

---

# SAFETY AND SECURITY CERTIFIABLE ELEMENTS LIST FOR PHASE 2 SOUTH – In Advance of RFP and FFGA

For the  
Central Florida Commuter Rail Transit Project

In preparation for



Florida Department of Transportation  
District 5



**TABLE OF CONTENTS**

**1.0 DEFINITIONS..... 2**

**2.0 Acronyms ..... 3**

**3.0 SCOPE..... 5**

**4.0 Certifiable Element Verification..... 5**

**5.0 CFCRT SAFETY AND SECURITY DESIGN CERTIFIABLE ELEMENTS..... 7**

**6.0 Phase 2 South Project Design Verification Participants..... 14**

DRAFT

## 1.0 DEFINITIONS

**Certifiable Element:** A Certifiable Element is a component of a system in its broadest terms, such as Track and Structures, Signals, Rolling Stock, that make up the CFRC/SunRail System. This element will require safety/security certification.

**Certifiable Item:** A Certifiable Item is one of a group of items that make-up a certifiable element to which one or more safety and security requirements apply. For example, mobility lifts that are installed on each SunRail coach and cab car are certifiable items.

**Design Conformance Checklist (DCC):** A checklist of Certifiable Items that identifies the safety and security related CFCRT Project Design Criteria and the verification methods in the final design specifications and drawings necessary to ensure that the as-designed system configuration contains the safety and security related requirement identified in the Project Design Criteria.

**Construction Conformance Checklist (CCC):** A checklist of Certifiable Items that identifies the specifications, tests and the verification methods necessary to ensure that the as-built configuration contains the safety-related requirement identified in the applicable CFCRT Project specifications and other contract documents.

DRAFT

**2.0 Acronyms**

ADA .....	Americans with Disabilities Act
ANSI .....	American National Standards Institute
APTA .....	American Public Transit Association
AREMA .....	American Railroad Engineering and Maintenance-of-Way Association
ATR.....	At Top of Rail
AWG.....	American Wire Gauge
CCTV.....	Closed Circuit Television
CFCRT .....	Central Florida Commuter Rail Transit
CFRC .....	Central Florida Rail Corridor
CPTED .....	Crime Prevention Through Environmental Design
CTC .....	Centralized Traffic Control
FDOT .....	Florida Department of Transportation
FFGA .....	Full Funding Grant Agreement
FRA .....	Federal Railroad Administration
FTA .....	Federal Transit Administration
IOS .....	Initial Operating Segment
LED .....	Light Emitting Diode
MFES .....	Managed Field Ethernet Switch
NEC .....	National Electric Code
NESC .....	National Electric Safety Code
NFPA .....	National Fire Protection Association
O&M .....	Operations and Maintenance
PA .....	Public Address
PAT .....	Passenger Assistance Telephones
PHA .....	Preliminary Hazard Analysis
PMT.....	Program Management Team
PMC .....	Project Management Consultant
PTC .....	Positive Train Control
ROW.....	Right of Way
RPU.....	Remote Processing Unit
SCADA.....	Supervisory Control and Data Acquisition
SPD.....	Surge Protection Device

SSI..... Security Sensitive Information  
TVM ..... Ticket Vending Machines  
TVSS ..... Transient Voltage Surge Suppressor  
UL ..... Underwriters' Laboratories  
VSLMF ..... Vehicle Storage & Light Maintenance Facility

DRAFT

### 3.0 SCOPE

The initial Phase 2 South CFCRT Safety and Security Certifiable Elements document was developed from among the system elements listed in the CFCRT Phase 1 Project, the system elements identified as part of the Phase 1 Safety and Security Certification Plan (SSCP) and elements identified in the CFCRT Project Phase 2 South Design Criteria, developed by the Design Consultant. Safety and security verification is accomplished in accordance with the CFCRT Phase 2 South Safety and Security Certification (SCC) Program.

The Safety and Security Certifiable Elements are structured in accordance with FTA's "Sample Certifiable Elements and Sub-elements List" shown in Figure 6 of FTA document No. FTA-MA-90-5006-02-01, DOT-VNTSC-FTA-02-01, titled "Federal Transit Administration Handbook for Transit Safety and Security Certification", dated November 2002.

The list is also compliant with Florida Department of Transportation (FDOT) Fixed Guideway Transportation System (FGTS) Safety and Security Oversight (SSO) Program Implementation Guidelines (July 2007), as well as the provisions of Section 341.061, F.S. and the SSO Standards Manual #725-030-014.

### 4.0 Certifiable Element Verification

The Phase 2 South Project Design Certifiable Elements are composed of numerous certifiable elements, sub-elements and items.

Each of these design items require verification before the certifiable element is verified as compliant with the safety and security requirements of the Phase 2 South Design Criteria. Certifiable items for a certifiable element are referred to as a Certifiable Item List (CIL) and are tracked on the Master Phase 2 South Design Conformance Checklist (DCC) Tracking List. CILs may be duplicated a number of times to describe specific locations (for e.g., each highway-rail grade crossing location or station location).

In November 2014, a second VE Study was performed to "identify opportunities and recommend concepts that may improve value in terms of capital cost improvements, improved constructability, and provide the basic functional requirements of the project." A report published in December 2014 and revised in January 2015 documented the analysis of the recommended alternatives from this VE Study.<sup>1</sup>

This document is a compilation of the Phase 2 South Project's Safety and Security Certifiable Elements identified by the Design Consultant to reflect the 100% design and is found in Section 5 of this document. The resulting DCCs developed by the Design

---

<sup>1</sup> Section 5.1.3, Phase 2 South Project Management Plan.

Consultant reflect the Pre-VE Phase 2 South Design Criteria and provide conformance to that document by reference to the Phase 2 South 100% plans submitted to FDOT on February 9, 2015 and specifications submitted on February 20, 2015 and subsequent revisions as a result of the 100% quality assurance review process performed by FDOT and the Project Management Consultants. These DCCs do not reflect design changes adopted by FDOT as a result of the December 18, 2014 VE Report (revised January 22, 2015) as these design changes and verification will be performed by others.

To facilitate FDOT's review process, certifiable elements developed by the PTC Contractor for the Phase 2 South wayside signal design are included in this document. The DCCs associated with the PTC Contractor's 60% design plans and drawings are provided as part of the Signal DCC submittal.

During the Construction Phase, additional CILs may be developed by FDOT's representatives to identify construction certifiable elements, standard processes and training outside of the Design Consultant's scope as the Phase 2 South Project progresses past Engineering Phase into Construction. Please refer to the Phase 2 South Safety and Security Certification Plan for a description of the Phase 2 South certification during the latter stages of the Project.

DRAFT



## 5.0 CFCRT SAFETY AND SECURITY DESIGN CERTIFIABLE ELEMENTS

The major CFCRT Phase 2 South Project safety and security certifiable elements and their sub-elements are listed below. Each Element of the Master Design CIL will have a CIL specific to that subject tracked on the Phase 2 South Project Master DCC Tracking Log.

### 1. SYSTEMS

#### 1.0 Rolling Stock PTC Upgrade (By Others) <sup>23</sup>

- 1.1 PTC Hardware
- 1.2 PTC Control Circuits
- 1.3 PTC Communications
- 1.4 PTC HMI

#### 2.0 Signals

##### 2.1 Control Point (Equipment/Circuits)

- 2.1.1 Absolute Signals
- 2.1.2 Train Detection
- 2.1.3 Switches
- 2.1.4 Interlocking Logic
- 2.1.5 Track Circuits
- 2.1.6 House

##### 2.2 Wayside Signals

- 2.2.1 Signals
- 2.2.2 Train Detection
- 2.2.3 Control Circuits
- 2.2.4 House

##### 2.3 Quiet Zone (None currently in P2S)

- 2.3.1 Four-Quadrant Gates
- 2.3.2 Low-Volume Bells
- 2.3.3 Pedestrian Pathway Warning
- 2.3.4 Pathway Swing Gate

##### 2.4 Grade Crossings Warning Systems

- 2.4.1 Active Warning
- 2.4.2 Train Detection
- 2.4.3 Key-down
- 2.4.4 House

##### 2.5 Pedestrian Crossings (Stations) Warning Systems

---

<sup>2</sup> Procurement of rolling stock was accomplished through options negotiated during the Phase 1 vehicle procurement with MPI (locomotives) and Bombardier (coaches and cab cars). Certification for Rolling Stock was completed in Phase 1.

<sup>3</sup> CFCRT Phase 1 Project Master CIL, Appendix A CFCRT Phase 1 Project SSCP.

- 2.5.1 Active Warning
- 2.5.2 Train Detection
- 2.5.3 Second Train Warning Signs
- 2.5.4 Pathway Swing Gate
- 2.5.5 Key-down
- 2.5.6 House
- 2.5.7 Reserved
- 2.6 Electric Locks
  - 2.6.1 Hardware
  - 2.6.2 Control Circuits
  - 2.6.3 Case
- 2.7 Defect Detectors
  - 2.7.1 Hardware
  - 2.7.2 Control Circuits
  - 2.7.3 House
- 2.8 PTC Field Communication Systems (By Others)
  - 2.8.1 220 MHz Radio Base Stations
  - 2.8.2 Wi-Fi
  - 2.8.3 PTC Fiber Optic Network (FON)
- 3.0 Communications
  - 3.1 Radio System
    - 3.1.1 VHF/Voice
    - 3.1.2 ATCS/Data
  - 3.2 Operations Control Center (OCC) Systems
    - 3.2.1 CTC Control System Software Updates
    - 3.2.2 Communications Transmission System (Office Interface)
    - 3.2.3 Radio System - Data (Office Interface)
    - 3.2.4 Radio System - Voice (Office Interface)
    - 3.2.5 Variable Message Signs (Office Interface)
    - 3.2.6 PA System (Office Interface)
    - 3.2.7 CCTV System (Office Interface)
    - 3.2.8 Passenger Assist Telephones (Office Interface)
    - 3.2.9 Emergency Call Boxes (Office Interface)
  - 3.3 Communications Transmission System
    - 3.3.1 Fiber Optic Cable
    - 3.3.2 Hardware
  - 3.4 Public Address System (By Station Site)
    - 3.4.1 PA Function
    - 3.4.2 PA Electrical
    - 3.4.3 PA Installation
    - 3.4.4 PA ADA Requirements
    - 3.4.5 PA Safety/Security Features
  - 3.5 Variable Message Signs (VMS/DMS) (By Station Site)
    - 3.5.1 VMS Function

- 3.5.2 VMS Electrical
- 3.5.3 VMS Installation
- 3.5.4 VMS ADA Requirements
- 3.5.5 VMS Safety/Security Features
- 3.6 Video System (CCTV) (By Station Site)
  - 3.6.1 CCTV Function
  - 3.6.2 CCTV Electrical
  - 3.6.3 CCTV Installation
  - 3.6.4 CCTV Safety/Security Features
- 3.7 Passenger Assist Telephones (PAT) (By Station Site)
  - 3.7.1 PAT Function
  - 3.7.2 PAT Electrical
  - 3.7.3 PAT Installation
  - 3.7.4 PAT ADA Requirements
  - 3.7.5 PAT Safety/Security Features
- 3.8 Emergency Call Box (ECB) (By Station Site)
  - 3.8.1 ECB Function
  - 3.8.2 ECB Electrical
  - 3.8.3 ECB Installation
  - 3.8.4 ECB ADA Requirements
  - 3.8.5 ECB Safety/Security Features
- 3.9 Equipment Cabinet (CCB)
  - 3.9.1 CCB Function
  - 3.9.2 CCB Electrical
  - 3.9.3 CCB Installation
  - 3.9.4 CCB ADA Requirements
  - 3.9.5 CCB Safety/Security Features
- 4.0 Fare Collection Equipment (by others)<sup>4</sup>
  - 4.1 Ticket Vending Machine (TVM)
    - 4.1.1 TVM System Function
    - 4.1.2 TVM System Testing and Training
    - 4.1.3 TVM System Maintenance Procedures
    - 4.1.4 TVM System Electrical
    - 4.1.5 TVM - Platform Placement/ Mounting/Drainage
    - 4.1.6 TVM Safety/Security Features
  - 4.2 Ticket Validating Machine (Stand-Alone Validator)
    - 4.2.1 Validator System Function
    - 4.2.2 Validator System Testing and Training
    - 4.2.3 Validator System Maintenance Procedures
    - 4.2.4 Validator System Electrical/Grounding
    - 4.2.5 Validator Equipment Mounting

---

<sup>4</sup> Fare Collection Equipment procurement and installation by separate contract.

- 4.2.6 Validator Platform Placement
- 4.2.7 Validator - Installation
- 4.2.8 Validator Safety/Security Features
- 4.2.9 Reserved for Future Use
- 4.3 Fare Collection Equipment – Management Program

## 2. CIVIL INSTALLATIONS

### 5.0 Track and Structures

#### 5.1 Intrusion Deterrents

- 5.1.1 Wayside Fencing
- 5.1.2 Intertrack fence
- 5.1.3 Hazard Rock

#### 5.2 Track and Appliances

- 5.2.1 New and Upgraded Track
- 5.2.2 Welded Rail, New and Second-Hand
- 5.2.3 Jointed Rail, New
- 5.2.4 Joint Bars and Fasteners
- 5.2.5 Flash Butt Field Welds
- 5.2.6 Thermite Field Welds
- 5.2.7 Rail Fasteners
- 5.2.8 Insulated Joints
- 5.2.9 Ballast
- 5.2.10 Sub-ballast
- 5.2.11 Surfacing and Lining Track
- 5.2.12 Turnouts and Crossovers
- 5.2.13 Derails
- 5.2.14 Horizontal Clearances
- 5.2.15 Bumping Posts
- 5.2.16 Corridor Drainage

#### 5.3 Grade Crossings (Civil)

- 5.3.1 Signing and Pavement Markings
- 5.3.2 Sidewalks
- 5.3.3 Horizontal and Vertical Geometry
- 5.3.4 Typical Road Section
- 5.3.5 Private Road Crossings
- 5.3.6 Road Crossing Surface

#### 5.4 Retaining Walls and Crashwalls

- 5.4.1 Retaining Walls
- 5.4.2 Crashwalls

#### 5.5 Bridges

- 5.5.1 Bridge Requirements

- 5.5.2 Substructure
- 5.5.3 Superstructure
- 5.5.4 Bearings
- 5.5.5 Walkways and Handrail
- 5.5.6 Demolition of existing trestle bridges
- 5.5.7 Inner Guard Rails (track)
- 5.5.8 Approaches
  
- 5.6 Culverts
  - 5.6.1 Concrete Box Culverts
  - 5.6.2 CSP Culverts
  
- 6.0 Storage and Layover Yard (Vehicle Storage & Light Maintenance Facility or VSLMF)
  - 6.1 General Yard
    - 6.1.1 Geometry
    - 6.1.2 Drainage
    - 6.1.3 Yard Track and Appliances
    - 6.1.4 Yard Entrances
    - 6.1.5 Yard Signals
    - 6.1.6 Storage Area
    - 6.1.7 Intrusion Deterrents
    - 6.1.8 Fire Suppression
  
  - 6.2 Yard Utilities
    - 6.2.1 Compressed Air
    - 6.2.2 Water/Sewer
    - 6.2.3 Electrical
    - 6.2.4 Intrusion Deterrents
  
  - 6.3 Service Track Systems
    - 6.3.1 Fuelling/lubrication
    - 6.3.2 Oil/water Separator
    - 6.3.3 Train Effluent Removal System
  
  - 6.4 Crew Building
    - 6.4.1 Alternate Control Center
    - 6.4.2 Restrooms
    - 6.4.3 ADA Requirements
    - 6.4.4 Locker Room
    - 6.4.5 Office Area
    - 6.4.6 Server Room
    - 6.4.7 Kitchen and rest area
    - 6.4.8 Lighting
    - 6.4.9 Back-up generator
    - 6.4.10 Fire Suppression System

- 6.4.11 Intrusion Deterrents
- 6.4.12 Structure
- 6.4.13 HVAC
  
- 6.5 Parking Lot and Access Roads
  - 6.5.1 Roadway
  - 6.5.2 Signage and Pavement Markings
  - 6.5.3 Entrances /Exits
  - 6.5.4 Pedestrian Pathways
  - 6.5.5 Intrusion Deterrents
  - 6.5.6 ADA Requirements
  - 6.5.7 Lighting
  
- 7.0 Station Platforms (including Mini-Highs)
  - 7.1 Platform and Mini-High Geometry
    - 7.1.1 Platform Clearance
    - 7.1.2 Platform Dimensional Requirements
    - 7.1.3 Platform Accessibility
  
  - 7.2 Platform Safety Elements
    - 7.2.1 Platform Surface
    - 7.2.2 Tactile Warning Strip
    - 7.2.3 Mini-High and Platform Marking
  
  - 7.3 Platform Drainage
  
- 8.0 Station Platform Structures and Amenities
  - 8.1 Canopies
    - 8.1.1 Canopy Clearances – Horizontal and Vertical
    - 8.1.2 Rain Protection
    - 8.1.3 Wind Loading
    - 8.1.4 Canopy Connections
    - 8.1.5 Canopy Drainage
  
  - 8.2 Signage and Graphics
    - 8.2.1 Installation/ Location
    - 8.2.2 Way-Finding
  
  - 8.3 Electrical
    - 8.3.1 Grounding/Insulation
    - 8.3.2 Components
    - 8.3.3 Emergency Generator Connection
    - 8.3.4 Platform Communications Control Cabinet
    - 8.3.5 Lighting
    - 8.3.6 Intrusion Deterrents

#### 8.4 Plumbing

- 8.4.1 Water Fountain
- 8.4.2 Hose Bibs
- 8.4.3 Intrusion Deterrents
- 8.4.4 Condensate Lines

#### 8.5 Amenity Specifications

- 8.5.1 Bench Seating
- 8.5.2 Guard Rails and Hand Rails
- 8.5.3 Trash Receptacles
- 8.5.4 Gates

#### 9.0 Station Parking/ Plaza/Station Boundary

- 9.1 Intrusion Deterrents
- 9.2 Pavement Marking
- 9.3 Drainage
- 9.4 Pedestrian Routes
- 9.5 Entrance/Exits
- 9.6 Way-Finding Signage
- 9.7 Not Used
- 9.8 Electrical
- 9.9 Landscaping
- 9.10 Hardscaping
- 9.11 Amenities
- 9.12 Art-in-Transit
- 9.13 Bicycle Storage
- 9.14 ADA Requirements

#### 10.0 Station Utility Yard

- 10.1 Station Utility Yard Components
- 10.2 Station Utility Yard Intrusion Deterrent

### 3. TESTING (By Others)

- 11.0 Test Plans (To be expanded by others)
  - 11.1 Acceptance (Functional) Test (To be expanded)
  - 11.2 Readiness Review Planning (To be expanded)
  - 11.3 System Integrated Test (To be expanded)

### 4. OTHER ITEMS

- 12.0 Bus Shelters (Bus structure and signage provided by LYNX)
  - 12.1 Shelter foundation
  - 12.2 Shelter location

## 5. PLANS, PROCEDURES AND TRAINING – (By Others)

### 6.0 Phase 2 South Project Design Verification Participants

Table 1 provides the consultant firms and names who participated in the development of the Phase 2 South 100% plans, Technical Special Provisions (TSP) and DCCs. In addition, where applicable, the initials are also listed for those individuals responsible for the verification of conformance to plans and TSPs to the identified safety and security items within the Phase 2 South Design Criteria, The DCCs associated with these tasks do not reflect design changes adopted by FDOT as a result of the December 18, 2014 VE Report (revised January 22, 2015).

DRAFT



Table 1 – Phase 2 South Pre-VE DCC Responsibilities

Name of Firm	Responsibility	Phase 2 South Project Team Member Name	Team Member Initials	Team Members Signature	Date
AECOM	Design Consultant – Track, Stations, VSLMF, Grade Crossings				
		Jerry Bogan	JWB		
		David S. Burwell	DSB		
		Goran Duvnjak	GD		
		George Gault	GG		
		Chris Martin	CCM		
		Kristine Prince	KP		
		Rick J. Tonet	RJT		
		Lois Earle	--		
Dix-Hite	Landscaping, Hardscaping and Signage Sub-Consultant				
		Jason Holden	--		
		T. Blake Gunnels	TBG		
GAI	Civil Sub-Consultant				
		Lloyd Gurr			
HHCP	Architectural Sub-Consultant				
		Danielle James	--		
		Tally Helman	TH		
McElroy Engineering	Structural Sub-Consultant				
		Craig McElroy	CM		
VHB	Drainage Sub-Consultant				
		Paul Yeargain	--		
SYSTRA	Communications Sub-Consultant				

Name of Firm	Responsibility	Phase 2 South Project Team Member Name	Team Member Initials	Team Members Signature	Date
		Steve Yazbek	SY		
TLC	Electrical and Plumbing Sub-Consultant				
		Victor Diaz	VMD		
		Samuel Leo	SWL		
		Chuck File	CF		
Xorail	Signals – Wayside Systems Design Consultant				
		Brain J Logue	BJL		
		Patrick M Bisso	PMB		
		Ivory White Jr	--		
		Joe Blackwood	--		

DRAFT

Phase 2 South Master Design Conformance Checklist (DCC) Tracking Log  
 Each Listed Item has a corresponding DCC composed of one or more Safety/Security Certifiable Sub-Elements

Element No.	Element Name	Sub-Element No.	Item	Location	MP A-Line	Sub-Item No. (s) includes:	Checklist Developed	Draft Checklist Completed	Verified	Signed Submittal	Revision, if Required	Accepted	Total Items
2.0	Signals												
		2.1	Control Point (Equipment/Circuits)										
				CP 797 (TOFC Connection)	796.90	2.1 2.1.1 - 2.1.5	11/5/2014	1/22/2015	2/9/2015				22
				CP 798 – Taft Universal Crossover with TOFC yard entrance	798.00	2.1 2.1.1 - 2.1.5	11/5/2014	1/22/2015	2/9/2015				19
				CP 799 (Middle Taft)	798.80	2.1 2.1.1 2.1.3	11/5/2014	1/22/2015	2/9/2015				9
				CP 800 – North End of Stanton Spur	799.70	2.1 2.1.1 - 2.1.5	11/5/2014	1/22/2015	2/9/2015				17
				CP 801 – South End of Stanton Spur	800.50	2.1 2.1.1 - 2.1.4	11/5/2014	1/22/2015	2/9/2015				17
				CP 803 – Meadow Woods Universal Crossover	803.40	2.1 2.1.1 - 2.1.5	11/5/2014	1/22/2015	2/9/2015				18
				CP 806 – Osceola Universal Crossover	806.10	2.1 2.1.1 - 2.1.5	11/5/2014	1/22/2015	2/9/2015				18
				CP 809 – Kissimmee Universal Crossover	809.10	2.1 2.1.1 - 2.1.5	11/5/2014	1/22/2015	2/9/2015				21
				CP 813 –Poinciana Universal crossover end of double track	813.50	2.1 2.1.1 - 2.1.5	11/5/2014	1/22/2015	2/9/2015				21
				CP 814 (Poinciana Holdout/CFRC Terminus)	813.82	2.1 2.1.1 2.1.3	11/5/2014	1/22/2015	2/9/2015				4
													166

		2.2	Wayside Signals (Intermediate)										
				INT 8019/8020	801.98	2.2 2.2.1 - 2.2.4	12/10/2014	1/27/2015	2/9/2015				9
				INT 8044	804.36	2.2 2.2.1 - 2.2.4	12/10/2014	1/27/2015	2/9/2015				9
				INT 8049	804.87	2.2 2.2.1 - 2.2.4	12/10/2014	1/27/2015	2/9/2015				9
				INT 8078	807.92	2.2 2.2.1 - 2.2.4	12/10/2014	1/27/2015	2/9/2015				9
				INT 8083	808.29	2.2 2.2.1 - 2.2.4	12/10/2014	1/27/2015	2/9/2015				9
				INT 8105/8106	810.42	2.2 2.2.1 - 2.2.4	12/10/2014	1/27/2015	2/9/2015				9
				INT 8118/8119	811.81	2.2 2.2.1 - 2.2.4	12/10/2014	1/27/2015	2/9/2015				9
													63
		2.4	Grade Crossings Warning Systems										
				Landstreet Rd.	797.70	2.4.1 - 2.4.4	1/16/2015	1/27/2015	2/13/2015 2/25/2015				27
				Pine St.	797.94	2.4.1 - 2.4.4	1/16/2015	1/27/2015	2/13/2015 2/25/2015				27
				Fourth St.	798.24	2.4.1 - 2.4.4	1/16/2015	1/27/2015	2/13/2015 2/25/2015				27
				W. Taft-Vineland Rd.	798.75	2.4.1 - 2.4.4	1/16/2015	1/27/2015	2/13/2015 2/25/2015				25
				E. Wetherbee Rd.	800.77	2.4.1 - 2.4.4	1/16/2015	1/27/2015	2/13/2015 2/25/2015				27
				Fairway Woods Blvd.	801.15	2.4.1 - 2.4.4	1/16/2015	1/27/2015	2/13/2015 2/25/2015				30
				Garden St.	805.08	2.4.1 - 2.4.4	1/16/2015	1/27/2015	2/13/2015 2/25/2015				27





Phase 2 South Master Design Conformance Checklist (DCC) Tracking Log  
 Each Listed Item has a corresponding DCC composed of one or more Safety/Security Certifiable Sub-Elements

Element No.	Element Name	Sub-Element No.	Item	Sub-Item No.	Sub-Item	Location	Checklist Developed	Draft Checklist Completed	Verified	Signed Submittal	Revision, if Required	Accepted	Total Items	
3.0	Comms													
		3.1	Radio System	3.1.1 - 3.1.2		P2S Corridor	1/25/2015	2/18/2015	2/18/2015				4	
		3.2	Operations Control Center (OCC) Systems	3.2.1 - 3.2.9		OCC	1/25/2015	2/18/2015	2/18/2015				9	
		3.3	Communications Transmission System	3.3.1 - 3.3.2		P2S Corridor	1/25/2015	2/18/2015	2/18/2015				10	
													23	
		3.4 to 3.9	Public Address System	3.4.1 - 3.4.5	The COMMS elements (3.0) for the Phase 2 South stations are within the four individual station DCC files.									
Total												23		

DRAFT

Phase 2 South Master Design Conformance Checklist (DCC) Tracking Log  
 Each Listed Item has a corresponding DCC composed of one or more Safety/Security Certifiable Sub-Elements

Element No.	Element Name	Sub-Element No.	Item	Location	MP A-Line	Sub-Item No.	Checklist Developed	Draft Checklist Completed	Verified	Signed Submittal	Revision, if Required	Accepted	Total
5.0	Track and Structures												
		5.1	Intrusion Deterrents										
				Meadow Woods Stn	801.2	5.1.1 - 5.1.3	10/27/2014	12/2/2014	2/16/2015				8
				Osceola Parkway Stn	804.5	5.1.1 - 5.1.3	10/27/2014	12/2/2014	2/24/2015 3/17/2015				8
				Kissimmee Stn	808.03	5.1.1 - 5.1.3	10/27/2014	12/2/2014	2/24/2015 3/17/2015				8
				Dakin-Ruby	808.07 - 808.28	5.1.2	10/27/2014	12/2/2014	2/17/15 2/24/2015				6
				Poinciana Stn	813.68	5.1.1 - 5.1.3	10/27/2014	12/2/2014	2/24/2015 3/17/2015				8
				Between Beaumont and Clyde	808.53 - 808.77	5.1.1	10/27/2014	12/2/2014	2/24/2015				2
				Under 17/92 Overpass	808.98	5.1.1	10/27/2014	12/2/2014	2/24/2015				2
													42
		5.2	Track and Appliances										
				CP 796 (SLR) to CP 797 (TOFC Connection)	796.4 - 796.9	5.2.1 - 5.2.16	9/10/2014	1/27/2015	2/16/2015 2/18/2015 2/17/2015				39
				CP 797 (TOFC Connection) to CP 798	796.9 - 798.0	5.2.1 - 5.2.16	9/10/2014	1/27/2015	2/16/2015 2/18/2015 2/17/2015				39
				CP 798 – Taft Universal Crossover to CP 799	798.0 - 798.8	5.2.1 - 5.2.16	9/10/2014	1/27/2015	2/16/2015 2/18/2015 2/17/2015				39
				CP 799 (Middle Taft) to CP 800	798.8 - 799.7	5.2.1 - 5.2.16	9/10/2014	1/27/2015	2/16/2015 2/18/2015 2/17/2015				39



			CP 800 – North End of Stanton Spur to CP 801	799.7 - 800.5	5.2.1 - 5.2.16	9/10/2014	1/27/2015	2/16/2015 2/18/2015 2/17/2015					39
			CP 801 – South End of Stanton Spur to CP 803	800.5 - 803.4	5.2.1 - 5.2.16	9/10/2014	1/27/2015	2/16/2015 2/18/2015 2/17/2015					40
			CP 803 – Meadow Woods Universal Crossover to CP 806	803.4 - 806.1	5.2.1 - 5.2.16	9/10/2014	1/27/2015	2/16/2015 2/18/2015 2/17/2015					40
			CP 806 – Osceola Universal Crossover to CP 809	806.1 - 809.1	5.2.1 - 5.2.16	9/10/2014	1/27/2015	2/16/2015 2/18/2015 2/17/2015					40
			CP 809 – Kissimmee Universal Crossover to CP 813	809.1 - 813.5	5.2.1 - 5.2.16	9/10/2014	1/27/2015	2/16/2015 2/18/2015 2/17/2015					39
			CP 813 –Poinciana Universal crossover end of double track to CP 814 (CFRC Terminus)	813.5 - 813.82	5.2.1 - 5.2.16	9/10/2014	1/27/2015	2/16/2015 2/18/2015 2/17/2015					40
													394
		5.3	Grade Crossings (Civil)		5.3.1 - 5.3.6								
			E. Landstreet Rd / CR 527	A 797.70		11/11/2014	1/27/2015	2/18/2015					6
			Pine St.	A 797.94		11/11/2014	1/27/2015	2/18/2015					8
			4th St.	A 798.24		11/11/2014	1/27/2015	2/18/2015					7
			W. Taft Vineland Rd.	A 798.75		11/11/2014	1/27/2015	2/18/2015					8
			E. Wetherbee Rd.	A 800.77		11/11/2014	1/27/2015	2/18/2015					9
			Fairway Woods Blvd	A 801.15		11/11/2014	1/27/2015	2/18/2015					9
			Garden St.	A 805.08		11/11/2014	1/27/2015	2/18/2015					7
			E. Carroll St.	A 805.70		11/11/2014	1/27/2015	2/18/2015					7
			E. Donegan Ave	A 806.22		11/11/2014	1/27/2015	2/18/2015					9
			E. Vine St./RT. 192	A 807.23		11/11/2014	1/27/2015	2/18/2015					9
			E. Magnolia St.	A 807.43		11/11/2014	1/27/2015	2/18/2015					7
			E. Oak St.	A 807.49		11/11/2014	1/27/2015	2/18/2015					9
			E. Park St.	A 807.70		11/11/2014	1/27/2015	2/18/2015					9
			E. Neptune Rd./Drury	A 807.94		11/11/2014	1/27/2015	2/18/2015					9
			E. Dakin Ave	A 808.07		11/11/2014	1/27/2015	2/18/2015					9
			E. Monument Ave	A 808.15		11/11/2014	1/27/2015	2/18/2015					9

			Memorial Walkway	A 808.22		11/11/2014	1/27/2015	2/18/2015					2
			Ruby Ave	A 808.28		11/11/2014	1/27/2015	2/18/2015					9
			Beaumont Ave.	A 808.53		11/11/2014	1/27/2015	2/18/2015					8
			Vernon Rd	A 808.61		11/11/2014	1/27/2015	2/18/2015					2
			W. Penfield St.	A 808.76		11/11/2014	1/27/2015	2/18/2015					1
			S. Clyde Ave	A 808.77		11/11/2014	1/27/2015	2/18/2015					8
			Pleasant Hill Rd / CR 531	A 810.45		11/11/2014	1/27/2015	2/18/2015					7
			Crestridge Dr.	A 812.16		11/11/2014	1/27/2015	2/18/2015					7
			S. Poinciana Blvd	A 813.77		11/11/2014	1/27/2015	2/18/2015					0
													175
		5.4	Retaining Walls and Crashwalls		5.4.1 - 5.4.2								
			Steel Sheet Pile Retaining Wall	806.73	5.4.1	11/11/2014	12/9/2014	2/12/2015 2/23/2015					4
			Steel Sheet Pile Retaining Wall	806.8	5.4.1	11/11/2014	12/9/2014	2/12/2015 2/23/2015					4
			Steel Sheet Pile Retaining Wall	806.9	5.4.1	11/11/2014	12/9/2014	2/12/2015 2/23/2015					4
			Steel Sheet Pile Retaining Wall	807.08	5.4.1	11/11/2014	12/9/2014	2/12/2015 2/23/2015					4
			Steel Sheet Pile Retaining Wall - North End VSLMF	812.9	5.4.1 Note: Wall removed	11/11/2014	12/9/2014	2/12/2015 2/23/2015					0
			Steel Sheet Pile Retaining Wall - South End VSLMF	813.55	5.4.1	11/11/2014	12/9/2014	2/12/2015 2/23/2015					4
			Crashwall - South Orange Ave.	799.8	5.4.2	11/11/2014	12/9/2014	2/12/2015 2/23/2015					5
			Crash Wall - John Young Parkway Overpass	808.98	5.4.2	11/11/2014	12/9/2014	2/12/2015 2/23/2015					5
													30
		5.5	Bridges										

				Slough Creek	A800.6	5.5.1 - 5.5.8	11/11/2014	12/9/2014 2/18/2015	2/16/2015 2/24/2015				18
				Shingle Creek	A811.3	5.5.1 - 5.5.8	11/11/2014	12/9/2014 2/18/2015	2/16/2015 2/24/2015				19
													37
		5.6.1	Box Culverts										
				South of FL Turnpike (Slough Creek)	A803.9	5.6.1	11/11/2014	12/9/2014 2/18/2015	2/16/2015 2/24/2015 2/26/2015				10
				South of E. Carroll	A805.9	5.6.1	11/11/2014	12/9/2014 2/18/2015	2/16/2015 2/24/2015 2/26/2015				10
				South of Vine St	A806.9	5.6.1	11/11/2014	12/9/2014 2/18/2015	2/16/2015 2/24/2015				11
				Adjacent to VSLMF	A813.3	5.6.1	11/11/2014	12/9/2014 2/18/2015	2/16/2015 2/24/2015 2/26/2015				10
													41
												Total:	719

DRAFT

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists	Design Verification	Construction Verification	Final Verification
<b>Certifiable Element:</b> <u>2.0 Signals</u> <b>Sub-Element:</b> <u>2.1 Control Point (Equipment/Circuits)</u> <b>Location:</b> <u>CP 796 – Sand Lake Road MP A796.40</u> <b>Contract No.:</b> _____	<b>Notes or Restrictions:</b> Note 1: No changes at CP 796 CP 796 not part of the scope of design.	<b>Notes or Restrictions:</b>	<b>Notes or Restrictions:</b>

Item No.	Certifiable Item Description			Design Verification				Construction/Installation				Verification			
	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	2.1.3	All vital circuits shall be double break, except within a signal house or wayside case, after the entering or leaving circuits are double broke.	Design Criteria 9.13.3.3				Note 1								
2	2.1.3	Vital train detection shall be set to detecting a 0.06 ohm shunt across the running rails	Design Criteria 9.1/9.2				Note 1								
3	2.1.3	All vital circuits shall be based on closed circuit principles.	Design Criteria 8.4.1				Note 1								
4	2.1.3	All relays that are to be energized by a vital circuit shall be vital relays or vital solid state electronic devices. All contacts that are used within any vital circuit shall be contacts of a vital relay, or driven by a vital output solid-state device.	Design Criteria 8.4.1				Note 1								
5	2.1.3	Fail-safe design shall be achieved by using the closed-loop principle on vital circuitry, and shall protect against unsafe operation in the instance of a single open circuits or short circuits.	Design Criteria 8.4.2				Note 1								
6	2.1.3	Route locking shall be provided for all interlocking moves,	Design Criteria 9.13.3.5				Note 1								
7	2.1.3	Traffic locking shall be in effect to prevent changing the direction of traffic if any route is lined or locked to enter the TCS territory or any track circuit within the block is occupied.	Design Criteria 9.13.3.6				Note 1								
8	2.1.3	The ASR circuitry shall be designed such that two track circuits must be de-energized simultaneously to allow the ASR relay to energize after the relay has been de-energized with the first of the two track circuits being the circuit directly after passing the absolute signal.	Design Criteria 9.13.3.7				Note 1								
9	2.1.3	Time locking shall be provided for each signal that will prevent the route from being changed or a signal being cleared into the route for a predetermined time interval if a signal is put to stop without the movement of a train. The time interval will be calculated by the Designer based on AREMA Section 2.4.20	Design Criteria 9.13.3.7				Note 1								

LEGEND		DESIGN VERIFICATION	CONSTRUCTION VERIFICATION	FINAL VERIFICATION
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other	<b>Means of Verification - Construction</b> M = Measurement T = Test V = Visual Inspection	<b>Name and Organization:</b> _____ <b>Date:</b> _____ <b>Approved by:</b> _____ <b>Date:</b> _____	<b>Name and Organization:</b> _____ <b>Date:</b> _____ <b>Approved by:</b> _____ <b>Date:</b> _____	<b>Name and Organization:</b> _____ <b>Date:</b> _____ <b>Approved by:</b> _____ <b>Date:</b> _____

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists	Design Verification	Construction Verification	Final Verification
<b>Certifiable Element:</b> <u>2.0 Signals</u>  <b>Sub-Element:</b> <u>2.1 Control Point (Equipment/Circuits)</u> <b>Location:</b> <u>CP 797 (TOFC Connection) MP A796.9</u>  <b>Contract No.:</b> _____	<b>Notes or Restrictions:</b> 1. To be verified by field testing. 2. Function of the vital software. 3. Time shown on the plans. Circuit part of the vital software.	<b>Notes or Restrictions:</b>      	<b>Notes or Restrictions:</b>      

Item No.	Certifiable Item Description			Design Verification				Construction/Installation				Verification			
	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	2.1	All portions of the communications and signal system and its components shall be designed to operate in the electromagnetic environment that exists today or is introduced by this project.	Design Criteria 8.5.1	C	BJL PMB	2/9/2015	TSP 30045 AREMA 2.2.12								
2	2.1.3	Vital train detection shall be set to detecting a 0.06 ohm shunt across the running rails	Design Criteria 9.1/9.2	N/A			Note 1								
3	2.1.1	Absolute signals shall be colorlight signals capable of displaying signals in accordance with the Route and Aspect Chart	Design Criteria 9.10 & 9.11	C	BJL PMB	2/9/2015	Design Plans G79687.002 G79687.016 G79687.017 G79687.028 G79687.029								
4	2.1.2	All powered machines shall be equipped with internal lock, point detector rods and throw rods.	Design Criteria 9.5	C	BJL PMB	2/9/2015	Design Plans G79687.023 G79687.033 TSP T30085								
5	2.1.3	Vital processors shall be used at all interlockings to perform the signal logic required for that specific application.	Design Criteria 9.13.2	C	BJL PMB	2/9/2015	Design Plans G79687.008 TSP T30045								
6	2.1.3	All vital circuits shall be double break, except within a signal house or wayside case, after the entering or leaving circuits are double broke.	Design Criteria 9.13.3.3	C	BJL PMB	2/9/2015	Design Plans G796.87.002 to G79687.038								
7	2.1.3	All vital circuits shall be based on closed circuit principles.	Design Criteria 8.4.1	C	BJL PMB	2/9/2015	Design Plans G79687.002 to G79687.038								
8	2.1.3	All relays that are to be energized by a vital circuit shall be vital relays or vital solid state electronic devices. All contacts that are used within any vital circuit shall be contacts of a vital relay, or driven by a vital output solid-state device.	Design Criteria 8.4.1	C	BJL PMB	2/9/2015	Design Plans G796.87.002 to G79687.038								
9	2.1.3	Fail-safe design shall be achieved by using the closed-loop principle on vital circuitry, and shall protect against unsafe operation in the instance of a single open circuits or short circuits.	Design Criteria 8.4.2	C	BJL PMB	2/9/2015	Design Plans G796.87.002 to G79687.038								
10	2.1.3	Route locking shall be provided for all interlocking moves,	Design Criteria 9.13.3.5	N/A			Note 2								
11	2.1.3	Traffic locking shall be in effect to prevent changing the direction of traffic if any route is lined or locked to enter the TCS territory or any track circuit within the block is occupied.	Design Criteria 9.13.3.6	N/A			Note 2								
12	2.1.3	The ASR circuitry shall be designed such that two track circuits must be de-energized simultaneously to allow the ASR relay to energize after the relay has been de-energized with the first of the two track circuits being the circuit directly after passing the absolute signal.	Design Criteria 9.13.3.7	N/A			Note 2								

13	2.1.3	Time locking shall be provided for each signal that will prevent the route from being changed or a signal being cleared into the route for a predetermined time interval if a signal is put to stop without the movement of a train. The time interval will be calculated by the Designer based on AREMA Section 2.4.20	Design Criteria 9.13.3.7	C	BJL PMB	2/9/2015	Design Plans G79687.003 Note 3											
14	2.1.3	Vital relays shall be provided for the control and indication of the dual controlled switch machines.	Design Criteria 9.13.4.1	C	BJL PMB	2/9/2015	Design Plans G79687.006 G79687.020 G79687.021 G79687.032 G79687.033											
15	2.1.3	All Home signals shall deploy the use of "Light Out" detector. Should a signal head detect a light out condition, the light shall be considered burned out and the signal shall display a more restrictive aspect and downgrade the approach signal to an appropriate aspect.	Design Criteria 9.13.5.2	N/A			Note 2											
16	2.1.4	Interlocking Track relays shall require a 10 second Loss of Shunt (LOS) device. The vital logic for that particular Track Circuit shall use the Track Repeater Stick Relay (TPSR).	Design Criteria 9.13.4.2	N/A			Design Plans G79687.003 Note 2											
17	2.1.5	Intrusion detection and a means to secure the house from intrusion shall be provided on all signal houses within each interlocking.	Design Criteria 8.6.8	N/A			Design Plans G79687.018 TSP T30105											
18	2.1.5	Each CIH shall have a door alarm system feeding to a non-vital input (a vital input is acceptable but not required). The system shall report any entrance into the housings to the Operations Control Center (OCC).	Design Criteria 8.6.8	C	BJL PMB	2/9/2015	Design Plans G79687.018 TSP T30105											
19	2.1.5	The electrical panel shall consist of at least one Ground Fault Circuit Interrupter (GFCI) breaker. This GFCI breaker shall be used for all lighting and convenience outlets.	Design Criteria 8.6.2	C	BJL PMB	2/9/2015	Design Plans G79687.005 TSP T30105											
20	2.1.5	One smoke alarm and one fire extinguisher shall be provided at all Central Instrument Houses (CIH) houses. Smoke alarms shall be remotely indicated to the Operations Control Center.	Design Criteria 8.6.4	C	BJL PMB	2/9/2015	Design Plans G79687.005 TSP T30105											
21	2.1.5	Each house shall be equipped with an emergency generator termination plug that shall allow for external use of a generator during a long-term power outage.	Design Criteria 8.6.2	C	BJL PMB	2/9/2015	Design Plans G79687.005 TSP T30105											
22	2.1.5	External power off indication lights shall be provided for each house.	Design Criteria 8.6.2	C	BJL PMB	2/9/2015	Design Plans G79687.005 TSP T30105											
<b>LEGEND</b>				<b>DESIGN VERIFICATION</b>				<b>CONSTRUCTION VERIFICATION</b>				<b>FINAL VERIFICATION</b>						
<b>Means of Verification - Design</b>		<b>Means of Verification - Construction</b>		Name and Organization: _____				Name and Organization: _____				Name and Organization: _____						
P = Plan Sheet    S = Specification		M = Measurement		Date: _____				Date: _____				Date: _____						
RFI=RFI    O = Other		T = Test		Approved by: _____				Approved by: _____				Approved by: _____						
		V = Visual Inspection		Date: _____				Date: _____				Date: _____						
<b>Status</b>																		
C = Compliance																		
N = Noncompliance																		
P = Partial Compliance																		

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists	Design Verification	Construction Verification	Final Verification
<b>Certifiable Element:</b> 2.0 Signals  <b>Sub-Element:</b> 2.1 Control Point (Equipment/Circuits) <b>Location:</b> CP 798 – Taft Universal Crossover with TOFC yard entrance MP A798.00  <b>Contract No.:</b>	<b>Notes or Restrictions:</b> 1. To be verified by field testing. 2. Function of the vital software. 3. Time shown on the plans. Circuit part of the vital software.	<b>Notes or Restrictions:</b>	<b>Notes or Restrictions:</b>

Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Design Verification				Construction/Installation				Verification					
				Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification		
1	2.1	All portions of the communications and signal system and its components shall be designed to operate in the electromagnetic environment that exists today or is introduced by this project.	Design Criteria 8.5.1	C	BJL PMB	2/9/2015	TSP 30045 AREMA 2.2.12										
2	2.1.3	Vital train detection shall be set to detecting a 0.06 ohm shunt across the running rails	Design Criteria 9.1/9.2	N/A			Note 1										
3	2.1.1	Absolute signals shall be colorlight signals capable of displaying signals in accordance with the Route and Aspect Chart	Design Criteria 9.10 & 9.11	C	BJL PMB	2/9/2015	Design Plans G79794.002 G79794.031 G79794.032 G79794.033 G79824.002 G79824.029 G79824.030										
4	2.1.2	All powered machines shall be equipped with internal lock, point detector rods and throw rods.	Design Criteria 9.5	C	BJL PMB	2/9/2015	Design Plans G79794.036 G79824.033 TSP T30085										
5	2.1.3	Vital processors shall be used at all interlockings to perform the signal logic required for that specific application.	Design Criteria 9.13.2	C	BJL PMB	2/9/2015	Design Plans G79794.027 G79824.026 TSP T30045										
6	2.1.3	All vital circuits shall be double break, except within a signal house or wayside case, after the entering or leaving circuits are double broke.	Design Criteria 9.13.3.3	C	BJL PMB	2/9/2015	Design Plans G79794.023 to G79794.040 G79824.022 to G79794.036										
7	2.1.3	All vital circuits shall be based on closed circuit principles.	Design Criteria 8.4.1	C	BJL PMB	2/9/2015	Design Plans G79794.023 to G79794.040 G79824.022 to G79794.036										
8	2.1.3	All relays that are to be energized by a vital circuit shall be vital relays or vital solid state electronic devices. All contacts that are used within any vital circuit shall be contacts of a vital relay, or driven by a vital output solid-state device.	Design Criteria 8.4.1	C	BJL PMB	2/9/2015	Design Plans G79794.023 to G79794.040 G79824.022 to G79794.036										
9	2.1.3	Fail-safe design shall be achieved by using the closed-loop principle on vital circuitry, and shall protect against unsafe operation in the instance of a single open circuits or short circuits.	Design Criteria 8.4.2	C	BJL PMB	2/9/2015	Design Plans G79794.023 to G79794.040 G79824.022 to G79794.036										
10	2.1.3	Route locking shall be provided for all interlocking moves.	Design Criteria 9.13.3.5	Note 2			Note 2										
11	2.1.3	Traffic locking shall be in effect to prevent changing the direction of traffic if any route is lined or locked to enter the TCS territory or any track circuit within the block is occupied.	Design Criteria 9.13.3.6	N/A			Note 2										

12	2.1.3	The ASR circuitry shall be designed such that two track circuits must be de-energized simultaneously to allow the ASR relay to energize after the relay has been de-energized with the first of the two track circuits being the circuit directly after passing the absolute signal.	Design Criteria 9.13.3.7	N/A			Note 2												
13	2.1.3	Time locking shall be provided for each signal that will prevent the route from being changed or a signal being cleared into the route for a predetermined time interval if a signal is put to stop without the movement of a train. The time interval will be calculated by the Designer based on AREMA Section 2.4.20	Design Criteria 9.13.3.7	C	BJL PMB	2/9/2015	Design Plans G79794.023 Note 3												
14	2.1.3	Vital relays shall be provided for the control and indication of the dual controlled switch machines.	Design Criteria 9.13.4.1	C	BJL PMB	2/9/2015	Design Plans G79794.025 G79794.035 G79794.036 G79824.023 G79824.032 G79824.033												
15	2.1.3	All Home signals shall deploy the use of "Light Out" detector. Should a signal head detect a light out condition, the light shall be considered burned out and the signal shall display a more restrictive aspect and downgrade the approach signal to an appropriate aspect.	Design Criteria 9.13.5.2	N/A			Note 2												
16	2.1.4	Interlocking Track relays shall require a 10 second Loss of Shunt (LOS) device. The vital logic for that particular Track Circuit shall use the Track Repeater Stick Relay (TPSR).	Design Criteria 9.13.4.2	N/A			Note 2												
17	2.1.5	Intrusion detection and a means to secure the house from intrusion shall be provided on all signal houses within each interlocking.	Design Criteria 8.6.8	N/A			Design Plans G79794.034 G79824.032 TSP T30105												
18	2.1.5	Each CIH shall have a door alarm system feeding to a non-vital input (a vital input is acceptable but not required). The system shall report any entrance into the housings to the Operations Control Center (OCC).	Design Criteria 8.6.8	PC Indication provided. Note 3	BJL PMB	2/9/2015	Design Plans G79794.034 G79824.032 TSP T30105												
19	2.1.5	The electrical panel shall consist of at least one Ground Fault Circuit Interrupter (GFCI) breaker. This GFCI breaker shall be used for all lighting and convenience outlets.	Design Criteria 8.6.2	C	BJL PMB	2/9/2015	Design Plans G79794.003 G79824.003 TSP T30105												
20	2.1.5	One smoke alarm and one fire extinguisher shall be provided at all Central Instrument Houses (CIH) houses. Smoke alarms shall be remotely indicated to the Operations Control Center.	Design Criteria 8.6.2	PC	BJL PMB	2/9/2015	Design Plans G79794.034 G79824.032 TSP T30105												
18	2.1.5	Each house shall be equipped with an emergency generator termination plug that shall allow for external use of a generator during a long-term power outage.	Design Criteria 8.6.2	C	BJL PMB	2/9/2015	Design Plans G79794.003 G79824.003 TSP T30105												
19	2.1.5	External power off indication lights shall be provided for each house.	Design Criteria 8.6.2	C	BJL PMB	2/9/2015	Design Plans G79794.003 G79824.003 TSP												
<b>LEGEND</b>			<b>DESIGN VERIFICATION</b>				<b>CONSTRUCTION VERIFICATION</b>				<b>FINAL VERIFICATION</b>								
<b>Means of Verification - Design</b> P = Plan Sheet      S = Specification RFI=RFI              O = Other			<b>Means of Verification - Construction</b> M = Measurement T = Test V = Visual Inspection				Name and Organization: _____ Date: _____				Name and Organization: _____ Date: _____								
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance			Approved by: _____ Date: _____				Approved by: _____ Date: _____				Approved by: _____ Date: _____								



# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists	Design Verification	Construction Verification	Final Verification
<b>Certifiable Element:</b> 2.0 Signals <b>Sub-Element:</b> 2.1 Control Point (Equipment/Circuits) <b>Location:</b> CP 799 (Middle Taft) MP A798.80 <b>Contract No.:</b>	<b>Notes or Restrictions:</b> 1. To be verified by field testing. 2. Function of the vital software. 3. Time shown on the plans. Circuit part of the vital software.	<b>Notes or Restrictions:</b>	<b>Notes or Restrictions:</b>

Item No.	Certifiable Item Description			Design Verification				Construction/Installation				Verification			
	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	2.1	All portions of the communications and signal system and its components shall be designed to operate in the electromagnetic environment that exists today or is introduced by this project.	Design Criteria 8.5.1	C	BJL PMB	2/9/2015	TSP 30045 AREMA 2.2.12								
2	2.1.3	Vital train detection shall be set to detecting a 0.06 ohm shunt across the running rails	Design Criteria 9.1/9.2	N/A			Note 1								
3	2.1.1	Absolute signals shall be colorlight signals capable of displaying signals in accordance with the Route and Aspect Chart	Design Criteria 9.10 & 9.11	C	BJL PMB	2/9/2015	Design Plans G79876.002 G79876.012 G79876.013								
4	2.1.3	Vital processors shall be used at all interlockings to perform the signal logic required for that specific application.	Design Criteria 9.13.2	C	BJL PMB	2/9/2015	Design Plans G79876.006								
5	2.1.3	The ASR circuitry shall be designed such that two track circuits must be de-energized simultaneously to allow the ASR relay to energize after the relay has been de-energized with the first of the two track circuits being the circuit directly after passing the absolute signal.	Design Criteria 9.13.3.7	N/A			Note 2								
6	2.1.3	Time locking shall be provided for each signal that will prevent the route from being changed or a signal being cleared into the route for a predetermined time interval if a signal is put to stop without the movement of a train. The time interval will be calculated by the Designer based on AREMA Section 2.4.20	Design Criteria 9.13.3.7	C	BJL PMB	2/9/2015	Design Plans G79876.004 Note 3								
7	2.1.3	All vital circuits shall be based on closed circuit principles.	Design Criteria 8.4.1	C	BJL PMB	2/9/2015	Design Plans G79876.004 to G79876.018								
8	2.1.3	All relays that are to be energized by a vital circuit shall be vital relays or vital solid state electronic devices. All contacts that are used within any vital circuit shall be contacts of a vital relay, or driven by a vital output solid-state device.	Design Criteria 8.4.1	C	BJL PMB	2/9/2015	Design Plans G79876.004 to G79876.018								
9	2.1.3	Fail-safe design shall be achieved by using the closed-loop principle on vital circuitry, and shall protect against unsafe operation in the instance of a single open circuits or short circuits.	Design Criteria 8.4.2	C	BJL PMB	2/9/2015	Design Plans G79876.004 to G79876.018								
<b>LEGEND</b> <b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other  <b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance				<b>DESIGN VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				<b>CONSTRUCTION VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				<b>FINAL VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____			

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists	Design Verification	Construction Verification	Final Verification
<b>Certifiable Element:</b> <u>2.0 Signals</u>  <b>Sub-Element:</b> <u>2.1 Control Point (Equipment/Circuits)</u> <b>Location:</b> <u>CP 800 – North End of Stanton Spur MP A799.70</u>  <b>Contract No.:</b> _____	<b>Notes or Restrictions:</b> 1. To be verified by field testing. 2. Function of the vital software. 3. Time shown on the plans. Circuit part of the vital software.	<b>Notes or Restrictions:</b>      	<b>Notes or Restrictions:</b>      

Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Design Verification				Construction/Installation				Verification					
				Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification		
1	2.1	All portions of the communications and signal system and its components shall be designed to operate in the electromagnetic environment that exists today or is introduced by this project.	Design Criteria 8.5.1	C	BJL PMB	2/9/2015	TSP 30045 AREMA 2.2.12										
2	2.1.3	Vital train detection shall be set to detecting a 0.06 ohm shunt across the running rails	Design Criteria 9.1/9.2	N/A			Note 1										
3	2.1.1	Absolute signals shall be colorlight signals capable of displaying signals in accordance with the Route and Aspect Chart	Design Criteria 9.10 & 9.11	C	BJL PMB	2/9/2015	Design Plans G79968.002 G79968.003 G79968.017 G79968.018 G79968.030 G79968.031 G79968.032										
4	2.1.2	All powered machines shall be equipped with internal lock, point detector rods and throw rods.	Design Criteria 9.5	C	BJL PMB	2/9/2015	Design Plans G79968.022 G79968.023 G79968.035 TSP T30085										
5	2.1.3	Vital processors shall be used at all interlockings to perform the signal logic required for that specific application.	Design Criteria 9.13.2	C	BJL PMB	2/9/2015	Design Plans G79968.009 G79968.013 TSP T30045										
6	2.1.3	All vital circuits shall be double break, except within a signal house or wayside case, after the entering or leaving circuits are double broke.	Design Criteria 9.13.3.3	C	BJL PMB	2/9/2015	Design Plans G79968.002 to G79687.037										
7	2.1.3	All vital circuits shall be based on closed circuit principles.	Design Criteria 8.4.1	C	BJL PMB	2/9/2015	Design Plans G79968.002 to G79687.037										
8	2.1.3	All relays that are to be energized by a vital circuit shall be vital relays or vital solid state electronic devices. All contacts that are used within any vital circuit shall be contacts of a vital relay, or driven by a vital output solid-state device.	Design Criteria 8.4.1	C	BJL PMB	2/9/2015	Design Plans G79968.002 to G79687.037										
7	2.1.3	Fail-safe design shall be achieved by using the closed-loop principle on vital circuitry, and shall protect against unsafe operation in the instance of a single open circuits or short circuits.	Design Criteria 8.4.2	C	BJL PMB	2/9/2015	Design Plans G79968.002 to G79687.037										
7	2.1.3	Route locking shall be provided for all interlocking moves,	Design Criteria 9.13.3.5	N/A			Note 2										
8	2.1.3	Traffic locking shall be in effect to prevent changing the direction of traffic if any route is lined or locked to enter the TCS territory or any track circuit within the block is occupied.	Design Criteria 9.13.3.6	N/A			Note 2										

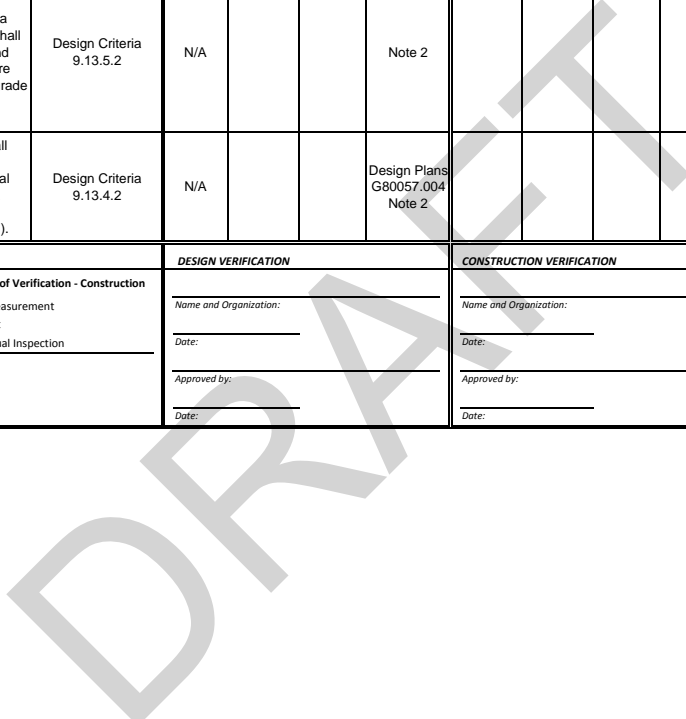
9	2.1.3	The ASR circuitry shall be designed such that two track circuits must be de-energized simultaneously to allow the ASR relay to energize after the relay has been de-energized with the first of the two track circuits being the circuit directly after passing the absolute signal.	Design Criteria 9.13.3.7	N/A			Note 2							
10	2.1.3	Time locking shall be provided for each signal that will prevent the route from being changed or a signal being cleared into the route for a predetermined time interval if a signal is put to stop without the movement of a train. The time interval will be calculated by the Designer based on AREMA Section 2.4.20	Design Criteria 9.13.3.7	C	BJL PMB	2/9/2015	Design Plans G79968.004 Note 3							
11	2.1.3	Vital relays shall be provided for the control and indication of the dual controlled switch machines.	Design Criteria 9.13.4.1	C	BJL PMB	2/9/2015	Design Plans G79968.007 G79968.020 G79968.021 G79968.034							
12	2.1.3	All Home signals shall deploy the use of "Light Out" detector. Should a signal head detect a light out condition, the light shall be considered burned out and the signal shall display a more restrictive aspect and downgrade the approach signal to an appropriate aspect.	Design Criteria 9.13.5.2	N/A			Note 2							
13	2.1.4	Interlocking Track relays shall require a 10 second Loss of Shunt (LOS) device. The vital logic for that particular Track Circuit shall use the Track Repeater Stick Relay (TPSR).	Design Criteria 9.13.4.2	N/A			Note 2							
14	2.1.5	Intrusion detection and a means to secure the house from intrusion shall be provided on all signal houses within each interlocking.	Design Criteria 8.6.8	N/A			Design Plans G79968.033 TSP T30105							
15	2.1.5	Each CIH shall have a door alarm system feeding to a non-vital input (a vital input is acceptable but not required). The system shall report any entrance into the housings to the Operations Control Center (OCC).	Design Criteria 8.6.8	C	BJL PMB	2/9/2015	Design Plans G79968.033 TSP T30105							
16	2.1.5	The electrical panel shall consist of at least one Ground Fault Circuit Interrupter (GFCI) breaker. This GFCI breaker shall be used for all lighting and convenience outlets.	Design Criteria 8.6.2	C	BJL PMB	2/9/2015	Design Plans G79968.006 G79968.010 TSP T30105							
17	2.1.5	One smoke alarm and one fire extinguisher shall be provided at all Central Instrument Houses (CIH) houses. Smoke alarms shall be remotely indicated to the Operations Control Center.	Design Criteria 8.6.4	C	BJL PMB	2/9/2015	Design Plans G79968.033 TSP T30105							
<b>LEGEND</b>		<b>MEANS OF VERIFICATION - DESIGN</b>		<b>MEANS OF VERIFICATION - CONSTRUCTION</b>		<b>DESIGN VERIFICATION</b>			<b>CONSTRUCTION VERIFICATION</b>			<b>FINAL VERIFICATION</b>		
P = Plan Sheet    S = Specification RFI=RFI            O = Other		M = Measurement T = Test V = Visual Inspection		Name and Organization: _____ Date: _____			Name and Organization: _____ Date: _____			Name and Organization: _____ Date: _____				
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance		Approved by: _____ Date: _____			Approved by: _____ Date: _____			Approved by: _____ Date: _____						

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists	Design Verification	Construction Verification	Final Verification
<b>Certifiable Element:</b> 2.0 Signals  <b>Sub-Element:</b> 2.1 Control Point (Equipment/Circuits) <b>Location:</b> CP 801 – South End of Stanton Spur MP A800.5  <b>Contract No.:</b>	<b>Notes or Restrictions:</b> 1. To be verified by field testing. 2. Function of the vital software. 3. Time shown on the plans. Circuit part of the vital software.		

Item No.	Certifiable Item Description			Design Verification				Construction/Installation				Verification			
	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	2.1	All portions of the communications and signal system and its components shall be designed to operate in the electromagnetic environment that exists today or is introduced by this project.	Design Criteria 8.5.1	C	BJL PMB	2/9/2015	TSP 30045 AREMA 2.2.12								
2	2.1.3	Vital train detection shall be set to detecting a 0.06 ohm shunt across the running rails	Design Criteria 9.1/9.2	N/A			Note 1								
3	2.1.1	Absolute signals shall be colorlight signals capable of displaying signals in accordance with the Route and Aspect Chart	Design Criteria 9.10 & 9.11	C	BJL PMB	2/9/2015	Design Plans G80057.002 G80057.013 G80057.014 G80057.015 G80057.016								
4	2.1.2	All powered machines shall be equipped with internal lock, point detector rods and throw rods.	Design Criteria 9.5	C	BJL PMB	2/9/2015	Design Plans G80057.019 G80057.020 TSP T30085								
5	2.1.3	Vital processors shall be used at all interlockings to perform the signal logic required for that specific application.	Design Criteria 9.13.2	C	BJL PMB	2/9/2015	Design Plans G80057.009 TSP T30045								
6	2.1.3	All vital circuits shall be based on closed circuit principles.	Design Criteria 8.4.1	C	BJL PMB	2/9/2015	Design Plans G80057.005 to G80057.028								
7	2.1.3	All relays that are to be energized by a vital circuit shall be vital relays or vital solid state electronic devices. All contacts that are used within any vital circuit shall be contacts of a vital relay, or driven by a vital output solid-state device.	Design Criteria 8.4.1	C	BJL PMB	2/9/2015	Design Plans G80057.005 to G80057.028								
8	2.1.3	Fail-safe design shall be achieved by using the closed-loop principle on vital circuitry, and shall protect against unsafe operation in the instance of a single open circuits or short circuits.	Design Criteria 8.4.2	C	BJL PMB	2/9/2015	Design Plans G80057.005 to G80057.028								
9	2.1.3	All vital circuits shall be double break, except within a signal house or wayside case, after the entering or leaving circuits are double broke.	Design Criteria 9.13.3.3	C	BJL PMB	2/9/2015	Design Plans G80057.005 to G80057.028								
10	2.1.3	Fail-safe design shall be achieved by using the closed-loop principle on vital circuitry, and shall protect against unsafe operation in the instance of a single open circuits or short circuits.	Design Criteria 8.4.2	N/A			Note 2								
11	2.1.3	Route locking shall be provided for all interlocking moves,	Design Criteria 9.13.3.5	N/A			Note 2								
12	2.1.3	Traffic locking shall be in effect to prevent changing the direction of traffic if any route is lined or locked to enter the TCS territory or any track circuit within the block is occupied.	Design Criteria 9.13.3.6	N/A			Note 2								

13	2.1.3	The ASR circuitry shall be designed such that two track circuits must be de-energized simultaneously to allow the ASR relay to energize after the relay has been de-energized with the first of the two track circuits being the circuit directly after passing the absolute signal.	Design Criteria 9.13.3.7	N/A			Note 2								
14	2.1.3	Time locking shall be provided for each signal that will prevent the route from being changed or a signal being cleared into the route for a predetermined time interval if a signal is put to stop without the movement of a train. The time interval will be calculated by the Designer based on AREMA Section 2.4.20	Design Criteria 9.13.3.7	C	BJL PMB	2/9/2015	Design Plans G80057.004 Note 3								
15	2.1.3	Vital relays shall be provided for the control and indication of the dual controlled switch machines.	Design Criteria 9.13.4.1	C	BJL PMB	2/9/2015	Design Plans G80057.006 G80057.017 G80057.018								
16	2.1.3	All Home signals shall deploy the use of "Light Out" detector. Should a signal head detect a light out condition, the light shall be considered burned out and the signal shall display a more restrictive aspect and downgrade the approach signal to an appropriate aspect.	Design Criteria 9.13.5.2	N/A			Note 2								
17	2.1.4	Interlocking Track relays shall require a 10 second Loss of Shunt (LOS) device. The vital logic for that particular Track Circuit shall use the Track Repeater Stick Relay (TPSR).	Design Criteria 9.13.4.2	N/A			Design Plans G80057.004 Note 2								
<b>LEGEND</b>				<b>DESIGN VERIFICATION</b>				<b>CONSTRUCTION VERIFICATION</b>				<b>FINAL VERIFICATION</b>			
<b>Means of Verification - Design</b>		<b>Means of Verification - Construction</b>		Name and Organization: _____				Name and Organization: _____				Name and Organization: _____			
P = Plan Sheet    S = Specification		M = Measurement		Date: _____				Date: _____				Date: _____			
RFI=RFI            O = Other		T = Test		Approved by: _____				Approved by: _____				Approved by: _____			
<b>Status</b>		V = Visual Inspection		Date: _____				Date: _____				Date: _____			
C = Compliance															
N = Noncompliance															
P = Partial Compliance															



# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists	Design Verification	Construction Verification	Final Verification
<b>Certifiable Element:</b> 2.0 Signals  <b>Sub-Element:</b> 2.1 Control Point (Equipment/Circuits) <b>Location:</b> CP 803 – Meadow Woods Universal Crossover N  <b>Contract No.:</b>	<b>Notes or Restrictions:</b> 1. To be verified by field testing. 2. Function of the vital software. 3. Time shown on the plans. Circuit part of the vital software.		

Item No.	Certifiable Item Description			Design Verification				Construction/Installation				Verification			
	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	2.1	All portions of the communications and signal system and its components shall be designed to operate in the electromagnetic environment that exists today or is introduced by this project.	Design Criteria 8.5.1	C	BJL PMB	2/9/2015	TSP 30045 AREMA 2.2.12								
2	2.1.3	Vital train detection shall be set to detecting a 0.06 ohm shunt across the running rails	Design Criteria 9.1/9.2	N/A			Note 1								
3	2.1.1	Absolute signals shall be colorlight signals capable of displaying signals in accordance with the Route and Aspect Chart	Design Criteria 9.10 & 9.11	C	BJL PMB	2/9/2015	Design Plans G80349.002 G80349.016 G80349.017 G80349.027 G80349.028								
4	2.1.2	All switches located within the boundaries of an interlocking and having an electric switch and lock movement shall be dual controlled switch machines	Design Criteria 9.5	C	BJL PMB	2/9/2015	TSP T30085								
5	2.1.2	All powered machines shall be equipped with internal lock, point detector rods and throw rods.	Design Criteria 9.5	C	BJL PMB	2/9/2015	Design Plans G80349.020 G80349.031 TSP T30085								
6	2.1.3	Vital processors shall be used at all interlockings to perform the signal logic required for that specific application.	Design Criteria 9.13.2	C	BJL PMB	2/9/2015	Design Plans G80349.008 G80349.012 TSP T30045								
7	2.1.3	All vital circuits shall be double break, except within a signal house or wayside case, after the entering or leaving circuits are double broke.	Design Criteria 9.13.3.3	C	BJL PMB	2/9/2015	Design Plans G80349.002 to G80349.033								
8	2.1.3	All vital circuits shall be based on closed circuit principles.	Design Criteria 8.4.1	C	BJL PMB	2/9/2015	Design Plans G80349.002 to G80349.033								
9	2.1.3	All relays that are to be energized by a vital circuit shall be vital relays or vital solid state electronic devices. All contacts that are used within any vital circuit shall be contacts of a vital relay, or driven by a vital output solid-state device.	Design Criteria 8.4.1	C	BJL PMB	2/9/2015	Design Plans G80349.002 to G80349.033								
8	2.1.3	Fail-safe design shall be achieved by using the closed-loop principle on vital circuitry, and shall protect against unsafe operation in the instance of a single open circuits or short circuits.	Design Criteria 8.4.2	C	BJL PMB	2/9/2015	Design Plans G80349.002 to G80349.033								
8	2.1.3	Route locking shall be provided for all interlocking moves,	Design Criteria 9.13.3.5	N/A			Note 2								
9	2.1.3	Traffic locking shall be in effect to prevent changing the direction of traffic if any route is lined or locked to enter the TCS territory or any track circuit within the block is occupied.	Design Criteria 9.13.3.6	N/A			Note 2								
10	2.1.3	The ASR circuitry shall be designed such that two track circuits must be de-energized simultaneously to allow the ASR relay to energize after the relay has been de-energized with the first of the two track circuits being the circuit directly after passing the absolute signal.	Design Criteria 9.13.3.7	N/A			Note 2								

11	2.1.3	Time locking shall be provided for each signal that will prevent the route from being changed or a signal being cleared into the route for a predetermined time interval if a signal is put to stop without the movement of a train. The time interval will be calculated by the Designer based on AREMA Section 2.4.20	Design Criteria 9.13.3.7	C	BJL PMB	2/9/2015	Design Plans G80349.03 Note 3											
12	2.1.3	Vital relays shall be provided for the control and indication of the dual controlled switch machines.	Design Criteria 9.13.4.1	C	BJL PMB	2/9/2015	Design Plans G80349.006 G80349.020 G80349.031											
13	2.1.3	All Home signals shall deploy the use of "Light Out" detector. Should a signal head detect a light out condition, the light shall be considered burned out and the signal shall display a more restrictive aspect and downgrade the approach signal to an appropriate aspect.	Design Criteria 9.13.5.2	N/A			Note 2											
14	2.1.4	Interlocking Track relays shall require a 10 second Loss of Shunt (LOS) device. The vital logic for that particular Track Circuit shall use the Track Repeater Stick Relay (TPSR).	Design Criteria 9.13.4.2	N/A			Design Plans G80349.003 Note 2											
15	2.1.5	Intrusion detection and a means to secure the house from intrusion shall be provided on all signal houses within each interlocking.	Design Criteria 8.6.8	N/A			Design Plans G80349.018 G80349.029 TSP T30105											
16	2.1.5	Each CIH shall have a door alarm system feeding to a non-vital input (a vital input is acceptable but not required). The system shall report any entrance into the housings to the Operations Control Center (OCC).	Design Criteria 8.6.8	C	BJL PMB	2/9/2015	Design Plans G80349.018 G80349.029 TSP T30105											
17	2.1.5	The electrical panel shall consist of at least one Ground Fault Circuit Interrupter (GFCI) breaker. This GFCI breaker shall be used for all lighting and convenience outlets.	Design Criteria 8.6.2	C	BJL PMB	2/9/2015	Design Plans G80349.005 G80349.009 TSP T30105											
18	2.1.5	One smoke alarm and one fire extinguisher shall be provided at all Central Instrument Houses (CIH) houses. Smoke alarms shall be remotely indicated to the Operations Control Center.	Design Criteria 8.6.4	C	BJL PMB	2/9/2015	Design Plans G80349.018 G80349.029 TSP T30105											
<b>LEGEND</b>			<b>DESIGN VERIFICATION</b>				<b>CONSTRUCTION VERIFICATION</b>				<b>FINAL VERIFICATION</b>							
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other			<b>Means of Verification - Construction</b> M = Measurement T = Test V = Visual Inspection				Name and Organization: _____ Date: _____				Name and Organization: _____ Date: _____							
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance			Approved by: _____ Date: _____				Approved by: _____ Date: _____				Approved by: _____ Date: _____							

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists	Design Verification	Construction Verification	Final Verification
<b>Certifiable Element:</b> <u>2.0 Signals</u>  <b>Sub-Element:</b> <u>2.1 Control Point (Equipment/Circuits)</u> <b>Location:</b> <u>CP 806 – Osceola Universal Crossover MP A806.10</u>  <b>Contract No.:</b> _____	<b>Notes or Restrictions:</b> 1. To be verified by field testing. 2. Function of the vital software. 3. Time shown on the plans. Circuit part of the vital software.	<b>Notes or Restrictions:</b>       	<b>Notes or Restrictions:</b>       

Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Design Verification				Construction/Installation				Verification					
				Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification		
1	2.1	All portions of the communications and signal system and its components shall be designed to operate in the electromagnetic environment that exists today or is introduced by this project.	Design Criteria 8.5.1	C	BJL PMB	2/9/2015	TSP 30045 AREMA 2.2.12										
2	2.1.3	Vital train detection shall be set to detecting a 0.06 ohm shunt across the running rails	Design Criteria 9.1/9.2	N/A			Note 1										
3	2.1.1	Absolute signals shall be colorlight signals capable of displaying signals in accordance with the Route and Aspect Chart	Design Criteria 9.10 & 9.11	C	BJL PMB	2/9/2015	Design Plans G80600.002 G80600.010 G80600.011 G80622.002 G80622.031 G80622.032										
4	2.1.2	All switches located within the boundaries of an interlocking and having an electric switch and lock movement shall be dual controlled switch machines	Design Criteria 9.5	C	BJL PMB	2/9/2015	TSP T30085										
5	2.1.2	All powered machines shall be equipped with internal lock, point detector rods and throw rods.	Design Criteria 9.5	C	BJL PMB	2/9/2015	Design Plans G80600.014 G80622.035 TSP T30085										
6	2.1.3	Vital processors shall be used at all interlockings to perform the signal logic required for that specific application.	Design Criteria 9.13.2	C	BJL PMB	2/9/2015	Design Plans G80600.007 G80622.027 TSP T30045										
7	2.1.3	All vital circuits shall be based on closed circuit principles.	Design Criteria 8.4.1	C	BJL PMB	2/9/2015	Design Plans G80600.005 to G80600.019 G80622.002 to G80622.039										
8	2.1.3	All relays that are to be energized by a vital circuit shall be vital relays or vital solid state electronic devices. All contacts that are used within any vital circuit shall be contacts of a vital relay, or driven by a vital output solid-state device.	Design Criteria 8.4.1	C	BJL PMB	2/9/2015	Design Plans G80600.005 to G80600.019 G80622.002 to G80622.039										
7	2.1.3	Fail-safe design shall be achieved by using the closed-loop principle on vital circuitry, and shall protect against unsafe operation in the instance of a single open circuits or short circuits.	Design Criteria 8.4.2	C	BJL PMB	2/9/2015	Design Plans G80600.005 to G80600.019 G80622.002 to G80622.039										
7	2.1.3	All vital circuits shall be double break, except within a signal house or wayside case, after the entering or leaving circuits are double broke.	Design Criteria 9.13.3.3	C	BJL PMB	2/9/2015	Design Plans G80600.005 to G80600.019 G80622.002 to G80622.039										
8	2.1.3	Route locking shall be provided for all interlocking moves,	Design Criteria 9.13.3.5	N/A			Note 2										



9	2.1.3	Traffic locking shall be in effect to prevent changing the direction of traffic if any route is lined or locked to enter the TCS territory or any track circuit within the block is occupied.	Design Criteria 9.13.3.6	N/A			Note 2												
10	2.1.3	The ASR circuitry shall be designed such that two track circuits must be de-energized simultaneously to allow the ASR relay to energize after the relay has been de-energized with the first of the two track circuits being the circuit directly after passing the absolute signal.	Design Criteria 9.13.3.7	N/A			Note 2												
11	2.1.3	Time locking shall be provided for each signal that will prevent the route from being changed or a signal being cleared into the route for a predetermined time interval if a signal is put to stop without the movement of a train. The time interval will be calculated by the Designer based on AREMA Section 2.4.20	Design Criteria 9.13.3.7	C	BJL PMB	2/9/2015	Design Plans G80622.023 Note 3												
12	2.1.3	Vital relays shall be provided for the control and indication of the dual controlled switch machines.	Design Criteria 9.13.4.1	C	BJL PMB	2/9/2015	Design Plans G80600.005 G80600.013 G80622.025 G80622.034												
13	2.1.3	All Home signals shall deploy the use of "Light Out" detector. Should a signal head detect a light out condition, the light shall be considered burned out and the signal shall display a more restrictive aspect and downgrade the approach signal to an appropriate aspect.	Design Criteria 9.13.5.2	N/A			Note 2												
14	2.1.4	Interlocking Track relays shall require a 10 second Loss of Shunt (LOS) device. The vital logic for that particular Track Circuit shall use the Track Repeater Stick Relay (TPSR).	Design Criteria 9.13.4.2	N/A			Design Plans G80622.023 Note 2												
15	2.1.5	Intrusion detection and a means to secure the house from intrusion shall be provided on all signal houses within each interlocking.	Design Criteria 8.6.8	N/A			Design Plans G80600.012 G80622.033 TSP T30105												
16	2.1.5	Each CIH shall have a door alarm system feeding to a non-vital input (a vital input is acceptable but not required). The system shall report any entrance into the housings to the Operations Control Center (OCC).	Design Criteria 8.6.8	C	BJL PMB	2/9/2015	Design Plans G80600.012 G80622.033 TSP T30105												
17	2.1.5	The electrical panel shall consist of at least one Ground Fault Circuit Interrupter (GFCI) breaker. This GFCI breaker shall be used for all lighting and convenience outlets.	Design Criteria 8.6.2	C	BJL PMB	2/9/2015	Design Plans G80600.004 G80622.003 TSP T30105												
18	2.1.5	One smoke alarm and one fire extinguisher shall be provided at all Central Instrument Houses (CIH) houses. Smoke alarms shall be remotely indicated to the Operations Control Center.	Design Criteria 8.6.4	C	BJL PMB	2/9/2015	Design Plans G80600.012 G80622.033 TSP T30105												
<b>LEGEND</b>		<b>MEANS OF VERIFICATION - DESIGN</b>		<b>MEANS OF VERIFICATION - CONSTRUCTION</b>		<b>DESIGN VERIFICATION</b>			<b>CONSTRUCTION VERIFICATION</b>			<b>FINAL VERIFICATION</b>							
P = Plan Sheet RFI=RFI		S = Specification O = Other		M = Measurement T = Test V = Visual Inspection		Name and Organization: _____ Date: _____ Approved by: _____ Date: _____			Name and Organization: _____ Date: _____ Approved by: _____ Date: _____			Name and Organization: _____ Date: _____ Approved by: _____ Date: _____							
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance																			

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists	Design Verification	Construction Verification	Final Verification
<b>Certifiable Element:</b> <u>2.0 Signals</u>  <b>Sub-Element:</b> <u>2.1 Control Point (Equipment/Circuits)</u> <b>Location:</b> <u>CP 809 – Kissimmee Universal Crossover MP A809.10</u>  <b>Contract No.:</b> _____	<b>Notes or Restrictions:</b> 1. To be verified by field testing. 2. Function of the vital software. 3. Time shown on the plans. Circuit part of the vital software.	<b>Notes or Restrictions:</b>       	<b>Notes or Restrictions:</b>       

Item No.	Certifiable Item Description			Design Verification				Construction/Installation				Verification			
	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	2.1	All portions of the communications and signal system and its components shall be designed to operate in the electromagnetic environment that exists today or is introduced by this project.	Design Criteria 8.5.1	C	BJL PMB	2/9/2015	TSP 30045 AREMA 2.2.12								
2	2.1.3	Vital train detection shall be set to detecting a 0.06 ohm shunt across the running rails	Design Criteria 9.1/9.2	N/A			Note 1								
3	2.1.1	Absolute signals shall be colorlight signals capable of displaying signals in accordance with the Route and Aspect Chart	Design Criteria 9.10 & 9.11	C	BJL PMB	2/9/2015	Design Plans G80935.002 G80935.003 G80935.017 G80935.018 G80935.028 G80935.029								
4	2.1.2	All switches located within the boundaries of an interlocking and having an electric switch and lock movement shall be dual controlled switch machines	Design Criteria 9.5	C	BJL PMB	2/9/2015	TSP T30085								
5	2.1.2	All powered machines shall be equipped with internal lock, point detector rods and throw rods.	Design Criteria 9.5	C	BJL PMB	2/9/2015	Design Plans G80935.021 G80935.032 TSP T30085								
6	2.1.3	All vital circuits shall be based on closed circuit principles.	Design Criteria 8.4.1	C	BJL PMB	2/9/2015	Design Plans G80935.002 to G80935.038								
7	2.1.3	All relays that are to be energized by a vital circuit shall be vital relays or vital solid state electronic devices. All contacts that are used within any vital circuit shall be contacts of a vital relay, or driven by a vital output solid-state device.	Design Criteria 8.4.1	C	BJL PMB	2/9/2015	Design Plans G80935.002 to G80935.038								
8	2.1.3	Vital processors shall be used at all interlockings to perform the signal logic required for that specific application.	Design Criteria 9.13.2	C	BJL PMB	2/9/2015	Design Plans G80935.009 G80935.013 TSP T30045								
9	2.1.3	All vital circuits shall be double break, except within a signal house or wayside case, after the entering or leaving circuits are double broke.	Design Criteria 9.13.3.3	C	BJL PMB	2/9/2015	Design Plans G80935.002 to G80935.038								
10	2.1.3	Fail-safe design shall be achieved by using the closed-loop principle on vital circuitry, and shall protect against unsafe operation in the instance of a single open circuits or short circuits.	Design Criteria 8.4.2	C	BJL PMB	2/9/2015	Design Plans G80935.002 to G80935.038								
11	2.1.3	Route locking shall be provided for all interlocking moves,	Design Criteria 9.13.3.5	N/A			Note 2								
12	2.1.3	Traffic locking shall be in effect to prevent changing the direction of traffic if any route is lined or locked to enter the TCS territory or any track circuit within the block is occupied.	Design Criteria 9.13.3.6	N/A			Note 2								

13	2.1.3	The ASR circuitry shall be designed such that two track circuits must be de-energized simultaneously to allow the ASR relay to energize after the relay has been de-energized with the first of the two track circuits being the circuit directly after passing the absolute signal.	Design Criteria 9.13.3.7	N/A			Note 2								
14	2.1.3	Time locking shall be provided for each signal that will prevent the route from being changed or a signal being cleared into the route for a predetermined time interval if a signal is put to stop without the movement of a train. The time interval will be calculated by the Designer based on AREMA Section 2.4.20	Design Criteria 9.13.3.7	C Note 4	BJL PMB	2/9/2015	Design Plans G80935.004 Note 3								
15	2.1.3	Vital relays shall be provided for the control and indication of the dual controlled switch machines.	Design Criteria 9.13.4.1	C	BJL PMB	2/9/2015	Design Plans G80935.002 to G80935.038								
16	2.1.3	All Home signals shall deploy the use of "Light Out" detector. Should a signal head detect a light out condition, the light shall be considered burned out and the signal shall display a more restrictive aspect and downgrade the approach signal to an appropriate aspect.	Design Criteria 9.13.5.2	N/A			Note 2								
17	2.1.4	Interlocking Track relays shall require a 10 second Loss of Shunt (LOS) device. The vital logic for that particular Track Circuit shall use the Track Repeater Stick Relay (TPSR).	Design Criteria 9.13.4.2	N/A			Note 2								
18	2.1.5	Intrusion detection and a means to secure the house from intrusion shall be provided on all signal houses within each interlocking.	Design Criteria 8.6.8	N/A			Design Plans G80935.019 G80935.030								
19	2.1.5	Each CIH shall have a door alarm system feeding to a non-vital input (a vital input is acceptable but not required). The system shall report any entrance into the housings to the Operations Control Center (OCC).	Design Criteria 8.6.8	C	BJL PMB	2/9/2015	Design Plans G80935.019 G80935.030								
20	2.1.5	The electrical panel shall consist of at least one Ground Fault Circuit Interrupter (GFCI) breaker. This GFCI breaker shall be used for all lighting and convenience outlets.	Design Criteria 8.6.2	C	BJL PMB	2/9/2015	Design Plans G80935.006 G80935.010								
21	2.1.5	One smoke alarm and one fire extinguisher shall be provided at all Central Instrument Houses (CIH) houses. Smoke alarms shall be remotely indicated to the Operations Control Center.	Design Criteria 8.6.4	C	BJL PMB	2/9/2015	Design Plans G80935.019 G80935.030								
<b>LEGEND</b>		<b>MEANS OF VERIFICATION - DESIGN</b>		<b>MEANS OF VERIFICATION - CONSTRUCTION</b>		<b>DESIGN VERIFICATION</b>			<b>CONSTRUCTION VERIFICATION</b>			<b>FINAL VERIFICATION</b>			
P = Plan Sheet RFI=RFI		S = Specification O = Other		M = Measurement T = Test V = Visual Inspection		Name and Organization: _____ Date: _____ Approved by: _____ Date: _____			Name and Organization: _____ Date: _____ Approved by: _____ Date: _____			Name and Organization: _____ Date: _____ Approved by: _____ Date: _____			
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance															

## CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists	Design Verification	Construction Verification	Final Verification
<b>Certifiable Element:</b> <u>2.0 Signals</u>  <b>Sub-Element:</b> <u>2.1 Control Point (Equipment/Circuits)</u> <b>Location:</b> <u>CP 813 –Poinciana Universal crossover end of double track MP A813.50</u>  <b>Contract No.:</b> _____	<b>Notes or Restrictions:</b> 1. To be verified by field testing. 2. Function of the vital software. 3. Time shown on the plans. Circuit part of the vital software.	<b>Notes or Restrictions:</b>        	<b>Notes or Restrictions:</b>        

Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	2.1.1	Absolute signals shall be colorlight signals capable of displaying signals in accordance with the Route and Aspect Chart	Design Criteria 9.10 & 9.11	C	BJL PMB	2/9/2015	TSP 30045 AREMA 2.2.12								
2	2.1.3	Vital train detection shall be set to detecting a 0.06 ohm shunt across the running rails	Design Criteria 9.1/9.2	N/A			Note 1								
3	2.1.1	Signal bridges or cantilevered signals shall be used at station exiting signals where a minimum of 15 seconds of preview distance is not provided or if any portion of the signal aspect is obstructed from view due to the station canopies.	Design Criteria 9.14	C	BJL PMB	2/9/2015	Design Plans G71347.002								
4	2.1.2	All switches located within the boundaries of an interlocking and having an electric switch and lock movement shall be dual controlled switch machines	Design Criteria 9.5	C	BJL PMB	2/9/2015	TSP T30085								
5	2.1.2	All powered machines shall be equipped with internal lock, point detector rods and throw rods.	Design Criteria 9.5	C	BJL PMB	2/9/2015	Design Plans G81347.021 G81347.034 TSP T30085								
6	2.1.3	Vital processors shall be used at all interlockings to perform the signal logic required for that specific application.	Design Criteria 9.13.2	C	BJL PMB	2/9/2015	Design Plans G81347.009 G81347.013 TSP T30045								
7	2.1.3	All vital circuits shall be double break, except within a signal house or wayside case, after the entering or leaving circuits are double broke.	Design Criteria 9.13.3.3	C	BJL PMB	2/9/2015	Design Plans G81347.002 to G81347.041								
8	2.1.3	All vital circuits shall be based on closed circuit principles.	Design Criteria 8.4.1	C	BJL PMB	2/9/2015	Design Plans G81347.002 to G81347.041								
9	2.1.3	All relays that are to be energized by a vital circuit shall be vital relays or vital solid state electronic devices. All contacts that are used within any vital circuit shall be contacts of a vital relay, or driven by a vital output solid-state device.	Design Criteria 8.4.1	C	BJL PMB	2/9/2015	Design Plans G81347.002 to G81347.041								
10	2.1.3	Fail-safe design shall be achieved by using the closed-loop principle on vital circuitry, and shall protect against unsafe operation in the instance of a single open circuits or short circuits.	Design Criteria 8.4.2	C	BJL PMB	2/9/2015	Design Plans G81347.002 to G81347.041								
11	2.1.3	Route locking shall be provided for all interlocking moves.	Design Criteria 9.13.3.5	N/A			Note 2								
12	2.1.3	Traffic locking shall be in effect to prevent changing the direction of traffic if any route is lined or locked to enter the TCS territory or any track circuit within the block is occupied.	Design Criteria 9.13.3.6	N/A			Note 2								

