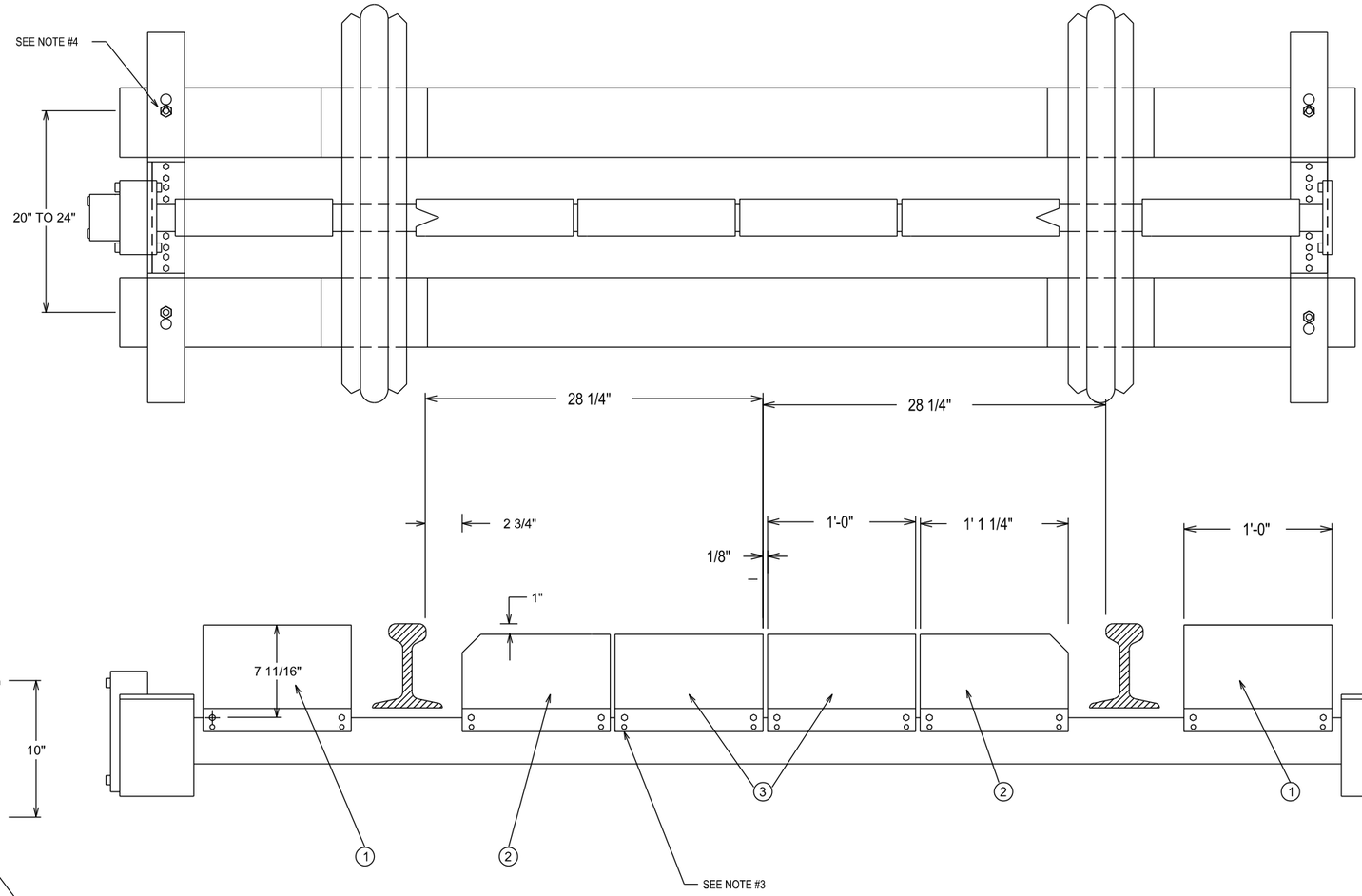
1) USE 9 FOOT WOOD TIE. (054.0000900.1)

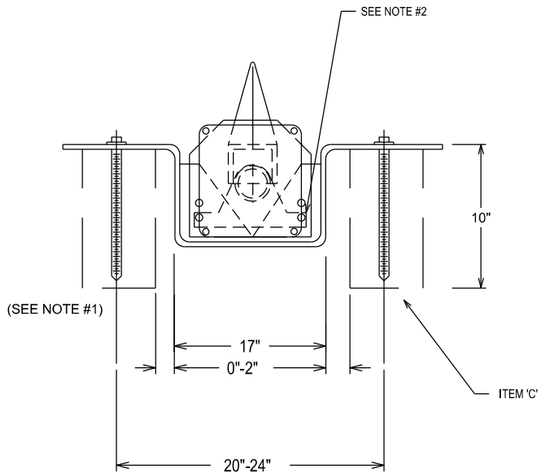
2) UPPER AND LOWER MOUNTING HOLES ALLOW A 1" CHANGE IN HEIGHT. ENSURE THE DED BAR DOES NOT CONTACT THE BOTTOM OF EITHER RAIL.

3) UPPER & LOWER MOUNTING HOLES ON PADDLES ALLOW A 1" CHANGE IN HEIGHT. MIDDLE & CENTER PADDLES MUST BE 1" BELOW THE TOP OF RAIL AND THE END PADDLES MUST BE LEVEL WITH TOP OF RAIL.

4) SPACE TIES APART ENOUGH TO PROVIDE SWEEPING ROOM BETWEEN D.E.D. AND TIE. DO NOT EXCEED 24" CTC. MOUNT D.E.D. WITH CONE NECK SPIKES IN HOLE NEAREST TO CENTER OF TIE. SEE ITEM C BELOW.

5) D.E.D. SHOULD BE GREASED ON A 6-MONTH MAINTENANCE SCHEDULE. (DRAGGER MUST BE DEFLECTED BOTH DIRECTIONS WHILE GREASING)





A. DRAGGING EQUIPMENT DETECTOR, COMPLETE, FOR WOOD TIE. HPN 250143-001 (023.0070007.1)

B. HARMON PART NUMBERS FOR ACTUATORS (PADDLES).

(1) END (HPN# 021312-001) 023.0070036.1

(2) MIDDLE (HPN# 121228-001) 023.0070037.1

(3) CENTER (HPN# 121227-001) 023.0070038.1

C. THE D.E.D. IS SECURED USING 4 CONE NECK SPIKES (020.0016935.1) ON EACH END OF THE SADDLE PLATE.

THIS SHEET VOID

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REVISIONS					
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SUITE 400 JACKSONVILLE FLORIDA 32256
(904) 443-0083 (MAIN)
(904) 443-0089 (FAX)
CERT. OF AUTHORIZATION NO. 9875
ENGINEER OF RECORD
IVORY L. WHITE, JR, P.E.
P.E. LICENSE NO. 58808

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ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

DEFECT DETECTOR DRAGGER WOOD TIE APPLICATION

M.P. A-801.00

SHEET NO.
590

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.

G80115.001

INDEX

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1	INDEX SHEET									
2	TRACK AND SIGNAL PLAN									
3	POWER DISTRIBUTION									
4	XP4 UNIT AND COMM (2 TRACKS)									
5	EQUIPMENT RACK LAYOUT (2 TRACKS & 6 GATES W/REC)									
6	XP4 UNIT XTI-1S (15CWU)									
7	XP4 UNIT VIO-44S (15CWU)									
8	XP4 UNIT SETUP									
9	GATES AND BELL (GATES "A", "C", "D", & "E")									
10	GATES AND BELL (GATES "B" & "F")									
11	FLASHERS ("AA", GATES "A" & "C")									
12	FLASHERS (GATES "B", "D", "E", & "F")									
13	HAWK RECORDER CIRCUITS									
14	HAWK RECORDER PROGRAM									

= DESIGN COMPLETED

= REVISION COMPLETED

RED = IN

NEW SHEET

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DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
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02-10-09	SAF	FL2005041			
01-15-14	AECOM	PHASE 2 SOUTH			

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ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

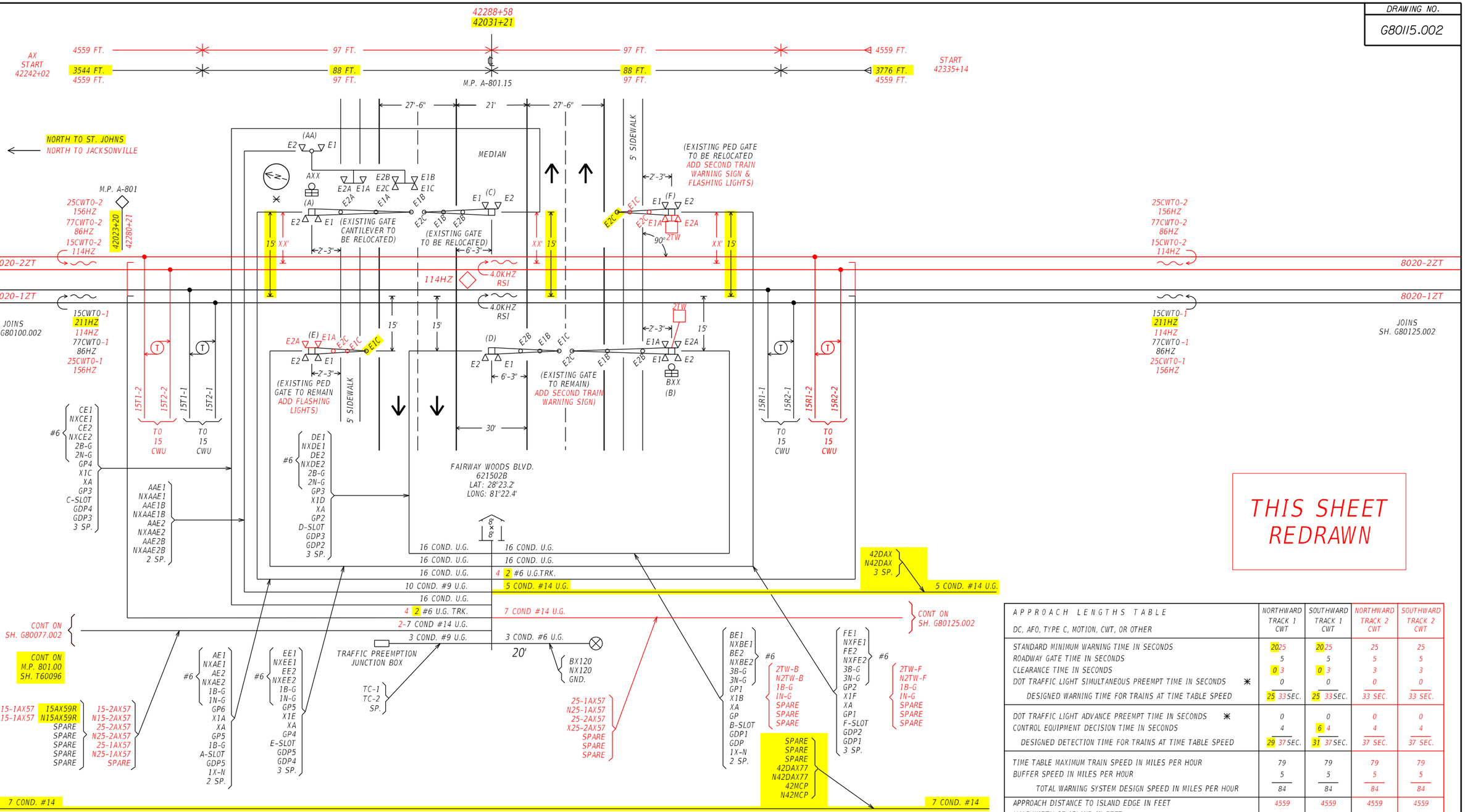
FAIRWAY WOODS BLVD MP 801.15
INDEX SHEET

SHEET NO.

591

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80115.002



CONSTRUCTION NOTES:

1. RELOCATE GATES "A","C" & "F" AND CANTILEVER "AA" TO ACCOMODATE NEW SECOND TRACK.
2. SIMULTANEOUS PREEMPTION IS EXISTING - TEXT ADDED TO APPROACH LENGTHS TABLE ONLY.

NOTE:
1. 20 WATT BULBS ON GATE ARMS. ALL OTHERS TO BE 25 WATT BULBS. 12" LED MAXIMUM CURRENT 1.7A AT 10 VOLTS LED GATE ARM LIGHT 0.3A MAX.
2. GATE LENGTH (A) 25' (B) 26' (C) 19' (D)19'
2. PEDESTRIAN GATE LENGTH (E) 7' (F) 7'
2. CANTILEVER LENGTH (AA) 32'
3. ✕ = LOCATION OF HOUSE
4. (N) = APPROXIMATE COMPASS NORTH.
5. THE TRANSMITTER LEADS FOR MOTION OR PREDICTOR EQUIPMENT SHOULD BE CONNECTED ON THE BUNGALOW OR SHORT LEAD SIDE OF THE CROSSING.
6. ISLAND TRACK LEADS SHOULD BE CONNECTED 50 FEET FROM ROAD EDGE BUT ON NARROW ROADS (20' OR LESS) ISLAND LENGTH SHALL BE 120 FEET.
7. WARNING SYSTEM APPROACH CIRCUIT DISTANCES ARE TO BE MEASURED FROM THE ISLAND TRACK CONNECTIONS.
8. GATES AND CANTILEVERS TO BE INSTALLED IN ACCORDANCE WITH FDOT ROADWAY AND DESIGN STANDARDS INDEX 17882.

THIS SHEET REDRAWN

APPROACH LENGTHS TABLE DC, AFO, TYPE C, MOTION, CWT, OR OTHER	NORTHWARD TRACK 1 CWT	SOUTHWARD TRACK 1 CWT	NORTHWARD TRACK 2 CWT	SOUTHWARD TRACK 2 CWT
STANDARD MINIMUM WARNING TIME IN SECONDS	20 25	20 25	25	25
ROADWAY GATE TIME IN SECONDS	5	5	5	5
CLEARANCE TIME IN SECONDS	0 3	0 3	3	3
DOT TRAFFIC LIGHT SIMULTANEOUS PREEMPT TIME IN SECONDS ✱	0	0	0	0
DESIGNED WARNING TIME FOR TRAINS AT TIME TABLE SPEED	25 33 SEC.	25 33 SEC.	33 SEC.	33 SEC.
DOT TRAFFIC LIGHT ADVANCE PREEMPT TIME IN SECONDS ✱	0	0	0	0
CONTROL EQUIPMENT DECISION TIME IN SECONDS	4	6 4	4	4
DESIGNED DETECTION TIME FOR TRAINS AT TIME TABLE SPEED	29 37 SEC.	31 37 SEC.	37 SEC.	37 SEC.
TIME TABLE MAXIMUM TRAIN SPEED IN MILES PER HOUR	79	79	79	79
BUFFER SPEED IN MILES PER HOUR	5	5	5	5
TOTAL WARNING SYSTEM DESIGN SPEED IN MILES PER HOUR	84	84	84	84
APPROACH DISTANCE TO ISLAND EDGE IN FEET	4559	4559	4559	4559
HALF WIDTH OF ISLAND IN FEET	97	97	97	97
APPROXIMATE MILE POSTS FOR APPROACH CIRCUIT	802.03	800.29	802.03	800.29
	3544 $50 + \frac{76}{2}$ 800.46	3776 $50 + \frac{76}{2}$ 801.88		

✱ AUTHORIZING AGENCY: NONE
✱ DATE OF REQUIREMENT: NONE
✱ AMOUNT OF TIME (SEC.): NONE SIMULTANEOUS

RED = IN
YELLOW = OUT

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REVISIONS

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ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

FAIRWAY WOODS BLVD MP 801.15 TRACK AND SIGNAL PLAN

SHEET NO. 592

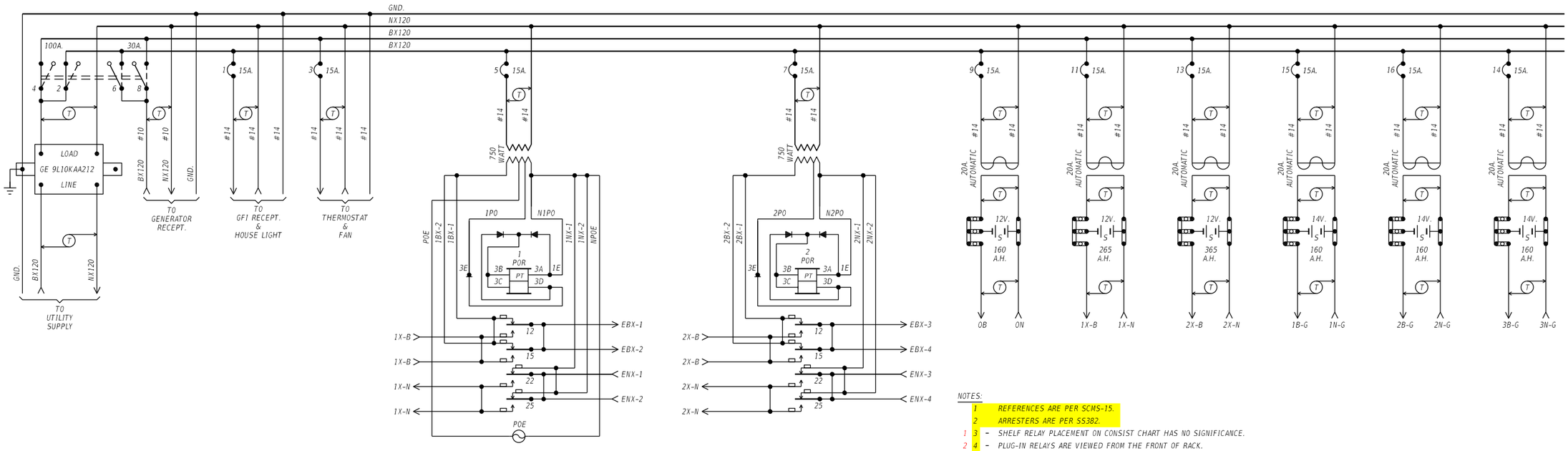
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DRAWING NO.

G80115.003

TOP ROW

		XR 12 FB (S3) B8 15 FB C30 22 23 F 25 F 32 F 35	XPR 22 F (S8) B36 25 C30 15AX59R	XPPR 12 F (S3) B8 15 F C30 22 23 F 25 F 32 F 35 F		GPR 12 B (S4) B82 15 B C30 22 B 25 B 32 F 35 B	1EOR 12 FB (S18) B81 15 FB C30 32 FB 35 FB		1POR 12 FB (S15) B62 15 FB C30 22 FB 25 FB 32 F 35		
		2TWR 12 B (S3) B8 15 B C30 22 23 25 32 B 35 B	15-1AX57R 12 (S3) B8 15 C30 22 23 F 25 32 35 F	15-2AX57R 12 (S3) B8 15 C30 22 23 F 25 32 35 F	PER 12 (S3) B8 15 C30 22 23 F 25 F 32 35	GPPR 12 B (S4) B82 15 B C30 22 25 32 F 35	2EOR 12 FB (S18) B81 15 FB C30 32 FB 35 FB		2POR 12 FB (S15) B62 15 FB C30 22 FB 25 FB 32 35		



RELAY IDENTIFICATION AND CROSS REFERENCE			
TYPE	GRS	SAFETRAN	DETAILS
B8	A62-277	400004	4FB-2F-1B, NEUTRAL, 500 OHMS
B77	A62-580	400023	6FB (HD), NEUTRAL, 500 OHMS
B81	A62-197	400700-7X	4FB, RELAY WITH FLASHER, 50-64 FLASHES PER MIN, 60 OHMS
C30	A62-506		PLUGBOARD KIT FOR B1 RELAYS
C48	SOCKET SURFACE MOUNT FOR PB TYPE KHAU RELAYS		
N68	4-DT, 12K OHMS, NEUTRAL POTTER BRUMFIELD RELAY (240VAC)		

NOTES:

1 REFERENCES ARE PER SCMS-15.

2 ARRESTERS ARE PER SS382.

1 3 - SHELF RELAY PLACEMENT ON CONSIST CHART HAS NO SIGNIFICANCE.

2 4 - PLUG-IN RELAYS ARE VIEWED FROM THE FRONT OF RACK.

3 5 - BATTERY A.H. CAPACITY SHOWN IS THE MINIMUM REQUIREMENT.

4 6 - WIRING

A - FEED TO ALL BUSSES, LIGHT CIRCUITS,MOTOR CIRCUITS TO BE #10 FLEX.

B - 120-VOLT FEED FROM ENTRANCE TO POWER BUSS TO BE #10 FLEX.

C - ALL TRACK WIRES TO BE #10 FLEX.

D - ALL OTHERS TO BE #16 FLEX UNLESS NOTED.

E - BATTERY OUTPUTS TO BE #6 TWISTED PAIR PER SS360.

F - GROUND WIRE NOT NECESSARY WHEN GE ARRESTER IS MOUNTED ON GROUND PLANE OR METAL ENCLOSURE AFFIXED DIRECTLY TO BUNGALOW METALLIC STRUCTURAL MEMBER.

5 7 - CIRCUIT INTERRUPTERS 2 & 4 ARE MECHANICALLY INTERLOCKED WITH CIRCUIT INTERRUPTERS 6 & 8.

8'X 8' RELAY HOUSE W/FARADAY SHIELD

RED = IN

YELLOW = OUT

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CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

FAIRWAY WOODS BLVD MP 801.15
POWER DISTRIBUTION

SHEET NO. 593

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80115.004

#10 OB → OB
#10 ON → ON
B
N

SLOT 1 | SLOT 2 | SLOT 3 | SLOT 4 | SLOT 5 | SLOT 6 | SLOT 7 | SLOT 8 | SLOT 9

15 CWU

XTI-1S (SLOT 1)
- ATC ENABLED
- MASTER
- SLAVE
- HIGH SIGNAL
- LOW PHASE
- MOTION DETECT
- ITC ENABLED
- ISLAND
- HEALTH

XTI-1S (SLOT 2)
- ATC ENABLED
- MASTER
- SLAVE
- HIGH SIGNAL
- LOW PHASE
- MOTION DETECT
- ITC ENABLED
- ISLAND
- HEALTH

SPARE (SLOT 3)

SPARE (SLOT 4)

SPARE (SLOT 5)

VIO-86S (SLOT 6)
- VITAL IN 1
- VITAL IN 2
- VITAL IN 3
- VITAL IN 4
- VITAL IN 5
- VITAL IN 6
- VITAL IN 7
- VITAL IN 8
- BANK 1
- VITAL OUT 1
- VITAL OUT 2
- VITAL OUT 3
- BANK 2
- VITAL OUT 4
- VITAL OUT 5
- VITAL OUT 6
- HEALTH

VIO-44S (SLOT 7)
- VITAL IN 1
- VITAL IN 2
- VITAL IN 3
- VITAL IN 4
- VITAL OUT 1
- VITAL OUT 2
- VITAL OUT 3
- VITAL OUT 4
- HEALTH

SPARE (SLOT 8)

SPARE (SLOT 9)

ROW CA

GREEN

CPS-3 (SLOT 1)

CDU-1 (SLOT 2)

VPM-3 (SLOT 3)
- CPU STATUS A B C
- PROG
- ENET 1
- ENET 2
- CDU
- USB

ROW CB

SLOT 1 | SLOT 2 | SLOT 3 | SLOT 4 | SLOT 5 | SLOT 6 | SLOT 7 | SLOT 8

CHASSIS ID DIP PACK
XCI-2
SLOT 9

ON/OFF SWITCH

CDU-1
1 2 3
4 5 6
7 8 9
0
HEALTH
5V PWR
ENTER
CANCEL

NEW SHEET

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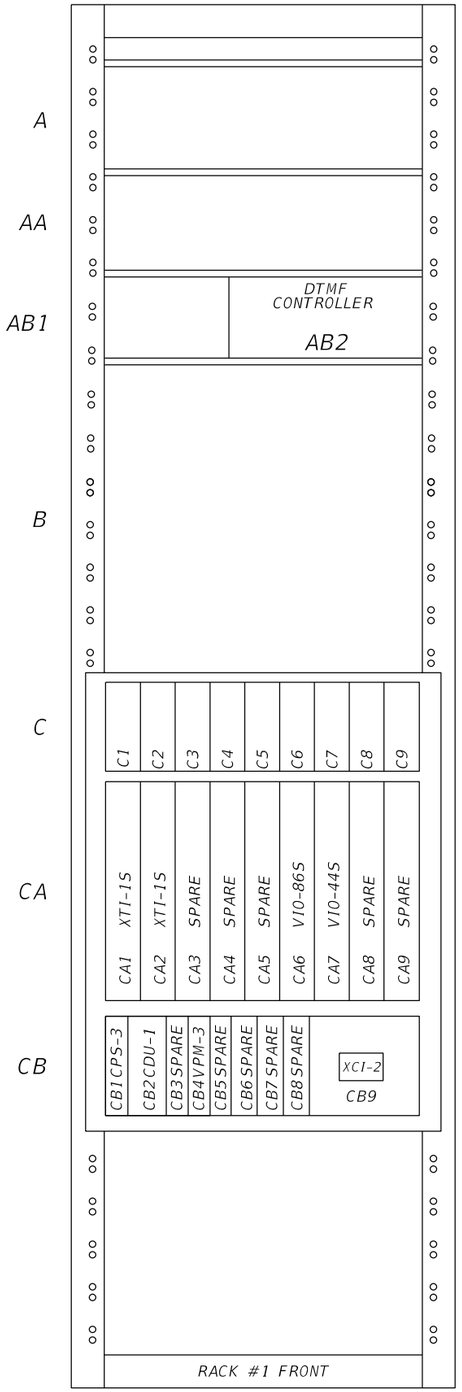
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

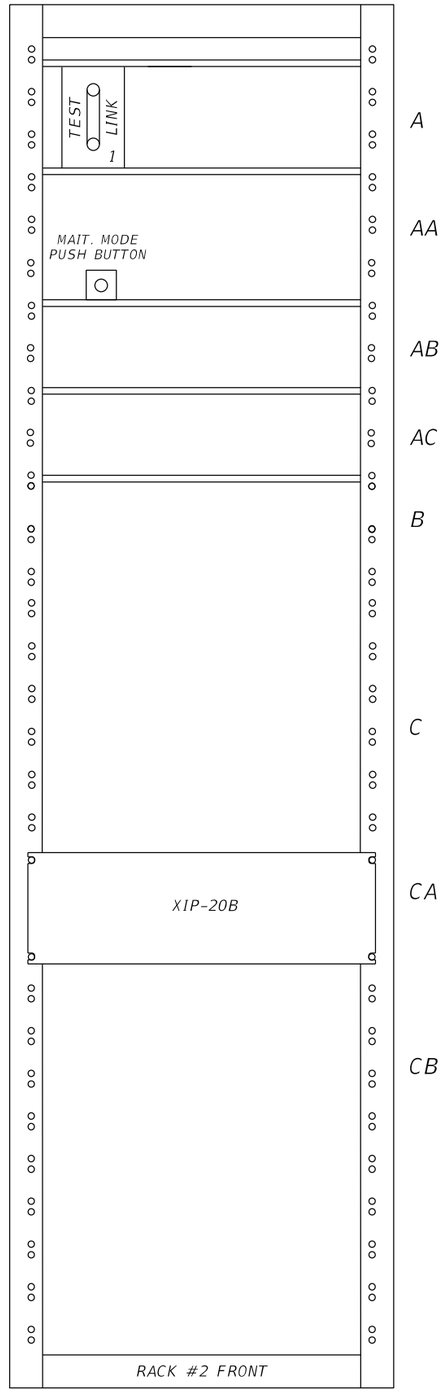
CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

FAIRWAY WOODS BLVD MP 801.15
XP4 UNIT AND COMM
(2 TRACKS)

SHEET NO.
594

$USER$ $DATE$ $TIME$ $FILE$





PART NUMBERS (2-TRACK)

XP4 EQUIPMENT RACK 1

REF.	PART NUMBER	DESCRIPTION
A		REFERENCE TABLE
AB2	T.B.D.	RADIO DTMF ACTIVATOR
C	300752-000	9-SLOT ELECTROLOGIXS CHASSIS
C1-C2	227481-000	XTI-1S PERSONALITY MODULE (2X)
C6	227537-000	VIO-86S VITAL I/O PERSONALITY MODULE
C7	227444-000	VIO-44S VITAL I/O PERSONALITY MODULE
CA1-CA2	251336-000	XTI-1S CROSSING TRACK INTERFACE MODULE (2X)
CA6	251380-000	VIO-86S VITAL I/O MODULE
CA7	251134-000	VIO-44S VITAL I/O MODULE
CB1	251456-000	CPS-3 CENTRAL POWER SUPPLY
CB2	251124-000	CDU-1 CONTROL DISPLAY UNIT
CB4	251432-200	VPM-3 CROSSING PROCESSOR MODULE
CB9	251442-000	XCI-2 APPLICATION EPROM/FLASH MEMORY MODULE (PTC CAPABLE)
N/A	075061-015	15' CAT 5 STP ETHERNET CABLE FROM N-TRON SWITCH TO AIRLINK RAVEN MODEM (C06)
N/A	075061-006	6' CAT 5 STP ETHERNET CABLE FROM N-TRON SWITCH TO HAWK DIAGNOSTIC PORT (C06)
N/A	075061-006	6' CAT 5 STP ETHERNET CABLE FROM N-TRON SWITCH TO XP4 ENET2 PORT (G01-C06)
N/A	075002-200	7' RS485 CABLE FROM HAWK NETWORK PORT TO CSM "IN" PORT
N/A	075046-000	4' CABLE FROM XP4 IXC-20S PERSONALITY MODULE (J4) TO XIP-20B (J4) (C02)
N/A	075047-000	4' CABLE FROM XP4 IXC-20S PERSONALITY MODULE (J6) TO XIP-20B (J6) (C02)

PART NUMBERS (2-TRACK)

XP4 EQUIPMENT RACK 2

REF.	PART NUMBER	DESCRIPTION
A1	T.B.D.	TEST KEY
AA	T.B.D.	MAINTENANCE MODE PUSH BUTTON
CA	227561-100	XIP-20B CROSSING SIGNAL INTERFACE PANEL

NEW SHEET

DRAWING NO.
G80115.005

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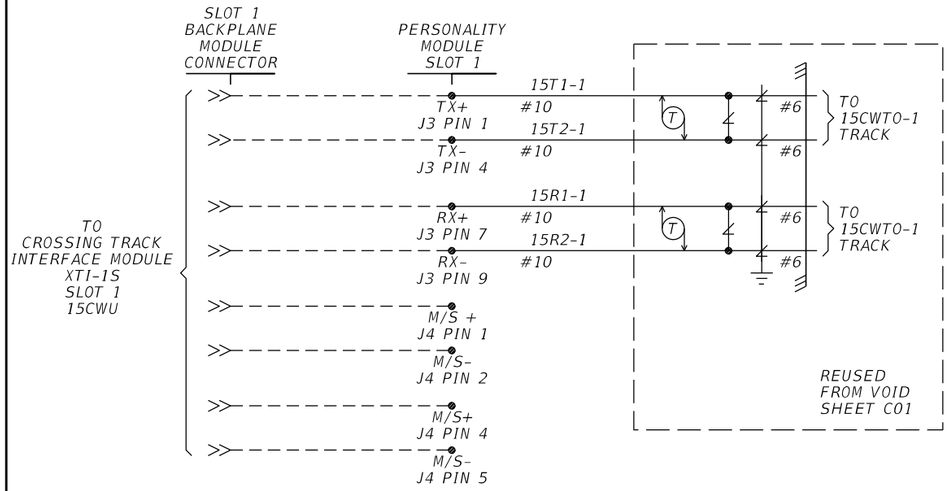
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CFRC P2S	ORANGE	423446-9-52-02

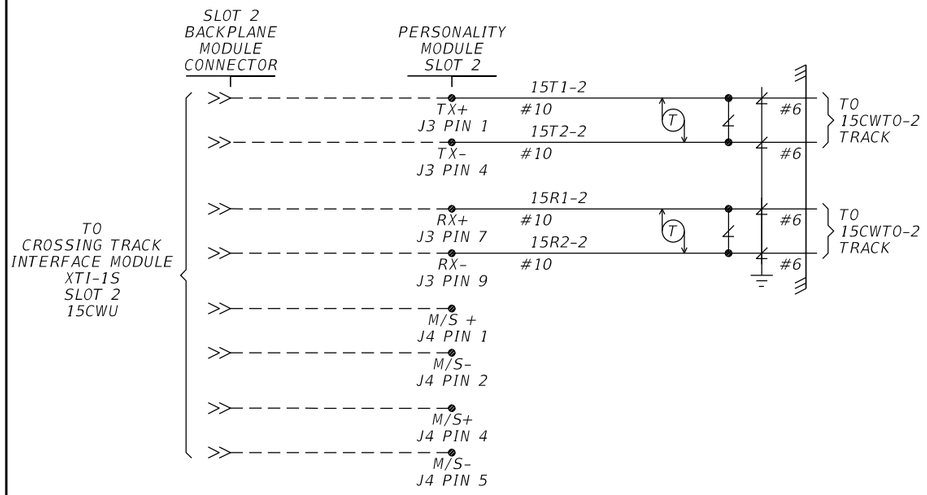
CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

FAIRWAY WOODS BLVD MP 801.15
EQUIPMENT RACK LAYOUT
(2 TRACKS & 6 GATES W/REC)

SHEET NO.
595

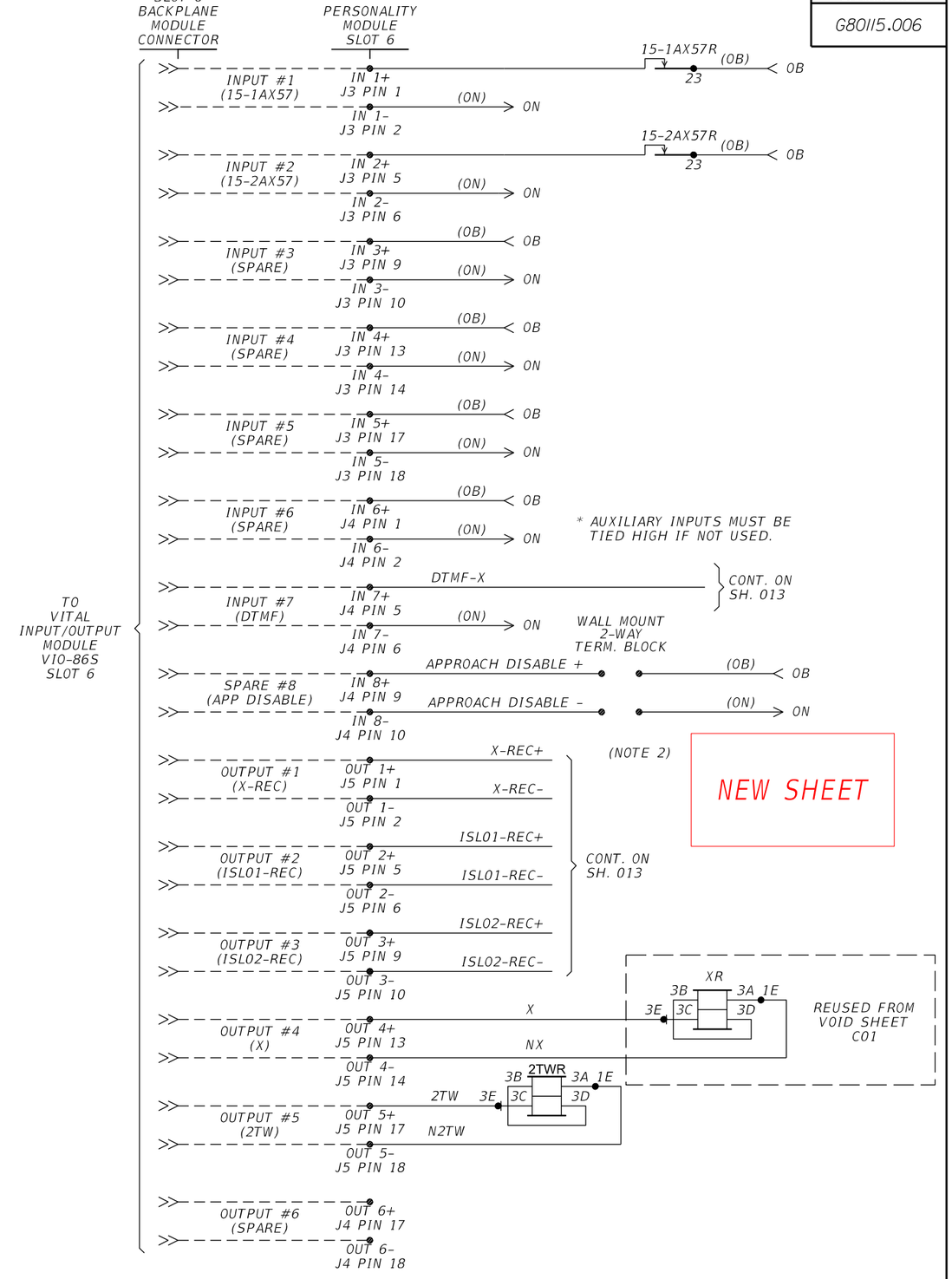
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SLOT 6 I/O	
INPUT 1	15-1AX58
INPUT 2	15-2AX58
INPUT 3	SPARE
INPUT 4	SPARE
INPUT 5	SPARE
INPUT 6	SPARE
INPUT 7	DTMF CONTROL
INPUT 8	APPROACH DISABLE JUMPER INPUT
OUTPUT 1	X OUTPUT FOR RECORDER
OUTPUT 2	ISL01 OUTPUT FOR RECORDER
OUTPUT 3	ISL02 OUTPUT FOR RECORDER
OUTPUT 4	X OUTPUT
OUTPUT 5	2TW
OUTPUT 6	SPARE

NOTES
1. ALL WIRE THIS SHEET #16 AWG UNLESS NOTED.
2. APPROACH DISABLE JUMPER INPUT. THIS INPUT IS USED IN COMBINATION WITH THE SOFT APPROACH DISABLE ACCESSED THROUGH THE CDU-1 KEYPAD. INPUT MUST BE HIGH TO DISABLE AN APPROACH. THE OPERATOR IS SOLELY RESPONSIBLE FOR CROSSING PROTECTION WHEN THE APPROACH DISABLE FUNCTION IS ACTIVATED.



DRAWING NO.
G80115.006

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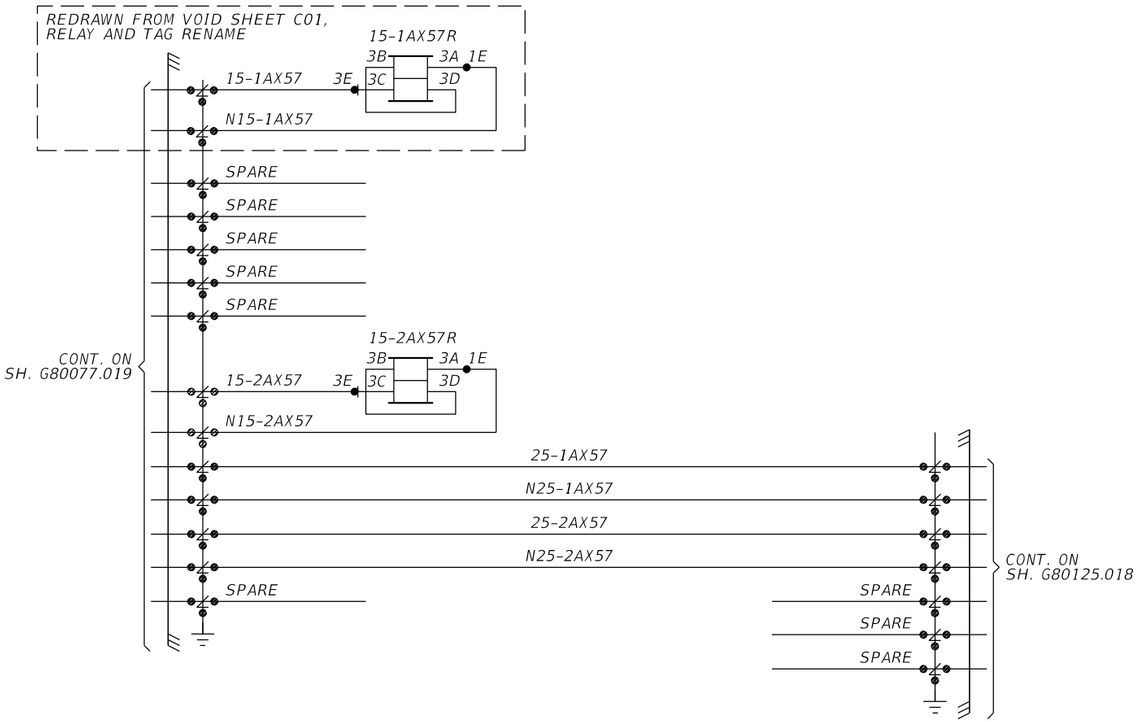
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

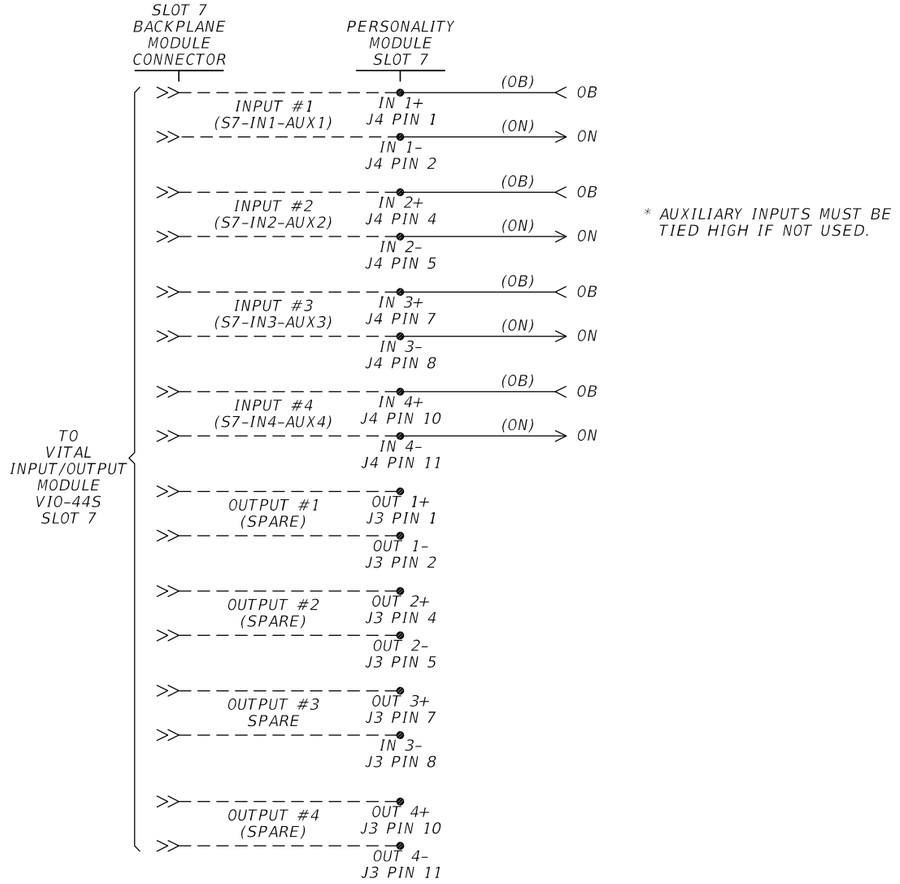
CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

FAIRWAY WOODS BLVD MP 801.15
XP4 UNIT XTI-1S (15CWU)

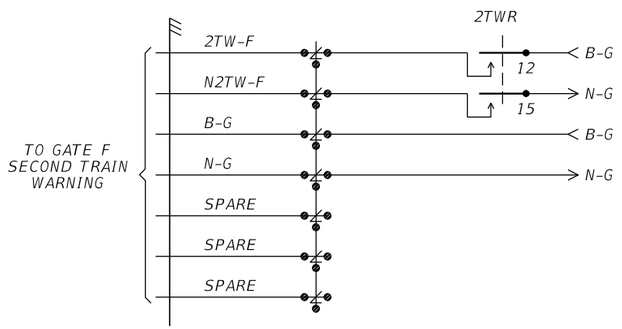
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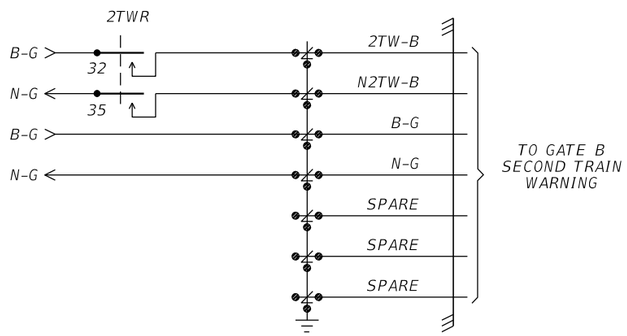
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* AUXILIARY INPUTS MUST BE TIED HIGH IF NOT USED.





NOTES
1. ALL WIRE THIS SHEET #16 AWG UNLESS NOTED.

SLOT 7 I/O	
INPUT 1	S7-IN1-AUX1
INPUT 2	S7-IN2-AUX2
INPUT 3	S7-IN3-AUX3
INPUT 4	S7-IN4-AUX4
OUTPUT 1	SPARE
OUTPUT 2	SPARE
OUTPUT 3	SPARE
OUTPUT 4	SPARE

NEW SHEET

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CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

FAIRWAY WOODS BLVD MP 801.15
XP4 UNIT VIO-44S (15CWU)

SHEET NO.
597

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.

G80115.008

	MDR1				MDR2				MDR3				MDR4			
NAME	MDR1				MDR2				MDR3				MDR4			
WARNING TIME	33				33				NA				NA			
CW/MD	CW				CW				NA				NA			
AP TIME(PREEMPT)	NA				NA				NA				NA			
CWE-WT	80				80				NA				NA			
AUX RECOVERY DELAY	0				0				NA				NA			
	TK1	TK2	TK3	TK4	TK1	TK2	TK3	TK4	TK1	TK2	TK3	TK4	TK1	TK2	TK3	TK4
TRACK ASSIGNED	ASSIGNED	NOT ASSIGNED	NOT ASSIGNED	NOT ASSIGNED	NOT ASSIGNED	ASSIGNED	NOT ASSIGNED	NOT ASSIGNED	NOT ASSIGNED	NOT ASSIGNED	NOT ASSIGNED	NOT ASSIGNED	NOT ASSIGNED	NOT ASSIGNED	NOT ASSIGNED	NOT ASSIGNED
OFFSET DISTANCE	0'	NA	NA	NA	NA	0'	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD RESTART	0*	NA	NA	NA	NA	0*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SUDDEN SHUNT ZONE	0*	NA	NA	NA	NA	0*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POSITIVE START PSEN	DISABLE	NA	NA	NA	NA	DISABLE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POSITIVE START PSRX	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POSITIVE START PST	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POST JOINT DETECT PJEN	DISABLE	NA	NA	NA	NA	DISABLE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POST JOINT DETECT PJRX	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POST JOINT DETECT PJDT	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

BASIC TRACK SETUP		
	TRACK 1	TRACK 2
FREQUENCY	114HZ	114HZ
MASTER/SLAVE	MASTER	MASTER
RX ADJUST	100 *	100 *
TCA	*	*
DIRECTION MODE	BI	BI
LIA	*	*
ADVANCED APPROACH	*	*
NBS COMP RX	*	*
TRK ISLAND ASSIGN	NA	NA
APPROACH LENGTH	4559	4559
AUTO RX	ENABLE	ENABLE

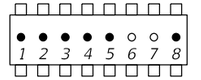
ADVANCED TRACK SETUP			
		TRACK 1	TRACK 2
MOTION DET TIMER	MDEN	DISABLE	DISABLE
	MDTT	10 MIN	10 MIN
FALSE SHUNT	FSEN	DISABLE	DISABLE
	FSRX	NA	NA
	FST	NA	NA
APPROACH RELEASE	AREN	DISABLE	DISABLE
	ARRX	NA	NA
	ART	NA	NA
LOS TIME		16 SEC	16 SEC
IJ-LOS TIME		5 SEC	5 SEC
NRML_SHRT_VRYSHRT		*	*

ISLAND SETUP		
	TRACK 1	TRACK 2
ENABLE/DISABLE	ENABLE	ENABLE
FREQUENCY	4.0 KHZ	4.0 KHZ
LOSS OF SHUNT	2 SEC.	2 SEC.
FAULT DELAY	1 OR 2	1 OR 2

VPM3 ETHERNET SETUP	
	IP ADDRESS
ETHERNET PORT 1 (TOP)	192.168.0.11
ETHERNET PORT 2 (BOTTOM)	192.168.1.12

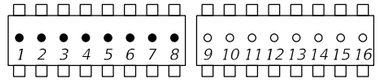
APPLICATION SOFTWARE INFORMATION	
NAME	XXXXXXXX
REV.	1.0
CHECKSUM	XXXX
CRC	XXXX

CHASSIS ID DIP SHUNTS
LOCATED ON BACKPLANE
UNDERNEATH XCI-2 MODULE



○ = TAB INTACT (MADE)
● = TAB PUNCHED OUT (BROKEN)

VITAL SELECTION DIP SHUNTS
LOCATED INSIDE XCI-2 MODULE
UNDERNEATH EPROM



○ = TAB INTACT (MADE)
● = TAB PUNCHED OUT (BROKEN)

NEW SHEET

NOTES:
= FIELD ADJUSTMENT
NA = NOT APPLICABLE

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REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

FAIRWAY WOODS BLVD MP 801.15
XP4 UNIT SETUP

SHEET NO.

598

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80115.009

D/B CONTRACTOR TO INDICATE TYPE GATE INSTALLED.

GATE A

TYPE USED AT THIS LOCATION (MARKED W/"X")			
GATE MECH. TYPE	3593B	MOD. "S"	MOD. "S40"
6B	9(H)	9(H)	
5B	8(H)	8(H)	
6C	9(F)	9(F)	
5C	8(F)	8(F)	
1A	K	K 25 26	
2B	N	N	
1B	Q	Q	
	12(H)	11(H)	
	12(F)	11(F)	
		V	
		W	

AXX
1X-N
XA
GP6 — XR — 15 — 1X-B
X1A
GP5
A-SLOT — XPPR — 12 — 1B-G
1N-G
1B-G
1B-G
GDP5

GATE E

TYPE USED AT THIS LOCATION (MARKED W/"X")			
GATE MECH. TYPE	3593B	MOD. "S"	MOD. "S40"
6B	9(H)	9(H)	
5B	8(H)	8(H)	
6C	9(F)	9(F)	
5C	8(F)	8(F)	
1A	K	K 25 26	
2B	N	N	
1B	Q	Q	
	12(H)	11(H)	
	12(F)	11(F)	
		V	
		W	

XA
X1E
GP5
GP4
1B-G — XPPR — 15 — E-SLOT
1N-G
1B-G
GDP5
GDP4

FOR GATE DOWN CONTACT 0° 5°

GATE C

TYPE USED AT THIS LOCATION (MARKED W/"X")			
GATE MECH. TYPE	3593B	MOD. "S"	MOD. "S40"
6B	9(H)	9(H)	
5B	8(H)	8(H)	
6C	9(F)	9(F)	
5C	8(F)	8(F)	
1A	K	K 25 26	
2B	N	N	
1B	Q	Q	
	12(H)	11(H)	
	12(F)	11(F)	
		V	
		W	

XA
GP4
X1C
GP3
C-SLOT — XPPR — 23 — 2B-G
2N-G
2B-G
GDP4
GDP3

1X-B — XR — 12 — 3E — 3C — XPR — 3D — 1E — 1X-N

XA
X1
GP2
GDP2
CONT. ON SH. 010

GATE D

TYPE USED AT THIS LOCATION (MARKED W/"X")			
GATE MECH. TYPE	3593B	MOD. "S"	MOD. "S40"
6B	9(H)	9(H)	
5B	8(H)	8(H)	
6C	9(F)	9(F)	
5C	8(F)	8(F)	
1A	K	K 25 26	
2B	N	N	
1B	Q	Q	
	12(H)	11(H)	
	12(F)	11(F)	
		V	
		W	

XA
X1D
GP3
GP2
2B-G — XPPR — 25 — D-SLOT
2N-G
2B-G
GDP3
GDP2

FOR GATE DOWN CONTACT 0° 5°

1X-B — XPR — 22 — 3E — 3C — XPPR — 3B — 3A — 3D — 1E — 1X-N

THIS SHEET REDRAWN

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STATE OF FLORIDA
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ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

FAIRWAY WOODS BLVD MP 801.15 GATES AND BELL (GATES "A", "C", "D" & "E")

SHEET NO. 599

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80115.010

D/B CONTRACTOR TO INDICATE TYPE GATE INSTALLED.

GATE F

TYPE USED AT THIS LOCATION (MARKED W/"X")			
GATE MECH. TYPE	3593B	MOD. "S"	MOD. "S40"
6B	9(H)	9(H)	9(H)
5B	8(H)	8(H)	8(H)
6C	9(F)	9(F)	9(F)
5C	8(F)	8(F)	8(F)
1A	K	K 25 26	
2B	N	N	
1B	Q	Q	
	12(H)	11(H)	
	12(F)	11(F)	
		V	
		W	

CONT. ON SH. 009

GP2 GDP2 X1 XA

XA
GP2
X1F
GP1
F-SLOT — XPPR 32 — 3B-G
3N-G
3B-G
GDP2
GDP1

1X-N — 1E — GPR (3A, 3B, 3C, 3D, 3E)

3B-G — XPPR 35 — B-SLOT

GDP — CONT. ON SH. 013

BXX

GATE B

TYPE USED AT THIS LOCATION (MARKED W/"X")			
GATE MECH. TYPE	3593B	MOD. "S"	MOD. "S40"
6B	9(H)	9(H)	9(H)
6C	9(F)	9(F)	9(F)
5B	8(H)	8(H)	8(H)
5C	8(F)	8(F)	8(F)
1A	K	K	26 25 K
2B	N	N	N
1B	Q	Q	Q
	12(H)	12(H)	11(H)
	12(F)	12(F)	11(F)
			V
			W

FOR GATE DOWN CONTACT 0° 5°

GPR: 2X-B — 32 — GPR (3B, 3A, 3C, 3D, 3E) — 1E — 2X-N

PER: 23, 25 — TC-2, TC-1 — TO TRAFFIC PREEMPTION JUNCTION BOX

XR: 2X-B — 32 — PER (3B, 3A, 3C, 3D, 3E) — 1E — 2X-N

THIS SHEET REDRAWN

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STATE OF FLORIDA
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ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

FAIRWAY WOODS BLVD MP 801.15 GATES AND BELL (GATES "B" & "F")

SHEET NO. 600

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80115.011

(A) (AA) AE1 (2) (1) AAE1B (2) (1) AAE1 (2) (1) NXCE1 (C)
AAE1C AAE1A 1E1B (1) E1A 1E1A C E1
A E1 AA E1C AA E1B AA E1A AA E1 (1) E1C 1E1C 12 15 1 EOR
NXAAE1C NXAAE1A NXAAE1 NXAAE1B NXAE1 ENX-1 EBX-1 GPR 12 15 1E1 (1) (2) CE1
(A) BK. 3 3 BK. G. 1
1 G. 2 W. B E2C C E1B C E2B
A E2A A E1A A E1B TIP TIP
(A) (AA) AE2 (2) (1) AAE2B (2) (1) AAE2 (2) (1) 1E2 GPR 22 25 EBX-2 ENX-2 NXCE2
AAE2C AAE2A 1E2B (1) E2A 1E2A 1 EOR (1) E2C 1E2C 32 35 C E2
A E2 AA E2C AA E2B AA E2A AA E2 NXAAE2C NXAAE2A NXAAE2 NXAAE2B NXAE2 CE2
1 EOR S-PAK GPR 2X-B 35 3E 3C F 3D 1E 2X-N
2 EOR 3E 3C F 3D 1E 2X-N

NOTE:
LIGHT RESISTOR IS A 1.5 OHM, 15 WATT, ADJUSTABLE RESISTOR.
(1) = INSULATED TERMINAL.

REDRAWN
NEW WORK

RED = IN
YELLOW = OUT

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CFRC P2S	ORANGE	423446-9-52-02

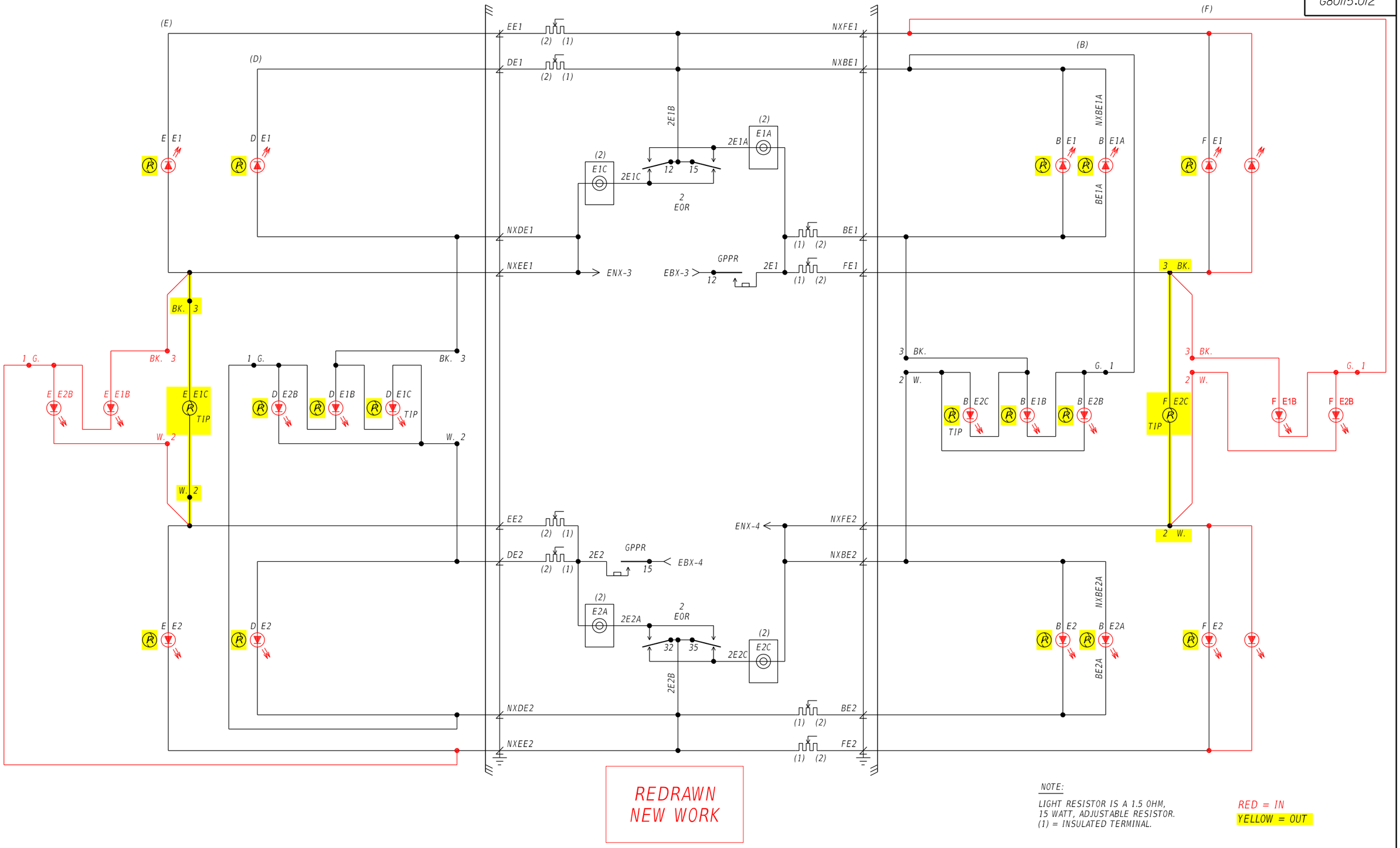
CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

FAIRWAY WOODS BLVD MP 801.15 FLASHERS ("AA", GATES "A" & "C")

SHEET NO. 601

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80115.012



REDRAWN
NEW WORK

NOTE:
LIGHT RESISTOR IS A 1.5 OHM,
15 WATT, ADJUSTABLE RESISTOR.
(1) = INSULATED TERMINAL.

RED = IN
YELLOW = OUT

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ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

FAIRWAY WOODS BLVD MP 801.15
FLASHERS (GATES "B", "D", "E" & "F")

SHEET NO.
602

$USER$ $DATE$ $TIME$ $FILE$

(PHONE CORD-6 LEAD-RJ-14 CONNECTORS BOTH ENDS)

DRAWING NO.
G80115.013

+ COM −
NETWORK
AC MONITOR
AUX1
USER
RADIO/AUX 3
MODEM/AUX 2
ON
OFF

1 2 3 4 5 6 7 8 9 CANCEL 0 ENTER
CDU-1 HEALTH 5V PWR

POWER HEALTH DIAG COMM OK
+ COM −
NETWORK
IN
OUT
#1
CURRENT SENSOR MODULE
USER
(E1C) (E2A) (E1A) (E2C)
SENSOR 1 SENSOR 2 SENSOR 3 SENSOR 4
POWER
N12 B12

ON OB

OB
ON

B12 N12 POWER
HEEL FRONT RLY 01
HEEL FRONT RLY 02
HEEL FRONT RLY 03
HEEL FRONT RLY 04

XMIT CH 2
RADIO

CDU-1

LED 1 LED 2 LED 3 LED 4 LED 5 LED 6 LED 7 LED 8 LED 9
USER
TXD RXD RTS CTS

DI 01 (SP) ISL1
DI 02 (ISL1) ISL2
DI 03 (SP) X
DI 04 (SP) 15-1AX57
DI 05 (SP) 15-2AX57
DI 06 (SP)
DI 07 (STBY1) SP
DI 08 (SP)
DI 09 (SP)
DI 10 (SP)
DI 11 (SP)
DI 12 (SP) DTMF
DI 13 (GPPR)
DI 14 (GDP)
DI 15 (XR)
DI 16 (1POR)
EXT TEMP
DC 01 (1X-B)
DC 02 (0B)
DC 03 (1B-G)
DC 04 (SP)

ISL01-REC+
ISL01-REC-
ISL02-REC+
ISL02-REC-
X-REC+
X-REC-
CONT. ON SH. 006

ON ON "B" "A" "C" ON
CONT. ON SH. C01

ON ON 1N-G ON JUMPER 1X-N ON 1N-G
1X-B 0B 1B-G

1 POR 32 OB
XR 23 OB
GPPR 32 OB
GDP CONT. ON SH. 010

15-1AX57R 35 OB
15-2AX57R 35 OB

CONT. ON SH. 006
DTMF-REC
DTMF-X
OB
HEEL
BACK
B12+
N12-
ON
FRONT
DTMF I/O CONTROLLER
ANTENNA
ROW AB2
POLYPHASER VHF ANTENNA

REMOTE DTMF ACTIVATION
TO ACTIVATE PRESS: 502#
(ACTIVATION WILL TIME OUT AFTER 30 SEC)
ROAD CHANNEL 81 - 161.325 MHZ

REDRAWN
NEW WORK

RED = IN
YELLOW = OUT

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REVISIONS

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05-15-03	SAF	FL1999053			
02-10-09	SAF	FL2005041			
01-15-14	AECOM	PHASE 2 SOUTH			

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ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

FAIRWAY WOODS BLVD MP 801.15
HAWK RECORDER CIRCUITS

SHEET NO.
603

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.