13	2.1.3	The ASR circuitry shall be designed such that two track circuits must be de-energized simultaneously to allow the ASR relay to energize after the relay has been de-energized with the first of the two track circuits being the circuit directly after passing the absolute signal.	Design Criteria 9.13.3.7	N/A			Note 2							
14	2.1.3	Time locking shall be provided for each signal that will prevent the route from being changed or a signal being cleared into the route for a predetermined time interval if a signal is put to stop without the movement of a train. The time interval will be calculated by the Designer based on AREMA Section 2.4.20	Design Criteria 9.13.3.7	C Note 4	BJL PMB	2/9/2015	Design Plans G81347.004 Note 3							
15	2.1.3	Vital relays shall be provided for the control and indication of the dual controlled switch machines.	Design Criteria 9.13.4.1	C	BJL PMB	2/9/2015	Design Plans G81347.007 G81347.020 G81347.023 G81347.034							
16	2.1.3	All Home signals shall deploy the use of "Light Out" detector. Should a signal head detect a light out condition, the light shall be considered burned out and the signal shall display a more restrictive aspect and downgrade the approach signal to an appropriate aspect.	Design Criteria 9.13.5.2	N/A			Note 2							
17	2.1.4	Interlocking Track relays shall require a 10 second Loss of Shunt (LOS) device. The vital logic for that particular Track Circuit shall use the Track Repeater Stick Relay (TPSR).	Design Criteria 9.13.4.2	N/A			Note 2							
18	2.1.5	Intrusion detection and a means to secure the house from intrusion shall be provided on all signal houses within each interlocking.	Design Criteria 8.6.8	N/A			Design Plans G81347.019 TSP T30105							
19	2.1.5	Each CIH shall have a door alarm system feeding to a non-vital input (a vital input is acceptable but not required). The system shall report any entrance into the housings to the Operations Control Center (OCC).	Design Criteria 8.6.8	C	BJL PMB	2/9/2015	Design Plans G81347.019 TSP T30105							
20	2.1.5	The electrical panel shall consist of at least one Ground Fault Circuit Interrupter (GFCI) breaker. This GFCI breaker shall be used for all lighting and convenience outlets.	Design Criteria 8.6.2	C	BJL PMB	2/9/2015	Design Plans G81347.019 TSP T30105							
21	2.1.5	One smoke alarm and one fire extinguisher shall be provided at all Central Instrument Houses (CIH) houses. Smoke alarms shall be remotely indicated to the Operations Control Center.	Design Criteria 8.6.4	C	BJL PMB	2/9/2015	Design Plans G81347.019 TSP T30105							
<b>LEGEND</b>		<b>MEANS OF VERIFICATION</b>		<b>DESIGN VERIFICATION</b>		<b>CONSTRUCTION VERIFICATION</b>		<b>FINAL VERIFICATION</b>						
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test V = Visual Inspection		Name and Organization: _____ Date: _____ Approved by: _____ Date: _____		Name and Organization: _____ Date: _____ Approved by: _____ Date: _____		Name and Organization: _____ Date: _____ Approved by: _____ Date: _____						
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance														

# CFCRT Project Phase 2 South

<b>Safety and Security Certification Elements Design and Construction Conformance Checklists</b>	<b>Design Verification</b>	<b>Construction Verification</b>	<b>Final Verification</b>
<b>Certifiable Element:</b> <u>2.0 Signals</u>  <b>Sub-Element:</b> <u>2.1 Control Point (Equipment/Circuits)</u> <b>Location:</b> <u>CP 814 (Poinciana Holdout/CFRC Terminus) MP A813.82</u>  <b>Contract No.:</b> _____	<b>Notes or Restrictions:</b> 1. To be verified by field testing. 2. Function of the vital software. 3. Time shown on the plans. Circuit part of the vital software.	<b>Notes or Restrictions:</b>      	<b>Notes or Restrictions:</b>      

Item No.	Certifiable Item Description			Design Verification				Construction/Installation				Verification			
	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	2.1.1	Absolute signals shall be colorlight signals capable of displaying signals in accordance with the Route and Aspect Chart	Design Criteria 9.10	C	BJL PMB	2/9/2015	Design Plans G81382.002 G81382.012 G81382.013								
2	2.1.3	All vital circuits shall be based on closed circuit principles.	Design Criteria 8.4.1	C	BJL PMB	2/9/2015	Design Plans G81382.002 to G81382.017								
3	2.1.3	All relays that are to be energized by a vital circuit shall be vital relays or vital solid state electronic devices. All contacts that are used within any vital circuit shall be contacts of a vital relay, or driven by a vital output solid-state device.	Design Criteria 8.4.1	C	BJL PMB	2/9/2015	Design Plans G81382.002 to G81382.017								
4	2.1.3	Fail-safe design shall be achieved by using the closed-loop principle on vital circuitry, and shall protect against unsafe operation in the instance of a single open circuits or short circuits.	Design Criteria 8.4.2	C	BJL PMB	2/9/2015	Design Plans G81382.002 to G81382.017								

<b>LEGEND</b>		<b>DESIGN VERIFICATION</b>				<b>CONSTRUCTION VERIFICATION</b>				<b>FINAL VERIFICATION</b>					
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection		Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				Name and Organization: _____ Date: _____ Approved by: _____ Date: _____			
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance															

# CFCRT Project Phase 2 South

<b>Safety and Security Certification Elements Design and Construction Conformance Checklists</b>	<b>Design Verification</b>	<b>Construction Verification</b>	<b>Final Verification</b>
<b>Certifiable Element:</b> <u>2.0 Signals</u>  <b>Sub-Element:</b> <u>2.2 Wayside Signals</u> <b>Location:</b> <u>INT 8019/8020 MP A801.98</u>  <b>Contract No.:</b> _____	<b>Notes or Restrictions:</b> 1. To be verified by field testing. 2. Function of the vital software. 3. System not part of the signal design.	<b>Notes or Restrictions:</b>      	<b>Notes or Restrictions:</b>      

Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	2.2	All portions of the communications and signal system and its components shall be designed to operate in the electromagnetic environment that exists today or is introduced by this project.	Design Criteria 8.5.1	C	BJL PMB	2/9/2015	TSP 30045 AREMA 2.2.12								
2	2.2.2	Vital train detection shall be set to detecting a 0.06 ohm shunt across the running rails	Design Criteria 9.1	N/A			Note 1								
3	2.2.1	Automatic signals shall be colorlight signals capable of displaying signals in accordance with the Route and Aspect Chart	Design Criteria 9.12	C	BJL PMB	2/9/2015	Design Plans G80198.002 G80198.008								
4	2.2.3	All vital circuits shall be based on closed circuit principles.	Design Criteria 8.4.1	C	BJL PMB	2/9/2015	Design Plans G80198.002 to G80198.012								
5	2.2.3	All relays that are to be energized by a vital circuit shall be vital relays or vital solid state electronic devices. All contacts that are used within any vital circuit shall be contacts of a vital relay, or driven by a vital output solid-state device.	Design Criteria 8.4.1	C	BJL PMB	2/9/2015	Design Plans G80198.002 to G80198.012								
6	2.2.3	Fail-safe design shall be achieved by using the closed-loop principle on vital circuitry, and shall protect against unsafe operation in the instance of a single open circuits or short circuits.	Design Criteria 8.4.2	C	BJL PMB	2/9/2015	Design Plans G80198.002 to G80198.012								
7	2.2.3	Light out detection shall cause the signal shall display a more restrictive aspect and downgrade the approach signal to an appropriate aspect.	Design Criteria 9.13.4	N/A			Note 2								
8	2.2.4	A means to secure the case from intrusion shall be provided.	Design Criteria 8.6.9	N/A			TSP T30105								
9	2.2.1	Signal bridges or cantilevered signals shall be used at station exiting signals where a minimum of 15 seconds of preview distance is not provided or if any portion of the signal aspect is obstructed from view due to the station canopies.	Design Criteria 9.14	C	BJL PMB	2/9/2015	Design Plans G80125.002 and G80198.002								
<b>LEGEND</b> <b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other  <b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection  <b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance				<b>DESIGN VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				<b>CONSTRUCTION VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				<b>FINAL VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____			

# CFCRT Project Phase 2 South

<b>Safety and Security Certification Elements Design and Construction Conformance Checklists</b>	<b>Design Verification</b>	<b>Construction Verification</b>	<b>Final Verification</b>
<b>Certifiable Element:</b> 2.0 Signals  <b>Sub-Element:</b> 2.2 Wayside Signals <b>Location:</b> INT 8044 MP A804.36  <b>Contract No.:</b>	<b>Notes or Restrictions:</b> 1. To be verified by field testing. 2. Function of the vital software. 3. System not part of the signal design.	<b>Notes or Restrictions:</b>	<b>Notes or Restrictions:</b>

Certifiable Item Description				Design Verification				Construction/Installation				Verification											
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification								
1	2.2	All portions of the communications and signal system and its components shall be designed to operate in the electromagnetic environment that exists today or is introduced by this project.	Design Criteria 8.5.1	C	BJL PMB	2/9/2015	TSP 30045 AREMA 2.2.12																
2	2.2.2	Vital train detection shall be set to detecting a 0.06 ohm shunt across the running rails	Design Criteria 9.1	N/A			Note 1																
3	2.2.1	Automatic signals shall be colorlight signals capable of displaying signals in accordance with the Route and Aspect Chart	Design Criteria 9.12	C	BJL PMB	2/9/2015	Design Plans G80436.002 G80436.009																
4	2.2.3	All vital circuits shall be based on closed circuit principles.	Design Criteria 8.4.1	C	BJL PMB	2/9/2015	Design Plans G80436.002 to G80436.013																
5	2.2.3	All relays that are to be energized by a vital circuit shall be vital relays or vital solid state electronic devices. All contacts that are used within any vital circuit shall be contacts of a vital relay, or driven by a vital output solid-state device.	Design Criteria 8.4.1	C	BJL PMB	2/9/2015	Design Plans G80436.002 to G80436.013																
6	2.2.3	Fail-safe design shall be achieved by using the closed-loop principle on vital circuitry, and shall protect against unsafe operation in the instance of a single open circuits or short circuits.	Design Criteria 8.4.2	C	BJL PMB	2/9/2015	Design Plans G80436.002 to G80436.013																
7	2.2.3	Light out detection shall cause the signal shall display a more restrictive aspect and downgrade the approach signal to an appropriate aspect.	Design Criteria 9.13.4	N/A			Note 2																
8	2.2.4	A means to secure the case from intrusion shall be provided.	Design Criteria 8.6.9	N/A			TSP T30105																
9	2.2.1	Signal bridges or cantilevered signals shall be used at station exiting signals where a minimum of 15 seconds of preview distance is not provided or if any portion of the signal aspect is obstructed from view due to the station canopies.	Design Criteria 9.14	C	BJL PMB	2/9/2015	Design Plans G80436.002 and G80452.002																
<b>LEGEND</b> <table border="0"> <tr> <td><b>Means of Verification - Design</b></td> <td><b>Means of Verification - Construction</b></td> </tr> <tr> <td>P = Plan Sheet    S = Specification</td> <td>M = Measurement</td> </tr> <tr> <td>RFI=RFI          O = Other</td> <td>T = Test    PS = Product Sheet</td> </tr> <tr> <td></td> <td>V = Visual Inspection</td> </tr> </table> <b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance				<b>Means of Verification - Design</b>	<b>Means of Verification - Construction</b>	P = Plan Sheet    S = Specification	M = Measurement	RFI=RFI          O = Other	T = Test    PS = Product Sheet		V = Visual Inspection	<b>DESIGN VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				<b>CONSTRUCTION VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				<b>FINAL VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____			
<b>Means of Verification - Design</b>	<b>Means of Verification - Construction</b>																						
P = Plan Sheet    S = Specification	M = Measurement																						
RFI=RFI          O = Other	T = Test    PS = Product Sheet																						
	V = Visual Inspection																						



# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists	Design Verification	Construction Verification	Final Verification
<b>Certifiable Element:</b> <u>2.0 Signals</u>  <b>Sub-Element:</b> <u>2.2 Wayside Signals</u> <b>Location:</b> <u>INT 8049 MP A804.87</u>  <b>Contract No.:</b> _____	<b>Notes or Restrictions:</b> 1. To be verified by field testing. 2. Function of the vital software. 3. System not part of the signal design.	<b>Notes or Restrictions:</b>       	<b>Notes or Restrictions:</b>       

Certifiable Item Description				Design Verification				Construction/Installation				Verification											
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification								
1	2.2	All portions of the communications and signal system and its components shall be designed to operate in the electromagnetic environment that exists today or is introduced by this project.	Design Criteria 8.5.1	C	BJL PMB	2/9/2015	TSP 30045 AREMA 2.2.12																
2	2.2.2	Vital train detection shall be set to detecting a 0.06 ohm shunt across the running rails	Design Criteria 9.1	N/A			Note 1																
3	2.2.1	Automatic signals shall be colorlight signals capable of displaying signals in accordance with the Route and Aspect Chart	Design Criteria 9.12	C	BJL PMB	2/9/2015	Design Plans G80487.002 G80487.009																
4	2.2.3	All vital circuits shall be based on closed circuit principles.	Design Criteria 8.4.1	C	BJL PMB	2/9/2015	Design Plans G80487.002 to G80487.016																
5	2.2.3	All relays that are to be energized by a vital circuit shall be vital relays or vital solid state electronic devices. All contacts that are used within any vital circuit shall be contacts of a vital relay, or driven by a vital output solid-state device.	Design Criteria 8.4.1	C	BJL PMB	2/9/2015	Design Plans G80487.002 to G80487.016																
6	2.2.3	Fail-safe design shall be achieved by using the closed-loop principle on vital circuitry, and shall protect against unsafe operation in the instance of a single open circuits or short circuits.	Design Criteria 8.4.2	C	BJL PMB	2/9/2015	Design Plans G80487.002 to G80487.016																
7	2.2.3	Light out detection shall cause the signal shall display a more restrictive aspect and downgrade the approach signal to an appropriate aspect.	Design Criteria 9.13.4	N/A			Note 2																
8	2.2.4	A means to secure the case from intrusion shall be provided.	Design Criteria 8.6.9	N/A			TSP T30105																
9	2.2.1	Signal bridges or cantilevered signals shall be used at station exiting signals where a minimum of 15 seconds of preview distance is not provided or if any portion of the signal aspect is obstructed from view due to the station canopies.	Design Criteria 9.14	C	BJL PMB	2/9/2015	Design Plans G80487.002 and G80452.002																
<b>LEGEND</b> <table border="0"> <tr> <td><b>Means of Verification - Design</b></td> <td><b>Means of Verification - Construction</b></td> </tr> <tr> <td>P = Plan Sheet    S = Specification</td> <td>M = Measurement</td> </tr> <tr> <td>RFI=RFI            O = Other</td> <td>T = Test    PS = Product Sheet</td> </tr> <tr> <td></td> <td>V = Visual Inspection</td> </tr> </table> <b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance				<b>Means of Verification - Design</b>	<b>Means of Verification - Construction</b>	P = Plan Sheet    S = Specification	M = Measurement	RFI=RFI            O = Other	T = Test    PS = Product Sheet		V = Visual Inspection	<b>DESIGN VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				<b>CONSTRUCTION VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				<b>FINAL VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____			
<b>Means of Verification - Design</b>	<b>Means of Verification - Construction</b>																						
P = Plan Sheet    S = Specification	M = Measurement																						
RFI=RFI            O = Other	T = Test    PS = Product Sheet																						
	V = Visual Inspection																						

# CFCRT Project Phase 2 South

<b>Safety and Security Certification Elements Design and Construction Conformance Checklists</b>	<b>Design Verification</b>	<b>Construction Verification</b>	<b>Final Verification</b>
<b>Certifiable Element:</b> 2.0 Signals  <b>Sub-Element:</b> 2.2 Wayside Signals <b>Location:</b> INT 8078 MP A807.92 - Neptune Ave.  <b>Contract No.:</b>	<b>Notes or Restrictions:</b> 1. To be verified by field testing. 2. Function of the vital software. 3. System not part of the signal design.	<b>Notes or Restrictions:</b>	<b>Notes or Restrictions:</b>

Certifiable Item Description				Design Verification				Construction/Installation				Verification				
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	
1	2.2	All portions of the communications and signal system and its components shall be designed to operate in the electromagnetic environment that exists today or is introduced by this project.	Design Criteria 8.5.1	C	BJL PMB	2/9/2015	TSP 30045 AREMA 2.2.12									
2	2.2.2	Vital train detection shall be set to detecting a 0.06 ohm shunt across the running rails	Design Criteria 9.1	N/A			Note 1									
3	2.2.1	Automatic signals shall be colorlight signals capable of displaying signals in accordance with the Route and Aspect Chart	Design Criteria 9.12	C	BJL PMB	2/9/2015	Design Plans G80794.002 G80794.031 G80794.033									
4	2.2.3	All vital circuits shall be based on closed circuit principles.	Design Criteria 8.4.1	C	BJL PMB	2/9/2015	Design Plans G80794.027 to G80794.033									
5	2.2.3	All relays that are to be energized by a vital circuit shall be vital relays or vital solid state electronic devices. All contacts that are used within any vital circuit shall be contacts of a vital relay, or driven by a vital output solid-state device.	Design Criteria 8.4.1	C	BJL PMB	2/9/2015	Design Plans G80794.027 to G80794.033									
6	2.2.3	Fail-safe design shall be achieved by using the closed-loop principle on vital circuitry, and shall protect against unsafe operation in the instance of a single open circuits or short circuits.	Design Criteria 8.4.2	C	BJL PMB	2/9/2015	Design Plans G80794.027 to G80794.033									
7	2.2.3	Light out detection shall cause the signal shall display a more restrictive aspect and downgrade the approach signal to an appropriate aspect.	Design Criteria 9.13.4	N/A			Note 2									
8	2.2.4	A means to secure the case from intrusion shall be provided.	Design Criteria 8.6.9	N/A			TSP T30105									
9	2.2.1	Signal bridges or cantilevered signals shall be used at station exiting signals where a minimum of 15 seconds of preview distance is not provided or if any portion of the signal aspect is obstructed from view due to the station canopies.	Design Criteria 9.14	C	BJL PMB	2/9/2015	Design Plans G80794.002									
<b>LEGEND</b> Means of Verification - Design P = Plan Sheet    S = Specification RFI=RFI            O = Other  Status C = Compliance N = Noncompliance P = Partial Compliance				<b>DESIGN VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				<b>CONSTRUCTION VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				<b>FINAL VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				

# CFCRT Project Phase 2 South

<b>Safety and Security Certification Elements Design and Construction Conformance Checklists</b>	<b>Design Verification</b>	<b>Construction Verification</b>	<b>Final Verification</b>
<b>Certifiable Element:</b> 2.0 Signals <b>Sub-Element:</b> 2.2 Wayside Signals <b>Location:</b> INT 8083 MP A808.29 Ruby Ave. <b>Contract No.:</b>	<b>Notes or Restrictions:</b> 1. To be verified by field testing. 2. Function of the vital software. 3. System not part of the signal design.	<b>Notes or Restrictions:</b>	<b>Notes or Restrictions:</b>

Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	2.2	All portions of the communications and signal system and its components shall be designed to operate in the electromagnetic environment that exists today or is introduced by this project.	Design Criteria 8.5.1	C	BJL PMB	2/9/2015	TSP 30045 AREMA 2.2.12								
2	2.2.2	Vital train detection shall be set to detecting a 0.06 ohm shunt across the running rails	Design Criteria 9.1	N/A			Note 1								
3	2.2.1	Automatic signals shall be colorlight signals capable of displaying signals in accordance with the Route and Aspect Chart	Design Criteria 9.12	C	BJL PMB	2/9/2015	Design Plans G80829.002 G80829.030 G80829.032								
4	2.2.3	All vital circuits shall be based on closed circuit principles.	Design Criteria 8.4.1	C	BJL PMB	2/9/2015	Design Plans G80829.026 to G80829.033								
5	2.2.3	All relays that are to be energized by a vital circuit shall be vital relays or vital solid state electronic devices. All contacts that are used within any vital circuit shall be contacts of a vital relay, or driven by a vital output solid-state device.	Design Criteria 8.4.1	C	BJL PMB	2/9/2015	Design Plans G80829.026 to G80829.033								
6	2.2.3	Fail-safe design shall be achieved by using the closed-loop principle on vital circuitry, and shall protect against unsafe operation in the instance of a single open circuits or short circuits.	Design Criteria 8.4.2	C	BJL PMB	2/9/2015	Design Plans G80829.026 to G80829.033								
7	2.2.3	Light out detection shall cause the signal shall display a more restrictive aspect and downgrade the approach signal to an appropriate aspect.	Design Criteria 9.13.4	N/A			Note 2								
8	2.2.4	A means to secure the case from intrusion shall be provided.	Design Criteria 8.6.9	N/A			TSP T30105								
9	2.2.1	Signal bridges or cantilevered signals shall be used at station exiting signals where a minimum of 15 seconds of preview distance is not provided or if any portion of the signal aspect is obstructed from view due to the station canopies.	Design Criteria 9.14	C	BJL PMB	2/9/2015	Design Plans G80829.002 to G80803.002								

<b>LEGEND</b> <b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other  <b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance				<b>DESIGN VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				<b>CONSTRUCTION VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				<b>FINAL VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____			
---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--	--	--	----------------------------------------------------------------------------------------------------------------	--	--	--	----------------------------------------------------------------------------------------------------------------------	--	--	--	---------------------------------------------------------------------------------------------------------------	--	--	--

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists	Design Verification	Construction Verification	Final Verification
<b>Certifiable Element:</b> <u>2.0 Signals</u>  <b>Sub-Element:</b> <u>2.2 Wayside Signals</u> <b>Location:</b> <u>INT 8105/8106 MP A810.42</u>  <b>Contract No.:</b> _____	<b>Notes or Restrictions:</b> 1. To be verified by field testing. 2. Function of the vital software. 3. Signal not near station	<b>Notes or Restrictions:</b>      	<b>Notes or Restrictions:</b>      

Certifiable Item Description				Design Verification				Construction/Installation				Verification				
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	
1	2.2	All portions of the communications and signal system and its components shall be designed to operate in the electromagnetic environment that exists today or is introduced by this project.	Design Criteria 8.5.1	C	BJL PMB	2/9/2015	TSP 30045 AREMA 2.2.12									
2	2.2.2	Vital train detection shall be set to detecting a 0.06 ohm shunt across the running rails	Design Criteria 9.1	N/A			Note 1									
3	2.2.1	Automatic signals shall be colorlight signals capable of displaying signals in accordance with the Route and Aspect Chart	Design Criteria 9.12	C	BJL PMB	2/9/2015	Design Plans G81045.002 G81045.023 G81045.025									
4	2.2.3	All vital circuits shall be based on closed circuit principles.	Design Criteria 8.4.1	C	BJL PMB	2/9/2015	Design Plans G81045.002 to G81045.025									
5	2.2.3	All relays that are to be energized by a vital circuit shall be vital relays or vital solid state electronic devices. All contacts that are used within any vital circuit shall be contacts of a vital relay, or driven by a vital output solid-state device.	Design Criteria 8.4.1	C	BJL PMB	2/9/2015	Design Plans G81045.002 to G81045.025									
6	2.2.3	Fail-safe design shall be achieved by using the closed-loop principle on vital circuitry, and shall protect against unsafe operation in the instance of a single open circuits or short circuits.	Design Criteria 8.4.2	C	BJL PMB	2/9/2015	Design Plans G81045.002 to G81045.025									
7	2.2.3	Light out detection shall cause the signal shall display a more restrictive aspect and downgrade the approach signal to an appropriate aspect.	Design Criteria 9.13.4	N/A			Note 2									
8	2.2.4	A means to secure the case from intrusion shall be provided.	Design Criteria 8.6.9	N/A			TSP T30105									
9	2.2.1	Signal bridges or cantilevered signals shall be used at station exiting signals where a minimum of 15 seconds of preview distance is not provided or if any portion of the signal aspect is obstructed from view due to the station canopies.	Design Criteria 9.14	N/A			Note 3									

LEGEND		DESIGN VERIFICATION	CONSTRUCTION VERIFICATION	FINAL VERIFICATION
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI         O = Other	<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection	Name and Organization: _____  Date: _____  Approved by: _____  Date: _____	Name and Organization: _____  Date: _____  Approved by: _____  Date: _____	Name and Organization: _____  Date: _____  Approved by: _____  Date: _____
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance				

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists	Design Verification	Construction Verification	Final Verification
<b>Certifiable Element:</b> <u>2.0 Signals</u>  <b>Sub-Element:</b> <u>2.2 Wayside Signals</u> <b>Location:</b> <u>INT 8118/8119 MP A811.81</u>  <b>Contract No.:</b> _____	<b>Notes or Restrictions:</b> 1. To be verified by field testing. 2. Function of the vital software. 3. Signal not near station	<b>Notes or Restrictions:</b>      	<b>Notes or Restrictions:</b>      

Certifiable Item Description				Design Verification				Construction/Installation				Verification				
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	
1	2.2	All portions of the communications and signal system and its components shall be designed to operate in the electromagnetic environment that exists today or is introduced by this project.	Design Criteria 8.5.1	C	BJL PMB	2/9/2015	TSP 30045 AREMA 2.2.12									
2	2.2.2	Vital train detection shall be set to detecting a 0.06 ohm shunt across the running rails	Design Criteria 9.1	N/A			Note 1									
3	2.2.1	Automatic signals shall be colorlight signals capable of displaying signals in accordance with the Route and Aspect Chart	Design Criteria 9.12	C	BJL PMB	2/9/2015	Design Plans G81181.002									
4	2.2.3	All vital circuits shall be based on closed circuit principles.	Design Criteria 8.4.1	C	BJL PMB	2/9/2015	Design Plans G81181.002 to G81181.013									
5	2.2.3	All relays that are to be energized by a vital circuit shall be vital relays or vital solid state electronic devices. All contacts that are used within any vital circuit shall be contacts of a vital relay, or driven by a vital output solid-state device.	Design Criteria 8.4.1	C	BJL PMB	2/9/2015	Design Plans G81181.002 to G81181.013									
6	2.2.3	Fail-safe design shall be achieved by using the closed-loop principle on vital circuitry, and shall protect against unsafe operation in the instance of a single open circuits or short circuits.	Design Criteria 8.4.2	C	BJL PMB	2/9/2015	Design Plans G81181.002 to G81181.013									
7	2.2.3	Light out detection shall cause the signal shall display a more restrictive aspect and downgrade the approach signal to an appropriate aspect.	Design Criteria 9.13.4	N/A			Note 2									
8	2.2.4	A means to secure the case from intrusion shall be provided.	Design Criteria 8.6.9	N/A			TSP T30105									
9	2.2.1	Signal bridges or cantilevered signals shall be used at station exiting signals where a minimum of 15 seconds of preview distance is not provided or if any portion of the signal aspect is obstructed from view due to the station canopies.	Design Criteria 9.14	N/A			Note 3									

LEGEND		DESIGN VERIFICATION	CONSTRUCTION VERIFICATION	FINAL VERIFICATION
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI         O = Other		<b>DESIGN VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____	<b>CONSTRUCTION VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____	<b>FINAL VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____
<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection				
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance				

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists	Design Verification	Construction Verification	Final Verification
<b>Certifiable Element:</b> <u>2.0 Signals</u>  <b>Sub-Element:</b> <u>2.4 Grade Crossings Warning Systems</u> <b>Location:</b> <u>Landstreet Rd. MP A797.70</u>  <b>Contract No.:</b> _____	<b>Notes or Restrictions:</b> 1. To be verified in construction 2. To be verified with Product Submittal	<b>Notes or Restrictions:</b>      	<b>Notes or Restrictions:</b>      

Item No.	Certifiable Item Description			Design Verification				Construction/Installation				Verification			
	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	2.4.1	A fiberglass arm as specified in AREMA Section 3 with 4 in LED flashing lights. The reflectorized arms shall be in accordance with AREMA 15.2.20. The gate arm LED's shall be in accordance with AREMA 3.2.40.	Design Criteria 10.2 AREMA C&S 15.2.20 3.2.40	C	RJT	2/13/2015	TSP T30025 Note 2								
2	2.4.1	Pole mounted 12 inch LED flashing light units in accordance with AREMA 3.2.35.	Design Criteria 10.2 AREMA C&S 3.2.35	C	RJT	2/13/2015	TSP T30010 Note 2								
3	2.4.1	A Railroad crossbuck sign in accordance with AREMA 3.2.70 and as shown in the current version of the MUTCD signs as R-15-1	Design Criteria 10.2 AREMA C&S 3.2.70 MUTCD R-15-1	C	RJT	2/13/2015	TSP T30025 Note 2								
4	2.4.1	Multiple Track Signs (when required) in accordance AREMA 3.2.76 as shown in the current version of the MUTCD as sign R-15-2	Design Criteria 10.2 AREMA C&S 3.2.76 MUTCD R-15-2	C	RJT	2/13/2015	TSP T30025 Note 2								
5	2.4.1	A complete cantilever assembly with flashing units provided for each traveled lane and back lights where shown on crossing layout drawings.	Design Criteria 10.2	C	RJT	2/13/2015	Design Plans G79765.002								
6	2.4.1	All flashers (Gate and pole mounted) shall be based upon LED technology and in accordance with the current AREMA guidelines. Pole and Cantilever flashers shall be 12 inch LED's while the gate arms shall receive 4 inch LED's.	Design Criteria 10.2	C	RJT	2/13/2015	TSP T30010 Note 1								
7	2.4.1	All crossings with defined sidewalks shall be equipped with either a standalone pedestrian gate, shall have the sidewalk pass to the roadway side of a main gate assembly or a roadway gate with an auxiliary sidewalk arm	Design Criteria 10.2	C	RJT	2/13/2015	Design Plans G79765.002 G79765.011 G79765.013								
8	2.4.1	Pedestrian gates are required on both sides of a Highway-Rail Grade Crossing where there is a sidewalk on both sides of the rail and the roadway gate does not also cover the sidewalk.	Design Criteria 10.2	C	RJT	2/13/2015	Design Plans G79765.002 G79765.011 G79765.013								
9	2.4.1	Alternating flashing 12 in LED and bell outputs shall energize no more than 1.0 second after control or GP inputs are de-energized.	Design Criteria 10.6.2	N/A			Note 2								
10	2.4.1	Gate control output shall de-energize a minimum of 3.0 seconds after control input is de-energized.	Design Criteria 10.6.2	C	RJT	2/13/2015	Design Plans G79765.010 G79765.011								

11	2.4.1	In the event of a failure which would impair the system from operating, the highway crossing warning device properly in response to control and GP input signals, the controller shall have a fallback mode which shall assure the following minimum operating capabilities when the control input signal is de-energized: <ul style="list-style-type: none"> <li>• Flashing LED power is applied at 12 V to at least one of each lamp pair</li> <li>• Gate control output is de-energized</li> <li>• Bell control output is energized at 11 V DC</li> </ul>	Design Criteria 10.6.6	C	RJT	2/13/2015	Design Plans G79765.010 G79765.011												
12	2.4.1	Traffic signal interconnection shall be provided as specified in the Highway-Rail Grade Crossing Improvement Requirements table Preemption shall not be removed from any crossing	Design Criteria 10.6.10	C	RJT	2/13/2015	Design Plans G79765.002 G79765.010												
13	2.4.1	Lights shall operate at all times when the gate is in position to obstruct highway traffic.	Design Criteria 10.7.2	C	RJT	2/13/2015	Design Plans G79765.010 G79765.011 G79765.012 G79765.013												
14	2.4.1	Gate arms shall start in downward motion not less than 3 seconds or greater than 5 seconds after the flashing lights start to operate.	Design Criteria 10.7.2	C	RJT	2/13/2015	Design Plans G79765.010 G79765.011 Note 1 Note 2												
15	2.4.1	Circuits shall be so arranged that a failure of the gate mechanism to operate as intended shall not prevent the lights on the gate arm and signal from operating on the approach of a train.	Design Criteria 10.7.2	C	RJT	2/13/2015	Design Plans G79765.012 G79765.013 Note 1 Note 2												
16	2.4.1	Gates shall not be located more than 15 ft. from center line of track.	Design Criteria 10.7.2	C	RJT	2/20/2015	Design Plans G79765.002												
17	2.4.1	Cantilevers shall not be more than 20 ft. from center line of track.	Design Criteria 10.7.3	C	RJT	2/20/2015	Design Plans G79765.002												
18	2.4.1	The system power supply shall be designed in accordance with FRA 234 and provide eight hours of standby back-up battery.	Design Criteria 10.10	C	RJT	2/20/2015	Design Plans G79765.003												
19	2.1.1	Relays shall have indexing pins to prevent insertion of an improper relay in relay	Design Criteria 11.2	C	RJT	2/20/2015	TSP T30100 Note 1												
20	2.4.2	Constant Warning devices shall be used at all crossings.	Design Criteria 10.4	C	RJT	2/20/2015	Design Plans G79765.004												
21	2.4.2	Highway Crossing Warning start circuits shall provide initiation of the warning equipment from both sides of the crossing and shall also include separate island circuits.	Design Criteria 10.3	C	RJT	2/20/2015	Design Plans G79765.004 Note 2												
22	2.4.2	A minimum of 30 seconds of warning time shall be required prior to the arrival of a train at crossing.	Design Criteria 10.3	C	RJT	2/20/2015	Design Plans G79765.002 G79765.009												
23	2.4.2	Additional start time shall be provided for multiple track crossings with wide travel surfaces, simultaneous or advance pre-emption, or locations where additional time is required.	Design Criteria 10.3	C	RJT	2/20/2015	Design Plans G79765.002 G79765.009												
24	2.4.3	All crossings shall be provided with Dual Tone Multi-Frequency (DTMF) Remote Activation	Design Criteria 10.6.7	C	RJT	2/20/2015	Design Plans G79765.016												
25	2.4.3	After a field adjustable time interval, the DTMF system will return the crossing to normal operation if activated by code but not de-activated.	Design Criteria 10.6.7	C	RJT	2/20/2015	TSP T30041 Note 2												

26	2.4.3	Cables passing underneath the track structure or roadway shall be installed in a conduits as defined in the Design Criteria	Design Criteria 10.1	C	RJT	2/20/2015	TSP T30110 Note 1								
27	2.4.4	A power-off indicator light shall be mounted on each side of the instrument housing. The lights shall be visible to train crews approaching the crossing from either direction.	Design Criteria 8.6.7	C	RJT	2/20/2015	Design Plans G79765.003 TSP T30105 Note 2								
<b>LEGEND</b>				<b>DESIGN VERIFICATION</b>				<b>CONSTRUCTION VERIFICATION</b>				<b>FINAL VERIFICATION</b>			
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection		Name and Organization: _____ Date: _____				Name and Organization: _____ Date: _____				Name and Organization: _____ Date: _____			
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance				Approved by: _____ Date: _____				Approved by: _____ Date: _____				Approved by: _____ Date: _____			

DRAFT



# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists	Design Verification	Construction Verification	Final Verification
<b>Certifiable Element:</b> <u>2.0 Signals</u>  <b>Sub-Element:</b> <u>2.4 Grade Crossings Warning Systems</u> <b>Location:</b> <u>Pine St. MP A797.94</u>  <b>Contract No.:</b> _____	<b>Notes or Restrictions:</b> 1. To be verified in construction 2. To be verified with Product Submittal	<b>Notes or Restrictions:</b> _____ _____ _____ _____	<b>Notes or Restrictions:</b> _____ _____ _____ _____

Item No.	Certifiable Item Description			Design Verification				Construction/Installation				Verification			
	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	2.4.1	A fiberglass arm as specified in AREMA Section 3 with 4 in LED flashing lights. The reflectorized arms shall be in accordance with AREMA 15.2.20. The gate arm LED's shall be in accordance with AREMA 3.2.40.	Design Criteria 10.2 AREMA C&S 15.2.20 3.2.40	C	RJT	2/13/2015	TSP T30025 Note 2								
2	2.4.1	Pole mounted 12 inch LED flashing light units in accordance with AREMA 3.2.35.	Design Criteria 10.2 AREMA C&S 3.2.35	C	RJT	2/13/2015	TSP T30010 Note 2								
3	2.4.1	A Railroad crossbuck sign in accordance with AREMA 3.2.70 and as shown in the current version of the MUTCD signs as R-15-1	Design Criteria 10.2 AREMA C&S 3.2.70 MUTCD R-15-1	C	RJT	2/13/2015	TSP T30025 Note 2								
4	2.4.1	Multiple Track Signs (when required) in accordance AREMA 3.2.76 as shown in the current version of the MUTCD as sign R-15-2	Design Criteria 10.2 AREMA C&S 3.2.76 MUTCD R-15-2	C	RJT	2/13/2015	TSP T30025 Note 2								
5	2.4.1	All flashers (Gate and pole mounted) shall be based upon LED technology and in accordance with the current AREMA guidelines. Pole and Cantilever flashers shall be 12 inch LED's while the gate arms shall receive 4 inch LED's.	Design Criteria 10.2	C	RJT	2/13/2015	TSP T30010 Note 1								
6	2.4.1	All crossings with defined sidewalks shall be equipped with either a standalone pedestrian gate, shall have the sidewalk pass to the roadway side of a main gate assembly or a roadway gate with an auxiliary sidewalk arm	Design Criteria 10.2	C	RJT	2/13/2015	Design Plans G79794.002 G79765.016								
7	2.4.1	Pedestrian gates are required on both sides of a Highway-Rail Grade Crossing where there is a sidewalk on both sides of the rail and the roadway gate does not also cover the sidewalk.	Design Criteria 10.2	C	RJT	2/13/2015	Design Plans G79794.002 G79765.016								
8	2.4.1	Alternating flashing 12 in LED and bell outputs shall energize no more than 1.0 second after control or GP inputs are de-energized.	Design Criteria 10.6.2	C	RJT	2/13/2015	Design Plans G79794.012 Note 2								
9	2.4.1	Gate control output shall de-energize a minimum of 3.0 seconds after control input is de-energized.	Design Criteria 10.6.2	C	RJT	2/13/2015	Design Plans G79794.012 Note 1 Note 2								
10	2.4.1	In the event of a failure which would impair the system from operating, the highway crossing warning device properly in response to control and GP input signals, the controller shall have a fallback mode which shall assure the following minimum operating capabilities when the control input signal is de-energized: • Flashing LED power is applied at 12 V to at least one of each lamp pair • Gate control output is de-energized • Bell control output is energized at 11 V DC	Design Criteria 10.6.6	C	RJT	2/13/2015	Design Plans G79794.012 Note 1 Note 2								

11	2.4.1	Lights shall operate at all times when the gate is in position to obstruct highway traffic.	Design Criteria 10.7.2	C	RJT	2/13/2015	Design Plans G79794.012 Note 1 Note 2												
12	2.4.1	Gate arms shall start in downward motion not less than 3 seconds or greater than 5 seconds after the flashing lights start to operate.	Design Criteria 10.7.2	C	RJT	2/13/2015	Design Plans G79794.012 Note 1 Note 2												
13	2.4.1	Circuits shall be so arranged that a failure of the gate mechanism to operate as intended shall not prevent the lights on the gate arm and signal from operating on the approach of a train.	Design Criteria 10.7.2	C	RJT	2/13/2015	Design Plans G79794.012 Note 1 Note 2												
14	2.4.1	Gates shall not be located more than 15 ft. from center line of track.	Design Criteria 10.7.2	C	RJT	2/13/2015	Design Plans G79794.002												
15	2.4.1	The system power supply shall be designed in accordance with FRA 234 and provide eight hours of standby back-up battery.	Design Criteria 10.10	C	RJT	2/13/2015	Design Plans G79794.003												
16	2.1.1	Relays shall have indexing pins to prevent insertion of an improper relay in relay plugboards.	Design Criteria 11.2	C	RJT	2/20/2015	TSP T30100 Note 2												
17	2.4.2	Constant Warning devices shall be used at all crossings.	Design Criteria 10.4	C	RJT	2/13/2015	Design Plans G79794.004 G79794.005												
18	2.4.2	Highway Crossing Warning start circuits shall provide initiation of the warning equipment from both sides of the crossing and shall also include separate island circuits.	Design Criteria 10.3	C	RJT	2/20/2015	Design Plans G79794.004 G79794.005 Note 2												
19	2.4.2	A minimum of 30 seconds of warning time shall be required prior to the arrival of a train at crossing.	Design Criteria 10.3	C	RJT	2/20/2015	Design Plans G79794.002 G79794.013 G79794.014												
20	2.4.2	Additional start time shall be provided for multiple track crossings with wide travel surfaces, simultaneous or advance pre-emption, or locations where additional time is required.	Design Criteria 10.3	C	RJT	2/20/2015	Design Plans G79794.002 G79794.013 G79794.014												
21	2.4.3	All crossings shall be provided with Dual Tone Multi-Frequency (DTMF) Remote Activation	Design Criteria 10.6.7	C	RJT	2/13/2015	Design Plans G79794.018												
22	2.4.3	After a field adjustable time interval, the DTMF system will return the crossing to normal operation if activated by code but not de-activated.	Design Criteria 10.6.7	C	RJT	2/20/2015	TSP T30041 Note 2												
23	2.4.3	Cables passing underneath the track structure or roadway shall be installed in a conduits as defined in the Design Criteria	Design Criteria 10.1	C	RJT	2/20/2015	TSP T30110 Note 1												
24	2.4.4	Intrusion alarms and a means to secure the house from intrusion (such as a lockable door) shall be provided in all new crossing houses and alarms shall be recorded on the local event recorder.	Design Criteria 8.6.7	C	RJT	2/20/2015	Design Plans G79794.019 TSP T30105 Note 2												
25	2.4.4	A power-off indicator light shall be mounted on each side of the instrument housing. The lights shall be visible to train crews approaching the crossing from either direction.	Design Criteria 8.6.7	C	RJT	2/20/2015	Design Plans G79794.003 TSP T30105 Note 2												

26	2.4.4	The crossing houses shall be installed a minimum of 30 feet from the crossing surface and 25 feet from the centerline of the nearest track.	Design Criteria 8.6.7	C	RJT	2/20/2015	Design Plans T30.0402B								
27	2.4.4	The electrical panel shall consist of at least one Ground Fault Circuit Interrupter (GFCI) breaker. This GFCI breaker shall be used for all lighting and convenience outlets.	Design Criteria 8.6.2	C	RJT	2/20/2015	Design Plans G79794.003								
<b>LEGEND</b>			<b>DESIGN VERIFICATION</b>				<b>CONSTRUCTION VERIFICATION</b>				<b>FINAL VERIFICATION</b>				
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other			<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection				Name and Organization: _____ Date: _____				Name and Organization: _____ Date: _____				
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance			Approved by: _____ Date: _____				Approved by: _____ Date: _____				Approved by: _____ Date: _____				

DRAFT

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists	Design Verification	Construction Verification	Final Verification
<b>Certifiable Element:</b> <u>2.0 Signals</u>  <b>Sub-Element:</b> <u>2.4 Grade Crossings Warning Systems</u> <b>Location:</b> <u>Fourth St. MP A798.24</u>  <b>Contract No.:</b> _____	<b>Notes or Restrictions:</b> 1. To be verified in construction 2. To be verified with Product Submittal 3. Currently sidewalk on east side only - Locals to determine if west sidewalk will be installed.	<b>Notes or Restrictions:</b>     	<b>Notes or Restrictions:</b>     

Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Design Verification				Construction/Installation				Verification				
				Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	
1	2.4.1	A fiberglass arm as specified in AREMA Section 3 with 4 in LED flashing lights. The reflectorized arms shall be in accordance with AREMA 15.2.20. The gate arm LED's shall be in accordance with AREMA 3.2.40.	Design Criteria 10.2 AREMA C&S 15.2.20 3.2.40	C	RJT	2/13/2015	TSP T30025 Note 2									
2	2.4.1	Pole mounted 12 inch LED flashing light units in accordance with AREMA 3.2.35.	Design Criteria 10.2 AREMA C&S 3.2.35	C	RJT	2/13/2015	TSP T30010 Note 2									
3	2.4.1	A Railroad crossbuck sign in accordance with AREMA 3.2.70 and as shown in the current version of the MUTCD signs as R-15-1	Design Criteria 10.2 AREMA C&S 3.2.70 MUTCD R-15-1	C	RJT	2/13/2015	TSP T30025 Note 2									
4	2.4.1	Multiple Track Signs (when required) in accordance AREMA 3.2.76 as shown in the current version of the MUTCD as sign R-15-2	Design Criteria 10.2 AREMA C&S 3.2.76 MUTCD R-15-2	C	RJT	2/13/2015	TSP T30025 Note 2									
5	2.4.1	All flashers (Gate and pole mounted) shall be based upon LED technology and in accordance with the current AREMA guidelines. Pole and Cantilever flashers shall be 12 inch LED's while the gate arms shall receive 4 inch LED's.	Design Criteria 10.2	C	RJT	2/13/2015	TSP T30010 Note 1									
6	2.4.1	Pedestrian gates are required on both sides of a Highway-Rail Grade Crossing where there is a sidewalk on both sides of the rail and the roadway gate does not also cover the sidewalk.	Design Criteria 10.2	N/A			Note 3									
7	2.4.1	Alternating flashing 12 in LED and bell outputs shall energize no more than 1.0 second after control or GP inputs are de-energized.	Design Criteria 10.6.2	C	RJT	2/13/2015	Design Plans G79824.012 Note 1 Note 2									
8	2.4.1	Gate control output shall de-energize a minimum of 3.0 seconds after control input is de-energized.	Design Criteria 10.6.2	C	RJT	2/13/2015	Design Plans G79824.012 Note 1 Note 2									
9	2.4.1	In the event of a failure which would impair the system from operating, the highway crossing warning device properly in response to control and GP input signals, the controller shall have a fallback mode which shall assure the following minimum operating capabilities when the control input signal is de-energized: <ul style="list-style-type: none"> <li>Flashing LED power is applied at 12 V to at least one of each lamp pair</li> <li>Gate control output is de-energized</li> <li>Bell control output is energized at 11 V DC</li> </ul>	Design Criteria 10.6.6	C	RJT	2/13/2015	Design Plans G79824.012 Note 1 Note 2									
10	2.4.1	Lights shall operate at all times when the gate is in position to obstruct highway traffic.	Design Criteria 10.7.2	C	RJT	2/13/2015	Design Plans G79824.012 Note 1									
11	2.4.1	Gate arms shall start in downward motion not less than 3 seconds or greater than 5 seconds after the flashing lights start to operate.	Design Criteria 10.7.2	C	RJT	2/13/2015	Design Plans G79824.012 Note 1 Note 2									