G80115.014

	DEFAULTS AND/OR STYLE	FIELD RECORD
HAWK EXECUTIVE PROGRAM	VERSION 2.3, COMPILED ON NOV 14, 2001	VERSION 2.3, COMPILED ON NOV 14, 2001
USER PROGRAM (IF LOADED)	VERSION X.XXX, COMPILED ON MM-DD-YY	VERSION , COMPILED ON (FIELD TO ENTER)
SYSTEM SETTINGS		
DATE & TIME (ENABLE DAYLIGHT SAVINGS TIME = Y (YES)	MM-DD-YY 23:01 59	MM-DD-YY 23:01 59
MILE POST	A-801.15	A-801.15
SITE NAME	FAIRWAY WOODS BLVD.	FAIRWAY WOODS BLVD.
DOT NUMBER	621502B	621502B

BATTERY INPUTS	DC 01	DC 02	DC-03	DC-04
CHANNEL	1	2	3	4
BATTERY CHANNEL NAMES	2X-B BULB BATTERY	2B-G GATE BATTERY	3B-G GATE BATTERY	SPARE
BATTERY CHANNEL I.D.	2X-B	2B-G	3B-G	SP
SAMPLE PERIOD	500 ms	500 ms	500 ms	10,000 ms
RESOLUTION	00.2 V	01.0 V	01.0 V	02.0 V

DIGITAL INPUTS	DI 01	DI 02	DI 03	DI 04	DI 05
CHANNEL	1	2	3	4	5
NAME	ISLAND TRACK 1	ISLAND TRACK 1 2	X-REC	15-1AX57	15-2AX57
ID	ISL1 SP	ISL2 ISL1	X SP	15-1AX57 SP	15-2AX57 SP
ON NAME	ISLAND 1 UNOCCUPIED	ISLAND2 UNOCCUPIED	CROSSING NOT ACTIVATED	15-1AX57 UP	15-2AX57 UP
OFF NAME	ISLAND1 OCCUPIED	ISLAND 2 OCCUPIED	CROSSING ACTIVATED	15-1AX57 DOWN	15-2AX57 DOWN
ON DEBOUNCE TIME	1000 ms	1000 ms	1000 ms	1000 ms	1000 ms
OFF DEBOUNCE TIME	1000 ms	1000 ms	1000 ms	1000 ms	1000 ms
TOGGLE PERIOD	500 ms	500 ms	500 ms	500 ms	500 ms

DIGITAL INPUTS	DI 06	DI 07	DI 08	DI 09	DI 10
CHANNEL	6	7	8	9	10
NAME					
ID	SP	SP	SP	SP	SP
ON NAME					
OFF NAME					
ON DEBOUNCE TIME	1000 ms	1000 ms	1000 ms	1000 ms	1000 ms
OFF DEBOUNCE TIME	1000 ms	1000 ms	1000 ms	1000 ms	1000 ms
TOGGLE PERIOD	500 ms	500 ms	500 ms	500 ms	500 ms

HARMON OR SAFETRAN OUTPUT INDICATIONS WILL DICTATE WHETHER PRIMARY UNIT OR STANDBY UNIT HAS THE "ON" NAME.

DIGITAL INPUTS	DI 11	DI 12	DI 13	DI 14	DI 15	DI 16
CHANNEL	11	12	13	14	15	16
NAME		DTMF	GPPR	GDP	XR	1POR
ID	SP	DTMF SP	GPPR	GDP	XR	1POR
ON NAME		DTMF ON	GATE VERTICAL	GATE HORIZOTAL	XR UP	1POR UP
OFF NAME		DTMF OFF	LIGHTS FLASH	GATE NOT HORIZONTAL	XR DOWN	1POR DOWN
ON DEBOUNCE TIME	1000 ms	100 1000 ms	1000 ms	1000 ms	100 ms	1000 ms
OFF DEBOUNCE TIME	1000 ms	100 1000 ms	1000 ms	1000 ms	100 ms	1000 ms
TOGGLE PERIOD	500 ms	500 ms	500 ms	500 ms	500 ms	500 ms

MODULE-DIGITAL 4 QUAD CURRENT SENSOR SERIAL NUMBER [:] (BLANK UNTIL AIS RECEIVED)				
RESOLUTION (AMPS RMS) [00.1] ARMS				
AUTOMATICALLY ALLOCATED DIGITAL INPUT	DI 17	DI 18	DI 19	DI 20
DIGITAL 4 QUAD CURRENT SENSOR	1	2	3	4
NAME	E1C	E2A	E1A	E2C
ID	E1C	E2A	E1A	E2C
LIT BULB COUNT ON EACH CIRCUIT	4	4	3	3
CURRENT READING IN AMPS AT APPROXIMATE 10.0 VOLTS BULB VOLTAGE	9.5	9.5	7	7

CHANNEL	1	2	3	4
NAME	RELAY OUTPUT 01	RELAY OUTPUT 02	RELAY OUTPUT 03	RELAY OUTPUT 04
I.D.	RLY01	RLY02	RLY03	RLY04
ON NAME	ON	ON	ON	ON
OFF NAME	OFF	OFF	OFF	OFF
PULSE DURATION	1000 ms	1000 ms	1000 ms	1000 ms

PORT	USER	AUX 1	MODEM/AUX 2
BAUD RATE	38400	9600	9600
PARITY	N	N	N
DATA BITS	8	8	8
STOP BITS	1	1	1
FLOW CONTROL	NONE	NONE	NONE

REDRAWN
NEW WORK

RED = IN
YELLOW = OUT

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REVISIONS

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02-10-09	SAF	FL2005041			
01-15-14	AECOM	PHASE 2 SOUTH			

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ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

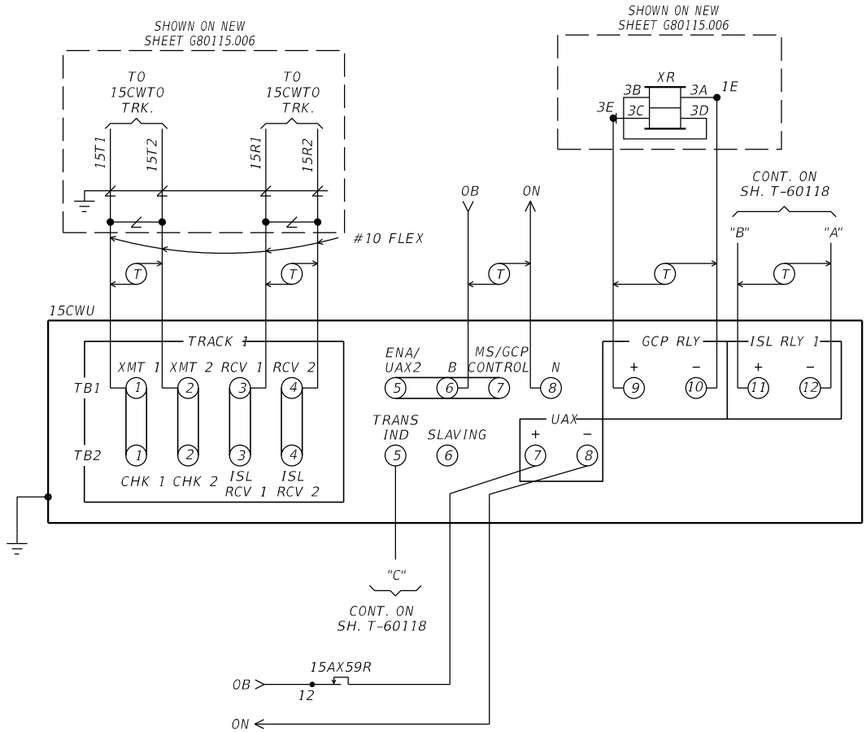
FAIRWAY WOODS BLVD MP 801.15
HAWK RECORDER PROGRAM

SHEET NO.

604

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80115.015

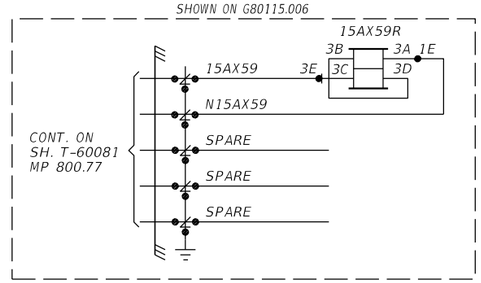


15CWU
3000ND2 MODULES REQUIRED

80211 IPI ISLAND	80012 TRANSCIEVER	80013 RELAY DRIVE	80214 PROCESSOR	80013 RECORDER (NOT USED)	80029 CONTROL INTERFACE	80013 RECORDER (NOT USED)	80214 PROCESSOR	80013 RELAY DRIVE	80012 TRANSCIEVER	80211 IPI ISLAND	80028 TRANSFER TIMER
M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12

FRONT VIEW

80153 PRINTED CIRCUIT BOARD
LOCATED IN SLOT M6 BEHIND 80029



IPI
MODULE 80211

SLOT M1 & M11
4.0KHZ

PLACE SHORTING BLOCK ACROSS 4.0KHZ PIN PAIRS

MODULE 80028
S4 DIP SWITCH POSITIONS*

SWITCH #	16	8	4	2	1
SWITCH POSITION	UP	DOWN	UP	DOWN	UP

* MAY BE SET PER FIELD CONDITIONS

MODULE 80028
S1 DIP SWITCH POSITIONS

SWITCH #	A	B	C	D
DAX USED	RIGHT	RIGHT	RIGHT	RIGHT

LEFT INDICATES DAX USED

SWITCH TO REMAIN IN THE RIGHT POSITION AT ALL TIMES

A80115.C01

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ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

FAIRWAY WOODS BLVD MP 801.15
CROSSING DETECTION CIRCUITRY

SHEET NO.
605

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80115.016

3000 GCP APPLICATION DESIGN CARD

EQUIPMENT: 3000 ☐ 3000D2 ☐
3000ND ☐ 3000ND2 ■

ISLAND FREQUENCY : T1: 4.0 KHZ T2: ____ KHZ 15 CWU

SOFTWARE LEVEL ..... (DISPLAYED DURING BOOT-UP)	☆☆	
NUMBER OF TRACKS (NUMBER OF TRANSCEIVER MODULES, 1 OR 2)	1 ■	2 ☐
FREQUENCY (MS/GCP)	T1: 211 HZ	
	T2: N/A HZ	
UNIDIRECTIONAL / BIDIRECTIONAL	T1: UNI ☐	BI ■
	T2: UNI ☐	BI ☐
XMIT LEVEL	T1: HI ■	MED ☐
	T2: HI ☐	MED ☐
PREDICTOR/MOTION SENSOR	T1: PRED ■	MS ☐
	T2: PRED ☐	MS ☐
WARNING TIME SELECTED	T1: 25 SEC.	
	T2: N/A SEC.	
APPROACH DISTANCE SELECTED	T1: 3544 FT.	
	T2: N/A FT.	
APPROACH DISTANCE COMPUTED	T1: NOT REQUIRED •	
	T2: NOT REQUIRED •	
UAX PICKUP DELAY (UAX1) (Ø = OFF) ...	15 SEC.	
ENA/UAX2 DELAY (Ø = ENA)	Ø SEC.	
ISLAND DISTANCE (BETWEEN FEED WIRES)	T1: 176' FT.	
	T2: ____ FT.	
NUMBER OF DAX'S	Ø ■ 1 ☐ 2 ☐ 3 ☐ 4 ☐	
DAX A TRACK ASSIGNMENT	T1 ☐	T2 ☐
DAX A DISTANCE (Ø = PREEMPT)	____ FT.	
DAX A WARNING TIME	____ SEC.	
DAX B TRACK ASSIGNMENT	T1 ☐	T2 ☐
DAX B DISTANCE (Ø = PREEMPT)	____ FT.	
DAX B WARNING TIME	____ SEC.	
DAX C TRACK ASSIGNMENT	T1 ☐	T2 ☐
DAX C DISTANCE (Ø = PREEMPT)	____ FT.	
DAX C WARNING TIME	____ SEC.	
DAX D TRACK ASSIGNMENT	T1 ☐	T2 ☐
DAX D DISTANCE (Ø = PREEMPT)	____ FT.	
DAX D WARNING TIME	____ SEC.	
SLAVING MASTER/SLAVE	MASTER ■	SLAVE ☐
PASSWORD ENABLED	DISABLED ■	ENABLED ☐
RECORDER INSTALLED	NOT INSTALLED ■	INSTALLED ☐
RS-232-C BAUD RATE	____ BPS	
RS-232-C DATE BITES	7 ☐	8 ☐
RS-232-C STOP BITS	1 ☐	2 ☐
RS-232-C PARITY	NONE ☐	MARK ☐
	ODD ☐	SPACE ☐
	EVEN ☐	
DATE (E.G., MON 15 MAY 1991) ..	NOT REQUIRED •	
TIME (E.G., Ø6:25:43 PM)	NOT REQUIRED •	
DAYLIGHT SAVINGS	ON ☐	OFF ■

• PROGRAMMED AT INSTALLATION DURING CALIBRATION PROCEDURE
☆ = 120' MINIMUM ISLAND DISTANCE TO BE ENTERED BY FIELD PERSONNEL FOR NON-DAXING APPLICATIONS WHEN ROAD IS 20' OR LESS WIDE.
☆☆ = INDICATE ON AS-IN-SERVICE DRAWINGS

EXPANDED PROGRAMMING DESIGN

SWITCH TO MS (ENTER EZ VALUE)	T1: 10 EZ	
	T2: N/A EZ	
TRANSFER DELAY MS TO GCP (Ø = OFF) ..	T1: Ø SEC.	
	T2: N/A SEC.	
PRIME PREDICTION OFFSET (Ø = OFF) ..	T1: Ø FT.	
	T2: N/A FT.	
PICKUP DELAY PRIME	15 SEC.	
PICKUP DELAY DAX A	Ø SEC.	
PICKUP DELAY DAX B	Ø SEC.	
PICKUP DELAY DAX C	Ø SEC.	
PICKUP DELAY DAX D	Ø SEC.	
COMPENSATION VALUE	T1: NOT REQUIRED ••	
COMPENSATION VALUE	T2: NOT REQUIRED ••	
ENHANCED DETECTION (ED)	T1: ON ☐	OFF ■
	T2: ON ☐	OFF ■
BACK TO BACK T1 AND T2 ..... (WHEN ED IS ON)	NO ■	YES ☐
STATION STOP TIMER ..... (WHEN ED IS ON)	T1: N/A (SEE NOTE 1) SEC.	
	T2: N/A SEC.	
* OF TRACK WIRES - 4 OR 6	T1: 4 ■	6 ☐
	T2: 4 ☐	6 ☐
LOW EX ADJUSTMENT	T1: Ø	
	T2: N/A	
LOW EZ DETECTION	T1: ON ☐	OFF ■
	T2: ON ☐	OFF ☐
LOW EZ DETECTION TIMER	T1: N/A (SEE NOTE 2) MIN.	
	T2: N/A MIN.	
POSITIVE START (Ø = OFF) ..... (ENTER EZ VALUE)	T1: Ø EZ	
	T2: N/A EZ	
POSITIVE START TIMEOUT (Ø = NONE) ... (WHEN POTISIVE START IS ON)	T1: Ø MIN.	
	T2: N/A MIN.	
SET AT OPERATION	NORMAL ■	DIAGNOSTIC ☐
DIAGNOSTIC MESSAGES	ON ☐	OFF ■
DAX MESSAGES	ON ☐	OFF ■
ADVANCE PREEMP TIMER (Ø = OFF)	Ø SEC.	

•• THE COMPENSATION VALUE IS PROVIDED BY THE 3000 GCP SYSTEM AND NO ADDITIONAL PROGRAMMING IS NORMALLY REQUIRED.

NOTES:
1. WHEN ED SET TO OFF, DEFAULT NOT DISPLAYED
   WHEN ED SET TO ON, DEFAULT IS 10 SEC.
2. WHEN LOW EZ DETECTION SET TO OFF, DEFAULT NOT DISPLAYED
   WHEN LOW EZ DETECTION SET TO ON, DEFAULT IS 10 MIN.

A80115.C02

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CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

FAIRWAY WOODS BLVD MP 801.15
DETECTION DEVICE PROGRAM

SHEET NO. 606

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80125.001

INDEX

SHEET NUMBER	CONTENTS	REVISION NO. 1	2	3	4	5	6	7	8	9
1	INDEX SHEET	⧸								
2	TRACK AND SIGNAL PLAN	⧸								
3	POWER DISTRIBUTION	⧸								
4	XP4 UNIT AND COMM (2 TRACKS & 2 GATES)	⧸								
5	EQUIP. RACK LAYOUT (2 TRACK & 2 GATES W/REC)	⧸								
6	XP4 UNIT XTI-1S & VIO-86S (25CWU)	⧸								
7	XP4 UNIT VIO-44S (25CWU)	⧸								
8	WAGOS	⧸								
9	XP4 UNIT IXC	⧸								
10	XP4 UNIT SETUP	⧸								
11	GATES AND BELL (GATES "A" & "B")	⧸								
12	FLASHERS (GATES "A" & "B")	⧸								
13	HAWK RECORDER CIRCUITS	⧸								
14	HAWK RECORDER MODULES	⧸								
15	HAWK RECORDER PROGRAM	⧸								
16	HAWK RECORDER PROG. CONT'D	⧸								
17	EXTERNAL CIRCUITS	⧸								

⧸ = DESIGN COMPLETED
☒ = REVISION COMPLETED

NEW SHEET

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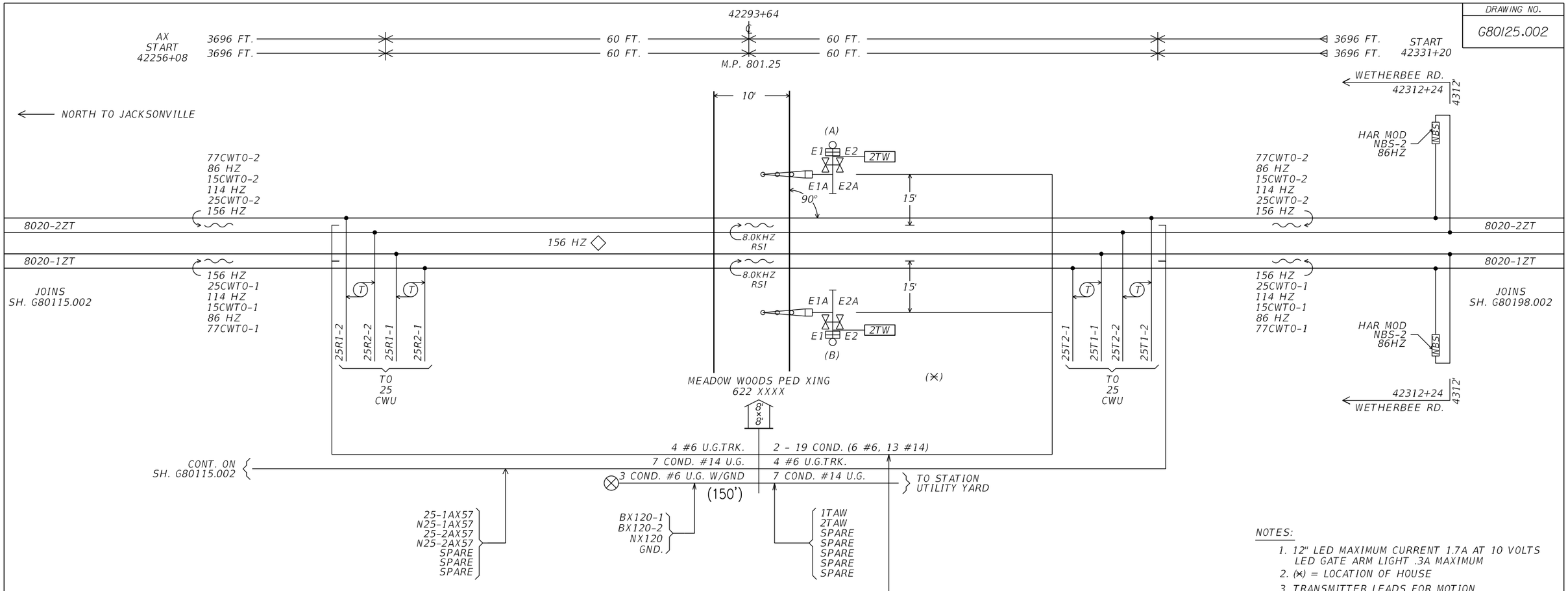
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
MEADOW WOODS PED XING
MP 801.25
INDEX SHEET

SHEET NO.
607

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80125.002



APPROACH LENGTHS TABLE DC, AFO, TYPE C, MOTION, CWT, OR OTHER	NORTHWARD TRACK 1 CW	SOUTHWARD TRACK 1 CW	NORTHWARD TRACK 2 CW	SOUTHWARD TRACK 2 CW
STANDARD MINIMUM WARNING TIME IN SECONDS	25	25	25	25
ROADWAY GATE TIME IN SECONDS	0	0	0	0
CLEARANCE TIME IN SECONDS	1	1	1	1
DOT TRAFFIC LIGHT SIMULTANEOUS PREEMPT TIME IN SECONDS ✳	0	0	0	0
DESIGNED WARNING TIME FOR TRAINS AT TIME TABLE SPEED	26 SEC.	26 SEC.	26 SEC.	26 SEC.
DOT TRAFFIC LIGHT ADVANCE PREEMPT TIME IN SECONDS ✳	0	0	0	0
CONTROL EQUIPMENT DECISION TIME IN SECONDS	4	4	4	4
DESIGNED DETECTION TIME FOR TRAINS AT TIME TABLE SPEED	30 SEC.	30 SEC.	30 SEC.	30 SEC.
TIME TABLE MAXIMUM TRAIN SPEED IN MILES PER HOUR	79	79	79	79
BUFFER SPEED IN MILES PER HOUR	5	5	5	5
TOTAL WARNING SYSTEM DESIGN SPEED IN MILES PER HOUR	84	84	84	84
APPROACH DISTANCE TO ISLAND EDGE IN FEET	3696	3696	3696	3696
HALF WIDTH OF ISLAND IN FEET	60	60	60	60
APPROXIMATE MILE POSTS FOR APPROACH CIRCUIT	808.96	800.55	808.96	800.55

✳ AUTHORIZING AGENCY: "NONE" IF NOT USED
✳ DATE OF REQUIREMENT: "NONE" IF NOT USED
✳ AMOUNT OF TIME (SEC.): "NONE" IF NOT USED

NOTES:

1. 12" LED MAXIMUM CURRENT 1.7A AT 10 VOLTS LED GATE ARM LIGHT .3A MAXIMUM
2. (✕) = LOCATION OF HOUSE
3. TRANSMITTER LEADS FOR MOTION OR PREDICTOR EQUIPMENT SHOULD BE CONNECTED ON THE BUNGALOW OR SHORT LEAD SIDE OF THE CROSSING.
4. ISLAND TRACK LEADS SHOULD BE CONNECTED 50 FEET FROM ROAD EDGE BUT ON NARROW ROADS (20' OR LESS) ISLAND LENGTH SHALL BE 120 FEET.
5. WARNING SYSTEM APPROACH CIRCUIT DISTANCES ARE TO BE MEASURED FROM THE ISLAND TRACK CONNECTIONS.
6. EMERGENCY NOTIFICATION SIGNS TO COMPLY WITH MUTCD SECTION 10C.21 AND CFRC SDI 1202-01.
7. 2TW SECOND TRAIN WARNING SIGN.
8. GATES AND CANTILEVERS TO BE INSTALLED IN ACCORDANCE WITH FDOT ROADWAY AND DESIGN STANDARDS INDEX 17882.

NEW SHEET

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CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

MEADOW WOODS PED XING
MP 801.25
TRACK AND SIGNAL PLAN

SHEET NO. 608

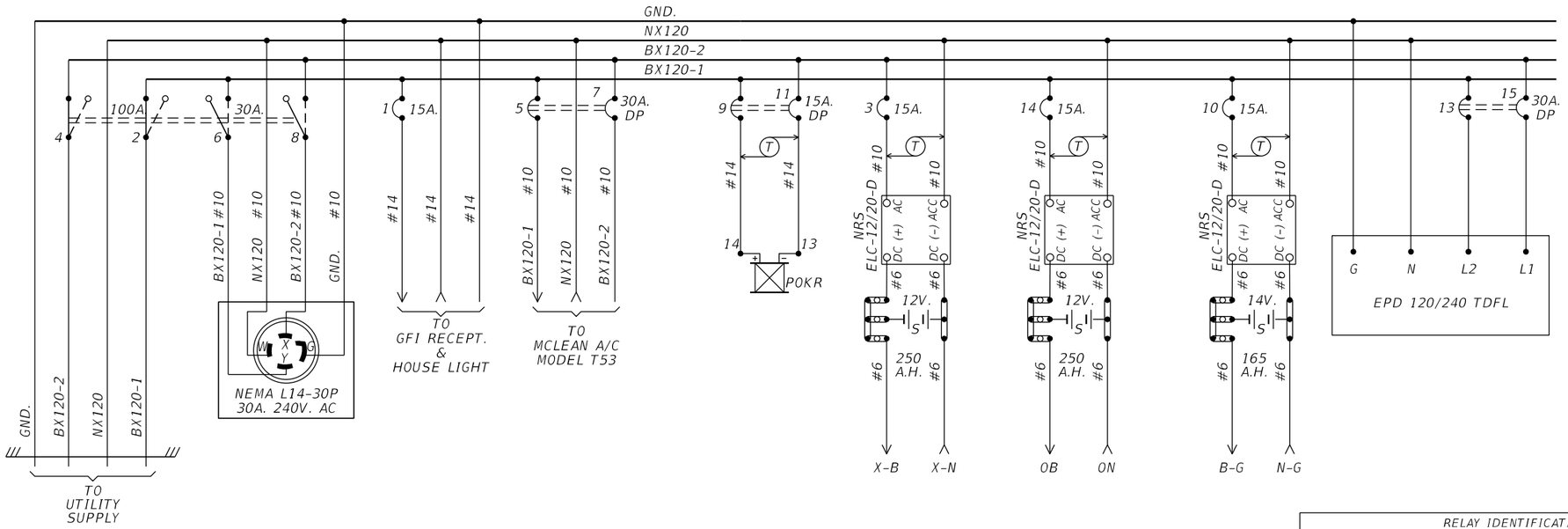
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DRAWING NO.
G80125.003

25-1AX57R			25-2AX57R			XR			2TWR		
12	F	B8	12	F	B8	12	F	B8	12	B	B8
15		C30	15		C30	15		C30	15	B	C30
22			22			22			22		
23	F		23	F		23	F		23	F	
25			25			25			25		
32			32			32			32		
35			35			35			35		

POKR				
9	F	11	—	N68
10	F	12	—	C48

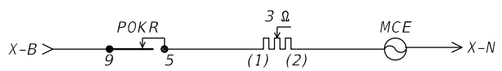
WALL MOUNTED



BX120-1	BX120-2
26.0 AMPS	22.0 AMPS

RELAY IDENTIFICATION AND CROSS REFERENCE			
TYPE	GRS	SAFETRAN	DETAILS
B8	A62-277	400004	4FB-2F-1B, NEUTRAL, 500 OHMS
C30	A62-506		PLUGBOARD KIT FOR B1 RELAYS
C48	SOCKET SURFACE MOUNT FOR PB TYPE KHAU RELAYS		
N68	4-DT, 12K OHMS, NEUTRAL POTTER BRUMFIELD RELAY (240VAC)		

NOTES:
1 - SHELF RELAY PLACEMENT ON CONSIST CHART HAS NO SIGNIFICANCE.
2 - PLUG-IN RELAYS ARE VIEWED FROM THE FRONT OF RACK.
3 - BATTERY A.H. CAPACITY SHOWN IS THE MINIMUM REQUIREMENT.
4 - WIRING
  A - 120-VOLT FEED FROM ENTRANCE TO POWER BUSS TO BE #10 FLEX.
  B - ALL TRACK WIRES TO BE #10 FLEX.
  C - ALL OTHERS TO BE #16 FLEX UNLESS NOTED.
5 - CIRCUIT INTERRUPTERS 2 & 4 ARE MECHANICALLY INTERLOCKED WITH CIRCUIT INTERRUPTERS 6 & 8.
6 - BATTERIES - X-B=OPERATING BATTERY, OB=ELECTRONIC EQUIPMENT, B-G=GATES



NEW SHEET

8'X 8' RELAY HOUSE W/FARADAY SHIELD

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CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
MEADOW WOODS PED XING
MP 801.25
POWER DISTRIBUTION

SHEET NO.
609

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80125.004

#10 OB → B2A
#10 ON → B22A
B
N

SLOT 1 | SLOT 2 | SLOT 3 | SLOT 4 | SLOT 5 | SLOT 6 | SLOT 7 | SLOT 8 | SLOT 9

25 CWU

ROW CA

GREEN

XTI-1S (SLOT 1)
- ATC ENABLED
- MASTER
- SLAVE
- HIGH SIGNAL
- LOW PHASE
- MOTION DETECT
- ITC ENABLED
- ISLAND
- HEALTH

XTI-1S (SLOT 2)
- ATC ENABLED
- MASTER
- SLAVE
- HIGH SIGNAL
- LOW PHASE
- MOTION DETECT
- ITC ENABLED
- ISLAND
- HEALTH

SPARE (SLOT 3)

SPARE (SLOT 4)

SPARE (SLOT 5)

VIO-86S (SLOT 6)
- VITAL IN 1
- VITAL IN 2
- VITAL IN 3
- VITAL IN 4
- VITAL IN 5
- VITAL IN 6
- VITAL IN 7
- VITAL IN 8
- BANK 1
- VITAL OUT 1
- VITAL OUT 2
- VITAL OUT 3
- BANK 2
- VITAL OUT 4
- VITAL OUT 5
- VITAL OUT 6
- HEALTH

VIO-44S (SLOT 7)
- VITAL IN 1
- VITAL IN 2
- VITAL IN 3
- VITAL IN 4
- VITAL OUT 1
- VITAL OUT 2
- VITAL OUT 3
- VITAL OUT 4
- HEALTH

IXC-20S (SLOT 8)
- VITAL IN 1
- VITAL IN 2
- VITAL IN 3
- VITAL IN 4
- LAMP BATT 1
- LAMP 1
- LAMP BATT 2
- LAMP 2
- GATE BATT
- GATE 1
- GATE 2
- BELL
- FLASH SYNC
- NVOUT
- HEALTH

SPARE (SLOT 9)

CPS-3 (SLOT 1)

CDU-1 (SLOT 2)

VPM-3 (SLOT 4)
- CPU STATUS A B C
- PROG
- ENET 1
- ENET 2
- CDU
- USB

ROW CB

CDU-1 keypad: 1 2 3 / 4 5 6 / 7 8 9 / ENTER 0 CANCEL / HEALTH 5V PWR

XCI-2 CHASSIS ID DIP PACK — SLOT 9

ON/OFF SWITCH

NEW SHEET

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CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

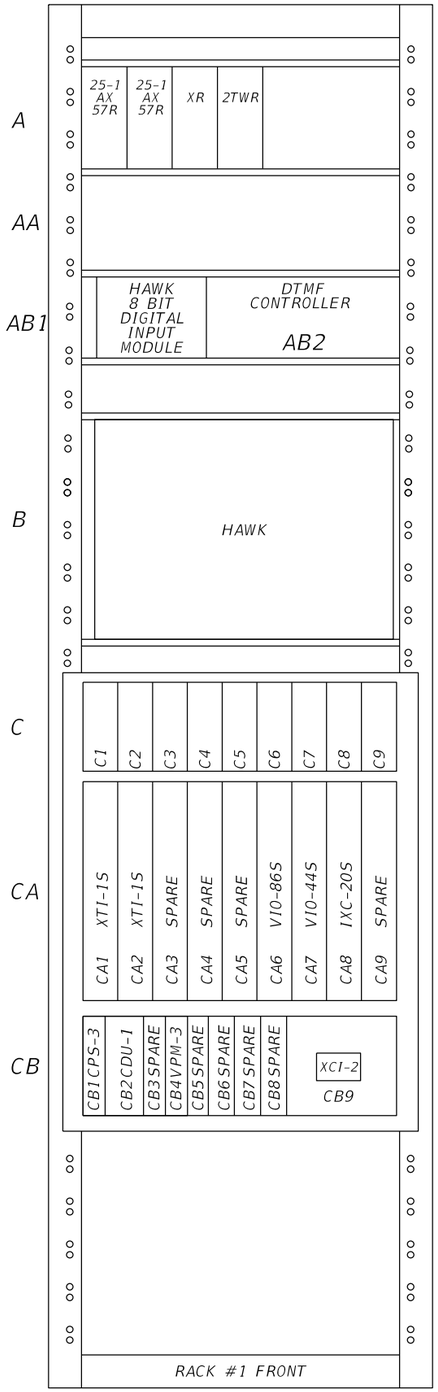
MEADOW WOODS PED XING
MP 801.25 XP4 UNIT AND COMM
(2 TRACKS & 2 GATES)

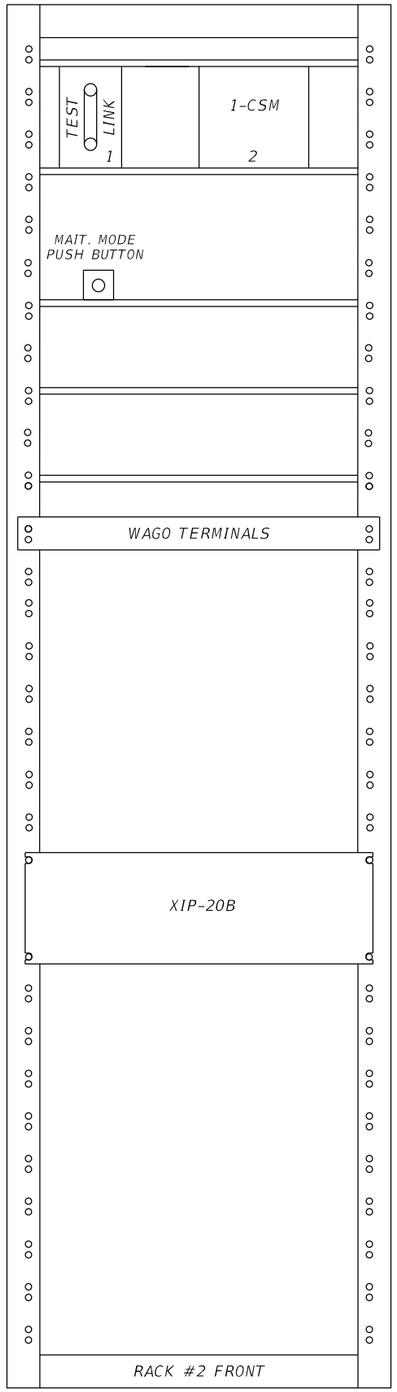
SHEET NO. 610

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.

G80125.005





PART NUMBERS (2-TRACK)

XP4 EQUIPMENT RACK 1		
REF.	PART NUMBER	DESCRIPTION
A		REFERENCE TABLE
AB1	251275-000	HAWK 8 BIT DIGITAL INPUT MODULE
AB2	T.B.D.	RADIO DTMF ACTIVATOR
B	180624-TBD	HAWK RECORDER
C	300752-000	9-SLOT ELECTROLOGIXS CHASSIS
C1-C4	227481-000	XTI-1S PERSONALITY MODULE (2X)
C6	227537-000	VIO-86S VITAL I/O PERSONALITY MODULE
C7	227444-000	VIO-44S VITAL I/O PERSONALITY MODULE
C8	227546-000	IXC-20S CROSSING SIGNAL CONTROL PERSONALITY MODULE (2X)
CA1-CA4	251336-000	XTI-1S CROSSING TRACK INTERFACE MODULE (2X)
CA6	251380-000	VIO-86S VITAL I/O MODULE
CA7	251134-000	VIO-44S VITAL I/O MODULE
CA8	251384-000	IXC-20S INTEGRATED CROSSING CONTROLLER MODULE
CB1	251456-000	CPS-3 CENTRAL POWER SUPPLY
CB2	251124-000	CDU-1 CONTROL DISPLAY UNIT
CB4	251432-200	VPM-3 CROSSING PROCESSOR MODULE
CB9	251442-000	XCI-2 APPLICATION EPROM/FLASH MEMORY MODULE (PTC CAPABLE)
N/A	075061-015	15' CAT 5 STP ETHERNET CABLE FROM N-TRON SWITCH TO AIRLINK RAVEN MODEM (C06)
N/A	075061-006	6' CAT 5 STP ETHERNET CABLE FROM N-TRON SWITCH TO HAWK DIAGNOSTIC PORT (C06)
N/A	075061-006	6' CAT 5 STP ETHERNET CABLE FROM N-TRON SWITCH TO XP4 ENET2 PORT (G01-C06)
N/A	075002-200	7' RS485 CABLE FROM HAWK NETWORK PORT TO CSM "IN" PORT
N/A	075046-000	4' CABLE FROM XP4 IXC-20S PERSONALITY MODULE (J4) TO XIP-20B (J4) (C02)
N/A	075047-000	4' CABLE FROM XP4 IXC-20S PERSONALITY MODULE (J6) TO XIP-20B (J6) (C02)

PART NUMBERS (2-TRACK)

XP4 EQUIPMENT RACK 2		
REF.	PART NUMBER	DESCRIPTION
A1	T.B.D.	TEST KEY
A2	251280-000	CURRENT SENSE MODULE
AA	T.B.D.	MAINTENANCE MODE PUSH BUTTON
B	202292-057	WAGO TERMINAL BLOCK
CA	227561-100	XIP-20B CROSSING SIGNAL INTERFACE PANEL

RELAY IDENTIFICATION AND CROSS REFERENCE			
TYPE	GRS	SAFETRAN	DETAILS
B8	A62-277	400004	4FB-2F-1B, NEUTRAL, 500 OHMS
C30	A62-506		PLUGBOARD KIT FOR B1 RELAYS
C48	SOCKET SURFACE MOUNT FOR PB TYPE KHAU RELAYS		
N68	4-DT, 12K OHMS, NEUTRAL POTTER BRUMFIELD RELAY (240VAC)		

NEW SHEET

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REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

TRANSPORTATION

AECOM TECHNICAL SERVICES, Inc.
300 Colonial Center Pkwy, Suite 130
Lake Mary, FL, 32746
T 407.549.4200 F 407.549.4201
Certificate of Authorization No. 8115

www.aecom.com

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

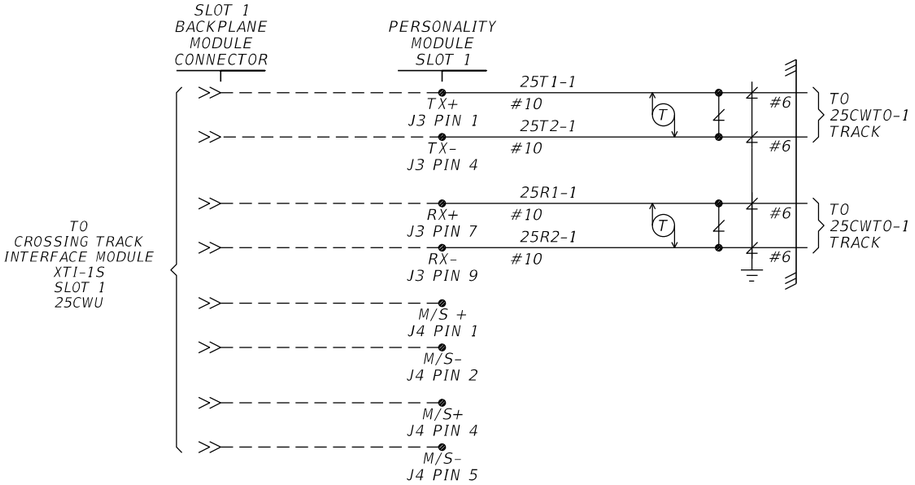
CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

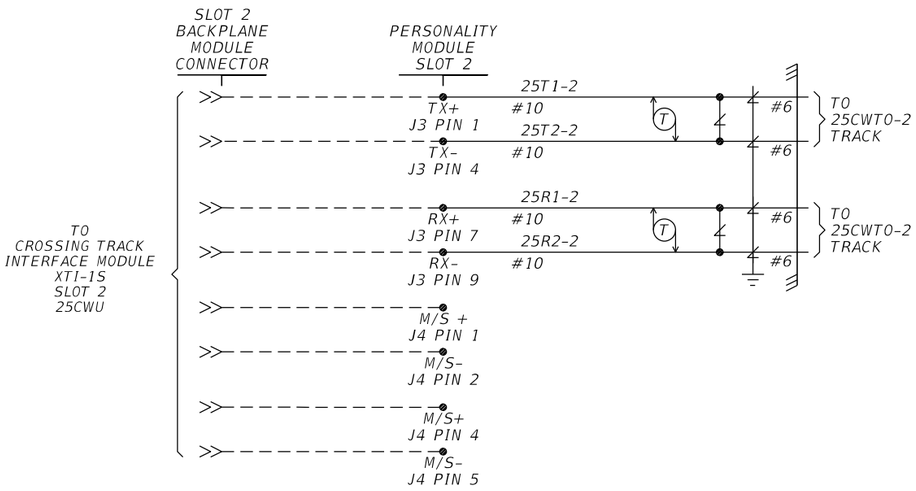
MEADOW WOODS PED XING
MP 801.25 EQUIP. RACK LAYOUT
(2 TRACK & 2 GATES W/REC)

SHEET NO.

611

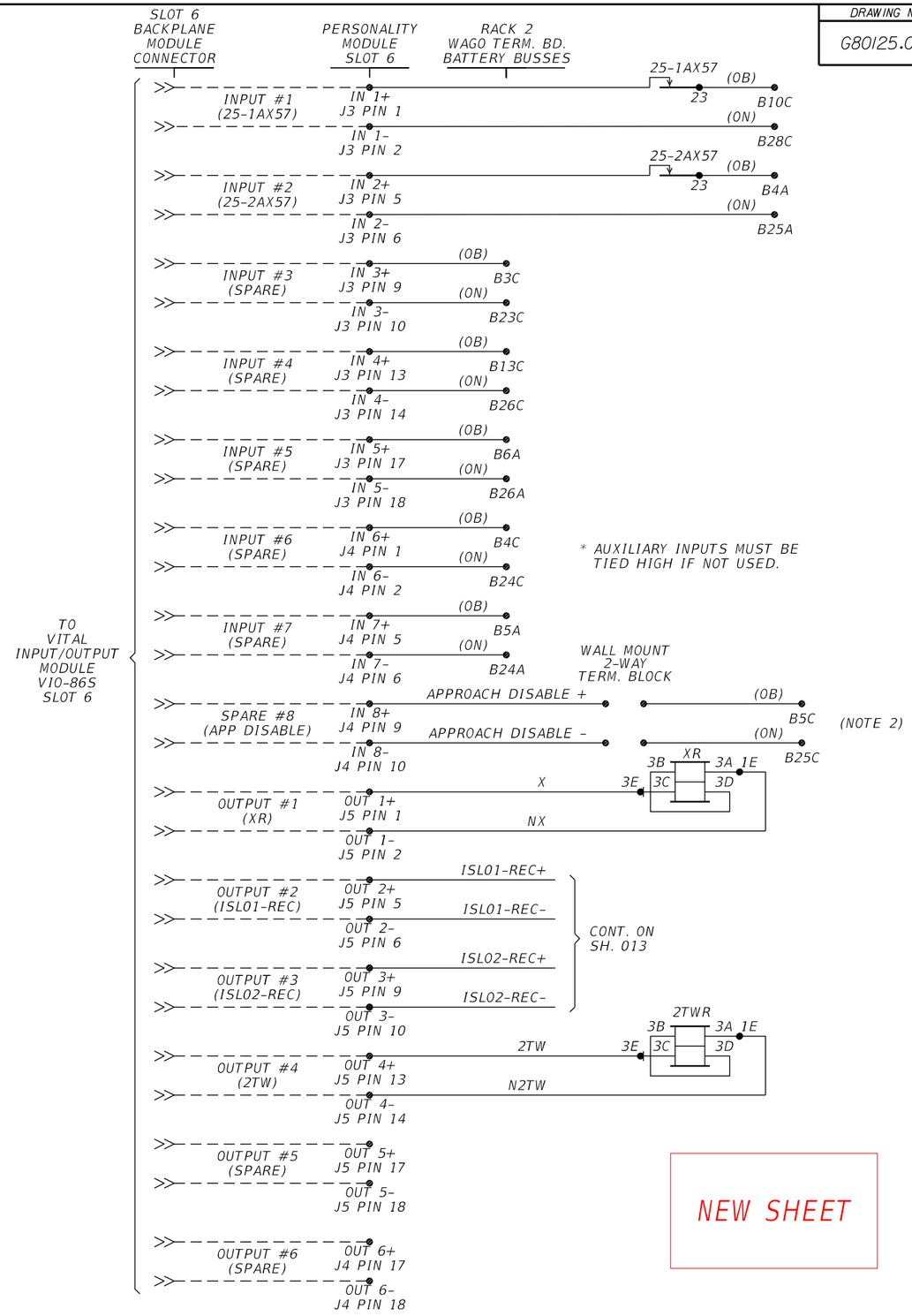
$USER$ $DATE$ $TIME$ $FILE$





SLOT 6 I/O	
INPUT 1	25-1AX57
INPUT 2	25-2AX57
INPUT 3	SPARE
INPUT 4	SPARE
INPUT 5	SPARE
INPUT 6	SPARE
INPUT 7	SPARE
INPUT 8	APPROACH DISABLE JUMPER INPUT
OUTPUT 1	X (CROSSING ACTIVE)
OUTPUT 2	ISL01 OUTPUT FOR RECORDER
OUTPUT 3	ISL02 OUTPUT FOR RECORDER
OUTPUT 4	2TWR
OUTPUT 5	SPARE
OUTPUT 6	SPARE

NOTES
1. ALL WIRE THIS SHEET #16 AWG UNLESS NOTED.
2. APPROACH DISABLE JUMPER INPUT. THIS INPUT IS USED IN COMBINATION WITH THE SOFT APPROACH DISABLE ACCESSED THROUGH THE CDU-1 KEYPAD. INPUT MUST BE HIGH TO DISABLE AN APPROACH. THE OPERATOR IS SOLELY RESPONSIBLE FOR CROSSING PROTECTION WHEN THE APPROACH DISABLE FUNCTION IS ACTIVATED.



NEW SHEET

DRAWING NO.
G80125.006

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.003, F.A.C.

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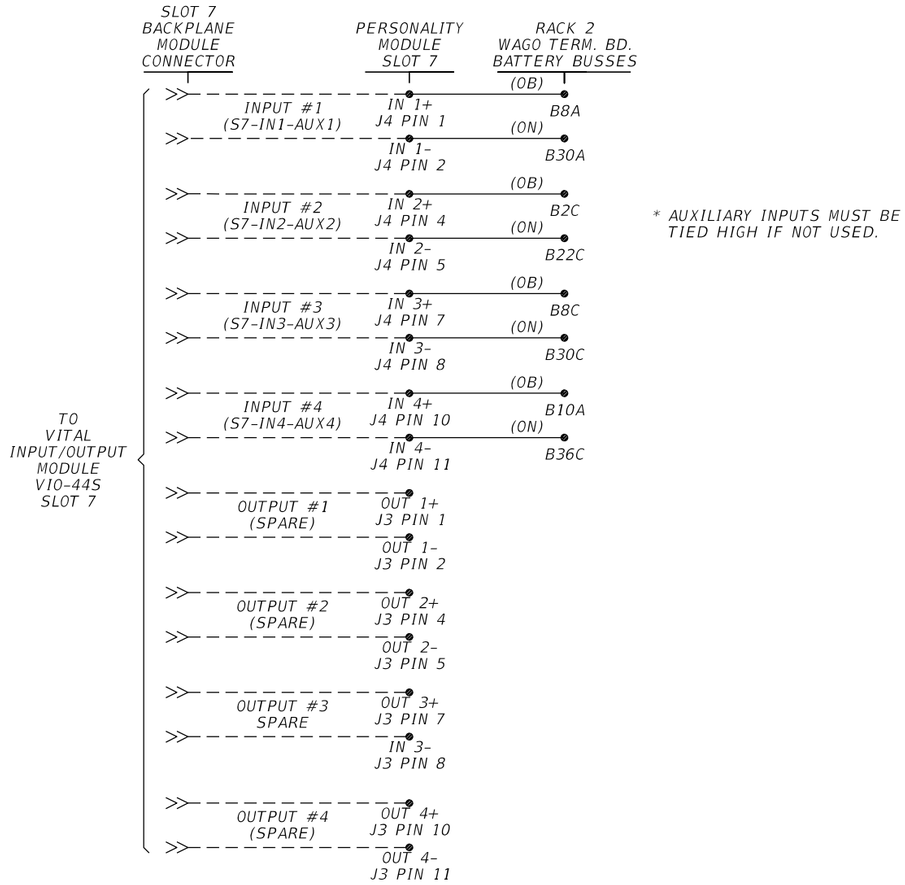
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
MEADOW WOODS PED XING
MP 801.25
XP4 UNIT XTI-1S & VIO-86S (25CWU)

SHEET NO.
612

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80125.007



* AUXILIARY INPUTS MUST BE TIED HIGH IF NOT USED.

NOTES
1. ALL WIRE THIS SHEET #16 AWG UNLESS NOTED.

SLOT 7 I/O	
INPUT 1	S7-IN1-AUX1
INPUT 2	S7-IN2-AUX2
INPUT 3	S7-IN3-AUX3
INPUT 4	S7-IN4-AUX4
OUTPUT 1	SPARE
OUTPUT 2	SPARE
OUTPUT 3	SPARE
OUTPUT 4	SPARE

NEW SHEET

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ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

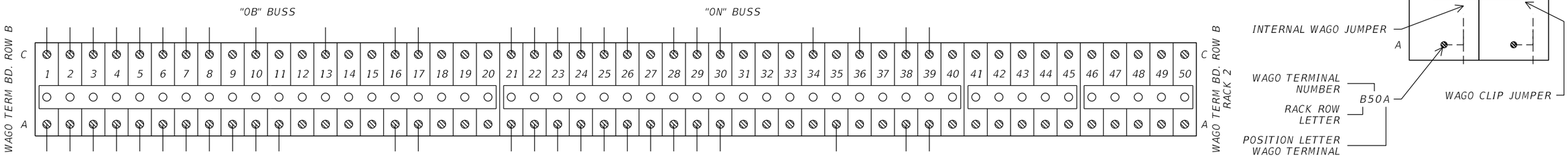
CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
MEADOW WOODS PED XING
MP 801.25
XP4 UNIT VIO-44S (25CWU)

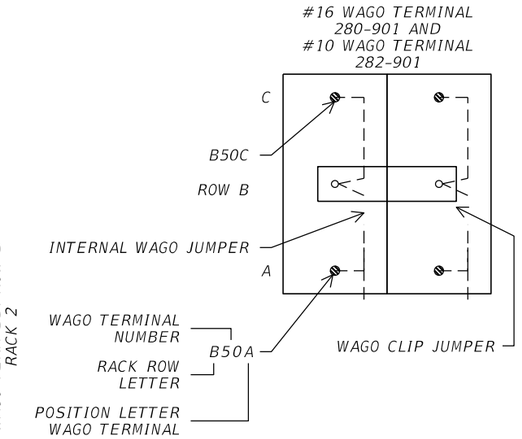
SHEET NO.
613

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.

G80125.008





NOTES:

1. B1A AND B1C TO OB SUPPLY.
2. B21A AND B21C TO ON SUPPLY.
3. ROW B TERMINALS 1-50 ARE WAGO PART #282-901.

NEW SHEET

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REVISIONS					
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CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

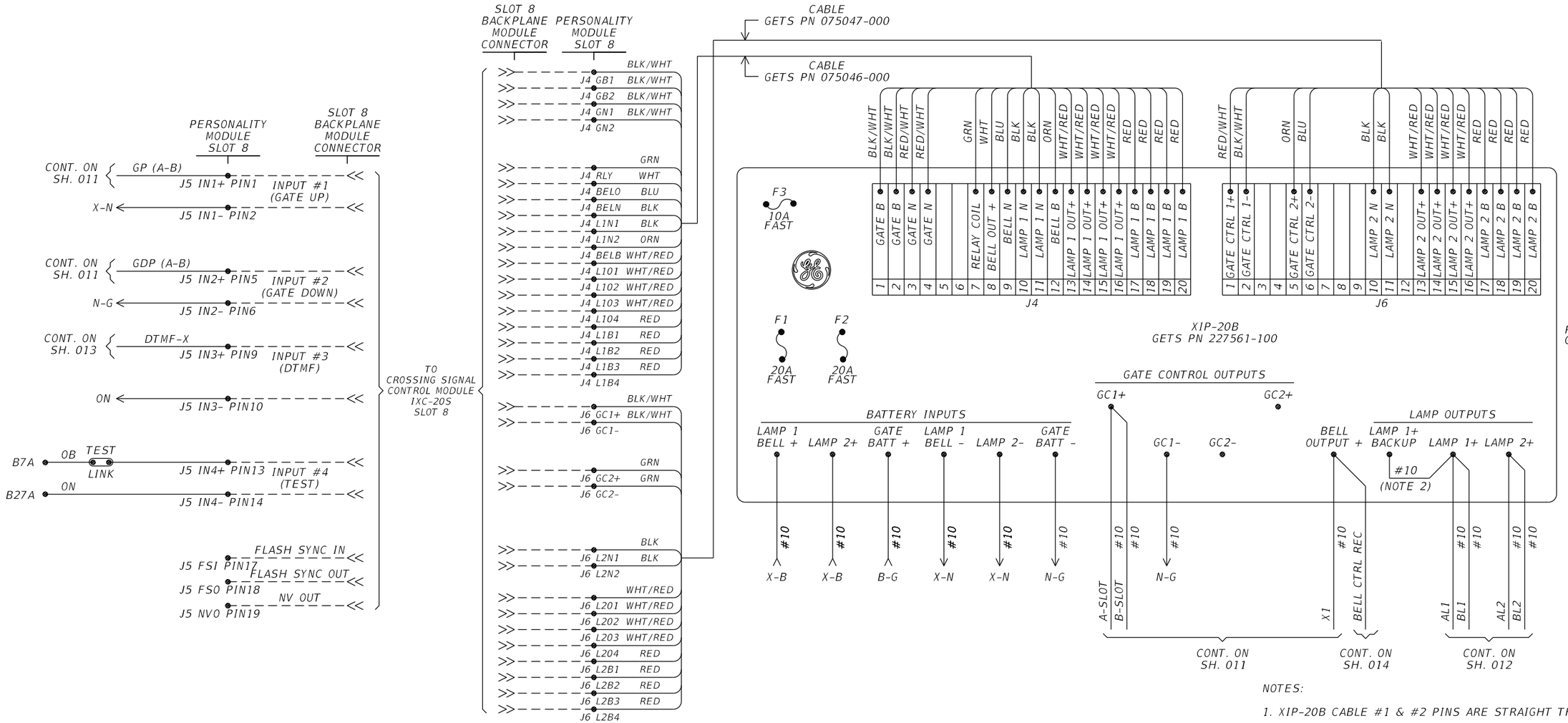
MEADOW WOODS PED XING
MP 801.25
WAGOS

SHEET NO.

614

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80125.009



SLOT 8 IXC-20S		
INPUTS		
INPUT #	NAME	FUNCTION
INPUT 1	GATE UP	GATE UP INPUT
INPUT 2	GATE DOWN	GATE DOWN INPUT
INPUT 3	DTMF	DTMF GATE CONTROL
INPUT 4	TEST	CROSSING TEST CONTROL INPUT
OUTPUTS		
OUTPUT	NAME	FUNCTION
GATE 1	GC1	GATE OUTPUT #1
GATE 2	GC2	GATE OUTPUT #2
BELL	BC	BELL OUTPUT
NVOUT	NOT USED	NOT USED

NOTES:

1. XIP-20B CABLE #1 & #2 PINS ARE STRAIGHT THROUGH.
2. DURING A LAMP 1 AND LAMP 2 CIRCUIT FAILURE, THE LAMP 1 BACKUP TERMINAL OUTPUT VOLTAGE IS SLIGHTLY LESS THAN THE LAMP BATTERY BUSS VOLTAGE. IF INTERNAL IXC-20S VOLTAGE REGULATION IS ENABLED, UNDER NORMAL CIRCUMSTANCES AND WITH NO EXTERNAL RESISTANCE APPLIED, THE USER MAY DESIRE TO REMOVE THIS JUMPER AND ADD RESISTANCE BETWEEN THE LAMP 1 BACKUP TERMINAL AND THE LAMP 1 NEAR SIGNAL LOAD(S) TO PROVIDE RESISTIVE BALANCE BETWEEN THE NEAR AND FAR SIGNALS.
3. ALL WIRE THIS SHEET #16 UNLESS NOTED.

NEW SHEET

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ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
MEADOW WOODS PED XING
MP 801.25
XP4 UNIT IXC

SHEET NO.
615

$USER$ $DATE$ $TIME$ $FILE$

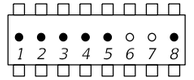
DRAWING NO.

G80125.010

	MDR1				MDR2				MDR3				MDR4			
NAME	MDR1				MDR2				MDR3				MDR4			
WARNING TIME	26				26				NA				NA			
CW/MD	CW				CW				NA				NA			
AP TIME(PREEMPT)	NA				NA				NA				NA			
CWE-WT	80				80				NA				NA			
AUX RECOVERY DELAY	0				0				NA				NA			
	TK1	TK2	TK3	TK4	TK1	TK2	TK3	TK4	TK1	TK2	TK3	TK4	TK1	TK2	TK3	TK4
TRACK ASSIGNED	ASSIGNED	NOT ASSIGNED	NOT ASSIGNED	NOT ASSIGNED	NOT ASSIGNED	ASSIGNED	NOT ASSIGNED	NOT ASSIGNED	NOT ASSIGNED	NOT ASSIGNED	NOT ASSIGNED	NOT ASSIGNED	NOT ASSIGNED	NOT ASSIGNED	NOT ASSIGNED	NOT ASSIGNED
OFFSET DISTANCE	0'	NA	NA	NA	NA	0'	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD RESTART	0*	NA	NA	NA	NA	0*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SUDDEN SHUNT ZONE	0*	NA	NA	NA	NA	0*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POSITIVE START PSEN	DISABLE	NA	NA	NA	NA	DISABLE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POSITIVE START PSRX	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POSITIVE START PST	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POST JOINT DETECT PJEN	DISABLE	NA	NA	NA	NA	DISABLE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POST JOINT DETECT PJRX	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POST JOINT DETECT PJDT	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

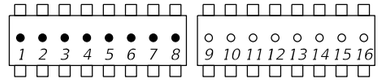
APPLICATION SOFTWARE INFORMATION	
NAME	XXXXXXXX
REV.	1.0
CHECKSUM	XXXX
CRC	XXXX

CHASSIS ID DIP SHUNTS
LOCATED ON BACKPLANE
UNDERNEATH XCI-2 MODULE



○ = TAB INTACT (MADE)
● = TAB PUNCHED OUT (BROKEN)

VITAL SELECTION DIP SHUNTS
LOCATED INSIDE XCI-2 MODULE
UNDERNEATH EPROM



○ = TAB INTACT (MADE)
● = TAB PUNCHED OUT (BROKEN)

BASIC TRACK SETUP		
	TRACK 1	TRACK 2
FREQUENCY	156HZ	156HZ
MASTER/SLAVE	MASTER	SLAVE
RX ADJUST	100 *	100 *
TCA	*	*
DIRECTION MODE	BI	BI
LIA	*	*
ADVANCED APPROACH	*	*
NBS COMP RX	*	*
TRK ISLAND ASSIGN	NA	NA
APPROACH LENGTH	3696	3696
AUTO RX	ENABLE	ENABLE

IXC-20S SETUP				
	IXC 1	IXC 2	IXC 3	IXC 4
LAMP BANK 1				
LAMP BANK 2				
GATE 1 DELAY				
GATE 2 DELAY				
FLASH RATE				

VPM3 ETHERNET SETUP	
	IP ADDRESS
ETHERNET PORT 1 (TOP)	192.168.0.11
ETHERNET PORT 2 (BOTTOM)	192.168.1.12

ADVANCED TRACK SETUP			
		TRACK 1	TRACK 2
MOTION DET TIMER	MDEN	DISABLE	DISABLE
MOTION DET TIMER	MDTT	10 MIN	10 MIN
FALSE SHUNT	FSEN	DISABLE	DISABLE
FALSE SHUNT	FSRX	NA	NA
FALSE SHUNT	FST	NA	NA
APPROACH RELEASE	AREN	DISABLE	DISABLE
APPROACH RELEASE	ARRX	NA	NA
APPROACH RELEASE	ART	NA	NA
LOS TIME		16 SEC	16 SEC
IJ-LOS TIME		5 SEC	5 SEC
NRML_SHRT_VRYSHRT		*	*

ISLAND SETUP		
	TRACK 1	TRACK 2
ENABLE/DISABLE	ENABLE	ENABLE
FREQUENCY	8.0 KHZ	8.0 KHZ
LOSS OF SHUNT	2 SEC.	2 SEC.
FAULT DELAY	1 OR 2	1 OR 2

NOTES:
* = FIELD ADJUSTMENT
NA = NOT APPLICABLE

NEW SHEET

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REVISIONS					
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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

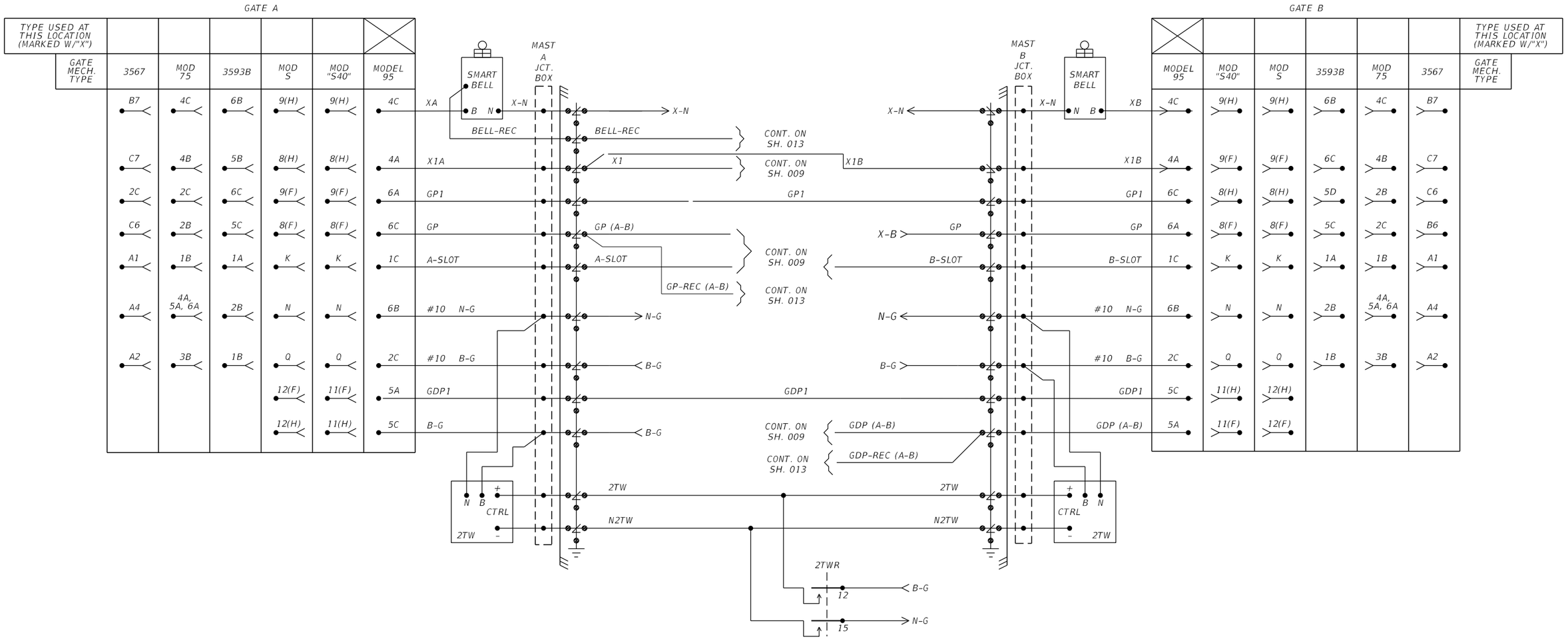
MEADOW WOODS PED XING
MP 801.25
XP4 UNIT SETUP

SHEET NO. 616

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.