12	2.4.1	Circuits shall be so arranged that a failure of the gate mechanism to operate as intended shall not prevent the lights on the gate arm and signal from operating on the approach of a train.	Design Criteria 10.7.2	C	RJT	2/13/2015	Design Plans G79824.012 Note 1 Note 2											
13	2.4.1	Gates shall not be located more than 15 ft. from center line of track.	Design Criteria 10.7.2	C	RJT	2/13/2015	Design Plans G79824.002											
14	2.4.1	Cantilevers shall not be more than 20 ft. from center line of track.	Design Criteria 10.7.3	C	RJT	2/13/2015	Design Plans G79824.002											
15	2.4.1	The system power supply shall be designed in accordance with FRA 234 and provide eight hours of standby back-up battery.	Design Criteria 10.10	C	RJT	2/13/2015	Design Plans G79824.003											
16	2.4.1	Relays shall have indexing pins to prevent insertion of an improper relay in relay plinboards.	Design Criteria 11.2	C	RJT	2/20/2015	TSP T30100 Note 2											
17	2.4.2	Constant Warning devices shall be used at all crossings.	Design Criteria 10.4	C	RJT	2/13/2015	Design Plans G79824.004 G79824.005											
18	2.4.2	Highway Crossing Warning start circuits shall provide initiation of the warning equipment from both sides of the crossing and shall also include separate island circuits.	Design Criteria 10.3	C	RJT	2/13/2015	Design Plans G79824.004 G79824.005 Note 2											
19	2.4.2	A minimum of 30 seconds of warning time shall be required prior to the arrival of a train at crossing.	Design Criteria 10.3	C	RJT	2/13/2015	Design Plans G79824.002 G79824.013											
20	2.4.2	Additional start time shall be provided for multiple track crossings with wide travel surfaces, simultaneous or advance pre-emption, or locations where additional time is required.	Design Criteria 10.3	C	RJT	2/13/2015	Design Plans G79824.002 G79824.013											
21	2.4.3	All crossings shall be provided with Dual Tone Multi-Frequency (DTMF) Remote Activation	Design Criteria 10.6.7	C	RJT	2/13/2015	Design Plans G79824.017											
22	2.4.3	After a field adjustable time interval, the DTMF system will return the crossing to normal operation if activated by code but not de-activated.	Design Criteria 10.6.7	C	RJT	2/20/2015	TSP T30041 Note 2											
23	2.4.3	Cables passing underneath the track structure or roadway shall be installed in a conduits as defined in the Design Criteria	Design Criteria 10.1	C	RJT	2/20/2015	TSP T30110 Note 1											
24	2.4.4	Intrusion alarms and a means to secure the house from intrusion (such as a lockable door) shall be provided in all new crossing houses and alarms shall be recorded on the local event recorder.	Design Criteria 8.6.7	C	RJT	2/20/2015	Design Plans G79824.018 TSP T30105 Note 2											
25	2.4.4	A power-off indicator light shall be mounted on each side of the instrument housing. The lights shall be visible to train crews approaching the crossing from either direction.	Design Criteria 8.6.7	C	RJT	2/20/2015	Design Plans G79824.003 TSP T30105 Note 2											
26	2.4.4	The crossing houses shall be installed a minimum of 30 feet from the crossing surface and 25 feet from the centerline of the nearest track.	Design Criteria 8.6.7	C	RJT	2/20/2015	Design Plans T30.0403B											
27	2.4.4	The electrical panel shall consist of at least one Ground Fault Circuit Interrupter (GFCI) breaker. This GFCI breaker shall be used for all lighting and convenience outlets.	Design Criteria 8.6.2	C	RJT	2/20/2015	Design Plans G79824.003											

<b>LEGEND</b>		<b>DESIGN VERIFICATION</b>		<b>CONSTRUCTION VERIFICATION</b>		<b>FINAL VERIFICATION</b>	
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection		Name and Organization: _____ Date: _____		Name and Organization: _____ Date: _____	
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance		Approved by: _____ Date: _____		Approved by: _____ Date: _____		Approved by: _____ Date: _____	

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists	Design Verification	Construction Verification	Final Verification
<b>Certifiable Element:</b> <u>2.0 Signals</u>  <b>Sub-Element:</b> <u>2.4 Grade Crossings Warning Systems</u> <b>Location:</b> <u>W. Taft-Vineland Rd. MP A798.75</u>  <b>Contract No.:</b> _____	<b>Notes or Restrictions:</b> 1. To be verified in construction 2. To be verified with Product Submittal 3. Existing relay-based controls	<b>Notes or Restrictions:</b>     	<b>Notes or Restrictions:</b>     

Item No.	Certifiable Item Description			Design Verification				Construction/Installation				Verification			
	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	2.4.1	A fiberglass arm as specified in AREMA Section 3 with 4 in LED flashing lights. The reflectorized arms shall be in accordance with AREMA 15.2.20. The gate arm LED's shall be in accordance with AREMA 3.2.40.	Design Criteria 10.2 AREMA C&S 15.2.20 3.2.40	C	RJT	2/13/2015	TSP T30025 Note 2								
2	2.4.1	Pole mounted 12 inch LED flashing light units in accordance with AREMA 3.2.35.	Design Criteria 10.2 AREMA C&S 3.2.35	C	RJT	2/13/2015	TSP T30010 Note 2								
3	2.4.1	A Railroad crossbuck sign in accordance with AREMA 3.2.70 and as shown in the current version of the MUTCD signs as R-15-1	Design Criteria 10.2 AREMA C&S 3.2.70 MUTCD R-15-1	C	RJT	2/13/2015	TSP T30025 Note 2								
4	2.4.1	Multiple Track Signs (when required) in accordance AREMA 3.2.76 as shown in the current version of the MUTCD as sign R-15-2	Design Criteria 10.2 AREMA C&S 3.2.76 MUTCD R-15-2	C	RJT	2/13/2015	TSP T30025 Note 2								
5	2.4.1	All flashers (Gate and pole mounted) shall be based upon LED technology and in accordance with the current AREMA guidelines. Pole and Cantilever flashers shall be 12 inch LED's while the gate arms shall receive 4 inch LED's.	Design Criteria 10.2	C	RJT	2/13/2015	TSP T30010 Note 1								
6	2.4.1	All crossings with defined sidewalks shall be equipped with either a standalone pedestrian gate, shall have the sidewalk pass to the roadway side of a main gate assembly or a roadway gate with an auxiliary sidewalk arm	Design Criteria 10.2	C	RJT	2/13/2015	Design Plans G79875.002								
7	2.4.1	Pedestrian gates are required on both sides of a Highway-Rail Grade Crossing where there is a sidewalk on both sides of the rail and the roadway gate does not also cover the sidewalk.	Design Criteria 10.2	C	RJT	2/13/2015	Design Plans G79875.002								
8	2.4.1	Alternating flashing 12 in LED and bell outputs shall energize no more than 1.0 second after control or GP inputs are de-energized.	Design Criteria 10.6.2	C	RJT	2/13/2015	Design Plans G79875.005 Note 1 Note 2								
9	2.4.1	Gate control output shall de-energize a minimum of 3.0 seconds after control input is de-energized.	Design Criteria 10.6.2	C	RJT	2/13/2015	Design Plans G79875.005 Note 1 Note 2								
10	2.4.1	In the event of a failure which would impair the system from operating, the highway crossing warning device property in response to control and GP input signals, the controller shall have a fallback mode which shall assure the following minimum operating capabilities when the control input signal is de-energized: <ul style="list-style-type: none"> <li>Flashing LED power is applied at 12 V to at least one of each lamp pair</li> <li>Gate control output is de-energized</li> <li>Bell control output is energized at 11 V DC</li> </ul>	Design Criteria 10.6.6	N/A			Note 3								

11	2.4.1	Traffic signal interconnection shall be provided as specified in the Highway-Rail Grade Crossing Improvement Requirements table. Preemption shall not be removed from any crossing.	Design Criteria 10.6.10	C	RJT	2/13/2015	Design Plans G79875.002 G79875.003											
12	2.4.1	Lights shall operate at all times when the gate is in position to obstruct highway traffic.	Design Criteria 10.7.2	C	RJT	2/13/2015	Design Plans G79875.005											
13	2.4.1	Gate arms shall start in downward motion not less than 3 seconds or greater than 5 seconds after the flashing lights start to operate.	Design Criteria 10.7.2	C	RJT	2/13/2015	Design Plans G79875.005											
14	2.4.1	Circuits shall be so arranged that a failure of the gate mechanism to operate as intended shall not prevent the lights on the gate arm and signal from operating on the approach of a train.	Design Criteria 10.7.2	C	RJT	2/13/2015	Design Plans G79875.005											
15	2.4.1	Gates shall not be located more than 15 ft. from center line of track.	Design Criteria 10.7.2	C	RJT	2/13/2015	Design Plans G79875.002											
16	2.4.1	Cantilevers shall not be more than 20 ft. from center line of track.	Design Criteria 10.7.3	C	RJT	2/13/2015	Design Plans G79875.002											
17	2.4.1	The system power supply shall be designed in accordance with FRA 234 and provide eight hours of standby back-up battery.	Design Criteria 10.10	C	RJT	2/13/2015	Design Plans G79875.003											
18	2.4.1	Relays shall have indexing pins to prevent insertion of an improper relay in relay plugboards.	Design Criteria 11.2	C	RJT	2/20/2015	TSP T30100 Note 2											
19	2.4.2	Constant Warning devices shall be used at all crossings.	Design Criteria 10.4	C	RJT	2/13/2015	Design Plans G79875.004											
20	2.4.2	Highway Crossing Warning start circuits shall provide initiation of the warning equipment from both sides of the crossing and shall also include separate island circuits.	Design Criteria 10.3	C	RJT	2/13/2015	Design Plans G79875.004											
21	2.4.2	A minimum of 30 seconds of warning time shall be required prior to the arrival of a train at crossing.	Design Criteria 10.3	C	RJT	2/13/2015	Design Plans G79875.002 G79875.006											
22	2.4.2	Additional start time shall be provided for multiple track crossings with wide travel surfaces, simultaneous or advance pre-emption, or locations where additional time is required.	Design Criteria 10.3	C	RJT	2/13/2015	Design Plans G79875.002 G79875.006											
23	2.4.3	All crossings shall be provided with Dual Tone Multi-Frequency (DTMF) Remote Activation	Design Criteria 10.6.7	C	RJT	2/13/2015	Design Plans G79875.004 G79875.006											
24	2.4.3	After a field adjustable time interval, the DTMF system will return the crossing to normal operation if activated by code but not de-activated.	Design Criteria 10.6.7	C	RJT	2/20/2015	TSP T30041 Note 2											
25	2.4.3	Cables passing underneath the track structure or roadway shall be installed in a conduits as defined in the Design Criteria	Design Criteria 10.1	C	RJT	2/20/2015	TSP T30110 Note 1											

<b>LEGEND</b>		<b>DESIGN VERIFICATION</b>		<b>CONSTRUCTION VERIFICATION</b>		<b>FINAL VERIFICATION</b>	
<b>Means of Verification - Design</b> P = Plan Sheet      S = Specification RFI=RFI              O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection		Name and Organization: _____ Date: _____		Name and Organization: _____ Date: _____	
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance		Approved by: _____ Date: _____		Approved by: _____ Date: _____		Approved by: _____ Date: _____	

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists	Design Verification	Construction Verification	Final Verification
<b>Certifiable Element:</b> <u>2.0 Signals</u>  <b>Sub-Element:</b> <u>2.4 Grade Crossings Warning Systems</u> <b>Location:</b> <u>E. Wetherbee Rd. MP A800.77</u>  <b>Contract No.:</b> _____	<b>Notes or Restrictions:</b> 1. To be verified in construction 2. To be verified with Product Submittal 3. No design changes for existing warning system	<b>Notes or Restrictions:</b>     	<b>Notes or Restrictions:</b>     

Item No.	Certifiable Item Description			Design Verification				Construction/Installation				Verification			
	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	2.4.1	A fiberglass arm as specified in AREMA Section 3 with 4 in LED flashing lights. The reflectorized arms shall be in accordance with AREMA 15.2.20. The gate arm LED's shall be in accordance with AREMA 3.2.40.	Design Criteria 10.2 AREMA C&S 15.2.20 3.2.40	C	RJT	2/13/2015	TSP T30025 Note 2								
2	2.4.1	Pole mounted 12 inch LED flashing light units in accordance with AREMA 3.2.35.	Design Criteria 10.2 AREMA C&S 3.2.35	C	RJT	2/13/2015	TSP T30010 Note 2								
3	2.4.1	A Railroad crossbuck sign in accordance with AREMA 3.2.70 and as shown in the current version of the MUTCD signs as R-15-1	Design Criteria 10.2 AREMA C&S 3.2.70 MUTCD R-15-1	C	RJT	2/13/2015	TSP T30025 Note 2								
4	2.4.1	Multiple Track Signs (when required) in accordance AREMA 3.2.76 as shown in the current version of the MUTCD as sign R-15-2	Design Criteria 10.2 AREMA C&S 3.2.76 MUTCD R-15-2	C	RJT	2/13/2015	TSP T30025 Note 2								
5	2.4.1	A complete cantilever assembly with flashing units provided for each traveled lane and back lights where shown on crossing layout drawings.	Design Criteria 10.2	N/A			Note 3								
6	2.4.1	All flashers (Gate and pole mounted) shall be based upon LED technology and in accordance with the current AREMA guidelines. Pole and Cantilever flashers shall be 12 inch LED's while the gate arms shall receive 4 inch LED's.	Design Criteria 10.2	C	RJT	2/13/2015	TSP T30010 Note 1								
7	2.4.1	All crossings with defined sidewalks shall be equipped with either a standalone pedestrian gate, shall have the sidewalk pass to the roadway side of a main gate assembly or a roadway gate with an auxiliary sidewalk arm	Design Criteria 10.2	C	RJT	2/13/2015	Design Plans G80077.002								
8	2.4.1	Pedestrian gates are required on both sides of a Highway-Rail Grade Crossing where there is a sidewalk on both sides of the rail and the roadway gate does not also cover the sidewalk.	Design Criteria 10.2	C	RJT	2/13/2015	Design Plans G80077.002								
9	2.4.1	Alternating flashing 12 in LED and bell outputs shall energize no more than 1.0 second after control or GP inputs are de-energized.	Design Criteria 10.6.2	N/A			Note 3								
10	2.4.1	Gate control output shall de-energize a minimum of 3.0 seconds after control input is de-energized.	Design Criteria 10.6.2	N/A			Note 3								



11	2.4.1	In the event of a failure which would impair the system from operating, the highway crossing warning device properly in response to control and GP input signals, the controller shall have a fallback mode which shall assure the following minimum operating capabilities when the control input signal is de-energized: <ul style="list-style-type: none"> <li>Flashing LED power is applied at 12 V to at least one of each lamp pair</li> <li>Gate control output is de-energized</li> <li>Bell control output is energized at 11 V DC</li> </ul>	Design Criteria 10.6.6	N/A			Note 3											
12	2.4.1	Traffic signal interconnection shall be provided as specified in the Highway-Rail Grade Crossing Improvement Requirements table Preemption shall not be removed from any crossing	Design Criteria 10.6.10	C	RJT	2/13/2015	Design Plans G80077.002 G80077.007											
13	2.4.1	Lights shall operate at all times when the gate is in position to obstruct highway traffic.	Design Criteria 10.7.2	N/A			Note 3											
14	2.4.1	Gate arms shall start in downward motion not less than 3 seconds or greater than 5 seconds after the flashing lights start to operate.	Design Criteria 10.7.2	N/A			Note 3											
15	2.4.1	Circuits shall be so arranged that a failure of the gate mechanism to operate as intended shall not prevent the lights on the gate arm and signal from operating on the approach of a train.	Design Criteria 10.7.2	N/A			Note 3											
16	2.4.1	Gates shall not be located more than 15 ft. from center line of track.	Design Criteria 10.7.2	C	RJT	2/13/2015	Design Plans G80077.002											
17	2.4.1	Cantilevers shall not be more than 20 ft. from center line of track.	Design Criteria 10.7.3	C	RJT	2/13/2015	Design Plans G80077.002											
18	2.4.1	The system power supply shall be designed in accordance with FRA 234 and provide eight hours of standby back-up battery.	Design Criteria 10.10	N/A			Note 3											
19	2.4.1	Relays shall have indexing pins to prevent insertion of an improper relay in relay	Design Criteria 11.2	C	RJT	2/20/2015	TSP T30100 Note 2											
20	2.4.2	Constant Warning devices shall be used at all crossings.	Design Criteria 10.4	C	RJT	2/13/2015	Design Plans G80077.005 G80077.006											
21	2.4.2	Highway Crossing Warning start circuits shall provide initiation of the warning equipment from both sides of the crossing and shall also include separate island circuits.	Design Criteria 10.3	N/A			Note 3											
22	2.4.2	A minimum of 30 seconds of warning time shall be required prior to the arrival of a train at crossing.	Design Criteria 10.3	C	RJT	2/13/2015	Design Plans G80077.002 G80077.003											
23	2.4.2	Additional start time shall be provided for multiple track crossings with wide travel surfaces, simultaneous or advance pre-emption, or locations where additional time is required.	Design Criteria 10.3	C	RJT	2/13/2015	Design Plans G80077.002 G80077.003											
24	2.4.3	All crossings shall be provided with Dual Tone Multi-Frequency (DTMF) Remote Activation	Design Criteria 10.6.7	C	RJT	2/13/2015	Design Plans G80077.017											
25	2.4.3	After a field adjustable time interval, the DTMF system will return the crossing to normal operation if activated by code but not de-activated.	Design Criteria 10.6.7	N/A			Note 3											
26	2.4.4	A power-off indicator light shall be mounted on each side of the instrument housing. The lights shall be visible to train crews approaching the crossing from either direction.	Design Criteria 8.6.7	C	RJT	2/13/2015	Design Plans G80077.004											
27	2.4.4	The electrical panel shall consist of at least one Ground Fault Circuit Interrupter (GFCI) breaker. This GFCI breaker shall be used for all lighting and convenience outlets.	Design Criteria 8.6.2	C	RJT	2/13/2015	Design Plans G80077.004											
<b>LEGEND</b>				<b>DESIGN VERIFICATION</b>				<b>CONSTRUCTION VERIFICATION</b>				<b>FINAL VERIFICATION</b>						

<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other	<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection	Name and Organization: _____ Date: _____	Name and Organization: _____ Date: _____	Name and Organization: _____ Date: _____
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance		Approved by: _____ Date: _____	Approved by: _____ Date: _____	Approved by: _____ Date: _____

DRAFT

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists	Design Verification	Construction Verification	Final Verification
<b>Certifiable Element:</b> <u>2.0 Signals</u>  <b>Sub-Element:</b> <u>2.4 Grade Crossings Warning Systems</u> <b>Location:</b> <u>Fairway Woods Blvd. MP A801.15</u>  <b>Contract No.:</b> _____	<b>Notes or Restrictions:</b> 1. To be verified in construction 2. To be verified with Product Submittal 3. No design changes for existing warning system 4. 2nd Train Warning control in software - not part of hardware design.	<b>Notes or Restrictions:</b>     	<b>Notes or Restrictions:</b>     

Item No.	Certifiable Item Description			Design Verification				Construction/Installation				Verification			
	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	2.4.1	A fiberglass arm as specified in AREMA Section 3 with 4 in LED flashing lights. The reflectorized arms shall be in accordance with AREMA 15.2.20. The gate arm LED's shall be in accordance with AREMA 3.2.40.	Design Criteria 10.2 AREMA C&S 15.2.20 3.2.40	C	RJT	2/13/2015	TSP T30025 Note 2								
2	2.4.1	Pole mounted 12 inch LED flashing light units in accordance with AREMA 3.2.35.	Design Criteria 10.2 AREMA C&S 3.2.35	C	RJT	2/13/2015	TSP T30010 Note 2								
3	2.4.1	A Railroad crossbuck sign in accordance with AREMA 3.2.70 and as shown in the current version of the MUTCD signs as R-15-1	Design Criteria 10.2 AREMA C&S 3.2.70 MUTCD R-15-1	C	RJT	2/13/2015	TSP T30025 Note 2								
4	2.4.1	Multiple Track Signs (when required) in accordance AREMA 3.2.76 as shown in the current version of the MUTCD as sign R-15-2	Design Criteria 10.2 AREMA C&S 3.2.76 MUTCD R-15-2	C	RJT	2/13/2015	TSP T30025 Note 2								
5	2.4.1	A complete cantilever assembly with flashing units provided for each traveled lane and back lights where shown on crossing layout drawings.	Design Criteria 10.2	N/A			Note 3								
6	2.4.1	All flashers (Gate and pole mounted) shall be based upon LED technology and in accordance with the current AREMA guidelines. Pole and Cantilever flashers shall be 12 inch LED's while the gate arms shall receive 4 inch LED's.	Design Criteria 10.2	C	RJT	2/13/2015	TSP T30010 Note 1								
7	2.4.1	All crossings with defined sidewalks shall be equipped with either a standalone pedestrian gate, shall have the sidewalk pass to the roadway side of a main gate assembly or a roadway gate with an auxiliary sidewalk arm	Design Criteria 10.2	C	RJT	2/13/2015	Design Plans G80115.002								
8	2.4.1	Pedestrian gates are required on both sides of a Highway-Rail Grade Crossing where there is a sidewalk on both sides of the rail and the roadway gate does not also cover the sidewalk.	Design Criteria 10.2	C	RJT	2/13/2015	Design Plans G80115.002								
9	2.4.1	Alternating flashing 12 in LED and bell outputs shall energize no more than 1.0 second after control or GP inputs are de-energized.	Design Criteria 10.6.2	N/A			Note 3								
10	2.4.1	Gate control output shall de-energize a minimum of 3.0 seconds after control input is de-energized.	Design Criteria 10.6.2	N/A			Note 3								

11	2.4.1	In the event of a failure which would impair the system from operating, the highway crossing warning device properly in response to control and GP input signals, the controller shall have a fallback mode which shall assure the following minimum operating capabilities when the control input signal is de-energized: <ul style="list-style-type: none"> <li>• Flashing LED power is applied at 12 V to at least one of each lamp pair</li> <li>• Gate control output is de-energized</li> <li>• Bell control output is energized at 11 V DC</li> </ul>	Design Criteria 10.6.6	N/A			Note 3											
12	2.4.1	Traffic signal interconnection shall be provided as specified in the Highway-Rail Grade Crossing Improvement Requirements table Preemption shall not be removed from any crossing	Design Criteria 10.6.10	C	RJT	2/13/2015	Design Plans G80115.002 G80115.010											
13	2.4.1	Lights shall operate at all times when the gate is in position to obstruct highway traffic.	Design Criteria 10.7.2	N/A			Note 3											
14	2.4.1	Gate arms shall start in downward motion not less than 3 seconds or greater than 5 seconds after the flashing lights start to operate.	Design Criteria 10.7.2	N/A			Note 3											
15	2.4.1	Circuits shall be so arranged that a failure of the gate mechanism to operate as intended shall not prevent the lights on the gate arm and signal from operating on the approach of a train.	Design Criteria 10.7.2	N/A			Note 3											
16	2.4.1	Gates shall not be located more than 15 ft. from center line of track.	Design Criteria 10.7.2	C	RJT	2/13/2015	Design Plans G80115.002											
17	2.4.1	Cantilevers shall not be more than 20 ft. from center line of track.	Design Criteria 10.7.3	C	RJT	2/13/2015	Design Plans G80115.002											
18	2.4.1	The system power supply shall be designed in accordance with FRA 234 and provide eight hours of standby back-up battery.	Design Criteria 10.10	C	RJT	2/13/2015	Design Plans G80115.003											
19	2.4.1	Relays shall have indexing pins to prevent insertion of an improper relay in relay	Design Criteria 11.2	C	RJT	2/20/2015	TSP T30100 Note 2											
20	2.4.2	Constant Warning devices shall be used at all crossings.	Design Criteria 10.4	C	RJT	2/13/2015	Design Plans G80115.004											
21	2.4.2	Highway Crossing Warning start circuits shall provide initiation of the warning equipment from both sides of the crossing and shall also include separate island circuits.	Design Criteria 10.3	C	RJT	2/13/2015	Design Plans G80115.004 Note 2											
22	2.4.2	A minimum of 30 seconds of warning time shall be required prior to the arrival of a train at crossing.	Design Criteria 10.3	C	RJT	2/13/2015	Design Plans G80115.002 G80115.008											
23	2.4.2	Additional start time shall be provided for multiple track crossings with wide travel surfaces, simultaneous or advance pre-emption, or locations where additional time is required.	Design Criteria 10.3	C	RJT	2/13/2015	Design Plans G80115.002 G80115.008											
24	2.4.3	All crossings shall be provided with Dual Tone Multi-Frequency (DTMF) Remote Activation	Design Criteria 10.6.7	C	RJT	2/13/2015	Design Plans G80115.006 G80115.013											
25	2.4.3	After a field adjustable time interval, the DTMF system will return the crossing to normal operation if activated by code but not de-activated.	Design Criteria 10.6.7	C	RJT	2/20/2015	TSP T30041 Note 2											
26	2.4.3	Cables passing underneath the track structure or roadway shall be installed in a conduits as defined in the Design Criteria	Design Criteria 10.1	C	RJT	2/20/2015	TSP T30110 Note 1											
27	2.4.3	Second Train warning signs shall be installed at each highway-rail grade crossing directly adjacent to the station platforms.	Design Criteria 10.7.6	C	RJT	2/13/2015	Design Plans G80115.002 G80115.006 G80115.007											
28	2.4.3	Second Train warning sign shall be activated when one train is in the station with the active warning system activated and a second train is approaching and shall continue while both trains	Design Criteria 8.6.2	N/A			Note 4											

29	2.4.4	A power-off indicator light shall be mounted on each side of the instrument housing. The lights shall be visible to train crews approaching the crossing from either direction.	Design Criteria 8.6.7	N/A		Note 3							
30	2.4.4	The electrical panel shall consist of at least one Ground Fault Circuit Interrupter (GFCI) breaker. This GFCI breaker shall be used for all lighting and convenience outlets.	Design Criteria 8.6.2	N/A		Note 3							
<b>LEGEND</b>				<b>DESIGN VERIFICATION</b>			<b>CONSTRUCTION VERIFICATION</b>			<b>FINAL VERIFICATION</b>			
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection		Name and Organization: _____ Date: _____ Approved by: _____ Date: _____			Name and Organization: _____ Date: _____ Approved by: _____ Date: _____			Name and Organization: _____ Date: _____ Approved by: _____ Date: _____			
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance													

DRAFT

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists	Design Verification	Construction Verification	Final Verification
<b>Certifiable Element:</b> 2.0 Signals  <b>Sub-Element:</b> 2.4 Grade Crossings Warning Systems <b>Location:</b> Garden St. MP A805.08  <b>Contract No.:</b>	<b>Notes or Restrictions:</b> 1. To be verified in construction 2. To be verified with Product Submittal 3. No sidewalks included in current design		

Item No.	Certifiable Item Description			Design Verification				Construction/Installation				Verification			
	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	2.4.1	A fiberglass arm as specified in AREMA Section 3 with 4 in LED flashing lights. The reflectorized arms shall be in accordance with AREMA 15.2.20. The gate arm LED's shall be in accordance with AREMA 3.2.40.	Design Criteria 10.2 AREMA C&S 15.2.20 3.2.40	C	RJT	2/13/2015	TSP T30025 Note 2								
2	2.4.1	Pole mounted 12 inch LED flashing light units in accordance with AREMA 3.2.35.	Design Criteria 10.2 AREMA C&S 3.2.35	C	RJT	2/13/2015	TSP T30010 Note 2								
3	2.4.1	A Railroad crossbuck sign in accordance with AREMA 3.2.70 and as shown in the current version of the MUTCD signs as R-15-1	Design Criteria 10.2 AREMA C&S 3.2.70 MUTCD R-15-1	C	RJT	2/13/2015	TSP T30025 Note 2								
4	2.4.1	Multiple Track Signs (when required) in accordance AREMA 3.2.76 as shown in the current version of the MUTCD as sign R-15-2	Design Criteria 10.2 AREMA C&S 3.2.76 MUTCD R-15-2	C	RJT	2/13/2015	TSP T30025 Note 2								
5	2.4.1	All flashers (Gate and pole mounted) shall be based upon LED technology and in accordance with the current AREMA guidelines. Pole and Cantilever flashers shall be 12 inch LED's while the gate arms shall receive 4 inch LED's.	Design Criteria 10.2	C	RJT	2/13/2015	TSP T30010 Note 1								
6	2.4.1	All crossings with defined sidewalks shall be equipped with either a standalone pedestrian gate, shall have the sidewalk pass to the roadway side of a main gate assembly or a roadway gate with an auxiliary sidewalk arm	Design Criteria 10.2	N/A			Note 3								
7	2.4.1	Pedestrian gates are required on both sides of a Highway-Rail Grade Crossing where there is a sidewalk on both sides of the rail and the roadway gate does not also cover the sidewalk.	Design Criteria 10.2	N/A			Note 3								
8	2.4.1	Alternating flashing 12 in LED and bell outputs shall energize no more than 1.0 second after control or GP inputs are de-energized.	Design Criteria 10.6.2	C	RJT	2/13/2015	Design Plans G80508.009 Note 2								
9	2.4.1	Gate control output shall de-energize a minimum of 3.0 seconds after control input is de-energized.	Design Criteria 10.6.2	C	RJT	2/13/2015	Design Plans G80508.009 Note 2								
20	2.4.1	In the event of a failure which would impair the system from operating, the highway crossing warning device properly in response to control and GP input signals, the controller shall have a fallback mode which shall assure the following minimum operating capabilities when the control input signal is de-energized: • Flashing LED power is applied at 12 V to at least one of each lamp pair • Gate control output is de-energized • Bell control output is energized at 11 V DC	Design Criteria 10.6.6	C	RJT	2/13/2015	Design Plans G80508.009 Note 2								
11	2.4.1	Lights shall operate at all times when the gate is in position to obstruct highway traffic.	Design Criteria 10.7.2	C	RJT	2/13/2015	Design Plans G80508.009 Note 1								

12	2.4.1	Gate arms shall start in downward motion not less than 3 seconds or greater than 5 seconds after the flashing lights start to operate.	Design Criteria 10.7.2	C	RJT	2/13/2015	Design Plans G80508.009 Note 1 Note 2											
13	2.4.1	Circuits shall be so arranged that a failure of the gate mechanism to operate as intended shall not prevent the lights on the gate arm and signal from operating on the approach of a train.	Design Criteria 10.7.2	C	RJT	2/13/2015	Design Plans G80508.009 Note 1 Note 2											
14	2.4.1	Gates shall not be located more than 15 ft. from center line of track.	Design Criteria 10.7.2	C	RJT	2/13/2015	Design Plans G80508.002											
15	2.4.1	The system power supply shall be designed in accordance with FRA 234 and provide eight hours of standby back-up battery.	Design Criteria 10.10	C	RJT	2/13/2015	Design Plans G80508.003											
16	2.4.1	Relays shall have indexing pins to prevent insertion of an improper relay in relay	Design Criteria 11.2	C	RJT	2/20/2015	TSP T30100 Note 2											
17	2.4.2	Constant Warning devices shall be used at all crossings.	Design Criteria 10.4	C	RJT	2/13/2015	Design Plans G80508.004 Note 1											
18	2.4.2	Highway Crossing Warning start circuits shall provide initiation of the warning equipment from both sides of the crossing and shall also include separate island circuits.	Design Criteria 10.3	C	RJT	2/13/2015	Design Plans G80508.004 Note 2											
19	2.4.2	A minimum of 30 seconds of warning time shall be required prior to the arrival of a train at crossing.	Design Criteria 10.3	C	RJT	2/13/2015	Design Plans G80508.002 G80508.010											
20	2.4.2	Additional start time shall be provided for multiple track crossings with wide travel surfaces, simultaneous or advance pre-emption, or locations where additional time is required.	Design Criteria 10.3	C	RJT	2/13/2015	Design Plans G80508.002 G80508.010											
21	2.4.3	All crossings shall be provided with Dual Tone Multi-Frequency (DTMF) Remote Activation	Design Criteria 10.6.7	C	RJT	2/13/2015	Design Plans G80508.013											
22	2.4.3	After a field adjustable time interval, the DTMF system will return the crossing to normal operation if activated by code but not de-activated.	Design Criteria 10.6.7	C	RJT	2/20/2015	TSP T30041 Note 2											
23	2.4.3	Cables passing underneath the track structure or roadway shall be installed in a conduits as defined in the Design Criteria	Design Criteria 10.1	C	RJT	2/20/2015	TSP T30110 Note 1											
24	2.4.4	Intrusion alarms and a means to secure the house from intrusion (such as a lockable door) shall be provided in all new crossing houses and alarms shall be recorded on the local event recorder.	Design Criteria 8.6.7	C	RJT	2/20/2015	Design Plans G80508.019 TSP T30105 Note 2											
25	2.4.4	A power-off indicator light shall be mounted on each side of the instrument housing. The lights shall be visible to train crews approaching the crossing from either direction.	Design Criteria 8.6.7	C	RJT	2/20/2015	Design Plans G80508.003 TSP T30105 Note 2											
26	2.4.4	The crossing houses shall be installed a minimum of 30 feet from the crossing surface and 25 feet from the centerline of the nearest track.	Design Criteria 8.6.7	C	RJT	2/20/2015	Design Plans T30.0407B											
27	2.4.4	The electrical panel shall consist of at least one Ground Fault Circuit Interrupter (GFCI) breaker. This GFCI breaker shall be used for all lighting and convenience outlets.	Design Criteria 8.6.2	C	RJT	2/20/2015	Design Plans G80508.003											
<b>LEGEND</b> <b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other  <b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance			<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection			<b>DESIGN VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____			<b>CONSTRUCTION VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____			<b>FINAL VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____						

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists	Design Verification	Construction Verification	Final Verification
<b>Certifiable Element:</b> <u>2.0 Signals</u>  <b>Sub-Element:</b> <u>2.4 Grade Crossings Warning Systems</u> <b>Location:</b> <u>E. Carroll St. MP A805.70</u>  <b>Contract No.:</b> _____	<b>Notes or Restrictions:</b> 1. To be verified in construction 2. To be verified with Product Submittal	<b>Notes or Restrictions:</b> _____ _____ _____ _____	<b>Notes or Restrictions:</b> _____ _____ _____ _____

Item No.	Certifiable Item Description			Design Verification				Construction/Installation				Verification			
	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	2.4.1	A fiberglass arm as specified in AREMA Section 3 with 4 in LED flashing lights. The reflectorized arms shall be in accordance with AREMA 15.2.20. The gate arm LED's shall be in accordance with AREMA 3.2.40.	Design Criteria 10.2 AREMA C&S 15.2.20 3.2.40	C	RJT	2/13/2015	TSP T30025 Note 2								
2	2.4.1	Pole mounted 12 inch LED flashing light units in accordance with AREMA 3.2.35.	Design Criteria 10.2 AREMA C&S 3.2.35	C	RJT	2/13/2015	TSP T30010 Note 2								
3	2.4.1	A Railroad crossbuck sign in accordance with AREMA 3.2.70 and as shown in the current version of the MUTCD signs as R-15-1	Design Criteria 10.2 AREMA C&S 3.2.70 MUTCD R-15-1	C	RJT	2/13/2015	TSP T30025 Note 2								
4	2.4.1	Multiple Track Signs (when required) in accordance AREMA 3.2.76 as shown in the current version of the MUTCD as sign R-15-2	Design Criteria 10.2 AREMA C&S 3.2.76 MUTCD R-15-2	C	RJT	2/13/2015	TSP T30025 Note 2								
5	2.4.1	All flashers (Gate and pole mounted) shall be based upon LED technology and in accordance with the current AREMA guidelines. Pole and Cantilever flashers shall be 12 inch LED's while the gate arms shall receive 4 inch LED's.	Design Criteria 10.2	C	RJT	2/13/2015	TSP T30010 Note 1								
6	2.4.1	Alternating flashing 12 in LED and bell outputs shall energize no more than 1.0 second after control or GP inputs are de-energized.	Design Criteria 10.6.2	C	RJT	2/13/2015	Design Plans G80569.007 Note 2								
7	2.4.1	Gate control output shall de-energize a minimum of 3.0 seconds after control input is de-energized.	Design Criteria 10.6.2	C	RJT	2/13/2015	Design Plans G80569.007 Note 2								
8	2.4.1	In the event of a failure which would impair the system from operating, the highway crossing warning device properly in response to control and GP input signals, the controller shall have a fallback mode which shall assure the following minimum operating capabilities when the control input signal is de-energized: • Flashing LED power is applied at 12 V to at least one of each lamp pair • Gate control output is de-energized • Bell control output is energized at 11 V DC	Design Criteria 10.6.6	C	RJT	2/13/2015	Design Plans G80569.007 Note 2								
9	2.4.1	Lights shall operate at all times when the gate is in position to obstruct highway traffic.	Design Criteria 10.7.2	C	RJT	2/13/2015	Design Plans G80569.007 Note 1 Note 2								
10	2.4.1	Gate arms shall start in downward motion not less than 3 seconds or greater than 5 seconds after the flashing lights start to operate.	Design Criteria 10.7.2	C	RJT	2/13/2015	Design Plans G80569.007 Note 2								
11	2.4.1	Circuits shall be so arranged that a failure of the gate mechanism to operate as intended shall not prevent the lights on the gate arm and signal from operating on the approach of a train.	Design Criteria 10.7.2	C	RJT	2/13/2015	Design Plans G80569.007 Note 1 Note 2								



12	2.4.1	Gates shall not be located more than 15 ft. from center line of track.	Design Criteria 10.7.2	C	RJT	2/13/2015	Design Plans G80569.002											
13	2.4.1	The system power supply shall be designed in accordance with FRA 234 and provide eight hours of standby back-up battery.	Design Criteria 10.10	C	RJT	2/13/2015	Design Plans G80569.003											
14	2.4.1	Relays shall have indexing pins to prevent insertion of an improper relay in relay	Design Criteria 11.2	C	RJT	2/20/2015	TSP T30100 Note 2											
15	2.4.2	Constant Warning devices shall be used at all crossings.	Design Criteria 10.4	C	RJT	2/13/2015	Design Plans G80569.004											
16	2.4.2	Highway Crossing Warning start circuits shall provide initiation of the warning equipment from both sides of the crossing and shall also include separate island circuits.	Design Criteria 10.3	C	RJT	2/13/2015	Design Plans G80569.004 Note 2											
17	2.4.2	A minimum of 30 seconds of warning time shall be required prior to the arrival of a train at crossing.	Design Criteria 10.3	C	RJT	2/13/2015	Design Plans G80569.002 G80569.008											
18	2.4.2	Additional start time shall be provided for multiple track crossings with wide travel surfaces, simultaneous or advance pre-emption, or locations where additional time is required.	Design Criteria 10.3	C	RJT	2/13/2015	Design Plans G80569.002 G80569.008											
19	2.4.3	All crossings shall be provided with Dual Tone Multi-Frequency (DTMF) Remote Activation	Design Criteria 10.6.7	C	RJT	2/13/2015	Design Plans G80569.006											
20	2.4.3	After a field adjustable time interval, the DTMF system will return the crossing to normal operation if activated by code but not de-activated.	Design Criteria 10.6.7	C	RJT	2/20/2015	TSP T30041 Note 2											
21	2.4.3	Cables passing underneath the track structure or roadway shall be installed in a conduits as defined in the Design Criteria	Design Criteria 10.1	C	RJT	2/20/2015	TSP T30110 Note 1											
22	2.4.4	A power-off indicator light shall be mounted on each side of the instrument housing. The lights shall be visible to train crews approaching the crossing from either direction.	Design Criteria 8.6.7	C	RJT	2/20/2015	Design Plans G80569.003 TSP T30105 Note 2											
<b>LEGEND</b>				<b>DESIGN VERIFICATION</b>				<b>CONSTRUCTION VERIFICATION</b>				<b>FINAL VERIFICATION</b>						
<b>Means of Verification - Design</b>		<b>Means of Verification - Construction</b>		<b>Name and Organization:</b>				<b>Name and Organization:</b>				<b>Name and Organization:</b>						
P = Plan Sheet S = Specification RFI=RFI O = Other		M = Measurement T = Test PS = Product Sheet V = Visual Inspection		_____				_____				_____						
<b>Status</b>				<b>Date:</b>				<b>Date:</b>				<b>Date:</b>						
C = Compliance N = Noncompliance P = Partial Compliance				_____				_____				_____						
				<b>Approved by:</b>				<b>Approved by:</b>				<b>Approved by:</b>						
				_____				_____				_____						
				<b>Date:</b>				<b>Date:</b>				<b>Date:</b>						
				_____				_____				_____						

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists	Design Verification	Construction Verification	Final Verification
<b>Certifiable Element:</b> 2.0 Signals  <b>Sub-Element:</b> 2.4 Grade Crossings Warning Systems <b>Location:</b> E. Donegan Ave. MP A806.22  <b>Contract No.:</b>	<b>Notes or Restrictions:</b> 1. To be verified in construction 2. To be verified with Product Submittal	<b>Notes or Restrictions:</b>	<b>Notes or Restrictions:</b>

Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Design Verification				Construction/Installation				Verification				
				Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	
1	2.4.1	A fiberglass arm as specified in AREMA Section 3 with 4 in LED flashing lights. The reflectorized arms shall be in accordance with AREMA 15.2.20. The gate arm LED's shall be in accordance with AREMA 3.2.40.	Design Criteria 10.2 AREMA C&S 15.2.20 3.2.40	C	RJT	2/13/2015	TSP T30025 Note 2									
2	2.4.1	Pole mounted 12 inch LED flashing light units in accordance with AREMA 3.2.35.	Design Criteria 10.2 AREMA C&S 3.2.35	C	RJT	2/13/2015	TSP T30010 Note 2									
3	2.4.1	A Railroad crossbuck sign in accordance with AREMA 3.2.70 and as shown in the current version of the MUTCD signs as R-15-1	Design Criteria 10.2 AREMA C&S 3.2.70 MUTCD R-15-1	C	RJT	2/13/2015	TSP T30025 Note 2									
4	2.4.1	Multiple Track Signs (when required) in accordance AREMA 3.2.76 as shown in the current version of the MUTCD as sign R-15-2	Design Criteria 10.2 AREMA C&S 3.2.76 MUTCD R-15-2	C	RJT	2/13/2015	TSP T30025 Note 2									
5	2.4.1	A complete cantilever assembly with flashing units provided for each traveled lane and back lights where shown on crossing layout drawings.	Design Criteria 10.2	C	RJT	2/24/2015	Design Plans G80622.002									
6	2.4.1	All flashers (Gate and pole mounted) shall be based upon LED technology and in accordance with the current AREMA guidelines. Pole and Cantilever flashers shall be 12 inch LED's while the gate arms shall receive 4 inch LED's.	Design Criteria 10.2	C	RJT	2/13/2015	TSP T30010 Note 2									
7	2.4.1	All crossings with defined sidewalks shall be equipped with either a standalone pedestrian gate, shall have the sidewalk pass to the roadway side of a main gate assembly or a roadway gate with an auxiliary sidewalk arm	Design Criteria 10.2	C	RJT	2/24/2015	Design Plans G80622.002									
8	2.4.1	Pedestrian gates are required on both sides of a Highway-Rail Grade Crossing where there is a sidewalk on both sides of the rail and the roadway gate does not also cover the sidewalk.	Design Criteria 10.2	C	RJT	2/24/2015	Design Plans G80622.002									
9	2.4.1	Alternating flashing 12 in LED and bell outputs shall energize no more than 1.0 second after control or GP inputs are de-energized.	Design Criteria 10.6.2	C	RJT	2/24/2015	Design Plans G80622.009 Note 2									
10	2.4.1	Gate control output shall de-energize a minimum of 3.0 seconds after control input is de-energized.	Design Criteria 10.6.2	C	RJT	2/24/2015	Design Plans G80622.009 Note 2									
11	2.4.1	In the event of a failure which would impair the system from operating, the highway crossing warning device properly in response to control and GP input signals, the controller shall have a fallback mode which shall assure the following minimum operating capabilities when the control input signal is de-energized: • Flashing LED power is applied at 12 V to at least one of each lamp pair • Gate control output is de-energized • Bell control output is energized at 11 V DC	Design Criteria 10.6.6	C	RJT	2/24/2015	Design Plans G80622.009 Note 2									

12	2.4.1	Lights shall operate at all times when the gate is in position to obstruct highway traffic.	Design Criteria 10.7.2	C	RJT	2/24/2015	Design Plans G80622.009 Note 1 Note 2											
13	2.4.1	Gate arms shall start in downward motion not less than 3 seconds or greater than 5 seconds after the flashing lights start to operate.	Design Criteria 10.7.2	C	RJT	2/24/2015	Design Plans G80622.009 Note 1 Note 2											
14	2.4.1	Circuits shall be so arranged that a failure of the gate mechanism to operate as intended shall not prevent the lights on the gate arm and signal from operating on the approach of a train.	Design Criteria 10.7.2	C	RJT	2/24/2015	Design Plans G80622.009 Note 1 Note 2											
15	2.4.1	Gates shall not be located more than 15 ft. from center line of track.	Design Criteria 10.7.2	C	RJT	2/24/2015	Design Plans G80622.002											
16	2.4.1	Cantilevers shall not be more than 20 ft. from center line of track.	Design Criteria 10.7.3	C	RJT	2/24/2015	Design Plans G80622.002											
17	2.4.1	The system power supply shall be designed in accordance with FRA 234 and provide eight hours of standby back-up battery.	Design Criteria 10.10	C	RJT	2/24/2015	Design Plans G80622.003											
18	2.4.1	Relays shall have indexing pins to prevent insertion of an improper relay in relay	Design Criteria 11.2	C	RJT	2/20/2015	TSP T30100 Note 2											
19	2.4.2	Constant Warning devices shall be used at all crossings.	Design Criteria 10.4	C	RJT	2/24/2015	Design Plans G80622.004 Note 2											
20	2.4.2	Highway Crossing Warning start circuits shall provide initiation of the warning equipment from both sides of the crossing and shall also include separate island circuits.	Design Criteria 10.3	C	RJT	2/24/2015	Design Plans G80622.004 Note 2											
21	2.4.2	A minimum of 30 seconds of warning time shall be required prior to the arrival of a train at crossing.	Design Criteria 10.3	C	RJT	2/24/2015	Design Plans G80622.002 G80622.011											
22	2.4.2	Additional start time shall be provided for multiple track crossings with wide travel surfaces, simultaneous or advance pre-emption, or locations where additional time is required.	Design Criteria 10.3	C	RJT	2/24/2015	Design Plans G80622.002 G80622.011											
23	2.4.3	All crossings shall be provided with Dual Tone Multi-Frequency (DTMF) Remote Activation	Design Criteria 10.6.7	C	RJT	2/24/2015	Design Plans G80622.017											
24	2.4.3	After a field adjustable time interval, the DTMF system will return the crossing to normal operation if activated by code but not de-activated.	Design Criteria 10.6.7	C	RJT	2/20/2015	TSP T30041 Note 2											
25	2.4.3	Cables passing underneath the track structure or roadway shall be installed in a conduits as defined in the Design Criteria	Design Criteria 10.1	C	RJT	2/20/2015	TSP T30110 Note 1											
26	2.4.4	Intrusion alarms and a means to secure the house from intrusion (such as a lockable door) shall be provided in all new crossing houses and alarms shall be recorded on the local event recorder.	Design Criteria 8.6.7	C	RJT	2/20/2015	Design Plans G80622.018 TSP T30105 Note 2											
27	2.4.4	A power-off indicator light shall be mounted on each side of the instrument housing. The lights shall be visible to train crews approaching the crossing from either direction.	Design Criteria 8.6.7	C	RJT	2/20/2015	Design Plans G80622.003 TSP T30105 Note 2											

28	2.4.4	The crossing houses shall be installed a minimum of 30 feet from the crossing surface and 25 feet from the centerline of the nearest track.	Design Criteria 8.6.7	C	RJT	2/20/2015	Design Plans T30.0408B								
29	2.4.4	The electrical panel shall consist of at least one Ground Fault Circuit Interrupter (GFCI) breaker. This GFCI breaker shall be used for all lighting and convenience outlets.	Design Criteria 8.6.2	C	RJT	2/20/2015	Design Plans G80622.003								
<b>LEGEND</b>				<b>DESIGN VERIFICATION</b>				<b>CONSTRUCTION VERIFICATION</b>				<b>FINAL VERIFICATION</b>			
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection		Name and Organization: _____ Date: _____				Name and Organization: _____ Date: _____				Name and Organization: _____ Date: _____			
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance				Approved by: _____ Date: _____				Approved by: _____ Date: _____				Approved by: _____ Date: _____			

DRAFT

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists	Design Verification	Construction Verification	Final Verification
<b>Certifiable Element:</b> 2.0 Signals  <b>Sub-Element:</b> 2.4 Grade Crossings Warning Systems <b>Location:</b> E. Vine St. MP A807.23  <b>Contract No.:</b>	<b>Notes or Restrictions:</b> 1. To be verified in construction 2. To be verified with Product Submittal	<b>Notes or Restrictions:</b>	<b>Notes or Restrictions:</b>

Item No.	Certifiable Item Description			Design Verification				Construction/Installation				Verification			
	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	2.4.1	A fiberglass arm as specified in AREMA Section 3 with 4 in LED flashing lights. The reflectorized arms shall be in accordance with AREMA 15.2.20. The gate arm LED's shall be in accordance with AREMA 3.2.40.	Design Criteria 10.2 AREMA C&S 15.2.20 3.2.40	C	RJT	2/13/2015	TSP T30025 Note 2								
2	2.4.1	Pole mounted 12 inch LED flashing light units in accordance with AREMA 3.2.35.	Design Criteria 10.2 AREMA C&S 3.2.35	C	RJT	2/13/2015	TSP T30010 Note 2								
3	2.4.1	A Railroad crossbuck sign in accordance with AREMA 3.2.70 and as shown in the current version of the MUTCD signs as R-15-1	Design Criteria 10.2 AREMA C&S 3.2.70 MUTCD R-15-1	C	RJT	2/13/2015	TSP T30025 Note 2								
4	2.4.1	Multiple Track Signs (when required) in accordance AREMA 3.2.76 as shown in the current version of the MUTCD as sign R-15-2	Design Criteria 10.2 AREMA C&S 3.2.76 MUTCD R-15-2	C	RJT	2/13/2015	TSP T30025 Note 2								
5	2.4.1	A complete cantilever assembly with flashing units provided for each traveled lane and back lights where shown on crossing layout drawings.	Design Criteria 10.2	C	RJT	2/24/2015	Design Plans G80723.002								
6	2.4.1	All flashers (Gate and pole mounted) shall be based upon LED technology and in accordance with the current AREMA guidelines. Pole and Cantilever flashers shall be 12 inch LED's while the gate arms shall receive 4 inch LED's.	Design Criteria 10.2	C	RJT	2/13/2015	TSP T30010 Note 1 Note 2								
7	2.4.1	All crossings with defined sidewalks shall be equipped with either a standalone pedestrian gate, shall have the sidewalk pass to the roadway side of a main gate assembly or a roadway gate with an auxiliary sidewalk arm	Design Criteria 10.2	C	RJT	2/24/2015	Design Plans G80723.002								
8	2.4.1	Pedestrian gates are required on both sides of a Highway-Rail Grade Crossing where there is a sidewalk on both sides of the rail and the roadway gate does not also cover the sidewalk.	Design Criteria 10.2	C	RJT	2/24/2015	Design Plans G80723.002								
9	2.4.1	Alternating flashing 12 in LED and bell outputs shall energize no more than 1.0 second after control or GP inputs are de-energized.	Design Criteria 10.6.2	C	RJT	2/24/2015	Design Plans G80723.009 Note 2								
10	2.4.1	Gate control output shall de-energize a minimum of 3.0 seconds after control input is de-energized.	Design Criteria 10.6.2	C	RJT	2/24/2015	Design Plans G80723.009 Note 2								
11	2.4.1	In the event of a failure which would impair the system from operating, the highway crossing warning device properly in response to control and GP input signals, the controller shall have a fallback mode which shall assure the following minimum operating capabilities when the control input signal is de-energized: • Flashing LED power is applied at 12 V to at least one of each lamp pair • Gate control output is de-energized • Bell control output is energized at 11 V DC	Design Criteria 10.6.6	C	RJT	2/24/2015	Design Plans G80723.009 Note 2								

12	2.4.1	Lights shall operate at all times when the gate is in position to obstruct highway traffic.	Design Criteria 10.7.2	C	RJT	2/24/2015	Design Plans G80723.013											
13	2.4.1	Gate arms shall start in downward motion not less than 3 seconds or greater than 5 seconds after the flashing lights start to operate.	Design Criteria 10.7.2	C	RJT	2/24/2015	Design Plans G80723.013											
14	2.4.1	Circuits shall be so arranged that a failure of the gate mechanism to operate as intended shall not prevent the lights on the gate arm and signal from operating on the approach of a train.	Design Criteria 10.7.2	C	RJT	2/24/2015	Design Plans G80723.010 G80723.011 G80723.012 G80723.013											
15	2.4.1	Gates shall not be located more than 15 ft. from center line of track.	Design Criteria 10.7.2	C	RJT	2/24/2015	Design Plans G80723.002											
16	2.4.1	Cantilevers shall not be more than 20 ft. from center line of track.	Design Criteria 10.7.3	C	RJT	2/24/2015	Design Plans G80723.002											
17	2.4.1	The system power supply shall be designed in accordance with FRA 234 and provide eight hours of standby back-up battery.	Design Criteria 10.10	C	RJT	2/24/2015	Design Plans G80723.003											
18	2.4.1	Relays shall have indexing pins to prevent insertion of an improper relay in relay	Design Criteria 11.2	C	RJT	2/20/2015	TSP T30100 Note 2											
19	2.4.2	Constant Warning devices shall be used at all crossings.	Design Criteria 10.4	C	RJT	2/24/2015	Design Plans G80723.004 Note 1											
20	2.4.2	Highway Crossing Warning start circuits shall provide initiation of the warning equipment from both sides of the crossing and shall also include separate island circuits.	Design Criteria 10.3	C	RJT	2/24/2015	Design Plans G80723.004 Note 2											
21	2.4.2	A minimum of 30 seconds of warning time shall be required prior to the arrival of a train at crossing.	Design Criteria 10.3	C	RJT	2/24/2015	Design Plans G80723.002 G80723.009											
22	2.4.2	Additional start time shall be provided for multiple track crossings with wide travel surfaces, simultaneous or advance pre-emption, or locations where additional time is required.	Design Criteria 10.3	C	RJT	2/24/2015	Design Plans G80723.002 G80723.009											
23	2.4.3	All crossings shall be provided with Dual Tone Multi-Frequency (DTMF) Remote Activation	Design Criteria 10.6.7	C	RJT	2/24/2015	Design Plans G80723.016											
24	2.4.3	After a field adjustable time interval, the DTMF system will return the crossing to normal operation if activated by code but not de-activated.	Design Criteria 10.6.7	N/A			Existing Equipment											
25	2.4.3	Cables passing underneath the track structure or roadway shall be installed in a conduits as defined in the Design Criteria	Design Criteria 10.1	C	RJT	2/20/2015	TSP T30110 Note 2											
26	2.4.4	A power-off indicator light shall be mounted on each side of the instrument housing. The lights shall be visible to train crews approaching the crossing from either direction.	Design Criteria 8.6.7	C	RJT	2/20/2015	Design Plans G80723.003 TSP T30105 Note 2											
<b>LEGEND</b> <b>Means of Verification - Design</b> P = Plan Sheet      S = Specification RFI=RFI              O = Other <b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance			<b>DESIGN VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____			<b>CONSTRUCTION VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____			<b>FINAL VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____									

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists	Design Verification	Construction Verification	Final Verification
<b>Certifiable Element:</b> <u>2.0 Signals</u>  <b>Sub-Element:</b> <u>2.4 Grade Crossings Warning Systems</u> <b>Location:</b> <u>E. Magnolia Ave. MP A807.43</u>  <b>Contract No.:</b> _____	<b>Notes or Restrictions:</b> 1. To be verified in construction 2. To be verified with Product Submittal 3. House to be installed 15' from CL Track - insufficient right of way		

Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Design Verification				Construction/Installation				Verification				
				Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	
1	2.4.1	A fiberglass arm as specified in AREMA Section 3 with 4 in LED flashing lights. The reflectorized arms shall be in accordance with AREMA 15.2.20. The gate arm LED's shall be in accordance with AREMA 3.2.40.	Design Criteria 10.2 AREMA C&S 15.2.20 3.2.40	C	RJT	2/13/2015	TSP T30025 Note 2									
2	2.4.1	Pole mounted 12 inch LED flashing light units in accordance with AREMA 3.2.35.	Design Criteria 10.2 AREMA C&S 3.2.35	C	RJT	2/13/2015	TSP T30010 Note 2									
3	2.4.1	A Railroad crossbuck sign in accordance with AREMA 3.2.70 and as shown in the current version of the MUTCD signs as R-15-1	Design Criteria 10.2 AREMA C&S 3.2.70 MUTCD R-15-1	C	RJT	2/13/2015	TSP T30025 Note 2									
4	2.4.1	Multiple Track Signs (when required) in accordance AREMA 3.2.76 as shown in the current version of the MUTCD as sign R-15-2	Design Criteria 10.2 AREMA C&S 3.2.76 MUTCD R-15-2	C	RJT	2/13/2015	TSP T30025 Note 2									
5	2.4.1	All flashers (Gate and pole mounted) shall be based upon LED technology and in accordance with the current AREMA guidelines. Pole and Cantilever flashers shall be 12 inch LED's while the gate arms shall receive 4 inch LED's.	Design Criteria 10.2	C	RJT	2/13/2015	TSP T30010 Note 1									
6	2.4.1	Alternating flashing 12 in LED and bell outputs shall energize no more than 1.0 second after control or GP inputs are de-energized.	Design Criteria 10.6.2	C	RJT	2/24/2015	TSP T30010 Note 2									
7	2.4.1	Gate control output shall de-energize a minimum of 3.0 seconds after control input is de-energized.	Design Criteria 10.6.2	C	RJT	2/24/2015	Design Plans G80745.009 Note 2									
8	2.4.1	In the event of a failure which would impair the system from operating, the highway crossing warning device properly in response to control and GP input signals, the controller shall have a fallback mode which shall assure the following minimum operating capabilities when the control input signal is de-energized: <ul style="list-style-type: none"> <li>Flashing LED power is applied at 12 V to at least one of each lamp pair</li> <li>Gate control output is de-energized</li> <li>Bell control output is energized at 11 V DC</li> </ul>	Design Criteria 10.6.6	C	RJT	2/24/2015	Design Plans G80745.009 Note 2									
9	2.4.1	Lights shall operate at all times when the gate is in position to obstruct highway traffic.	Design Criteria 10.7.2	C	RJT	2/24/2015	Design Plans G80745.009 Note 1 Note 2									
10	2.4.1	Gate arms shall start in downward motion not less than 3 seconds or greater than 5 seconds after the flashing lights start to operate.	Design Criteria 10.7.2	C	RJT	2/24/2015	Design Plans G80745.009 Note 1 Note 2									
11	2.4.1	Circuits shall be so arranged that a failure of the gate mechanism to operate as intended shall not prevent the lights on the gate arm and signal from operating on the approach of a train.	Design Criteria 10.7.2	C	RJT	2/24/2015	Design Plans G80745.009 Note 1 Note 2									

12	2.4.1	Gates shall not be located more than 15 ft. from center line of track.	Design Criteria 10.7.2	C	RJT	2/24/2015	Design Plans G80745.002											
13	2.4.1	The system power supply shall be designed in accordance with FRA 234 and provide eight hours of standby back-up battery.	Design Criteria 10.10	C	RJT	2/24/2015	Design Plans G80745.003											
14	2.4.1	Relays shall have indexing pins to prevent insertion of an improper relay in relay	Design Criteria 11.2	C	RJT	2/24/2015	TSP T30100 Note 1											
15	2.4.2	Constant Warning devices shall be used at all crossings.	Design Criteria 10.4	C	RJT	2/24/2015	Design Plans G80745.004 Note 2											
16	2.4.2	Highway Crossing Warning start circuits shall provide initiation of the warning equipment from both sides of the crossing and shall also include separate island circuits.	Design Criteria 10.3	C	RJT	2/24/2015	Design Plans G80745.004 Note 2											
17	2.4.2	A minimum of 30 seconds of warning time shall be required prior to the arrival of a train at crossing.	Design Criteria 10.3	C	RJT	2/24/2015	Design Plans G80745.002 G80745.010											
18	2.4.2	Additional start time shall be provided for multiple track crossings with wide travel surfaces, simultaneous or advance pre-emption, or locations where additional time is required.	Design Criteria 10.3	C	RJT	2/24/2015	Design Plans G80745.002 G80745.010											
19	2.4.3	All crossings shall be provided with Dual Tone Multi-Frequency (DTMF) Remote Activation	Design Criteria 10.6.7	C	RJT	2/24/2015	Design Plans G80745.013											
20	2.4.3	After a field adjustable time interval, the DTMF system will return the crossing to normal operation if activated by code but not de-activated.	Design Criteria 10.6.7	C	RJT	2/20/2015	TSP T30041 Note 2											
21	2.4.3	Cables passing underneath the track structure or roadway shall be installed in a conduits as defined in the Design Criteria	Design Criteria 10.1	C	RJT	2/20/2015	TSP T30110 Note 1											
22	2.4.4	Intrusion alarms and a means to secure the house from intrusion (such as a lockable door) shall be provided in all new crossing houses and alarms shall be recorded on the local event recorder.	Design Criteria 8.6.7	C	RJT	2/24/2015	Design Plans G80745.014 TSP T30105 Note 2											
23	2.4.4	A power-off indicator light shall be mounted on each side of the instrument housing. The lights shall be visible to train crews approaching the crossing from either direction.	Design Criteria 8.6.7	C	RJT	2/24/2015	Design Plans G80745.003 TSP T30105 Note 2											
24	2.4.4	The crossing houses shall be installed a minimum of 30 feet from the crossing surface and 25 feet from the centerline of the nearest track.	Design Criteria 8.6.7	P	RJT	2/24/2015	Note 3											
25	2.4.4	The electrical panel shall consist of at least one Ground Fault Circuit Interrupter (GFCI) breaker. This GFCI breaker shall be used for all lighting and convenience outlets.	Design Criteria 8.6.2	C	RJT	2/24/2015	Design Plans G80745.003 Note 2											
<b>LEGEND</b>				<b>DESIGN VERIFICATION</b>				<b>CONSTRUCTION VERIFICATION</b>				<b>FINAL VERIFICATION</b>						
<b>Means of Verification - Design</b>		<b>Means of Verification - Construction</b>		Name and Organization: _____				Name and Organization: _____				Name and Organization: _____						
P = Plan Sheet    S = Specification		M = Measurement		Date: _____				Date: _____				Date: _____						
RFI=RFI    O = Other		T = Test    PS = Product Sheet		Approved by: _____				Approved by: _____				Approved by: _____						
<b>Status</b>				Date: _____				Date: _____				Date: _____						
C = Compliance																		
N = Noncompliance																		
P = Partial Compliance																		



# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists	Design Verification	Construction Verification	Final Verification
<b>Certifiable Element:</b> 2.0 Signals  <b>Sub-Element:</b> 2.4 Grade Crossings Warning Systems <b>Location:</b> E. Oak St. MP A807.49  <b>Contract No.:</b>	<b>Notes or Restrictions:</b> 1. To be verified in construction 2. To be verified with Product Submittal 3. House to be installed 15' from CL Track - insufficient right of way		

Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Design Verification				Construction/Installation				Verification					
				Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification		
1	2.4.1	A fiberglass arm as specified in AREMA Section 3 with 4 in LED flashing lights. The reflectorized arms shall be in accordance with AREMA 15.2.20. The gate arm LED's shall be in accordance with AREMA 3.2.40.	Design Criteria 10.2 AREMA C&S 15.2.20 3.2.40	C	RJT	2/13/2015	TSP T30025 Note 2										
2	2.4.1	Pole mounted 12 inch LED flashing light units in accordance with AREMA 3.2.35.	Design Criteria 10.2 AREMA C&S 3.2.35	C	RJT	2/13/2015	TSP T30010 Note 2										
3	2.4.1	A Railroad crossbuck sign in accordance with AREMA 3.2.70 and as shown in the current version of the MUTCD signs as R-15-1	Design Criteria 10.2 AREMA C&S 3.2.70 MUTCD R-15-1	C	RJT	2/13/2015	TSP T30025 Note 2										
4	2.4.1	Multiple Track Signs (when required) in accordance AREMA 3.2.76 as shown in the current version of the MUTCD as sign R-15-2	Design Criteria 10.2 AREMA C&S 3.2.76 MUTCD R-15-2	C	RJT	2/13/2015	TSP T30025 Note 2										
5	2.4.1	All flashers (Gate and pole mounted) shall be based upon LED technology and in accordance with the current AREMA guidelines. Pole and Cantilever flashers shall be 12 inch LED's while the gate arms shall receive 4 inch LED's.	Design Criteria 10.2	C	RJT	2/13/2015	TSP T30010 Note 1										
6	2.4.1	All crossings with defined sidewalks shall be equipped with either a standalone pedestrian gate, shall have the sidewalk pass to the roadway side of a main gate assembly or a roadway gate with an auxiliary sidewalk arm	Design Criteria 10.2	C	RJT	2/24/2015	Design Plans G80749.002										
7	2.4.1	Pedestrian gates are required on both sides of a Highway-Rail Grade Crossing where there is a sidewalk on both sides of the rail and the roadway gate does not also cover the sidewalk.	Design Criteria 10.2	C	RJT	2/24/2015	Design Plans G80749.002										
8	2.4.1	Alternating flashing 12 in LED and bell outputs shall energize no more than 1.0 second after control or GP inputs are de-energized.	Design Criteria 10.6.2	C	RJT	2/24/2015	Design Plans G80749.009 Note 2										
9	2.4.1	Gate control output shall de-energize a minimum of 3.0 seconds after control input is de-energized.	Design Criteria 10.6.2	C	RJT	2/24/2015	Design Plans G80749.009 Note 2										
10	2.4.1	In the event of a failure which would impair the system from operating, the highway crossing warning device properly in response to control and GP input signals, the controller shall have a fallback mode which shall assure the following minimum operating capabilities when the control input signal is de-energized: • Flashing LED power is applied at 12 V to at least one of each lamp pair • Gate control output is de-energized • Bell control output is energized at 11 V DC	Design Criteria 10.6.6	C	RJT	2/24/2015	Design Plans G80749.009 Note 2										
11	2.4.1	Lights shall operate at all times when the gate is in position to obstruct highway traffic.	Design Criteria 10.7.2	C	RJT	2/24/2015	Design Plans G80749.009 Note 1 Note 2										

12	2.4.1	Gate arms shall start in downward motion not less than 3 seconds or greater than 5 seconds after the flashing lights start to operate.	Design Criteria 10.7.2	C	RJT	2/24/2015	Design Plans G80749.009 Note 1 Note 2											
13	2.4.1	Circuits shall be so arranged that a failure of the gate mechanism to operate as intended shall not prevent the lights on the gate arm and signal from operating on the approach of a train.	Design Criteria 10.7.2	C	RJT	2/24/2015	Design Plans G80749.009 Note 1 Note 2											
14	2.4.1	Gates shall not be located more than 15 ft. from center line of track.	Design Criteria 10.7.2	C	RJT	2/24/2015	Design Plans G80749.002											
15	2.4.1	The system power supply shall be designed in accordance with FRA 234 and provide eight hours of standby back-up battery.	Design Criteria 10.10	C	RJT	2/24/2015	Design Plans G80749.003											
16	2.4.1	Relays shall have indexing pins to prevent insertion of an improper relay in relay	Design Criteria 11.2	C	RJT	2/20/2015	TSP T30100 Note 2											
17	2.4.2	Constant Warning devices shall be used at all crossings.	Design Criteria 10.4	C	RJT	2/24/2015	Design Plans G80749.004 Note 2											
18	2.4.2	Highway Crossing Warning start circuits shall provide initiation of the warning equipment from both sides of the crossing and shall also include separate island circuits.	Design Criteria 10.3	C	RJT	2/24/2015	Design Plans G80749.004 Note 2											
19	2.4.2	A minimum of 30 seconds of warning time shall be required prior to the arrival of a train at crossing.	Design Criteria 10.3	C	RJT	2/24/2015	Design Plans G80749.002 G80749.010											
20	2.4.2	Additional start time shall be provided for multiple track crossings with wide travel surfaces, simultaneous or advance pre-emption, or locations where additional time is required.	Design Criteria 10.3	C	RJT	2/24/2015	Design Plans G80749.002 G80749.010											
21	2.4.3	All crossings shall be provided with Dual Tone Multi-Frequency (DTMF) Remote Activation	Design Criteria 10.6.7	C	RJT	2/24/2015	Design Plans G80749.015											
22	2.4.3	After a field adjustable time interval, the DTMF system will return the crossing to normal operation if activated by code but not de-activated.	Design Criteria 10.6.7	C	RJT	2/20/2015	TSP T30041 Note 2											
23	2.4.3	Cables passing underneath the track structure or roadway shall be installed in a conduits as defined in the Design Criteria	Design Criteria 10.1	C	RJT	2/24/2015	TSP T30110 Note 2											
24	2.4.4	Intrusion alarms and a means to secure the house from intrusion (such as a lockable door) shall be provided in all new crossing houses and alarms shall be recorded on the local event recorder.	Design Criteria 8.6.7	C	RJT	2/24/2015	Design Plans G80749.016 TSP T30105 Note 2											
25	2.4.4	A power-off indicator light shall be mounted on each side of the instrument housing. The lights shall be visible to train crews approaching the crossing from either direction.	Design Criteria 8.6.7	C	RJT	2/24/2015	Design Plans G80749.003 TSP T30105 Note 2											
26	2.4.4	The crossing houses shall be installed a minimum of 30 feet from the crossing surface and 25 feet from the centerline of the nearest track.	Design Criteria 8.6.7	P	RJT	2/24/2015	Note 3											
27	2.4.4	The electrical panel shall consist of at least one Ground Fault Circuit Interrupter (GFCI) breaker. This GFCI breaker shall be used for all lighting and convenience outlets.	Design Criteria 8.6.2	C	RJT	2/24/2015	Design Plans G80749.003											

LEGEND		DESIGN VERIFICATION		CONSTRUCTION VERIFICATION		FINAL VERIFICATION	
<b>Means of Verification - Design</b>		<b>Means of Verification - Construction</b>		Name and Organization:		Name and Organization:	
P = Plan Sheet	S = Specification	M = Measurement		Date:		Date:	
RFI=RFI	O = Other	T = Test	PS = Product Sheet	Approved by:		Approved by:	
<b>Status</b>		V = Visual Inspection		Date:		Date:	
C = Compliance				Approved by:		Approved by:	
N = Noncompliance				Date:		Date:	
P = Partial Compliance				Approved by:		Approved by:	
				Date:		Date:	

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists	Design Verification	Construction Verification	Final Verification
<b>Certifiable Element:</b> <u>2.0 Signals</u>  <b>Sub-Element:</b> <u>2.4 Grade Crossings Warning Systems</u> <b>Location:</b> <u>E. Park St. MP A807.70</u>  <b>Contract No.:</b> _____	<b>Notes or Restrictions:</b> 1. To be verified in construction 2. To be verified with Product Submittal 3. House to be installed 15' from CL Track - insufficient right of way 4. No defined sidewalks on both sides of crossing		

Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Design Verification				Construction/Installation				Verification				
				Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	
1	2.4.1	A fiberglass arm as specified in AREMA Section 3 with 4 in LED flashing lights. The reflectorized arms shall be in accordance with AREMA 15.2.20. The gate arm LED's shall be in accordance with AREMA 3.2.40.	Design Criteria 10.2 AREMA C&S 15.2.20 3.2.40	C	RJT	2/13/2015	TSP T30025 Note 2									
2	2.4.1	Pole mounted 12 inch LED flashing light units in accordance with AREMA 3.2.35.	Design Criteria 10.2 AREMA C&S 3.2.35	C	RJT	2/13/2015	TSP T30010 Note 2									
3	2.4.1	A Railroad crossbuck sign in accordance with AREMA 3.2.70 and as shown in the current version of the MUTCD signs as R-15-1	Design Criteria 10.2 AREMA C&S 3.2.70 MUTCD R-15-1	C	RJT	2/13/2015	TSP T30025 Note 2									
4	2.4.1	Multiple Track Signs (when required) in accordance AREMA 3.2.76 as shown in the current version of the MUTCD as sign R-15-2	Design Criteria 10.2 AREMA C&S 3.2.76 MUTCD R-15-2	C	RJT	2/13/2015	TSP T30025 Note 2									
5	2.4.1	All flashers (Gate and pole mounted) shall be based upon LED technology and in accordance with the current AREMA guidelines. Pole and Cantilever flashers shall be 12 inch LED's while the gate arms shall receive 4 inch LED's.	Design Criteria 10.2	C	RJT	2/13/2015	TSP T30010 Note 1									
6	2.4.1	All crossings with defined sidewalks shall be equipped with either a standalone pedestrian gate, shall have the sidewalk pass to the roadway side of a main gate assembly or a roadway gate with an auxiliary sidewalk arm	Design Criteria 10.2	N/A	RJT	2/24/2015	Note 4									
7	2.4.1	Pedestrian gates are required on both sides of a Highway-Rail Grade Crossing where there is a sidewalk on both sides of the rail and the roadway gate does not also cover the sidewalk.	Design Criteria 10.2	N/A	RJT	2/24/2015	Note 4									
8	2.4.1	Alternating flashing 12 in LED and bell outputs shall energize no more than 1.0 second after control or GP inputs are de-energized.	Design Criteria 10.6.2	C	RJT	2/24/2015	Design Plans G80770.009 Note 2									
9	2.4.1	Gate control output shall de-energize a minimum of 3.0 seconds after control input is de-energized.	Design Criteria 10.6.2	C	RJT	2/24/2015	Design Plans G80770.009 Note 2									
10	2.4.1	In the event of a failure which would impair the system from operating, the highway crossing warning device properly in response to control and GP input signals, the controller shall have a fallback mode which shall assure the following minimum operating capabilities when the control input signal is de-energized: • Flashing LED power is applied at 12 V to at least one of each lamp pair • Gate control output is de-energized • Bell control output is energized at 11 V DC	Design Criteria 10.6.6	C	RJT	2/24/2015	Design Plans G80770.009 Note 2									
11	2.4.1	Lights shall operate at all times when the gate is in position to obstruct highway traffic.	Design Criteria 10.7.2	C	RJT	2/24/2015	Design Plans G80770.009 Note 1 Note 2									

12	2.4.1	Gate arms shall start in downward motion not less than 3 seconds or greater than 5 seconds after the flashing lights start to operate.	Design Criteria 10.7.2	C	RJT	2/24/2015	Design Plans G80770.009 Note 1 Note 2											
13	2.4.1	Circuits shall be so arranged that a failure of the gate mechanism to operate as intended shall not prevent the lights on the gate arm and signal from operating on the approach of a train.	Design Criteria 10.7.2	C	RJT	2/24/2015	Design Plans G80770.009 Note 1 Note 2											
14	2.4.1	Gates shall not be located more than 15 ft. from center line of track.	Design Criteria 10.7.2	C	RJT	2/24/2015	Design Plans G80770.002											
15	2.4.1	The system power supply shall be designed in accordance with FRA 234 and provide eight hours of standby back-up battery.	Design Criteria 10.10	C	RJT	2/24/2015	Design Plans G80770.003											
16	2.4.1	Relays shall have indexing pins to prevent insertion of an improper relay in relay	Design Criteria 11.2	C	RJT	2/20/2015	TSP T30100 Note 1											
17	2.4.2	Constant Warning devices shall be used at all crossings.	Design Criteria 10.4	C	RJT	2/24/2015	Design Plans G80770.004 Note 2											
18	2.4.2	Highway Crossing Warning start circuits shall provide initiation of the warning equipment from both sides of the crossing and shall also include separate island circuits.	Design Criteria 10.3	C	RJT	2/24/2015	Design Plans G80770.004 Note 2											
19	2.4.2	A minimum of 30 seconds of warning time shall be required prior to the arrival of a train at crossing.	Design Criteria 10.3	C	RJT	2/24/2015	Design Plans G80770.002 G80770.010											
20	2.4.2	Additional start time shall be provided for multiple track crossings with wide travel surfaces, simultaneous or advance pre-emption, or locations where additional time is required.	Design Criteria 10.3	C	RJT	2/24/2015	Design Plans G80770.002 G80770.010											
21	2.4.3	All crossings shall be provided with Dual Tone Multi-Frequency (DTMF) Remote Activation	Design Criteria 10.6.7	C	RJT	2/24/2015	Design Plans G80770.013											
22	2.4.3	After a field adjustable time interval, the DTMF system will return the crossing to normal operation if activated by code but not de-activated.	Design Criteria 10.6.7	C	RJT	2/20/2015	TSP T30041 Note 2											
23	2.4.3	Cables passing underneath the track structure or roadway shall be installed in a conduits as defined in the Design Criteria	Design Criteria 10.1	C	RJT	2/20/2015	TSP T30110 Note 1											
24	2.4.4	Intrusion alarms and a means to secure the house from intrusion (such as a lockable door) shall be provided in all new crossing houses and alarms shall be recorded on the local event recorder.	Design Criteria 8.6.7	C	RJT	2/24/2015	Design Plans G80770.014 TSP T30105 Note 2											
25	2.4.4	A power-off indicator light shall be mounted on each side of the instrument housing. The lights shall be visible to train crews approaching the crossing from either direction.	Design Criteria 8.6.7	C	RJT	2/24/2015	Design Plans G80770.003 TSP T30105 Note 2											
26	2.4.4	The crossing houses shall be installed a minimum of 30 feet from the crossing surface and 25 feet from the centerline of the nearest track.	Design Criteria 8.6.7	P	RJT	2/24/2015	Note 3											
27	2.4.4	The electrical panel shall consist of at least one Ground Fault Circuit Interrupter (GFCI) breaker. This GFCI breaker shall be used for all lighting and convenience outlets.	Design Criteria 8.6.2	C	RJT	2/24/2015	Design Plans G80770.003 TSP T30105 Note 2											

<b>LEGEND</b>		<b>DESIGN VERIFICATION</b>		<b>CONSTRUCTION VERIFICATION</b>		<b>FINAL VERIFICATION</b>	
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection		Name and Organization: _____ Date: _____		Name and Organization: _____ Date: _____	
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance		Approved by: _____ Date: _____		Approved by: _____ Date: _____		Approved by: _____ Date: _____	

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists	Design Verification	Construction Verification	Final Verification
<b>Certifiable Element:</b> <u>2.0 Signals</u>  <b>Sub-Element:</b> <u>2.4 Grade Crossings Warning Systems</u> <b>Location:</b> <u>Neptune Ave. (E. Drury Ln.) MP A807.94</u>  <b>Contract No.:</b> _____	<b>Notes or Restrictions:</b> 1. To be verified in construction 2. To be verified with Product Submittal 3. 2nd Train Warning control in software - not part of hardware design.	<b>Notes or Restrictions:</b>      	<b>Notes or Restrictions:</b>      

Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	2.4.1	A fiberglass arm as specified in AREMA Section 3 with 4 in LED flashing lights. The reflectorized arms shall be in accordance with AREMA 15.2.20. The gate arm LED's shall be in accordance with AREMA 3.2.40.	Design Criteria 10.2 AREMA C&S 15.2.20 3.2.40	C	RJT	2/13/2015	TSP T30025 Note 2								
2	2.4.1	Pole mounted 12 inch LED flashing light units in accordance with AREMA 3.2.35.	Design Criteria 10.2 AREMA C&S 3.2.35	C	RJT	2/13/2015	TSP T30010 Note 2								
3	2.4.1	A Railroad crossbuck sign in accordance with AREMA 3.2.70 and as shown in the current version of the MUTCD signs as R-15-1	Design Criteria 10.2 AREMA C&S 3.2.70 MUTCD R-15-1	C	RJT	2/13/2015	TSP T30025 Note 2								
4	2.4.1	Multiple Track Signs (when required) in accordance AREMA 3.2.76 as shown in the current version of the MUTCD as sign R-15-2	Design Criteria 10.2 AREMA C&S 3.2.76 MUTCD R-15-2	C	RJT	2/13/2015	TSP T30025 Note 2								
5	2.4.1	A complete cantilever assembly with flashing units provided for each traveled lane and back lights where shown on crossing layout drawings.	Design Criteria 10.2	C	RJT	2/24/2015	Design Plans G80794.002								
6	2.4.1	All flashers (Gate and pole mounted) shall be based upon LED technology and in accordance with the current AREMA guidelines. Pole and Cantilever flashers shall be 12 inch LED's while the gate arms shall receive 4 inch LED's.	Design Criteria 10.2	C	RJT	2/13/2015	TSP T30010 Note 1								
7	2.4.1	All crossings with defined sidewalks shall be equipped with either a standalone pedestrian gate, shall have the sidewalk pass to the roadway side of a main gate assembly or a roadway gate with an auxiliary sidewalk arm	Design Criteria 10.2	C	RJT	2/24/2015	Design Plans G80794.002								
8	2.4.1	Pedestrian gates are required on both sides of a Highway-Rail Grade Crossing where there is a sidewalk on both sides of the rail and the roadway gate does not also cover the sidewalk.	Design Criteria 10.2	C	RJT	2/24/2015	Design Plans G80794.002								
9	2.4.1	Alternating flashing 12 in LED and bell outputs shall energize no more than 1.0 second after control or GP inputs are de-energized.	Design Criteria 10.6.2	C	RJT	2/24/2015	Design Plans G80794.012 G80794.013 Note 2								
10	2.4.1	Gate control output shall de-energize a minimum of 3.0 seconds after control input is de-energized.	Design Criteria 10.6.2	C	RJT	2/24/2015	Design Plans G80794.012 G80794.013 Note 2								

11	2.4.1	In the event of a failure which would impair the system from operating, the highway crossing warning device properly in response to control and GP input signals, the controller shall have a fallback mode which shall assure the following minimum operating capabilities when the control input signal is de-energized: <ul style="list-style-type: none"> <li>• Flashing LED power is applied at 12 V to at least one of each lamp pair</li> <li>• Gate control output is de-energized</li> <li>• Bell control output is energized at 11 V DC</li> </ul>	Design Criteria 10.6.6	C	RJT	2/24/2015	Design Plans G80794.012 G80794.013 Note 2											
12	2.4.1	Lights shall operate at all times when the gate is in position to obstruct highway traffic.	Design Criteria 10.7.2	C	RJT	2/24/2015	Design Plans G80794.012 G80794.013 Note 1 Note 2											
13	2.4.1	Gate arms shall start in downward motion not less than 3 seconds or greater than 5 seconds after the flashing lights start to operate.	Design Criteria 10.7.2	C	RJT	2/24/2015	Design Plans G80794.012 G80794.013 Note 1 Note 2											
14	2.4.1	Circuits shall be so arranged that a failure of the gate mechanism to operate as intended shall not prevent the lights on the gate arm and signal from operating on the approach of a train.	Design Criteria 10.7.2	C	RJT	2/24/2015	Design Plans G80794.012 G80794.013 Note 1 Note 2											
15	2.4.1	Gates shall not be located more than 15 ft. from center line of track.	Design Criteria 10.7.2	C	RJT	2/24/2015	Design Plans G80794.002											
16	2.4.1	Cantilevers shall not be more than 20 ft. from center line of track.	Design Criteria 10.7.3	C	RJT	2/24/2015	Design Plans G80794.002											
17	2.4.1	The system power supply shall be designed in accordance with FRA 234 and provide eight hours of standby back-up battery.	Design Criteria 10.10	C	RJT	2/24/2015	Design Plans G80794.003											
18	2.4.1	Relays shall have indexing pins to prevent insertion of an improper relay in relay	Design Criteria 11.2	C	RJT	2/20/2015	TSP T30100 Note 2											
19	2.4.2	Constant Warning devices shall be used at all crossings.	Design Criteria 10.4	C	RJT	2/24/2015	Design Plans G80794.004 G80794.005 Note 2											
20	2.4.2	Highway Crossing Warning start circuits shall provide initiation of the warning equipment from both sides of the crossing and shall also include separate island circuits.	Design Criteria 10.3	C	RJT	2/24/2015	Design Plans G80794.004 G80794.005 Note 2											
21	2.4.2	A minimum of 30 seconds of warning time shall be required prior to the arrival of a train at crossing.	Design Criteria 10.3	C	RJT	2/24/2015	Design Plans G80794.002 G80794.014 G80794.015											
22	2.4.2	Additional start time shall be provided for multiple track crossings with wide travel surfaces, simultaneous or advance pre-emption, or locations where additional time is required.	Design Criteria 10.3	C	RJT	2/24/2015	Design Plans G80794.002 G80794.014 G80794.015											
23	2.4.3	All crossings shall be provided with Dual Tone Multi-Frequency (DTMF) Remote Activation	Design Criteria 10.6.7	C	RJT	2/24/2015	Design Plans G80794.022											
24	2.4.3	After a field adjustable time interval, the DTMF system will return the crossing to normal operation if activated by code but not de-activated.	Design Criteria 10.6.7	C	RJT	2/20/2015	TSP T30041 Note 2											
25	2.4.3	Cables passing underneath the track structure or roadway shall be installed in a conduits as defined in the Design Criteria	Design Criteria 10.1	C	RJT	2/20/2015	TSP T30110 Note 1											
26	2.4.3	Second Train warning signs shall be installed at each highway-rail grade crossing directly adjacent to the station platforms.	Design Criteria 10.7.6	C	RJT	2/24/2015	Design Plans G80794.002 G80794.021											

27	2.4.3	Second Train warning sign shall be activated when one train is in the station with the active warning system activated and a second train is approaching and shall continue while both trains are within the station.	Design Criteria 8.6.2	N/A			Note 3										
28	2.4.4	Intrusion alarms and a means to secure the house from intrusion (such as a lockable door) shall be provided in all new crossing houses and alarms shall be recorded on the local event recorder.	Design Criteria 8.6.7	C	RJT	2/24/2015	Design Plans G80794.023 Note 2										
29	2.4.4	A power-off indicator light shall be mounted on each side of the instrument housing. The lights shall be visible to train crews approaching the crossing from either direction.	Design Criteria 8.6.7	C	RJT	2/24/2015	Design Plans G80794.003 Note 2										
30	2.4.4	The crossing houses shall be installed a minimum of 30 feet from the crossing surface and 25 feet from the centerline of the nearest track.	Design Criteria 8.6.7	C	RJT	2/24/2015	Design Plans G80794.002 T30.0414B										
31	2.4.4	The electrical panel shall consist of at least one Ground Fault Circuit Interrupter (GFCI) breaker. This GFCI breaker shall be used for all lighting and convenience outlets.	Design Criteria 8.6.2	C	RJT	2/24/2015	Design Plans G80794.003 Note 2										
<b>LEGEND</b>			<b>DESIGN VERIFICATION</b>				<b>CONSTRUCTION VERIFICATION</b>				<b>FINAL VERIFICATION</b>						
<b>Means of Verification - Design</b>		<b>Means of Verification - Construction</b>		<b>Name and Organization:</b>				<b>Name and Organization:</b>				<b>Name and Organization:</b>					
P = Plan Sheet S = Specification RFI=RFI O = Other		M = Measurement T = Test PS = Product Sheet V = Visual Inspection		Date:				Date:				Date:					
<b>Status</b>				<b>Approved by:</b>				<b>Approved by:</b>				<b>Approved by:</b>					
C = Compliance N = Noncompliance P = Partial Compliance				Date:				Date:				Date:					

DRAFT

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists	Design Verification	Construction Verification	Final Verification
<b>Certifiable Element:</b> 2.0 Signals  <b>Sub-Element:</b> 2.4 Grade Crossings Warning Systems <b>Location:</b> Dakin Ave. MP A808.07  <b>Contract No.:</b>	<b>Notes or Restrictions:</b> 1. To be verified in construction 2. To be verified with Product Submittal	<b>Notes or Restrictions:</b>	<b>Notes or Restrictions:</b>