G80125.011



NOTE: 2TW=SECOND TRAIN WARNING SIGN

NEW SHEET

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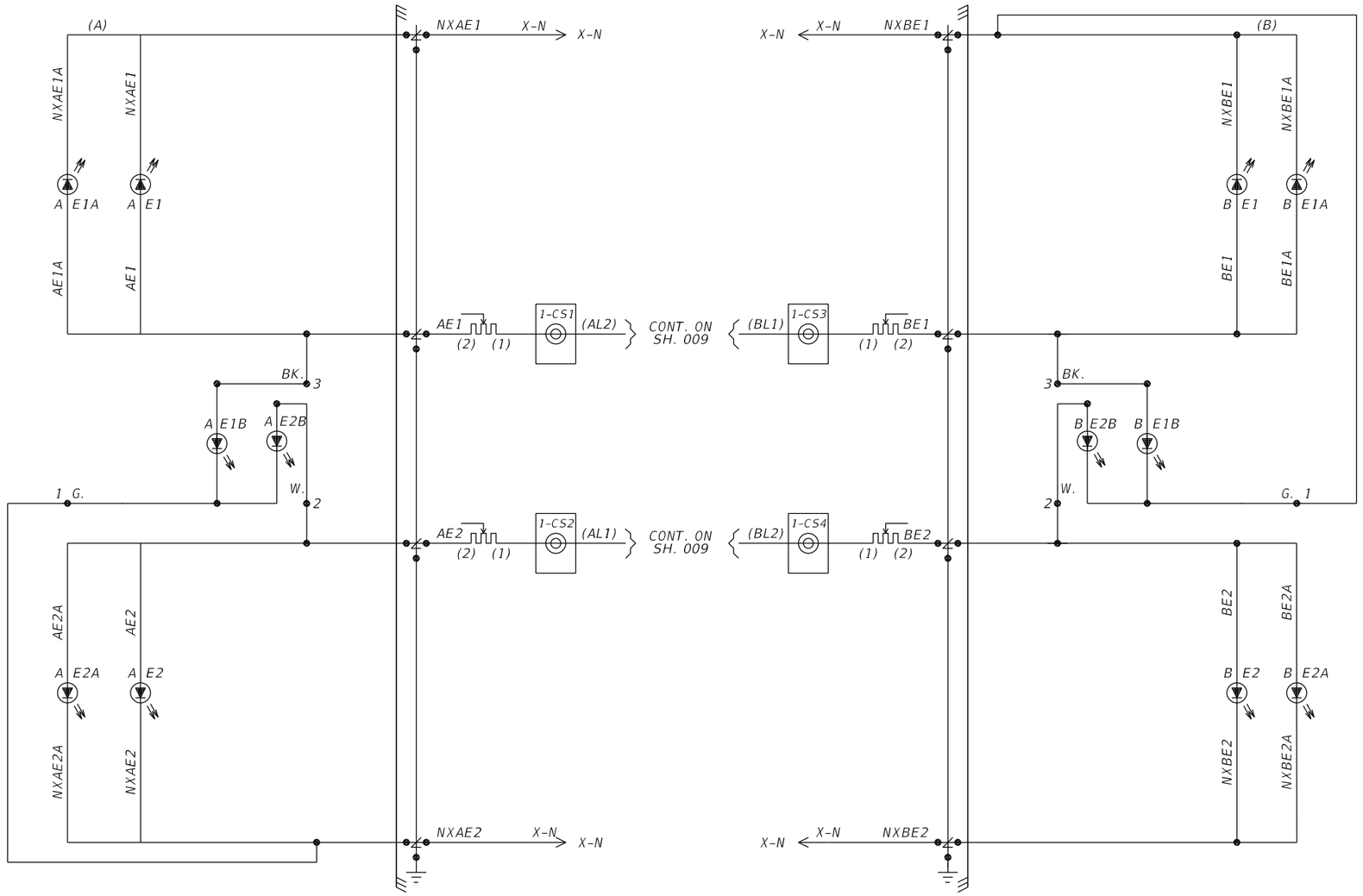
CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

MEADOW WOODS PED XING
MP 801.25
GATES AND BELL (GATES "A" & "B")

SHEET NO. 617

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80125.012



NOTE:

LIGHT RESISTOR IS A 1.5 OHM, 15 WATT, ADJUSTABLE RESISTOR. (1) = INSULATED TERMINAL.

NEW SHEET

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CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

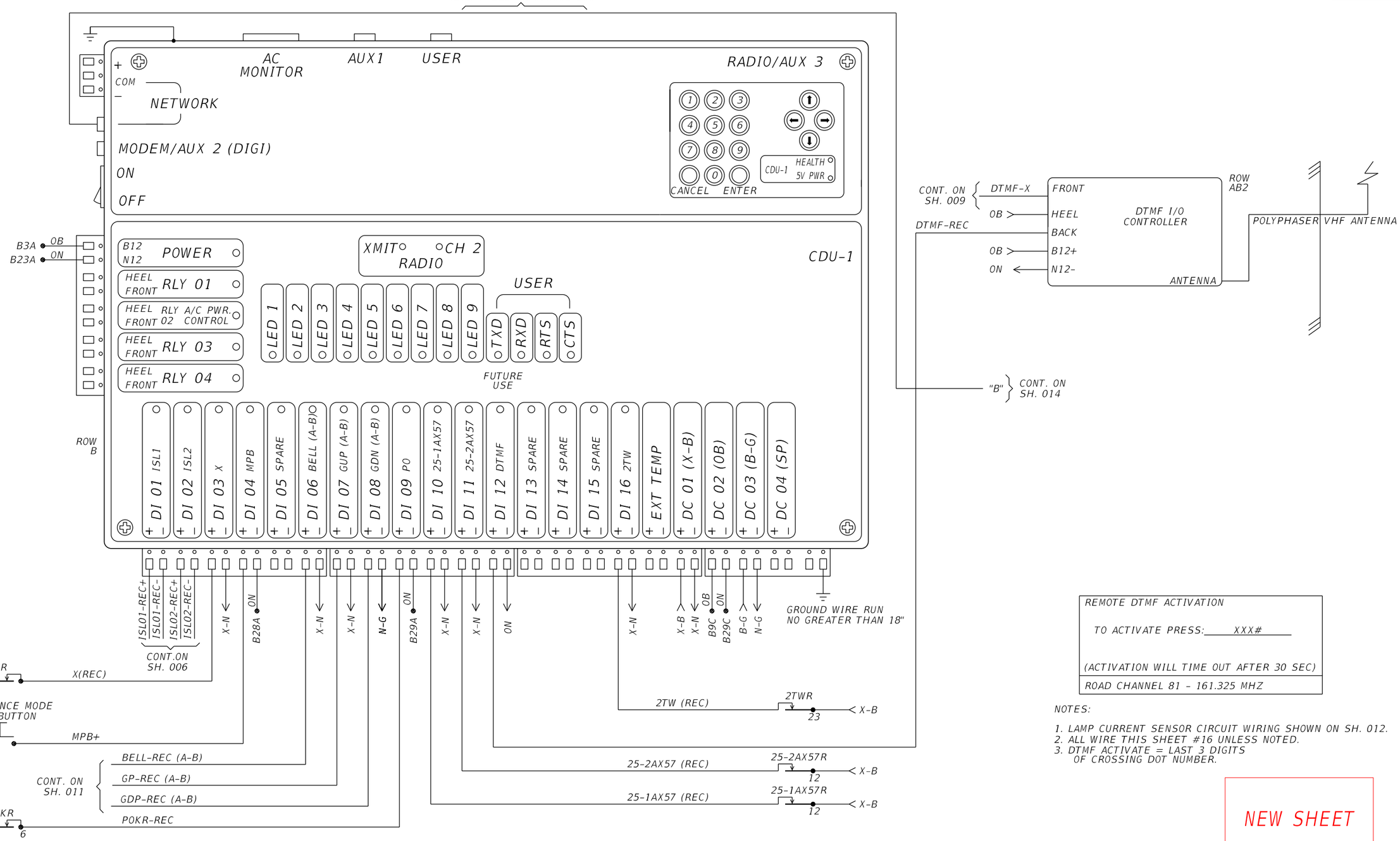
MEADOW WOODS PED XING
MP 801.25
FLASHERS (GATES "A" & "B")

SHEET NO. 618

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80125.013

GETS CABLE PN 075002-200



REMOTE DTMF ACTIVATION
TO ACTIVATE PRESS: XXX#
(ACTIVATION WILL TIME OUT AFTER 30 SEC)
ROAD CHANNEL 81 - 161.325 MHZ

NOTES:

1. LAMP CURRENT SENSOR CIRCUIT WIRING SHOWN ON SH. 012.
2. ALL WIRE THIS SHEET #16 UNLESS NOTED.
3. DTMF ACTIVATE = LAST 3 DIGITS OF CROSSING DOT NUMBER.

NEW SHEET

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CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

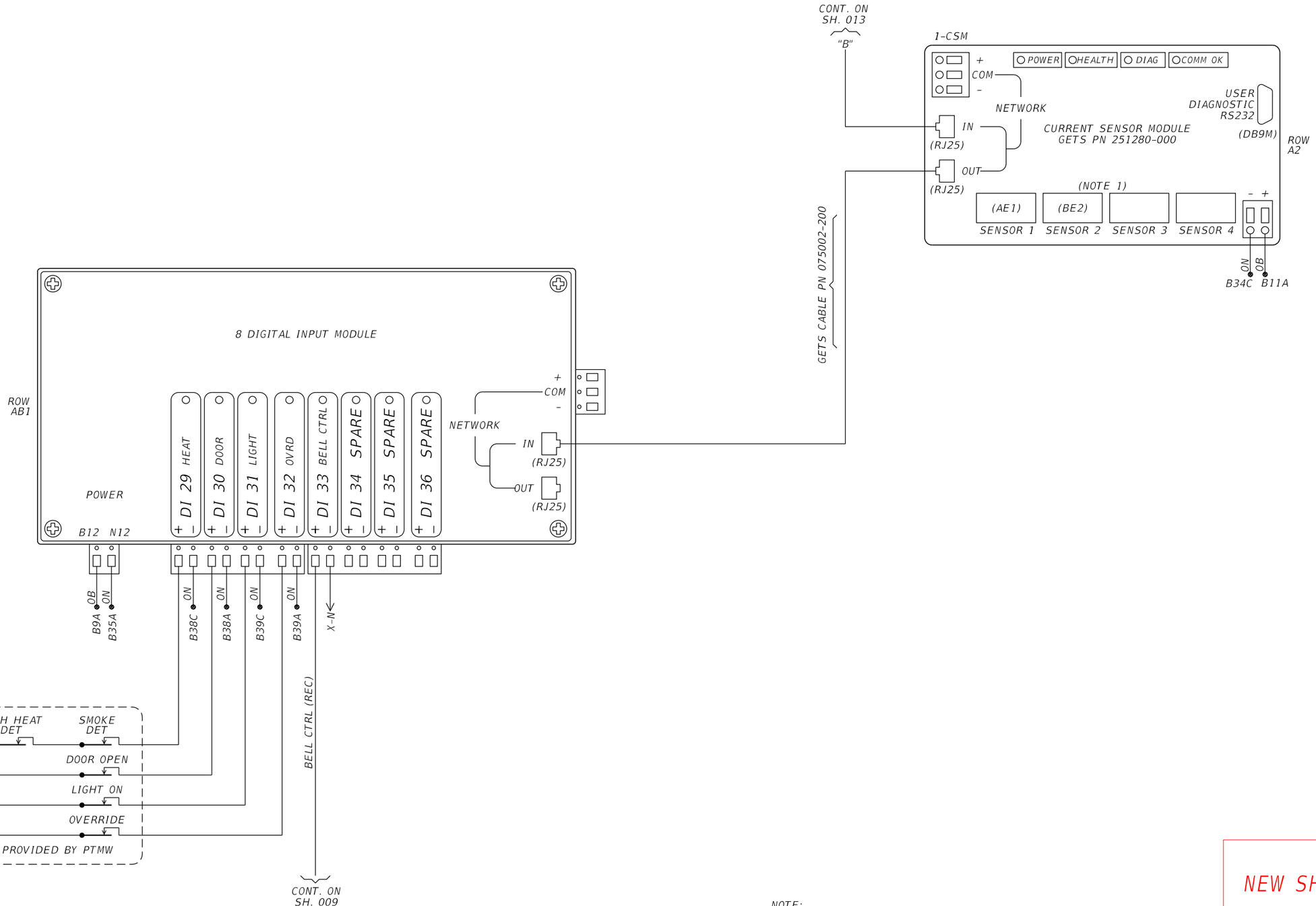
MEADOW WOODS PED XING
MP 801.25
HAWK RECORDER CIRCUITS

SHEET NO.
619

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.

G80125.014



NEW SHEET

NOTE:

1. LAMP CURRENT SENSOR CIRCUIT WIRING SHOWN ON SH. 012.
2. ALL WIRE THIS SHEET #16 UNLESS NOTED.

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CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

MEADOW WOODS PED XING
MP 801.25
HAWK RECORDER MODULES

SHEET NO. 620

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80125.015

	DEFAULTS AND/OR STYLE	FIELD RECORD
EVENT ANALYZER EXECUTIVE PROGRAM	VERSION 2.7, COMPILED ON NOV. 11, 2003	VERSION ____, COMPILED ON _____ (FIELD TO ENTER)
CFRC USER PROGRAM (IF LOADED)	VERSION 1.01, COMPILED ON 12-01-03 (MM-DD-YY)	VERSION ____, COMPILED ON _____ (FIELD TO ENTER)
SYSTEM SETTINGS		
DATE & TIME (ENABLE DAYLIGHT SAVINGS TIME = Y (YES)	MM-DD-YY 23 01:59	n/a
MILE POST	A-801.25	XXX
SITE NAME	MEADOW WOODS PED	XXX
DOT NUMBER	622 XXXX	XXX

NOTE TO D/B CONTRACTOR: AT IN SERVICE OF EVENT ANALYZER OR UPDATE OF ITS INTERNAL EXECUTIVE PROGRAM, THE VERSION NUMBER AND COMPILE DATES OF EACH PROGRAM MUST BE INSERTED IN THE BLANK FIELDS.

EVENT ANALYZER ETHERNET PORT SETUP	
	IP ADDRESS
ETHERNET DIAGNOSTIC PORT (TOP)	192.168.13.2
ETHERNET REMOTE PORT (BOTTOM)	192.168.13.1

BATTERY INPUTS	DC 01	DC 02	DC 03	DC 04
CHANNEL	1	2	3	4
BATTERY CHANNEL NAMES	X-B LAMP BATTERY	0B ELECTRONIC BATTERY	B-G GATE BATTERY	SPARE
BATTERY CHANNEL I.D.	X-B	0B	B-G	SP
SAMPLE PERIOD	500 ms	500 ms	500 ms	10,000 ms
RESOLUTION	00.2 V	00.2 V	01.0 V	02.0 V

1-CSM

MODULE-DIGITAL 4 QUAD CURRENT SENSOR SERIAL NUMBER [_____] (BLANK UNTIL AIS RECEIVED)				
RESOLUTION (AMPS RMS) : [00.2] ARMS				
AUTOMATICALLY ALLOCATED DIGITAL INPUT	DI 17	DI 18	DI 19	DI 20
DIGITAL 4 QUAD CURRENT SENSOR	1	2	3	4
NAME	E1C	E2A	E1A	E2C
ID	E1C	E2A	E1A	E2C
LIT BULB COUNT ON EACH CIRCUIT	XXX	XXX	3	3
CURRENT READING IN AMPS AT APPROXIMATE 10.0 VOLTS BULB VOLTAGE	4	4	4	4

2-CSM

MODULE-DIGITAL 4 QUAD CURRENT SENSOR SERIAL NUMBER [_____] (BLANK UNTIL AIS RECEIVED)				
RESOLUTION (AMPS RMS) : [00.2] ARMS				
AUTOMATICALLY ALLOCATED DIGITAL INPUT	DI 21	DI 22	D1 23	D1 24
DIGITAL 4 QUAD CURRENT SENSOR	1	2	3	4
NAME	E4A	E6A	E3	E5
ID	E4A	E6A	E3	E5
LIT BULB COUNT ON EACH CIRCUIT	4	4	4	4
CURRENT READING IN AMPS AT APPROXIMATE 10.0 VOLTS BULB VOLTAGE	XXX	XXX	XXX	XXX

DIGITAL INPUTS	DI 01	DI 02	DI 03	DI 04	DI 05
CHANNEL	1	2	3	4	5
NAME	ISLAND 1	ISLAND 2	X-REC	MAINT. MODE PUSHBTN	SPARE
ID	ISLAND 1	ISLAND 2	X-REC	MAINT. MODE PUSHBTN	SPARE
ON NAME	ISLAND 1 UNOCCUPIED	ISLAND 2 UNOCCUPIED	CROSSING NOT ACTIVATED	MAINTENANCE INITIATE	SPARE
OFF NAME	ISLAND 1 OCCUPIED	ISLAND 2 OCCUPIED	CROSSING ACTIVATED	MAINTENANCE NOT INITIATE	SPARE
ON DEBOUNCE TIME	1000 ms	1000 ms	1000 ms	1000 ms	1000 ms
OFF DEBOUNCE TIME	1000 ms	1000 ms	1000 ms	1000 ms	1000 ms
TOGGLE PERIOD	500 ms	500 ms	500 ms	500 ms	500 ms

DIGITAL INPUTS	DI 06	DI 07	DI 08	DI 09	DI 10
CHANNEL	6	7	8	9	10
NAME	BELL AB REC	GATE UP AB	GATE DOWN AB	POR	25-1AX57
ID	BELL AB REC	GATE UP AB	GATE DOWN AB	POR	25-1AX57
ON NAME	BELL AB RINGING	GATES UP AB	GATES DOWN AB	AC POWER ON	25-1AX57 UP
OFF NAME	BELL AB NOT RINGING	GATES NOT UP AB	GATES NOT DOWN AB	AC POWER NOT ON	25-1AX57 DOWN
ON DEBOUNCE TIME	1000 ms	1000 ms	1000 ms	1000 ms	1000 ms
OFF DEBOUNCE TIME	1000 ms	1000 ms	1000 ms	1000 ms	1000 ms
TOGGLE PERIOD	500 ms	500 ms	500 ms	500 ms	500 ms

DIGITAL INPUTS	DI 11	DI 12	DI 13	DI 14	DI 15	DI 16
CHANNEL	11	12	13	14	15	16
NAME	25-2AX57	DTMF	SPARE	SPARE	SPARE	2TW
ID	25-2AX57	DTMF	SPARE	SPARE	SPARE	2TW
ON NAME	25-2AX57 UP	DTMF ON	SPARE	SPARE	SPARE	2TW UP
OFF NAME	25-2AX57 DOWN	DTMF NOT ON	SPARE	SPARE	SPARE	2TW DOWN
ON DEBOUNCE TIME	1000 ms	1000 ms	1000 ms	1000 ms	1000 ms	1000 ms
OFF DEBOUNCE TIME	1000 ms	1000 ms	1000 ms	1000 ms	1000 ms	1000 ms
TOGGLE PERIOD	500 ms	500 ms	500 ms	500 ms	500 ms	500 ms

( ) = NOTE

PORT	USER	AUX 1	MODEM/AUX 2
BAUD RATE	38400	9600	9600
PARITY	N	N	N
DATA BITS	8	8	8
STOP BITS	1	1	1
FLOW CONTROL	NONE	NONE	NONE

NEW SHEET

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REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

TRANSPORTATION
AECOM TECHNICAL SERVICES, Inc.
300 Colonial Center Pkwy, Suite 130
Lake Mary, FL, 32746
T 407.549.4200 F 407.549.4201
Certificate of Authorization No. 8115
www.aecom.com

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
MEADOW WOODS PED XING
MP 801.25
HAWK RECORDER PROGRAM

SHEET NO.
621

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.

G80125.016

8DIM

DIGITAL INPUTS	DI 29	DI 30	DI 31	DI 32	DI 33	DI 34	DI 35	DI 36
CHANNEL	1	2	3	4	5	6	7	8
NAME	HEAT DET	DOOR OPEN	LIGHT ON	OVERIDE	BELL CTRL	SPARE	SPARE	SPARE
ID	HEAT DET	DOOR OPEN	LIGHT ON	OVERIDE	BELL CTRL	SPARE	SPARE	SPARE
ON NAME	NO HEAT DET	NO DOOR OPEN	NO LIGHT ON	OVERIDE	BELL OFF	SPARE	SPARE	SPARE
OFF NAME	HEAT DET	DOOR OPEN	LIGHT ON	NO OVERIDE	BELL ON	SPARE	SPARE	SPARE
ON DEBOUNCE TIME	1000 ms	1000 ms	1000 ms	1000 ms	1000 ms	1000 ms	1000 ms	1000 ms
OFF DEBOUNCE TIME	1000 ms	1000 ms	1000 ms	1000 ms	1000 ms	1000 ms	1000 ms	1000 ms
TOGGLE PERIOD	500 ms	500 ms	500 ms	500 ms	500 ms	500 ms	500 ms	500 ms

NEW SHEET

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ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

MEADOW WOODS PED XING
MP 801.25
HAWK RECORDER PROG. CONT'D

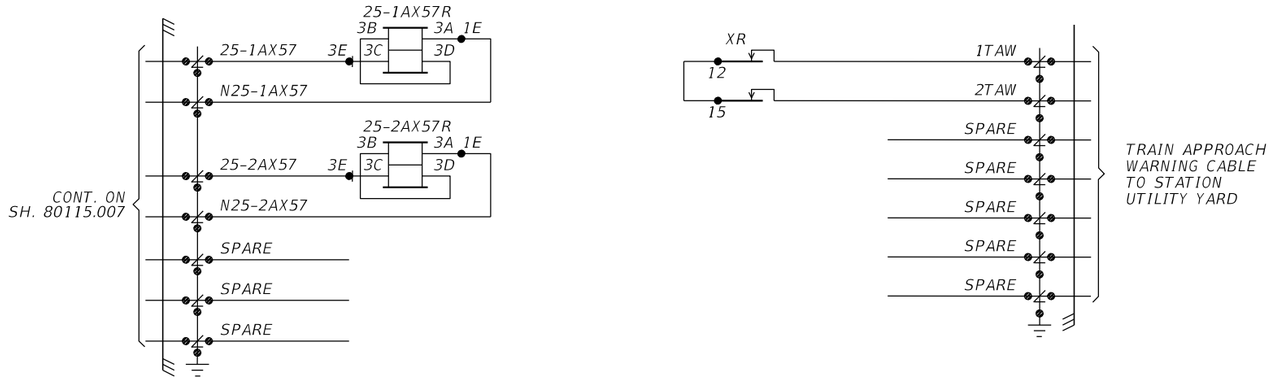
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622

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DRAWING NO.

G80125.017



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ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

MEADOW WOODS PED XING
MP 801.25
EXTERNAL CIRCUITS

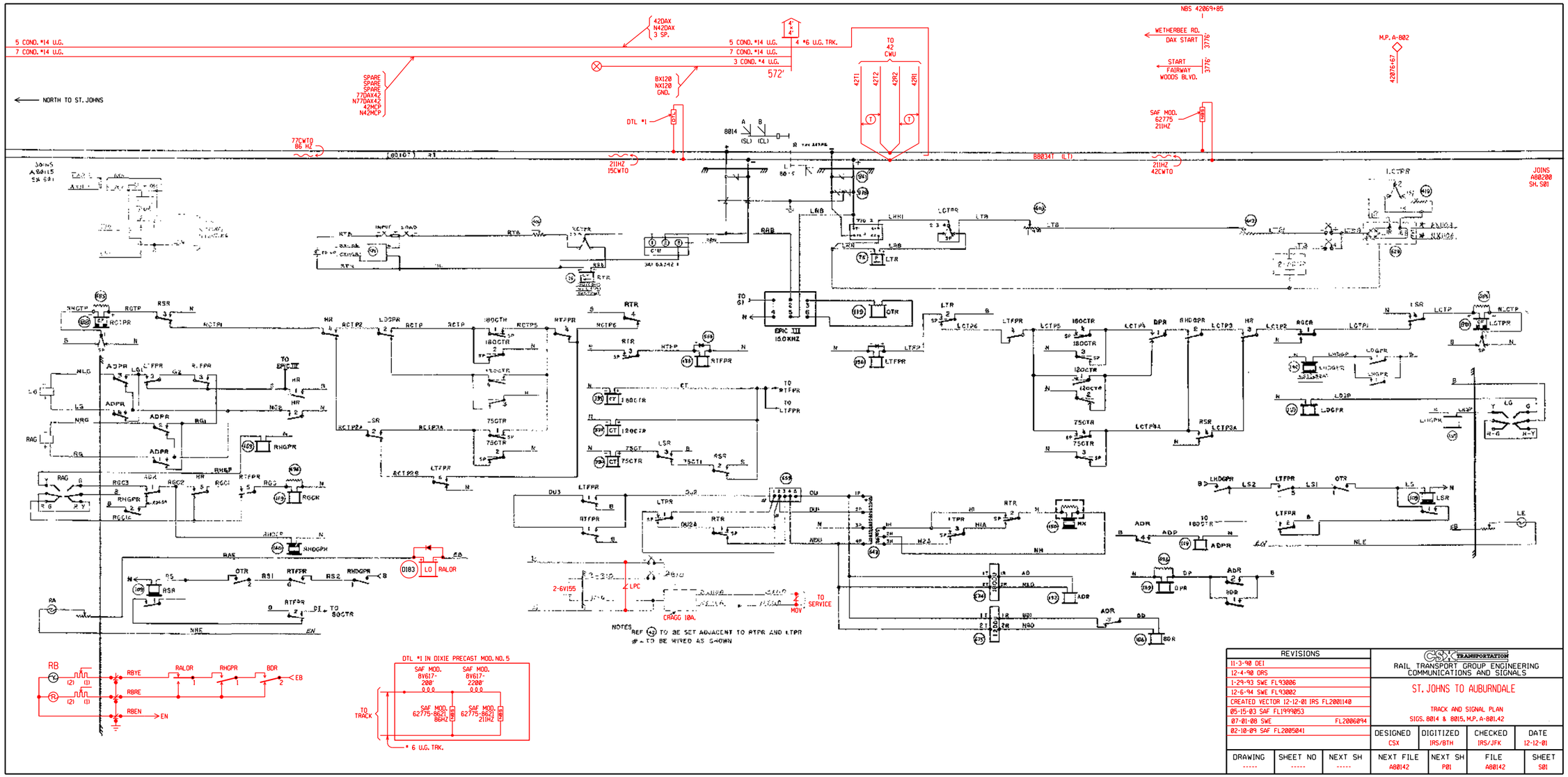
SHEET NO.

623

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.

G80142.001V



REVISIONS
11-3-98 DEI
12-4-98 ORS
1-29-93 SWE FL93006
12-6-94 SWE FL93002
CREATED VECTOR 12-12-01 IRS FL2001140
05-15-03 SAF FL1999053
07-01-08 SWE FL2006094
02-10-09 SAF FL2005041

CSX TRANSPORTATION
RAIL TRANSPORT GROUP ENGINEERING COMMUNICATIONS AND SIGNALS

ST. JOHNS TO AUBURNDALE

TRACK AND SIGNAL PLAN
SIGS. 8014 & 8015, M.P. A-801.42

DESIGNED	DIGITIZED	CHECKED	DATE
CSX	IRS/BTH	IRS/JFK	12-12-01

DRAWING	SHEET NO	NEXT SH	NEXT FILE	NEXT SH	FILE	SHEET
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S0016964.CIT A80142.S01

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5011 GATE PARKWAY BUILDING 100
SUITE 400 JACKSONVILLE FLORIDA 32256
(904) 443-0083 (MAIN)
(904) 443-0089 (FAX)

CERT. OF AUTHORIZATION NO. 9875

ENGINEER OF RECORD
IVORY L. WHITE, JR., P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

SIGNALS 8014 & 8015
TRACK & SIGNAL PLAN

M.P. A-801.42

SHEET NO.

624

$USER$ $DATE$ $TIME$ $FILE$

Minimum Program Steps Report

Location and SIN

DOT Number: 080142Z
Milepost Number: A-801.42
Site Name: WETHERBEE RD REMOTE HOUSE

SIN: 712540900516 •

• Parameter is part of office check number calculation.

MCF and Template Selection

MCF Name: GCP-T6X-02-1.mcf
MCF Revision: 021
MCFCRC: 6076E435

Template = 4A:6 Remotes •

• Parameter is part of office check number calculation.

Minimum Program Steps

TEMPLATE: track 1-Remote Dax
Track 1: GCP Frequency = 211 Hz
Track 1: Approach Distance = 2414 ft See Plans
Track 1: Dax A Warning Time = 25 sec •
Track 1: Dax A Offset Distance = 1362 ft Verify in Field
Track 1: GCP Transmit Level = High Set in Field

TEMPLATE: track 1-Remote Daxes
Track 1: Dax B Used = Yes •
Track 1: Dax B Warning Time = 25 sec •
Track 1: Dax B Offset Distance = 3423 ft Verify in Field

TEMPLATE: AND 1 XR
AND 1 XR Track 1 = Prime •

TEMPLATE: OP assignment 1
OUT 1.1 = T1 Dax A •
OUT 1.2 = T1 Dax B •

TEMPLATE: IP assignment SSCC
IN 7.1 = Out Of Service IP 1 •
IN 7.2 = Not Used •
IN 7.4 = Not Used •
IN 7.5 = Not Used •

TEMPLATE: SEAR
SP 2.1 = Not Used •
SP 3.1 = Not Used •

BASIC: module configuration
SSCC-1 Slot = SSCC3i •
SEAR Used = Yes •

PREDICTORS: track 1
Track 1: Prime Used = Yes •

ADVANCED: out of service
OOS Control = Display+OOS IPs •

ADVANCED: site options
Daylight Savings = On •

SSCC
Gates Used = No •

SSCC: 1
SSCC 1: Lamp Neutral Test = Off •

IO: assignment SSCC
OUT GC 1 = Not Used •

SEAR
DI 1 = Gnd Flt Tester 1 •
Rly 1 = Ground Fault Test •
Rly 2 = AC Control •

SEAR: slot 7-8 inputs
IN 7.2 = POK 1 •
IN 7.3 = POK 2 •

• Parameter is part of office check number calculation.

Office Configuration Check Number

Check Number: 31F60D9F
(Based on MCF Revision 021)

Parameters not part of office check number calculation:

Track 1: GCP Frequency = 211 Hz
Track 1: Approach Distance = 2414 ft See Plans
Track 1: Dax A Offset Distance = 1362 ft Verify in Field
Track 1: GCP Transmit Level = High Set in Field
Track 1: Dax B Offset Distance = 3423 ft Verify in Field

REVISIONS
02-10-09 SAF FL2005041

CSX TRANSPORTATION
RAIL TRANSPORT GROUP ENGINEERING
COMMUNICATIONS AND SIGNALS

ST. JOHNS TO AUBURNDALE
REMOTE HOUSE
MINIMUM PROGRAM STEPS REPORT CWE-42 ·
TAFT, FL M.P. A-801.42

DESIGNED	DIGITIZED	CHECKED	DATE
SAF/AVB	SAF/AVB	SAF/SWS	04-09-07

DRAWING	SHEET NO	NEXT SH	NEXT FILE	NEXT SH	FILE	SHEET
-----	-----	-----	A80142	E01	A80142	P01

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SUITE 400 JACKSONVILLE FLORIDA 32256
(904) 443-0083 (MAIN)
(904) 443-0089 (FAX)

CERT. OF AUTHORIZATION NO. 9875
ENGINEER OF RECORD
IVORY L. WHITE, JR., P.E.
P.E. LICENSE NO. 58608

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

REMOTE HOUSE MINIMUM STEPS REPORT

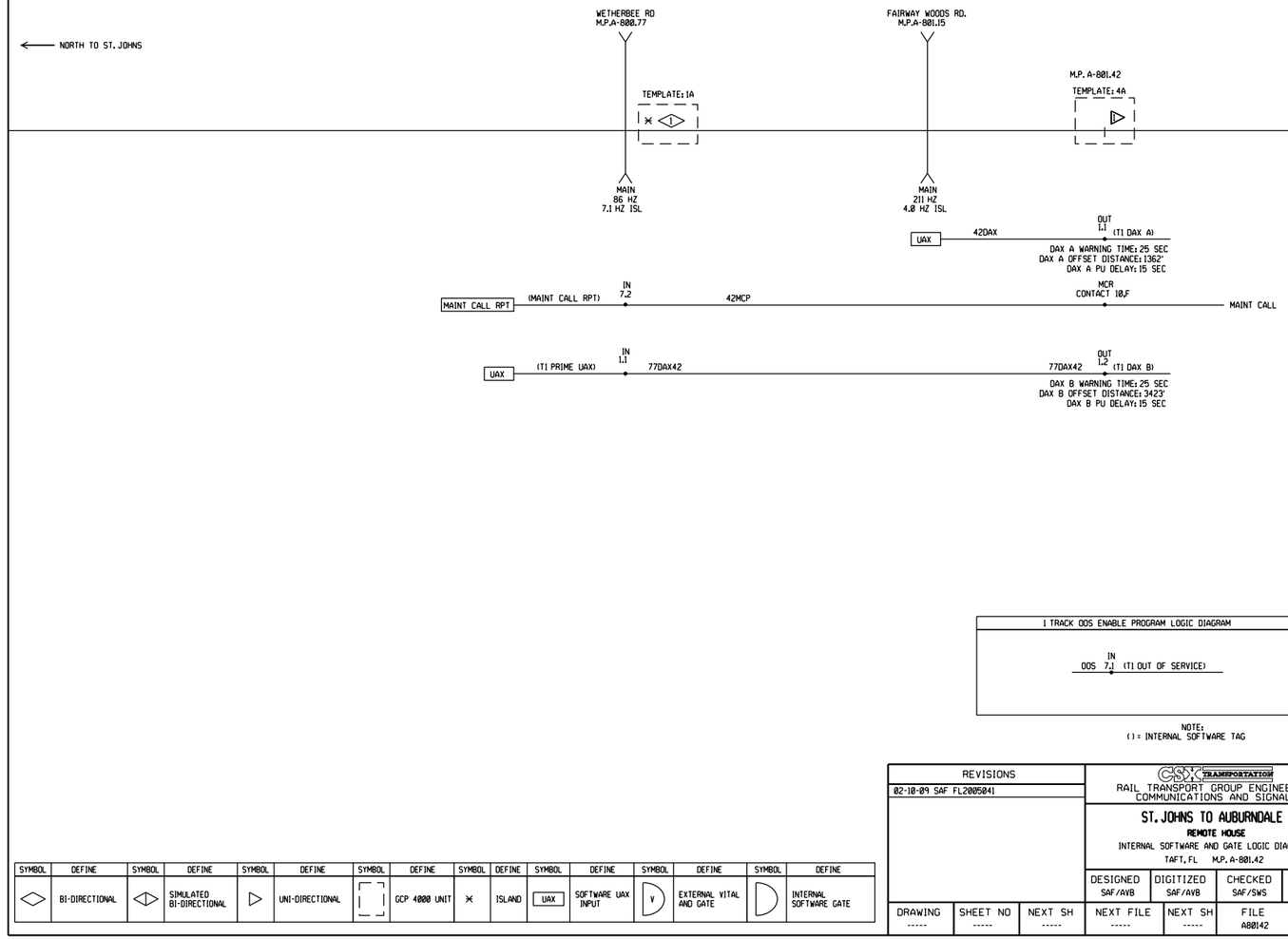
M.P. A-801.42

SHEET NO.

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.

G80142.003V



SYMBOL	DEFINE	SYMBOL	DEFINE	SYMBOL	DEFINE	SYMBOL	DEFINE	SYMBOL	DEFINE	SYMBOL	DEFINE	SYMBOL	DEFINE	SYMBOL	DEFINE
◇	BI-DIRECTIONAL	◁▷	SIMULATED BI-DIRECTIONAL	▷	UNI-DIRECTIONAL	[ ]	GCP 4000 UNIT	✕	ISLAND	UAX	SOFTWARE UAX INPUT	Y	EXTERNAL VITAL AND GATE	D	INTERNAL SOFTWARE GATE

1 TRACK OOS ENABLE PROGRAM LOGIC DIAGRAM

IN
OOS 7.1 (T1 OUT OF SERVICE)

NOTE:
( ) = INTERNAL SOFTWARE TAG

REVISIONS
02-10-09 SAF FL2005041

CSX TRANSPORTATION
RAIL TRANSPORT GROUP ENGINEERING
COMMUNICATIONS AND SIGNALS

ST. JOHNS TO AUBURNDALE
REMOTE HOUSE
INTERNAL SOFTWARE AND GATE LOGIC DIAGRAM
TAFT, FL M.P. A-801.42

DESIGNED	DIGITIZED	CHECKED	DATE
SAF/AVB	SAF/AVB	SAF/SWS	04-09-07

DRAWING	SHEET NO	NEXT SH	NEXT FILE	NEXT SH	FILE	SHEET
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CERT. OF AUTHORIZATION NO. 9875

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IVORY L. WHITE, JR., P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

REMOTE HOUSE INTERNAL SOFTWARE

M.P. A-801.42

SHEET NO.

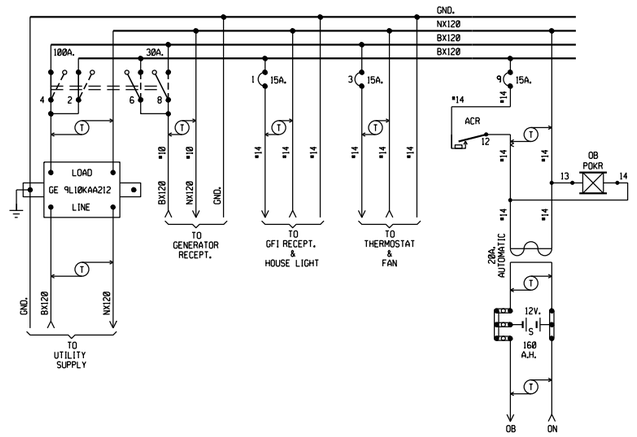
626

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.

G80142.004V

ACR			OB POKR		
12	B	B77	9 — 11	F	N66
15		C30	10 F 12		C48
22					C49
25			MCR		
32			9 — 11	F	N41
35			10 F 12		C48



NOTES:

1 - REFERENCES ARE PER SCMS-15.
2 - ARRESTERS ARE PER SS382.
3 - SHELF RELAY PLACEMENT ON CONSIST CHART HAS NO SIGNIFICANCE.
4 - PLUG-IN RELAYS ARE VIEWED FROM THE FRONT OF RACK.
5 - BATTERY A.H. CAPACITY SHOWN IS THE MINIMUM REQUIREMENT.
6 - WIRING
  A - FEED TO ALL BUSSES, LIGHT CIRCUITS, MOTOR CIRCUITS TO BE *10 FLEX.
  B - 120-VOLT FEED FROM ENTRANCE TO POWER BUSS TO BE *10 FLEX.
  C - ALL TRACK WIRES TO BE *10 FLEX.
  D - ALL OTHERS TO BE *16 FLEX UNLESS NOTED.
  E - BATTERY OUTPUTS TO BE *6 TWISTED PAIR PER SS360.
  F - GROUND WIRE NOT NECESSARY WHEN GE ARRESTER IS MOUNTED ON GROUND PLANE OR METAL ENCLOSURE AFFIXED DIRECTLY TO BUNGALOW METALLIC STRUCTURAL MEMBER.
7 - CIRCUIT INTERRUPTERS 2 & 4 ARE MECHANICALLY INTERLOCKED WITH CIRCUIT INTERRUPTERS 6 & 8.

4'X 4' RELAY HOUSE W/FARADAY SHIELD

REVISIONS
05-15-03 SAF FL1999053
02-18-09 SAF FL2005041

CSX TRANSPORTATION
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COMMUNICATIONS AND SIGNALS

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POWER DISTRIBUTION
REMOTE HOUSE AT M.P. A-801.42

DESIGNED	DIGITIZED	CHECKED	DATE
SAF-WRP	SAF-WRP	SAF-SWS	10-02-02

DRAWING	SHEET NO	NEXT SH	NEXT FILE	NEXT SH	FILE	SHEET
-----	-----	-----	A80142	C01	A80142	E01

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SUITE 400 JACKSONVILLE FLORIDA 32256
(904) 443-0083 (MAIN)
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ENGINEER OF RECORD
IVORY L. WHITE, JR., P.E.
P.E. LICENSE NO. 58808

CERT. OF AUTHORIZATION NO. 9875

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

REMOTE HOUSE POWER DISTRIBUTION

M.P. A-801.42

SHEET NO.

627

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.

G80142.005V

	DEFAULTS AND/OR STYLE	FIELD RECORD
SEAR II® EXECUTIVE PROGRAM	VERSION: 9V725A01	VERSION: _____
APPLICATION PROGRAM (IF LOADED)	VERSION: 9V864A01	VERSION: _____

NOTE TO INSPECTOR: AT IN SERVICE OF SEAR II® OR UPDATE OF ITS INTERNAL EXECUTIVE PROGRAM OR ITS CSXT APPLICATION PROGRAM, THE VERSION NUMBER OF EACH PROGRAM MUST BE INSERTED IN THE BLANK FIELDS.

SITE SET UP PROCEDURE	
FUNCTION	LED DISPLAY
DATE/TIME	XX-XX-XXXX XX:XX:XX
AUTOMACTIC DST ADJUSTMENT	YES
TIME ZONE	EASTERN
SITE NAME	WETHERBEE RD. REMOTE
MILEPOST	A-801.42
DOT NUMBER	801422
TESTER TYPE	CROSSING
DATE FORMAT	MM-DD-YYYY
TEMP FORMAT	FAHRENHEIT
INDICATE HOLD (SEC)	0
SITE TYPE	COLLECTOR
SITE ATCS ADDRESS	7.125.409.005.99.01 (7.RRR.LLL.GGG.99.01)
POLL ID	1
OFFICE ADDRESS	2.125.00.0000 (2.RRR.NN.OOOO)
FIELD COMM. DEVICE	VHF COMM. (ECHELON)
MODE	GEN/ATCS
WAMS XID	ENABLED
OFFICE COMM. DEVICE	WAG (ECHELON)
USER PORT BAUD	38,400
USER PORT DATA BITS	8
USER PORT PARITY	NONE
USER PORT STOP BITS	1
USER PORT FLOW CONTROL	NONE
AUX PORT BAUD	38,400
AUX PORT DATA BITS	8
AUX PORT PARITY	NONE
AUX PORT STOP BITS	1
AUX PORT FLOW CONTROL	NONE
COMM PORT BAUD	9600
COMM PORT DATA BITS	8
COMM PORT PARITY	NONE
COMM PORT STOP BITS	1
COMM PORT FLOW CONTROL	NONE

CONTROL SYSTEM CONFIGURATION MENU QUESTIONS	
OPTION	SELECTION
RAILROAD NUMBER	125
CROSSING CONFIGURATION	NORMAL ■ DUAL CROSSING □ SPLIT GATE □ EXTERNAL ENTRANCE GATE CONTROLLER(S) □
ENTRANCE GATES?	0 ■ 1 □ 2 □ 3 □ 4 □ 5 □ 6 □ 7 □ 8 □
GATE POSITION FAIL?	20 SECS.
NOTE 8 - BATTERY BANKS?	1 ■ 2 □ 3 □
BATT MON USED?	NO ■ YES □
OB RESOLUTION?	0.2 ■ 0.5 □ 1.0 □
X-B RESOLUTION?	0.2 ■ 0.5 □ 1.0 □ NOT PRESENT □
X-B2 RESOLUTION?	0.2 □ 0.5 □ 1.0 □ NOT PRESENT ■
BATT MON RESOLUTION?	0.2 □ 0.5 □ 1.0 ■ NOT PRESENT □
INTERNAL CROSSING CONTROLLERS?	0 □ 1 ■ 2 □
EXTERNAL CROSSING CONTROLLERS?	0 ■ 1 □ 2 □
VHF COMMUNICATOR?	YES □ NO ■
NOTE 1 - DTMF ACTVATION?	YES ■ NO □
ACTIVATION CODE	N/A
ACTIVATION TIMEOUT	(60 SEC)
iLOD MODULES?	0 ■ 1 □ 2 □ 3 □ 4 □
NOTE 2 - ANY LED BULBS USED?	NO ■ YES □
AUTO INSPECTIONS?	YES ■ NO □
BELL SENSOR?	0 ■ 1 □ 2 □ 3 □ 4 □
NOTE 3 - BELL SENSOR TSS 1?	NO ■ YES □
BELL SENSOR TSS 2?	NO ■ YES □
BELL SENSOR TSS 3?	NO ■ YES □
BELL SENSOR TSS 4?	NO ■ YES □
BELL SENSOR TSS 5?	NO ■ YES □
BELL SENSOR TSS 6?	NO ■ YES □
BELL SENSOR TSS 7?	NO ■ YES □
BELL SENSOR TSS 8?	NO ■ YES □
BELL ON?	GATES LOWERING □ GATES MOVING □ ALWAYS □
GFT'S	YES ■ NO □
BATTERIES ON GFT!	1 ■ 2 □
NOTE 4 - GATE TIP SENSORS?	YES □ NO ■
RTU	NO ■ YES □
NOTE 5 - VHF VOICE CHANNEL	1 □ 2 □ 3 □ 4 □ 5 □ 6 □ 7 □ 8 □
VHF DATA CHANNEL	1 □ 2 □ 3 □ 4 □ 5 □ 6 □ 7 □ 8 □
USE NON-CRITICAL FEATURE?	NO ■ YES □
FULL APPROACH MOVE ALARMS?	ACTIVATE ■ DO NOT ACTIVATE □

VHF RADIO CHANNELS			
1	161.130	5	161.550
2	160.710	6	160.785
3	160.560	7	160.785
4	160.860	8	160.785

MEASURE BATTERY VOLTAGE AT INPUT	
BATTERY VOLTAGE OB	_____ VOLTS

NOTE 6 -		
EDIT DIGITAL INPUTS	■ NO	□ YES
EDIT BATTERIES	■ NO	□ YES
EDIT RELAYS	■ NO	□ YES
EDIT INDICATOR LEDS	■ NO	□ YES
EDIT TEST LED'S	■ NO	□ YES
EDIT ILOD SENSOR	■ NO	□ YES
EDIT VHF SETTINGS	■ NO	□ YES

NOTES:

1. OPTION AVAILABLE IF VHF COMMUNICATOR = YES LAST 3 DIGITS OF DOT NUMBER.
2. OPTION AVAILABLE IF iLODS.
3. OPTION AVAILABLE IF BELL SENSORS.
4. OPTION AVAILABLE IF GATES.
5. OPTION AVAILABLE IF VHF RADIO.
6. ONLY YES IN SPECIAL CIRCUMSTANCES.
7. SELECT "MENU" THEN "CONFIGURATION" FROM SEAR II INTERFACE KEYPAD TO ACCESS MODULE CONFIGURATION MENU.
8. BATTERY BANKS? = NUMBER OF BANKS EXCLUDING THE BANK APPLIED TO THE BAT MON SEAR INPUT

( ) = NOTE

REVISIONS
02-10-09 SAF FL2005041

CSX TRANSPORTATION
RAIL TRANSPORT GROUP ENGINEERING
COMMUNICATIONS AND SIGNALS

ST. JOHNS TO AUBURNDALE
REMOTE HOUSE
SEAR II® CONFIGURATION & FUNCTIONS
TAFT, FL M.P. A-801.42

DESIGNED	DIGITIZED	CHECKED	DATE
SAF/AVB	SAF/AVB	SAF/SWS	04-09-07

DRAWING	SHEET NO	NEXT SH	NEXT FILE	NEXT SH	FILE	SHEET
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DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

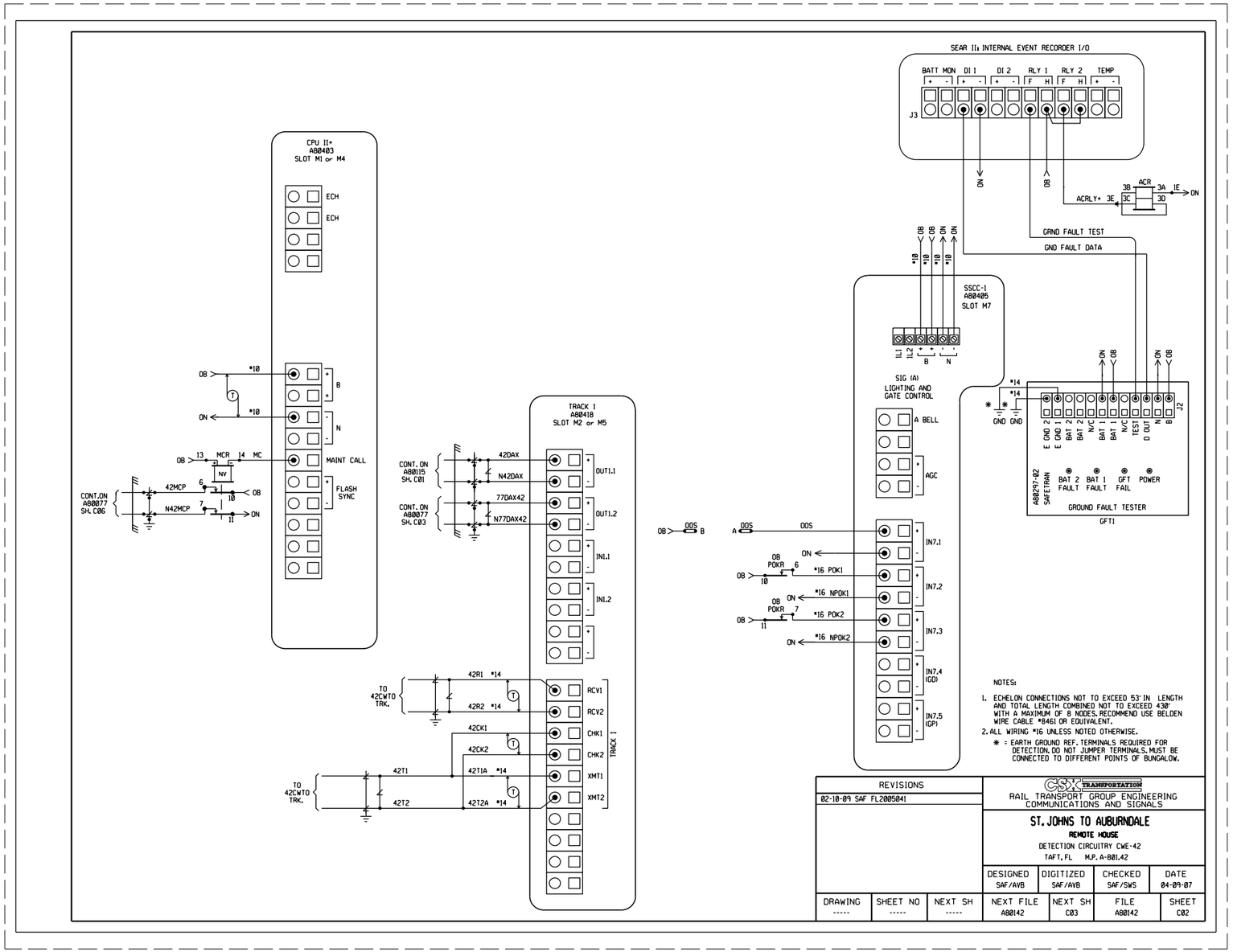
CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
SIGNALS 8014-8015
SEAR II CONFIGURATION & FUNCTIONS
M.P. A-801.42

SHEET NO.
628

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.

G80142.006V



NOTES:

1. ECHELON CONNECTIONS NOT TO EXCEED 53' IN LENGTH AND TOTAL LENGTH COMBINED NOT TO EXCEED 438' WITH A MAXIMUM OF 8 NODES. RECOMMEND USE BELDEN WIRE CABLE *8461 OR EQUIVALENT.
2. ALL WIRING *16 UNLESS NOTED OTHERWISE.

* : EARTH GROUND REF. TERMINALS REQUIRED FOR DETECTION. DO NOT JUMPER TERMINALS, MUST BE CONNECTED TO DIFFERENT POINTS OF BUNGALOW.

REVISIONS
02-10-09 SAF FL2005041

CSX TRANSPORTATION
RAIL TRANSPORT GROUP ENGINEERING
COMMUNICATIONS AND SIGNALS

ST. JOHNS TO AUBURNDALE
REMOTE HOUSE
DETECTION CIRCUITRY CWE-42
TAFT, FL M.P. A-801.42

DESIGNED	DIGITIZED	CHECKED	DATE
SAF/AVB	SAF/AVB	SAF/SWS	04-09-07

DRAWING	SHEET NO	NEXT SH	NEXT FILE	NEXT SH	FILE	SHEET
-----	-----	-----	A80142	C03	A80142	C02

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REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

XORAIL
5011 GATE PARKWAY BUILDING 100
SUITE 400 JACKSONVILLE FLORIDA 32256
(904) 443-0083 (MAIN)
(904) 443-0089 (FAX)

CERT. OF AUTHORIZATION NO. 9875

ENGINEER OF RECORD
IVORY L. WHITE, JR, P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

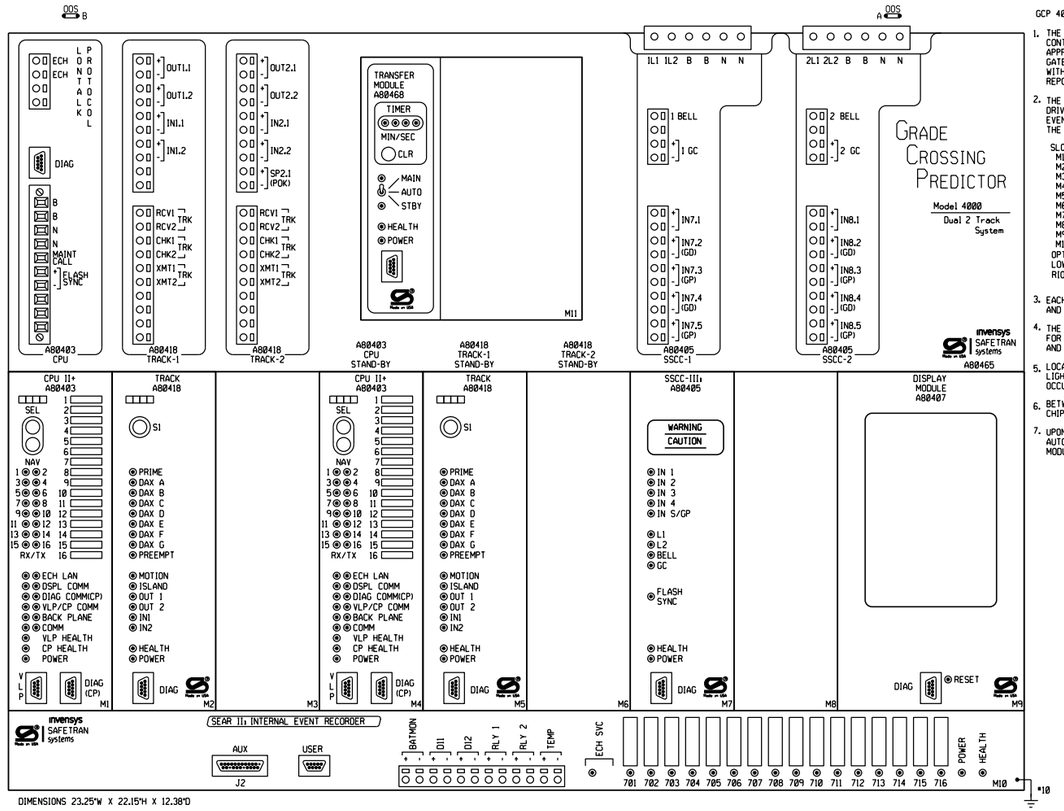
CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
SIGNALS 8014-8015
DETECTION CIRCUITRY CWE-42
M.P. A-801.42

SHEET NO.
629

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G80142.007V



GCP 4000 APPLICATION NOTES:

1. THE GRADE CROSSING PREDICTOR (GCP) IS A MODULAR MICROPROCESSOR CONTROLLED SYSTEM THAT IS DEPLOYED TO CONTINUALLY MONITOR THE APPROACHES TO RAILROAD GRADE CROSSINGS AND TO CONTROL THE LAMPS, GATES AND BELLS ASSOCIATED WITH THOSE CROSSINGS. WHEN EQUIPPED WITH THE SEAR II+ MODULE THE GCP 4000 WILL RECORD EVENTS AND REPORT ALARMS WHEN CONNECTED TO AN OFFICE SYSTEM.

2. THE GCP 4000 GCP (A80465) IS A TWO TRACK REDUNDANT UNIT CAPABLE OF DRIVING 4 INDEPENDENT FLASHER AND GATE SIGNALS AND RECORDING EVENTS AND REPORTING ALARMS. THE STANDARD A80465 INCLUDES THE FOLLOWING MODULES:

SLOT	MODULE	FUNCTION	PART NO.
M1	CPU-II+	MAIN	A80403
M2	TRACK-1	MAIN	A80418
M3	PANEL	NONE	D39325
M4	CPU-II+	STANDBY	A80403
M5	TRACK-1	STANDBY	A80418
M6	PANEL	NONE	D39325
M7	SSCC-III+	SIG 1-2	A80405
M8	PANEL	NONE	D39325
M9	DISPLAY MODULE		A80407
M11	TRANSFER UNIT		A80468
OPTIONAL MODULES:			A80410
LOWER BAY RIO MODULE			A80413

3. EACH TRACK MODULE HAS TWO PROGRAMMABLE INPUTS AND TWO PROGRAMABLE OUTPUTS.

4. THE SEAR II+ INTERNAL EVENT RECORDER HAS INPUTS FOR ONE BATTERY MONITOR, TWO NON-VITAL INPUTS AND TWO PROGRAMMABLE RELAY DRIVES (HEEL/FRONT).

5. LOCATED ON THE FRONT OF EACH MODULE THERE ARE LED LIGHTS TO INDICATE THE ACTIVITY OF CERTAIN FUNCTIONS OCCURRING INSIDE THE GCP.

6. BETWEEN SLOT 1 & 2 THERE IS A CHASIS INDENTIFICATION CHIP (CIC) SOCKET AND A ECD CONNECTOR (DB-25 FEMALE).

7. UPON THE FAILURE OF A MODULE IN SLOTS M1-M3 THE AUTOMATIC TRANSFER UNIT SWITCHES TO THE STANDBY MODULES IN SLOTS M4-M6.