Item No.	Certifiable Item Description			Design Verification				Construction/Installation				Verification			
	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	2.4.1	A fiberglass arm as specified in AREMA Section 3 with 4 in LED flashing lights. The reflectorized arms shall be in accordance with AREMA 15.2.20. The gate arm LED's shall be in accordance with AREMA 3.2.40.	Design Criteria 10.2 AREMA C&S 15.2.20 3.2.40	C	RJT	2/13/2015	TSP T30025 Note 2								
2	2.4.1	Pole mounted 12 inch LED flashing light units in accordance with AREMA 3.2.35.	Design Criteria 10.2 AREMA C&S 3.2.35	C	RJT	2/13/2015	TSP T30010 Note 2								
3	2.4.1	A Railroad crossbuck sign in accordance with AREMA 3.2.70 and as shown in the current version of the MUTCD signs as R-15-1	Design Criteria 10.2 AREMA C&S 3.2.70 MUTCD R-15-1	C	RJT	2/13/2015	TSP T30025 Note 2								
4	2.4.1	Multiple Track Signs (when required) in accordance AREMA 3.2.76 as shown in the current version of the MUTCD as sign R-15-2	Design Criteria 10.2 AREMA C&S 3.2.76 MUTCD R-15-2	C	RJT	2/13/2015	TSP T30025 Note 2								
5	2.4.1	A complete cantilever assembly with flashing units provided for each traveled lane and back lights where shown on crossing layout drawings.	Design Criteria 10.2	C	RJT	2/24/2015	Design Plans G80807.002								
6	2.4.1	All flashers (Gate and pole mounted) shall be based upon LED technology and in accordance with the current AREMA guidelines. Pole and Cantilever flashers shall be 12 inch LED's while the gate arms shall receive 4 inch LED's.	Design Criteria 10.2	C	RJT	2/13/2015	TSP T30010 Note 1								
7	2.4.1	All crossings with defined sidewalks shall be equipped with either a standalone pedestrian gate, shall have the sidewalk pass to the roadway side of a main gate assembly or a roadway gate with an auxiliary sidewalk arm	Design Criteria 10.2	C	RJT	2/24/2015	Design Plans G80807.002								
8	2.4.1	Pedestrian gates are required on both sides of a Highway-Rail Grade Crossing where there is a sidewalk on both sides of the rail and the roadway gate does not also cover the sidewalk.	Design Criteria 10.2	C	RJT	2/24/2015	Design Plans G80807.002								
9	2.4.1	Alternating flashing 12 in LED and bell outputs shall energize no more than 1.0 second after control or GP inputs are de-energized.	Design Criteria 10.6.2	C	RJT	2/24/2015	Design Plans G80807.009 Note 2								
10	2.4.1	Gate control output shall de-energize a minimum of 3.0 seconds after control input is de-energized.	Design Criteria 10.6.2	C	RJT	2/24/2015	Design Plans G80807.009 Note 2								
11	2.4.1	In the event of a failure which would impair the system from operating, the highway crossing warning device properly in response to control and GP input signals, the controller shall have a fallback mode which shall assure the following minimum operating capabilities when the control input signal is de-energized: • Flashing LED power is applied at 12 V to at least one of each lamp pair • Gate control output is de-energized • Bell control output is energized at 11 V DC	Design Criteria 10.6.6	C	RJT	2/24/2015	Design Plans G80807.009 Note 2								



12	2.4.1	Lights shall operate at all times when the gate is in position to obstruct highway traffic.	Design Criteria 10.7.2	C	RJT	2/24/2015	Design Plans G80807.009 Note 1 Note 2											
13	2.4.1	Gate arms shall start in downward motion not less than 3 seconds or greater than 5 seconds after the flashing lights start to operate.	Design Criteria 10.7.2	C	RJT	2/24/2015	Design Plans G80807.009 Note 1 Note 2											
14	2.4.1	Circuits shall be so arranged that a failure of the gate mechanism to operate as intended shall not prevent the lights on the gate arm and signal from operating on the approach of a train.	Design Criteria 10.7.2	C	RJT	2/24/2015	Design Plans G80807.009 Note 1 Note 2											
15	2.4.1	Gates shall not be located more than 15 ft. from center line of track.	Design Criteria 10.7.2	C	RJT	2/24/2015	Design Plans G80807.002											
16	2.4.1	Cantilevers shall not be more than 20 ft. from center line of track.	Design Criteria 10.7.3	C	RJT	2/24/2015	Design Plans G80807.002											
17	2.4.1	The system power supply shall be designed in accordance with FRA 234 and provide eight hours of standby back-up battery.	Design Criteria 10.10	C	RJT	2/24/2015	Design Plans G80807.003											
18	2.4.1	Relays shall have indexing pins to prevent insertion of an improper relay in relay plugboards.	Design Criteria 11.2	C	RJT	2/20/2015	TSP T30100 Note 2											
19	2.4.2	Constant Warning devices shall be used at all crossings.	Design Criteria 10.4	C	RJT	2/24/2015	Design Plans G80807.004 Note 2											
20	2.4.2	Highway Crossing Warning start circuits shall provide initiation of the warning equipment from both sides of the crossing and shall also include separate island circuits.	Design Criteria 10.3	C	RJT	2/24/2015	Design Plans G80807.004 Note 2											
21	2.4.2	A minimum of 30 seconds of warning time shall be required prior to the arrival of a train at crossing.	Design Criteria 10.3	C	RJT	2/24/2015	Design Plans G80807.002 G80807.011											
22	2.4.2	Additional start time shall be provided for multiple track crossings with wide travel surfaces, simultaneous or advance pre-emption, or locations where additional time is required.	Design Criteria 10.3	C	RJT	2/24/2015	Design Plans G80807.002 G80807.011											
23	2.4.3	All crossings shall be provided with Dual Tone Multi-Frequency (DTMF) Remote Activation	Design Criteria 10.6.7	C	RJT	2/24/2015	Design Plans G80807.017											
24	2.4.3	After a field adjustable time interval, the DTMF system will return the crossing to normal operation if activated by code but not de-activated.	Design Criteria 10.6.7	C	RJT	2/20/2015	TSP T30041 Note 2											
25	2.4.3	Cables passing underneath the track structure or roadway shall be installed in a conduits as defined in the Design Criteria	Design Criteria 10.1	C	RJT	2/20/2015	TSP T30110 Note 1											
26	2.4.4	Intrusion alarms and a means to secure the house from intrusion (such as a lockable door) shall be provided in all new crossing houses and alarms shall be recorded on the local event recorder.	Design Criteria 8.6.7	C	RJT	2/24/2015	Design Plans G80807.018 TSP T30105 Note 2											
27	2.4.4	A power-off indicator light shall be mounted on each side of the instrument housing. The lights shall be visible to train crews approaching the crossing from either direction.	Design Criteria 8.6.7	C	RJT	2/24/2015	Design Plans G80807.003 TSP T30105 Note 2											

28	2.4.4	The crossing houses shall be installed a minimum of 30 feet from the crossing surface and 25 feet from the centerline of the nearest track.	Design Criteria 8.6.7	C	RJT	2/24/2015	Design Plans T30.0415B							
29	2.4.4	The electrical panel shall consist of at least one Ground Fault Circuit Interrupter (GFCI) breaker. This GFCI breaker shall be used for all lighting and convenience outlets.	Design Criteria 8.6.2	C	RJT	2/24/2015	Design Plans G80807.003 TSP T30105 Note 2							
<b>LEGEND</b>			<b>DESIGN VERIFICATION</b>				<b>CONSTRUCTION VERIFICATION</b>				<b>FINAL VERIFICATION</b>			
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other			<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection				Name and Organization: _____ Date: _____				Name and Organization: _____ Date: _____			
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance			Approved by: _____ Date: _____				Approved by: _____ Date: _____				Approved by: _____ Date: _____			

DRAFT

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists	Design Verification	Construction Verification	Final Verification
<b>Certifiable Element:</b> 2.0 Signals  <b>Sub-Element:</b> 2.4 Grade Crossings Warning Systems <b>Location:</b> E. Monument St. MP A808.15  <b>Contract No.:</b>	<b>Notes or Restrictions:</b> 1. To be verified in construction 2. To be verified with Product Submittal	<b>Notes or Restrictions:</b>	<b>Notes or Restrictions:</b>

Item No.	Certifiable Item Description			Design Verification				Construction/Installation				Verification			
	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	2.4.1	A fiberglass arm as specified in AREMA Section 3 with 4 in LED flashing lights. The reflectorized arms shall be in accordance with AREMA 15.2.20. The gate arm LED's shall be in accordance with AREMA 3.2.40.	Design Criteria 10.2 AREMA C&S 15.2.20 3.2.40	C	RJT	2/13/2015	TSP T30025 Note 2								
2	2.4.1	Pole mounted 12 inch LED flashing light units in accordance with AREMA 3.2.35.	Design Criteria 10.2 AREMA C&S 3.2.35	C	RJT	2/13/2015	TSP T30010 Note 2								
3	2.4.1	A Railroad crossbuck sign in accordance with AREMA 3.2.70 and as shown in the current version of the MUTCD signs as R-15-1	Design Criteria 10.2 AREMA C&S 3.2.70 MUTCD R-15-1	C	RJT	2/13/2015	TSP T30025 Note 2								
4	2.4.1	Multiple Track Signs (when required) in accordance AREMA 3.2.76 as shown in the current version of the MUTCD as sign R-15-2	Design Criteria 10.2 AREMA C&S 3.2.76 MUTCD R-15-2	C	RJT	2/13/2015	TSP T30025 Note 2								
5	2.4.1	A complete cantilever assembly with flashing units provided for each traveled lane and back lights where shown on crossing layout drawings.	Design Criteria 10.2	C	RJT	2/24/2015	Design Plans G80815.002								
6	2.4.1	All flashers (Gate and pole mounted) shall be based upon LED technology and in accordance with the current AREMA guidelines. Pole and Cantilever flashers shall be 12 inch LED's while the gate arms shall receive 4 inch LED's.	Design Criteria 10.2	C	RJT	2/13/2015	TSP T30010 Note 1								
7	2.4.1	All crossings with defined sidewalks shall be equipped with either a standalone pedestrian gate, shall have the sidewalk pass to the roadway side of a main gate assembly or a roadway gate with an auxiliary sidewalk arm	Design Criteria 10.2	C	RJT	2/24/2015	Design Plans G80815.002								
8	2.4.1	Pedestrian gates are required on both sides of a Highway-Rail Grade Crossing where there is a sidewalk on both sides of the rail and the roadway gate does not also cover the sidewalk.	Design Criteria 10.2	C	RJT	2/25/2015	Design Plans G80815.002								
9	2.4.1	Alternating flashing 12 in LED and bell outputs shall energize no more than 1.0 second after control or GP inputs are de-energized.	Design Criteria 10.6.2	C	RJT	2/25/2015	Design Plans G80815.009 G80815.010 Note 2								
10	2.4.1	Gate control output shall de-energize a minimum of 3.0 seconds after control input is de-energized.	Design Criteria 10.6.2	C	RJT	2/25/2015	Design Plans G80815.009 G80815.010 Note 2								

11	2.4.1	In the event of a failure which would impair the system from operating, the highway crossing warning device properly in response to control and GP input signals, the controller shall have a fallback mode which shall assure the following minimum operating capabilities when the control input signal is de-energized: <ul style="list-style-type: none"> <li>• Flashing LED power is applied at 12 V to at least one of each lamp pair</li> <li>• Gate control output is de-energized</li> <li>• Bell control output is energized at 11 V DC</li> </ul>	Design Criteria 10.6.6	C	RJT	2/25/2015	Design Plans G80815.009 G80815.010 Note 2											
12	2.4.1	Lights shall operate at all times when the gate is in position to obstruct highway traffic.	Design Criteria 10.7.2	C	RJT	2/25/2015	Design Plans G80815.009 G80815.010 Note 1 Note 2											
13	2.4.1	Gate arms shall start in downward motion not less than 3 seconds or greater than 5 seconds after the flashing lights start to operate.	Design Criteria 10.7.2	C	RJT	2/25/2015	Design Plans G80815.009 G80815.010 Note 1 Note 2											
14	2.4.1	Circuits shall be so arranged that a failure of the gate mechanism to operate as intended shall not prevent the lights on the gate arm and signal from operating on the approach of a train.	Design Criteria 10.7.2	C	RJT	2/25/2015	Design Plans G80815.009 G80815.010 Note 1 Note 2											
15	2.4.1	Gates shall not be located more than 15 ft. from center line of track.	Design Criteria 10.7.2	C	RJT	2/25/2015	Design Plans G80815.002											
16	2.4.1	Cantilevers shall not be more than 20 ft. from center line of track.	Design Criteria 10.7.3	C	RJT	2/25/2015	Design Plans G80815.002											
17	2.4.1	The system power supply shall be designed in accordance with FRA 234 and provide eight hours of standby back-up battery.	Design Criteria 10.10	C	RJT	2/25/2015	Design Plans G80815.003											
18	2.4.1	Relays shall have indexing pins to prevent insertion of an improper relay in relay	Design Criteria 11.2	C	RJT	2/20/2015	TSP T30100 Note 2											
19	2.4.2	Constant Warning devices shall be used at all crossings.	Design Criteria 10.4	C	RJT	2/25/2015	Design Plans G80815.004 Note 2											
20	2.4.2	Highway Crossing Warning start circuits shall provide initiation of the warning equipment from both sides of the crossing and shall also include separate island circuits.	Design Criteria 10.3	C	RJT	2/25/2015	Design Plans G80815.004 Note 2											
21	2.4.2	A minimum of 30 seconds of warning time shall be required prior to the arrival of a train at crossing.	Design Criteria 10.3	C	RJT	2/25/2015	Design Plans G80815.002 G80815.011											
22	2.4.2	Additional start time shall be provided for multiple track crossings with wide travel surfaces, simultaneous or advance pre-emption, or locations where additional time is required.	Design Criteria 10.3	C	RJT	2/25/2015	Design Plans G80815.002 G80815.011											
23	2.4.3	All crossings shall be provided with Dual Tone Multi-Frequency (DTMF) Remote Activation	Design Criteria 10.6.7	C	RJT	2/25/2015	Design Plans G80815.016											
24	2.4.3	After a field adjustable time interval, the DTMF system will return the crossing to normal operation if activated by code but not de-activated.	Design Criteria 10.6.7	C	RJT	2/20/2015	TSP T30041 Note 2											
25	2.4.3	Cables passing underneath the track structure or roadway shall be installed in a conduits as defined in the Design Criteria	Design Criteria 10.1	C	RJT	2/20/2015	TSP T30110 Note 2											
26	2.4.4	Intrusion alarms and a means to secure the house from intrusion (such as a lockable door) shall be provided in all new crossing houses and alarms shall be recorded on the local event recorder.	Design Criteria 8.6.7	C	RJT	2/25/2015	Design Plans G80815.017 Note 2											

27	2.4.4	A power-off indicator light shall be mounted on each side of the instrument housing. The lights shall be visible to train crews approaching the crossing from either direction.	Design Criteria 8.6.7	C	RJT	2/25/2015	Design Plans G80815.003 Note 2									
28	2.4.4	The crossing houses shall be installed a minimum of 30 feet from the crossing surface and 25 feet from the centerline of the nearest track.	Design Criteria 8.6.7	C	RJT	2/24/2015	Design Plans T30.0416B									
29	2.4.4	The electrical panel shall consist of at least one Ground Fault Circuit Interrupter (GFCI) breaker. This GFCI breaker shall be used for all lighting and convenience outlets.	Design Criteria 8.6.2	C	RJT	2/24/2015	Design Plans G80815.003 TSP T30105 Note 2									
<b>LEGEND</b>			<b>DESIGN VERIFICATION</b>				<b>CONSTRUCTION VERIFICATION</b>				<b>FINAL VERIFICATION</b>					
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection		Name and Organization: _____ Date: _____				Name and Organization: _____ Date: _____				Name and Organization: _____ Date: _____				
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance				Approved by: _____ Date: _____				Approved by: _____ Date: _____				Approved by: _____ Date: _____				

DRAFT

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists	Design Verification	Construction Verification	Final Verification
<b>Certifiable Element:</b> 2.0 Signals  <b>Sub-Element:</b> 2.4 Grade Crossings Warning Systems <b>Location:</b> Ruby Ave. MP A808.28  <b>Contract No.:</b>	<b>Notes or Restrictions:</b> 1. To be verified in construction 2. To be verified with Product Submittal	<b>Notes or Restrictions:</b>	<b>Notes or Restrictions:</b>

Item No.	Certifiable Item Description			Design Verification				Construction/Installation				Verification			
	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	2.4.1	A fiberglass arm as specified in AREMA Section 3 with 4 in LED flashing lights. The reflectorized arms shall be in accordance with AREMA 15.2.20. The gate arm LED's shall be in accordance with AREMA 3.2.40.	Design Criteria 10.2 AREMA C&S 15.2.20 3.2.40	C	RJT	2/13/2015	TSP T30025 Note 2								
2	2.4.1	Pole mounted 12 inch LED flashing light units in accordance with AREMA 3.2.35.	Design Criteria 10.2 AREMA C&S 3.2.35	C	RJT	2/13/2015	TSP T30010 Note 2								
3	2.4.1	A Railroad crossbuck sign in accordance with AREMA 3.2.70 and as shown in the current version of the MUTCD signs as R-15-1	Design Criteria 10.2 AREMA C&S 3.2.70 MUTCD R-15-1	C	RJT	2/13/2015	TSP T30025 Note 2								
4	2.4.1	Multiple Track Signs (when required) in accordance AREMA 3.2.76 as shown in the current version of the MUTCD as sign R-15-2	Design Criteria 10.2 AREMA C&S 3.2.76 MUTCD R-15-2	C	RJT	2/13/2015	TSP T30025 Note 2								
5	2.4.1	A complete cantilever assembly with flashing units provided for each traveled lane and back lights where shown on crossing layout drawings.	Design Criteria 10.2	C	RJT	2/25/2015	Design Plans G80829.002								
6	2.4.1	All flashers (Gate and pole mounted) shall be based upon LED technology and in accordance with the current AREMA guidelines. Pole and Cantilever flashers shall be 12 inch LED's while the gate arms shall receive 4 inch LED's.	Design Criteria 10.2	C	RJT	2/13/2015	TSP T30010 Note 1								
7	2.4.1	All crossings with defined sidewalks shall be equipped with either a standalone pedestrian gate, shall have the sidewalk pass to the roadway side of a main gate assembly or a roadway gate with an auxiliary sidewalk arm	Design Criteria 10.2	C	RJT	2/25/2015	Design Plans G80829.002								
8	2.4.1	Pedestrian gates are required on both sides of a Highway-Rail Grade Crossing where there is a sidewalk on both sides of the rail and the roadway gate does not also cover the sidewalk.	Design Criteria 10.2	C	RJT	2/25/2015	Design Plans G80829.002								
9	2.4.1	Alternating flashing 12 in LED and bell outputs shall energize no more than 1.0 second after control or GP inputs are de-energized.	Design Criteria 10.6.2	C	RJT	2/25/2015	Design Plans G80829.012 G80829.013 Note 2								
10	2.4.1	Gate control output shall de-energize a minimum of 3.0 seconds after control input is de-energized.	Design Criteria 10.6.2	C	RJT	2/25/2015	Design Plans G80829.012 G80829.013 Note 2								
11	2.4.1	In the event of a failure which would impair the system from operating, the highway crossing warning device properly in response to control and GP input signals, the controller shall have a fallback mode which shall assure the following minimum operating capabilities when the control input signal is de-energized: • Flashing LED power is applied at 12 V to at least one of each lamp pair • Gate control output is de-energized • Bell control output is energized at 11 V DC	Design Criteria 10.6.6	C	RJT	2/25/2015	Design Plans G80829.012 G80829.013 Note 2								

12	2.4.1	Traffic signal interconnection shall be provided as specified in the Highway-Rail Grade Crossing Improvement Requirements table. Preemption shall not be removed from any crossing.	Design Criteria 10.6.10	C	RJT	2/25/2015	Design Plans G80829.012 G80829.013 Note 1 Note 2												
13	2.4.1	Lights shall operate at all times when the gate is in position to obstruct highway traffic.	Design Criteria 10.7.2	C	RJT	2/25/2015	Design Plans G80829.012 G80829.013 Note 1 Note 2												
14	2.4.1	Gate arms shall start in downward motion not less than 3 seconds or greater than 5 seconds after the flashing lights start to operate.	Design Criteria 10.7.2	C	RJT	2/25/2015	Design Plans G80829.012 G80829.013 Note 1 Note 2												
15	2.4.1	Circuits shall be so arranged that a failure of the gate mechanism to operate as intended shall not prevent the lights on the gate arm and signal from operating on the approach of a train.	Design Criteria 10.7.2	C	RJT	2/25/2015	Design Plans G80829.012 G80829.013 Note 1 Note 2												
16	2.4.1	Gates shall not be located more than 15 ft. from center line of track.	Design Criteria 10.7.2	C	RJT	2/25/2015	Design Plans G80829.002												
17	2.4.1	Cantilevers shall not be more than 20 ft. from center line of track.	Design Criteria 10.7.3	C	RJT	2/25/2015	Design Plans G80829.002												
18	2.4.1	The system power supply shall be designed in accordance with FRA 234 and provide eight hours of standby back-up battery.	Design Criteria 10.10	C	RJT	2/25/2015	Design Plans G80829.003												
19	2.4.1	Relays shall have indexing pins to prevent insertion of an improper relay in relay.	Design Criteria 11.2	C	RJT	2/20/2015	TSP T30100 Note 2												
20	2.4.2	Constant Warning devices shall be used at all crossings.	Design Criteria 10.4	C	RJT	2/25/2015	Design Plans G80829.004 G80829.005 Note 2												
21	2.4.2	Highway Crossing Warning start circuits shall provide initiation of the warning equipment from both sides of the crossing and shall also include separate island circuits.	Design Criteria 10.3	C	RJT	2/25/2015	Design Plans G80829.004 G80829.005 Note 2												
22	2.4.2	A minimum of 30 seconds of warning time shall be required prior to the arrival of a train at crossing.	Design Criteria 10.3	C	RJT	2/25/2015	Design Plans G80829.002 G80829.014 G80829.015												
23	2.4.2	Additional start time shall be provided for multiple track crossings with wide travel surfaces, simultaneous or advance pre-emption, or locations where additional time is required.	Design Criteria 10.3	C	RJT	2/25/2015	Design Plans G80829.002 G80829.014 G80829.015												
24	2.4.3	All crossings shall be provided with Dual Tone Multi-Frequency (DTMF) Remote Activation.	Design Criteria 10.6.7	C	RJT	2/25/2015	Design Plans G80829.021												
25	2.4.3	After a field adjustable time interval, the DTMF system will return the crossing to normal operation if activated by code but not de-activated.	Design Criteria 10.6.7	C	RJT	2/20/2015	TSP T30041 Note 2												
26	2.4.3	Cables passing underneath the track structure or roadway shall be installed in a conduits as defined in the Design Criteria.	Design Criteria 10.1	C	RJT	2/20/2015	TSP T30110 Note 1												
27	2.4.4	Intrusion alarms and a means to secure the house from intrusion (such as a lockable door) shall be provided in all new crossing houses and alarms shall be recorded on the local event recorder.	Design Criteria 8.6.7	C	RJT	2/24/2015	Design Plans G80829.022 Note 2												

28	2.4.4	A power-off indicator light shall be mounted on each side of the instrument housing. The lights shall be visible to train crews approaching the crossing from either direction.	Design Criteria 8.6.7	C	RJT	2/25/2015	Design Plans G80829.003 Note 2								
29	2.4.4	The crossing houses shall be installed a minimum of 30 feet from the crossing surface and 25 feet from the centerline of the nearest track.	Design Criteria 8.6.7	C	RJT	2/25/2015	Design Plans T30.4189B								
30	2.4.4	The electrical panel shall consist of at least one Ground Fault Circuit Interrupter (GFCI) breaker. This GFCI breaker shall be used for all lighting and convenience outlets.	Design Criteria 8.6.2	C	RJT	2/25/2015	Design Plans G80829.003 Note 2								

<b>LEGEND</b>			<b>DESIGN VERIFICATION</b>				<b>CONSTRUCTION VERIFICATION</b>				<b>FINAL VERIFICATION</b>			
<b>Means of Verification - Design</b> P = Plan Sheet      S = Specification RFI=RFI              O = Other			<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection				Name and Organization: _____ Date: _____				Name and Organization: _____ Date: _____			
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance			Approved by: _____ Date: _____				Approved by: _____ Date: _____				Approved by: _____ Date: _____			

DRAFT



# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists	Design Verification	Construction Verification	Final Verification
<b>Certifiable Element:</b> 2.0 Signals  <b>Sub-Element:</b> 2.4 Grade Crossings Warning Systems <b>Location:</b> Beaumont Ave, MP A808.53  <b>Contract No.:</b>	<b>Notes or Restrictions:</b> 1. To be verified in construction 2. To be verified with Product Submittal	<b>Notes or Restrictions:</b>	<b>Notes or Restrictions:</b>

Item No.	Certifiable Item Description			Design Verification				Construction/Installation				Verification			
	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	2.4.1	A fiberglass arm as specified in AREMA Section 3 with 4 in LED flashing lights. The reflectorized arms shall be in accordance with AREMA 15.2.20. The gate arm LED's shall be in accordance with AREMA 3.2.40.	Design Criteria 10.2 AREMA C&S 15.2.20 3.2.40	C	RJT	2/13/2015	TSP T30025 Note 2								
2	2.4.1	Pole mounted 12 inch LED flashing light units in accordance with AREMA 3.2.35.	Design Criteria 10.2 AREMA C&S 3.2.35	C	RJT	2/13/2015	TSP T30010 Note 2								
3	2.4.1	A Railroad crossbuck sign in accordance with AREMA 3.2.70 and as shown in the current version of the MUTCD signs as R-15-1	Design Criteria 10.2 AREMA C&S 3.2.70 MUTCD R-15-1	C	RJT	2/13/2015	TSP T30025 Note 2								
4	2.4.1	Multiple Track Signs (when required) in accordance AREMA 3.2.76 as shown in the current version of the MUTCD as sign R-15-2	Design Criteria 10.2 AREMA C&S 3.2.76 MUTCD R-15-2	C	RJT	2/13/2015	TSP T30025 Note 2								
5	2.4.1	All flashers (Gate and pole mounted) shall be based upon LED technology and in accordance with the current AREMA guidelines. Pole and Cantilever flashers shall be 12 inch LED's while the gate arms shall receive 4 inch LED's.	Design Criteria 10.2	C	RJT	2/13/2015	TSP T30010 Note 1								
6	2.4.1	All crossings with defined sidewalks shall be equipped with either a standalone pedestrian gate, shall have the sidewalk pass to the roadway side of a main gate assembly or a roadway gate with an auxiliary sidewalk arm	Design Criteria 10.2	C	RJT	2/25/2015	Design Plans G80853.002								
7	2.4.1	Pedestrian gates are required on both sides of a Highway-Rail Grade Crossing where there is a sidewalk on both sides of the rail and the roadway gate does not also cover the sidewalk.	Design Criteria 10.2	C	RJT	2/25/2015	Design Plans G80853.002								
8	2.4.1	Alternating flashing 12 in LED and bell outputs shall energize no more than 1.0 second after control or GP inputs are de-energized.	Design Criteria 10.6.2	C	RJT	2/25/2015	Design Plans G80853.009 Note 2								
9	2.4.1	Gate control output shall de-energize a minimum of 3.0 seconds after control input is de-energized.	Design Criteria 10.6.2	C	RJT	2/25/2015	Design Plans G80853.009 Note 2								
10	2.4.1	In the event of a failure which would impair the system from operating, the highway crossing warning device properly in response to control and GP input signals, the controller shall have a fallback mode which shall assure the following minimum operating capabilities when the control input signal is de-energized: • Flashing LED power is applied at 12 V to at least one of each lamp pair • Gate control output is de-energized • Bell control output is energized at 11 V DC	Design Criteria 10.6.6	C	RJT	2/25/2015	Design Plans G80853.009 Note 2								

11	2.4.1	Lights shall operate at all times when the gate is in position to obstruct highway traffic.	Design Criteria 10.7.2	C	RJT	2/25/2015	Design Plans G80853.009 Note 1 Note 2											
12	2.4.1	Gate arms shall start in downward motion not less than 3 seconds or greater than 5 seconds after the flashing lights start to operate.	Design Criteria 10.7.2	C	RJT	2/25/2015	Design Plans G80853.009 Note 1 Note 2											
13	2.4.1	Circuits shall be so arranged that a failure of the gate mechanism to operate as intended shall not prevent the lights on the gate arm and signal from operating on the approach of a train.	Design Criteria 10.7.2	C	RJT	2/25/2015	Design Plans G80853.009 Note 1 Note 2											
14	2.4.1	Gates shall not be located more than 15 ft. from center line of track.	Design Criteria 10.7.2	C	RJT	2/25/2015	Design Plans G80853.002											
15	2.4.1	The system power supply shall be designed in accordance with FRA 234 and provide eight hours of standby back-up battery.	Design Criteria 10.10	C	RJT	2/25/2015	Design Plans G80853.003											
16	2.4.1	Relays shall have indexing pins to prevent insertion of an improper relay in relay	Design Criteria 11.2	C	RJT	2/20/2015	TSP T30100 Note 2											
17	2.4.2	Constant Warning devices shall be used at all crossings.	Design Criteria 10.4	C	RJT	2/25/2015	Design Plans G80853.004 Note 2											
18	2.4.2	Highway Crossing Warning start circuits shall provide initiation of the warning equipment from both sides of the crossing and shall also include separate island circuits.	Design Criteria 10.3	C	RJT	2/25/2015	Design Plans G80853.004 Note 2											
19	2.4.2	A minimum of 30 seconds of warning time shall be required prior to the arrival of a train at crossing.	Design Criteria 10.3	C	RJT	2/25/2015	Design Plans G80853.002 G80853.010											
20	2.4.2	Additional start time shall be provided for multiple track crossings with wide travel surfaces, simultaneous or advance pre-emption, or locations where additional time is required.	Design Criteria 10.3	C	RJT	2/25/2015	Design Plans G80853.002 G80853.010											
21	2.4.3	All crossings shall be provided with Dual Tone Multi-Frequency (DTMF) Remote Activation	Design Criteria 10.6.7	C	RJT	2/25/2015	Design Plans G80853.015											
22	2.4.3	After a field adjustable time interval, the DTMF system will return the crossing to normal operation if activated by code but not de-activated.	Design Criteria 10.6.7	C	RJT	2/20/2015	TSP T30041 Note 2											
23	2.4.3	Cables passing underneath the track structure or roadway shall be installed in a conduits as defined in the Design Criteria	Design Criteria 10.1	C	RJT	2/20/2015	TSP T30110 Note 1											
24	2.4.4	Intrusion alarms and a means to secure the house from intrusion (such as a lockable door) shall be provided in all new crossing houses and alarms shall be recorded on the local event recorder.	Design Criteria 8.6.7	C	RJT	2/25/2015	Design Plans G80853.016 Note 2											
25	2.4.4	A power-off indicator light shall be mounted on each side of the instrument housing. The lights shall be visible to train crews approaching the crossing from either direction.	Design Criteria 8.6.7	C	RJT	2/25/2015	Design Plans G80853.003 Note 2											
26	2.4.4	The crossing houses shall be installed a minimum of 30 feet from the crossing surface and 25 feet from the centerline of the nearest track.	Design Criteria 8.6.7	C	RJT	2/25/2015	Design Plans T30.0419B											
27	2.4.4	The electrical panel shall consist of at least one Ground Fault Circuit Interrupter (GFCI) breaker. This GFCI breaker shall be used for all lighting and convenience outlets.	Design Criteria 8.6.2	C	RJT	2/25/2015	Design Plans G80853.003 Note 2											
<b>LEGEND</b> <b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other  <b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance			<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection			<b>DESIGN VERIFICATION</b> Name and Organization: _____ Date: _____  Approved by: _____ Date: _____			<b>CONSTRUCTION VERIFICATION</b> Name and Organization: _____ Date: _____  Approved by: _____ Date: _____			<b>FINAL VERIFICATION</b> Name and Organization: _____ Date: _____  Approved by: _____ Date: _____						

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists	Design Verification	Construction Verification	Final Verification
<b>Certifiable Element:</b> 2.0 Signals  <b>Sub-Element:</b> 2.4 Grade Crossings Warning Systems <b>Location:</b> Clyde Ave. MP A808.77  <b>Contract No.:</b>	<b>Notes or Restrictions:</b> 1. To be verified in construction 2. To be verified with Product Submittal	<b>Notes or Restrictions:</b>	<b>Notes or Restrictions:</b>

Item No.	Certifiable Item Description			Design Verification				Construction/Installation				Verification			
	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	2.4.1	A fiberglass arm as specified in AREMA Section 3 with 4 in LED flashing lights. The reflectorized arms shall be in accordance with AREMA 15.2.20. The gate arm LED's shall be in accordance with AREMA 3.2.40.	Design Criteria 10.2 AREMA C&S 15.2.20 3.2.40	C	RJT	2/13/2015	TSP T30025 Note 2								
2	2.4.1	Pole mounted 12 inch LED flashing light units in accordance with AREMA 3.2.35.	Design Criteria 10.2 AREMA C&S 3.2.35	C	RJT	2/13/2015	TSP T30010 Note 2								
3	2.4.1	A Railroad crossbuck sign in accordance with AREMA 3.2.70 and as shown in the current version of the MUTCD signs as R-15-1	Design Criteria 10.2 AREMA C&S 3.2.70 MUTCD R-15-1	C	RJT	2/13/2015	TSP T30025 Note 2								
4	2.4.1	Multiple Track Signs (when required) in accordance AREMA 3.2.76 as shown in the current version of the MUTCD as sign R-15-2	Design Criteria 10.2 AREMA C&S 3.2.76 MUTCD R-15-2	C	RJT	2/13/2015	TSP T30025 Note 2								
5	2.4.1	All flashers (Gate and pole mounted) shall be based upon LED technology and in accordance with the current AREMA guidelines. Pole and Cantilever flashers shall be 12 inch LED's while the gate arms shall receive 4 inch LED's.	Design Criteria 10.2	C	RJT	2/13/2015	TSP T30010 Note 1								
6	2.4.1	All crossings with defined sidewalks shall be equipped with either a standalone pedestrian gate, shall have the sidewalk pass to the roadway side of a main gate assembly or a roadway gate with an auxiliary sidewalk arm	Design Criteria 10.2	C	RJT	2/25/2015	Design Plans G80877.002								
7	2.4.1	Pedestrian gates are required on both sides of a Highway-Rail Grade Crossing where there is a sidewalk on both sides of the rail and the roadway gate does not also cover the sidewalk.	Design Criteria 10.2	C	RJT	2/25/2015	Design Plans G80877.002								
8	2.4.1	Alternating flashing 12 in LED and bell outputs shall energize no more than 1.0 second after control or GP inputs are de-energized.	Design Criteria 10.6.2	C	RJT	2/25/2015	Design Plans G80794.009 Note 2								
9	2.4.1	Gate control output shall de-energize a minimum of 3.0 seconds after control input is de-energized.	Design Criteria 10.6.2	C	RJT	2/25/2015	Design Plans G80794.009 Note 2								
10	2.4.1	In the event of a failure which would impair the system from operating, the highway crossing warning device properly in response to control and GP input signals, the controller shall have a fallback mode which shall assure the following minimum operating capabilities when the control input signal is de-energized: • Flashing LED power is applied at 12 V to at least one of each lamp pair • Gate control output is de-energized • Bell control output is energized at 11 V DC	Design Criteria 10.6.6	C	RJT	2/25/2015	Design Plans G80794.009 Note 2								
11	2.4.1	Lights shall operate at all times when the gate is in position to obstruct highway traffic.	Design Criteria 10.7.2	C	RJT	2/25/2015	Design Plans G80794.009 Note 1 Note 2								

12	2.4.1	Gate arms shall start in downward motion not less than 3 seconds or greater than 5 seconds after the flashing lights start to operate.	Design Criteria 10.7.2	C	RJT	2/25/2015	Design Plans G80794.009 Note 1 Note 2											
13	2.4.1	Circuits shall be so arranged that a failure of the gate mechanism to operate as intended shall not prevent the lights on the gate arm and signal from operating on the approach of a train.	Design Criteria 10.7.2	C	RJT	2/25/2015	Design Plans G80794.009 Note 1 Note 2											
14	2.4.1	Gates shall not be located more than 15 ft. from center line of track.	Design Criteria 10.7.2	C	RJT	2/25/2015	Design Plans G80794.002											
15	2.4.1	Cantilevers shall not be more than 20 ft. from center line of track.	Design Criteria 10.7.3	C	RJT	2/25/2015	Design Plans G80794.002											
16	2.4.1	The system power supply shall be designed in accordance with FRA 234 and provide eight hours of standby back-up battery.	Design Criteria 10.10	C	RJT	2/25/2015	Design Plans G80794.003											
17	2.4.1	Relays shall have indexing pins to prevent insertion of an improper relay in relay	Design Criteria 11.2	C	RJT	2/20/2015	TSP T30100 Note 2											
18	2.4.2	Constant Warning devices shall be used at all crossings.	Design Criteria 10.4	C	RJT	2/25/2015	Design Plans G80794.004 Note 2											
19	2.4.2	Highway Crossing Warning start circuits shall provide initiation of the warning equipment from both sides of the crossing and shall also include separate island circuits.	Design Criteria 10.3	C	RJT	2/25/2015	Design Plans G80794.004 Note 2											
20	2.4.2	A minimum of 30 seconds of warning time shall be required prior to the arrival of a train at crossing.	Design Criteria 10.3	C	RJT	2/25/2015	Design Plans G80794.002 G80794.004											
21	2.4.2	Additional start time shall be provided for multiple track crossings with wide travel surfaces, simultaneous or advance pre-emption, or locations where additional time is required.	Design Criteria 10.3	C	RJT	2/25/2015	Design Plans G80794.002 G80794.004											
22	2.4.3	All crossings shall be provided with Dual Tone Multi-Frequency (DTMF) Remote Activation	Design Criteria 10.6.7	C	RJT	2/25/2015	Design Plans G80794.015											
23	2.4.3	After a field adjustable time interval, the DTMF system will return the crossing to normal operation if activated by code but not de-activated.	Design Criteria 10.6.7	C	RJT	2/20/2015	TSP T30041 Note 2											
24	2.4.3	Cables passing underneath the track structure or roadway shall be installed in a conduits as defined in the Design Criteria	Design Criteria 10.1	C	RJT	2/20/2015	TSP T30110 Note 1											
25	2.4.4	Intrusion alarms and a means to secure the house from intrusion (such as a lockable door) shall be provided in all new crossing houses and alarms shall be recorded on the local event recorder.	Design Criteria 8.6.7	C	RJT	2/24/2015	Design Plans G80877.016 Note 2											
26	2.4.4	A power-off indicator light shall be mounted on each side of the instrument housing. The lights shall be visible to train crews approaching the crossing from either direction.	Design Criteria 8.6.7	C	RJT	2/24/2015	Design Plans G80877.003 Note 2											
27	2.4.4	The crossing houses shall be installed a minimum of 30 feet from the crossing surface and 25 feet from the centerline of the nearest track.	Design Criteria 8.6.7	C	RJT	2/24/2015	Design Plans T30.0422B											
28	2.4.4	The electrical panel shall consist of at least one Ground Fault Circuit Interrupter (GFCI) breaker. This GFCI breaker shall be used for all lighting and convenience outlets.	Design Criteria 8.6.2	C	RJT	2/24/2015	Design Plans G80877.003 Note 2											

<b>LEGEND</b>		<b>DESIGN VERIFICATION</b>		<b>CONSTRUCTION VERIFICATION</b>		<b>FINAL VERIFICATION</b>	
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection		Name and Organization: _____ Date: _____		Name and Organization: _____ Date: _____	
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance		Approved by: _____ Date: _____		Approved by: _____ Date: _____		Approved by: _____ Date: _____	

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists	Design Verification	Construction Verification	Final Verification
<b>Certifiable Element:</b> 2.0 Signals  <b>Sub-Element:</b> 2.4 Grade Crossings Warning Systems <b>Location:</b> Pleasant Hill Rd. MP A810.45  <b>Contract No.:</b>	<b>Notes or Restrictions:</b> 1. To be verified in construction 2. To be verified with Product Submittal	<b>Notes or Restrictions:</b>	<b>Notes or Restrictions:</b>

Item No.	Certifiable Item Description			Design Verification				Construction/Installation				Verification			
	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	2.4.1	A fiberglass arm as specified in AREMA Section 3 with 4 in LED flashing lights. The reflectorized arms shall be in accordance with AREMA 15.2.20. The gate arm LED's shall be in accordance with AREMA 3.2.40.	Design Criteria 10.2 AREMA C&S 15.2.20 3.2.40	C	RJT	2/13/2015	TSP T30025 Note 2								
2	2.4.1	Pole mounted 12 inch LED flashing light units in accordance with AREMA 3.2.35.	Design Criteria 10.2 AREMA C&S 3.2.35	C	RJT	2/13/2015	TSP T30010 Note 2								
3	2.4.1	A Railroad crossbuck sign in accordance with AREMA 3.2.70 and as shown in the current version of the MUTCD signs as R-15-1	Design Criteria 10.2 AREMA C&S 3.2.70 MUTCD R-15-1	C	RJT	2/13/2015	TSP T30025 Note 2								
4	2.4.1	Multiple Track Signs (when required) in accordance AREMA 3.2.76 as shown in the current version of the MUTCD as sign R-15-2	Design Criteria 10.2 AREMA C&S 3.2.76 MUTCD R-15-2	C	RJT	2/13/2015	TSP T30025 Note 2								
5	2.4.1	A complete cantilever assembly with flashing units provided for each traveled lane and back lights where shown on crossing layout drawings.	Design Criteria 10.2	C	RJT	2/25/2015	Design Plans G81045.002								
6	2.4.1	All flashers (Gate and pole mounted) shall be based upon LED technology and in accordance with the current AREMA guidelines. Pole and Cantilever flashers shall be 12 inch LED's while the gate arms shall receive 4 inch LED's.	Design Criteria 10.2	C	RJT	2/13/2015	TSP T30010 Note 1								
7	2.4.1	Alternating flashing 12 in LED and bell outputs shall energize no more than 1.0 second after control or GP inputs are de-energized.	Design Criteria 10.6.2	C	RJT	2/25/2015	Design Plans G81045.009 G81045.010 Note 2								
8	2.4.1	Gate control output shall de-energize a minimum of 3.0 seconds after control input is de-energized.	Design Criteria 10.6.2	C	RJT	2/25/2015	Design Plans G81045.009 G81045.010 Note 2								
9	2.4.1	In the event of a failure which would impair the system from operating, the highway crossing warning device properly in response to control and GP input signals, the controller shall have a fallback mode which shall assure the following minimum operating capabilities when the control input signal is de-energized: • Flashing LED power is applied at 12 V to at least one of each lamp pair • Gate control output is de-energized • Bell control output is energized at 11 V DC	Design Criteria 10.6.6	C	RJT	2/25/2015	Design Plans G81045.009 G81045.010 Note 2								
10	2.4.1	Traffic signal interconnection shall be provided as specified in the Highway-Rail Grade Crossing Improvement Requirements table Preemption shall not be removed from any crossing	Design Criteria 10.6.10	C	RJT	2/25/2015	Design Plans G81045.002 G81045.006								
11	2.4.1	Lights shall operate at all times when the gate is in position to obstruct highway traffic.	Design Criteria 10.7.2	C	RJT	2/25/2015	Design Plans G81045.009 G81045.010 Note 1 Note 2								

12	2.4.1	Gate arms shall start in downward motion not less than 3 seconds or greater than 5 seconds after the flashing lights start to operate.	Design Criteria 10.7.2	C	RJT	2/25/2015	Design Plans G81045.009 G81045.010 Note 1 Note 2											
13	2.4.1	Circuits shall be so arranged that a failure of the gate mechanism to operate as intended shall not prevent the lights on the gate arm and signal from operating on the approach of a train.	Design Criteria 10.7.2	C	RJT	2/25/2015	Design Plans G81045.009 G81045.010 Note 1 Note 2											
14	2.4.1	Gates shall not be located more than 15 ft. from center line of track.	Design Criteria 10.7.2	C	RJT	2/25/2015	Design Plans G81045.002											
15	2.4.1	Cantilevers shall not be more than 20 ft. from center line of track.	Design Criteria 10.7.3	C	RJT	2/25/2015	Design Plans G81045.002											
16	2.4.1	The system power supply shall be designed in accordance with FRA 234 and provide eight hours of standby back-up battery.	Design Criteria 10.10	C	RJT	2/25/2015	Design Plans G81045.003											
17	2.4.1	Relays shall have indexing pins to prevent insertion of an improper relay in relay	Design Criteria 11.2	C	RJT	2/20/2015	TSP T30100 Note 2											
18	2.4.2	Constant Warning devices shall be used at all crossings.	Design Criteria 10.4	C	RJT	2/25/2015	Design Plans G81045.004 Note 2											
19	2.4.2	Highway Crossing Warning start circuits shall provide initiation of the warning equipment from both sides of the crossing and shall also include separate island circuits.	Design Criteria 10.3	C	RJT	2/25/2015	Design Plans G81045.004 Note 2											
20	2.4.2	A minimum of 30 seconds of warning time shall be required prior to the arrival of a train at crossing.	Design Criteria 10.3	C	RJT	2/25/2015	Design Plans G81045.002 G81045.011											
21	2.4.2	Additional start time shall be provided for multiple track crossings with wide travel surfaces, simultaneous or advance pre-emption, or locations where additional time is required.	Design Criteria 10.3	C	RJT	2/25/2015	Design Plans G81045.002 G81045.011											
22	2.4.3	All crossings shall be provided with Dual Tone Multi-Frequency (DTMF) Remote Activation	Design Criteria 10.6.7	C	RJT	2/25/2015	Design Plans G81045.015											
23	2.4.3	After a field adjustable time interval, the DTMF system will return the crossing to normal operation if activated by code but not de-activated.	Design Criteria 10.6.7	C	RJT	2/20/2015	TSP T30041 Note 2											
24	2.4.3	Cables passing underneath the track structure or roadway shall be installed in a conduits as defined in the Design Criteria	Design Criteria 10.1	C	RJT	2/20/2015	TSP T30110 Note 1											
25	2.4.4	Intrusion alarms and a means to secure the house from intrusion (such as a lockable door) shall be provided in all new crossing houses and alarms shall be recorded on the local event recorder.	Design Criteria 8.6.7	C	RJT	2/25/2015	Design Plans G81045.016 Note 2											
26	2.4.4	A power-off indicator light shall be mounted on each side of the instrument housing. The lights shall be visible to train crews approaching the crossing from either direction.	Design Criteria 8.6.7	C	RJT	2/25/2015	Design Plans G81045.003 Note 2											
27	2.4.4	The crossing houses shall be installed a minimum of 30 feet from the crossing surface and 25 feet from the centerline of the nearest track.	Design Criteria 8.6.7	C	RJT	2/25/2015	Design Plans T30.0423B											
28	2.4.4	The electrical panel shall consist of at least one Ground Fault Circuit Interrupter (GFCI) breaker. This GFCI breaker shall be used for all lighting and convenience outlets.	Design Criteria 8.6.2	C	RJT	2/25/2015	Design Plans G81045.003 Note 2											
<b>LEGEND</b> Means of Verification - Design P = Plan Sheet S = Specification RFI=RFI O = Other Status C = Compliance N = Noncompliance P = Partial Compliance			<b>DESIGN VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____			<b>CONSTRUCTION VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____			<b>FINAL VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____									