REVISIONS
02-10-09 SAF FL2005041

CSX TRANSPORTATION
RAIL TRANSPORT GROUP ENGINEERING
COMMUNICATIONS AND SIGNALS

ST. JOHNS TO AUBURNDALE
REMOTE HOUSE
DETECTION DEVICE CONSIST CWE-42
TAFT, FL M.P. A-801.42

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P.E. LICENSE NO. 58808

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CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
SIGNALS 8014-8015
DETECTION DEVICE CONSIST CWE-42
M.P. A-801.42

SHEET NO.
630

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80198.001

INDEX

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2	TRACK & SIGNAL PLAN	⊘								
3	ELECTROLOGIXS PROGRAM	⊘								
4	POWER DISTRIBUTION	⊘								
5	ELECTROLOGIXS MODULE CONFIGURATION	⊘								
6	ELECTROLOGIXS CIRCUITS	⊘								
7	ELECTROLOGIXS TRACK CIRCUITS (TRACK 1)	⊘								
8	SIGNAL LIGHTING CIRCUITS (TRACK 1)	⊘								
9	ELECTROLOGIXS TRACK CIRCUITS (TRACK 2)	⊘								
10	SIGNAL LIGHTING CIRCUITS (TRACK 2)	⊘								
11	ELECTROLOGIXS I/O CIRCUITS (TRACK 1)	⊘								
12	ELECTRIC LOCK CIRCUITS (40" CASE)	⊘								

⊘ = DESIGN COMPLETED

⊗ = REVISION COMPLETED

NEW SHEET

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CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

SIGNALS 8020/8019
TITLE, NOTES, INDEX & REVISIONS

M.P. A-801.98

SHEET NO.
631

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DRAWING NO.
G80198.002

MEADOW WOODS RD.
42331+20

SIGS 42331+72

FAIRWAY WOODS RD.
42335+14

PS 42336+44
#10 T.O.

NORTH TO JACKSONVILLE

100' MINIMUM UNLOCK CIRCUIT

HAR MOD
NBS-2
156 HZ

25CWTO-2
156 HZ
15CWTO-2
114 HZ

8020-2 [N2]

114 HZ
(2EA) HAR.
TJC-1

8019-2 [S2]

HAR MOD
NBS-2
114 HZ

8020-2ZT [N2ZT]

8034-2ZT [S2ZT]

Ø5WLTO
20.0KHZ

SW.802.05

8020-1ZT [N1ZT]

8034-1ZT [S1ZT]

114 HZ
15CWTO-1
156 HZ
25CWTO-1

JOINS
G80125.002

(TJC)
(2EA) HAR.
TJC-1
114 HZ

8020-1 [N1]

8019-1 [S1]

(✕)

(✕✕)

SL-25
T-21

5 COND #14 U.G.

JOINS
G80349.002

HAR MOD
NBS-2
156 HZ

N2ZT
NN2ZT
TO
2
TIP-2

N1ZT
NN1ZT
TO
1
TIP-2

S1ZT
NS1ZT
TO
1
TIP-2

S2ZT
NS2ZT
TO
2
TIP-2

Ø5WLTO
N05WLTO
TO
Ø5
TRCU

HAR MOD
NBS-2
114 HZ

SP.
N1AGE
N1AYE
N1ARE
N1AREN
N1AEN
N1BGE
N1BYE
N1BRE
N1BEN

SP.
N2AGE
N2AYE
N2ARE
N2AREN
N2AEN
N2BGE
N2BYE
N2BRE
N2BEN

SP.
B-1
N-1
Ø5NWP2
N05NWP2

5 SP.
B-1
N-1
Ø5WL
N05WL
Ø5NWP
N05NWP
Ø5D

SP.
S1AGE
S1AYE
S1ARE
S1AREN
S1AEN
S1BGE
S1BYE
S1BRE
S1BEN

SP.
S2AGE
S2AYE
S2ARE
S2AREN
S2AEN
S2BGE
S2BYE
S2BRE
S2BEN

6' X 6'

40"
CASE

8 #6 U.G. TRK.
2-10 COND. #9 U.G.

TO
96 FIBER
PULL BOX
24F SM FIBER
2-10 COND. #9 U.G.
24F SM FIBER
12 COND. #14 U.G.

2 #6 U.G. TRK.
12 COND #14 U.G.

3 COND. #6 W/GND.

(XXX')

BX120-1
BX120-2
NX120
GND.

3 SP.
B-1
N-1
Ø5WL
N05WL
Ø5NWP
N05NWP
Ø5D
Ø5WLTOR
N05WLTOR

NEW SHEET

NOTE:
(✕) = LOCATION OF HOUSE.
(✕✕) = LOCATION OF CASE.

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ENGINEER OF RECORD
IVORY L. WHITE, JR, P.E.
P.E. LICENSE NO. 58808

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CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

SIGNALS 8020/8019
TRACK & SIGNAL PLAN
M.P. A-801.98

SHEET NO.
632

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80198.003

OFFICE SETTINGS

ITEM	SETTING
SITE ID	SIGS 8020/8019
CHASSIS ID	98

VITAL APPLICATION INFORMATION

ITEM	SETTING
NAME	XXXX
INDEX	001
EPT CRC	XXXX
EPT CHECKSUM	XXXX

FIELD TO PROVIDE ON A.I.S.

TRACK 1 VITAL SELECTION SETTINGS

SETT.	BIT NAME	TRUE	FALSE	BIT MEANING	
1	N_W1MCODE		X	TRUE IF MAINTENANCE CODE WILL BE RECEIVED FROM THE NORTH/WEST AND WILL BE PASSED SOUTH/EAST. FALSE IF NO MAINTENANCE CODE IS RECEIVED FROM THE NORTH/WEST AND IT IS TO BE INITIATED TO THE SOUTH/EAST.	X
2	S_E1MCODE		X	TRUE IF MAINTENANCE CODE WILL BE RECEIVED FROM THE SOUTH/EAST AND WILL BE PASSED NORTH/WEST. FALSE IF NO MAINTENANCE CODE IS RECEIVED FROM THE SOUTH/EAST AND IT IS TO BE INITIATED TO THE NORTH/WEST.	X
3	N_W1C1SW	X		(FOR SETTING, SEE CHART BELOW)	X
4	N_W1C5SW		X	(FOR SETTING, SEE CHART BELOW)	X
5	S_E1C1SW	X		(FOR SETTING, SEE CHART BELOW)	X
6	S_E1C5SW		X	(FOR SETTING, SEE CHART BELOW)	X
7	STEADY LIGHT		X	TRUE FOR STEADY LIGHTING WITH P.O. INPUT HIGH. FALSE FOR APPROACH LIGHTING.	X
8	N_WLOK_POK	X		SETTING 8 TRUE AND SETTING 9 FALSE MAINTENANCE CODE FOR BLOCK LAMP-OUT INDICATION WILL BE TRANSMITTED INTO THE NORTH/WEST TRACK AND BLOCK POWER-OFF INDICATION WILL BE TRANSMITTED INTO THE SOUTH/EAST TRACK. IF BOTH SETTING ARE TRUE OR BOTH FALSE NO MAINTENANCE CODE WILL BE TRANSMITTED IN EITHER DIRECTION.	X
9	S_ELOK_POK		X	SETTING 8 FALSE AND SETTING 9 TRUE MAINTENANCE CODE FOR BLOCK LAMP-OUT INDICATION WILL BE TRANSMITTED INTO THE SOUTH/EAST TRACK AND BLOCK POWER-OFF INDICATION WILL BE TRANSMITTED INTO THE NORTH/WEST TRACK. IF BOTH SETTING ARE TRUE OR BOTH FALSE NO MAINTENANCE CODE WILL BE TRANSMITTED IN EITHER DIRECTION.	X

GFD-1 SETTINGS

ITEM	SETTING	
BATTERY 1 NAME	B-1	X
BATTERY 1 FAULT STATUS	NO FAULT	X
BATTERY 1 CALIBRATED VOLTAGE	13.5	X
BATTERY 1 GROUND FAULT THRESHOLD	8	X
BATTERY 1 GROUND FAULT TIME	30	X
BATTERY 1 LOW BATTERY ALARM VOLTAGE	8.0	X
BATTERY 1 HIGH BATTERY ALARM VOLTAGE	16.5	X
BATTERY 2 NAME	NONE	X
BATTERY 2 FAULT STATUS	NO FAULT	X
BATTERY 2 CALIBRATED VOLTAGE	13.5	X
BATTERY 2 GROUND FAULT THRESHOLD	8	X
BATTERY 2 GROUND FAULT TIME	30	X
BATTERY 2 LOW BATTERY ALARM VOLTAGE	8.0	X
BATTERY 2 HIGH BATTERY ALARM VOLTAGE	16.5	X
BATTERY 3 NAME	NONE	X
BATTERY 3 FAULT STATUS	NO FAULT	X
BATTERY 3 CALIBRATED VOLTAGE	13.5	X
BATTERY 3 GROUND FAULT THRESHOLD	8	X
BATTERY 3 GROUND FAULT TIME	30	X
BATTERY 3 LOW BATTERY ALARM VOLTAGE	8.0	X
BATTERY 3 HIGH BATTERY ALARM VOLTAGE	16.5	X

TRACK 2 VITAL SELECTION SETTINGS

SETT.	BIT NAME	TRUE	FALSE	BIT MEANING	
10	N_W2MCODE		X	TRUE IF MAINTENANCE CODE WILL BE RECEIVED FROM THE NORTH/WEST AND WILL BE PASSED SOUTH/EAST. FALSE IF NO MAINTENANCE CODE IS RECEIVED FROM THE NORTH/WEST AND IT IS TO BE INITIATED TO THE SOUTH/EAST.	X
11	S_E2MCODE		X	TRUE IF MAINTENANCE CODE WILL BE RECEIVED FROM THE SOUTH/EAST AND WILL BE PASSED NORTH/WEST. FALSE IF NO MAINTENANCE CODE IS RECEIVED FROM THE SOUTH/EAST AND IT IS TO BE INITIATED TO THE NORTH/WEST.	X
12	N_W2C1SW	X		(FOR SETTING, SEE CHART BELOW)	X
13	N_W2C5SW		X	(FOR SETTING, SEE CHART BELOW)	X
14	S_E2C1SW	X		(FOR SETTING, SEE CHART BELOW)	X
15	S_E2C5SW		X	(FOR SETTING, SEE CHART BELOW)	X

CHART FOR SETTING CODE 5	
SETTING COMBINATION	RESULTANT
N_WC1SW - TRUE AND N WC5SW - FALSE	CODE 1 IN SOUTH/EAST, CODE 5 OUT NORTH/WEST
N_WC1SW - FALSE AND N WC5SW - TRUE	CODE 5 IN SOUTH/EAST, CODE 5 OUT NORTH/WEST
N_WC1SW - FALSE AND N WC5SW - FALSE	CODE 5 NOT TRANSMITTED NORTH/WEST
N_WC1SW - TRUE AND N WC5SW - TRUE	CODE 5 TRANSMITTED NORTH/WEST CONTINUOUSLY
S_EC1SW - TRUE AND S EC5SW - FALSE	CODE 1 IN NORTH/WEST, CODE 5 OUT SOUTH/EAST
S_EC1SW - FALSE AND S EC5SW - TRUE	CODE 5 IN NORTH/WEST, CODE 5 OUT SOUTH/EAST
S_EC1SW - FALSE AND S EC5SW - FALSE	CODE 5 NOT TRANSMITTED SOUTH/EAST
S_EC1SW - TRUE AND S EC5SW - TRUE	CODE 5 TRANSMITTED SOUTH/EAST CONTINUOUSLY

NOTES:

1. X = STATUS SET/CHANGED USING THE CDU-1, ALL OTHERS SET IN THE ACE PROGRAM.
2. VPM-3 ETHERNET PORT ENET1 IP ADDRESS IS 192.168.0.11
3. LOK-POK SETTINGS ARE FOR BOTH TRACKS.
4. X = TO BE FILLED OUT DURING FIELD/FACTORY TESTING.

( ) = NOTE

NEW SHEET

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CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

SIGNALS 8020/8019
ELECTROLOGIXS PROGRAM
M.P. A-801.98

SHEET NO.
633

$USER$ $DATE$ $TIME$ $FILE$

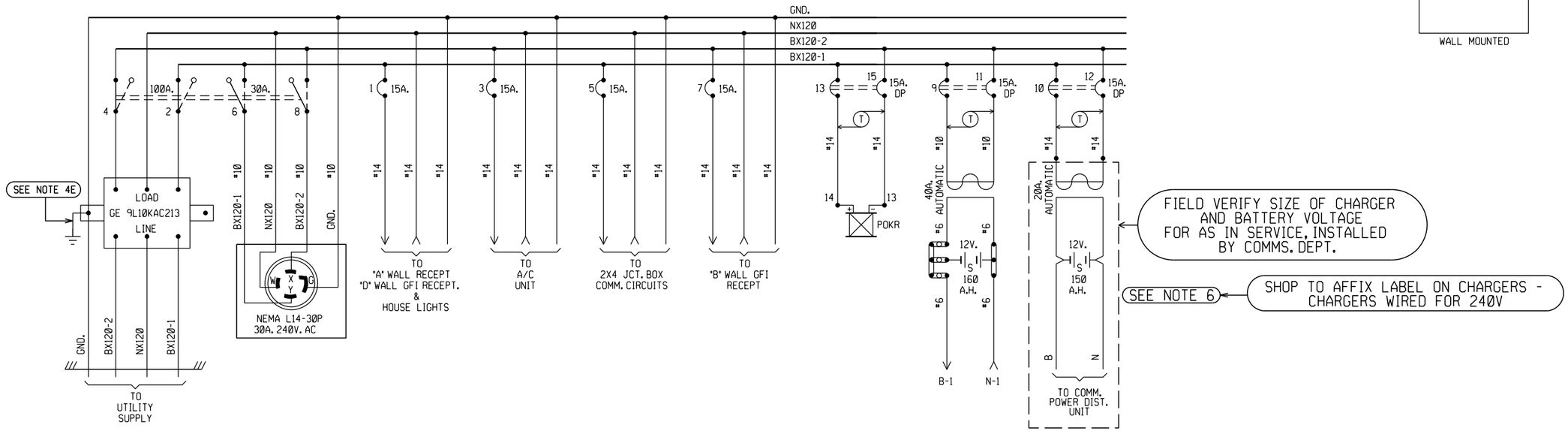
DRAWING NO.
G80198.004

(TOP ROW)

N1VSTOP			S1VSTOP			N2VSTOP			S2VSTOP		
12	FB	B77	12	FB	B77	12	FB	B77	12	FB	B77
15	F	C30	15	F	C30	15	F	C30	15	F	C30
22	F		22	F		22	F		22	F	
25			25			25			25		
32	F		32	F		32	F		32	F	
35	F		35	F		35	F		35	F	

POKR				
9	F	11		N68
10	F	12		C48

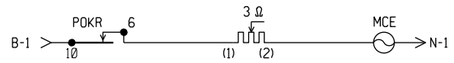
WALL MOUNTED



BX120-1	BX120-2
14.0 AMPS	17.5 AMPS

MAXIMUM LOAD

INCLUDES WORST CASE COMMS SOLUTION OF 14 AMPS



NOTES:

1 - SHELF RELAY PLACEMENT ON CONSIST CHART HAS NO SIGNIFICANCE.
2 - PLUG-IN RELAYS ARE VIEWED FROM THE FRONT OF RACK.
3 - BATTERY A.H. CAPACITY SHOWN IS THE MINIMUM REQUIREMENT.
4 - WIRING
  A - FEED TO ALL BUSSES, LIGHT CIRCUITS, MOTOR CIRCUITS TO BE #10 FLEX.
  B - 120-VOLT FEED FROM ENTRANCE TO POWER BUSS TO BE #10 FLEX.
  C - ALL TRACK WIRES TO BE #10 FLEX.
  D - ALL OTHERS TO BE #16 FLEX UNLESS NOTED.
  E - GROUND WIRE NOT NECESSARY WHEN GE ARRESTER IS MOUNTED ON GROUND PLANE OR METAL ENCLOSURE AFFIXED DIRECTLY TO BUNGALOW METALLIC STRUCTURAL MEMBER.
5 - CIRCUIT INTERRUPTERS 2 & 4 ARE MECHANICALLY INTERLOCKED WITH
6 - CIRCUIT INTERRUPTERS 6 & 8.
7 - CHARGERS TO BE WIRED FOR 240VAC
  CIRCUIT BREAKER PANEL - QO116L125G (16 SPACES)

( ) = NOTE

NEW SHEET

6'X 6' RELAY HOUSE

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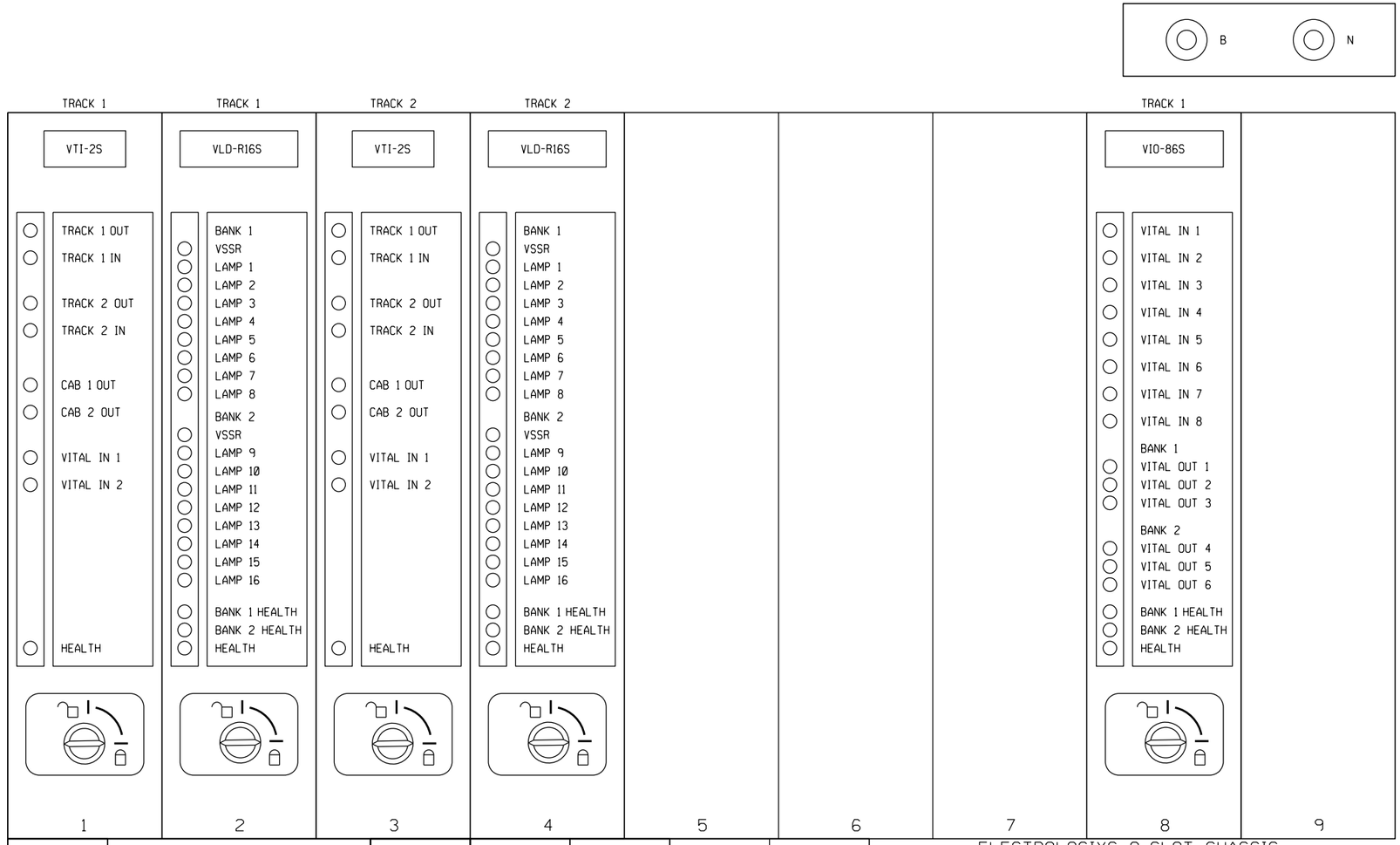
SIGNALS 8020/8019 POWER DISTRIBUTION

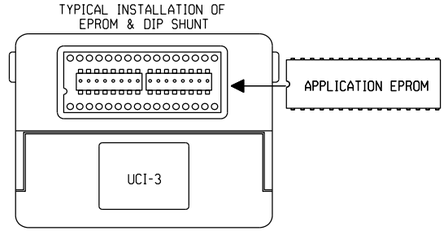
M.P. A-801.98

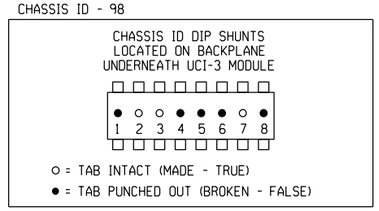
SHEET NO.
634

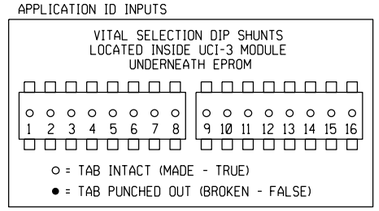
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G80198.005









MODULE LEGEND:

CDU-1 = CONTROL DISPLAY UNIT
CPS-3 = CENTRAL POWER SUPPLY
VPM-3 = VITAL PERIPHERAL MASTER
GFD-1 = GROUND FAULT DETECTOR
CIO-1A = COMMUNICATION INPUT/OUTPUT
CIO-2A = COMMUNICATION INPUT/OUTPUT
CIO-MDA = COMMUNICATION INPUT/OUTPUT
UCI-3 = CHASSIS INFORMATION
VTI-2S = VITAL TRACK INTERFACE
VLD-R16S = VITAL LAMP DRIVER
VIO-86S = VITAL INPUTS/OUTPUTS

NEW SHEET

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REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

XORAIL
5011 GATE PARKWAY BUILDING 100
SUITE 400 JACKSONVILLE FLORIDA 32256
(904) 443-0083 (MAIN)
(904) 443-0089 (FAX)
CERT. OF AUTHORIZATION NO. 9875
ENGINEER OF RECORD
IVORY L. WHITE, JR., P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

SIGNALS 8020/8019 ELECTROLOGIXS MODULE CONFIGURATION

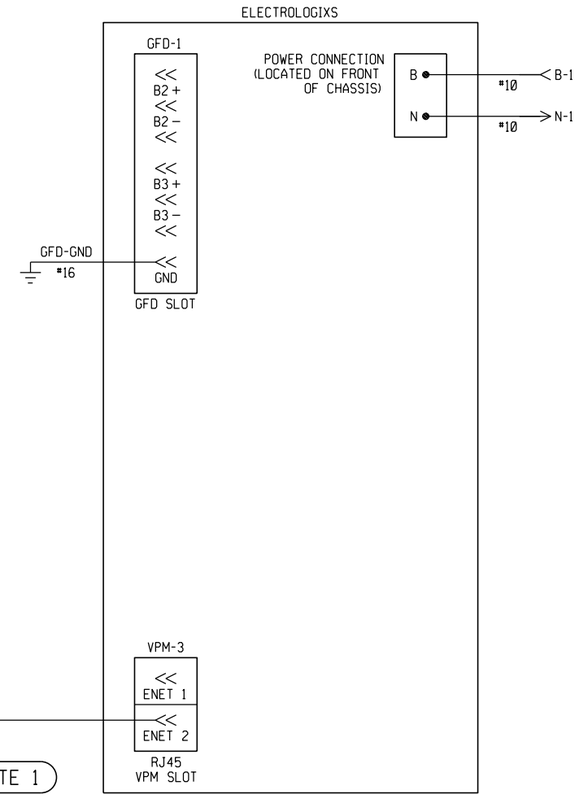
M.P. A-801.98

SHEET NO.
635

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.

G80198.006



= NOTE

NEW SHEET

NOTE:

1. TO ETHERNET SWITCH/FIBER MUX

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P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

SIGNALS 8020/8019
ELECTROLOGIXS CIRCUITS

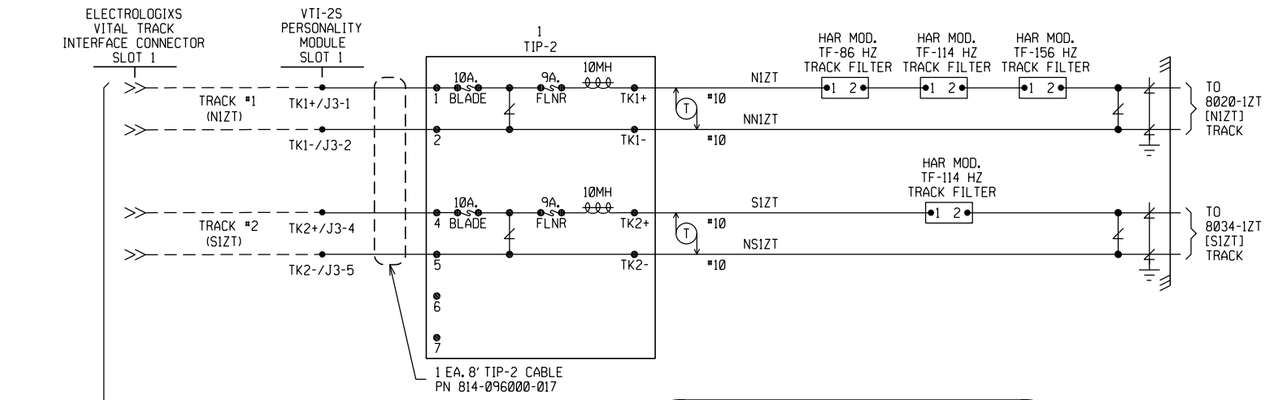
M.P. A-801.98

SHEET NO.

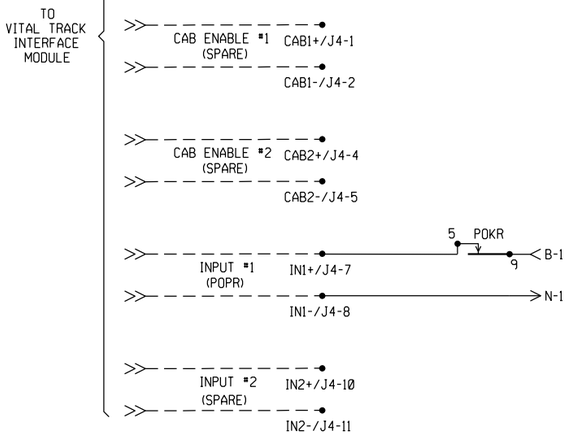
636

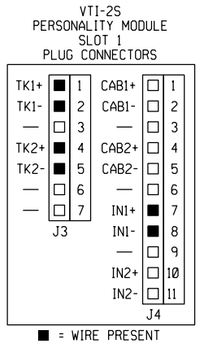
$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80198.007



THE ROUTING OF TRACK WIRES WITHIN THE BUNGALOW SHOULD BE AS SHORT AND DIRECT AS POSSIBLE, ESPECIALLY FOR THE LONGER TRACK CIRCUITS.





= NOTE

NEW SHEET

NOTES:

1. ---- = INTERNAL CONNECTION
2. [ ] = TAGGING PURPOSE ONLY
3. POK INPUT PROGRAMMED TO ACTIVATE CODE 10 ON BOTH TRACKS.

TRACK 1

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REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

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CERT. OF AUTHORIZATION NO. 9875
ENGINEER OF RECORD IVORY L. WHITE, JR., P.E. P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

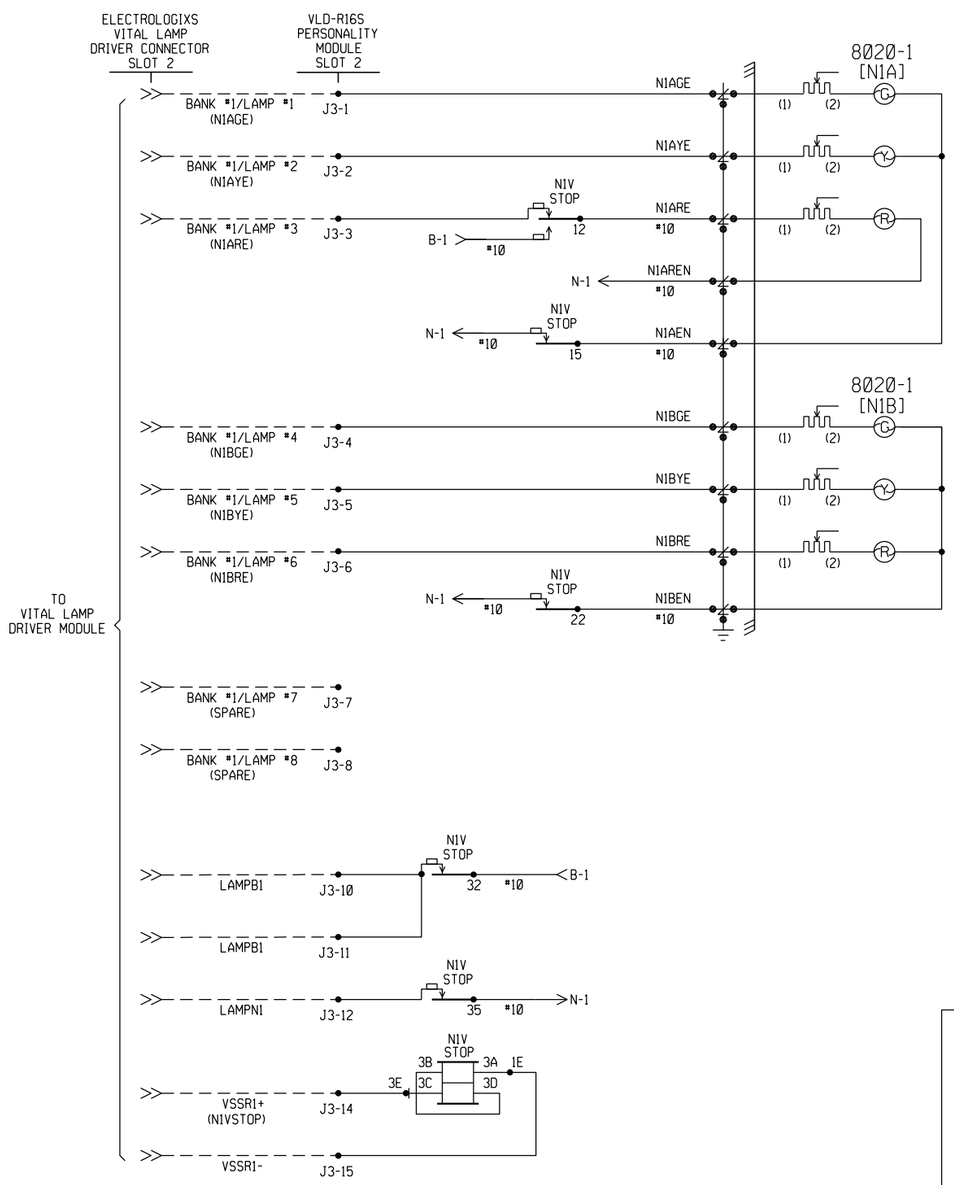
SIGNALS 8020/8019 ELECTROLOGIXS TRACK CIRCUITS

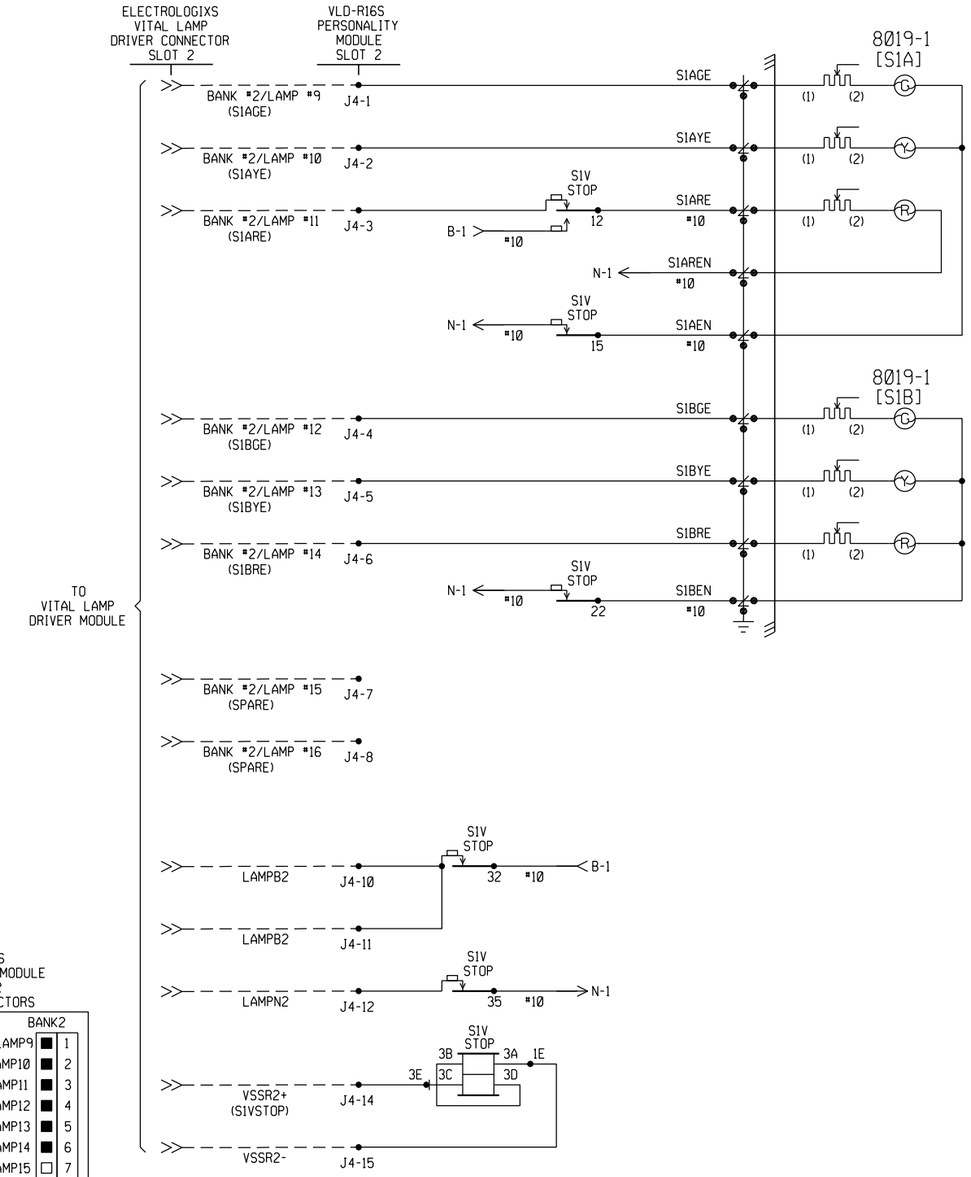
M.P. A-801.98

SHEET NO. 637

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80198.008





VLD-R16S PERSONALITY MODULE SLOT 2 PLUG CONNECTORS

BANK1			BANK2		
LAMP1	■	1	LAMP9	■	1
LAMP2	■	2	LAMP10	■	2
LAMP3	■	3	LAMP11	■	3
LAMP4	■	4	LAMP12	■	4
LAMP5	■	5	LAMP13	■	5
LAMP6	■	6	LAMP14	■	6
LAMP7	□	7	LAMP15	□	7
LAMP8	□	8	LAMP16	□	8
——	□	9	——	□	9
LAMPB1	■	10	LAMPB2	■	10
LAMPB1	■	11	LAMPB2	■	11
LAMPN1	■	12	LAMPN2	■	12
——	□	13	——	□	13
VSSR1+	■	14	VSSR2+	■	14
VSSR1-	■	15	VSSR2-	■	15
	J3			J4	

■ = WIRE PRESENT

NOTES:

1. ●⁄● = LPC-10512-1 (15A, BLUE LEAD) HYBRID LOW VOLTAGE ARRESTER, UNLESS NOTED.
2. ---- = INTERNAL CONNECTION
3. ALL HOUSE WIRING THIS SHEET #14 FLEX UNLESS NOTED.
4. ALL RESISTORS ARE 3 OHM, 15 WATTS.
5. [ ] = TAGGING PURPOSE ONLY

NEW SHEET

TRACK 1

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(904) 443-0083 (MAIN)
(904) 443-0089 (FAX)
CERT. OF AUTHORIZATION NO. 9875
ENGINEER OF RECORD
IVORY L. WHITE, JR., P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

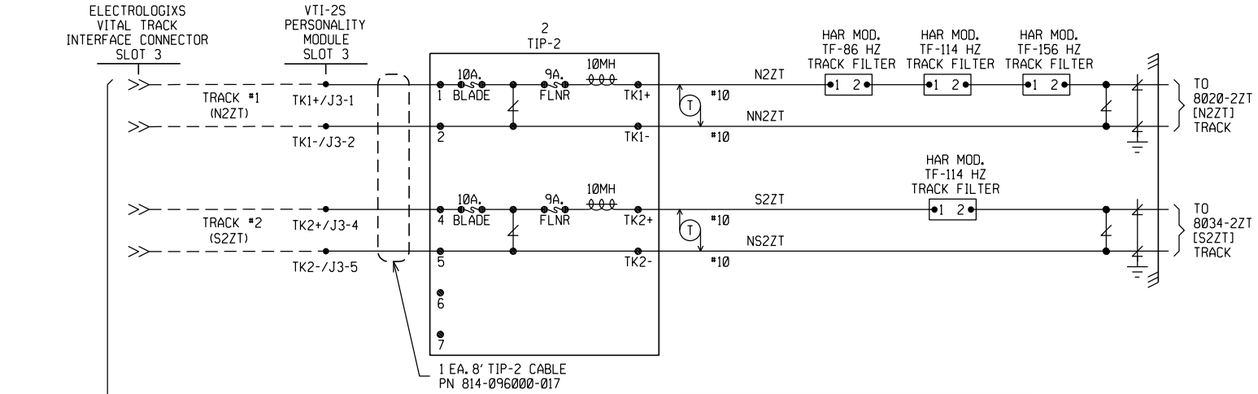
CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

SIGNALS 8020/8019
SIGNAL LIGHTING CIRCUITS
M.P. A-801.98

SHEET NO.
638

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80198.009



THE ROUTING OF TRACK WIRES WITHIN THE BUNGALOW SHOULD BE AS SHORT AND DIRECT AS POSSIBLE, ESPECIALLY FOR THE LONGER TRACK CIRCUITS.

VTI-2S PERSONALITY MODULE SLOT 3 PLUG CONNECTORS

J3			J4		
TK1+	■	1	CAB1+	□	1
TK1-	■	2	CAB1-	□	2
—	□	3	—	□	3
TK2+	■	4	CAB2+	□	4
TK2-	■	5	CAB2-	□	5
—	□	6	—	□	6
—	□	7	IN1+	■	7
			IN1-	■	8
			—	□	9
			IN2+	□	10
			IN2-	□	11

■ = WIRE PRESENT

NOTES:
1. ---- = INTERNAL CONNECTION
2. [ ] = TAGGING PURPOSE ONLY
3. CLOSE TEST NUT FOR STEADY LIGHTING WITH POWER OFF INPUT HIGH, OPEN TEST NUT FOR APPROACH LIGHTING.

( ) = NOTE

NEW SHEET

TRACK 2

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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

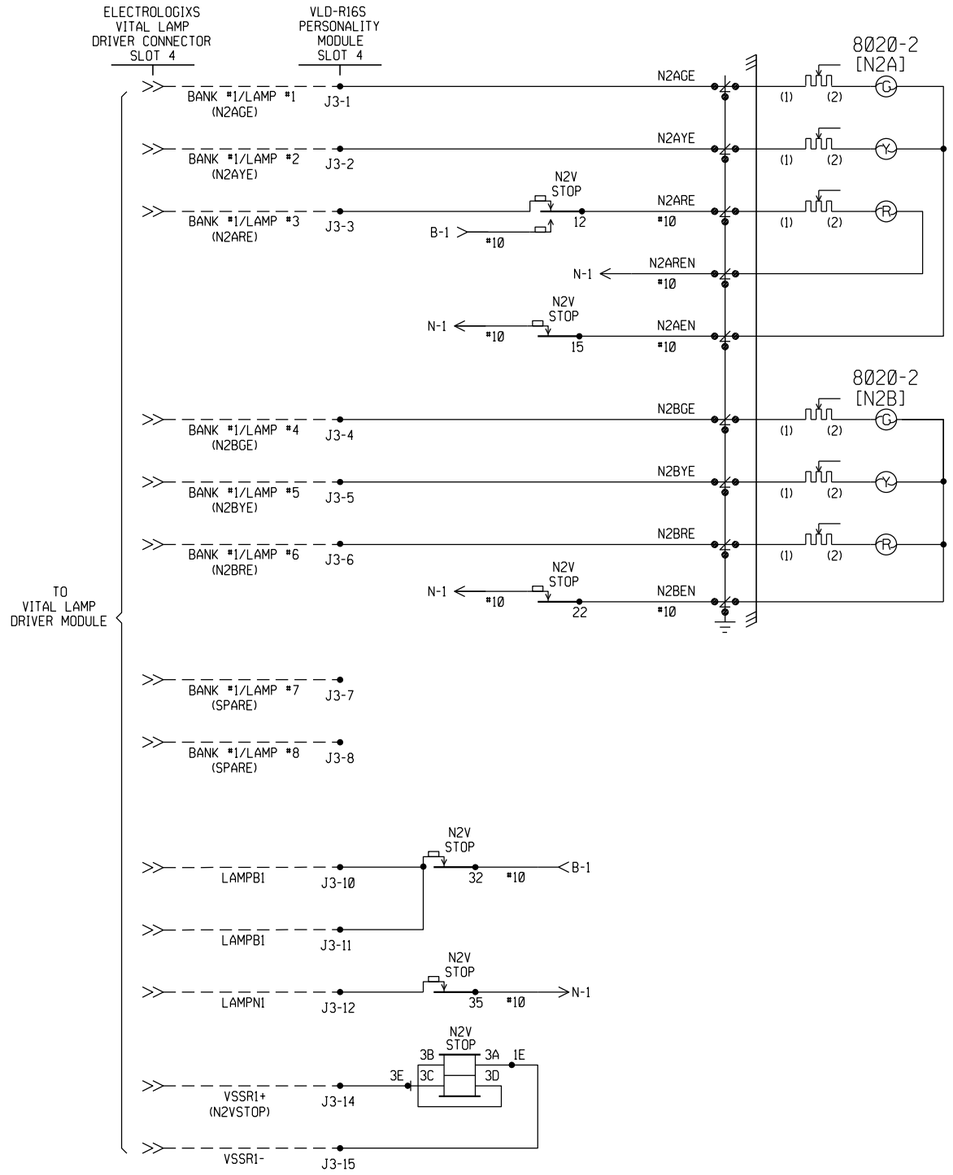
SIGNALS 8020/8019 ELECTROLOGIXS TRACK CIRCUITS

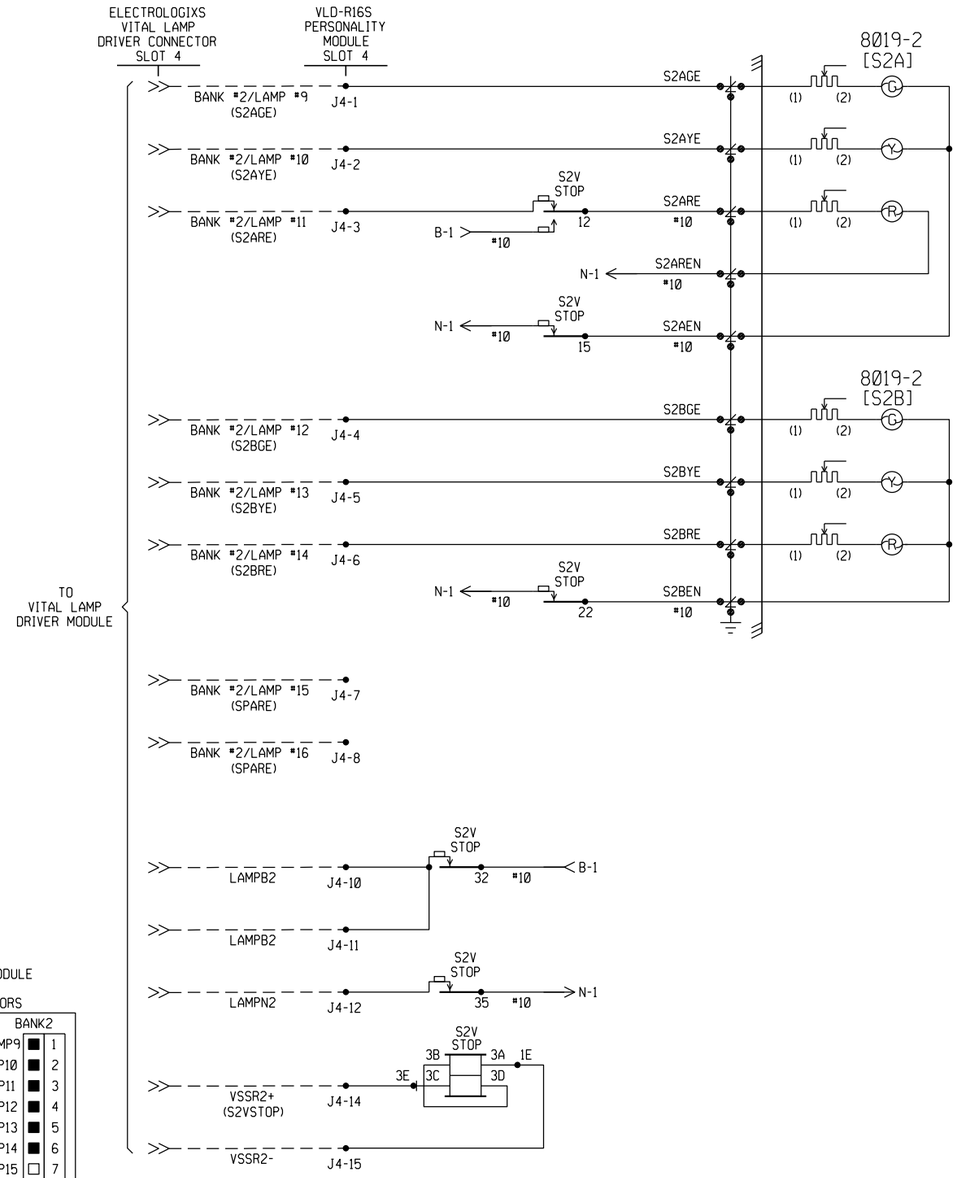
M.P. A-801.98

SHEET NO.
639

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80198.010





VLD-R16S
PERSONALITY MODULE
SLOT 4
PLUG CONNECTORS

BANK1			BANK2		
LAMP1	■	1	LAMP9	■	1
LAMP2	■	2	LAMP10	■	2
LAMP3	■	3	LAMP11	■	3
LAMP4	■	4	LAMP12	■	4
LAMP5	■	5	LAMP13	■	5
LAMP6	■	6	LAMP14	■	6
LAMP7	□	7	LAMP15	□	7
LAMP8	□	8	LAMP16	□	8
—	□	9	—	□	9
LAMPB1	■	10	LAMPB2	■	10
LAMPB1	■	11	LAMPB2	■	11
LAMPN1	■	12	LAMPN2	■	12
—	□	13	—	□	13
VSSR1+	■	14	VSSR2+	■	14
VSSR1-	■	15	VSSR2-	■	15
	J3			J4	

■ = WIRE PRESENT

NOTES:

1. ●⁄● = LPC-10512-1 (15A, BLUE LEAD) HYBRID LOW VOLTAGE ARRESTER, UNLESS NOTED.
2. ---- = INTERNAL CONNECTION
3. ALL HOUSE WIRING THIS SHEET #14 FLEX UNLESS NOTED.
4. ALL RESISTORS ARE 3 OHM, 15 WATTS.
5. [ ] = TAGGING PURPOSE ONLY

( ) = NOTE

NEW SHEET

TRACK 2

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REVISIONS					
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XORAIL
5011 GATE PARKWAY BUILDING 100
SUITE 400 JACKSONVILLE FLORIDA 32256
(904) 443-0083 (MAIN)
(904) 443-0089 (FAX)
CERT. OF AUTHORIZATION NO. 9875
ENGINEER OF RECORD
IVORY L. WHITE, JR, P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

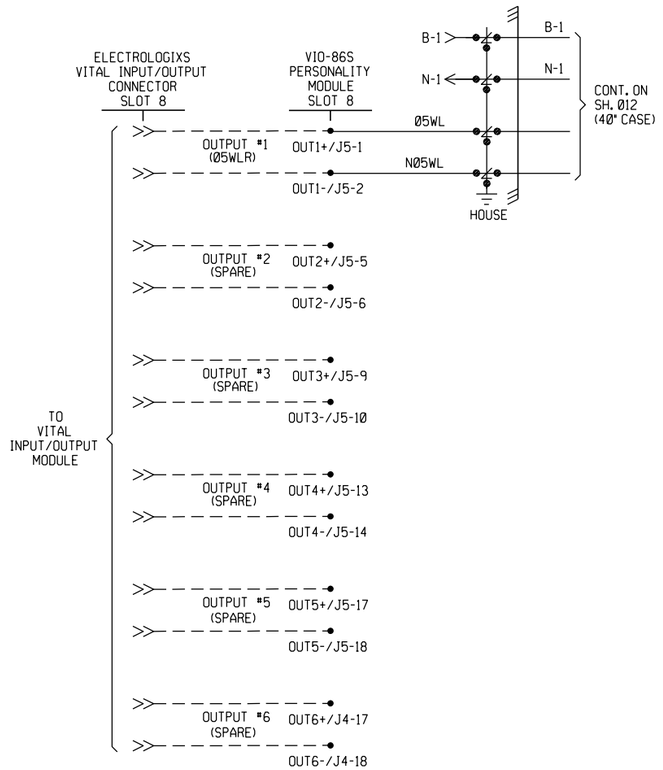
CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

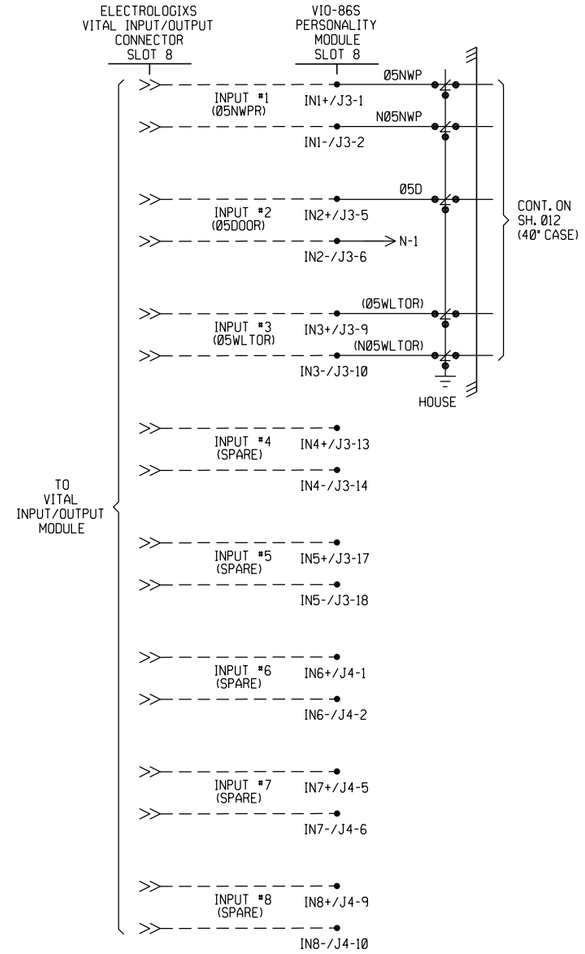
SIGNALS 8020/8019
SIGNAL LIGHTING CIRCUITS

M.P. A-801.98

SHEET NO. 640

$USER$ $DATE$ $TIME$ $FILE$





VIO-86S
PERSONALITY MODULE
SLOT 8
PLUG CONNECTORS

J3			J4			J5		
IN1+	■	1	IN6+	□	1	OUT1+	■	1
IN1-	■	2	IN6-	□	2	OUT1-	■	2
—	□	3	—	□	3	—	□	3
—	□	4	—	□	4	—	□	4
IN2+	■	5	IN7+	□	5	OUT2+	□	5
IN2-	■	6	IN7-	□	6	OUT2-	□	6
—	□	7	—	□	7	—	□	7
—	□	8	—	□	8	—	□	8
IN3+	■	9	IN8+	□	9	OUT3+	□	9
IN3-	■	10	IN8-	□	10	OUT3-	□	10
—	□	11	—	□	11	—	□	11
—	□	12	—	□	12	—	□	12
IN4+	□	13	—	□	13	OUT4+	□	13
IN4-	□	14	—	□	14	OUT4-	□	14
—	□	15	—	□	15	—	□	15
—	□	16	—	□	16	—	□	16
IN5+	□	17	OUT6+	□	17	OUT5+	□	17
IN5-	□	18	OUT6-	□	18	OUT5-	□	18

■ = WIRE PRESENT

NOTE:
---- = INTERNAL CONNECTION

NEW SHEET

TRACK 1

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IVORY L. WHITE, JR., P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

SIGNALS 8020/8019
ELECTROLOGIXS I/O CIRCUITS

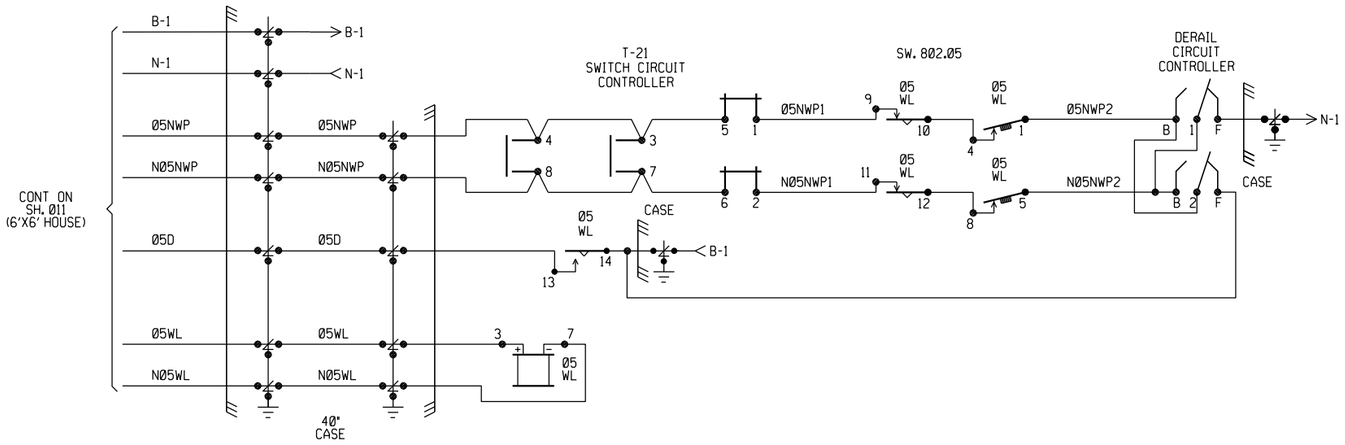
M.P. A-801.98

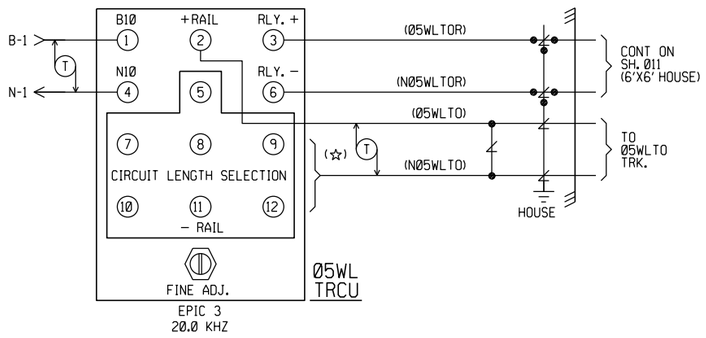
SHEET NO.
641

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.

G80198.012





(☆) = (- RAIL) FIELD SELECT PER ADJUSTMENT PROCEDURE TO SET SHUNT ZONE OF 100'

NEW SHEET

40" CASE

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CERT. OF AUTHORIZATION NO. 9875

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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

SIGNALS 8020/8019
ELECTRIC LOCK CIRCUITS

M.P. A-801.98

SHEET NO. 642

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80200.001V

INDEX

SHEET NUMBER	CONTENTS	REVISION NO. 1	2	3	4	5	6	7	8	9
T-60131	TITLE, NOTES, INDEX, AND REVISIONS	⊠								
T-60132	TRACK AND SIGNAL PLAN	⊠								
T-60133	POWER DISTRIBUTION	⊠								
T-60134	PROGRAM CONFIGURATION	⊠								
T-60135	MICROLOK II LAYOUT	⊠								
T-60136	MICROLOK II I/O CIRCUITS	⊠								

⊠ = DESIGN COMPLETED

⊠ = REVISION COMPLETED

THIS SHEET VOID

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REVISIONS					
REV.	DATE	DESCRIPTION	REV.	DATE	DESCRIPTION
1	12/10/13	IN-SERVICE PER SUNRAIL, FDOT.			

XORAIL
5011 GATE PARKWAY BUILDING 100
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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

ELECTRIC LOCK MP 802.00
TITLE, NOTES, INDEX & REVISIONS

SHEET NO.
643

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80200.002V

FAIRWAY WOODS RD.
42074+08
START

WETHERBEE RD.
42054+94
START
4322'

NORTH TO JACKSONVILLE

IJ 42075+40

PS 42075+70
#10 T.O.

802

42076+67

DR 42078+47

SAF MOD.
62775
86 HZ
NBS

SAF MOD.
62775
211 HZ
NBS

100' MINIMUM UNLOCK CIRCUIT

WLTO
15.0 KHZ

A8032ZT

JOINS
MP 801.15
SH. T-60110

86 HZ
77CWTO
211 HZ
15CWTO

N1ZT
NN1ZT
S1ZT
NS1ZT

TO
1
TIP

[SW.802.00]

T-21
SL-25

8032ZT

JOINS
MP 803.30
SH. T-60142

NWL
WL
NWP1
NNWP1
B-1
N-1
PDL

NWP
NNWP
NWP1
NNWP1
SP.

4' X 4'

4 #6 U.G. TRK.
3 COND. #6 W/GND.

7 COND. #14 U.G.
5 COND. #14 U.G.

BX120-1
BX120-2
NX120
GND.

THIS SHEET
VOID

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REVISIONS

REV.	DATE	DESCRIPTION	REV.	DATE	DESCRIPTION
1	12/10/13	IN-SERVICE PER SUNRAIL, FDOT.			

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ENGINEER OF RECORD
IVORY L. WHITE, JR, P.E.
P.E. LICENSE NO. 58608

CERT. OF AUTHORIZATION NO. 9875

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

ELECTRIC LOCK MP 802.00
TRACK AND SIGNAL PLAN

SHEET NO.
644

$USER$ $DATE$ $TIME$ $FILE$

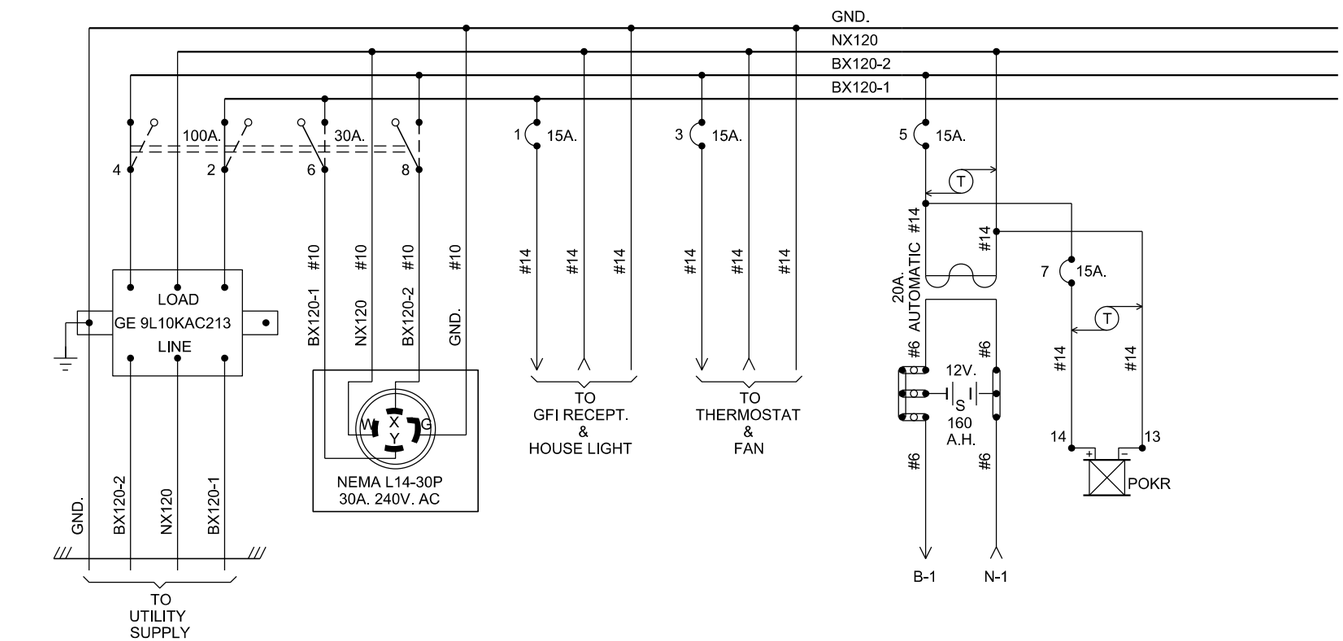
(TOP ROW)

						NWPR 12 ____ B77 15 ____ C30 22 ____ 25 ____ 32 ____ 35 ____ 23 F ____

POKR

9	F	11		N66
10		12		C48

WALL MOUNTED



BX120-1	BX120-2
2.1 AMPS	8.1 AMPS

NOTES:

1 - SHELF RELAY PLACEMENT ON CONSIST CHART HAS NO SIGNIFICANCE.
2 - PLUG-IN RELAYS ARE VIEWED FROM THE FRONT OF RACK.
3 - BATTERY A.H. CAPACITY SHOWN IS THE MINIMUM REQUIREMENT.
4 - WIRING
  A - FEED TO ALL BUSSES, LIGHT CIRCUITS,MOTOR CIRCUITS TO BE #10 FLEX.
  B - 120-VOLT FEED FROM ENTRANCE TO POWER BUSS TO BE #10 FLEX.
  C - ALL TRACK WIRES TO BE #10 FLEX.
  D - ALL OTHERS TO BE #16 FLEX UNLESS NOTED.
  E - GROUND WIRE NOT NECESSARY WHEN GE ARRESTER IS MOUNTED ON GROUND PLANE OR METAL ENCLOSURE AFFIXED DIRECTLY TO BUNGALOW METALLIC STRUCTURAL MEMBER.
5 - CIRCUIT INTERRUPTERS 2 & 4 ARE MECHANICALLY INTERLOCKED WITH CIRCUIT INTERRUPTERS 6 & 8.

THIS SHEET VOID

4'X 4' RELAY HOUSE

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REVISIONS

REV.	DATE	DESCRIPTION	REV.	DATE	DESCRIPTION
1	12/10/13	IN-SERVICE PER SUNRAIL, FDOT.			

XORAIL
5011 GATE PARKWAY BUILDING 100
SUITE 400 JACKSONVILLE FLORIDA 32256
(904) 443-0083 (MAIN)
(904) 443-0089 (FAX)
CERT. OF AUTHORIZATION NO. 9875
ENGINEER OF RECORD
IVORY L. WHITE, JR, P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

ELECTRIC LOCK MP 802.00
POWER DISTRIBUTION

SHEET NO.
645

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80200.004V

END POINT CONFIGURATION SHEET

LOCATION: ELECTRIC LOCK

MILE POST: 802.00

USER-DEFINED VARIABLES			
		USED	BIT
ID			
SET FOR DESIRED OPERATION AND TO MATCH WITH SW1			ID1
SET FOR DESIRED OPERATION AND TO MATCH WITH SW2			ID2
SET FOR DESIRED OPERATION AND TO MATCH WITH SW3			ID3
SET FOR DESIRED OPERATION AND TO MATCH WITH SW4			ID4
SET FOR DESIRED OPERATION AND TO MATCH WITH SW5			ID5
SET FOR DESIRED OPERATION AND TO MATCH WITH SW6			ID6
BLOCK DEFECT ENHANCED OPERATION	?		ID7
ENABLE CAB 75	?		ID8
SWITCHES			
SET FOR DESIRED OPERATION AND TO MATCH WITH SW1			SW1
SET FOR DESIRED OPERATION AND TO MATCH WITH SW2			SW2
SET FOR DESIRED OPERATION AND TO MATCH WITH SW3			SW3
SET FOR DESIRED OPERATION AND TO MATCH WITH SW4			SW4
SET FOR DESIRED OPERATION AND TO MATCH WITH SW5			SW5
SET FOR DESIRED OPERATION AND TO MATCH WITH SW6			SW6
BLOCK DEFECT ENHANCED OPERATION	?		SW7
ENABLE CAB 75	?		SW8
OPTIONS			
LAMP OUT LEFT	?	YES	LOL_POR
POWER OFF LEFT	?		POL_LOR
LEFT UPPER GREEN PRESENT	?		LUGE_ON
LEFT LOWER GREEN PRESENT	?		LLGE_OFF
LEFT LOWER RED PRESENT	?		LLRE_ON
RIGHT UPPER GREEN PRESENT	?		RUGE_ON
RIGHT LOWER GREEN PRESENT	?		RLGE_OFF
RIGHT LOWER RED PRESENT	?		RLRE_OFF
IS THE NEXT LOCATION TO THE LEFT SENDING CODE M	?	CLEAR	MCODE_LEFT
IS THE NEXT LOCATION TO THE RIGHT SENDING CODE M	?	CLEAR	MCODE_RIGHT
ELECTRIC LOCK ON THE LEFT	?	NO	LWL_OFF
ELECTRIC LOCK ON THE RIGHT	?	YES	RWL_ON
DISABLE APPROACH LIGHTING	?		STEADY_LIGHT
LIGHT SIGNALS WHEN SENDING PTC BEACON	?		PTC_LIGHT
CODE 5			
HANDTHROW SWITCHES CAN PREVENT SEND OF CODE 5	?		KILL 5
IF TRACK ON RIGHT IS UP, SEND CODE 5 LEFT	?		LC1SW
PASS CODE 5 TO THE LEFT	?		LC5SW
IF TRACK ON LEFT IS UP, SEND CODE 5 RIGHT	?	X	RC1SW
PASS CODE 5 TO THE RIGHT	?		RC5SW

CARD CONFIGURATION			
CARD	GENERAL ENABLE	SIDE A ENABLE	SIDE B ENABLE
SLOT 3 BOARD 1 (IN 8 OUT 8)	ENABLE	NA	NA
SLOT 4 BOARD 2 (IN 8 OUT 8)	DISABLE		
SLOT 5 BOARD 3 (IN 8 OUT 8)	DISABLE		
SLOT 6 BOARD 4 (IN 8 OUT 8)	DISABLE		
SLOT 7 BOARD 5 (IN 8 OUT 8)	DISABLE		
SLOT 9 BOARD 6 (TRX TRACK)	DISABLE		
SLOT 10 BOARD 7 (E CODE)	X	X	X
SLOT 1 BOARD LWSIG (LAMP 16)	DISABLE		
SLOT 1 BOARD NSIG (LAMP 16)	DISABLE		
SLOT 1 BOARD SSIG (LAMP 16)	DISABLE		

TIMERS		
	SET SECONDS	CLEAR SECONDS
SHORT	20	0
LONG	600	0

ADDRESS JUMPERS								
CARD	SWITCHES	1	2	3	4	5	6	
LAMP 16 SLOT 1	CLOSE	NOT USED						
	OPEN							
CARD	SWITCHES	7	8	9	10	11	12	
EC SLOT 9 (ECODE)	CLOSE							(NOT USED)
	OPEN							
MX SLOT 9 (TRX TRK)	CLOSE							(NOT USED)
	OPEN							
CARD	SWITCHES	13	14	15	16	17	18	
EC SLOT 10 (ECODE)	CLOSE						C	
	OPEN	O	O	O	O	O		
MX SLOT 10 (TRX TRK)	CLOSE							(NOT USED)
	OPEN							

THIS TABLE SHOWS THE VALUES TO BE ENTERED DURING SYSTEM CONFIGURATION	VALUE TO ENTER	
GENERAL		
EVENT CLASS LOGGING THRESHOLDS (ALL):	1	DEFAULT SETTINGS
LOGIC TIME-OUT:	2,000 MS	
DEBUG PORT ADDRESS:	1	
DEBUG PORT SPEED:	9,600 BAUD	
PASSWORD:	MICROLOKII	
TK1 SIDE A LENGTH:	7,447'	(N1ZT)
TK1 SIDE B LENGTH:	6,872'	(S1ZT)

	MLK II APP	MLK II EXEC
PROG NAME	END POINT LOCK REPEATER R9	MLK2EXEC.SR VER 8.5
CRC	8AFF	79DF
CK SUM	0BDD	ED60

THIS SHEET VOID

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REVISIONS					
REV.	DATE	DESCRIPTION	REV.	DATE	DESCRIPTION
1	12/10/13	IN-SERVICE PER SUNRAIL, FDOT.			

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SUITE 400 JACKSONVILLE FLORIDA 32256
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CERT. OF AUTHORIZATION NO. 9875
ENGINEER OF RECORD
IVORY L. WHITE, JR, P.E.
P.E. LICENSE NO. 58608

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

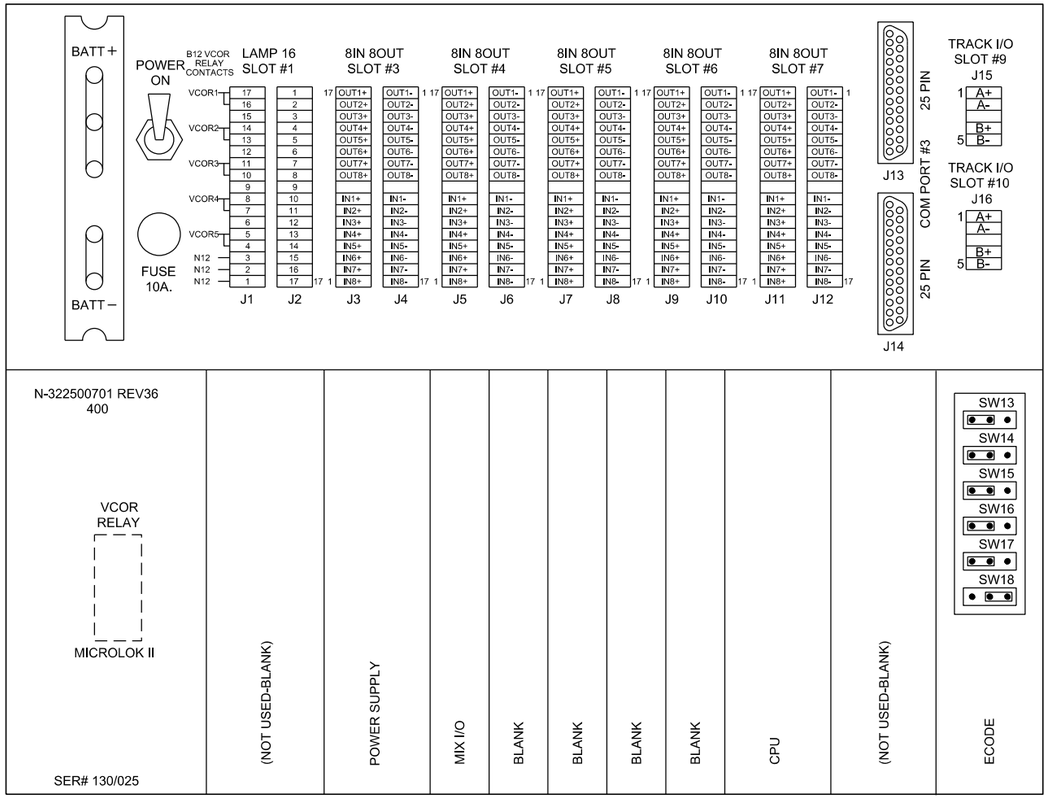
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

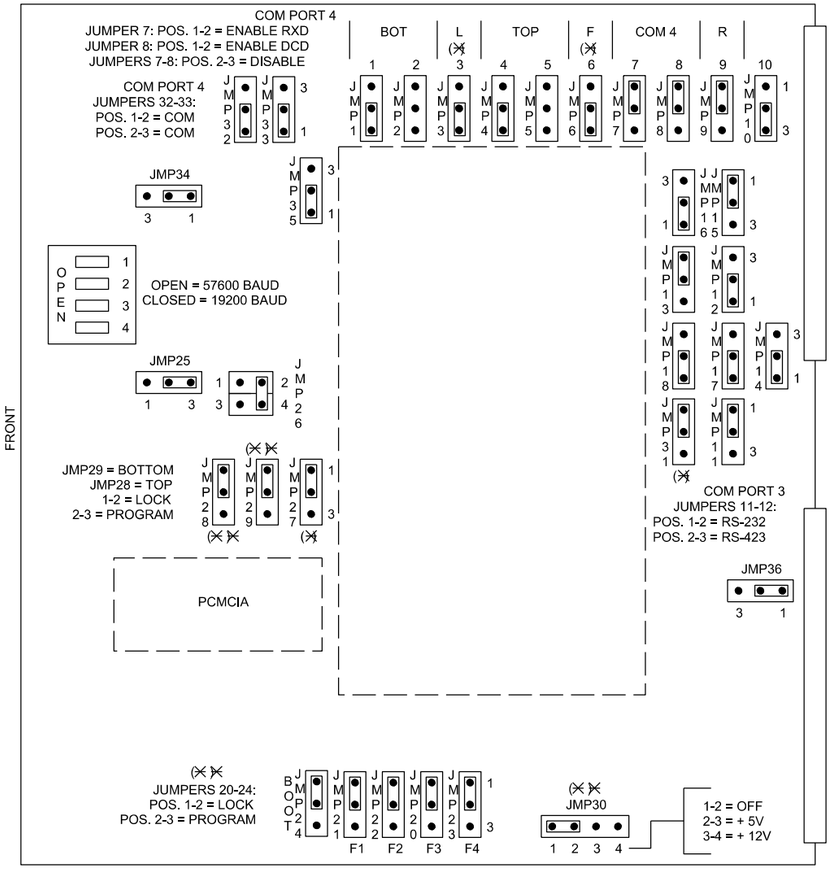
ELECTRIC LOCK MP 802.00
PROGRAM CONFIGURATION

SHEET NO.
646

$USER$ $DATE$ $TIME$ $FILE$

1TZU (CARD FILE N18002801)





CPU (PTC) BOARD JUMPER SETTINGS

JUMPER ID	JUMPER POSITION
JMP 1	2-3
JMP 2	(NOT INSTALLED)
JMP 3	2-3 (✕)
JMP 4	2-3
JMP 5	(NOT INSTALLED)
JMP 6	2-3 (✕)
JMP 7	1-2
JMP 8	1-2
JMP 9	1-2
JMP 10	2-3
JMP 11	1-2
JMP 12	1-2
JMP 13	2-3
JMP 14	1-2
JMP 15	1-2
JMP 16	1-2
JMP 17	1-2
JMP 18	1-2
JMP 20	1-2 (✕✕)
JMP 21	1-2 (✕✕)
JMP 22	1-2 (✕✕)
JMP 23	1-2 (✕✕)
JMP 24	1-2 (✕✕)
JMP 25	2-3
JMP 26	2-4
JMP 27	1-2 (✕)
JMP 28	1-2 (✕✕)
JMP 29	1-2 (✕✕)
JMP 30	1-2 (✕✕)
JMP 31	1-2 (✕)
JMP 32	1-2
JMP 33	1-2
JMP 34	1-2
JMP 35	1-2
JMP 36	1-2

MICROLOK II END POINT UNIT		
REF.	NOMENCLATURE	TYPE
1TZU	MICROLOK II END POINT CARDFILE	N18002801
SLOT	VITAL CUT OFF RELAY	A62-125 OR A62-122 OR SAF P/N 400502
1	BLANKING PLATE DOUBLE WIDTH	N4518502901
2	POWER SUPPLY	N16661203
3	MIX I/O	N17061601
4-7	BLANKING PLATE SINGLE WIDTH	N4518502902
8	CPU	N17061301
9	BLANKING PLATE DOUBLE WIDTH	N4518502901
10	ECODE TRACK MODULE	N17063901
J13-J14	SERIAL INTERFACE CABLE (NOT USED)	N16918902

NOTES:

1. (✕✕) MUST CHANGE JUMPERS IN THE FIELD FROM 2-3 TO 1-2 TO LOCK PROGRAM.
2. (✕) IF HEADER POSTS ARE NOT INSTALLED, NO JUMPER IS REQUIRED.
3. JUMPERS 11 AND 12 SHOULD BE POSITION 1-2 WHEN USING AN RS-232 CABLE. THE POSITION SHOULD BE 2-3 WHEN USING AN RS-423 CABLE.

THIS SHEET VOID

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REVISIONS

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SUITE 400 JACKSONVILLE FLORIDA 32256
(904) 443-0083 (MAIN)
(904) 443-0089 (FAX)
CERT. OF AUTHORIZATION NO. 9875
ENGINEER OF RECORD
IVORY L. WHITE, JR, P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

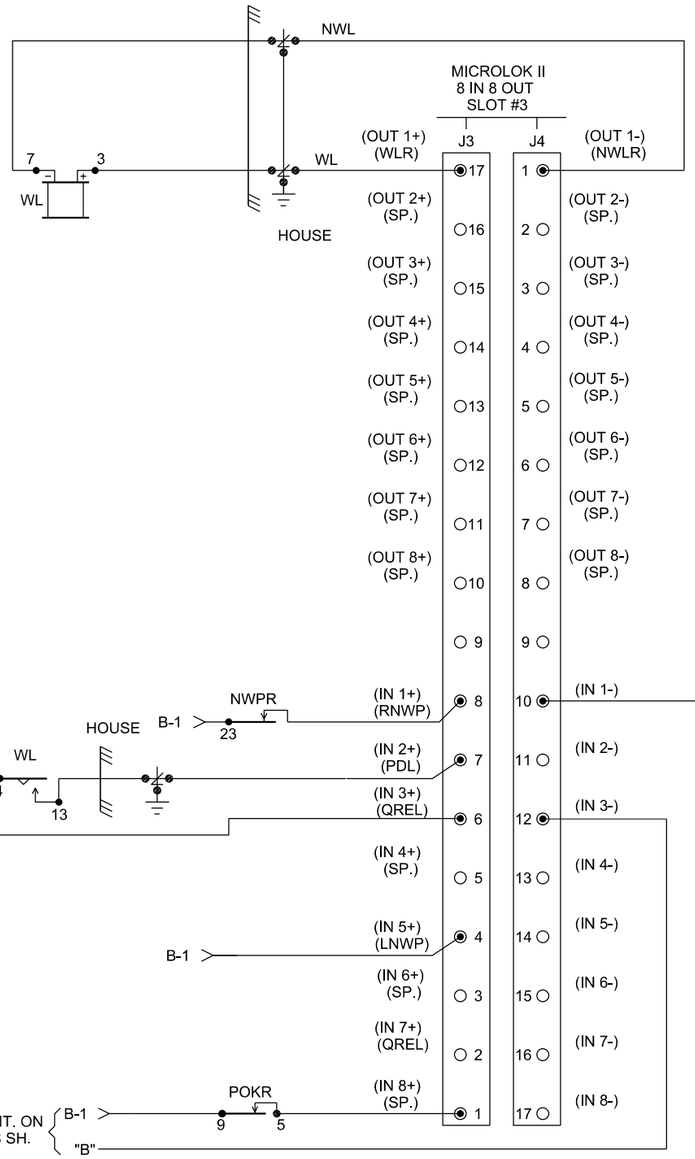
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

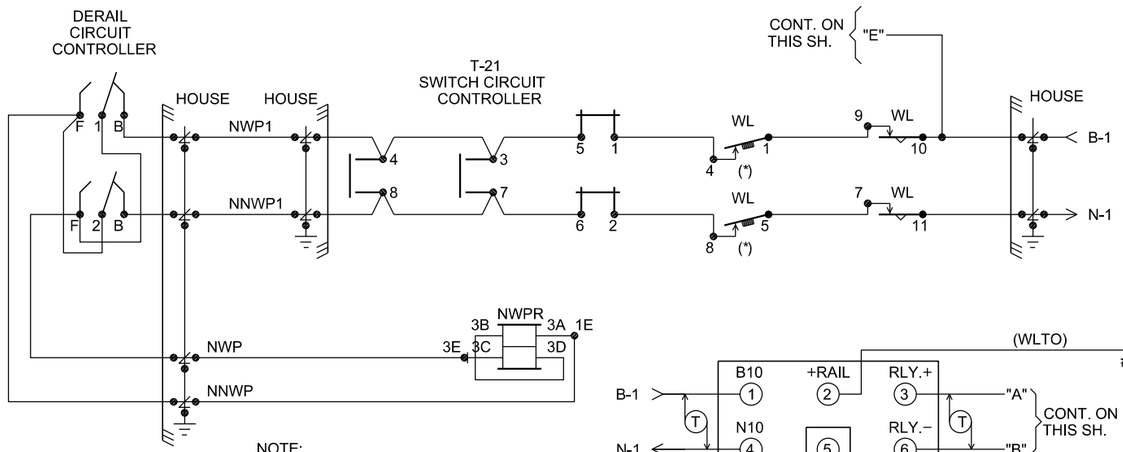
ELECTRIC LOCK MP 802.00
MICROLOK II LAYOUT

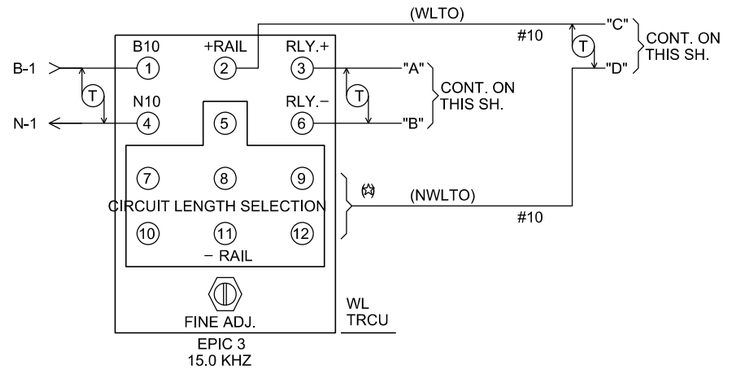
SHEET NO. 647

$USER$ $DATE$ $TIME$ $FILE$

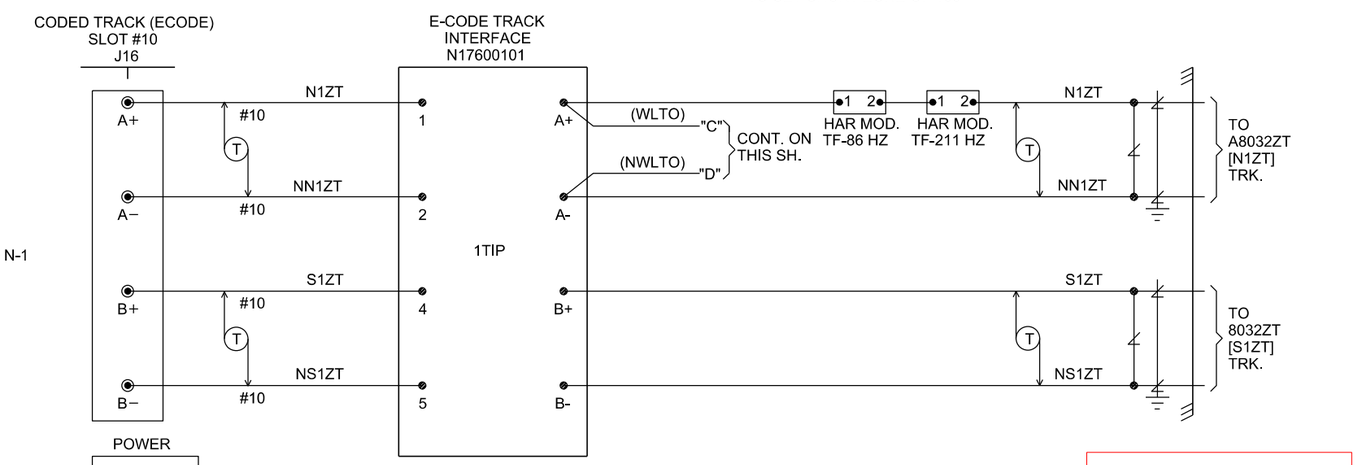
DRAWING NO.
G80200.006V







(#) = (- RAIL) FIELD SELECT PER ADJUSTMENT PROCEDURE
TO SET SHUNT ZONE OF 100'



DESIGNER NOTE:		
REF.	NOMENCLATURE	TYPE
TIP	TRACK INTERFACE PANEL	N451835-0101
TIP	86 HZ TRACK INTERFACE PANEL	N451835-0102
TIP	EC TRK. INTERFACE	N17600-101

THIS SHEET
VOID

NOTES:
1. ALL WIRING #16 UNLESS NOTED OTHERWISE.
2. [ ] = TAGGING PURPOSES ONLY.
3. INPUT #1 HELD HIGH.
(*) = ARMATURE CONTACT

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REVISIONS					
REV.	DATE	DESCRIPTION	REV.	DATE	DESCRIPTION
1	12/10/13	IN-SERVICE PER SUNRAIL, FDOT.			

XORAIL
5011 GATE PARKWAY BUILDING 100
SUITE 400 JACKSONVILLE FLORIDA 32256
(904) 443-0083 (MAIN)
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IVORY L. WHITE, JR., P.E.
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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

ELECTRIC LOCK MP 802.00
MICROLOK II I/O CIRCUITS

SHEET NO.
648

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80330.001V

INDEX

SHEET NUMBER	CONTENTS	REVISION NO. 1	2	3	4	5	6	7	8	9
T-60141	TITLE, NOTES, INDEX & REVISIONS	⊠	⊠							
T-60142	TRACK AND SIGNAL PLAN	⊠								
T-60143	MICROLOK II I/O ASSIGNMENTS	⊠								
T-60144	OFFICE CONTROL AND INDICATION ASSIGNMENTS	⊠								
T-60145	PROGRAM CONFIGURATION	⊠	⊠							
T-60146	EQUIPMENT	⊠								
T-60147	EQUIPMENT	⊠								
T-60148	CARDFILE PCB KEYING ISO 8 OUT	⊠								
T-60149	PCB ADDRESSING ISO 8 OUT	⊠								
T-60150	CPU AND LCP CIRCUITS	⊠								
T-60151	RADIO CIRCUITS	⊠								
T-60152	MICROLOK II TRACK CIRCUITS	⊠								
T-60153	MICROLOK II ISOLATED OUT ISO 8 OUT	⊠								
T-60154	MICROLOK II I/O CIRCUITS	⊠								
T-60155	SIGNAL LIGHTING CIRCUITS	⊠								
T-60156	SIGNAL LIGHTING CIRCUITS	⊠								
T-60157	WAGO TERMINAL BOARDS ISO 8 OUT	⊠								
T-60158	LOCAL PANEL FACEPLATE	⊠								
T-60159	LOCAL CONTROL AND EXPANSION PANEL	⊠								
T-60160	LCP AND EXPANSION I/O MODULES	⊠								
T-60161	CODE CIRCUITS	⊠								
T-60163	CIRCUITS	⊠								

⊠ = DESIGN COMPLETED

⊠ = REVISION COMPLETED

THIS SHEET VOID

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REVISIONS

REV.	DATE	DESCRIPTION	REV.	DATE	DESCRIPTION
1	12/10/13	IN-SERVICE PER SUNRAIL, FDOT.			
2	07/11/14	AIS PER FDOT COMMENTS			

XORAIL
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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

KISSIMMEE HOLD OUT MP 803.30
TITLE, NOTES, INDEX
& REVISIONS

SHEET NO.
649

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
C80330.002V

SIGS 42144+42

SIG 42146+42

← NORTH TO JACKSONVILLE

(✳)

8032ZT [2ZT]

2T

LT 8054T

JOINS
MP 802.00
SH. T-60132

JOINS
MP 805.30
SH. 211

130L

C

B A [2]

130R

4 A B C

2ZT N2ZT — TO 2 TIP

2TB 2TN — TO TERM. BOARD

2RB 2RN — TO 2TR

LTB LTN — TO TERM. BOARD

2AGE
2AYE
2ARE
2AEB
2BYE
2BRE
2BEB
2 SP.

4AGE
4AYE
4ARE
4AEB
4BGE
4BYE
4BLWE
4BRE
4BEB

6'-6"X 5'-8"

2

9 COND. #9 U.G.
4 #6 U.G. TRK.

4 #6 U.G. TRK.
9 COND. #9 U.G.
1-2 COND. #10 & 1-2 COND. #12
(150')

BX110A
NX110
2 SP.

NOTES:

1. (✳ = LOCATION OF HOUSE
2. [ ] = TAGGING PURPOSE ONLY

THIS SHEET VOID

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REVISIONS					
REV.	DATE	DESCRIPTION	REV.	DATE	DESCRIPTION
1	12/10/13	IN-SERVICE PER SUNRAIL, FDOT.			

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DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

KISSIMMEE HOLD OUT MP 803.30
TRACK AND SIGNAL PLAN

SHEET NO.
650

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80330.003V

RACK	CARD NO.	EC OUTPUTS A	EC OUTPUTS B
1	G12	2ZT	NOT USED

RACK	CARD NO.	VITAL LAMP DRIVER OUTPUT BITS 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	VITAL I/O BITS OUTPUTS 1	2	3	4	5	6	7	8	INPUTS 1	2	3	4	5	6	7	8	
1	G7																	RD-LOPR	LS-TPR	LFSR	SPARE	SPARE	SPARE	SPARE	SPARE									(ISO 8 OUT)
	G8																	SPARE	SPARE	SPARE	SPARE	SPARE	SPARE	SPARE	SPARE	2TPR	POPR	LHR	LADR	LBDR	LTFPR	LS-TP BCR	SPARE	(MIXED I/O)
	G9	2AGE	2AYE	2ARE	SPARE	2BYE	2BRE	SPARE	SPARE	SPARE	SPARE	SPARE	SPARE	SPARE	SPARE	SPARE	SPARE																	
	G10	4AGE	4AYE	4ARE	4BGE	4BYE	4BRE	SPARE	SPARE	4BLWE	SPARE	SPARE	SPARE	SPARE	SPARE	SPARE	SPARE																	
	G11																																	
	G12																	VITAL 16 INPUT ( )																
																		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
	G20																																	

GEN II CPU - LED INDICATIONS	
1	OFFICELINK
2	HEALTH
3	SERIALLINK
4	
5	
6	
7	
8	

MLK II CPU - LED INDICATIONS	
1	2LSR
2	4LSR
3	
4	
5	2FSR (2TERSR)
6	4FSR (4TERSR)
7	
8	

( ) = FLASH

NOTES:
1. ( ) NOT USED

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ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

KISSIMMEE HOLD OUT MP 803.30
MICROLOK I/O ASSIGNMENTS

SHEET NO.
651

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
C80330.004V

ADDRESS TYPE	RAILROAD ID NUMBER			CODE LINE ADDRESS			STATION ADDRESS			SUB DEVICE		INTERNAL DEVICE	
1	2	3	4	5	6	7	8	9	10	11	12	13	14
7	6	A	5	5	2	7	A	1	7	A	2	A	2

OFFICE TO COMMUNICATION MODULE
SERIAL COMMUNICATION BITS

CONTROLS FROM OFFICE

WORD	1	2	3	4	5	6	7	8
1	C2 GS	C4 GS	C2-4 STOP					
2	C2 TBS	C2 TBSO	C4 TBS	C4 TBSO	LFS	LFSO	2FLTS	2FLTSO
3	CECS	CECSO	MOAS	MOASO				
4								

INDICATIONS TO OFFICE

WORD	1	2	3	4	5	6	7	8
1	2 GK	4 GK	2-4 TEK					
2	2 TK	2 AK	4 AK	2 TBK	4 TBK	2 BDK	FLTK	
3					ECK	MOK	POK	LOK
4								

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ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

KISSIMMEE HOLD OUT MP 803.30 OFFICE CONTROL AND INDICATION ASSIGNMENTS

SHEET NO.
652

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
C80330.005V

MICROLOK II CONFIGURATIONS SHEET

LOCATION: KISSIMMEE HOLD OUT

MILE POST: 803.30

	USED	
BINARY 0	X	PROG ID1
BINARY 2		PROG ID2
BINARY 4		PROG ID3

THIS TABLE SHOWS THE VALUES TO BE ENTERED DURING SYSTEM CONFIGURATION	VALUE TO ENTER	
GENERAL		
EVENT CLASS LOGGING THRESHOLDS (ALL):	1	DEFAULT SETTINGS
LOGIC TIME-OUT:	5,000 MS	
DEBUG PORT ADDRESS:	1	
DEBUG PORT SPEED:	9,600 BAUD	
PASSWORD:	MICROLOKII	
TK1 SIDE A LENGTH: (MASTER)	14,519'	(2ZT)
TK2 SIDE A LENGTH: (MASTER)	XX,XXX'	NOT USED

GENISYS II CARD ATCS ADDRESSING			
PART I		PART II	
ATCS MCP	76A5527A17A1A1	STATION CONFIG	ENABLE
ATCS HEALTH	AAAAAAAAAAAAAAAA	STATION ADDRESS	76A5527A17A2A2
ATCS DEFAULT HOST		HOST ADDRESS	26A5A15527
MLK II APP	GEN II APP	MLK II EXEC	GEN II EXEC
PROG NAME: XXXX	XXXX	MLKIIEXEC V850 CS4E98 CRC2FD6.SR	GEN11_V740 _ CS8C1F CRC8C12.SR
CRC: XXXX	XXXX	2FD6	8C12
CK SUM: XXXX	XXXX	4E98	

CARD CONFIGURATION				
CARD	GENERAL ENABLE	SIDE A ENABLE	SIDE B ENABLE	
SLOT 7 (OUT 8)	X			
SLOT 8 (IN 8 OUT 8)	X			
SLOT 9 (LAMP 16)	X			
SLOT 10 (LAMP 16)	X			
SLOT 12 (MX TRACK)				NOT USED
BLANK				NOT USED
EC SLOT 12 (E CODE)	X	X		
BLANK				NOT USED
	LINK ENABLE	POINT TO POINT		
GEN II (GENISYS)	X	X		
COMMS (MICROLOK)	X	X		

TIMERS		
	MILL SECONDS	
2TER	366,000	
4TER	408,000	
6TER	NA	
8TER	NA	
1WOTER	NA	⋇⋇
3WOTER	NA	⋇⋇
2TPER	10,000	
2MTER	15,000	

⋇⋇ = USE 30,000 FOR LV MACHINES

ADDRESS JUMPERS								
CARD		1	2	3	4	5	6	
SLOT 7 ISO (OUT 8)	CLOSE						X	
	OPEN	X	X	X	X	X		
SLOT 8 (IN 8 OUT 8)	CLOSE		X				X	
	OPEN	X		X	X	X		
SLOT 9 (LAMP 16)	CLOSE							
	OPEN	X	X	X	X	X	X	
SLOT 10 (LAMP 16)	CLOSE		X					
	OPEN	X		X	X	X	X	
SLOT 12 (MX TRACK)	CLOSE							NOT USED
	OPEN							
BLANK	CLOSE							NOT USED
	OPEN							
SLOT 12 (ECODE TRACK)	CLOSE			X			X	
	OPEN	X	X		X	X		
BLANK	CLOSE							NOT USED
	OPEN							

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REVISIONS					
REV.	DATE	DESCRIPTION	REV.	DATE	DESCRIPTION
1	12/10/13	IN-SERVICE PER SUNRAIL, FDOT.			
2	07/11/14	AIS PER FDOT COMMENTS			

XORAIL
5011 GATE PARKWAY BUILDING 100
SUITE 400 JACKSONVILLE FLORIDA 32256
(904) 443-0083 (MAIN)
(904) 443-0089 (FAX)
CERT. OF AUTHORIZATION NO. 9875
ENGINEER OF RECORD IVORY L. WHITE, JR., P.E. P.E. LICENSE NO. 58608

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

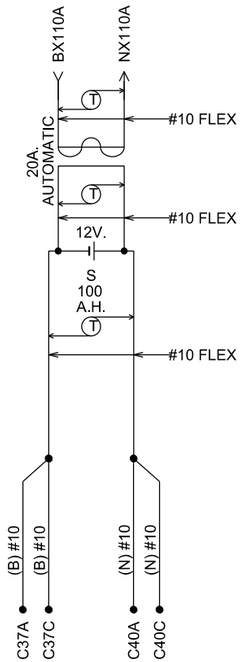
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

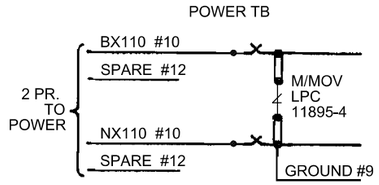
KISSIMMEE HOLD OUT MP 803.30
PROGRAM CONFIGURATION

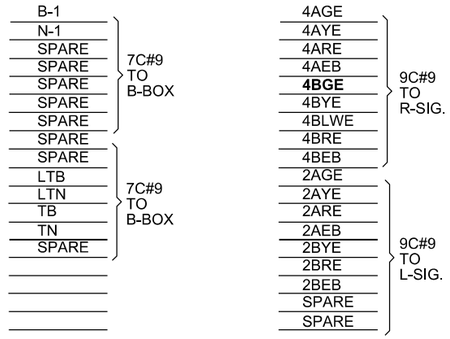
SHEET NO. 653

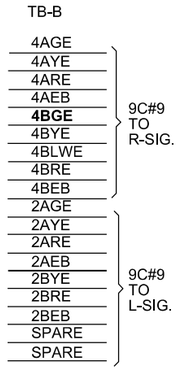
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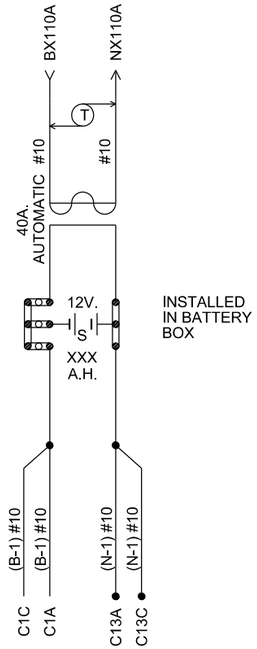
DRAWING NO.
C80330.006V







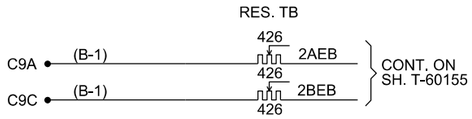




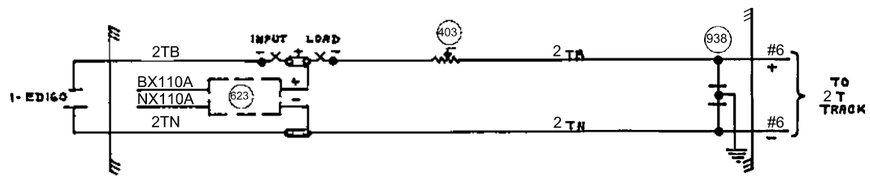


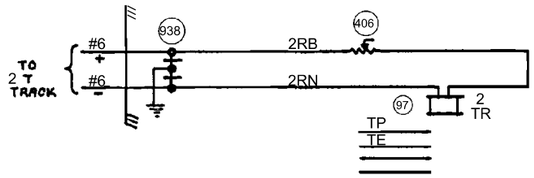
BX110A

NX110A



651





THIS SHEET
VOID

S0016970.CIT

A80330.E01

REVISIONS					
REV.	DATE	DESCRIPTION	REV.	DATE	DESCRIPTION
1	12/10/13	IN-SERVICE PER SUNRAIL, FDOT.			

XORAIL
5011 GATE PARKWAY BUILDING 100
SUITE 400 JACKSONVILLE FLORIDA 32256
(904) 443-0083 (MAIN)
(904) 443-0089 (FAX)
CERT. OF AUTHORIZATION NO. 9875
ENGINEER OF RECORD
IVORY L. WHITE, JR, P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

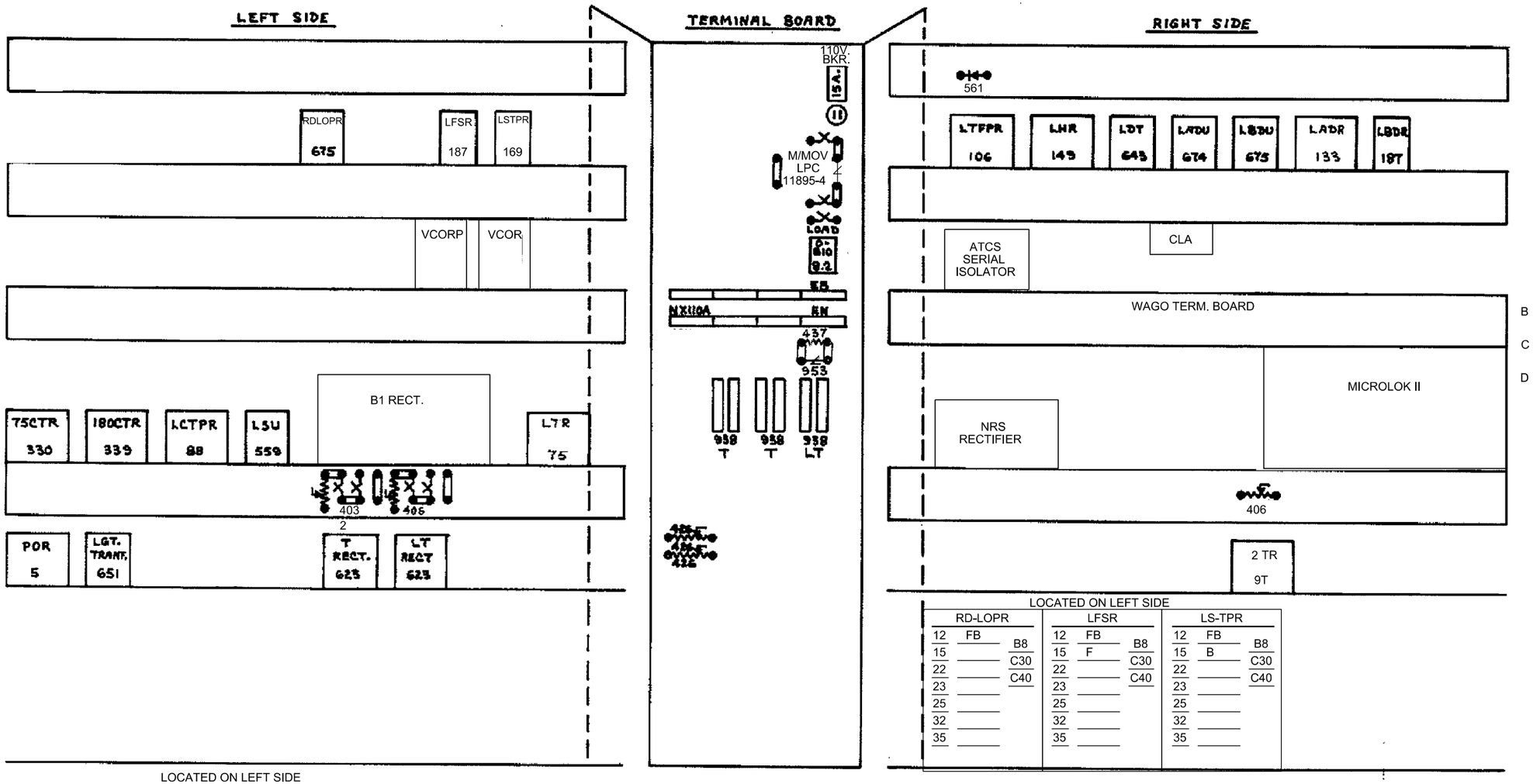
KISSIMMEE HOLD OUT MP 803.30
EQUIPMENT

SHEET NO.
654

$USER$ $DATE$ $TIME$ $FILE$

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DRAWING NO.
C80330.007V

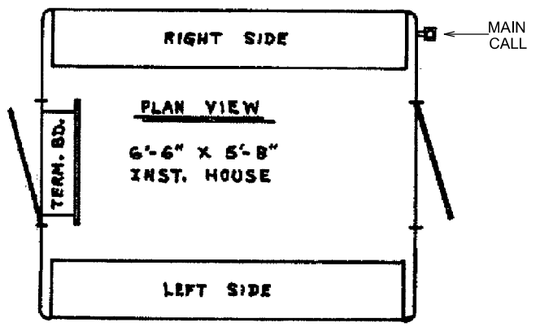


LOCATED ON LEFT SIDE

RD-LOPR			LFSR			LS-TPR		
12	FB	B8	12	FB	B8	12	FB	B8
15		C30	15	F	C30	15	B	C30
22		C40	22		C40	22		C40
23			23			23		
25			25			25		
32			32			32		
35			35			35		

LOCATED ON LEFT SIDE

VCOPR			VCOR		
12	F	B77	12	FB	B43
15	F	C30	15		C30
22		C40	22		C40
25			23	F	
32	F		25		
35	F		32	FB	
			35		



MLK II

1	BLANK	
2	BLANK	
3	BLANK	
4	BLANK	
5	BLANK	
6	BLANK	
7	ISO 8 OUT	
8	MIX I/O	
9	VITAL LAMP DRIVER	
10	VITAL LAMP DRIVER	
11	BLANK	
12	CODED TRACK(ECODE)	
13		
14	BLANK	
15	POWER SUPPLY	
16		
17	CPU	
18		
19	GENISYS	
20		

ALL CONNECTIONS ON MICROLOK CABINET ARE ON FRONT OF THE CABINET

RELAY IDENTIFICATION AND CROSS REFERENCE

TYPE	GRS	SAFETRAN	DETAILS
B8	A62-277	400004	4FB-2F-1B, NEUTRAL, 500 OHMS
B43	A62-122	400502	4FB-2F-1B, BIAS NEUTRAL, 500 OHMS
B77	A62-580	400023	6FB HD, NEUTRAL, 500 OHMS
C30	A62-506		PLUGBOARD KIT FOR B1 RELAYS
C40	MOUNTING, SHELF ASSY, FOR MOUNTING ON B1 RELAY		

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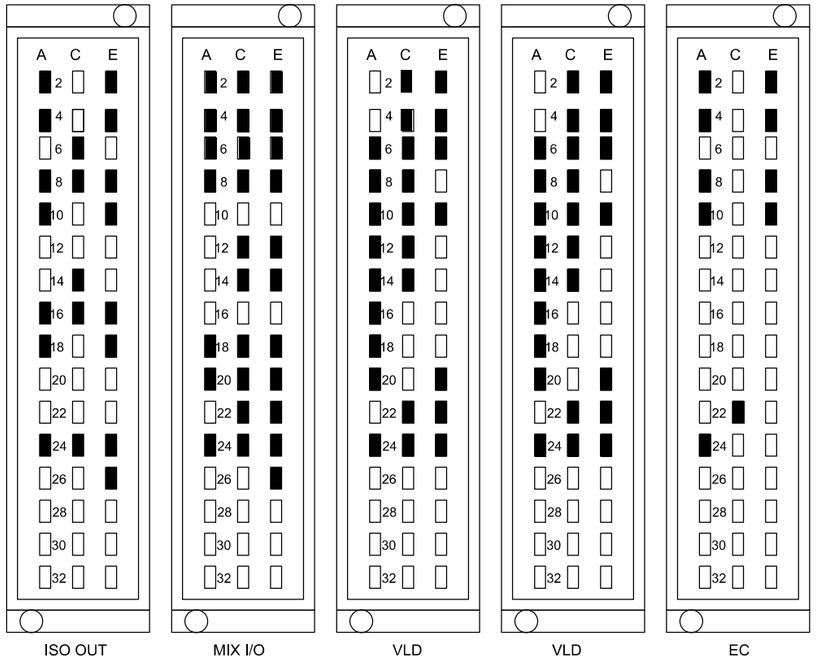
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

KISSIMMEE HOLD OUT MP 803.30
EQUIPMENT

SHEET NO.
655

$USER$ $DATE$ $TIME$ $FILE$



MICROLOK II EQUIPMENT			
REF.	DESCRIPTION	US&S P/N	QTY
R. SHELF	MICROLOK II CARDFILE	N18005201	1 EA.
SLOT 15&16	POWER SUPPLY	N16661203	1 EA.
SLOT 17&18	CPU (PTC READY)	N17067602	1 EA.
SLOT 19&20	GENISYS II CPU	N17061302	1 EA.
SLOT 7	ISO 8 OUT	N17065801	1 EA.
SLOT 7	CABLE ISO 8 OUT	N16918102	1 EA.
SLOT 8	MIX I/O	N17061601	2 EA.
SLOT 8	CABLE MIX I/O	N16912402	2 EA.
SLOT 9&10	VITAL LAMP DRIVER	N17060101	2 EA.
SLOT 9&10	CABLE VITAL LAMP DRIVER	N16912102	2 EA.
SLOT 12&13	CODED TRACK (E-CODE)	N4519100701	2 EA.
SLOT 12&13	CABLE CODED TRACK (E-CODE)	N16913102	2 EA.
TBD	PANEL EIA	M50400203	1 EA.
TBD	USSP-11 SURGE SUPPRESSOR	N4515520504	1 EA.
TBD	ATCS ISOLATOR	N16404701	1 EA.
TBD	CABLE ATCS ISOLATOR TO RADIO	CUSTOM	1 EA.

SPARE REDUNDANT MLK II CARDFILE MATERIAL

SPARE	MICROLOK II CARDFILE	N16902101	1 EA.
SPARE	PEG, KEYING FOR CARDFILE	J7091460473	49 EA.
SPARE	KIT, REAR CONNECTION COVER	X18000903	1 EA.
SPARE	POWER SUPPLY	N16661203	1 EA.
SPARE	CPU (PTC READY)	N17067602	1 EA.
SPARE	GENISYS II CPU	N17061302	1 EA.
SPARE	SLOT 7 ISO 8 OUT	N17065801	1 EA.
SPARE	MIX I/O	N17061601	1 EA.
SPARE	VITAL LAMP DRIVER	N17060101	2 EA.
SPARE	CODED TRACK (E-CODE)	N4519100701	2 EA.

SPARE REDUNDANT MLK II CARDFILE

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	ISO 8 OUT	MIX I/O	VITAL LAMP DRIVER	VITAL LAMP DRIVER	BLANK	CODED TRACK(E-CODE)		BLANK	POWER SUPPLY		CPU		GENISYS	

NOTE:

1. (XX) DO NOT USE THIS SLOT. FUTURE USE.

NOTES:

= NOT USED

= USED

CABLE CONNECTORS ARE SHOWN WITH STANDARD WIRING.
NOT ALL WIRES MAY BE USED AT THIS LOCATION.

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XORAIL
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SUITE 400 JACKSONVILLE FLORIDA 32256
(904) 443-0083 (MAIN)
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ENGINEER OF RECORD
IVORY L. WHITE, JR, P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

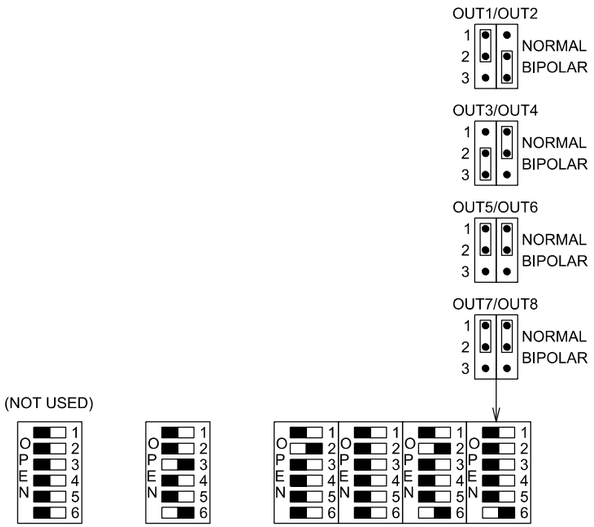
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

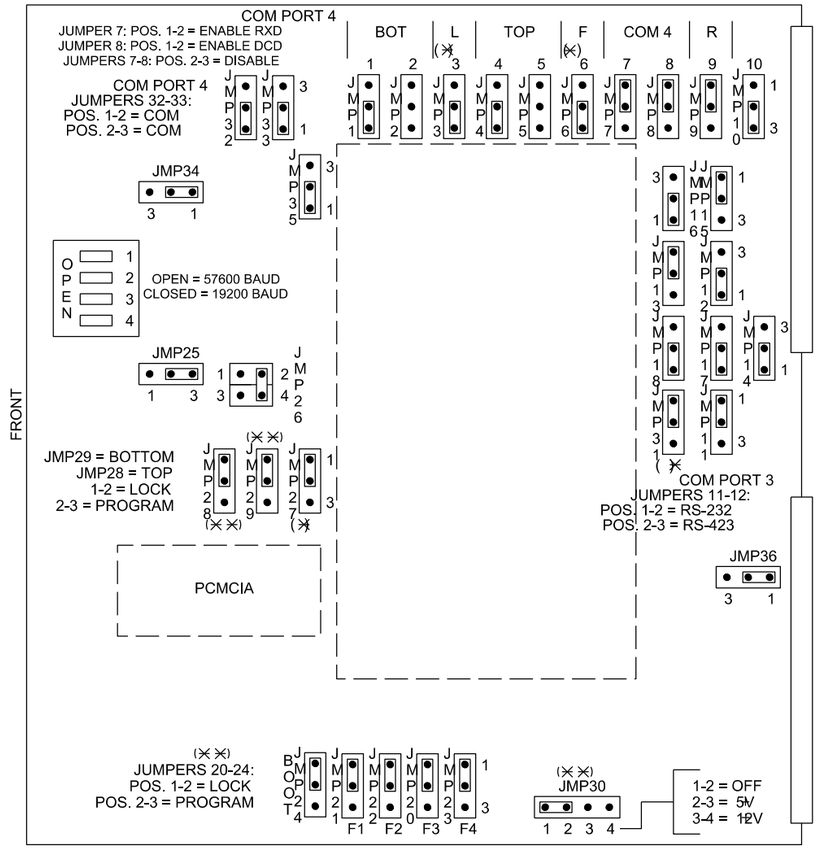
KISSIMMEE HOLD OUT MP 803.30
CARDFILE PCB KEYING
ISO 8 OUT

SHEET NO. 656

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80330.009V





CPU (PTC) BOARD
JUMPER SETTINGS

JUMPER ID	JUMPER POSITION
JMP 1	2-3
JMP 2	(NOT INSTALLED)
JMP 3	2-3 (✕)
JMP 4	2-3
JMP 5	(NOT INSTALLED)
JMP 6	2-3 (✕)
JMP 7	1-2
JMP 8	1-2
JMP 9	1-2
JMP 10	2-3
JMP 11	1-2
JMP 12	1-2
JMP 13	2-3
JMP 14	1-2
JMP 15	1-2
JMP 16	1-2
JMP 17	1-2
JMP 18	1-2
JMP 20	1-2 (✕✕)
JMP 21	1-2 (✕✕)
JMP 22	1-2 (✕✕)
JMP 23	1-2 (✕✕)
JMP 24	1-2 (✕✕)
JMP 25	2-3
JMP 26	2-4
JMP 27	1-2 (✕)
JMP 28	1-2 (✕✕)
JMP 29	1-2 (✕✕)
JMP 30	1-2 (✕✕)
JMP 31	1-2 (✕)
JMP 32	1-2
JMP 33	1-2
JMP 34	1-2
JMP 35	1-2
JMP 36	1-2

NOTES:

1. (✕✕) MUST CHANGE JUMPERS IN THE FIELD FROM 2-3 TO 1-2 TO LOCK PROGRAM.
2. (✕) IF HEADER POSTS ARE NOT INSTALLED, NO JUMPER IS REQUIRED.
3. JUMPERS 11 AND 12 SHOULD BE POSITION 1-2 WHEN USING AN RS-232 CABLE. THE POSITION SHOULD BE 2-3 WHEN USING AN RS-423 CABLE.

THIS SHEET VOID

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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

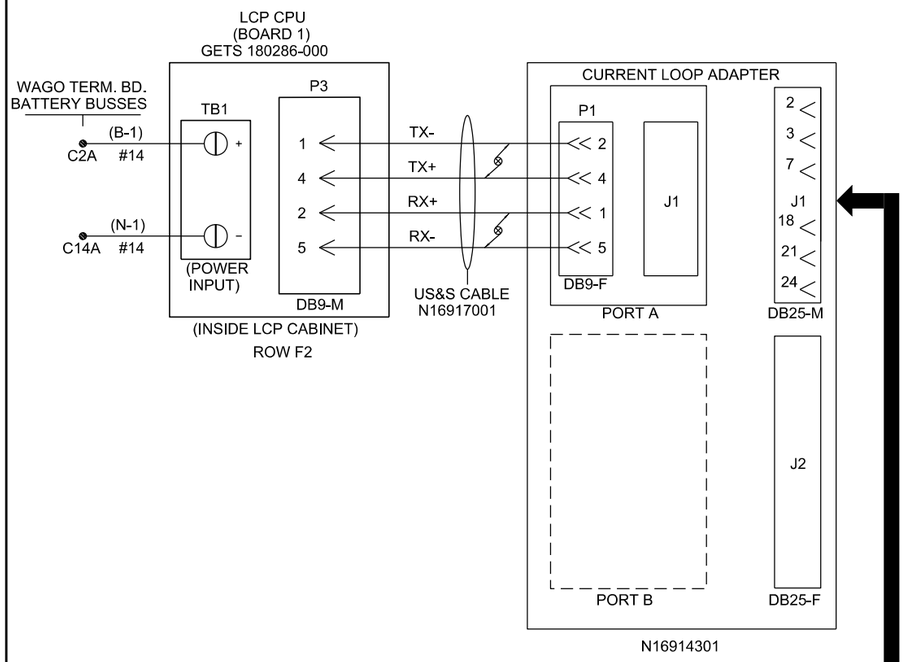
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

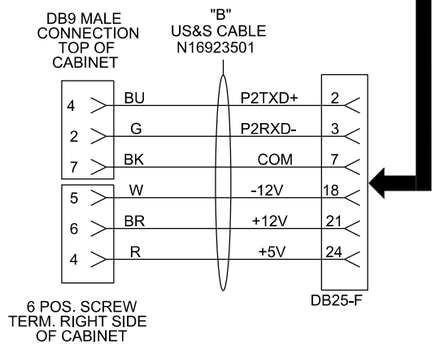
KISSIMMEE HOLD OUT MP 803.30
PCB ADDRESSING
ISO 8 OUT

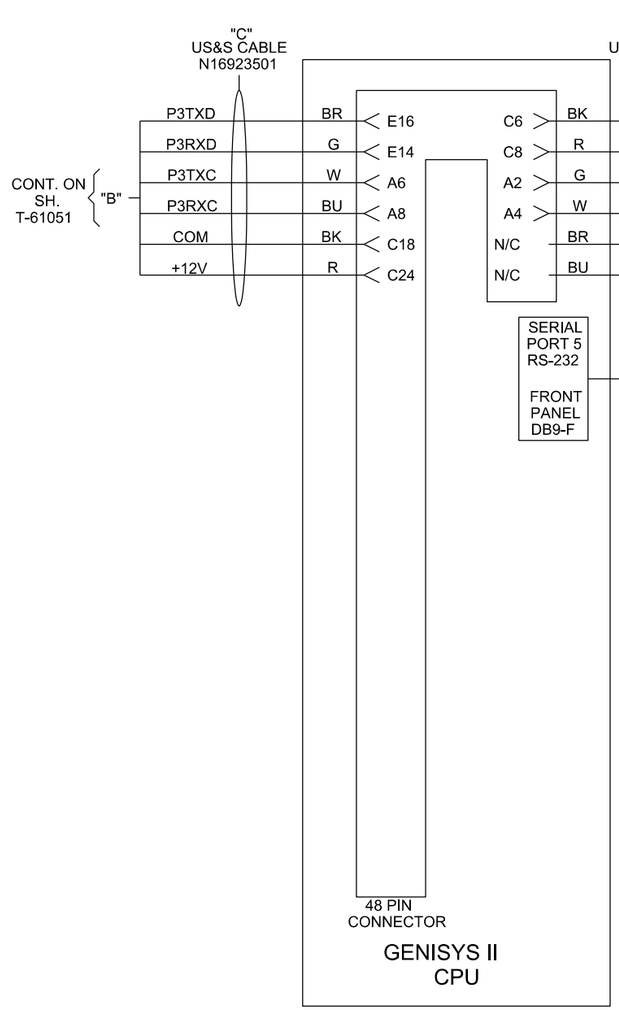
SHEET NO.
657

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G8Ø330.Ø1ØV







NOTE:

1. CPU PORT 2, 3 AND 4 SPARE

THIS SHEET
VOID

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SUITE 400 JACKSONVILLE FLORIDA 32256
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ENGINEER OF RECORD
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P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

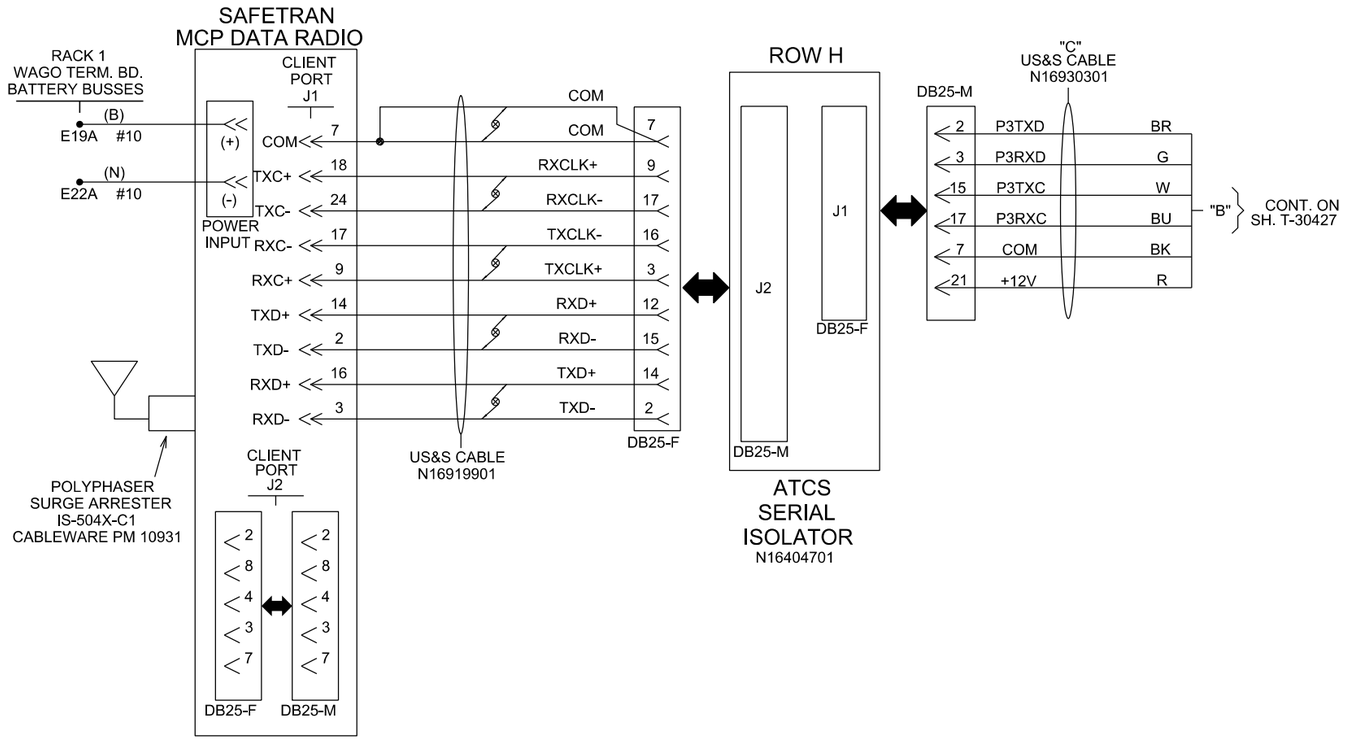
KISSIMMEE HOLD OUT MP 803.30
CPU AND LCP CIRCUITS

SHEET NO.
658

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.