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists	Design Verification	Construction Verification	Final Verification
<b>Certifiable Element:</b> 2.0 Signals  <b>Sub-Element:</b> 2.4 Grade Crossings Warning Systems <b>Location:</b> Crestridge Dr. MP A812.16  <b>Contract No.:</b>	<b>Notes or Restrictions:</b> 1. To be verified in construction 2. To be verified with Product Submittal	<b>Notes or Restrictions:</b>	<b>Notes or Restrictions:</b>

Item No.	Certifiable Item Description			Design Verification				Construction/Installation				Verification			
	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	2.4.1	A fiberglass arm as specified in AREMA Section 3 with 4 in LED flashing lights. The reflectorized arms shall be in accordance with AREMA 15.2.20. The gate arm LED's shall be in accordance with AREMA 3.2.40.	Design Criteria 10.2 AREMA C&S 15.2.20 3.2.40	C	RJT	2/13/2015	TSP T30025 Note 2								
2	2.4.1	Pole mounted 12 inch LED flashing light units in accordance with AREMA 3.2.35.	Design Criteria 10.2 AREMA C&S 3.2.35	C	RJT	2/13/2015	TSP T30010 Note 2								
3	2.4.1	A Railroad crossbuck sign in accordance with AREMA 3.2.70 and as shown in the current version of the MUTCD signs as R-15-1	Design Criteria 10.2 AREMA C&S 3.2.70 MUTCD R-15-1	C	RJT	2/13/2015	TSP T30025 Note 2								
4	2.4.1	Multiple Track Signs (when required) in accordance AREMA 3.2.76 as shown in the current version of the MUTCD as sign R-15-2	Design Criteria 10.2 AREMA C&S 3.2.76 MUTCD R-15-2	C	RJT	2/13/2015	TSP T30025 Note 2								
5	2.4.1	All flashers (Gate and pole mounted) shall be based upon LED technology and in accordance with the current AREMA guidelines. Pole and Cantilever flashers shall be 12 inch LED's while the gate arms shall receive 4 inch LED's.	Design Criteria 10.2	C	RJT	2/13/2015	TSP T30010 Note 1								
6	2.4.1	Alternating flashing 12 in LED and bell outputs shall energize no more than 1.0 second after control or GP inputs are de-energized.	Design Criteria 10.6.2	C	RJT	2/25/2015	Design Plans G81216.009 Note 2								
7	2.4.1	Gate control output shall de-energize a minimum of 3.0 seconds after control input is de-energized.	Design Criteria 10.6.2	C	RJT	2/25/2015	Design Plans G81216.009 Note 2								
8	2.4.1	In the event of a failure which would impair the system from operating, the highway crossing warning device properly in response to control and GP input signals, the controller shall have a fallback mode which shall assure the following minimum operating capabilities when the control input signal is de-energized: • Flashing LED power is applied at 12 V to at least one of each lamp pair • Gate control output is de-energized • Bell control output is energized at 11 V DC	Design Criteria 10.6.6	C	RJT	2/25/2015	Design Plans G81216.009 Note 2								
9	2.4.1	Lights shall operate at all times when the gate is in position to obstruct highway traffic.	Design Criteria 10.7.2	C	RJT	2/25/2015	Design Plans G81216.009 Note 1 Note 2								
10	2.4.1	Gate arms shall start in downward motion not less than 3 seconds or greater than 5 seconds after the flashing lights start to operate.	Design Criteria 10.7.2	C	RJT	2/25/2015	Design Plans G81216.009 Note 1 Note 2								
11	2.4.1	Circuits shall be so arranged that a failure of the gate mechanism to operate as intended shall not prevent the lights on the gate arm and signal from operating on the approach of a train.	Design Criteria 10.7.2	C	RJT	2/25/2015	Design Plans G81216.009 Note 1 Note 2								

12	2.4.1	Gates shall not be located more than 15 ft. from center line of track.	Design Criteria 10.7.2	C	RJT	2/25/2015	Design Plans G81216.002											
13	2.4.1	The system power supply shall be designed in accordance with FRA 234 and provide eight hours of standby back-up battery.	Design Criteria 10.10	C	RJT	2/25/2015	Design Plans G81216.003											
14	2.4.1	Relays shall have indexing pins to prevent insertion of an improper relay in relay	Design Criteria 11.2	C	RJT	2/20/2015	TSP T30100 Note 1											
15	2.4.2	Constant Warning devices shall be used at all crossings.	Design Criteria 10.4	C	RJT	2/25/2015	Design Plans G81216.004 Note 2											
16	2.4.2	Highway Crossing Warning start circuits shall provide initiation of the warning equipment from both sides of the crossing and shall also include separate island circuits.	Design Criteria 10.3	C	RJT	2/25/2015	Design Plans G81216.004 Note 2											
17	2.4.2	A minimum of 30 seconds of warning time shall be required prior to the arrival of a train at crossing.	Design Criteria 10.3	C	RJT	2/25/2015	Design Plans G81216.002 G81216.010											
18	2.4.2	Additional start time shall be provided for multiple track crossings with wide travel surfaces, simultaneous or advance pre-emption, or locations where additional time is required.	Design Criteria 10.3	C	RJT	2/25/2015	Design Plans G81216.002 G81216.010											
19	2.4.3	All crossings shall be provided with Dual Tone Multi-Frequency (DTMF) Remote Activation	Design Criteria 10.6.7	C	RJT	2/25/2015	Design Plans G81216.013											
20	2.4.3	After a field adjustable time interval, the DTMF system will return the crossing to normal operation if activated by code but not de-activated.	Design Criteria 10.6.7	C	RJT	2/20/2015	TSP T30041 Note 2											
21	2.4.3	Cables passing underneath the track structure or roadway shall be installed in a conduits as defined in the Design Criteria	Design Criteria 10.1	C	RJT	2/20/2015	TSP T30110 Note 1											
22	2.4.4	Intrusion alarms and a means to secure the house from intrusion (such as a lockable door) shall be provided in all new crossing houses and alarms shall be recorded on the local event recorder.	Design Criteria 8.6.7	C	RJT	2/25/2015	Design Plans G81216.014 Note 2											
23	2.4.4	A power-off indicator light shall be mounted on each side of the instrument housing. The lights shall be visible to train crews approaching the crossing from either direction.	Design Criteria 8.6.7	C	RJT	2/25/2015	Design Plans G81216.003 Note 2											
24	2.4.4	The crossing houses shall be installed a minimum of 30 feet from the crossing surface and 25 feet from the centerline of the nearest track.	Design Criteria 8.6.7	C	RJT	2/25/2015	Design Plans T30.0424B											
25	2.4.4	The electrical panel shall consist of at least one Ground Fault Circuit Interrupter (GFCI) breaker. This GFCI breaker shall be used for all lighting and convenience outlets.	Design Criteria 8.6.2	C	RJT	2/25/2015	Design Plans G81216.003 Note 2											
<b>LEGEND</b> <b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other <b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance			<b>MEANS OF VERIFICATION - CONSTRUCTION</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection			<b>DESIGN VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____			<b>CONSTRUCTION VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____			<b>FINAL VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____						



# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists	Design Verification	Construction Verification	Final Verification
<b>Certifiable Element:</b> <u>2.0 Signals</u>  <b>Sub-Element:</b> <u>2.4 Grade Crossings Warning Systems</u> <b>Location:</b> <u>Poinciana Blvd. MP A813.77</u>  <b>Contract No.:</b> _____	<b>Notes or Restrictions:</b> 1. To be verified in construction 2. To be verified with Product Submittal 3. No preemption at this time - construction in progress may include preemption.	<b>Notes or Restrictions:</b>      	<b>Notes or Restrictions:</b>      

Item No.	Certifiable Item Description			Design Verification				Construction/Installation				Verification			
	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	2.4.1	Pole mounted 12 inch LED flashing light units in accordance with AREMA 3.2.35.	Design Criteria 10.2 AREMA C&S 3.2.35	C	RJT	2/13/2015	TSP T30010 Note 2								
2	2.4.1	All flashers (Gate and pole mounted) shall be based upon LED technology and in accordance with the current AREMA guidelines. Pole and Cantilever flashers shall be 12 inch LED's while the gate arms shall receive 4 inch LED's.	Design Criteria 10.2	C	RJT	2/13/2015	TSP T30010 Note 2								
3	2.4.1	All crossings with defined sidewalks shall be equipped with either a standalone pedestrian gate, shall have the sidewalk pass to the roadway side of a main gate assembly or a roadway gate with an auxiliary sidewalk arm	Design Criteria 10.2	C	RJT	2/25/2015	Design Plans G80794.002								
4	2.4.1	Pedestrian gates are required on both sides of a Highway-Rail Grade Crossing where there is a sidewalk on both sides of the rail and the roadway gate does not also cover the sidewalk.	Design Criteria 10.2	C	RJT	2/25/2015	Design Plans G80794.002								
5	2.4.1	Alternating flashing 12 in LED and bell outputs shall energize no more than 1.0 second after control or GP inputs are de-energized.	Design Criteria 10.6.2	C	RJT	2/25/2015	Design Plans G81377.006								
6	2.4.1	Gate control output shall de-energize a minimum of 3.0 seconds after control input is de-energized.	Design Criteria 10.6.2	C	RJT	2/25/2015	Design Plans G81377.006								
7	2.4.1	Traffic signal interconnection shall be provided as specified in the Highway-Rail Grade Crossing Improvement Requirements table Preemption shall not be removed from any crossing	Design Criteria 10.6.10	N/A			Note 3								
8	2.4.1	Lights shall operate at all times when the gate is in position to obstruct highway traffic.	Design Criteria 10.7.2	C	RJT	2/25/2015	Design Plans G81377.006								
9	2.4.1	Gate arms shall start in downward motion not less than 3 seconds or greater than 5 seconds after the flashing lights start to operate.	Design Criteria 10.7.2	C	RJT	2/25/2015	Design Plans G81377.006								
10	2.4.1	Circuits shall be so arranged that a failure of the gate mechanism to operate as intended shall not prevent the lights on the gate arm and signal from operating on the approach of a train.	Design Criteria 10.7.2	C	RJT	2/25/2015	Design Plans G81377.006								
11	2.4.1	Gates shall not be located more than 15 ft. from center line of track.	Design Criteria 10.7.2	C	RJT	2/25/2015	Design Plans G81377.002								
12	2.4.1	Cantilevers shall not be more than 20 ft. from center line of track.	Design Criteria 10.7.3	C	RJT	2/25/2015	Design Plans G81377.002								
13	2.4.1	The system power supply shall be designed in accordance with FRA 234 and provide eight hours of standby back-up battery.	Design Criteria 10.10	C	RJT	2/25/2015	Design Plans G81377.003								
14	2.4.1	Relays shall have indexing pins to prevent insertion of an improper relay in relay	Design Criteria 11.2	C	RJT	2/20/2015	TSP T30100 Note 2								
15	2.4.2	Constant Warning devices shall be used at all crossings.	Design Criteria 10.4	C	RJT	2/25/2015	Design Plans G81377.004								

16	2.4.2	Highway Crossing Warning start circuits shall provide initiation of the warning equipment from both sides of the crossing and shall also include separate island circuits.	Design Criteria 10.3	C	RJT	2/25/2015	Design Plans G81377.004										
17	2.4.2	A minimum of 30 seconds of warning time shall be required prior to the arrival of a train at crossing.	Design Criteria 10.3	C	RJT	2/25/2015	Design Plans G81377.002 G81377.005										
18	2.4.2	Additional start time shall be provided for multiple track crossings with wide travel surfaces, simultaneous or advance pre-emption, or locations where additional time is required.	Design Criteria 10.3	C	RJT	2/25/2015	Design Plans G81377.002 G81377.005										
19	2.4.3	All crossings shall be provided with Dual Tone Multi-Frequency (DTMF) Remote Activation	Design Criteria 10.6.7	C	RJT	2/25/2015	Design Plans G81377.004 G81377.007										
20	2.4.3	After a field adjustable time interval, the DTMF system will return the crossing to normal operation if activated by code but not de-activated.	Design Criteria 10.6.7	C	RJT	2/20/2015	TSP T30041 Note 1										
21	2.4.3	Cables passing underneath the track structure or roadway shall be installed in a conduits as defined in the Design Criteria	Design Criteria 10.1	C	RJT	2/20/2015	TSP T30110 Note 2										
22	2.4.4	A power-off indicator light shall be mounted on each side of the instrument housing. The lights shall be visible to train crews approaching the crossing from either direction.	Design Criteria 8.6.7	C	RJT	2/25/2015	Design Plans G81377.003										
<b>LEGEND</b>			<b>DESIGN VERIFICATION</b>				<b>CONSTRUCTION VERIFICATION</b>				<b>FINAL VERIFICATION</b>						
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other			<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection				Name and Organization: _____ Date: _____				Name and Organization: _____ Date: _____						
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance			Approved by: _____ Date: _____				Approved by: _____ Date: _____				Approved by: _____ Date: _____						

DRAFT

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists	Design Verification	Construction Verification	Final Verification
<b>Certifiable Element:</b> 2.0 Signals  <b>Sub-Element:</b> 2.5 Pedestrian Crossings (Stations) Warning Systems <b>Location:</b> Meadow Woods Station Ped Walk MP A801.25  <b>Contract No.:</b>	<b>Notes or Restrictions:</b> 1. To be verified in construction 2. To be verified with Product Submittal 3. 2nd Train Warning control in software - not part of hardware design.		

Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	2.5.1	Pole mounted 12 inch LED flashing light units in accordance with AREMA 3.2.35.	Design Criteria 10.2 AREMA C&S 3.2.35	C	RJT	2/25/2015	TSP T30010 Note 2								
2	2.5.1	A Railroad crossbuck sign in accordance with AREMA 3.2.70 and as shown in the current version of the MUTCD signs as R-15-1	Design Criteria 10.2 AREMA C&S 3.2.70 MUTCD R-15-1	C	RJT	2/25/2015	TSP T30025 Note 2								
3	2.5.1	Multiple Track Signs (when required) in accordance AREMA 3.2.76 as shown in the current version of the MUTCD as sign R-15-2	Design Criteria 10.2 AREMA C&S 3.2.76 MUTCD R-15-2	C	RJT	2/25/2015	TSP T30025 Note 2								
4	2.5.1	All flashers (Gate and pole mounted) shall be based upon LED technology and in accordance with the current AREMA guidelines. Pole and Cantilever flashers shall be 12 inch LED's while the gate arms shall receive 4 inch LED's.	Design Criteria 10.2	C	RJT	2/25/2015	TSP T30010 Note 1								
5	2.5.1	Alternating flashing 12 in LED and bell outputs shall energize no more than 1.0 second after control or GP inputs are de-energized.	Design Criteria 10.6.2	C	RJT	2/25/2015	Design Plans G80125.009 Note 2								
6	2.5.1	Gate control output shall de-energize a minimum of 3.0 seconds after control input is de-energized.	Design Criteria 10.6.2	C	RJT	2/25/2015	Design Plans G80125.009 Note 2								
7	2.5.1	In the event of a failure which would impair the system from operating, the highway crossing warning device properly in response to control and GP input signals, the controller shall have a fallback mode which shall assure the following minimum operating capabilities when the control input signal is de-energized: • Flashing LED power is applied at 12 V to at least one of each lamp pair • Gate control output is de-energized • Bell control output is energized at 11 V DC	Design Criteria 10.6.6	C	RJT	2/25/2015	Design Plans G80125.009 Note 2								
8	2.5.1	Gate arms shall start in downward motion not less than 3 seconds or greater than 5 seconds after the flashing lights start to operate.	Design Criteria 10.7.2	C	RJT	2/25/2015	Design Plans G80125.009 Note 1 Note 2								
9	2.5.1	Circuits shall be so arranged that a failure of the gate mechanism to operate as intended shall not prevent the lights on the gate arm and signal from operating on the approach of a train.	Design Criteria 10.7.2	C	RJT	2/25/2015	Design Plans G80125.009 Note 1 Note 2								
10	2.5.1	The system power supply shall be designed in accordance with FRA 234 and provide eight hours of standby back-up battery.	Design Criteria 10.10	C	RJT	2/25/2015	Design Plans G80125.003								
11	2.5.1	Constant Warning devices shall be used at all crossings.	Design Criteria 10.4	C	RJT	2/25/2015	Design Plans G80125.004 Note 2								

12	2.5.1	Highway Crossing Warning start circuits shall provide initiation of the warning equipment from both sides of the crossing and shall also include separate island circuits.	Design Criteria 10.3	C	RJT	2/25/2015	Design Plans G80125.004 Note 2											
13	2.5.1	A minimum of 30 seconds of warning time shall be required prior to the arrival of a train at crossing.	Design Criteria 10.3	C	RJT	2/25/2015	Design Plans G80125.002 G80125.010											
14	2.5.1	Additional start time shall be provided for multiple track crossings with wide travel surfaces, simultaneous or advance pre-emption, or locations where additional time is required.	Design Criteria 10.3	C	RJT	2/25/2015	Design Plans G80125.002 G80125.010											
15	2.5.1	Cables passing underneath the track structure or roadway shall be installed in a conduits as defined in the Design Criteria	Design Criteria 10.1	C	RJT	2/25/2015	TSP T30110 Note 1											
16	2.5.1	Relays shall have indexing pins to prevent insertion of an improper relay in relay	Design Criteria 11.2	C	RJT	2/25/2015	TSP T30100 Note 1											
17	2.5.3	Second Train warning signs shall be installed at each pedestrian crosswalk on the intertrack fence facing each platform such that the sign is visible to pedestrians prior to entering the pedestrian crosswalk surface.	Design Criteria 10.7.6	C	RJT	2/25/2015	Design Plans G80125.002 Note 1											
18	2.5.3	Second Train warning sign shall be activated when one train is in the station with the active warning system activated and a second train is approaching and shall continue while both trains are within the station.	Design Criteria 10.7.7	N/A			Note 3											
19	2.5.4	Where directed by the Department swing gates are also to be provided to allow pedestrians to clear the tracks after the gates are down.	Design Criteria 10.6.8	C	RJT	2/25/2015	Design Plans C00.001											
20	2.5.5	DTMF Remote Activation as described in Section 10.6.7 shall be provided at all pedestrian crossings.	Design Criteria 10.6.8	C	RJT	2/25/2015	Design Plans G80125.014											
21	2.5.5	After a field adjustable time interval, the DTMF system will return the crossing to normal operation if activated by code but not de-activated.	Design Criteria 10.6.7	C	RJT	2/25/2015	TSP T30041 Note 2											
22	2.5.6	Intrusion alarms and a means to secure the house from intrusion (such as a lockable door) shall be provided in all new crossing houses and alarms shall be recorded on the local event recorder.	Design Criteria 8.6.7	C	RJT	2/24/2015	Design Plans G80125.015 Note 2											
23	2.5.6	A power-off indicator light shall be mounted on each side of the instrument housing. The lights shall be visible to train crews approaching the crossing from either direction.	Design Criteria 8.6.7	C	RJT	2/24/2015	Design Plans G80125.003 Note 2											
24	2.5.6	The electrical panel shall consist of at least one Ground Fault Circuit Interrupter (GFCI) breaker. This GFCI breaker shall be used for all lighting and convenience outlets.	Design Criteria 8.6.2	C	RJT	2/24/2015	Design Plans G80125.003 Note 2											
<b>LEGEND</b>			<b>DESIGN VERIFICATION</b>			<b>CONSTRUCTION VERIFICATION</b>			<b>FINAL VERIFICATION</b>									
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other			<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection			Name and Organization: _____ Date: _____			Name and Organization: _____ Date: _____			Name and Organization: _____ Date: _____						
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance						Approved by: _____ Date: _____			Approved by: _____ Date: _____			Approved by: _____ Date: _____						

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists	Design Verification	Construction Verification	Final Verification
<b>Certifiable Element:</b> 2.0 Signals  <b>Sub-Element:</b> 2.5 Pedestrian Crossings (Stations) Warning Systems <b>Location:</b> Osceola Parkway Station Ped Walk MP A804.48 and 804.56  <b>Contract No.:</b>	<b>Notes or Restrictions:</b> 1. To be verified in construction 2. To be verified with Product Submittal 3. 2nd Train Warning control in software - not part of hardware design.		

Item No.	Certifiable Item Description			Design Verification				Construction/Installation				Verification			
	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	2.5.1	Pole mounted 12 inch LED flashing light units in accordance with AREMA 3.2.35.	Design Criteria 10.2 AREMA C&S 3.2.35	C	RJT	2/25/2015	TSP T30010 Note 2								
2	2.5.1	A Railroad crossbuck sign in accordance with AREMA 3.2.70 and as shown in the current version of the MUTCD signs as R-15-1	Design Criteria 10.2 AREMA C&S 3.2.70 MUTCD R-15-1	C	RJT	2/25/2015	TSP T30025 Note 2								
3	2.5.1	Multiple Track Signs (when required) in accordance AREMA 3.2.76 as shown in the current version of the MUTCD as sign R-15-2	Design Criteria 10.2 AREMA C&S 3.2.76 MUTCD R-15-2	C	RJT	2/25/2015	TSP T30025 Note 2								
4	2.5.1	All flashers (Gate and pole mounted) shall be based upon LED technology and in accordance with the current AREMA guidelines. Pole and Cantilever flashers shall be 12 inch LED's while the gate arms shall receive 4 inch LED's.	Design Criteria 10.2	C	RJT	2/25/2015	TSP T30010 Note 1								
5	2.5.1	Alternating flashing 12 in LED and bell outputs shall energize no more than 1.0 second after control or GP inputs are de-energized.	Design Criteria 10.6.2	C	RJT	2/25/2015	Design Plans G80452.009 G80452.010 Note 2								
6	2.5.1	Gate control output shall de-energize a minimum of 3.0 seconds after control input is de-energized.	Design Criteria 10.6.2	C	RJT	2/25/2015	Design Plans G80452.009 G80452.010 Note 2								
7	2.5.1	In the event of a failure which would impair the system from operating, the highway crossing warning device properly in response to control and GP input signals, the controller shall have a fallback mode which shall assure the following minimum operating capabilities when the control input signal is de-energized: • Flashing LED power is applied at 12 V to at least one of each lamp pair • Gate control output is de-energized • Bell control output is energized at 11 V DC	Design Criteria 10.6.6	C	RJT	2/25/2015	Design Plans G80452.009 G80452.010 Note 2								
8	2.5.1	Gate arms shall start in downward motion not less than 3 seconds or greater than 5 seconds after the flashing lights start to operate.	Design Criteria 10.7.2	C	RJT	2/25/2015	Design Plans G80452.009 G80452.010 Note 1 Note 2								
9	2.5.1	Circuits shall be so arranged that a failure of the gate mechanism to operate as intended shall not prevent the lights on the gate arm and signal from operating on the approach of a train.	Design Criteria 10.7.2	C	RJT	2/25/2015	Design Plans G80452.009 G80452.010 Note 1 Note 2								
10	2.5.1	The system power supply shall be designed in accordance with FRA 234 and provide eight hours of standby back-up battery.	Design Criteria 10.10	C	RJT	2/25/2015	Design Plans G80452.003								
11	2.5.1	Constant Warning devices shall be used at all crossings.	Design Criteria 10.4	C	RJT	2/25/2015	Design Plans G80452.004 Note 2								

12	2.5.1	Highway Crossing Warning start circuits shall provide initiation of the warning equipment from both sides of the crossing and shall also include separate island circuits.	Design Criteria 10.3	C	RJT	2/25/2015	Design Plans G80125.004 Note 2												
13	2.5.1	A minimum of 30 seconds of warning time shall be required prior to the arrival of a train at crossing.	Design Criteria 10.3	C	RJT	2/25/2015	Design Plans G80452.002 G80452.011												
14	2.5.1	Additional start time shall be provided for multiple track crossings with wide travel surfaces, simultaneous or advance pre-emption, or locations where additional time is required.	Design Criteria 10.3	C	RJT	2/25/2015	Design Plans G80452.002 G80452.011												
15	2.5.1	Cables passing underneath the track structure or roadway shall be installed in a conduits as defined in the Design Criteria	Design Criteria 10.1	C	RJT	2/25/2015	TSP T30110 Note 1												
16	2.5.1	Relays shall have indexing pins to prevent insertion of an improper relay in relay	Design Criteria 11.2	C	RJT	2/25/2015	TSP T30100 Note 1												
17	2.5.3	Second Train warning signs shall be installed at each pedestrian crosswalk on the intertrack fence facing each platform such that the sign is visible to pedestrians prior to entering the pedestrian crosswalk surface.	Design Criteria 10.7.6	C	RJT	2/25/2015	Design Plans G80452.002 Note 1												
18	2.5.3	Second Train warning sign shall be activated when one train is in the station with the active warning system activated and a second train is approaching and shall continue while both trains are within the station.	Design Criteria 10.7.7	N/A			Note 3												
19	2.5.4	Where directed by the Department swing gates are also to be provided to allow pedestrians to clear the tracks after the gates are down.	Design Criteria 10.6.8	C	RJT	2/25/2015	Design Plans C00.001												
20	2.5.5	DTMF Remote Activation as described in Section 10.6.7 shall be provided at all pedestrian crossings.	Design Criteria 10.6.8	C	RJT	2/25/2015	Design Plans G80452.017												
21	2.5.5	After a field adjustable time interval, the DTMF system will return the crossing to normal operation if activated by code but not de-activated.	Design Criteria 10.6.7	C	RJT	2/25/2015	TSP T30041 Note 2												
22	2.5.6	Intrusion alarms and a means to secure the house from intrusion (such as a lockable door) shall be provided in all new crossing houses and alarms shall be recorded on the local event recorder.	Design Criteria 8.6.7	C	RJT	2/25/2015	Design Plans G80452.018 Note 2												
23	2.5.6	A power-off indicator light shall be mounted on each side of the instrument housing. The lights shall be visible to train crews approaching the crossing from either direction.	Design Criteria 8.6.7	C	RJT	2/25/2015	Design Plans G80452.003 Note 2												
24	2.5.6	The electrical panel shall consist of at least one Ground Fault Circuit Interrupter (GFCI) breaker. This GFCI breaker shall be used for all lighting and convenience outlets.	Design Criteria 8.6.2	C	RJT	2/25/2015	Design Plans G80452.003 Note 2												
<b>LEGEND</b>			<b>DESIGN VERIFICATION</b>			<b>CONSTRUCTION VERIFICATION</b>			<b>FINAL VERIFICATION</b>										
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other			<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection			Name and Organization: _____ Date: _____			Name and Organization: _____ Date: _____			Name and Organization: _____ Date: _____							
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance						Approved by: _____ Date: _____			Approved by: _____ Date: _____			Approved by: _____ Date: _____							

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists	Design Verification	Construction Verification	Final Verification
<b>Certifiable Element:</b> 2.0 Signals  <b>Sub-Element:</b> 2.5 Pedestrian Crossings (Stations) Warning Systems <b>Location:</b> Kissimmee Station Ped Walk MP A808.03  <b>Contract No.:</b>	<b>Notes or Restrictions:</b> 1. To be verified in construction  2. To be verified with Product Submittal 3. 2nd Train Warning control in software - not part of hardware design.		

Item No.	Certifiable Item Description			Design Verification				Construction/Installation				Verification			
	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	2.5.1	Pole mounted 12 inch LED flashing light units in accordance with AREMA 3.2.35.	Design Criteria 10.2 AREMA C&S 3.2.35	C	RJT	2/25/2015	TSP T30010 Note 2								
2	2.5.1	A Railroad crossbuck sign in accordance with AREMA 3.2.70 and as shown in the current version of the MUTCD signs as R-15-1	Design Criteria 10.2 AREMA C&S 3.2.70 MUTCD R-15-1	C	RJT	2/25/2015	TSP T30025 Note 2								
3	2.5.1	Multiple Track Signs (when required) in accordance AREMA 3.2.76 as shown in the current version of the MUTCD as sign R-15-2	Design Criteria 10.2 AREMA C&S 3.2.76 MUTCD R-15-2	C	RJT	2/25/2015	TSP T30025 Note 2								
4	2.5.1	All flashers (Gate and pole mounted) shall be based upon LED technology and in accordance with the current AREMA guidelines. Pole and Cantilever flashers shall be 12 inch LED's while the gate arms shall receive 4 inch LED's.	Design Criteria 10.2	C	RJT	2/25/2015	TSP T30010 Note 1								
5	2.5.1	Alternating flashing 12 in LED and bell outputs shall energize no more than 1.0 second after control or GP inputs are de-energized.	Design Criteria 10.6.2	C	RJT	2/25/2015	Design Plans G80803.009 Note 2								
6	2.5.1	Gate control output shall de-energize a minimum of 3.0 seconds after control input is de-energized.	Design Criteria 10.6.2	C	RJT	2/25/2015	Design Plans G80803.009 Note 2								
7	2.5.1	In the event of a failure which would impair the system from operating, the highway crossing warning device properly in response to control and GP input signals, the controller shall have a fallback mode which shall assure the following minimum operating capabilities when the control input signal is de-energized: • Flashing LED power is applied at 12 V to at least one of each lamp pair • Gate control output is de-energized • Bell control output is energized at 11 V DC	Design Criteria 10.6.6	C	RJT	2/25/2015	Design Plans G80803.009 Note 2								
8	2.5.1	Gate arms shall start in downward motion not less than 3 seconds or greater than 5 seconds after the flashing lights start to operate.	Design Criteria 10.7.2	C	RJT	2/25/2015	Design Plans G80803.009 Note 1 Note 2								
9	2.5.1	Circuits shall be so arranged that a failure of the gate mechanism to operate as intended shall not prevent the lights on the gate arm and signal from operating on the approach of a train.	Design Criteria 10.7.2	C	RJT	2/25/2015	Design Plans G80803.009 Note 1 Note 2								
10	2.5.1	The system power supply shall be designed in accordance with FRA 234 and provide eight hours of standby back-up battery.	Design Criteria 10.10	C	RJT	2/25/2015	Design Plans G80803.003								
11	2.5.1	Constant Warning devices shall be used at all crossings.	Design Criteria 10.4	C	RJT	2/25/2015	Design Plans G80803.004 Note 2								

12	2.5.1	Highway Crossing Warning start circuits shall provide initiation of the warning equipment from both sides of the crossing and shall also include separate island circuits.	Design Criteria 10.3	C	RJT	2/25/2015	Design Plans G80803.004 Note 2											
13	2.5.1	A minimum of 30 seconds of warning time shall be required prior to the arrival of a train at crossing.	Design Criteria 10.3	C	RJT	2/25/2015	Design Plans G80803.002 G80803.010											
14	2.5.1	Additional start time shall be provided for multiple track crossings with wide travel surfaces, simultaneous or advance pre-emption, or locations where additional time is required.	Design Criteria 10.3	C	RJT	2/25/2015	Design Plans G80803.002 G80803.010											
15	2.5.1	Cables passing underneath the track structure or roadway shall be installed in a conduits as defined in the Design Criteria	Design Criteria 10.1	C	RJT	2/25/2015	TSP T30110 Note 1											
16	2.5.1	Relays shall have indexing pins to prevent insertion of an improper relay in relay	Design Criteria 11.2	C	RJT	2/25/2015	TSP T30100 Note 1											
17	2.5.3	Second Train warning signs shall be installed at each pedestrian crosswalk on the intertrack fence facing each platform such that the sign is visible to pedestrians prior to entering the pedestrian crosswalk surface.	Design Criteria 10.7.6	C	RJT	2/25/2015	Design Plans G80803.002 Note 1											
18	2.5.3	Second Train warning sign shall be activated when one train is in the station with the active warning system activated and a second train is approaching and shall continue while both trains are within the station.	Design Criteria 10.7.7	N/A			Note 3											
19	2.5.4	Where directed by the Department swing gates are also to be provided to allow pedestrians to clear the tracks after the gates are down.	Design Criteria 10.6.8	C	RJT	2/25/2015	Design Plans C00.001											
20	2.5.5	DTMF Remote Activation as described in Section 10.6.7 shall be provided at all pedestrian crossings.	Design Criteria 10.6.8	C	RJT	2/25/2015	Design Plans G80803.014											
21	2.5.5	After a field adjustable time interval, the DTMF system will return the crossing to normal operation if activated by code but not de-activated.	Design Criteria 10.6.7	C	RJT	2/25/2015	TSP T30041 Note 2											
22	2.5.6	Intrusion alarms and a means to secure the house from intrusion (such as a lockable door) shall be provided in all new crossing houses and alarms shall be recorded on the local event recorder.	Design Criteria 8.6.7	C	RJT	2/25/2015	Design Plans G80803.015 Note 2											
23	2.5.6	A power-off indicator light shall be mounted on each side of the instrument housing. The lights shall be visible to train crews approaching the crossing from either direction.	Design Criteria 8.6.7	C	RJT	2/25/2015	Design Plans G80803.03 Note 2											
24	2.5.6	The electrical panel shall consist of at least one Ground Fault Circuit Interrupter (GFCI) breaker. This GFCI breaker shall be used for all lighting and convenience outlets.	Design Criteria 8.6.2	C	RJT	2/24/2015	Design Plans G80803.03 Note 2											
<b>LEGEND</b>			<b>DESIGN VERIFICATION</b>				<b>CONSTRUCTION VERIFICATION</b>				<b>FINAL VERIFICATION</b>							
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other			<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection				Name and Organization: _____ Date: _____				Name and Organization: _____ Date: _____							
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance			Approved by: _____ Date: _____				Approved by: _____ Date: _____				Approved by: _____ Date: _____							



# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists	Design Verification	Construction Verification	Final Verification
<b>Certifiable Element:</b> 2.0 Signals  <b>Sub-Element:</b> 2.5 Pedestrian Crossings (Stations) Warning Systems <b>Location:</b> Poinciana Station Ped Walk MP A813.68 and 813.72  <b>Contract No.:</b>	<b>Notes or Restrictions:</b> 1. To be verified in construction 2. To be verified with Product Submittal 3. 2nd Train Warning control in software - not part of hardware design.		

Item No.	Certifiable Item Description			Design Verification				Construction/Installation				Verification			
	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	2.5.1	Pole mounted 12 inch LED flashing light units in accordance with AREMA 3.2.35.	Design Criteria 10.2 AREMA C&S 3.2.35	C	RJT	2/25/2015	TSP T30010 Note 2								
2	2.5.1	A Railroad crossbuck sign in accordance with AREMA 3.2.70 and as shown in the current version of the MUTCD signs as R-15-1	Design Criteria 10.2 AREMA C&S 3.2.70 MUTCD R-15-1	C	RJT	2/25/2015	TSP T30025 Note 2								
3	2.5.1	Multiple Track Signs (when required) in accordance AREMA 3.2.76 as shown in the current version of the MUTCD as sign R-15-2	Design Criteria 10.2 AREMA C&S 3.2.76 MUTCD R-15-2	C	RJT	2/25/2015	TSP T30025 Note 2								
4	2.5.1	All flashers (Gate and pole mounted) shall be based upon LED technology and in accordance with the current AREMA guidelines. Pole and Cantilever flashers shall be 12 inch LED's while the gate arms shall receive 4 inch LED's.	Design Criteria 10.2	C	RJT	2/25/2015	TSP T30010 Note 1								
5	2.5.1	Alternating flashing 12 in LED and bell outputs shall energize no more than 1.0 second after control or GP inputs are de-energized.	Design Criteria 10.6.2	C	RJT	2/25/2015	Design Plans G81372.009 Note 2								
6	2.5.1	Gate control output shall de-energize a minimum of 3.0 seconds after control input is de-energized.	Design Criteria 10.6.2	C	RJT	2/25/2015	Design Plans G81372.009 Note 2								
7	2.5.1	In the event of a failure which would impair the system from operating, the highway crossing warning device properly in response to control and GP input signals, the controller shall have a fallback mode which shall assure the following minimum operating capabilities when the control input signal is de-energized: • Flashing LED power is applied at 12 V to at least one of each lamp pair • Gate control output is de-energized • Bell control output is energized at 11 V DC	Design Criteria 10.6.6	C	RJT	2/25/2015	Design Plans G81372.009 Note 2								
8	2.5.1	Gate arms shall start in downward motion not less than 3 seconds or greater than 5 seconds after the flashing lights start to operate.	Design Criteria 10.7.2	C	RJT	2/25/2015	Design Plans G81372.009 Note 1 Note 2								
9	2.5.1	Circuits shall be so arranged that a failure of the gate mechanism to operate as intended shall not prevent the lights on the gate arm and signal from operating on the approach of a train.	Design Criteria 10.7.2	C	RJT	2/25/2015	Design Plans G81372.009 Note 1 Note 2								
10	2.5.1	The system power supply shall be designed in accordance with FRA 234 and provide eight hours of standby back-up battery.	Design Criteria 10.10	C	RJT	2/25/2015	Design Plans G81372.003								
11	2.5.1	Constant Warning devices shall be used at all crossings.	Design Criteria 10.4	C	RJT	2/25/2015	Design Plans G81372.004 Note 2								

12	2.5.1	Highway Crossing Warning start circuits shall provide initiation of the warning equipment from both sides of the crossing and shall also include separate island circuits.	Design Criteria 10.3	C	RJT	2/25/2015	Design Plans G81372.004 Note 2											
13	2.5.1	A minimum of 30 seconds of warning time shall be required prior to the arrival of a train at crossing.	Design Criteria 10.3	C	RJT	2/25/2015	Design Plans G81372.002 G81372.011											
14	2.5.1	Additional start time shall be provided for multiple track crossings with wide travel surfaces, simultaneous or advance pre-emption, or locations where additional time is required.	Design Criteria 10.3	C	RJT	2/25/2015	Design Plans G81372.002 G81372.011											
15	2.5.1	Cables passing underneath the track structure or roadway shall be installed in a conduits as defined in the Design Criteria	Design Criteria 10.1	C	RJT	2/25/2015	TSP T30110 Note 1											
16	2.5.1	Relays shall have indexing pins to prevent insertion of an improper relay in relay	Design Criteria 11.2	C	RJT	2/25/2015	TSP T30100 Note 1											
17	2.5.3	Second Train warning signs shall be installed at each pedestrian crosswalk on the intertrack fence facing each platform such that the sign is visible to pedestrians prior to entering the pedestrian crosswalk surface.	Design Criteria 10.7.6	C	RJT	2/25/2015	Design Plans G81372.002 Note 1											
18	2.5.3	Second Train warning sign shall be activated when one train is in the station with the active warning system activated and a second train is approaching and shall continue while both trains are within the station.	Design Criteria 10.7.7	N/A			Note 3											
19	2.5.4	Where directed by the Department swing gates are also to be provided to allow pedestrians to clear the tracks after the gates are down.	Design Criteria 10.6.8	C	RJT	2/25/2015	Design Plans C00.001											
20	2.5.5	DTMF Remote Activation as described in Section 10.6.7 shall be provided at all pedestrian crossings.	Design Criteria 10.6.8	C	RJT	2/25/2015	Design Plans G81372.017											
21	2.5.5	After a field adjustable time interval, the DTMF system will return the crossing to normal operation if activated by code but not de-activated.	Design Criteria 10.6.7	C	RJT	2/25/2015	TSP T30041 Note 2											
22	2.5.6	Intrusion alarms and a means to secure the house from intrusion (such as a lockable door) shall be provided in all new crossing houses and alarms shall be recorded on the local event recorder.	Design Criteria 8.6.7	C	RJT	2/24/2015	Design Plans G81372.018 Note 2											
23	2.5.6	A power-off indicator light shall be mounted on each side of the instrument housing. The lights shall be visible to train crews approaching the crossing from either direction.	Design Criteria 8.6.7	C	RJT	2/24/2015	Design Plans G81372.003 Note 2											
24	2.5.6	The electrical panel shall consist of at least one Ground Fault Circuit Interrupter (GFCI) breaker. This GFCI breaker shall be used for all lighting and convenience outlets.	Design Criteria 8.6.2	C	RJT	2/24/2015	Design Plans G81372.003 Note 2											
<b>LEGEND</b>			<b>DESIGN VERIFICATION</b>				<b>CONSTRUCTION VERIFICATION</b>				<b>FINAL VERIFICATION</b>							
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other			<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection				Name and Organization: _____ Date: _____				Name and Organization: _____ Date: _____							
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance			Approved by: _____ Date: _____				Approved by: _____ Date: _____				Approved by: _____ Date: _____							

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists	Design Verification	Construction Verification	Final Verification
<b>Certifiable Element:</b> <u>2.0 Signals</u>  <b>Sub-Element:</b> <u>2.6 Electric Locks (By Industry)</u> <b>Location:</b> <u>S Leg of Wye MP A797.11</u>  <b>Contract No.:</b> _____	<b>Notes or Restrictions:</b> 1. To be verified with product submittal 2. Function of the vital software.		

Item No.	Certifiable Item Description			Design Verification				Construction/Installation				Verification			
	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	2.6.1	All hand-thrown mainline switch locations where a train can clear the mainline into a siding track shall have electric locks provided.	Design Criteria Section 9.6	C	BJL PMB	2/9/2015	Design Plans G79711.002								
2	2.6.1	Deraill detection in the form of a circuit controller rod, shall be provided wherever a permanent deraill is placed...	Design Criteria Section 9.6	C	BJL PMB	2/9/2015	Design Plans G79711.002 Note 1								
3	2.6.1	...the mainline switch and deraill shall have a target sign (Red/Green) that shall indicate the position of the switch points or deraill	Design Criteria Section 9.6	N/A			Note 1								
4	2.6.2	The lock shall prevent accidental operation of the switch points unless a specified amount of time permitting an approaching train to arrive at the switch has expired...	Design Criteria Section 9.6	N/A			Note 2								
5	2.6.2	The lock shall prevent accidental operation of the switch points unless... Or the train is detected by the shunt overlay track circuit within 50 ft. of the switch points.	Design Criteria Section 9.6	N/A			Note 2								
6	2.6.2	Switching fouling shall be based upon shunting of the mainline track circuit the train or engine is fouling.	Design Criteria Section 9.6	C	BJL PMB	2/9/2015	Design Plans G79711.002								
7	2.6.3	A means to secure the case from intrusion shall be provided.	Design Criteria Section 8.6.10	C	BJL PMB	2/9/2015	TSP T30105								

LEGEND		DESIGN VERIFICATION	CONSTRUCTION VERIFICATION	FINAL VERIFICATION
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other	<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection	Name and Organization: _____  Date: _____  Approved by: _____  Date: _____	Name and Organization: _____  Date: _____  Approved by: _____  Date: _____	Name and Organization: _____  Date: _____  Approved by: _____  Date: _____
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance				

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists	Design Verification	Construction Verification	Final Verification
<b>Certifiable Element:</b> <u>2.0 Signals</u>  <b>Sub-Element:</b> <u>2.6 Electric Locks (By Industry)</u> <b>Location:</b> <u>Cross-over to Yard Track MP A797.15</u>  <b>Contract No.:</b> _____	<b>Notes or Restrictions:</b> 1. To be verified with product submittal 2. Function of the vital software.	<b>Notes or Restrictions:</b>     	<b>Notes or Restrictions:</b>     

Item No.	Certifiable Item Description			Design Verification				Construction/Installation				Verification			
	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	2.6.1	All hand-thrown mainline switch locations where a train can clear the mainline into a siding track shall have electric locks provided.	Design Criteria Section 9.6	C	BJL PMB	2/9/2015	Design Plans G79711.002								
2	2.6.1	Deraill detection in the form of a circuit controller rod, shall be provided wherever a permanent deraill is placed...	Design Criteria Section 9.6	C	BJL PMB	2/9/2015	Design Plans G79711.002 Note 1								
3	2.6.1	...the mainline switch and deraill shall have a target sign (Red/Green) that shall indicate the position of the switch points or deraill	Design Criteria Section 9.6	N/A			Note 1								
4	2.6.2	The lock shall prevent accidental operation of the switch points unless a specified amount of time permitting an approaching train to arrive at the switch has expired...	Design Criteria Section 9.6	N/A			Note 2								
5	2.6.2	The lock shall prevent accidental operation of the switch points unless... Or the train is detected by the shunt overlay track circuit within 50 ft. of the switch points.	Design Criteria Section 9.6	N/A			Note 2								
6	2.6.2	Switching fouling shall be based upon shunting of the mainline track circuit the train or engine is fouling.	Design Criteria Section 9.6	C	BJL PMB	2/9/2015	Design Plans G79711.002								
7	2.6.3	A means to secure the case from intrusion shall be provided.	Design Criteria Section 8.6.10	C	BJL PMB	2/9/2015	TSP T30105								

LEGEND		DESIGN VERIFICATION	CONSTRUCTION VERIFICATION	FINAL VERIFICATION
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other	<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection	Name and Organization: _____ Date: _____ Approved by: _____ Date: _____	Name and Organization: _____ Date: _____ Approved by: _____ Date: _____	Name and Organization: _____ Date: _____ Approved by: _____ Date: _____
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance				

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists	Design Verification	Construction Verification	Final Verification
<b>Certifiable Element:</b> <u>2.0 Signals</u>  <b>Sub-Element:</b> <u>2.6 Electric Locks (By Industry)</u> <b>Location:</b> <u>Entrance to CSXT Yard MP A797.63</u>  <b>Contract No.:</b> _____	<b>Notes or Restrictions:</b> 1. To be verified with product submittal 2. Function of the vital software.	<b>Notes or Restrictions:</b>     	<b>Notes or Restrictions:</b>     

Item No.	Certifiable Item Description			Design Verification				Construction/Installation				Verification			
	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	2.6.1	All hand-thrown mainline switch locations where a train can clear the mainline into a siding track shall have electric locks provided.	Design Criteria Section 9.6	C	BJL PMB	2/9/2015	Design Plans G79763.002								
2	2.6.1	Deraill detection in the form of a circuit controller rod, shall be provided wherever a permanent deraill is placed...	Design Criteria Section 9.6	C	BJL PMB	2/9/2015	Design Plans G79763.002 Note 1								
3	2.6.1	...the mainline switch and deraill shall have a target sign (Red/Green) that shall indicate the position of the switch points or deraill	Design Criteria Section 9.6	N/A			Note 1								
4	2.6.2	The lock shall prevent accidental operation of the switch points unless a specified amount of time permitting an approaching train to arrive at the switch has expired...	Design Criteria Section 9.6	N/A			Note 2								
5	2.6.2	The lock shall prevent accidental operation of the switch points unless... Or the train is detected by the shunt overlay track circuit within 50 ft. of the switch points.	Design Criteria Section 9.6	N/A			Note 2								
6	2.6.2	Switching fouling shall be based upon shunting of the mainline track circuit the train or engine is fouling.	Design Criteria Section 9.6	C	BJL PMB	2/9/2015	Design Plans G79763.002								
7	2.6.3	A means to secure the case from intrusion shall be provided.	Design Criteria Section 8.6.10	C	BJL PMB	2/9/2015	TSP T30105								

LEGEND		DESIGN VERIFICATION	CONSTRUCTION VERIFICATION	FINAL VERIFICATION
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other	<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection	Name and Organization: _____  Date: _____  Approved by: _____  Date: _____	Name and Organization: _____  Date: _____  Approved by: _____  Date: _____	Name and Organization: _____  Date: _____  Approved by: _____  Date: _____
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance				

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists	Design Verification	Construction Verification	Final Verification
<b>Certifiable Element:</b> <u>2.0 Signals</u>  <b>Sub-Element:</b> <u>2.6 Electric Locks (By Industry)</u> <b>Location:</b> <u>Airport Spur MP A798.82</u>  <b>Contract No.:</b> _____	<b>Notes or Restrictions:</b> 1. To be verified with product submittal 2. Function of the vital software.		