G8Ø33Ø.Ø11V



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(904) 443-0083 (MAIN)
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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

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CFRC P2S	ORANGE	423446-9-52-02

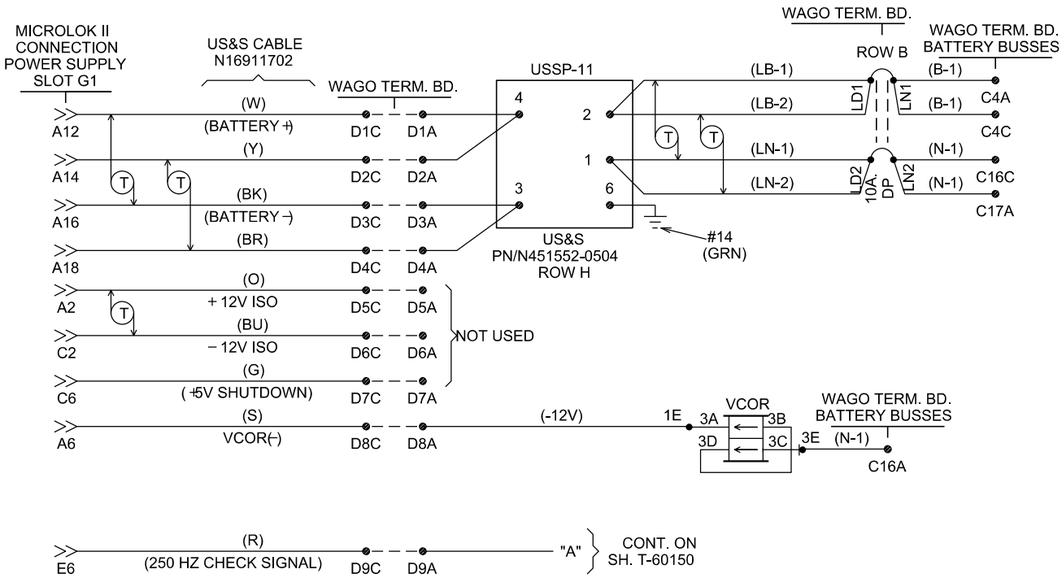
KISSIMMEE HOLD OUT MP 803.30
RADIO CIRCUITS

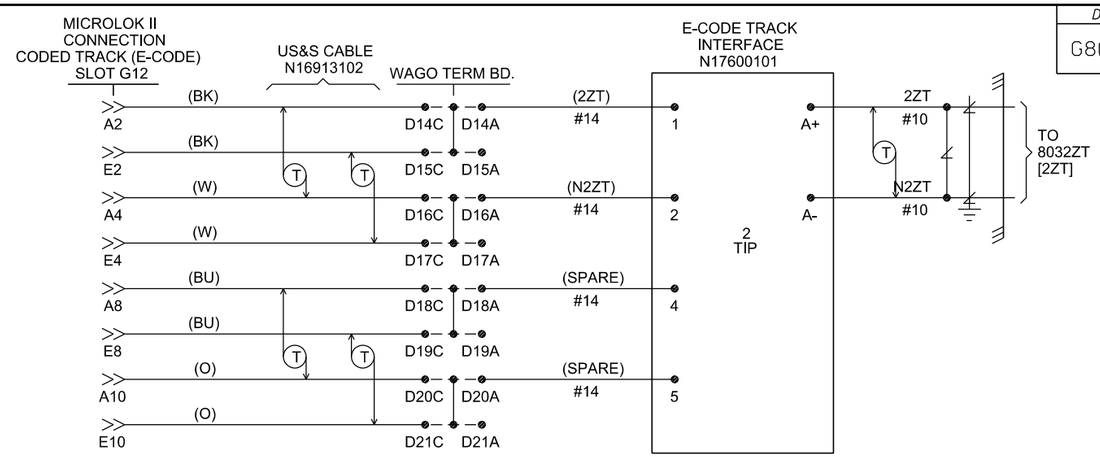
SHEET NO.

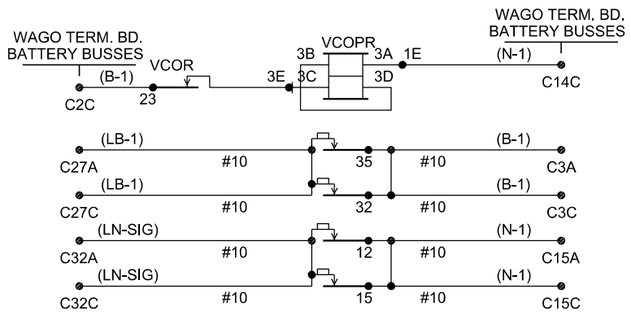
659

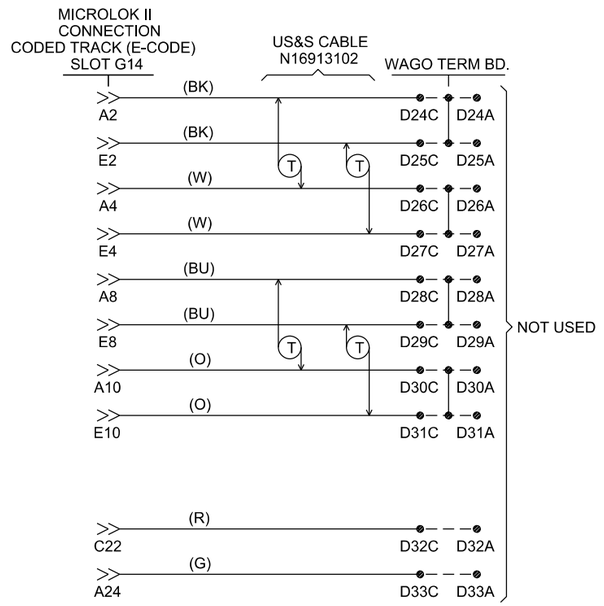
$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80330.012V









NOTES:

1. ALL WIRING FROM WAGOS #16, UNLESS NOTED OTHERWISE.
2. MOUNT TIP PANELS 24" APART.
3. SEPARATE TIP PANEL WIRING FROM ALL OTHER HOUSE WIRES.

THIS SHEET VOID

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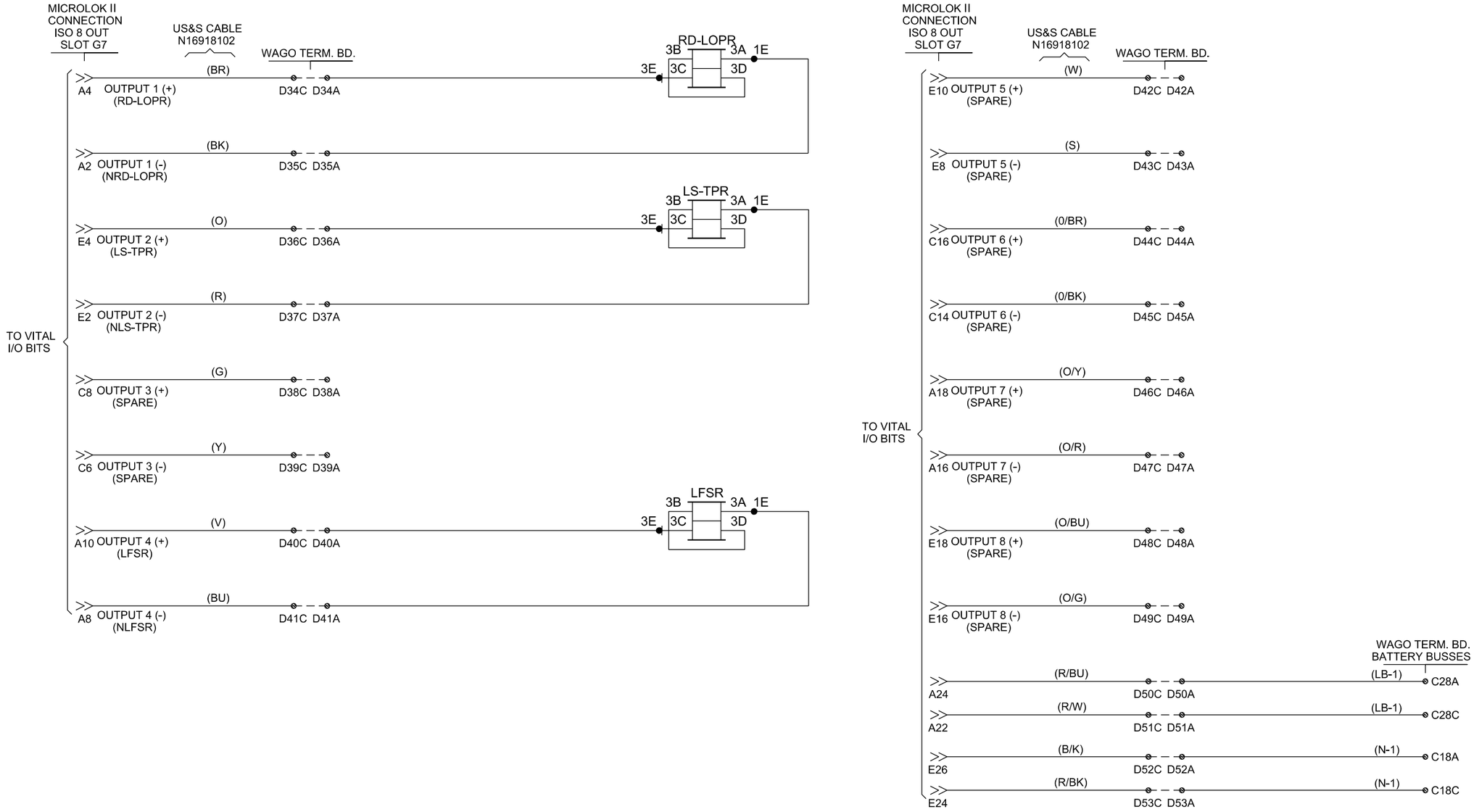
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

KISSIMMEE HOLD OUT MP 803.30
MICROLOK II TRACK CIRCUITS

SHEET NO. 660

$USER$ $DATE$ $TIME$ $FILE$



NOTE:

1. ALL WIRING #16 UNLESS NOTED OTHERWISE.

THIS SHEET VOID

DRAWING NO.

G8Ø33Ø.Ø13V

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REVISIONS					
REV.	DATE	DESCRIPTION	REV.	DATE	DESCRIPTION
1	12/10/13	IN-SERVICE PER SUNRAIL, FDOT.			

XORAIL
5011 GATE PARKWAY BUILDING 100
SUITE 400 JACKSONVILLE FLORIDA 32256
(904) 443-0083 (MAIN)
(904) 443-0089 (FAX)
CERT. OF AUTHORIZATION NO. 9875
ENGINEER OF RECORD
IVORY L. WHITE, JR., P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

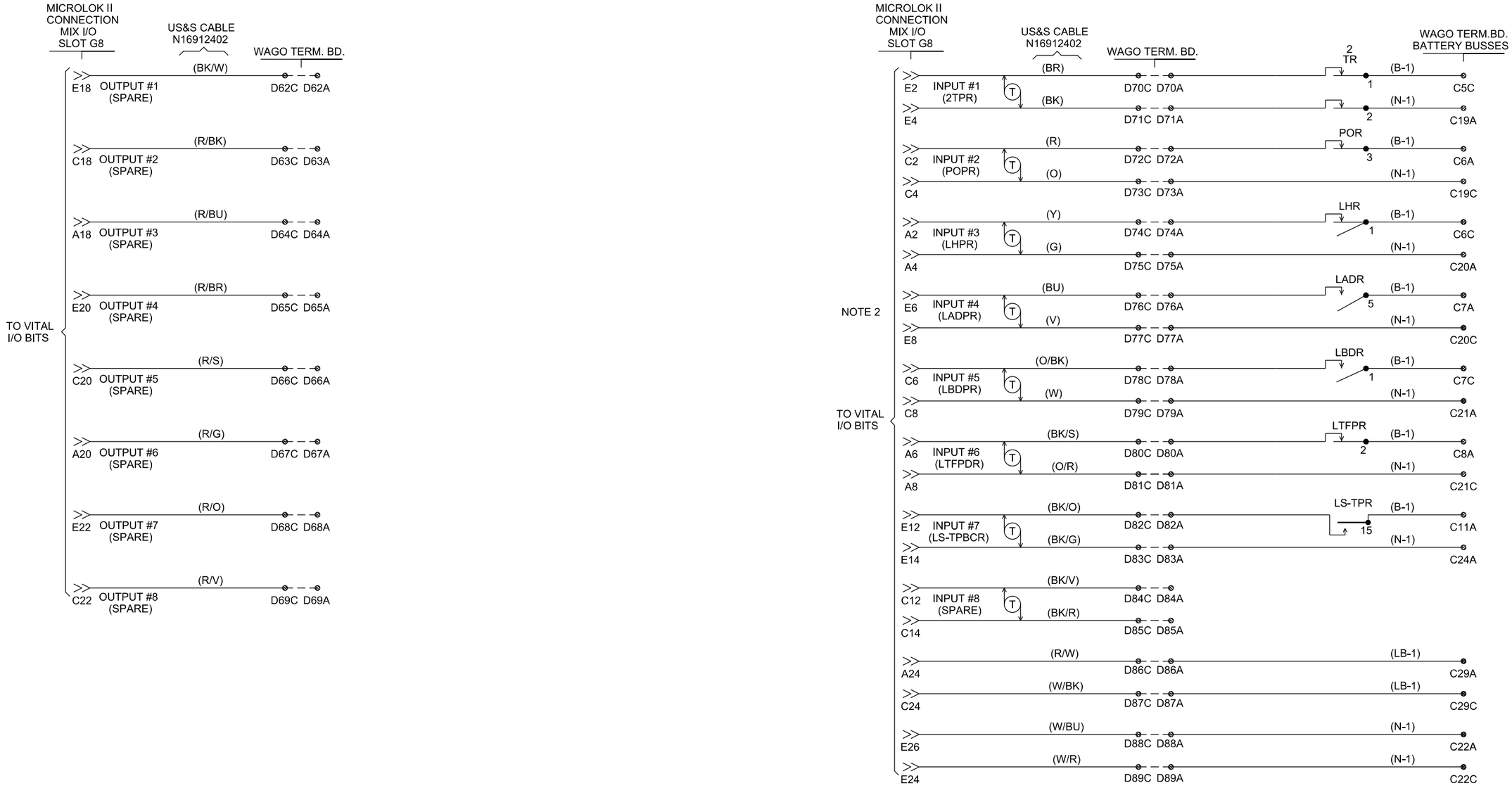
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

KISSIMMEE HOLD OUT MP 803.30
MICROLOK II ISOLATED OUT
ISO 8 OUT

SHEET NO.

661

$USER$ $DATE$ $TIME$ $FILE$



NOTES:

1. ALL WIRING #16 UNLESS NOTED OTHERWISE.
2. LADR, (180) CODE USED FOR THE 4AK

THIS SHEET VOID

DRAWING NO.

G8Ø33Ø.Ø14V

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 6G15-23.003, F.A.C.

REVISIONS					
REV.	DATE	DESCRIPTION	REV.	DATE	DESCRIPTION
1	12/10/13	IN-SERVICE PER SUNRAIL, FDOT.			

XORAIL
5011 GATE PARKWAY BUILDING 100
SUITE 400 JACKSONVILLE FLORIDA 32256
(904) 443-0083 (MAIN)
(904) 443-0089 (FAX)
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ENGINEER OF RECORD
IVORY L. WHITE, JR., P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

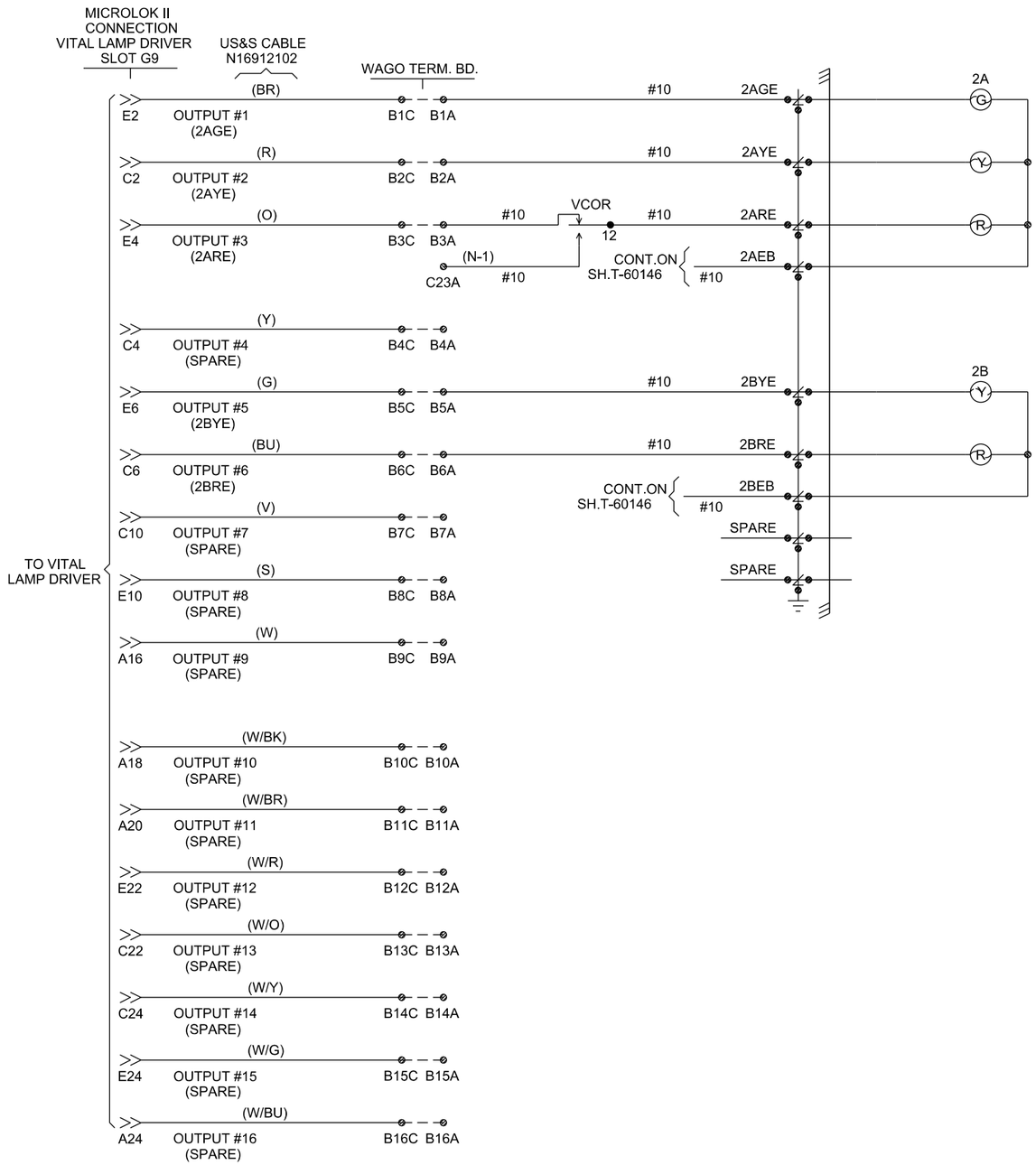
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MICROLOK II I/O CIRCUITS

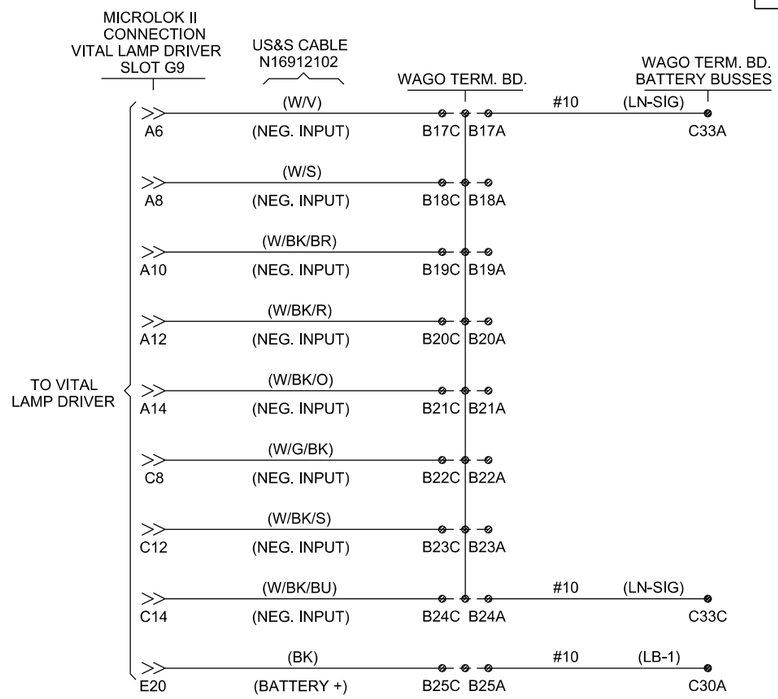
SHEET NO.

662

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80330.015V





NOTES:

1. ALL WIRING FROM WAGOS #16, UNLESS OTHERWISE NOTED.
2. ALL RESISTORS ARE 3 OHM, 15 WATTS.

THIS SHEET VOID

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REVISIONS

REV.	DATE	DESCRIPTION	REV.	DATE	DESCRIPTION
1	12/10/13	IN-SERVICE PER SUNRAIL, FDOT.			

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SUITE 400 JACKSONVILLE FLORIDA 32256
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ENGINEER OF RECORD
IVORY L. WHITE, JR, P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

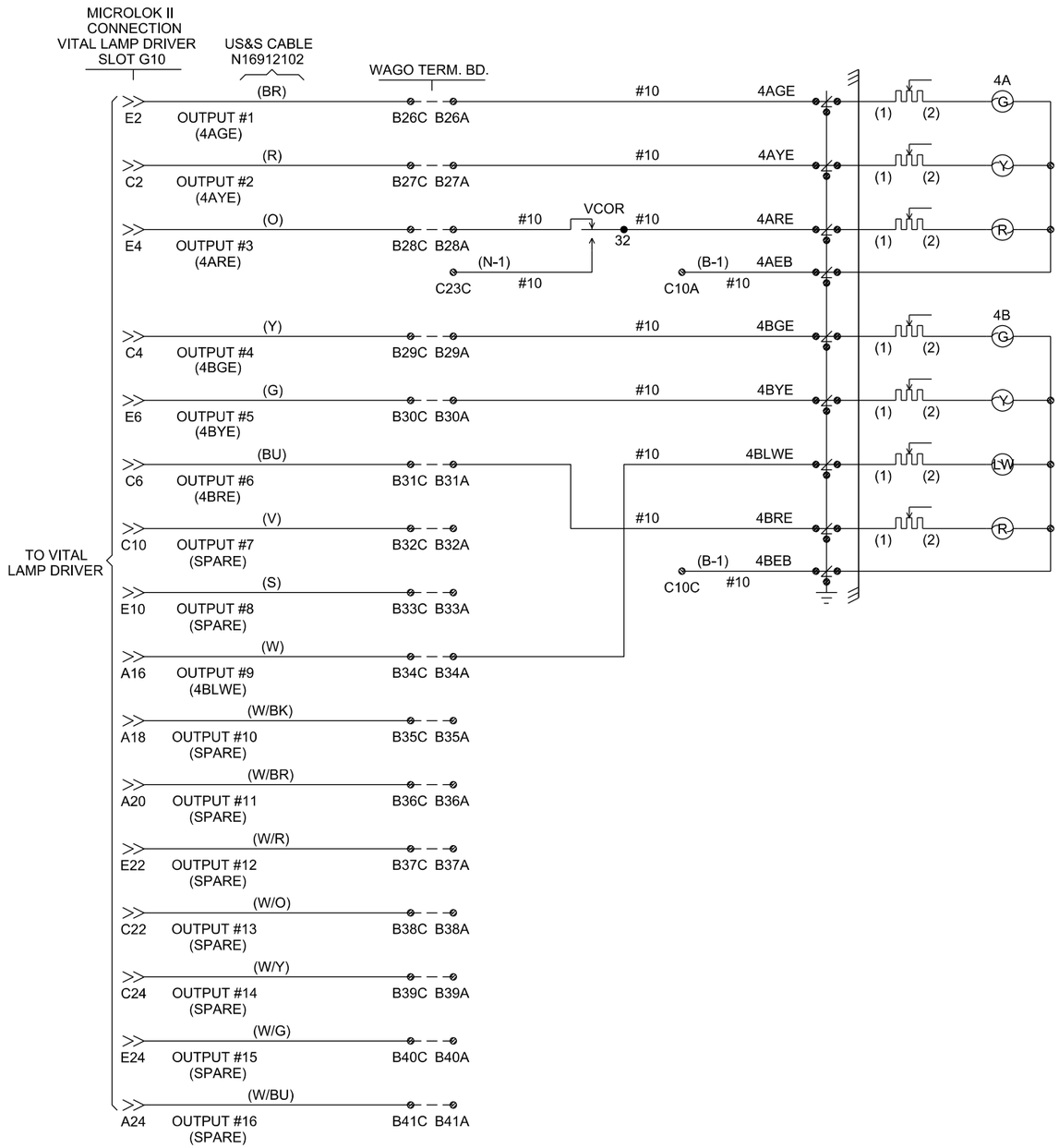
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

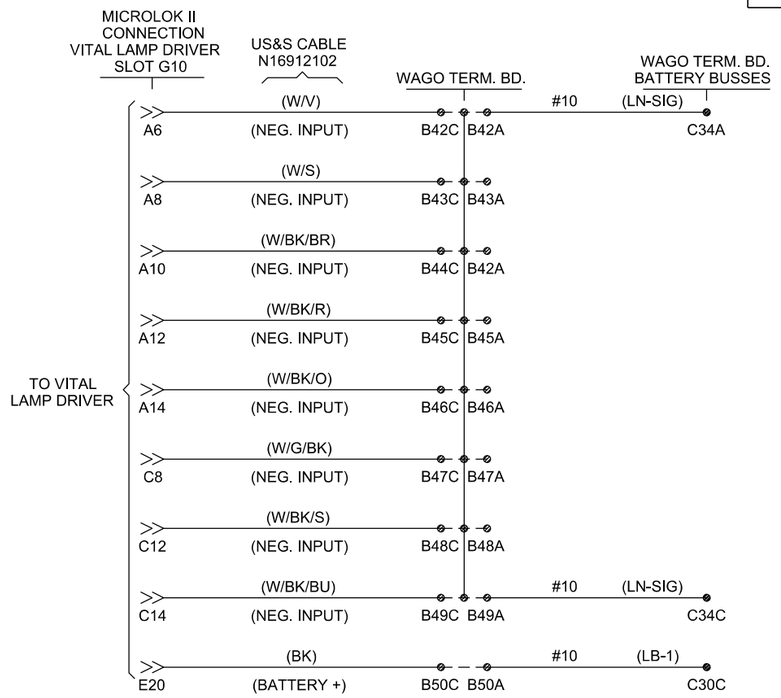
KISSIMMEE HOLD OUT MP 803.30
SIGNAL LIGHTING CIRCUITS

SHEET NO. 663

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G8Ø330.Ø16V





NOTES:

1. ALL WIRING FROM WAGOS #16, UNLESS OTHERWISE NOTED.
2. ALL RESISTORS ARE 3 OHM, 15 WATTS.

THIS SHEET VOID

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REVISIONS

REV.	DATE	DESCRIPTION	REV.	DATE	DESCRIPTION
1	12/10/13	IN-SERVICE PER SUNRAIL, FDOT.			

XORAIL
5011 GATE PARKWAY BUILDING 100
SUITE 400 JACKSONVILLE FLORIDA 32256
(904) 443-0083 (MAIN)
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CERT. OF AUTHORIZATION NO. 9875
ENGINEER OF RECORD
IVORY L. WHITE, JR, P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

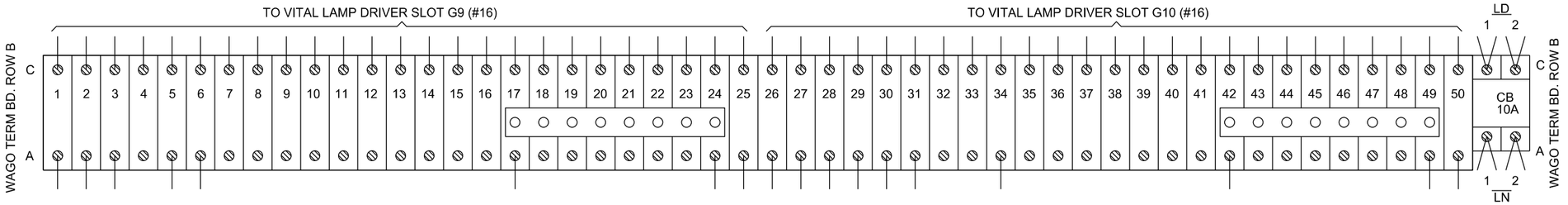
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

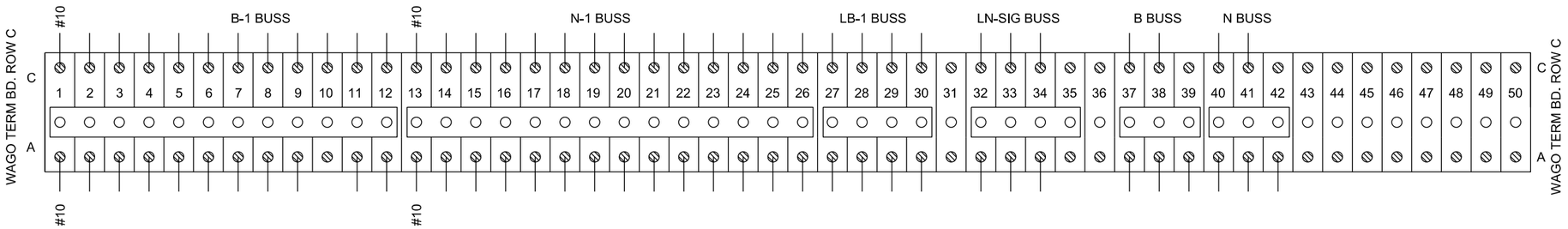
KISSIMMEE HOLD OUT MP 803.30
SIGNAL LIGHTING CIRCUITS

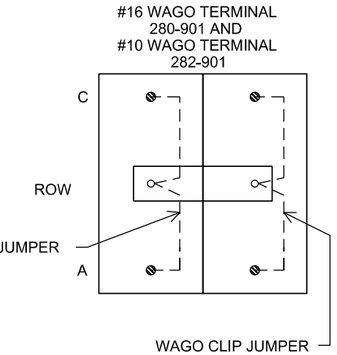
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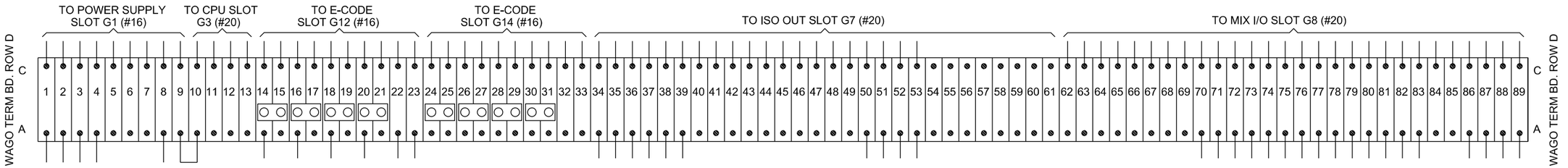
$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G8Ø33Ø.Ø17V









NOTES:

1. C1A & C1C TO B-1 SUPPLY.
2. C13A & C13C TO N-1 SUPPLY.
3. ROW B TERMINALS 1-50 ARE WAGO PART #282-901.
4. ROW C TERMINALS 1-50 ARE WAGO PART #282-901.
5. ROW D TERMINALS 1-89 ARE WAGO PART #280-901.
6. ROW B WEIDMULLER J7256940255 CIRCUIT BREAKER (10 AMP.)

THIS SHEET VOID

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REVISIONS

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XORAIL
5011 GATE PARKWAY BUILDING 100
SUITE 400 JACKSONVILLE FLORIDA 32256
(904) 443-0083 (MAIN)
(904) 443-0089 (FAX)
CERT. OF AUTHORIZATION NO. 9875
ENGINEER OF RECORD
IVORY L. WHITE, JR, P.E.
P.E. LICENSE NO. 58608

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

KISSIMMEE HOLD OUT MP 803.30
WAGO TERMINAL BOARDS
ISO 8 OUT

SHEET NO.
665

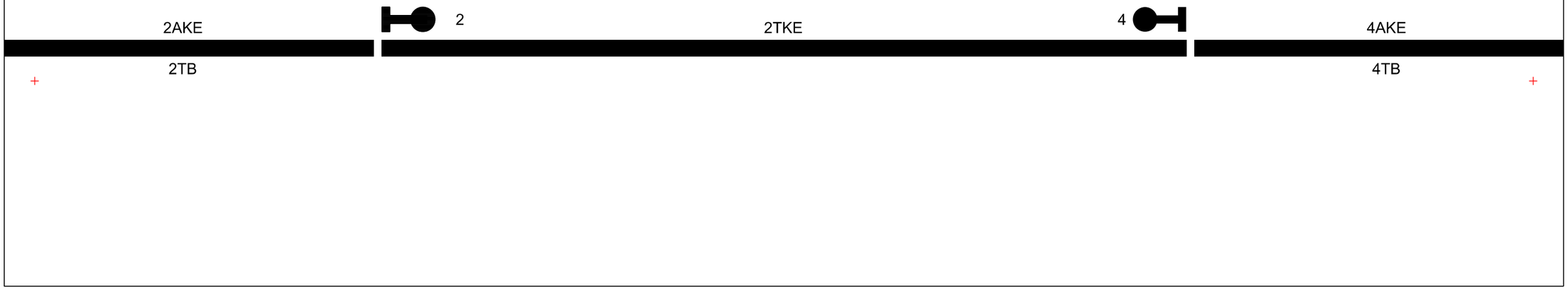
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DRAWING NO.

G8Ø33Ø.Ø18V

KISSIMMEE HOLD OUT

MP 803.30



MOUNTED BELOW WAGO STRIPS ABOVE MCP RADIO ON 5' RACK

THIS SHEET VOID

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XORAIL
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SUITE 400 JACKSONVILLE FLORIDA 32256
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(904) 443-0089 (FAX)

CERT. OF AUTHORIZATION NO. 9875

ENGINEER OF RECORD
IVORY L. WHITE, JR, P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

KISSIMMEE HOLD OUT MP 803.30
LOCAL PANEL FACEPLATE

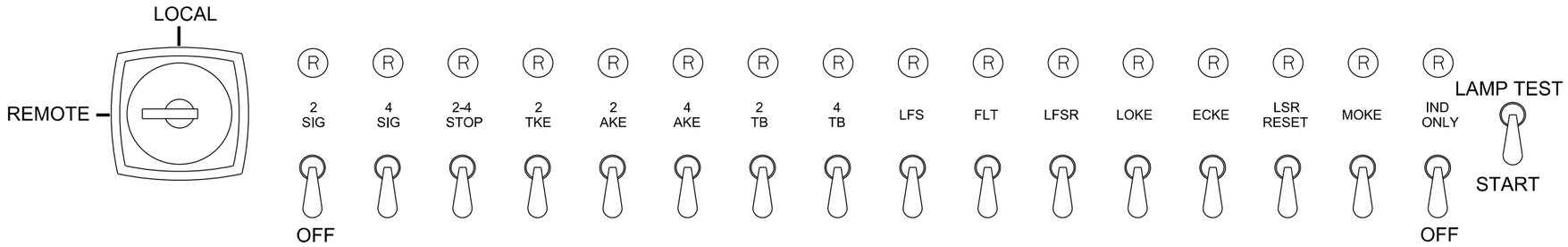
SHEET NO.

666

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G8Ø33Ø.Ø19V

LOCAL CONTROL PANEL



MOUNTED ON 5' RACK BELOW POPWER DISTRIBUTION PANEL

NOTES:

1. WHERE "KE" APPEARS AT END OF WORD ONLY INDICATION IS OPERATIVE.

THIS SHEET VOID

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REVISIONS					
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5011 GATE PARKWAY BUILDING 100
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(904) 443-0089 (FAX)
CERT. OF AUTHORIZATION NO. 9875
ENGINEER OF RECORD
IVORY L. WHITE, JR, P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

KISSIMMEE HOLD OUT MP 803.30 LOCAL CONTROL AND EXPANSION PANEL

SHEET NO.
667

$USER$ $DATE$ $TIME$ $FILE$

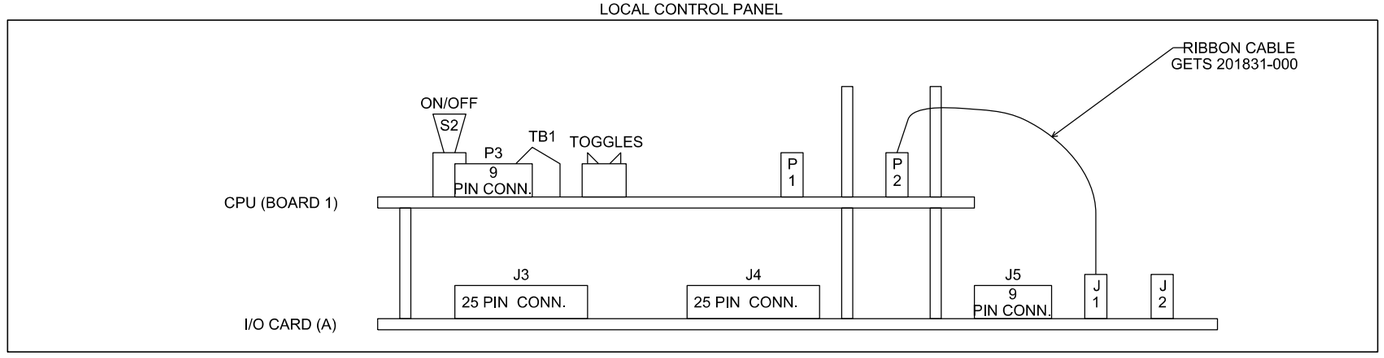
DRAWING NO.

G80330.020V

	OFF ON	
NO START SWITCH	1	START SWITCH
	2	PROGRAMMABLE
	3	PROGRAMMABLE
	4	PROGRAMMABLE
	5	RESERVED
NORMAL OUTPUTS	6	INVERT OUTPUTS
NORMAL INPUTS	7	INVERT INPUTS
NORMAL MODE	8	SELF TEST MODE

(LOCATED ON CPU BOARD INSIDE LCP CABINET)

LOCAL CONTROL PANEL



THIS SHEET VOID

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CERT. OF AUTHORIZATION NO. 9875

ENGINEER OF RECORD
IVORY L. WHITE, JR, P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

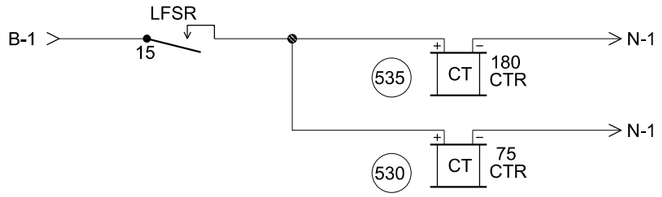
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

KISSIMMEE HOLD OUT MP 803.30
LCP AND EXPANSION I/O MODULES

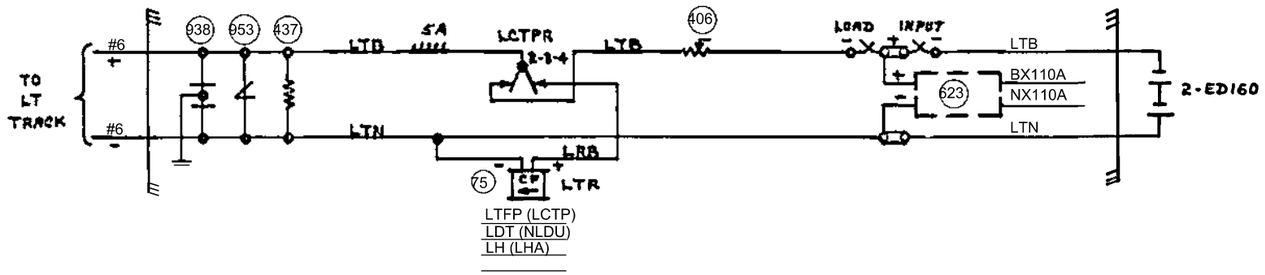
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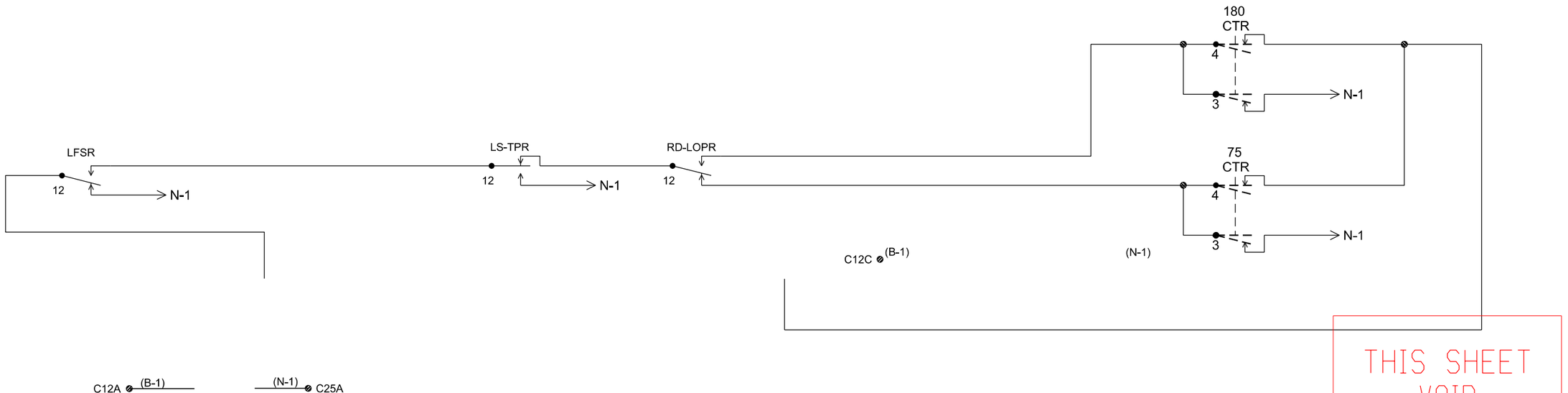
$USER$ $DATE$ $TIME$ $FILE$



B-1



N-1



THIS SHEET
VOID

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ENGINEER OF RECORD
IVORY L. WHITE, JR., P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

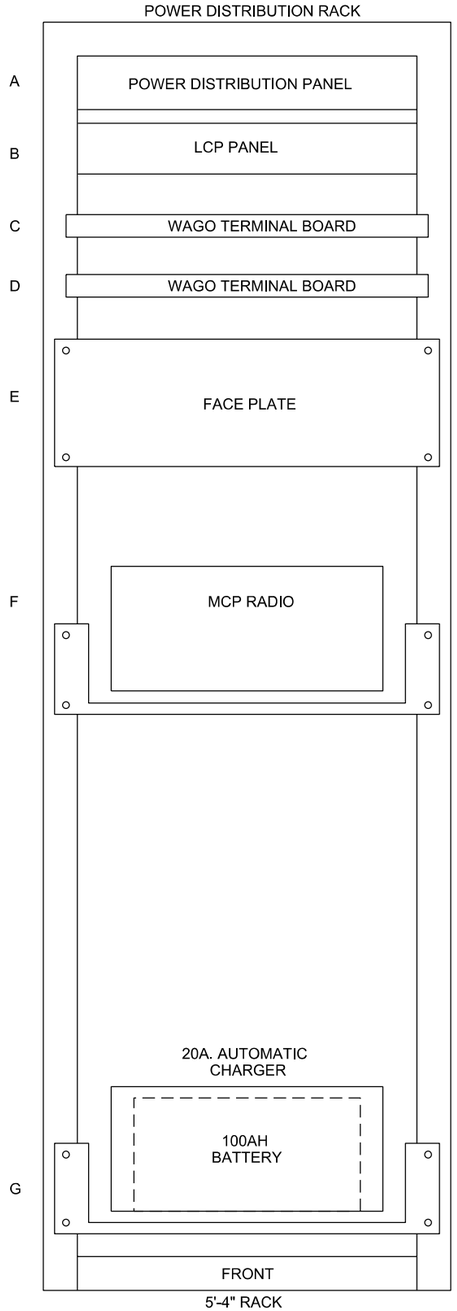
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

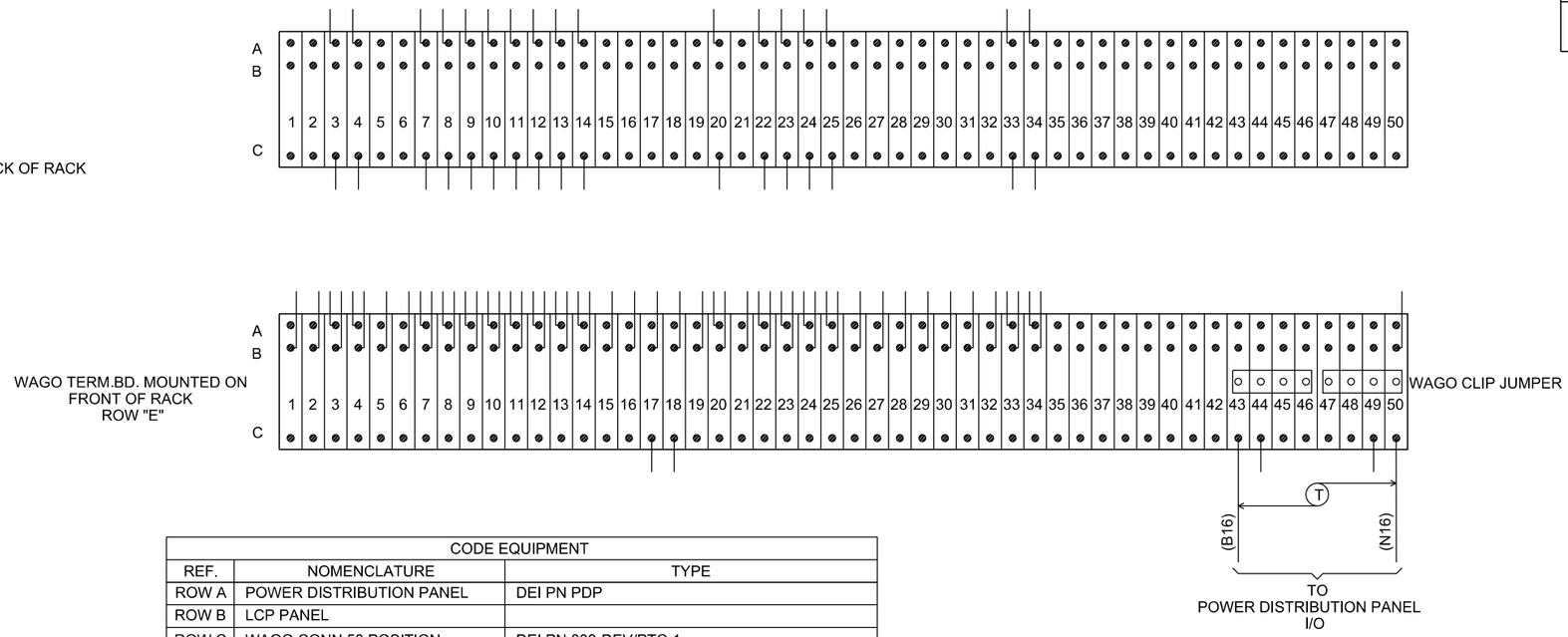
KISSIMMEE HOLD OUT MP 803.30
CODE CIRCUITS

SHEET NO.
669

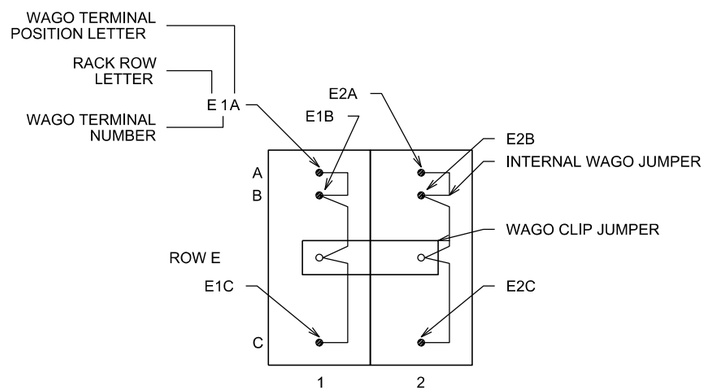
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DRAWING NO.
C80330.022V





CODE EQUIPMENT		
REF.	NOMENCLATURE	TYPE
ROW A	POWER DISTRIBUTION PANEL	DEI PN PDP
ROW B	LCP PANEL	
ROW C	WAGO CONN 50 POSITION	DEI PN 809-DEV/PTC-1
ROW D	WAGO CONN 50 POSITION	DEI PN 809-DEV/PTC-1
ROW E	FACE PLATE	
ROW F	MCP RADIO	DEI PN ATCS1-0999-61
ROW G	NRS 12V/20A CHARGER	020-0053390
ROW G	BATTERY GNB 100AH	GNB PN MSA2460
ROW F	DATA RADIO	SAFETRAN



50 CONDUCTOR CABLE COLOR CODE

WAGO TERM. BD. "A" (CONTROLS)	
WIRE COLOR	TERMINAL NO.
BLACK	
WHITE	
RED	3
GREEN	4
ORANGE	
BLUE	
WHITE / BLACK	7
RED / BLACK	8
GREEN / BLACK	9
ORANGE / BLACK	10
BLUE / BLACK	11
BLACK / WHITE	12
RED / WHITE	13
GREEN / WHITE	14
BLUE / WHITE	
BLACK / RED	
WHITE / RED	
ORANGE / RED	
BLUE / RED	
RED / GREEN	
ORANGE / GREEN	
BLACK / WHITE / RED	
WHITE / BLACK / RED	
RED / BLACK / WHITE	
GREEN / BLACK / WHITE	

WAGO TERM. BD. "A" (INDICATIONS)	
WIRE COLOR	TERMINAL NO.
ORANGE / BLACK / WHITE	
BLUE / BLACK / WHITE	20
BLACK / RED / GREEN	
WHITE / RED / GREEN	22
RED / BLACK / GREEN	23
GREEN / BLACK / ORANGE	24
ORANGE / BLACK / GREEN	25
BLUE / WHITE / ORANGE	
BLACK / WHITE / ORANGE	
WHITE / RED / ORANGE	
ORANGE / WHITE / BLUE	
WHITE / RED / BLUE	
BLACK / WHITE / GREEN	
WHITE / BLACK / GREEN	
RED / WHITE / GREEN	33
GREEN / WHITE / BLUE	34
ORANGE / RED / GREEN	
BLUE / RED / GREEN	
BLACK / WHITE / BLUE	
WHITE / BLACK / BLUE	
RED / WHITE / BLUE	
GREEN / ORANGE / RED	
ORANGE / RED / BLUE	
BLUE / RED / ORANGE	
BLACK / ORANGE / RED	

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REVISIONS

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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

KISSIMMEE HOLD OUT MP 803.30
CIRCUITS

SHEET NO.
670

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80349.001

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4	ELECTROLOGIXS PROGRAM (LOCATION B)	⧸								
5	POWER DISTRIBUTION (LOCATION A)	⧸								
6	RELAY DETAIL & TRACK CIRCUITS (LOCATION A)	⧸								
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⧸ = DESIGN COMPLETED

☒ = REVISION COMPLETED

NEW SHEET

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STATE OF FLORIDA
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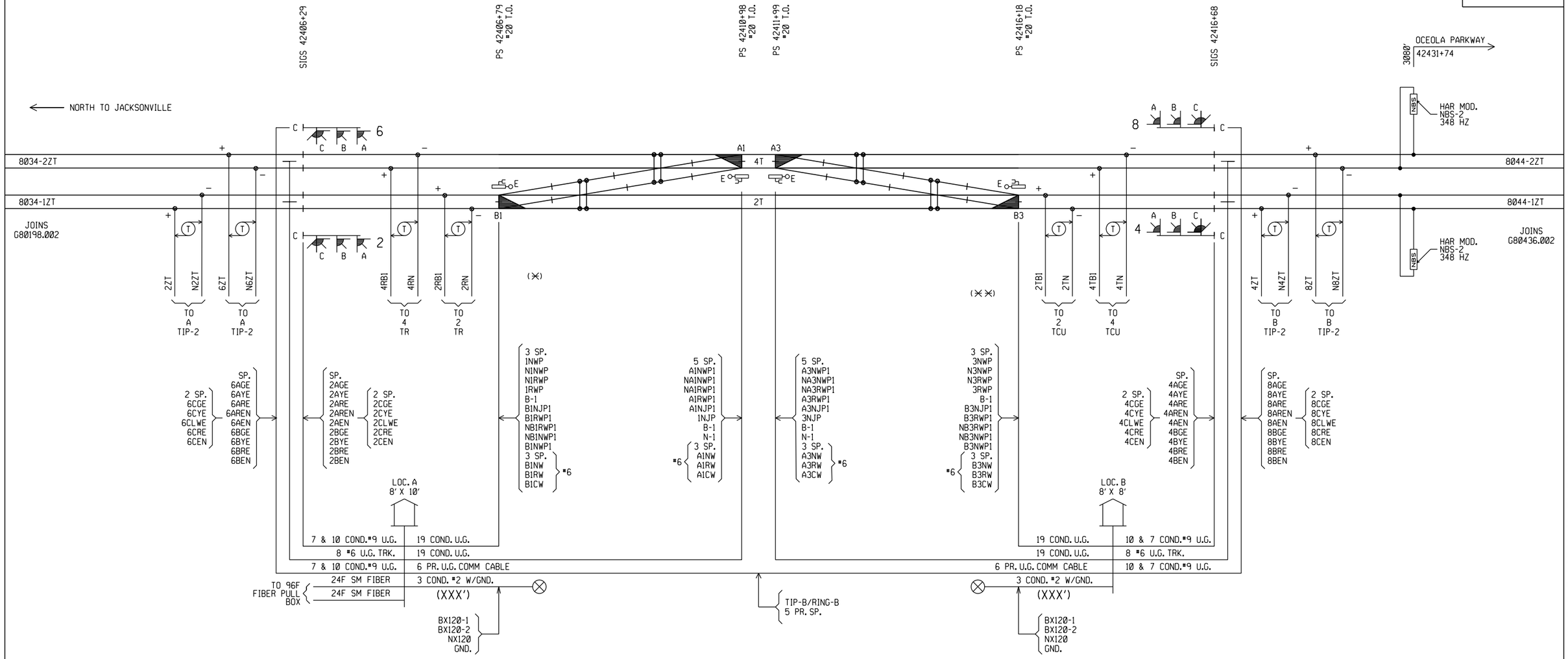
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
CP-803
TITLE, NOTES, INDEX & REVISIONS
M.P. A-803.49

SHEET NO.
671

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80349.002



NOTE:
(✕) = LOCATION OF HOUSE A.
(✕✕) = LOCATION OF HOUSE B.

NEW SHEET

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REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

XORAIL
5011 GATE PARKWAY BUILDING 100
SUITE 400 JACKSONVILLE FLORIDA 32256
(904) 443-0083 (MAIN)
(904) 443-0089 (FAX)
CERT. OF AUTHORIZATION NO. 9875
ENGINEER OF RECORD
IVORY L. WHITE, JR., P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
CP-803
TRACK & SIGNAL PLAN
M.P. A-803.49

SHEET NO.
672

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80349.003

CIO-MDA OFFICE CONFIGURATION MENU

SERIAL PORT 2 PROTOCOL	ATCS SPEC 250	
CONTROL WORDS	4	X
INDICATION WORDS	6	X
BAUD RATE	9600	X
LOCAL TIME ZONE IN RELATION TO GMT	-5	X
OBSERVE DAYLIGHT SAVINGS TIME	YES	X
DAYLIGHT SAVINGS TIME START MONTH	MARCH	X
DAYLIGHT SAVINGS START WEEK	2	X
DAYLIGHT SAVINGS TIME END MONTH	NOVEMBER	X
DAYLIGHT SAVINGS END WEEK	1	X
PAGE SIZE	19	X
CONTROL LATCHING	LATCHED	X
INDICATION DELAY	0.0 SEC.	X

CIO-MDA ATCS CONFIGURATION

ITEM	SETTING	
CPC PROTOCOL	ATCS SPEC 250	X
ADDRESS IDENT DIGIT	7	X
ADDRESS LENGTH (10, 12, 14)	14	X
RAILROAD NUMBER	605	X
STATION ADDRESS	527037	X
STATION NODE	02	X
MCP ADDRESS	527037	X
MCP NODE NUMBER	02	X
OFFICE ADDRESS	5YYY	X
OFFICE NODE NUMBER	10	X
CDC ADDRESS	5527	X
CDC NODE NUMBER	10	X
IND. REFRESH	1 MIN.	X
IND. PRIORITY	4	X
LOG PRIORITY	7	X

OFFICE SETTINGS

ITEM	SETTING
SITE ID	CP 803A
CHASSIS ID	49

VITAL APPLICATION INFORMATION

ITEM	SETTING
NAME	XXXXXXXXXX
INDEX	001
EPT CRC	XXXX
EPT CHECKSUM	XXXX

NON-VITAL APPLICATION INFORMATION

ITEM	SETTING
NAME	XXXXXXXXXX
INDEX	001
EPT CRC	XXXX
EPT CHECKSUM	XXXX

REMOTE ETHERNET SETTINGS

ITEM	SETTING	
REMOTE 1 SOURCE NETWORK ID	XXX	
REMOTE 1 DESTINATION NET ID	XXX	
REMOTE 1 DATE TIME UPDATE	DISABLED	X
REMOTE 1 PORT	8280	X

(ONLY REQUIRED IF ETHERNET REMOTE INSTALLED)

ADDRESS TYPE	RAILROAD ID NUMBER			CODE LINE ADDRESS			STATION ADDRESS			SUB DEVICE		INTERNAL DEVICE	
1	2	3	4	5	6	7	8	9	10	11	12	13	14
7	6	0	5	5	2	7	0	3	7	0	2	0	2

CIO-CLA DIAGNOSTIC PORT SETTINGS

ITEM	SETTING	
BAUD RATE	9600	X
PARITY	NONE	X
DATA BITS	8	X
STOP BITS	1	X
FLOW CONTROL	DISABLED	X

★ SERIAL PORT 3 REMOTE SETTINGS

ITEM	SETTING	
BAUD RATE	9600	X
PARITY	NONE	X
STOP BITS	1	X
TYPE	ASYNCHRONOUS	X
MODE	POINT TO POINT	X
REMOTE 1 SOURCE NETWORK ID	XXX	
REMOTE 1 DESTINATION NET ID	XXX	
REMOTE 1 DATE TIME UPDATE	DISABLED	X

SERIAL PORT 1 LCP SETTINGS

ITEM	SETTING
LCP ENABLE	ENABLED

VITAL TIMERS

NAME	SETTING	
2TER	06 MIN 18 SEC	
4TER	05 MIN 47 SEC	
6TER	06 MIN 18 SEC	
8TER	05 MIN 47 SEC	
2TPER	00 MIN 15 SEC	X
4TPER	00 MIN 15 SEC	X

GFD-1 SETTINGS

ITEM	SETTING	
BATTERY 1 NAME	B-1	X
BATTERY 1 FAULT STATUS	NO FAULT	X
BATTERY 1 CALIBRATED VOLTAGE	13.5	X
BATTERY 1 GROUND FAULT THRESHOLD	8	X
BATTERY 1 GROUND FAULT TIME	30	X
BATTERY 1 LOW BATTERY ALARM VOLTAGE	8.0	X
BATTERY 1 HIGH BATTERY ALARM VOLTAGE	16.5	X
BATTERY 2 NAME	NONE	X
BATTERY 2 FAULT STATUS	NO FAULT	X
BATTERY 2 CALIBRATED VOLTAGE	13.5	X
BATTERY 2 GROUND FAULT THRESHOLD	8	X
BATTERY 2 GROUND FAULT TIME	30	X
BATTERY 2 LOW BATTERY ALARM VOLTAGE	8.0	X
BATTERY 2 HIGH BATTERY ALARM VOLTAGE	16.5	X
BATTERY 3 NAME	NONE	X
BATTERY 3 FAULT STATUS	NO FAULT	X
BATTERY 3 CALIBRATED VOLTAGE	13.5	X
BATTERY 3 GROUND FAULT THRESHOLD	8	X
BATTERY 3 GROUND FAULT TIME	30	X
BATTERY 3 LOW BATTERY ALARM VOLTAGE	8.0	X
BATTERY 3 HIGH BATTERY ALARM VOLTAGE	16.5	X

EQUIPMENT TIMERS

1WOTER	00 MIN 30 SEC	X
3WOTER	00 MIN 30 SEC	X

NOTES:

1. X = STATUS SET/CHANGED USING THE CDU-1, ALL OTHER SET IN THE ACE PROGRAM.
2. VPM-3 ETHERNET PORT ENET1 IP ADDRESS IS 192.168.0.11.
3. ★ = SERIAL PORT ASSIGNMENTS ARE DESIGNATED IN SOFTWARE COMPILER.
4. X = TO BE FILLED OUT DURING FIELD/FACTORY TESTING.

NEW SHEET

LOCATION A

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REVISIONS					
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CERT. OF AUTHORIZATION NO. 9875
ENGINEER OF RECORD IVORY L. WHITE, JR., P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
CP-803
ELECTROLOGIXS PROGRAM
M.P. A-803.49

SHEET NO.
673

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80349.004

OFFICE SETTINGS

ITEM	SETTING
SITE ID	CP 803B
CHASSIS ID	50

VITAL APPLICATION INFORMATION

ITEM	SETTING
NAME	XXXXXXXXXX
INDEX	001
EPT CRC	XXXX
EPT CHECKSUM	XXXX

NON-VITAL APPLICATION INFORMATION

ITEM	SETTING
NAME	XXXXXXXXXX
INDEX	001
EPT CRC	XXXX
EPT CHECKSUM	XXXX

CIO-CLA DIAGNOSTIC PORT SETTINGS

ITEM	SETTING	
BAUD RATE	9600	X
PARITY	NONE	X
DATA BITS	8	X
STOP BITS	1	X
FLOW CONTROL	DISABLED	X

REMOTE ETHERNET SETTINGS

ITEM	SETTING	
REMOTE 1 SOURCE NETWORK ID	XXX	
REMOTE 1 DESTINATION NET ID	XXX	
REMOTE 1 DATE TIME UPDATE	DISABLED	X
REMOTE 1 PORT	8280	X

(ONLY REQUIRED IF ETHERNET REMOTE INSTALLED)

★ SERIAL PORT 3 REMOTE SETTINGS

ITEM	SETTING	
BAUD RATE	9600	X
PARITY	NONE	X
STOP BITS	1	X
TYPE	ASYNCHRONOUS	X
MODE	POINT TO POINT	X
REMOTE 1 SOURCE NETWORK ID	XXX	
REMOTE 1 DESTINATION NET ID	XXX	
REMOTE 1 DATE TIME UPDATE	DISABLED	X

SERIAL PORT 1 LCP SETTINGS

ITEM	SETTING
LCP ENABLE	DISABLED

GFD-1 SETTINGS

ITEM	SETTING	
BATTERY 1 NAME	B-1	X
BATTERY 1 FAULT STATUS	NO FAULT	X
BATTERY 1 CALIBRATED VOLTAGE	13.5	X
BATTERY 1 GROUND FAULT THRESHOLD	8	X
BATTERY 1 GROUND FAULT TIME	30	X
BATTERY 1 LOW BATTERY ALARM VOLTAGE	8.0	X
BATTERY 1 HIGH BATTERY ALARM VOLTAGE	16.5	X
BATTERY 2 NAME	NONE	X
BATTERY 2 FAULT STATUS	NO FAULT	X
BATTERY 2 CALIBRATED VOLTAGE	13.5	X
BATTERY 2 GROUND FAULT THRESHOLD	8	X
BATTERY 2 GROUND FAULT TIME	30	X
BATTERY 2 LOW BATTERY ALARM VOLTAGE	8.0	X
BATTERY 2 HIGH BATTERY ALARM VOLTAGE	16.5	X
BATTERY 3 NAME	NONE	X
BATTERY 3 FAULT STATUS	NO FAULT	X
BATTERY 3 CALIBRATED VOLTAGE	13.5	X
BATTERY 3 GROUND FAULT THRESHOLD	8	X
BATTERY 3 GROUND FAULT TIME	30	X
BATTERY 3 LOW BATTERY ALARM VOLTAGE	8.0	X
BATTERY 3 HIGH BATTERY ALARM VOLTAGE	16.5	X

NOTES:

1. X = STATUS SET/CHANGED USING THE CDU-1, ALL OTHER SET IN THE ACE PROGRAM.
2. VPM-3 ETHERNET PORT ENET1 IP ADDRESS IS 192.168.0.11.
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NEW SHEET

LOCATION B

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REVISIONS					
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XORAIL
5011 GATE PARKWAY BUILDING 100
SUITE 400 JACKSONVILLE FLORIDA 32256
(904) 443-0083 (MAIN)
(904) 443-0089 (FAX)
CERT. OF AUTHORIZATION NO. 9875
ENGINEER OF RECORD
IVORY L. WHITE, JR, P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
CP-803
ELECTROLOGIXS PROGRAM
M.P. A-803.49

SHEET NO.
674

$USER$ $DATE$ $TIME$ $FILE$

ADDRESS TYPE	RAILROAD ID NUMBER			CODE LINE ADDRESS			STATION ADDRESS			SUB DEVICE		INTERNAL DEVICE	
1	2	3	4	5	6	7	8	9	10	11	12	13	14
7	6	0	5	5	2	7	0	3	7	0	2	0	2

OFFICE TO ELECTROLOGIXS COMMUNICATION MODULE
SERIAL COMMUNICATION BITS

CONTROLS FROM OFFICE

WORD	1	2	3	4	5	6	7	8
1	C1 NWS	C1 RWS	C3 NWS	C3 RWS	C2 GS	C4 GS	C2-4 STOP	C6 GS
2	C8 GS	C6-8 STOP						
3	C2 TBS	C2 TBSO	C4 TBS	C4 TBSO	C6 TBS	C6 TBSO	C8 TBS	C8 TBSO
4	CECS	CECSO						

INDICATIONS TO OFFICE

WORD	1	2	3	4	5	6	7	8
1	1 NWK	1 RWK	1 LK	1 NJK	3 NWK	3 RWK	3 LK	3 NJK
2	2 GK	4 GK	2-4 TEK	6 GK	8 GK	6-8 TEK		
3	2 TK	4 TK	2 AK	4 AK	6 AK	8 AK	2 AAK	4 AAK
4	6 AAK	8 AAK	2 TBK	4 TBK	6 TBK	8 TBK		
5			2 BDK	4 BDK	6 BDK	8 BDK	POK	LOK
6	(✕) ECK	GFDK		MOK	SMOKE			

NOTE:
(✕) = INTRUSION ALARM INDICATION.

( ) = NOTE

NEW SHEET

LOCATION A

DRAWING NO.
G80349.004A

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REVISIONS

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ENGINEER OF RECORD
IVORY L. WHITE, JR., P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

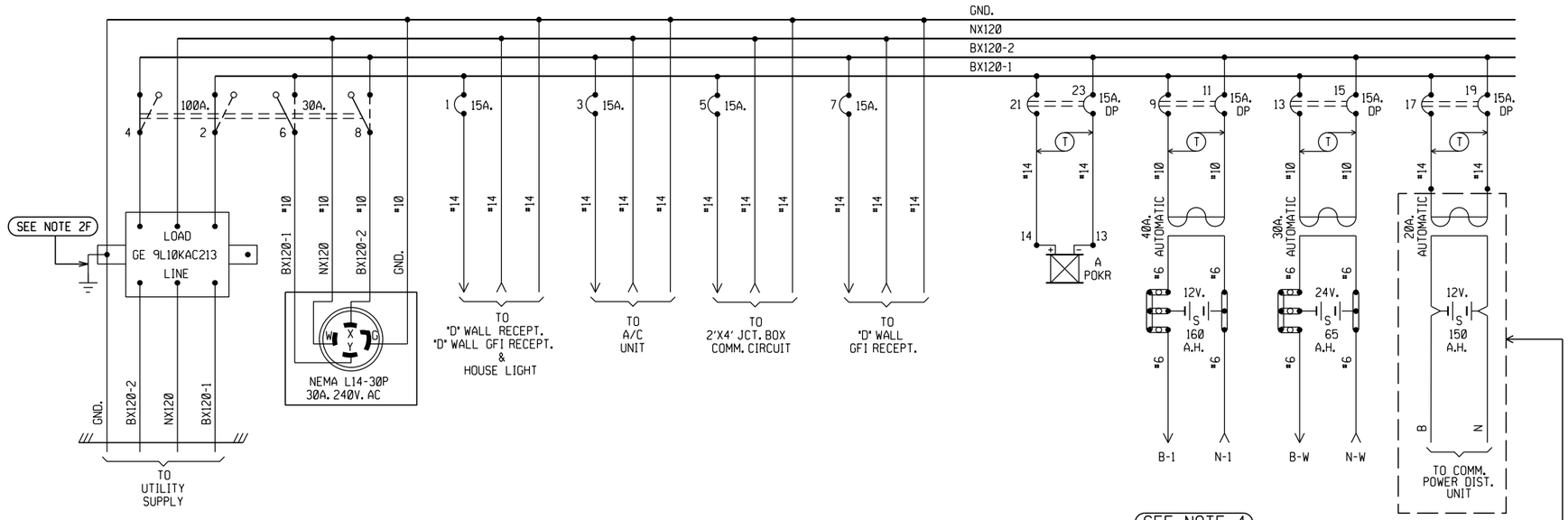
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
CP-803
OFFICE CONTROL & INDICATION EQUIVALENT CIRCUITS
M.P. A-803.49

SHEET NO.
675

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80349.005



SEE NOTE 4

BX120-1	BX120-2
22.0 AMPS	25.0 AMPS

MAXIMUM LOAD

INCLUDES
WORST CASE COMMS
SOLUTION OF 14 AMPS

SHOP TO AFFIX LABEL ON CHARGERS -
CHARGERS WIRED FOR 240V

FIELD VERIFY SIZE OF CHARGER
AND BATTERY VOLTAGE
FOR AS IN SERVICE, INSTALLED
BY COMMS. DEPT.

NOTES:

1 - BATTERY A.H. CAPACITY SHOWN IS THE MINIMUM REQUIREMENT.
2 - WIRING
  A - FEED TO ALL BUSSES, LIGHT CIRCUITS, MOTOR CIRCUITS TO BE #10 FLEX.
  B - 120-VOLT FEED FROM ENTRANCE TO POWER BUSS TO BE #10 FLEX.
  C - ALL TRACK WIRES TO BE #10 FLEX.
  D - ALL OTHERS TO BE #16 FLEX UNLESS NOTED.
  E - ALL BATTERY OUTPUTS TO BE #6.
  F - GROUND WIRE NOT NECESSARY WHEN GE ARRESTER IS MOUNTED ON GROUND PLANE OR METAL ENCLOSURE AFFIXED DIRECTLY TO BUNGALOW METALLIC STRUCTURAL MEMBER.
3 - CIRCUIT INTERRUPTERS 2 & 4 ARE MECHANICALLY INTERLOCKED WITH CIRCUIT INTERRUPTERS 6 & 8.
4 - CHARGERS TO BE WIRED FOR 240VAC
5 - CIRCUIT BREAKER PANEL - QO124L125G (24 SPACES)

( ) = NOTE

NEW SHEET

LOCATION A
8'X 10' RELAY HOUSE

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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
CP-803
POWER DISTRIBUTION
M.P. A-803.49

SHEET NO.
676

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.

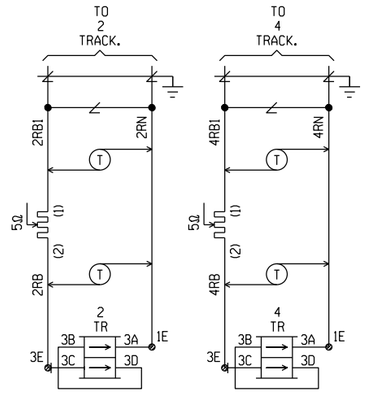
G80349.006

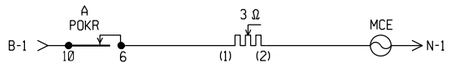
ELECTROLOGIXS RACK

A1NWR	A1RWR	2VSTOP	6VSTOP	2TR	4TR	
13 B — B45	13 B — B45	12 FB — B77	12 FB — B77	12 — B51	12 — B51	
14 F — C30	14 F — C30	15 F — C30	15 F — C30	15 — C30	15 — C30	
33 B	33 B	22 F	22 F	22	22	
34 F	34 F	25	25	23 F	23 F	
		32 F	32 F	25 F	25 F	
		35 F	35 F	32	32	
				35	35	
ROW A						
B1NWR	B1RWR	2VSTOPP	6VSTOPP			
13 B — B45	13 B — B45	12 — B77	12 — B77			
14 F — C30	14 F — C30	15 — C30	15 — C30			
33 B	33 B	22 F	22 F			
34 F	34 F	25	25			
		32 F	32 F			
		35 F	35 F			
ROW B						

APOKR			
9 F	11	—	N68
10 F	12	—	C48

WALL MOUNTED





RELAY IDENTIFICATION AND CROSS REFERENCE			
TYPE	GRS	SAFETRAN	DETAILS
B8	A62-277	400004	4FB-2F-1B, NEUTRAL, 500 OHMS
B45	A62-429	400520	2F-2B (HD), BIASED NEUTRAL, 500 OHMS
B51	A62-120	400510	4FB-2F-1B, BIASED NEUTRAL, 2 OHMS
B77	A62-580	400023	6FB (HD), NEUTRAL, 500 OHMS
C30	A62-506		PLUGBOARD KIT FOR B1 RELAYS
C48	SOCKET SURFACE MOUNT FOR PB TYPE KHAU RELAYS		
N68	4-DT, 12K OHMS, NEUTRAL POTTER BRUMFIELD RELAY (240VAC)		

NOTES:

1 - SHELF RELAY PLACEMENT ON CONSIST CHART HAS NO SIGNIFICANCE.
2 - PLUG-IN RELAYS ARE VIEWED FROM THE FRONT OF RACK.

NEW SHEET

LOCATION A
8'X 10' RELAY HOUSE

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CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

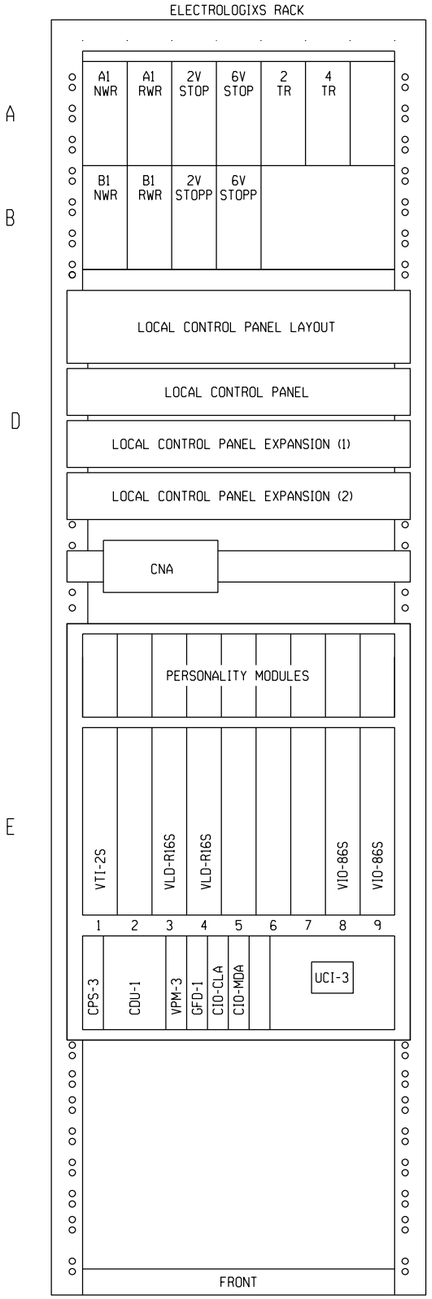
CP-803
RELAY DETAIL & TRACK CIRCUITS

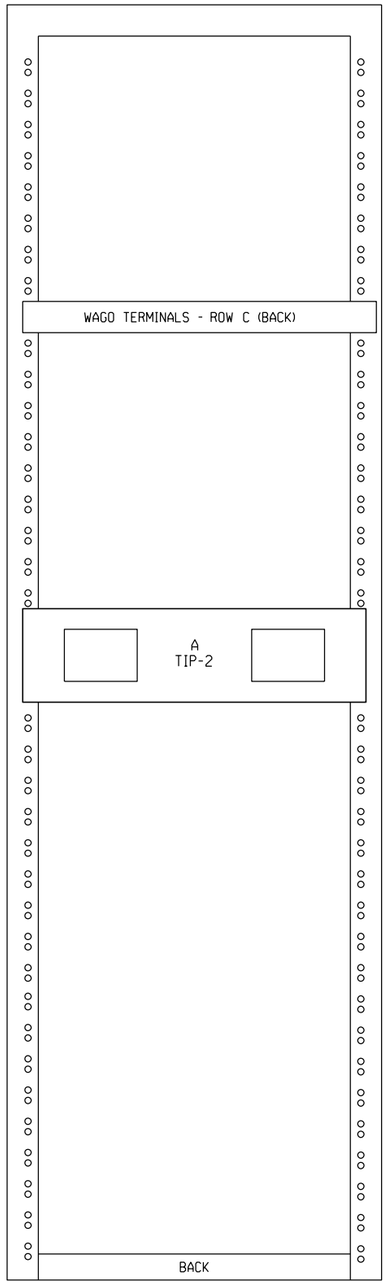
M.P. A-803.49

SHEET NO.

677

$USER$ $DATE$ $TIME$ $FILE$





ELECTROLOGIXS EQUIPMENT RACK 84" X 19"			
REF.	DESCRIPTION	P/N	QTY
---	ASSY RACK 19"		1 EA.
A-B	RLY B1 PLBD KIT NO FLAG	007062-003	10 EA.
A-B	KIT RLY FL E-POST MOD	005634-000	10 EA.
A-B	BAR MTG 19" W/BLU PAINT	122272-001	3 EA.
A-B	TIE BAR RELAY 19" W/BLU PAINT	123160-002	2 EA.
(C) 1-50	WAGO TERMINALS BLOCK ASSY	202292-058	1 EA.
(C)	DIN RAIL 35 X 7.5 FOR 19" RACK	124422-000	1 EA.
C	TIP-2	800-096000-011	1 EA.
ROW C	TIP-2 CABLE 8'	814-096000-017	1 EA.
ROW D	SYSTEM LCP	250726-000	1 EA.
ROW D	LOCAL CONTROL PANEL EXPANSION UNIT	250726-001	2 EA.
ROW D	COMMUNICATIONS NETWORK ADAPTER (CNA)		1 EA.
ROW E	ELECTROLOGIXS CHASSIS	300752-000	1 EA.
E1	VTI-2S PERSONALITY MODULE	227442-000	1 EA.
E1	VTI-2S MODULE	251123-000	1 EA.
E3-E4	VLD-R16S PERSONALITY MODULE	227539-000	2 EA.
E3-E4	VLD-R16S MODULE	251381-000	2 EA.
E8-E9	VIO-86S PERSONALITY MODULE	227537-000	2 EA.
E8-E9	VIO-86S MODULE	251380-000	2 EA.
ROW E	CPS-3 MODULE	251456-000	1 EA.
ROW E	CDU-1	251124-000	1 EA.
ROW E	VPM-3 MODULE	251432-100	1 EA.
ROW E	GFD-1 MODULE	251333-000	1 EA.
ROW E	CIO-CLA MODULE	251329-100	1 EA.
ROW E	CABLE (CLA TO LCP CPU)	075113-020	1 EA.
ROW E	CIO-MDA MODULE	251332-000	1 EA.
ROW E	UCI-3 MODULE	251495-000	1 EA.

NEW SHEET

LOCATION A

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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

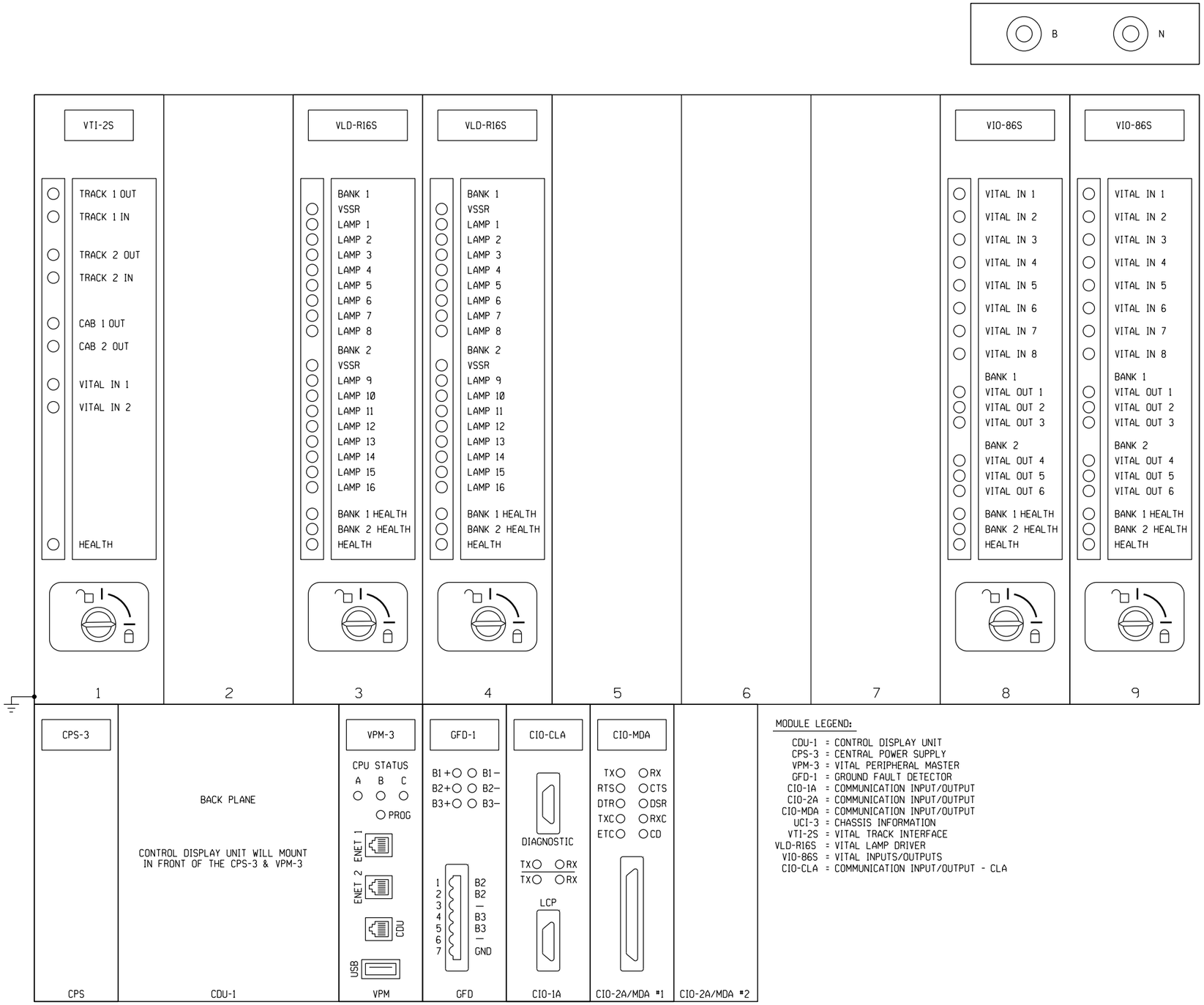
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
CP-803
RACK 1 LAYOUT
M.P. A-803.49

SHEET NO.
678

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80349.008



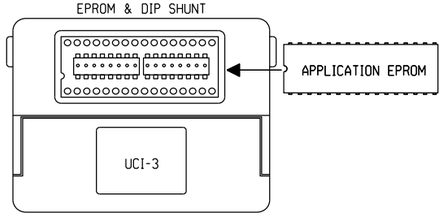
MODULE LEGEND:

CDU-1 = CONTROL DISPLAY UNIT
CPS-3 = CENTRAL POWER SUPPLY
VPM-3 = VITAL PERIPHERAL MASTER
GFD-1 = GROUND FAULT DETECTOR
CIO-1A = COMMUNICATION INPUT/OUTPUT
CIO-2A = COMMUNICATION INPUT/OUTPUT
CIO-MDA = COMMUNICATION INPUT/OUTPUT
UCI-3 = CHASSIS INFORMATION
VTI-2S = VITAL TRACK INTERFACE
VLD-R16S = VITAL LAMP DRIVER
VIO-86S = VITAL INPUTS/OUTPUTS
CIO-CLA = COMMUNICATION INPUT/OUTPUT - CLA

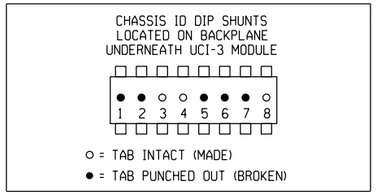
CIO-CLA MODULE
DIAGNOSTIC PORT
PIN ASSIGNMENT

PIN	SIGNAL	SIGNAL NAME
1	CD	CARRIER DETECT
2	RX	RECEIVE DATA
3	TX	TRANSMIT DATA
4	DTR	DTE
5	GND	COMMON SIGNAL RETURN
6	DSR	DCE
7	RTS	REQUEST TO SEND
8	CTS	CLEAR TO SEND
9	RI	RING INDICATOR

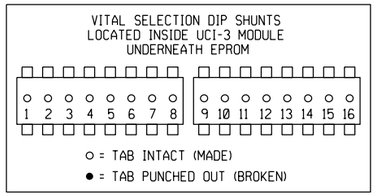
TYPICAL INSTALLATION OF
EPROM & DIP SHUNT



CHASSIS ID - 49



VITAL SELECTION ID-N/A



NEW SHEET

LOCATION A

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REVISIONS

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XORAIL
5011 GATE PARKWAY BUILDING 100
SUITE 400 JACKSONVILLE FLORIDA 32256
(904) 443-0083 (MAIN)
(904) 443-0089 (FAX)
CERT. OF AUTHORIZATION NO. 9875
ENGINEER OF RECORD
IVORY L. WHITE, JR, P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

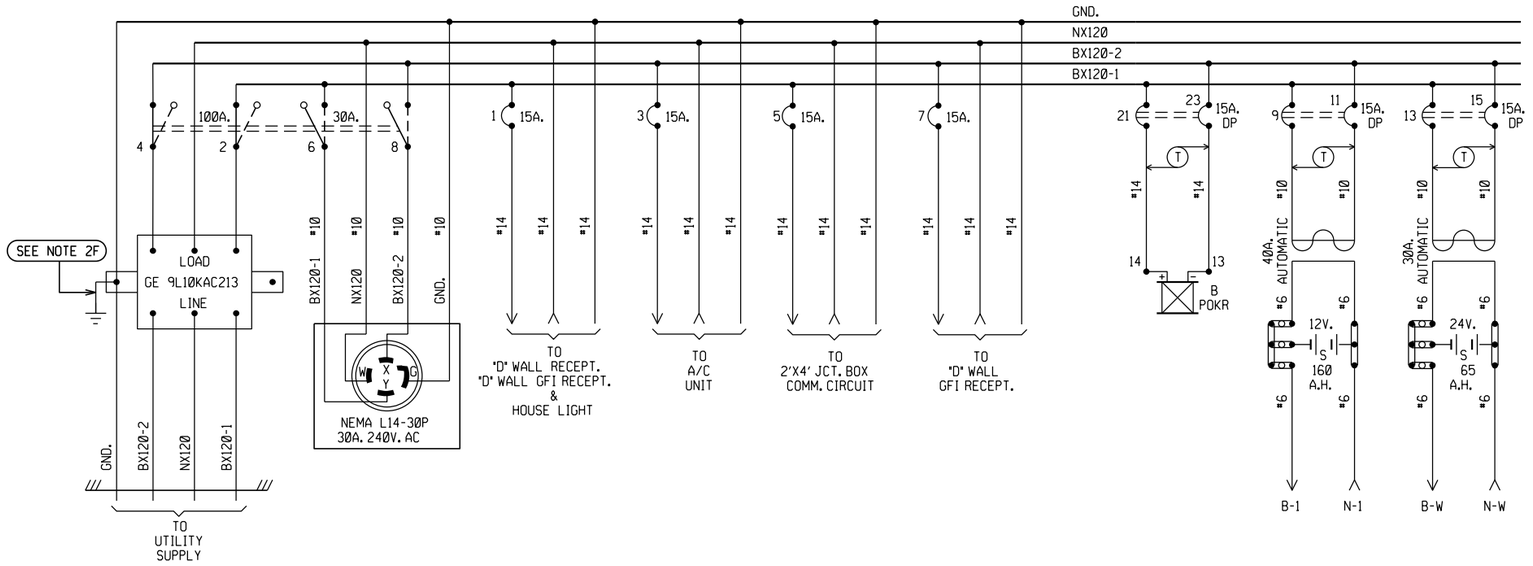
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
CP-803
ELECTROLOGIXS MODULE CONFIGURATION
M.P. A-803.49

SHEET NO.
679

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80349.009



SEE NOTE 4

BX120-1	BX120-2
17.5 AMPS	15.5 AMPS

MAXIMUM LOAD

MAXIMUM LOAD SHOWN BASED ON WORST CASE SIGNAL AND SIGNAL RELATED COMMUNICATION EQUIPMENT

SHOP TO AFFIX LABEL ON CHARGERS - CHARGERS WIRED FOR 240V

NOTES:

1 - BATTERY A.H. CAPACITY SHOWN IS THE MINIMUM REQUIREMENT.
2 - WIRING
  A - FEED TO ALL BUSSES, LIGHT CIRCUITS, MOTOR CIRCUITS TO BE #10 FLEX.
  B - 120-VOLT FEED FROM ENTRANCE TO POWER BUSS TO BE #10 FLEX.
  C - ALL TRACK WIRES TO BE #10 FLEX.
  D - ALL OTHERS TO BE #16 FLEX UNLESS NOTED.
  E - ALL BATTERY OUTPUTS TO BE #6
  F - GROUND WIRE NOT NECESSARY WHEN GE ARRESTER IS MOUNTED ON GROUND PLANE OR METAL ENCLOSURE AFFIXED DIRECTLY TO BUNGALOW METALLIC STRUCTURAL MEMBER.
3 - CIRCUIT INTERRUPTERS 2 & 4 ARE MECHANICALLY INTERLOCKED WITH CIRCUIT INTERRUPTERS 6 & 8.
4 - CHARGERS TO BE WIRED FOR 240VAC
5 - CIRCUIT BREAKER PANEL - QO124L125G (24 SPACES)

( ) = NOTE

NEW SHEET

LOCATION B
8'X 8' RELAY HOUSE

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STATE OF FLORIDA
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ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
CP-803
POWER DISTRIBUTION
M.P. A-803.49

SHEET NO.
680

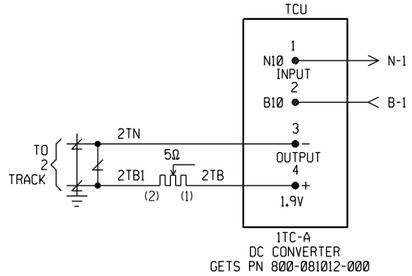
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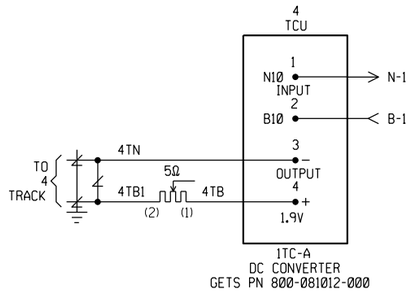
ELECTROLOGIXS RACK

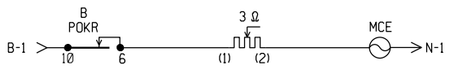
A3NWR			A3RWR			4VSTOP			8VSTOP						ROW A
13	B	B45	13	B	B45	12	FB		12	FB					
14	F	C30	14	F	C30	15	F	B77	15	F	B77				
33	B		33	B		22	F	C30	22	F	C30				
34	F		34	F		25			25						
						32	F		32	F					
						35	F		35	F					
B3NWR			B3RWR			4VSTOPP			8VSTOPP						ROW B
13	B	B45	13	B	B45	12			12						
14	F	C30	14	F	C30	15		B77	15		B77				
33	B		33	B		22	F	C30	22	F	C30				
34	F		34	F		25			25						
						32	F		32	F					
						35	F		35	F					

BPOKR				
9	F	11		N68
10	F	12		C48

WALL MOUNTED







RELAY IDENTIFICATION AND CROSS REFERENCE			
TYPE	GRS	SAFETRAN	DETAILS
B8	A62-277	400004	4FB-2F-1B, NEUTRAL, 500 OHMS
B45	A62-429	400520	2F-2B (HD), BIASED NEUTRAL, 500 OHMS
B51	A62-120	400510	4FB-2F-1B, BIASED NEUTRAL, 2 OHMS
B77	A62-580	400023	6FB (HD), NEUTRAL, 500 OHMS
C30	A62-506		PLUGBOARD KIT FOR B1 RELAYS
C48	SOCKET SURFACE MOUNT FOR PB TYPE KHAU RELAYS		
N68	4-DT, 12K OHMS, NEUTRAL POTTER BRUMFIELD RELAY (240VAC)		

NOTES:

1 - SHELF RELAY PLACEMENT ON CONSIST CHART HAS NO SIGNIFICANCE.

2 - PLUG-IN RELAYS ARE VIEWED FROM THE FRONT OF RACK.

NEW SHEET

LOCATION B
8'X 8' RELAY HOUSE

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ENGINEER OF RECORD
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P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

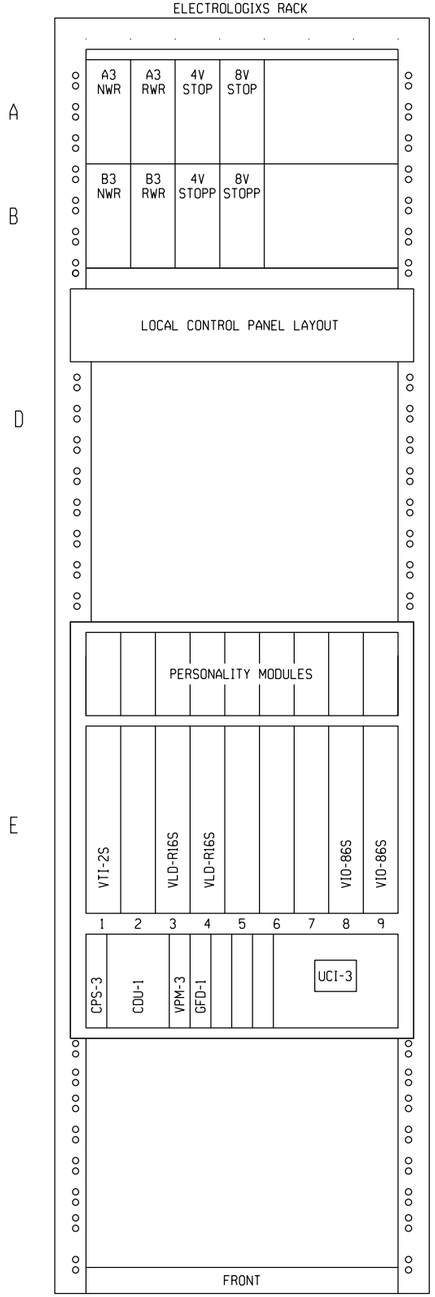
CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
CP-803
RELAY DETAIL & TRACK CIRCUITS
M.P. A-803.49

SHEET NO.
681

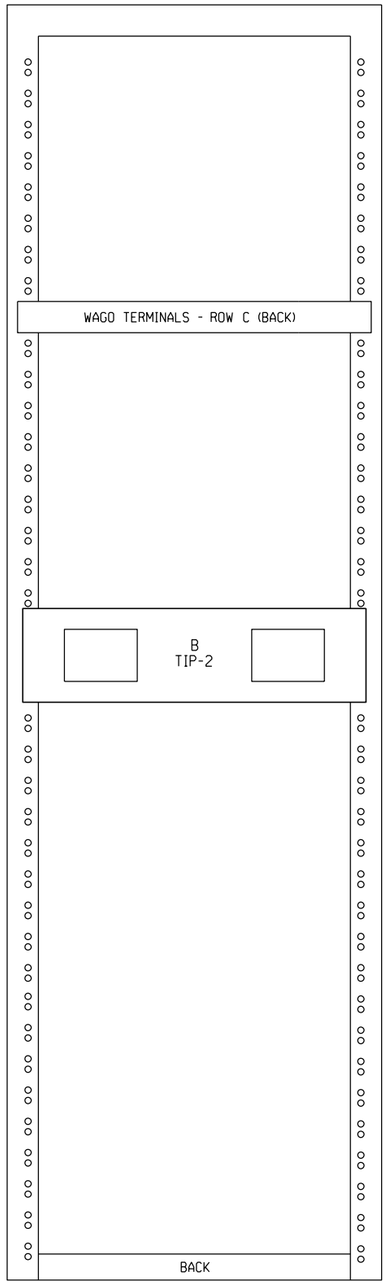
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DRAWING NO.
G80349.011

ELECTROLOGIXS RACK



RACK 1



RACK 1

ELECTROLOGIXS EQUIPMENT RACK 84" X 19"			
REF.	DESCRIPTION	P/N	QTY
---	ASSY RACK 19"		1 EA.
A-B	RLY B1 PLBD KIT NO FLAG	007062-003	8 EA.
A-B	KIT RLY FL E-POST MOD	005634-000	8 EA.
A-B	BAR MTG 19" W/BLU PAINT	122272-001	3 EA.
A-B	TIE BAR RELAY 19" W/BLU PAINT	123160-002	2 EA.
BACK (C) 1-50	WAGO TERMINALS BLOCK ASSY	202292-058	1 EA.
BACK (C)	DIN RAIL 35 X 7.5 FOR 19" RACK	124422-000	1 EA.
BACK C	TIP-2	800-096000-011	1 EA.
BACK C	TIP-2 CABLE 8'	814-096000-017	1 EA.
ROW D	SYSTEM LCP	250726-000	1 EA.
ROW E	ELECTROLOGIXS CHASSIS	300752-000	1 EA.
E1	VTI-2S PERSONALITY MODULE	227442-000	1 EA.
E1	VTI-2S MODULE	251123-000	1 EA.
E3-E4	VLD-R16S PERSONALITY MODULE	227539-000	2 EA.
E3-E4	VLD-R16S MODULE	251381-000	2 EA.
E8-E9	VIO-86S PERSONALITY MODULE	227537-000	2 EA.
E8-E9	VIO-86S MODULE	251380-000	2 EA.
ROW E	CPS-3 MODULE	251456-000	1 EA.
ROW E	CDU-1	251124-000	1 EA.
ROW E	VPM-3 MODULE	251432-100	1 EA.
ROW E	GFD-1 MODULE	251333-000	1 EA.
ROW E	UCI-3 MODULE	251495-000	1 EA.

NEW SHEET

LOCATION B

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CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

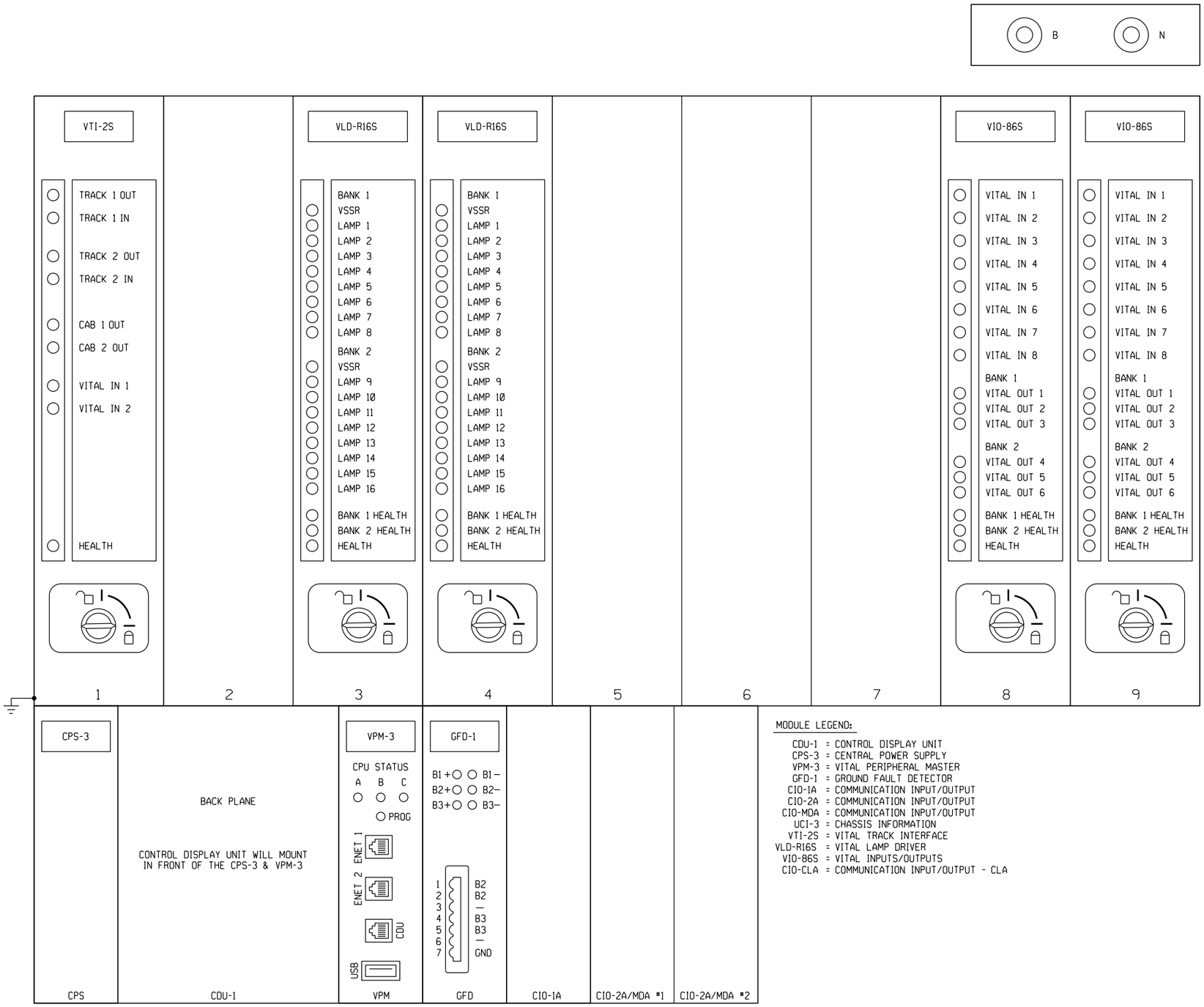
CP-803
RACK 1 LAYOUT

M.P. A-803.49

SHEET NO.
682

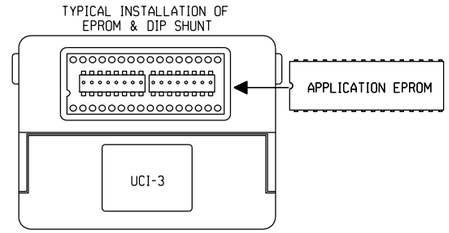
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DRAWING NO.
G80349.012

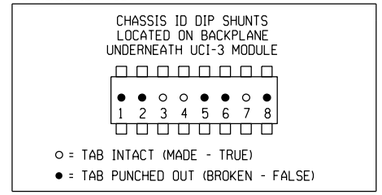


MODULE LEGEND:

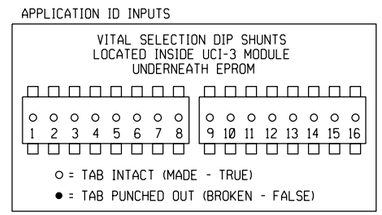
CDU-1 = CONTROL DISPLAY UNIT
CPS-3 = CENTRAL POWER SUPPLY
VPM-3 = VITAL PERIPHERAL MASTER
GFD-1 = GROUND FAULT DETECTOR
CIO-1A = COMMUNICATION INPUT/OUTPUT
CIO-2A = COMMUNICATION INPUT/OUTPUT
CIO-MDA = COMMUNICATION INPUT/OUTPUT
UCI-3 = CHASSIS INFORMATION
VTI-2S = VITAL TRACK INTERFACE
VLD-R16S = VITAL LAMP DRIVER
VIO-86S = VITAL INPUTS/OUTPUTS
CIO-CLA = COMMUNICATION INPUT/OUTPUT - CLA



CHASSIS ID - 50



APPLICATION ID INPUTS



NEW SHEET

LOCATION B

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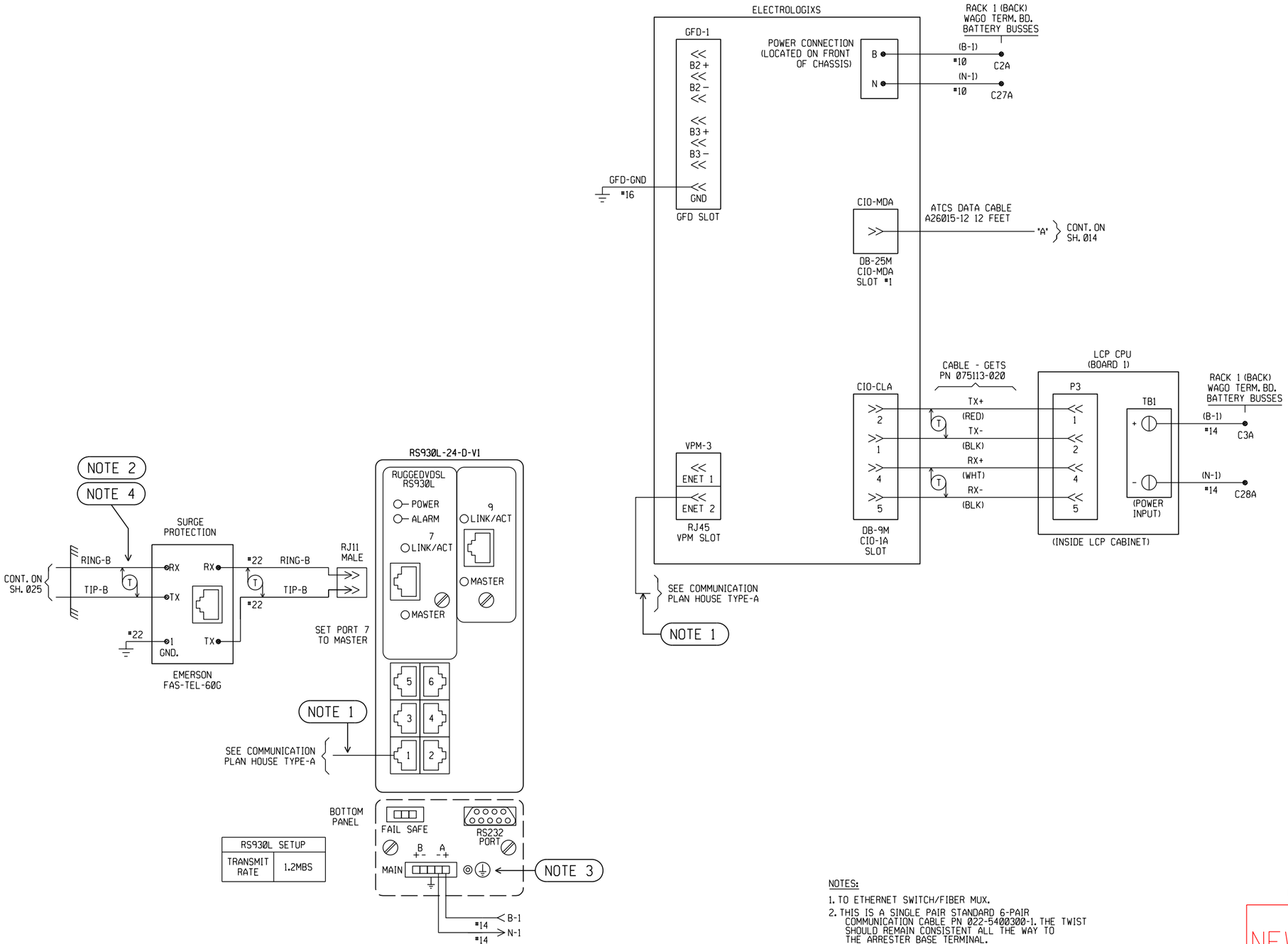
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
CP-803
ELECTROLOGIXS MODULE CONFIGURATION
M.P. A-803.49

SHEET NO.
683

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80349.013



NOTES:

1. TO ETHERNET SWITCH/FIBER MUX.
2. THIS IS A SINGLE PAIR STANDARD 6-PAIR COMMUNICATION CABLE PN 022-5400300-1. THE TWIST SHOULD REMAIN CONSISTENT ALL THE WAY TO THE ARRESTER BASE TERMINAL.
3. ON RUGGEDCOM UNIT REMOVE GROUND BRAID BETWEEN SURGE & CHASSIS GROUND WHEN BATTERY INPUT IS FROM SIGNAL BATTERY SUPPLY.
4. FIELD FORCES TO GROUND 6-PAIR COMMUNICATION CABLE SHIELD IN LOC.A ONLY.

( ) = NOTE

NEW SHEET

LOCATION A

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CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

CP-803

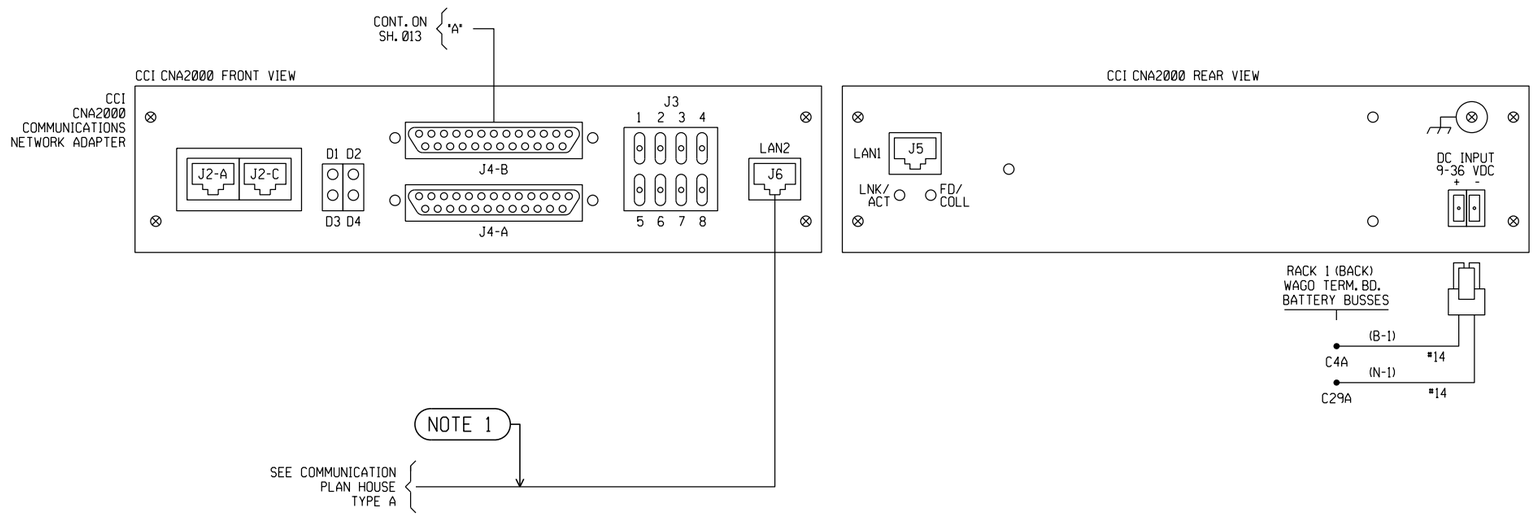
ELECTROLOGIXS CIRCUITS

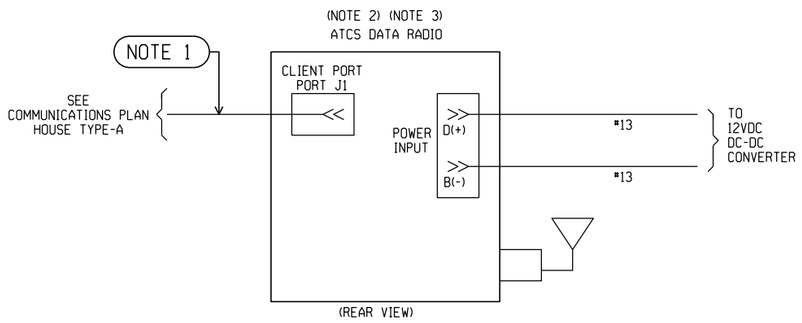
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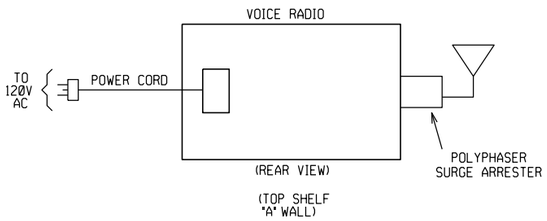
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$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80349.014







ETHERNET SWITCH PORT ASSIGNMENTS

PORT #1 COMM. ROUTER
PORT #2 COMM. EQUIPMENT
PORT #3 220 MHZ RADIO / SATELLITE
PORT #4 COMMUNICATIONS NETWORK ADAPTER
PORT #5 WAYSIDE INTERFACE UNIT #3 / COMM. ETHERNET EXTENDER
PORT #6 WAYSIDE INTERFACE UNIT #2 / SIGNAL ETHERNET EXTENDER
PORT #7 WAYSIDE INTERFACE UNIT #1 / VPM
PORT #8 WAYSIDE MESSAGE SERVER

= NOTE

NEW SHEET

NOTES:

1. TO ETHERNET SWITCH/FIBER MUX.
2. SEE COMMUNICATION PLAN FOR DETAIL
3. RADIO FOR BACK UP OFFICE COMMUNICATION.

LOCATION A

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STATE OF FLORIDA
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ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

CP-803

OFFICE COMMUNICATION CIRCUITS

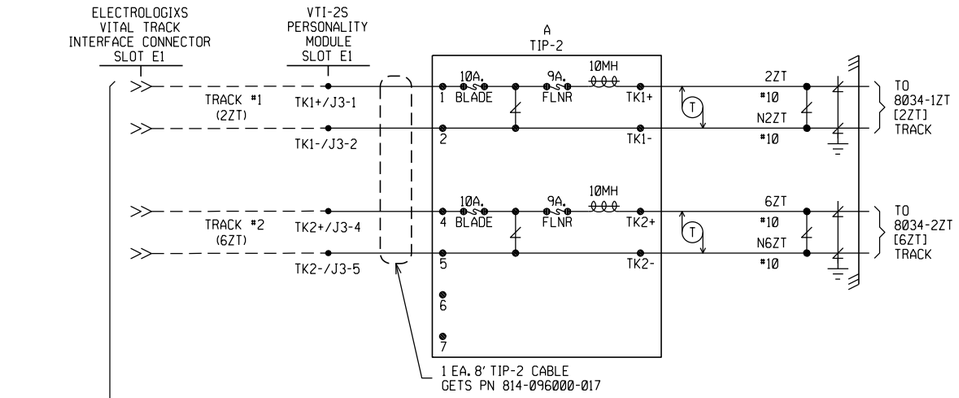
M.P. A-803.49

SHEET NO.

685

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80349.015



THE ROUTING OF TRACK WIRES WITHIN THE BUNGALOW SHOULD BE AS SHORT AND DIRECT AS POSSIBLE, ESPECIALLY FOR THE LONGER TRACK CIRCUITS.

TO VITAL TRACK INTERFACE MODULE

- CAB ENABLE #1 (SPARE) — CAB1+/J4-1, CAB1-/J4-2
- CAB ENABLE #2 (SPARE) — CAB2+/J4-4, CAB2-/J4-5
- INPUT #1 (SPARE) — IN1+/J4-7, IN1-/J4-8
- INPUT #2 (SPARE) — IN2+/J4-10, IN2-/J4-11

VTI-2S PERSONALITY MODULE SLOT E1 PLUG CONNECTORS

J3			J4		
TK1+	■	1	CAB1+	□	1
TK1-	■	2	CAB1-	□	2
—	□	3	—	□	3
TK2+	■	4	CAB2+	□	4
TK2-	■	5	CAB2-	□	5
—	□	6	—	□	6
—	□	7	IN1+	□	7
			IN1-	□	8
			—	□	9
			IN2+	□	10
			IN2-	□	11

■ = WIRE PRESENT

NOTES:
1. [ ] = TAGGING PURPOSES ONLY
2. ---- = INTERNAL CONNECTION

NEW SHEET

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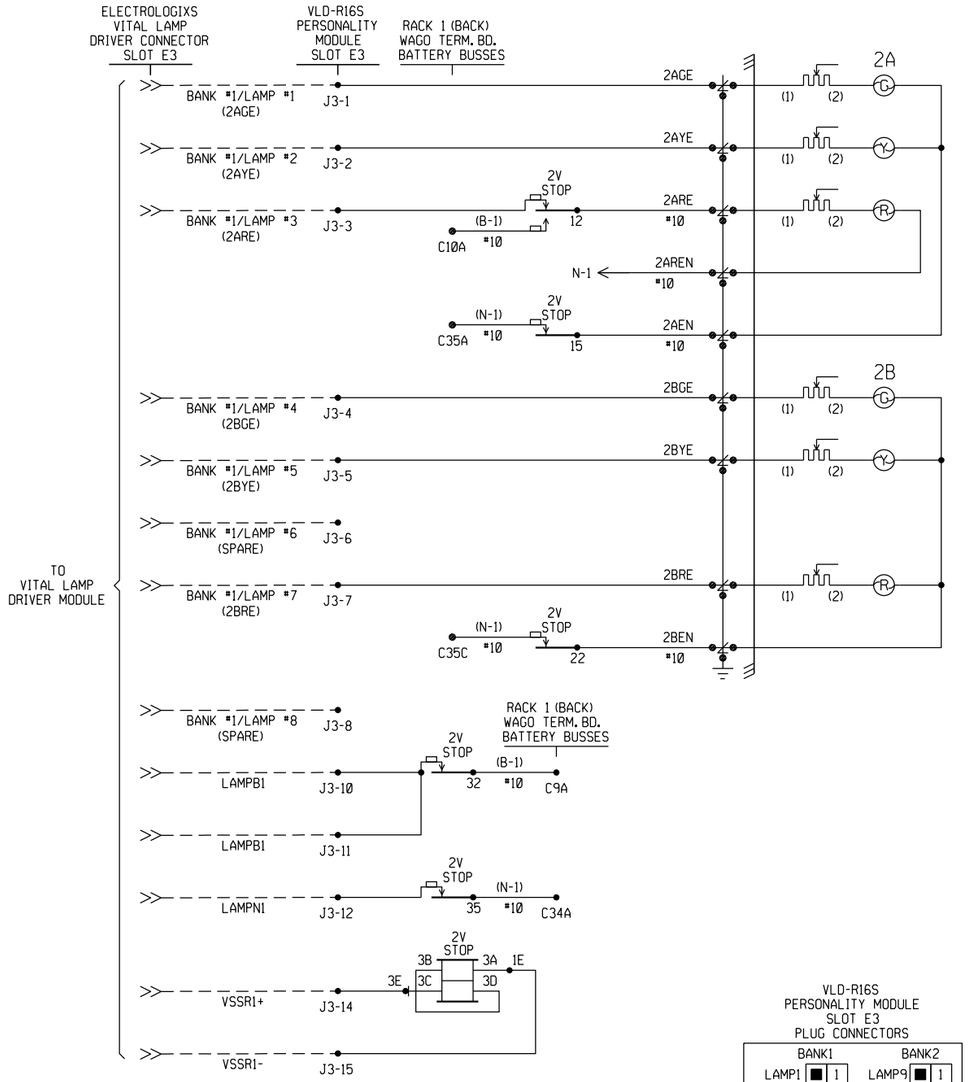
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

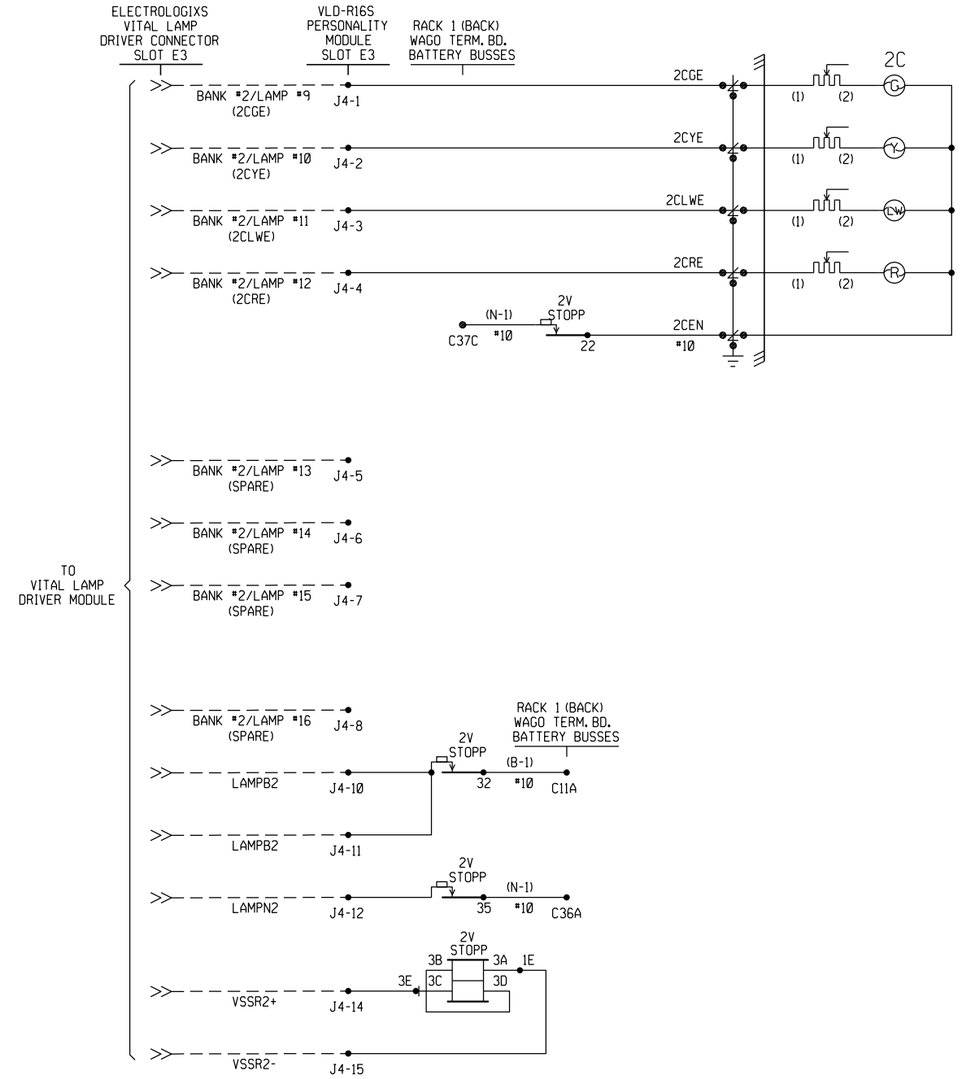
CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
CP-803
ELECTROLOGIXS TRACK CIRCUITS
M.P. A-803.49

SHEET NO.
686

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80349.016





VLD-R16S
PERSONALITY MODULE
SLOT E3
PLUG CONNECTORS

BANK1			BANK2		
LAMP1	■	1	LAMP9	■	1
LAMP2	■	2	LAMP10	■	2
LAMP3	■	3	LAMP11	■	3
LAMP4	■	4	LAMP12	■	4
LAMP5	■	5	LAMP13	□	5
LAMP6	□	6	LAMP14	□	6
LAMP7	■	7	LAMP15	□	7
LAMP8	□	8	LAMP16	□	8
——	□	9	——	□	9
LAMPB1	■	10	LAMPB2	■	10
LAMPB1	■	11	LAMPB2	■	11
LAMPN1	■	12	LAMPN2	■	12
——	□	13	——	□	13
VSSR1+	■	14	VSSR2+	■	14
VSSR1-	■	15	VSSR2-	■	15
	J3			J4	

■ = WIRE PRESENT

NOTES:

1. ●/● = LPC-10512-1 (15A, BLUE LEAD) HYBRID LOW VOLTAGE ARRESTER, UNLESS NOTED.
2. ---- = INTERNAL CONNECTION
3. ALL HOUSE WIRING THIS SHEET #14 FLEX UNLESS NOTED.
4. ALL RESISTORS ARE 3 OHM, 15 WATTS.
5. VSSR2 IS COMBINED IN THE PROGRAM WITH THE VSSR1 OUTPUT.

NEW SHEET

LOCATION A

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.003, F.A.C.

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

XORAIL
5011 GATE PARKWAY BUILDING 100
SUITE 400 JACKSONVILLE FLORIDA 32256
(904) 443-0083 (MAIN)
(904) 443-0089 (FAX)
CERT. OF AUTHORIZATION NO. 9875
ENGINEER OF RECORD
IVORY L. WHITE, JR, P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

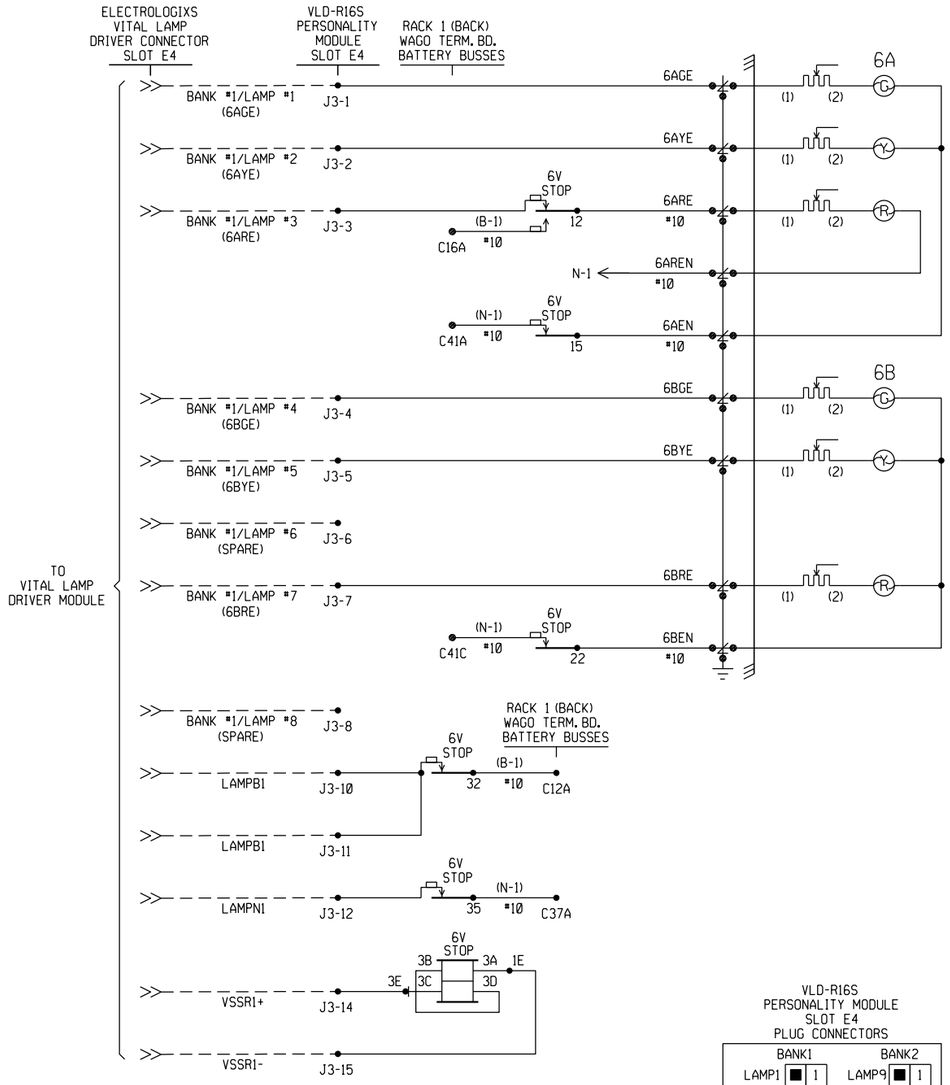
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

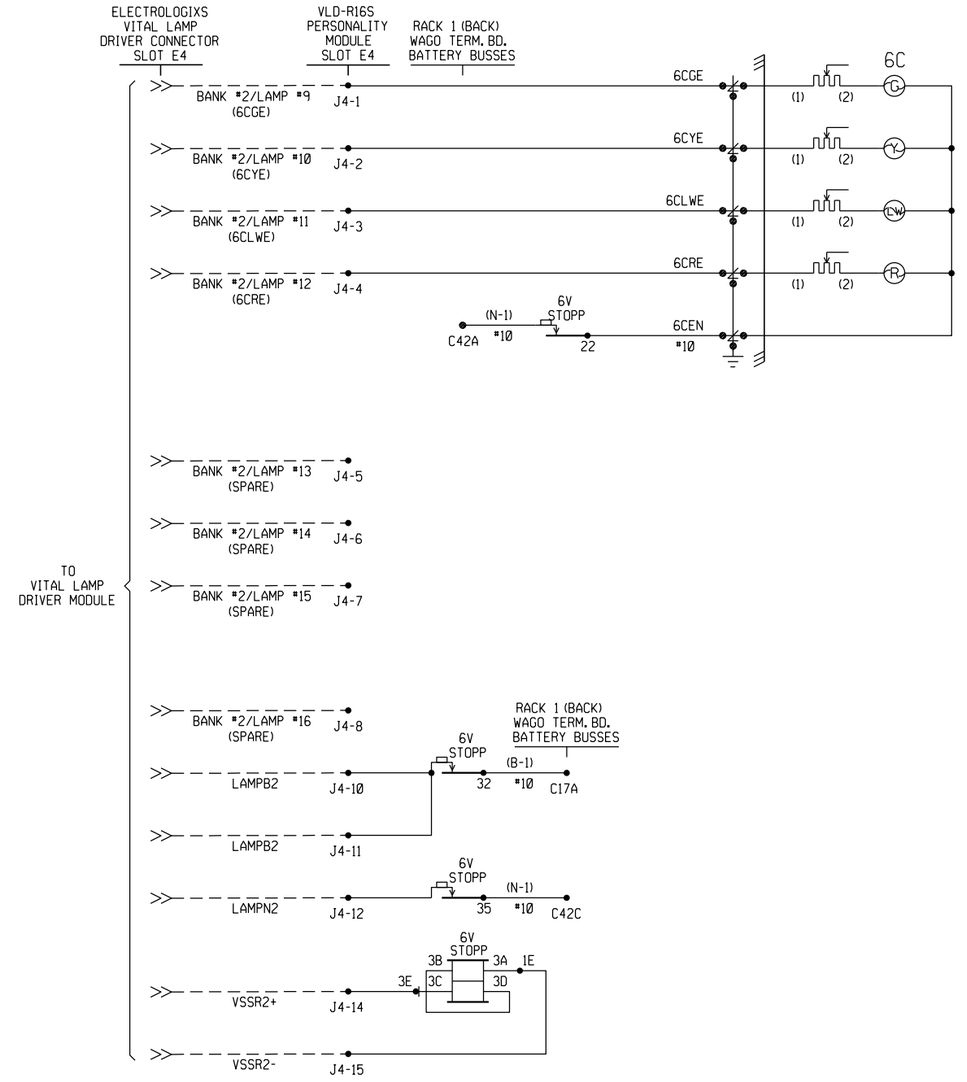
CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
CP-803
SIGNAL 2 LIGHTING CIRCUITS
M.P. A-803.49

SHEET NO.
687

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80349.017





VLD-R16S
PERSONALITY MODULE
SLOT E4
PLUG CONNECTORS

BANK1			BANK2		
LAMP1	■	1	LAMP9	■	1
LAMP2	■	2	LAMP10	■	2
LAMP3	■	3	LAMP11	■	3
LAMP4	■	4	LAMP12	■	4
LAMP5	■	5	LAMP13	□	5
LAMP6	□	6	LAMP14	□	6
LAMP7	■	7	LAMP15	□	7
LAMP8	□	8	LAMP16	□	8
——	□	9	——	□	9
LAMPB1	■	10	LAMPB2	■	10
LAMPB1	■	11	LAMPB2	■	11
LAMPN1	■	12	LAMPN2	■	12
——	□	13	——	□	13
VSSR1+	■	14	VSSR2+	■	14
VSSR1-	■	15	VSSR2-	■	15
	J3			J4	

■ = WIRE PRESENT

NOTES:
1. ●⁄● = LPC-10512-1 (15A, BLUE LEAD) HYBRID LOW VOLTAGE ARRESTER, UNLESS NOTED.
2. ---- = INTERNAL CONNECTION
3. ALL HOUSE WIRING THIS SHEET #14 FLEX UNLESS NOTED.
4. ALL RESISTORS ARE 3 OHM, 15 WATTS.
5. VSSR2 IS COMBINED IN THE PROGRAM WITH THE VSSR1 OUTPUT.

NEW SHEET

LOCATION A

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.003, F.A.C.

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

XORAIL
5011 GATE PARKWAY BUILDING 100
SUITE 400 JACKSONVILLE FLORIDA 32256
(904) 443-0083 (MAIN)
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CERT. OF AUTHORIZATION NO. 9875
ENGINEER OF RECORD
IVORY L. WHITE, JR, P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

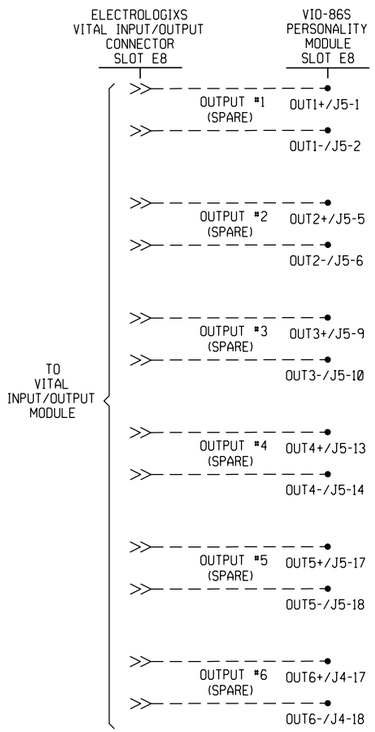
CP-803
SIGNAL 6 LIGHTING CIRCUITS

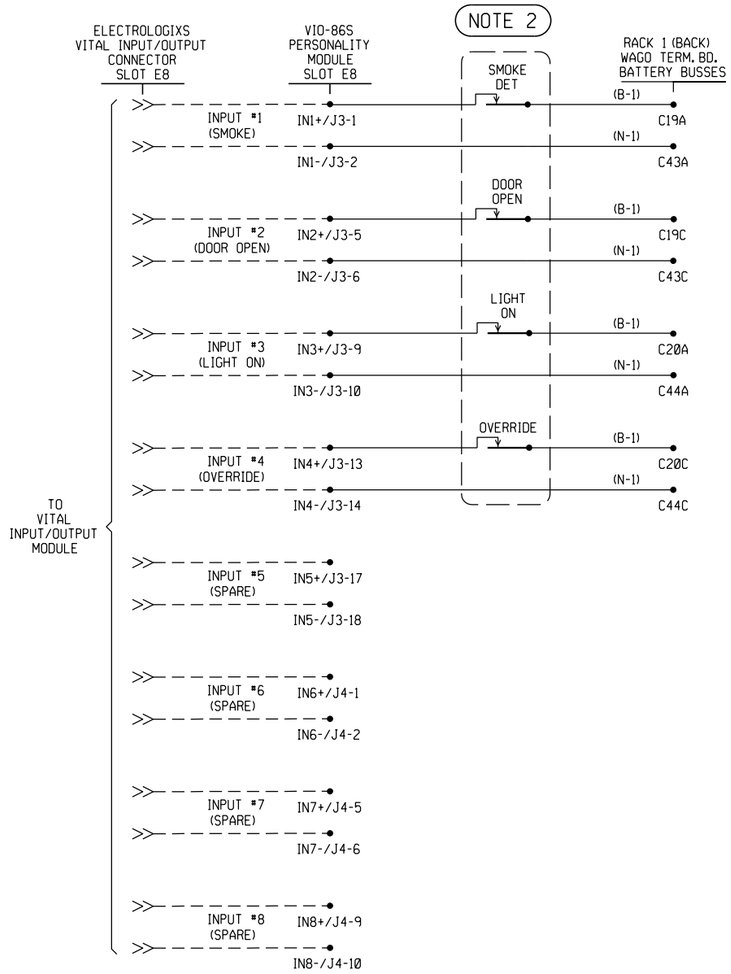
M.P. A-803.49

SHEET NO.
688

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80349.018





VIO-86S
PERSONALITY MODULE
SLOT E8
PLUG CONNECTORS

J3			J4			J5		
IN1+	■	1	IN6+	□	1	OUT1+	□	1
IN1-	■	2	IN6-	□	2	OUT1-	□	2
——	□	3	——	□	3	——	□	3
——	□	4	——	□	4	——	□	4
IN2+	■	5	IN7+	□	5	OUT2+	□	5
IN2-	■	6	IN7-	□	6	OUT2-	□	6
——	□	7	——	□	7	——	□	7
——	□	8	——	□	8	——	□	8
IN3+	■	9	IN8+	□	9	OUT3+	□	9
IN3-	■	10	IN8-	□	10	OUT3-	□	10
——	□	11	——	□	11	——	□	11
——	□	12	——	□	12	——	□	12
IN4+	■	13	——	□	13	OUT4+	□	13
IN4-	■	14	——	□	14	OUT4-	□	14
——	□	15	——	□	15	——	□	15
——	□	16	——	□	16	——	□	16
IN5+	□	17	OUT6+	□	17	OUT5+	□	17
IN5-	□	18	OUT6-	□	18	OUT5-	□	18

■ = WIRE PRESENT

= NOTE

NEW SHEET

NOTE:
1. ---- = INTERNAL CONNECTION
2. PROVIDED WITH HOUSE.

LOCATION A

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.003, F.A.C.

REVISIONS					
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CERT. OF AUTHORIZATION NO. 9875
ENGINEER OF RECORD
IVORY L. WHITE, JR., P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

CP-803

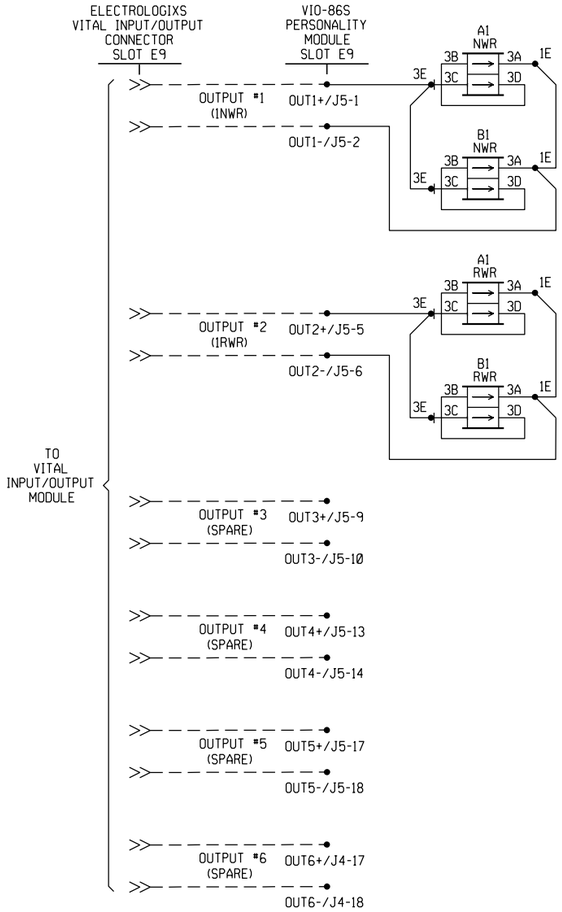
ELECTROLOGIXS I/O CIRCUITS

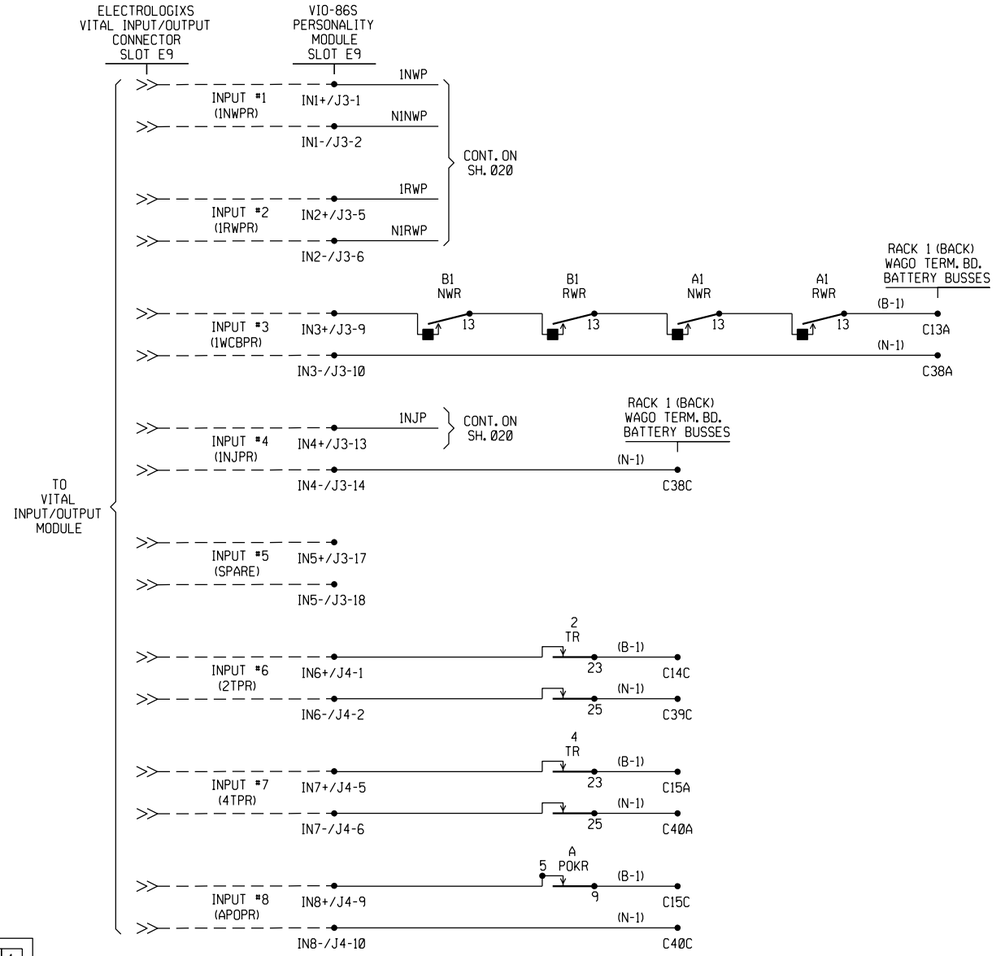
M.P. A-803.49

SHEET NO.
689

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80349.019





VIO-86S
PERSONALITY MODULE
SLOT E9
PLUG CONNECTORS

J3			J4			J5	
IN1+	■	1	IN6+	■	1	OUT1+	■
IN1-	■	2	IN6-	■	2	OUT1-	■
——	□	3	——	□	3	——	□
——	□	4	——	□	4	——	□
IN2+	■	5	IN7+	■	5	OUT2+	■
IN2-	■	6	IN7-	■	6	OUT2-	■
——	□	7	——	□	7	——	□
——	□	8	——	□	8	——	□
IN3+	■	9	IN8+	■	9	OUT3+	□
IN3-	■	10	IN8-	■	10	OUT3-	□
——	□	11	——	□	11	——	□
——	□	12	——	□	12	——	□
IN4+	■	13	——	□	13	OUT4+	□
IN4-	■	14	——	□	14	OUT4-	□
——	□	15	——	□	15	——	□
——	□	16	——	□	16	——	□
IN5+	□	17	OUT6+	□	17	OUT5+	□
IN5-	□	18	OUT6-	□	18	OUT5-	□

■ = WIRE PRESENT

NOTE:
1. ---- = INTERNAL CONNECTION

NEW SHEET

LOCATION A

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REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

XORAIL
5011 GATE PARKWAY BUILDING 100
SUITE 400 JACKSONVILLE FLORIDA 32256
(904) 443-0083 (MAIN)
(904) 443-0089 (FAX)
CERT. OF AUTHORIZATION NO. 9875
ENGINEER OF RECORD
IVORY L. WHITE, JR., P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

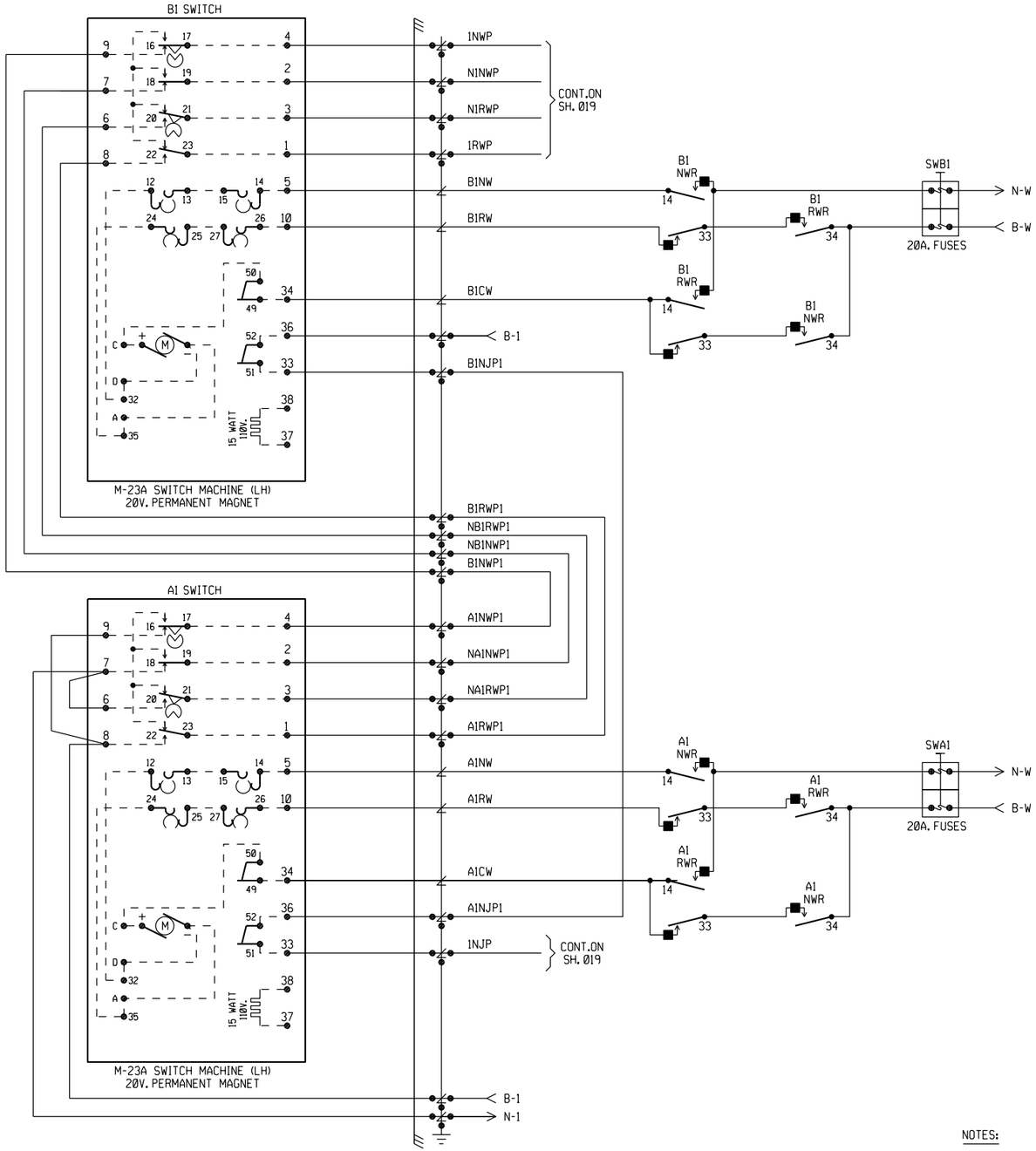
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
CP-803
ELECTROLOGIXS I/O CIRCUITS
M.P. A-803.49

SHEET NO.
690

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80349.020



LEFT HAND LAYOUTS, LEFT HAND POINTS CLOSED.

NOTES:

1. ●⁄● = LPC-10512-1 (15A, BLUE LEAD) HYBRID LOW VOLTAGE ARRESTER, UNLESS NOTED.
2. ---- = INTERNAL CONNECTION

NEW SHEET

LOCATION A

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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

CP-803
SWITCH 1 CIRCUITS

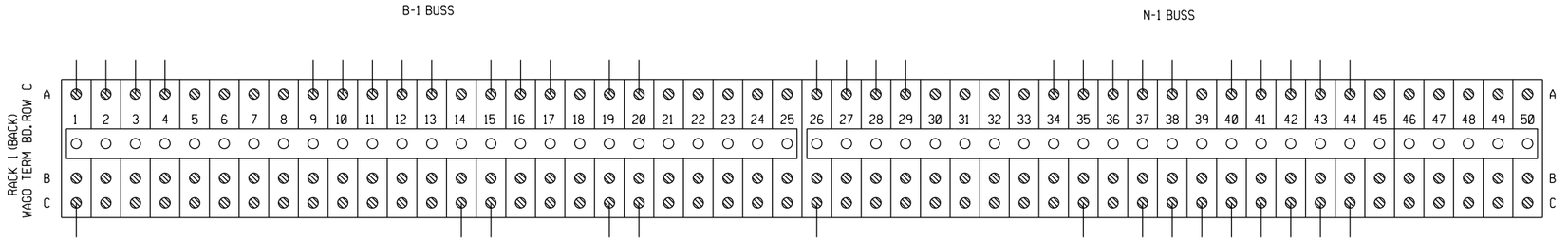
M.P. A-803.49

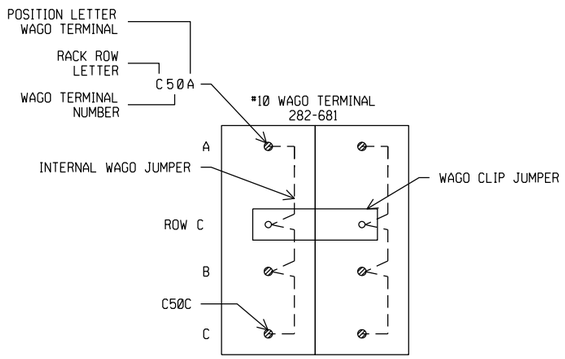
SHEET NO.
691

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.

G80349.021





NOTES:

1. C1A & C1C TO B-1 SUPPLY.
2. C26A & C26C TO N-1 SUPPLY.

NEW SHEET

LOCATION A

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REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

XORAIL
5011 GATE PARKWAY BUILDING 100
SUITE 400 JACKSONVILLE FLORIDA 32256
(904) 443-0083 (MAIN)
(904) 443-0089 (FAX)

CERT. OF AUTHORIZATION NO. 9875

ENGINEER OF RECORD
IVORY L. WHITE, JR., P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

CP-803

WAGO TERMINAL BOARD

M.P. A-803.49

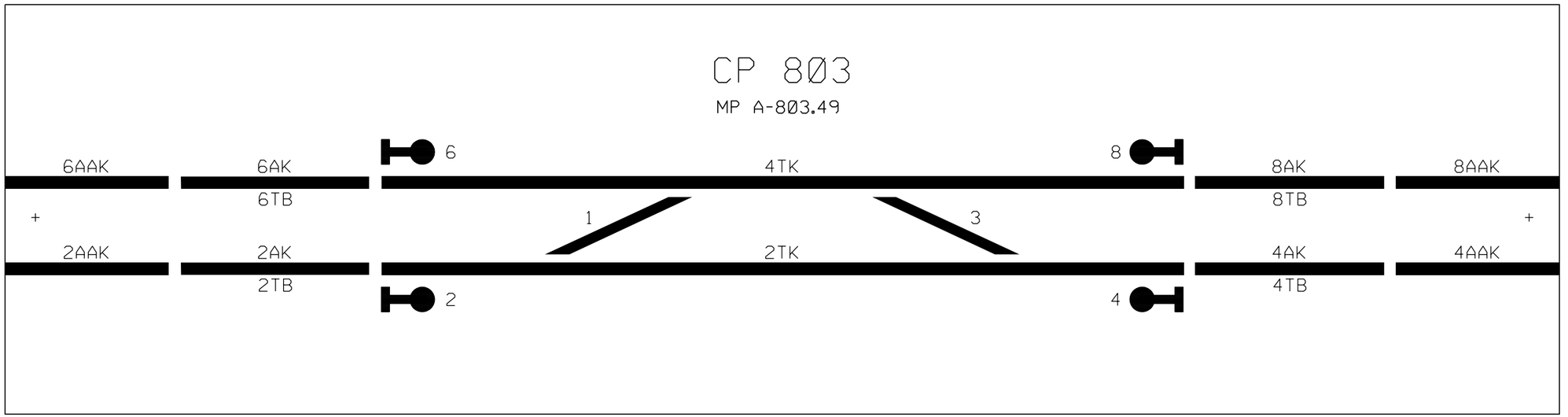
SHEET NO.

692

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.

G80349.022



NEW SHEET

LOCATION A

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REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

XORAIL
5011 GATE PARKWAY BUILDING 100
SUITE 400 JACKSONVILLE FLORIDA 32256
(904) 443-0083 (MAIN)
(904) 443-0089 (FAX)

CERT. OF AUTHORIZATION NO. 9875

ENGINEER OF RECORD
IVORY L. WHITE, JR., P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

CP-803

LOCAL CONTROL PANEL LAYOUT

M.P. A-803.49

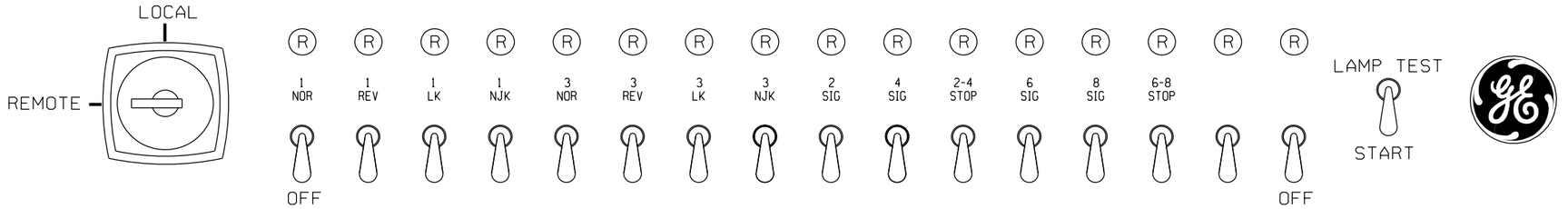
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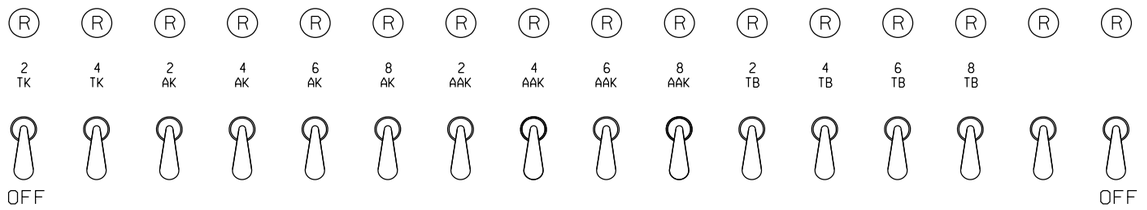
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DRAWING NO.
G80349.023

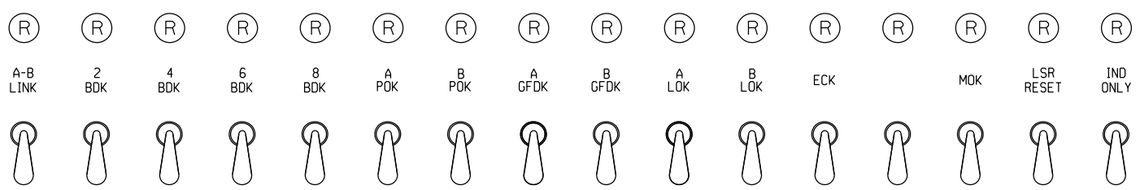
LOCAL CONTROL PANEL



LOCAL CONTROL PANEL EXPANSION



LOCAL CONTROL PANEL EXPANSION



NEW SHEET

NOTE:

1. WHERE "K" APPEARS AT END OF WORD ONLY INDICATION IS OPERATIVE.

LOCATION A

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

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5011 GATE PARKWAY BUILDING 100
SUITE 400 JACKSONVILLE FLORIDA 32256
(904) 443-0083 (MAIN)
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CERT. OF AUTHORIZATION NO. 9875

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IVORY L. WHITE, JR. P.E.
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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

CP-803

LOCAL CONTROL & EXPANSION PANELS

M.P. A-803.49

SHEET NO.

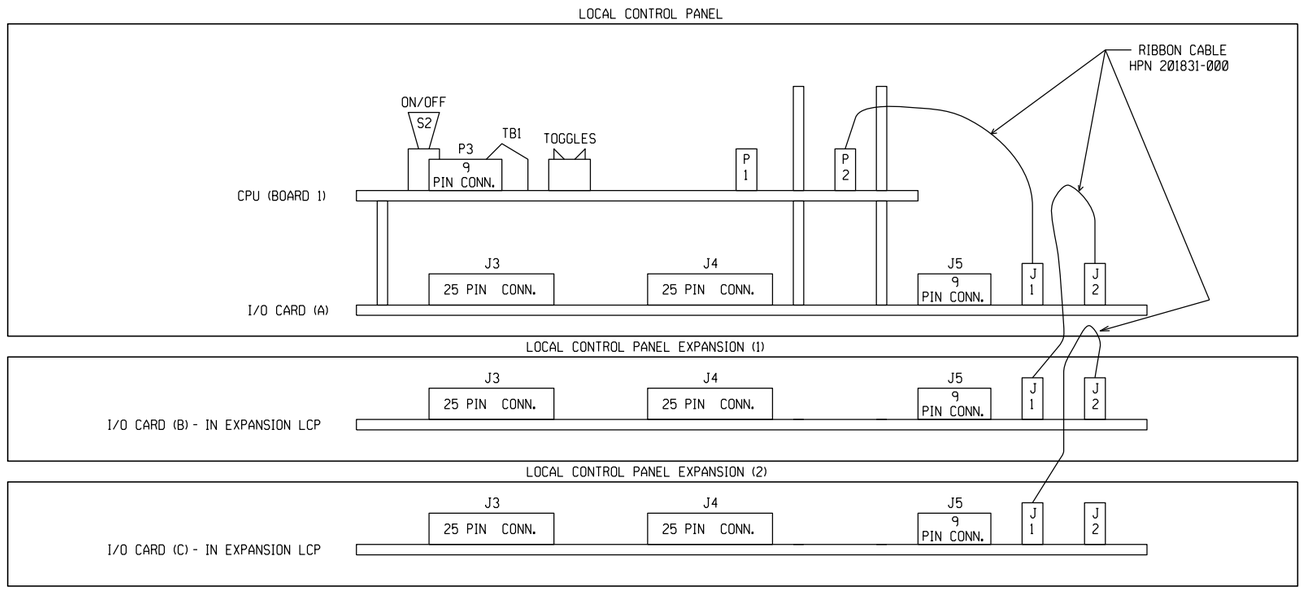
694

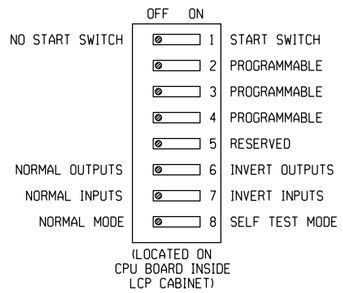
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NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.003, F.A.C.

DRAWING NO.

G80349.024





NEW SHEET

LOCATION A

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REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

XORAIL
5011 GATE PARKWAY BUILDING 100
SUITE 400 JACKSONVILLE FLORIDA 32256
(904) 443-0083 (MAIN)
(904) 443-0089 (FAX)

CERT. OF AUTHORIZATION NO. 9875

ENGINEER OF RECORD
IVORY L. WHITE, JR., P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

CP-803
LOCAL CONTROL & EXPANSION PANEL I/O CARDS

M.P. A-803.49

SHEET NO.

695

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.

G80349.025

NOTE 2

SURGE PROTECTION

RING-B

CONT. ON SH. 013

TIP-B

RX

TX

#22

#1 GND.

RING-B

TIP-B

EMERSON FAS-TEL-60G

ELECTROLOGIXS

GFD-1

B2 +

B2 –

B3 +

B3 –

GND

GFD SLOT

GFD-GND

#16

POWER CONNECTION (LOCATED ON FRONT OF CHASSIS)

B

N

RACK 1 (BACK) WAGO TERM. BD. BATTERY BUSSES

(B-1)

#10

C2A

(N-1)

#10

C27A

VPM-3

ENET 1

ENET 2

RJ45 VPM SLOT

RS930L-24-D-V1

RUGGEDVDSL RS930L

POWER

ALARM

7 LINK/ACT

MASTER

9 LINK/ACT

MASTER

RJ11 MALE

UNIT SET TO SLAVE

NOTE 1

1 2 3 4 5 6

FAIL SAFE

RS232 PORT

B + – A +

MAIN

NOTE 3

#14 B-1

#14 N-1

RS930L SETUP	
TRANSMIT RATE	1.2MBS

NOTES:

1. CABLE CAT 6 PATCH MOLDED SNAGLESS YELLOW 20 FEET; CSD PN 10-5075-00-20 UNSHIELDED
2. THIS IS A SINGLE PAIR STANDARD 6-PAIR COMMUNICATION CABLE PN 022-5400300-1. THE TWIST SHOULD REMAIN CONSISTENT ALL THE WAY TO THE ARRESTER BASE TERMINAL.
3. ON RUGGEDCOM UNIT REMOVE GROUND BRAID BETWEEN SURGE & CHASSIS GROUND WHEN BATTERY INPUT IS FROM SIGNAL BATTERY SUPPLY.

= NOTE

NEW SHEET

LOCATION B

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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

CP-803

ELECTROLOGIXS CIRCUITS

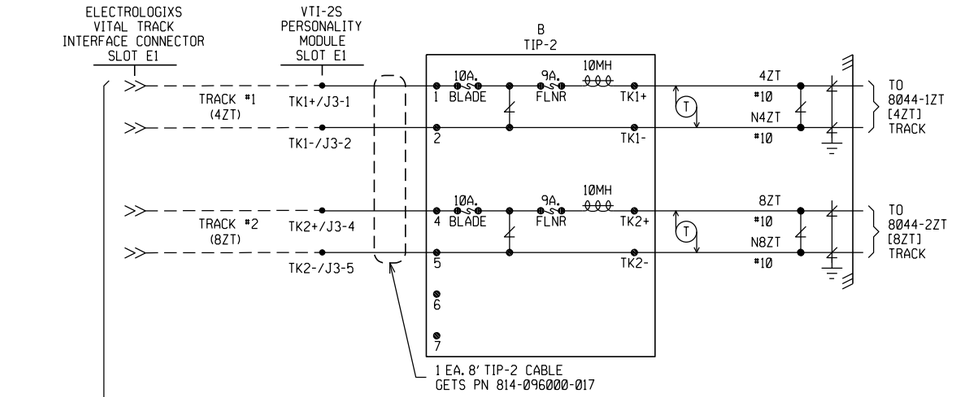
M.P. A-803.49

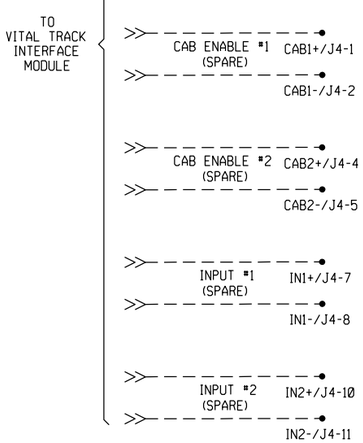
SHEET NO.

696

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80349.026





THE ROUTING OF TRACK WIRES WITHIN THE BUNGALOW SHOULD BE AS SHORT AND DIRECT AS POSSIBLE, ESPECIALLY FOR THE LONGER TRACK CIRCUITS.

VTI-2S
PERSONALITY MODULE
SLOT E1
PLUG CONNECTORS

J3			J4		
TK1+	■	1	CAB1+	□	1
TK1-	■	2	CAB1-	□	2
—	□	3	—	□	3
TK2+	■	4	CAB2+	□	4
TK2-	■	5	CAB2-	□	5
—	□	6	—	□	6
—	□	7	IN1+	□	7
			IN1-	□	8
			—	□	9
			IN2+	□	10
			IN2-	□	11

■ = WIRE PRESENT

NOTES:
1. [ ] = TAGGING PURPOSES ONLY
2. ---- = INTERNAL CONNECTION

( ) = NOTE

NEW SHEET

LOCATION B

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.003, F.A.C.

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

XORAIL
5011 GATE PARKWAY BUILDING 100
SUITE 400 JACKSONVILLE FLORIDA 32256
(904) 443-0083 (MAIN)
(904) 443-0089 (FAX)
CERT. OF AUTHORIZATION NO. 9875
ENGINEER OF RECORD
IVORY L. WHITE, JR., P.E.
P.E. LICENSE NO. 58808

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

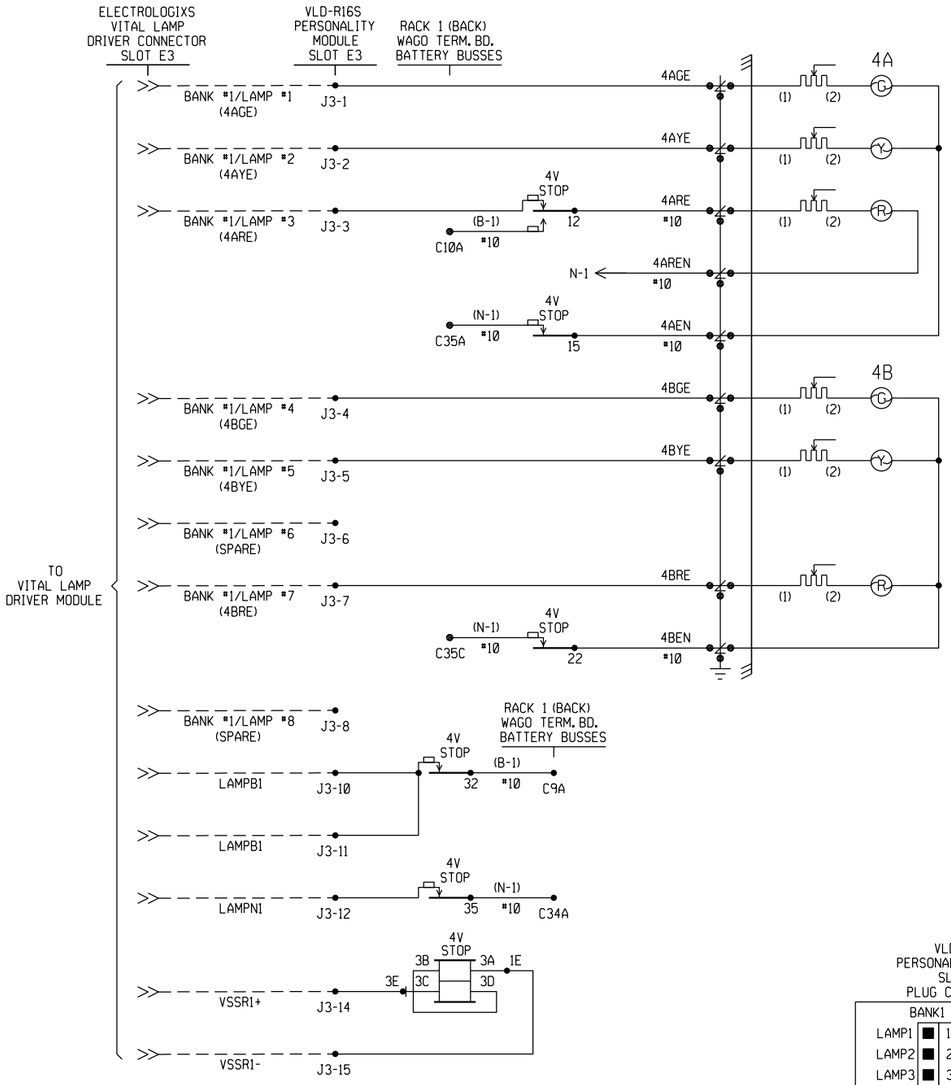
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CFRC P2S	ORANGE	423446-9-52-02

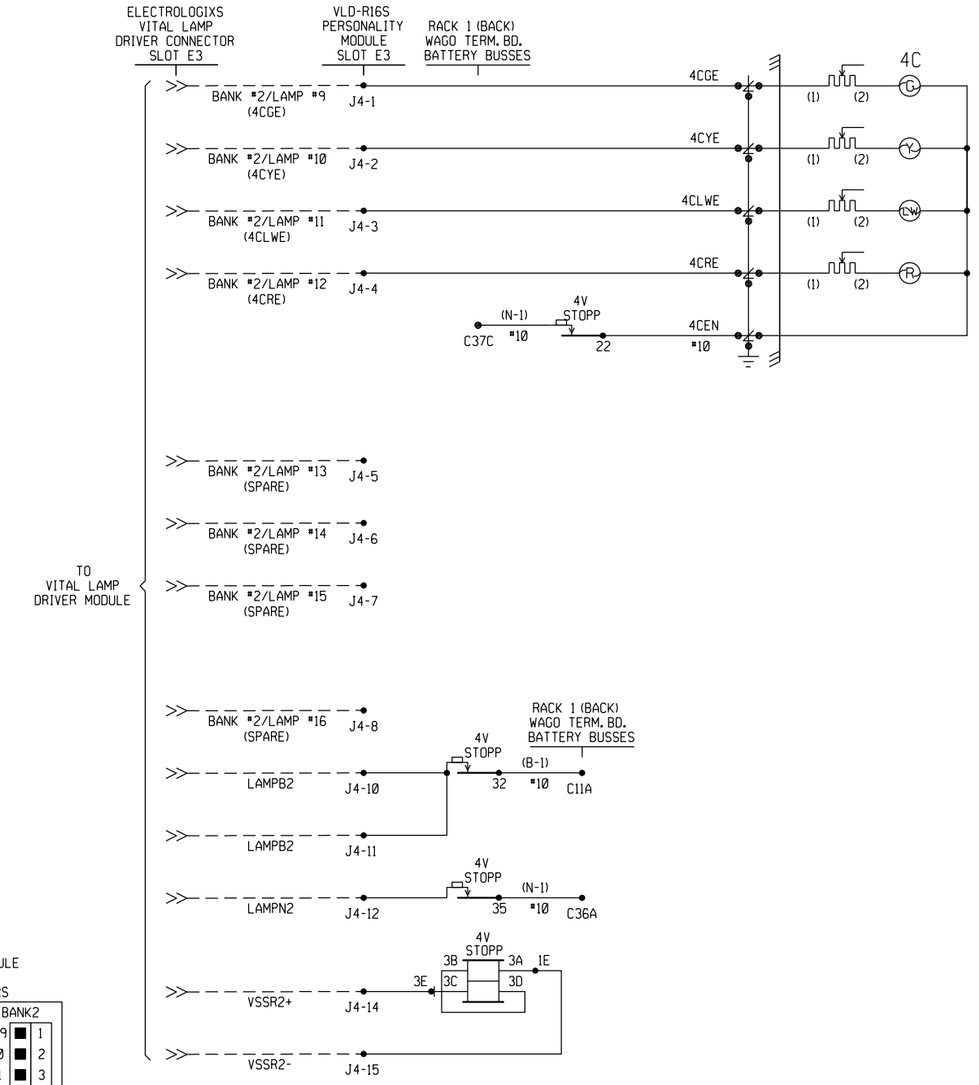
CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
CP-803
ELECTROLOGIXS TRACK CIRCUITS
M.P. A-803.49

SHEET NO.
697

$USER$ $DATE$ $TIME$ $FILE$

DRAWING NO.
G80349.027





VLD-R16S PERSONALITY MODULE SLOT E3 PLUG CONNECTORS

BANK1			BANK2		
LAMP1	■	1	LAMP9	■	1
LAMP2	■	2	LAMP10	■	2
LAMP3	■	3	LAMP11	■	3
LAMP4	■	4	LAMP12	■	4
LAMP5	■	5	LAMP13	□	5
LAMP6	□	6	LAMP14	□	6
LAMP7	■	7	LAMP15	□	7
LAMP8	□	8	LAMP16	□	8
—	□	9	—	□	9
LAMPB1	■	10	LAMPB2	■	10
LAMPB1	■	11	LAMPB2	■	11
LAMPN1	■	12	LAMPN2	■	12
—	□	13	—	□	13
VSSR1+	■	14	VSSR2+	■	14
VSSR1-	■	15	VSSR2-	■	15
	J3			J4	

■ = WIRE PRESENT

NOTES:

1. ●/● = LPC-10512-1 (15A, BLUE LEAD) HYBRID LOW VOLTAGE ARRESTER, UNLESS NOTED.
2. ---- = INTERNAL CONNECTION
3. ALL HOUSE WIRING THIS SHEET #14 FLEX UNLESS NOTED.
4. ALL RESISTORS ARE 3 OHM, 15 WATTS.
5. VSSR2 IS COMBINED IN THE PROGRAM WITH THE VSSR1 OUTPUT.

NEW SHEET

LOCATION B

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CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

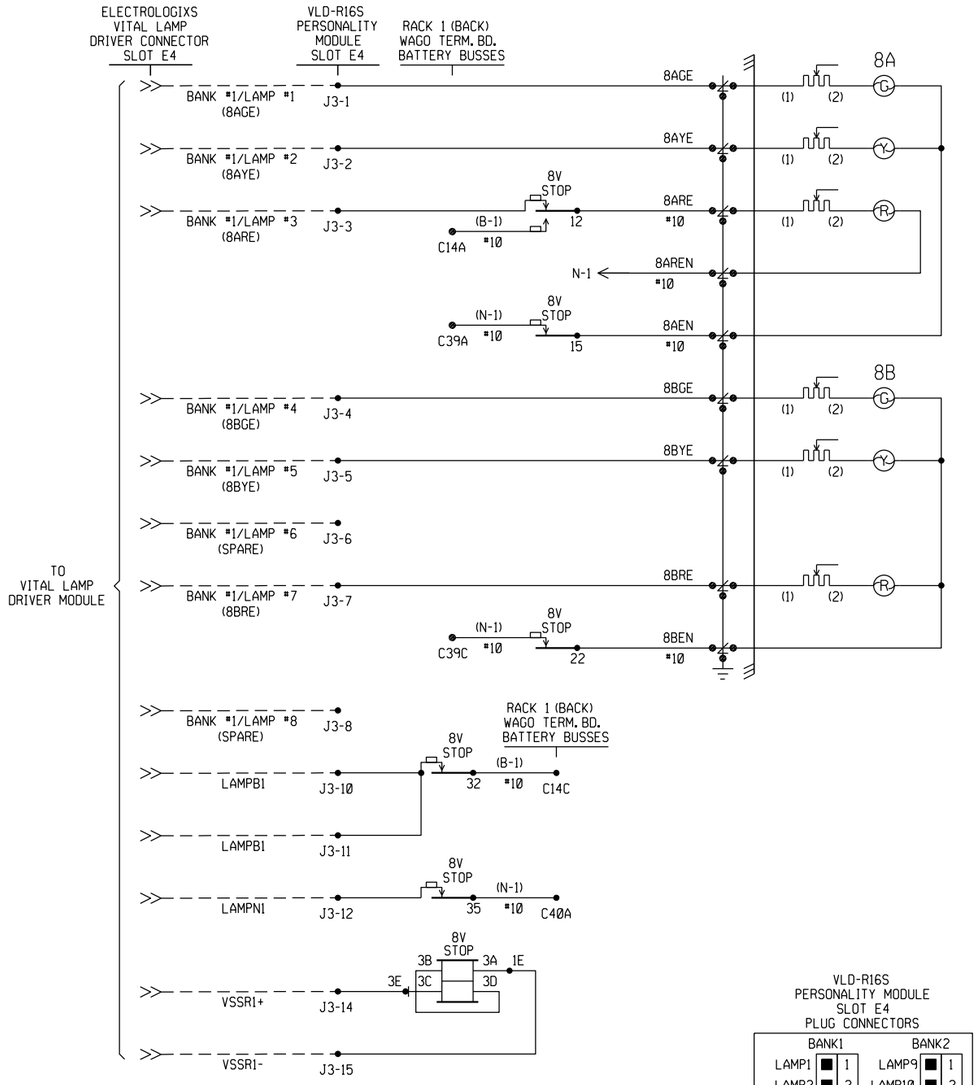
CP-803
SIGNAL 4 LIGHTING CIRCUITS

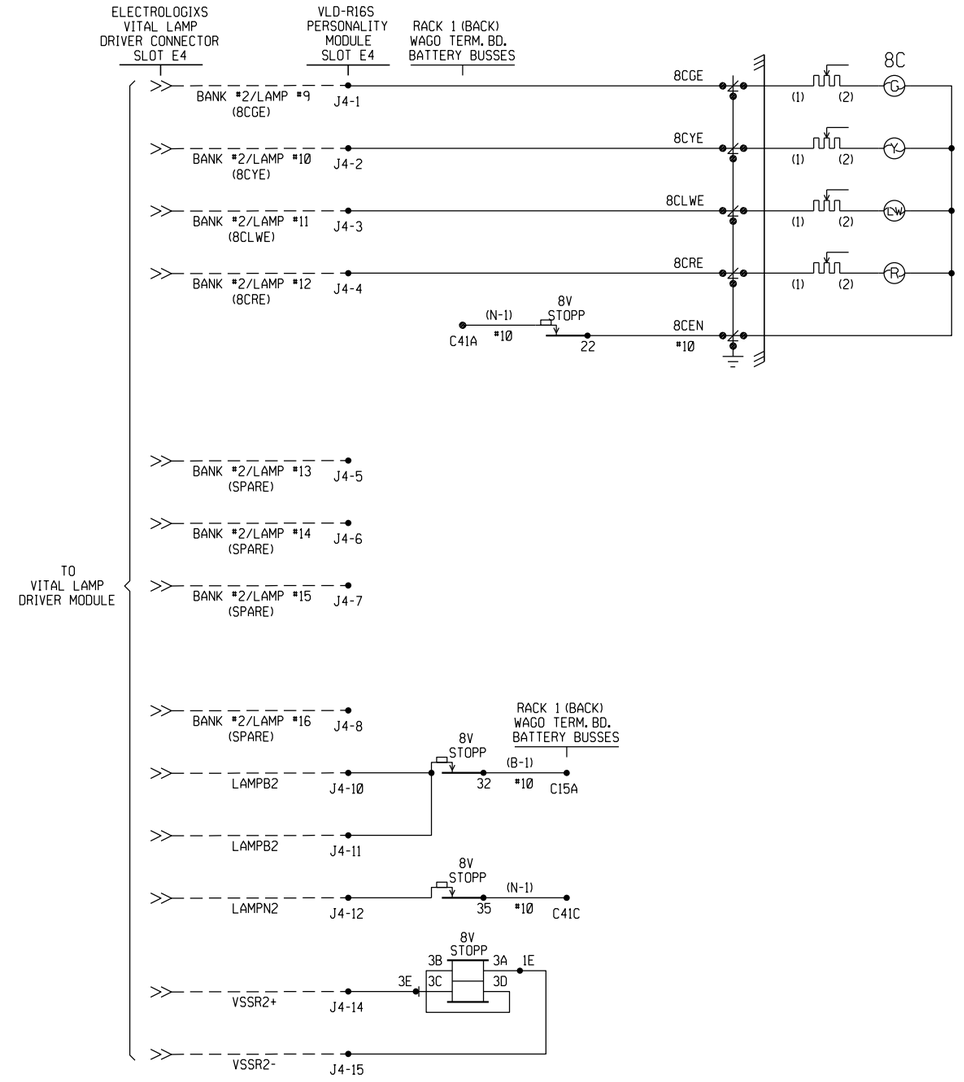
M.P. A-803.49

SHEET NO.
698

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DRAWING NO.
G80349.028





VLD-R16S
PERSONALITY MODULE
SLOT E4
PLUG CONNECTORS

BANK1			BANK2		
LAMP1	■	1	LAMP9	■	1
LAMP2	■	2	LAMP10	■	2
LAMP3	■	3	LAMP11	■	3
LAMP4	■	4	LAMP12	■	4
LAMP5	■	5	LAMP13	□	5
LAMP6	□	6	LAMP14	□	6
LAMP7	■	7	LAMP15	□	7
LAMP8	□	8	LAMP16	□	8
—	□	9	—	□	9
LAMPB1	■	10	LAMPB2	■	10
LAMPB1	■	11	LAMPB2	■	11
LAMPN1	■	12	LAMPN2	■	12
—	□	13	—	□	13
VSSR1+	■	14	VSSR2+	■	14
VSSR1-	■	15	VSSR2-	■	15
J3			J4		

■ = WIRE PRESENT

NOTES:

1. ●⁄● = LPC-10512-1 (15A, BLUE LEAD) HYBRID LOW VOLTAGE ARRESTER, UNLESS NOTED.
2. ---- = INTERNAL CONNECTION
3. ALL HOUSE WIRING THIS SHEET #14 FLEX UNLESS NOTED.
4. ALL RESISTORS ARE 3 OHM, 15 WATTS.
5. VSSR2 IS COMBINED IN THE PROGRAM WITH THE VSSR1 OUTPUT.

NEW SHEET

LOCATION B

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CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH

CP-803

SIGNAL 8 LIGHTING CIRCUITS

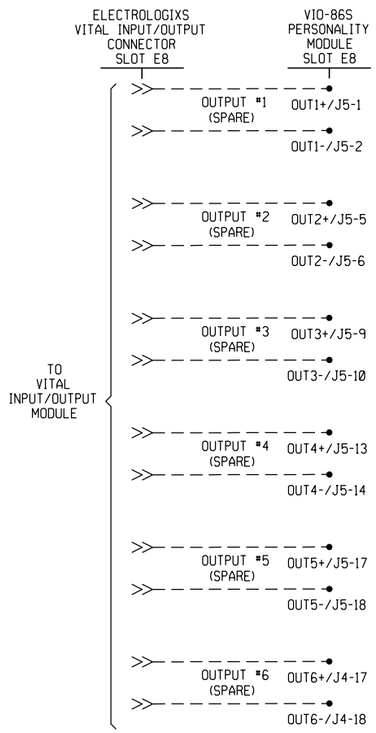
M.P. A-803.49

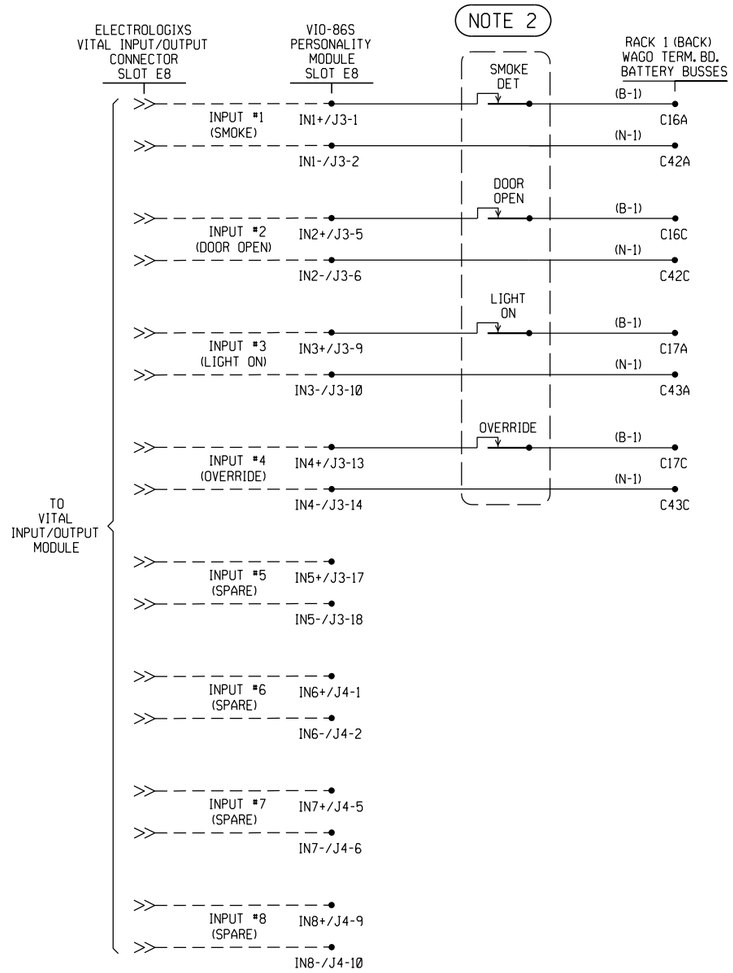
SHEET NO. 699

$USER$ $DATE$ $TIME$ $FILE$

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DRAWING NO.
G80349.029





VIO-86S
PERSONALITY MODULE
SLOT E8
PLUG CONNECTORS

J3			J4			J5		
IN1+	■	1	IN6+	□	1	OUT1+	□	1
IN1-	■	2	IN6-	□	2	OUT1-	□	2
——	□	3	——	□	3	——	□	3
——	□	4	——	□	4	——	□	4
IN2+	■	5	IN7+	□	5	OUT2+	□	5
IN2-	■	6	IN7-	□	6	OUT2-	□	6
——	□	7	——	□	7	——	□	7
——	□	8	——	□	8	——	□	8
IN3+	■	9	IN8+	□	9	OUT3+	□	9
IN3-	■	10	IN8-	□	10	OUT3-	□	10
——	□	11	——	□	11	——	□	11
——	□	12	——	□	12	——	□	12
IN4+	■	13	——	□	13	OUT4+	□	13
IN4-	■	14	——	□	14	OUT4-	□	14
——	□	15	——	□	15	——	□	15
——	□	16	——	□	16	——	□	16
IN5+	□	17	OUT6+	□	17	OUT5+	□	17
IN5-	□	18	OUT6-	□	18	OUT5-	□	18

■ = WIRE PRESENT

NOTE:
1. ---- = INTERNAL CONNECTION
2. PROVIDED WITH HOUSE.

( ) = NOTE

NEW SHEET

LOCATION B

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CENTRAL FLORIDA COMMUTER RAIL TRANSIT (CFCRT) PHASE 2 SOUTH
CP-803
ELECTROLOGIXS I/O CIRCUITS
M.P. A-803.49

SHEET NO.
700

$USER$ $DATE$ $TIME$ $FILE$