Item No.	Certifiable Item Description			Design Verification				Construction/Installation				Verification			
	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	2.6.1	All hand-thrown mainline switch locations where a train can clear the mainline into a siding track shall have electric locks provided.	Design Criteria Section 9.6	C	BJL PMB	2/9/2015	Design Plans G79876.002								
2	2.6.1	Deraill detection in the form of a circuit controller rod, shall be provided wherever a permanent deraill is placed...	Design Criteria Section 9.6	C	BJL PMB	2/9/2015	Design Plans G79876.002 Note 1								
3	2.6.1	...the mainline switch and deraill shall have a target sign (Red/Green) that shall indicate the position of the switch points or deraill	Design Criteria Section 9.6	N/A			Note 1								
4	2.6.2	The lock shall prevent accidental operation of the switch points unless a specified amount of time permitting an approaching train to arrive at the switch has expired...	Design Criteria Section 9.6	N/A			Note 2								
5	2.6.2	The lock shall prevent accidental operation of the switch points unless... Or the train is detected by the shunt overlay track circuit within 50 ft. of the switch points.	Design Criteria Section 9.6	N/A			Note 2								
6	2.6.2	Switching fouling shall be based upon shunting of the mainline track circuit the train or engine is fouling.	Design Criteria Section 9.6	C	BJL PMB	2/9/2015	Design Plans G79876.002								
7	2.6.3	A means to secure the case from intrusion shall be provided.	Design Criteria Section 8.6.10	C	BJL PMB	2/9/2015	TSP T30105								

LEGEND		DESIGN VERIFICATION	CONSTRUCTION VERIFICATION	FINAL VERIFICATION
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other	<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection	Name and Organization: _____  Date: _____  Approved by: _____  Date: _____	Name and Organization: _____  Date: _____  Approved by: _____  Date: _____	Name and Organization: _____  Date: _____  Approved by: _____  Date: _____
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance				

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists	Design Verification	Construction Verification	Final Verification
<b>Certifiable Element:</b> <u>2.0 Signals</u>  <b>Sub-Element:</b> <u>2.6 Electric Locks (By Industry)</u> <b>Location:</b> <u>Circus Track MP A799.08</u>  <b>Contract No.:</b> _____	<b>Notes or Restrictions:</b> 1. To be verified with product submittal 2. Function of the vital software.	<b>Notes or Restrictions:</b> _____ _____ _____	<b>Notes or Restrictions:</b> _____ _____ _____

Item No.	Certifiable Item Description			Design Verification				Construction/Installation				Verification			
	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	2.6.1	All hand-thrown mainline switch locations where a train can clear the mainline into a siding track shall have electric locks provided.	Design Criteria Section 9.6	C	BJL PMB	2/9/2015	Design Plans G79908.002								
2	2.6.1	Deraill detection in the form of a circuit controller rod, shall be provided wherever a permanent deraill is placed...	Design Criteria Section 9.6	C	BJL PMB	2/9/2015	Design Plans G79908.002 Note 1								
3	2.6.1	...the mainline switch and deraill shall have a target sign (Red/Green) that shall indicate the position of the switch points or deraill	Design Criteria Section 9.6	C	BJL PMB	2/9/2015	Note 1								
4	2.6.2	The lock shall prevent accidental operation of the switch points unless a specified amount of time permitting an approaching train to arrive at the switch has expired...	Design Criteria Section 9.6	N/A			Note 2								
5	2.6.2	The lock shall prevent accidental operation of the switch points unless... Or the train is detected by the shunt overlay track circuit within 50 ft. of the switch points.	Design Criteria Section 9.6	N/A			Note 2								
6	2.6.2	Switching fouling shall be based upon shunting of the mainline track circuit the train or engine is fouling.	Design Criteria Section 9.6	C	BJL PMB	2/9/2015	Design Plans G79908.002								
7	2.6.3	A means to secure the case from intrusion shall be provided.	Design Criteria Section 8.6.10	C	BJL PMB	2/9/2015	TSP T30105								

LEGEND		DESIGN VERIFICATION	CONSTRUCTION VERIFICATION	FINAL VERIFICATION
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other	<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection	Name and Organization: _____ Date: _____ Approved by: _____ Date: _____	Name and Organization: _____ Date: _____ Approved by: _____ Date: _____	Name and Organization: _____ Date: _____ Approved by: _____ Date: _____
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance				

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists	Design Verification	Construction Verification	Final Verification
<b>Certifiable Element:</b> <u>2.0 Signals</u>  <b>Sub-Element:</b> <u>2.6 Electric Locks (By Industry)</u> <b>Location:</b> <u>Crossover to siding MP A799.29</u>  <b>Contract No.:</b> _____	<b>Notes or Restrictions:</b> 1. To be verified with product submittal 2. Function of the vital software.		

Item No.	Certifiable Item Description			Design Verification				Construction/Installation				Verification			
	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	2.6.1	All hand-thrown mainline switch locations where a train can clear the mainline into a siding track shall have electric locks provided.	Design Criteria Section 9.6	C	BJL PMB	2/9/2015	Design Plans G79929.002								
2	2.6.1	Deraill detection in the form of a circuit controller rod, shall be provided wherever a permanent deraill is placed...	Design Criteria Section 9.6	C	BJL PMB	2/9/2015	Design Plans G79929.002 Note 1								
3	2.6.1	...the mainline switch and deraill shall have a target sign (Red/Green) that shall indicate the position of the switch points or deraill	Design Criteria Section 9.6	N/A			Note 1								
4	2.6.2	The lock shall prevent accidental operation of the switch points unless a specified amount of time permitting an approaching train to arrive at the switch has expired...	Design Criteria Section 9.6	N/A			Note 2								
5	2.6.2	The lock shall prevent accidental operation of the switch points unless... Or the train is detected by the shunt overlay track circuit within 50 ft. of the switch points.	Design Criteria Section 9.6	N/A			Note 2								
6	2.6.2	Switching fouling shall be based upon shunting of the mainline track circuit the train or engine is fouling.	Design Criteria Section 9.6	C	BJL PMB	2/9/2015	Design Plans G79929.002								
7	2.6.3	A means to secure the case from intrusion shall be provided.	Design Criteria Section 8.6.10	C	BJL PMB	2/9/2015	TSP T30105								

LEGEND		DESIGN VERIFICATION	CONSTRUCTION VERIFICATION	FINAL VERIFICATION
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other	<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection	Name and Organization: _____  Date: _____  Approved by: _____  Date: _____	Name and Organization: _____  Date: _____  Approved by: _____  Date: _____	Name and Organization: _____  Date: _____  Approved by: _____  Date: _____
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance				



# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists	Design Verification	Construction Verification	Final Verification
<b>Certifiable Element:</b> <u>2.0 Signals</u>  <b>Sub-Element:</b> <u>2.6 Electric Locks (By Industry)</u> <b>Location:</b> <u>Whirlpool MP A802.00</u>  <b>Contract No.:</b> _____	<b>Notes or Restrictions:</b> 1. To be verified with product submittal 2. Function of the vital software.	<b>Notes or Restrictions:</b>     	<b>Notes or Restrictions:</b>     

Item No.	Certifiable Item Description			Design Verification				Construction/Installation				Verification			
	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	2.6.1	All hand-thrown mainline switch locations where a train can clear the mainline into a siding track shall have electric locks provided.	Design Criteria Section 9.6	C	BJL PMB	2/9/2015	Design Plans G80198.002								
2	2.6.1	Deraill detection in the form of a circuit controller rod, shall be provided wherever a permanent deraill is placed...	Design Criteria Section 9.6	C	BJL PMB	2/9/2015	Design Plans G80198.002 Note 1								
3	2.6.1	...the mainline switch and deraill shall have a target sign (Red/Green) that shall indicate the position of the switch points or deraill	Design Criteria Section 9.6	N/A			Note 1								
4	2.6.2	The lock shall prevent accidental operation of the switch points unless a specified amount of time permitting an approaching train to arrive at the switch has expired...	Design Criteria Section 9.6	N/A			Note 2								
5	2.6.2	The lock shall prevent accidental operation of the switch points unless... Or the train is detected by the shunt overlay track circuit within 50 ft. of the switch points.	Design Criteria Section 9.6	N/A			Note 2								
6	2.6.2	Switching fouling shall be based upon shunting of the mainline track circuit the train or engine is fouling.	Design Criteria Section 9.6	C	BJL PMB	2/9/2015	Design Plans G80198.002								
7	2.6.3	A means to secure the case from intrusion shall be provided.	Design Criteria Section 8.6.10	C	BJL PMB	2/9/2015	TSP T30105								

LEGEND		DESIGN VERIFICATION	CONSTRUCTION VERIFICATION	FINAL VERIFICATION
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other	<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection	Name and Organization: _____  Date: _____  Approved by: _____  Date: _____	Name and Organization: _____  Date: _____  Approved by: _____  Date: _____	Name and Organization: _____  Date: _____  Approved by: _____  Date: _____
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance				

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists	Design Verification	Construction Verification	Final Verification
<b>Certifiable Element:</b> <u>2.0 Signals</u>  <b>Sub-Element:</b> <u>2.6 Electric Locks (By Industry)</u> <b>Location:</b> <u>84 Lumber MP A804.92</u>  <b>Contract No.:</b> _____	<b>Notes or Restrictions:</b> 1. To be verified with product submittal 2. Function of the vital software.	<b>Notes or Restrictions:</b>     	<b>Notes or Restrictions:</b>     

Item No.	Certifiable Item Description			Design Verification				Construction/Installation				Verification			
	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	2.6.1	All hand-thrown mainline switch locations where a train can clear the mainline into a siding track shall have electric locks provided.	Design Criteria Section 9.6	C	BJL PMB	2/9/2015	Design Plans G80487.002								
2	2.6.1	Deraill detection in the form of a circuit controller rod, shall be provided wherever a permanent deraill is placed...	Design Criteria Section 9.6	C	BJL PMB	2/9/2015	Design Plans G80487.002 Note 1								
3	2.6.1	...the mainline switch and deraill shall have a target sign (Red/Green) that shall indicate the position of the switch points or deraill	Design Criteria Section 9.6	N/A			Note 1								
4	2.6.2	The lock shall prevent accidental operation of the switch points unless a specified amount of time permitting an approaching train to arrive at the switch has expired...	Design Criteria Section 9.6	N/A			Note 2								
5	2.6.2	The lock shall prevent accidental operation of the switch points unless... Or the train is detected by the shunt overlay track circuit within 50 ft. of the switch points.	Design Criteria Section 9.6	N/A			Note 2								
6	2.6.2	Switching fouling shall be based upon shunting of the mainline track circuit the train or engine is fouling.	Design Criteria Section 9.6	C	BJL PMB	2/9/2015	Design Plans G80487.002								
7	2.6.3	A means to secure the case from intrusion shall be provided.	Design Criteria Section 8.6.10	C	BJL PMB	2/9/2015	TSP T30105								

LEGEND		DESIGN VERIFICATION				CONSTRUCTION VERIFICATION				FINAL VERIFICATION			
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection				<b>Name and Organization:</b> _____ <b>Date:</b> _____				<b>Name and Organization:</b> _____ <b>Date:</b> _____			
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance		<b>Approved by:</b> _____ <b>Date:</b> _____				<b>Approved by:</b> _____ <b>Date:</b> _____				<b>Approved by:</b> _____ <b>Date:</b> _____			

# CFCRT Project Phase 2 South

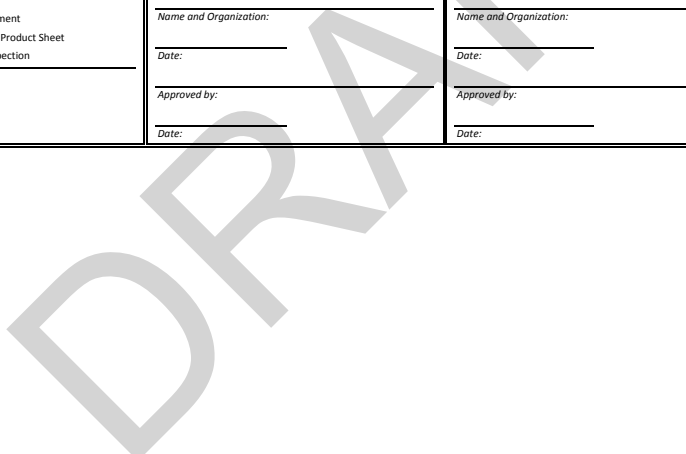
<b>Safety and Security Certification Elements Design and Construction Conformance Checklists</b>	<b>Design Verification</b>	<b>Construction Verification</b>	<b>Final Verification</b>
<b>Certifiable Element:</b> <u>2.0 Signals</u>  <b>Sub-Element:</b> <u>2.7 Defect Detectors</u> <b>Location:</b> <u>Stanton MP A801.00</u>  <b>Contract No.:</b> _____	<b>Notes or Restrictions:</b> 1. Software for message parameters not included design _____ _____ _____ _____ _____	<b>Notes or Restrictions:</b> _____ _____ _____ _____ _____	<b>Notes or Restrictions:</b> _____ _____ _____ _____ _____

Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	2.7.1	A new dragging equipment detector and new hot journal detector shall be added to the second track and connected to the existing detector.	Design Criteria Section 9.16.1	C	BJL PMB	2/9/2015	Design Plans 80100.002								
2	2.7.2	Voice announcements shall be made for each train that passes over the Defect Detector and shall include, at a minimum, detector location identification, train wheels count and defects noted.	Design Criteria Section 9.16.1	C	BJL PMB	2/9/2015	Design Plans G80100.007 Note 1								
<b>LEGEND</b> <b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other  <b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection  <b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance				<b>DESIGN VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				<b>CONSTRUCTION VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				<b>FINAL VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____			

DRAFT

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists				Design Verification				Construction Verification				Final Verification			
<b>Certifiable Element:</b> 3.0 Communications <b>Sub-Element:</b> 3.1 Radio Systems <b>Location:</b> _____ <b>Contract No.:</b> _____				<b>Notes or Restrictions:</b> 1. Typical ATCS Radio Configuration - Each CP has the same configuration.				<b>Notes or Restrictions:</b>				<b>Notes or Restrictions:</b>			
Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	3.1.2	The ATCS data radio system will be used for a backup system in the event of a fiber optic system failure and the ATCS data radio system is installed at the Control Points.	Design Criteria Section 15.2 and 15.5.1	C	RJT	2/18/2015	G79687.013 G79687.014 Note 1								
2	3.1.2	ATCS radio base stations shall have a minimum of 90 minutes of back-up power.	Design Criteria Section 15.2	C	RJT	2/18/2015	R52.728								
3	3.1.2	All equipment shall be grounded	Design Criteria Section 15.7.11	C	RJT	2/18/2015	R52.712 R52.714								
4	3.1.2	All equipment shall be protected against faults and surge currents in accordance with NFPA 780.	Design Criteria Section 15.7.11	C	RJT	2/18/2015	Positive Train Control (PTC) Wayside Communications - Design Narrative								
LEGEND				DESIGN VERIFICATION				CONSTRUCTION VERIFICATION				FINAL VERIFICATION			
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection		<b>Name and Organization:</b> _____ <b>Date:</b> _____ <b>Approved by:</b> _____ <b>Date:</b> _____				<b>Name and Organization:</b> _____ <b>Date:</b> _____ <b>Approved by:</b> _____ <b>Date:</b> _____				<b>Name and Organization:</b> _____ <b>Date:</b> _____ <b>Approved by:</b> _____ <b>Date:</b> _____			



# CFCRT Project Phase 2 South

<b>Safety and Security Certification Elements Design and Construction Conformance Checklists</b>	<b>Design Verification</b>	<b>Construction Verification</b>	<b>Final Verification</b>
<b>Certifiable Element:</b> <u>3.0 Communications</u>  <b>Sub-Element:</b> <u>3.2 OCC Systems</u> <b>Location:</b> _____  <b>Contract No.:</b> _____	<b>Notes or Restrictions:</b> 1. Tie in to existing OCC system - functionality of new systems dependent upon existing capabilities at the OCC.	<b>Notes or Restrictions:</b>       	<b>Notes or Restrictions:</b>       

Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	3.2.4	The existing radio location at Kissimmee shall connect into the new fiber optic network installed as part of Phase 2 South.	Design Criteria Section 13.1.1 (2)	C	RJT	2/18/2015	R52.702 R52.711								
2	3.2.4	The existing radio location at Glen Rose shall connect into the new fiber optic network installed as part of Phase 2 South.	Design Criteria Section 13.1.1 (2)	C	RJT	2/18/2015	R52.702 R52.713								
3	3.2.8	Passenger to OCC telephones (Passenger Assistance Telephones or PAT) are also monitored from the OCC.	Design Criteria Section 13.1.1 (2)	C	RJT	2/18/2015	M20.701 M20.702								
4	3.2.5 3.2.6	The communications workstations are able to send pre determined messages, as well as direct voice or text, to both the station PA and VMS.	Design Criteria Section 13.1.1 (2) and 15.2	N/A			Note 1								
5	3.1.2	Communications shall automatically transfer to the backup system upon a fiber system failure and shall transfer back to the primary fiber when fiber communications has been restored.	Design Criteria Section 13.1.1 (3)	N/A			Note 1								
6	3.1.2 3.3.1	A visual indication is provided to the Train Dispatcher that a Control Point has transferred to the backup system.	Design Criteria Section 13.1.1 (3)	N/A			Note 1								
7	3.3.1	Should a local alarm at a station become active, the OCC is sent messages indicating the type of alarm for appropriate action, except for the Emergency Call Boxes (ECBs).	Design Criteria Section 13.1.1 (5)	P	RJT	2/18/2015	M20.701 Note 1								
8	3.3.1	ECB calls are routed directly to the local police for action; the OCC shall receive an indication that the ECB has been activated.	Design Criteria Section 13.1.1 (5)	C	RJT	2/18/2015	M20.701 M20.702								
9	3.2.7	The OCC utility/SCADA computers communicates with the field locations to control the PTZ feature, as well as automatic control and display of a video signal from a field request or alarm at a TVM, ECB, or PAT. This feature allows the utility/SCADA workstation to display the actual image of the TVM or telephone that is initiating communication.	Design Criteria Section 13.1.1 (7)	N/A			Note 1								

LEGEND		DESIGN VERIFICATION	CONSTRUCTION VERIFICATION	FINAL VERIFICATION
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other	<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection	Name and Organization: _____ Date: _____ Approved by: _____ Date: _____	Name and Organization: _____ Date: _____ Approved by: _____ Date: _____	Name and Organization: _____ Date: _____ Approved by: _____ Date: _____



# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists				Design Verification				Construction Verification				Final Verification			
<b>Certifiable Element:</b> 3.0 Communications  <b>Sub-Element:</b> 3.4 PA System  <b>Location:</b> Meadow Woods Station MP A A 801.20  <b>Contract No.:</b>				<b>Notes or Restrictions:</b>  1. Tie in to existing OCC system - functionality of new systems dependant upon existing capabilities at the OCC.											
Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	3.4.3	Each station shall have a public address system.	Design Criteria Section 15.7.2	C	SY	3/12/2015	M20.701 M20.702 M14.301-2 TSP 17730								
2	3.4.4	Information presented audibly by the PA system shall meet all ADA and ICC A117.1-2009 requirements.	Design Criteria Section 15.7.2	C	SY	3/12/2015	TSP 17730, 1.01 H and M.								
3	3.4.4	Use adaptive amplification when required to adjust to variations in ambient noise sources.	Design Criteria Section 15.7.2	C	SY	3/17/2015	M20.701 M20.702 TSP 17730								
4	3.4.1	The PA system used at the station shall support both ad hoc and pre-recorded audible messages.	Design Criteria Section 15.7.2	N/A			TSP 17730 Note 1								
5	3.4.1	Information provided by the PA system shall be provided over the VMS.	Design Criteria Section 15.7.2	N/A			TSP 17730, 1.01 H Note 1								
6	3.4.5	All PA system cabinets, wiring, and components shall be vandal proof and rated for the installed environment.	Design Criteria Section 15.7.2	C	SY	3/17/2015	TSP 17730								
7	3.4.3	All equipment shall be grounded.	Design Criteria Section 15.7.11	C	SY	3/17/2015	M20.711 TSP 16060 TSP 16289								
8	3.4.3	All equipment shall be protected against faults and surge currents.	Design Criteria Section 15.7.11	C	SY	3/17/2015	TSP 16289								
LEGEND				DESIGN VERIFICATION				CONSTRUCTION VERIFICATION				FINAL VERIFICATION			
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection		Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				Name and Organization: _____ Date: _____ Approved by: _____ Date: _____			

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists				Design Verification				Construction Verification				Final Verification			
<b>Certifiable Element:</b> 3.0 Communications  <b>Sub-Element:</b> 3.4 PA System <b>Location:</b> Osceola (Tupperware) MP A 804.5  <b>Contract No.:</b>				<b>Notes or Restrictions:</b> 1. Tie in to existing OCC system - functionality of new systems dependant upon existing capabilities at the OCC.				<b>Notes or Restrictions:</b>				<b>Notes or Restrictions:</b>			
Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	3.4.3	Each station shall have a public address system.	Design Criteria Section 15.7.2	C	SY	3/17/2015	M20.701 M20.702 M15.301-2 TSP 17730								
2	3.4.4	Information presented audibly by the PA system shall meet all ADA and ICC A117.1-2009 requirements.	Design Criteria Section 15.7.2	C	SY	3/17/2015	TSP 17730, 1.01 H and M.								
3	3.4.4	Use adaptive amplification when required to adjust to variations in ambient noise sources.	Design Criteria Section 15.7.2	C	SY	3/17/2015	M20.701 M20.702 TSP 17730								
4	3.4.1	The PA system used at the station shall support both ad hoc and pre-recorded audible messages.	Design Criteria Section 15.7.2	N/A			TSP 17730 Note 1								
5	3.4.1	Information provided by the PA system shall be provided over the VMS	Design Criteria Section 15.7.2	N/A			TSP 17730, 1.01 H Note 1								
6	3.4.5	All PA system cabinets, wiring, and components shall be vandal proof and rated for the installed environment.	Design Criteria Section 15.7.2	C	SY	3/17/2015	TSP 17730								
7	3.4.3	All equipment shall be grounded	Design Criteria Section 15.7.11	C	SY	3/17/2015	M20.711 TSP 16060 TSP 16289								
8	3.4.3	All equipment shall be protected against faults and surge currents	Design Criteria Section 15.7.11	C	SY	3/17/2015	TSP 16289								
<b>LEGEND</b> Means of Verification - Design P = Plan Sheet    S = Specification RFI=RFI            O = Other  Status C = Compliance N = Noncompliance P = Partial Compliance				<b>DESIGN VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				<b>CONSTRUCTION VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				<b>FINAL VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____			



# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists				Design Verification				Construction Verification				Final Verification			
<b>Certifiable Element:</b> 3.0 Communications  <b>Sub-Element:</b> 3.4 PA System <b>Location:</b> Kissimmee Station MP A803.4  <b>Contract No.:</b>				<b>Notes or Restrictions:</b> 1. Tie in to existing OCC system - functionality of new systems dependant upon existing capabilities at the OCC.				<b>Notes or Restrictions:</b>				<b>Notes or Restrictions:</b>			
Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	3.4.3	Each station shall have a public address system.	Design Criteria Section 15.7.2	C	SY	3/17/2015	M20.701 M20.702 M16.301-2 TSP 17730								
2	3.4.4	Information presented audibly by the PA system shall meet all ADA and ICC A117.1-2009 requirements.	Design Criteria Section 15.7.2	C	SY	3/17/2015	TSP 17730, 1.01 H and M.								
3	3.4.4	Use adaptive amplification when required to adjust to variations in ambient noise sources.	Design Criteria Section 15.7.2	C	SY	3/17/2015	M20.701 M20.702 TSP 17730								
4	3.4.1	The PA system used at the station shall support both ad hoc and pre-recorded audible messages.	Design Criteria Section 15.7.2	N/A			TSP 17730 Note 1								
5	3.4.1	Information provided by the PA system shall be provided over the VMS	Design Criteria Section 15.7.2	N/A			TSP 17730, 1.01 H Note 1								
6	3.4.5	All PA system cabinets, wiring, and components shall be vandal proof and rated for the installed environment.	Design Criteria Section 15.7.2	C	SY	3/17/2015	TSP 17730								
7	3.4.3	All equipment shall be grounded	Design Criteria Section 15.7.11	C	SY	3/17/2015	M20.711 TSP 16060 TSP 16289								
8	3.4.3	All equipment shall be protected against faults and surge currents	Design Criteria Section 15.7.11	C	SY	3/17/2015	TSP 16289								
LEGEND				DESIGN VERIFICATION				CONSTRUCTION VERIFICATION				FINAL VERIFICATION			
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection		<b>Name and Organization:</b> _____ <b>Date:</b> _____				<b>Name and Organization:</b> _____ <b>Date:</b> _____				<b>Name and Organization:</b> _____ <b>Date:</b> _____			
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance				<b>Approved by:</b> _____ <b>Date:</b> _____				<b>Approved by:</b> _____ <b>Date:</b> _____				<b>Approved by:</b> _____ <b>Date:</b> _____			

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists				Design Verification				Construction Verification				Final Verification			
<b>Certifiable Element:</b> 3.0 Communications  <b>Sub-Element:</b> 3.4 PA System <b>Location:</b> Poinciana Station MP A813.7  <b>Contract No.:</b>				<b>Notes or Restrictions:</b> 1. Tie in to existing OCC system - functionality of new systems dependant upon existing capabilities at the OCC.				<b>Notes or Restrictions:</b>				<b>Notes or Restrictions:</b>			
Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	3.4.3	Each station shall have a public address system.	Design Criteria Section 15.7.2	C	SY	3/17/2015	M20.701 M20.702 M17.301-2 TSP 17730								
2	3.4.4	Information presented audibly by the PA system shall meet all ADA and ICC A117.1-2009 requirements.	Design Criteria Section 15.7.2	C	SY	3/17/2015	TSP 17730, 1.01 H and M.								
3	3.4.4	Use adaptive amplification when required to adjust to variations in ambient noise sources.	Design Criteria Section 15.7.2	C	SY	3/17/2015	M20.701 M20.702 TSP 17730								
4	3.4.1	The PA system used at the station shall support both ad hoc and pre-recorded audible	Design Criteria Section 15.7.2	N/A			TSP 17730 Note 1								
5	3.4.1	Information provided by the PA system shall be provided over the VMS	Design Criteria Section 15.7.2	N/A			TSP 17730, 1.01 H Note 1								
6	3.4.5	All PA system cabinets, wiring, and components shall be vandal proof and rated for the installed environment.	Design Criteria Section 15.7.2	C	SY	3/17/2015	TSP 17730								
7	3.4.3	All equipment shall be grounded	Design Criteria Section 15.7.11	C	SY	3/17/2015	M20.711 TSP 16060 TSP 16289								
8	3.4.3	All equipment shall be protected against faults and surge currents	Design Criteria Section 15.7.11	C	SY	3/17/2015	TSP 16289								
LEGEND				DESIGN VERIFICATION				CONSTRUCTION VERIFICATION				FINAL VERIFICATION			
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection		Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				Name and Organization: _____ Date: _____ Approved by: _____ Date: _____			

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists				Design Verification				Construction Verification				Final Verification			
<b>Certifiable Element:</b> 3.0 Communications  <b>Sub-Element:</b> 3.5 VMS System <b>Location:</b> Meadow Woods Station MP A A 801.20  <b>Contract No.:</b>				<b>Notes or Restrictions:</b> 1. Tie in to existing OCC system - functionality of new systems dependent upon existing capabilities at the OCC.				<b>Notes or Restrictions:</b>				<b>Notes or Restrictions:</b>			
Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	3.5.3	Each station platform shall have two VMS displays.	Design Criteria Section 15.7.2	C	SY	3/12/2015	A14.301 A14.302 M14.301 M14.302 TSP 17730 1.01, I.								
2	3.5.1 3.5.4	VMS displays shall be full sunlight viewable and ambient light adaptive so that they adjust to light variations.	Design Criteria Section 15.7.2	C	SY	3/12/2015	TSP 17730 1.01, I.								
3	3.5.3	The VMS shall be in an outdoor enclosure a minimum of 40 inches long.	Design Criteria Section 15.7.2	C	SY	3/12/2015	M20.712 TSP 17730 1.01, I.								
4	3.5.3	VMS must be placed in a prominent position and clearly viewable to passengers from the trains and platform.	Design Criteria Section 15.7.2	C	SY	3/12/2015	A14.301 A14.302 TSP 17730 1.01, I.								
5	3.5.1	The VMS will interface with the OCC so that there is advance warning of train arrival.	Design Criteria Section 15.7.2	N/A			TSP 17730 1.01, K., Note 1								
6	3.5.5	All VMS cabinets, wiring, and components shall be vandal proof.	Design Criteria Section 15.7.2	C	SY	3/12/2015	TSP 17730 1.01, L.								
7	3.5.3	All equipment shall be grounded	Design Criteria Section 15.7.11	C	SY	3/12/2015	M20.711 TSP 16289 TSP 16060 C00.002H								
8	3.5.3	All equipment shall be protected against faults and surge currents	Design Criteria Section 15.7.11	C	SY	3/12/2015	C00.002H TSP 16010, 1.1 D. TSP 16289								
9	3.5.5	All VMS cabinets shall be rated for the installed environment i.e., (withstand high wind environment. Capability to withstand 150 MPH Maximum Wind Speed	Design Criteria Section 15.7.2	C	SY	3/12/2015	TSP 17730 2.02, D.p.								
<b>LEGEND</b> <b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other  <b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection  <b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance				<b>DESIGN VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				<b>CONSTRUCTION VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				<b>FINAL VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____			

# CFCRT Project Phase 2 South

<b>Safety and Security Certification Elements Design and Construction Conformance Checklists</b>	<b>Design Verification</b>	<b>Construction Verification</b>	<b>Final Verification</b>
<b>Certifiable Element:</b> <u>3.0 Communications</u>  <b>Sub-Element:</b> <u>3.5 VMS System</u> <b>Location:</b> <u>Osceola (Tupperware) MP A 804.5</u>  <b>Contract No.:</b> _____	<b>Notes or Restrictions:</b> 1. Tie in to existing OCC system - functionality of new systems dependent upon existing capabilities at the OCC.	<b>Notes or Restrictions:</b>	<b>Notes or Restrictions:</b>

Certifiable Item Description				Design Verification				Construction/Installation				Verification				
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	
1	3.5.3	Each station platform shall have two VMS displays.	Design Criteria Section 15.7.2	C	SY	3/12/2015	A15.301 A15.302 M15.301 M15.302 TSP 17730 1.01, I.									
2	3.5.1 3.5.4	VMS displays shall be full sunlight viewable and ambient light adaptive so that they adjust to light variations.	Design Criteria Section 15.7.2	C	SY	3/12/2015	TSP 17730 1.01, I.									
3	3.5.3	The VMS shall be in an outdoor enclosure a minimum of 40 inches long	Design Criteria Section 15.7.2	C	SY	3/12/2015	M20.712 TSP 17730 1.01, I.									
4	3.5.3	VMS must be place in a prominent position and clearly viewable to passengers from the trains and platform.	Design Criteria Section 15.7.2	C	SY	3/12/2015	A15.301 A15.302 TSP 17730 1.01, I.									
5	3.5.1	The VMS will interface with the OCC so that there is advance warning of train arrival.	Design Criteria Section 15.7.2	N/A			TSP 17730 1.01, K. Note 1									
6	3.5.5	All VMS cabinets, wiring, and components shall be vandal proof.	Design Criteria Section 15.7.2	C	SY	3/12/2015	TSP 17730 1.01, L.									
7	3.5.3	All equipment shall be grounded	Design Criteria Section 15.7.11	C	SY	3/12/2015	M20.711 TSP 16289 TSP 16060 C00.002H									
8	3.5.3	All equipment shall be protected against faults and surge currents	Design Criteria Section 15.7.11	C	SY	3/12/2015	C00.002H TSP 16010, 1.1 D. TSP 16289									
9	3.5.5	All VMS cabinets shall be rated for the installed environment i.e., (withstand high wind environment. Capability to withstand 150 MPH Maximum Wind Speed	Design Criteria Section 15.7.2	C	SY	3/12/2015	TSP 17730 2.02, D.p.									

<b>LEGEND</b>		<b>DESIGN VERIFICATION</b>	<b>CONSTRUCTION VERIFICATION</b>	<b>FINAL VERIFICATION</b>
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other	<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection	Name and Organization: _____  Date: _____  Approved by: _____  Date: _____	Name and Organization: _____  Date: _____  Approved by: _____  Date: _____	Name and Organization: _____  Date: _____  Approved by: _____  Date: _____
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance				



# CFCRT Project Phase 2 South

<b>Safety and Security Certification Elements Design and Construction Conformance Checklists</b>	<b>Design Verification</b>	<b>Construction Verification</b>	<b>Final Verification</b>
<b>Certifiable Element:</b> 3.0 Communications  <b>Sub-Element:</b> 3.5 VMS System <b>Location:</b> Poinciana Station MP A813.7  <b>Contract No.:</b>	<b>Notes or Restrictions:</b> 1. Tie in to existing OCC system - functionality of new systems dependant upon existing capabilities at the OCC.	<b>Notes or Restrictions:</b>	<b>Notes or Restrictions:</b>

Certifiable Item Description				Design Verification				Construction/Installation				Verification				
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	
1	3.5.3	Each station platform shall have two VMS displays.	Design Criteria Section 15.7.2	C	SY	3/12/2015	A17.301 A17.302 M17.301 M17.302 TSP 17730 1.01, I.									
2	3.5.1 3.5.4	VMS displays shall be full sunlight viewable and ambient light adaptive so that they adjust to light variations.	Design Criteria Section 15.7.2	C	SY	3/12/2015	TSP 17730 1.01, I.									
3	3.5.3	The VMS shall be in an outdoor enclosure a minimum of 40 inches long	Design Criteria Section 15.7.2	C	SY	3/12/2015	M20.712 TSP 17730 1.01, I.									
4	3.5.3	VMS must be place in a prominent position and clearly viewable to passengers from the trains and platform.	Design Criteria Section 15.7.2	C	SY	3/12/2015	A17.301 A17.302 TSP 17730 1.01, I.									
5	3.5.1	The VMS will interface with the OCC so that there is advance warning of train arrival.	Design Criteria Section 15.7.2	N/A			TSP 17730 1.01, K. Note 1									
6	3.5.5	All VMS cabinets, wiring, and components shall be vandal proof.	Design Criteria Section 15.7.2	C	SY	3/12/2015	TSP 17730 1.01, L.									
7	3.5.3	All equipment shall be grounded	Design Criteria Section 15.7.11	C	SY	3/12/2015	M20.711 TSP 16289 TSP 16060 C00.002H									
8	3.5.3	All equipment shall be protected against faults and surge currents	Design Criteria Section 15.7.11	C	SY	3/12/2015	C00.002H TSP 16010, 1.1 D. TSP 16289									
9	3.5.5	All VMS cabinets shall be rated for the installed environment i.e., (withstand high wind environment. Capability to withstand 150 MPH Maximum Wind Speed	Design Criteria Section 15.7.2	C	SY	3/12/2015	TSP 17730 2.02, D.p.									

<b>LEGEND</b>		<b>DESIGN VERIFICATION</b>				<b>CONSTRUCTION VERIFICATION</b>				<b>FINAL VERIFICATION</b>					
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection		Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				Name and Organization: _____ Date: _____ Approved by: _____ Date: _____			
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance															

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists				Design Verification				Construction Verification				Final Verification					
<b>Certifiable Element:</b> 3.0 Communications  <b>Sub-Element:</b> 3.6 CCTV System  <b>Location:</b> Meadow Woods Station MP A A 801.20  <b>Contract No.:</b>				<b>Notes or Restrictions:</b> 1. The Contractor will be responsible to ensure placement provides required coverage. 2. Tie in to existing OCC system - functionality of new systems dependant upon existing capabilities at the OCC.													
Certifiable Item Description				Design Verification				Construction/Installation				Verification					
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification		
1	3.6.1	Each station shall have a CCTV system to monitor incidents at the station and station pedestrian crossings.	Design Criteria Section 15.7.4	C	SY	3/12/2015	M20.701 M20.702 TSP 17830, 1.01 B.										
2	3.6.1	Station CCTV includes three Pan-Tilt-Zoom (PTZ) cameras per platform that are controlled from the OCC.	Design Criteria Section 13.1.1 (6)	C	SY	3/12/2015	M20.701 M20.702 TSP 17830, 1.01 C.										
3	3.6.1	Cameras shall provide comprehensive coverage of the platforms and pedestrian crossing area and views in both directions along the tracks.	Design Criteria Section 15.7.9	C	SY	3/12/2015	TSP 17830, 1.01 B.										
4	3.6.1 3.6.4	Cameras shall provide clear views of fare collection equipment.	Design Criteria Section 15.7.9	C	SY	3/12/2015	C00.002G TSP 17830, 1.01 Note 1.										
5	3.6.1 3.6.4	Cameras shall provide clear views of ECBS.	Design Criteria Section 15.7.9	C	SY	3/12/2015	C00.002G TSP 17830, 1.01 Note 1.										
6	3.6.1 3.6.4	Cameras shall provide clear views of PATs.	Design Criteria Section 15.7.9	C	SY	3/12/2015	C00.002G TSP 17830, 1.01 Note 1.										
7	3.6.1 3.6.4	Cameras shall be capable of remote viewing.	Design Criteria Section 15.7.9	C	SY	3/12/2015	C00.002G TSP 17830, 1.01 Note 1.										
8	3.6.1 3.6.4	Cameras shall be capable of remote recording.	Design Criteria Section 15.7.9	C	SY	3/12/2015	C00.002G TSP 17830, 1.01 G.										
9	3.6.1	Cameras can be triggered to a preset location by activation of the PAT.	Design Criteria Section 15.7.9	C	SY	3/12/2015	TSP 17420, 3.01 C. Note 2.										
10	3.6.1	Cameras can be triggered to a preset location by activation of the ECB.	Design Criteria Section 15.7.9	C	SY	3/12/2015	TSP 17420, 3.01 C. Note 2.										
11	3.6.2 3.6.3	All equipment shall be grounded.	Design Criteria Section 15.7.11	C	SY	3/12/2015	M20.711 TSP 16289 TSP 16060 C00.002H										
12	3.6.2	All equipment shall be protected against faults and surge currents.	Design Criteria Section 15.7.11	C	SY	3/12/2015	C00.002H TSP 16010, 1.1 D. TSP 16289										
13	3.6.2	CCTV camera system shall be compatible with the current version of the Department's SunGuideSM Software System.	Design Criteria Section 15.7.9	C	SY	3/12/2015	C00.002G TSP 17830, 1.01										
<b>LEGEND</b> <table style="width:100%; border:none;"> <tr> <td style="width:50%; border:none;"> <b>Means of Verification - Design</b>                      P = Plan Sheet    S = Specification                      RFI=RFI            O = Other                 </td> <td style="width:50%; border:none;"> <b>Means of Verification - Construction</b>                      M = Measurement                      T = Test    PS = Product Sheet                      V = Visual Inspection                 </td> </tr> </table> <b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance				<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other	<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection	<b>DESIGN VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				<b>CONSTRUCTION VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				<b>FINAL VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____			
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other	<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection																

# CFCRT Project Phase 2 South

<b>Safety and Security Certification Elements Design and Construction Conformance Checklists</b>	<b>Design Verification</b>	<b>Construction Verification</b>	<b>Final Verification</b>
<b>Certifiable Element:</b> 3.0 Communications <b>Sub-Element:</b> 3.6 CCTV System <b>Location:</b> Osceola (Tupperware) MP A 804.5 <b>Contract No.:</b>	<b>Notes or Restrictions:</b>  	<b>Notes or Restrictions:</b>  	<b>Notes or Restrictions:</b>  

Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	3.6.1	Each station shall have a CCTV system to monitor incidents at the station and station pedestrian crossings.	Design Criteria Section 15.7.4	C	SY	3/12/2015	M20.701 M20.702 TSP 17830, 1.01 B.								
2	3.6.1	Station CCTV includes three Pan-Tilt-Zoom (PTZ) cameras per platform that are controlled from the OCC	Design Criteria Section 13.1.1 (6)	C	SY	3/12/2015	M20.701 M20.702 TSP 17830, 1.01 C.								
3	3.6.1	Cameras shall provide comprehensive coverage of the platforms and pedestrian crossing area and views in both directions along the tracks.	Design Criteria Section 15.7.9	C	SY	3/12/2015	TSP 17830, 1.01 B.								
4	3.6.1 3.6.4	Cameras shall provide clear views of fare collection equipment	Design Criteria Section 15.7.9	C	SY	3/12/2015	C00.002G TSP 17830, 1.01 Note 1.								
5	3.6.1 3.6.4	Cameras shall provide clear views of ECBS	Design Criteria Section 15.7.9	C	SY	3/12/2015	C00.002G TSP 17830, 1.01 Note 1.								
6	3.6.1 3.6.4	Cameras shall provide clear views of PATs	Design Criteria Section 15.7.9	C	SY	3/12/2015	C00.002G TSP 17830, 1.01 Note 1.								
7	3.6.1 3.6.4	Cameras shall be capable of remote viewing	Design Criteria Section 15.7.9	C	SY	3/12/2015	C00.002G TSP 17830, 1.01 Note 1.								
8	3.6.1 3.6.4	Cameras shall be capable of remote recording	Design Criteria Section 15.7.9	C	SY	3/12/2015	C00.002G TSP 17830, 1.01 G.								
9	3.6.1	Cameras can be triggered to a preset location by activation of the PAT	Design Criteria Section 15.7.9	C	SY	3/12/2015	TSP 17420, 3.01 C. Note 2.								
10	3.6.1	Cameras can be triggered to a preset location by activation of the ECB	Design Criteria Section 15.7.9	C	SY	3/12/2015	TSP 17420, 3.01 C. Note 2.								
11	3.6.2 3.6.3	All equipment shall be grounded	Design Criteria Section 15.7.11	C	SY	3/12/2015	M20.711 TSP 16289 TSP 16060 C00.002H								
12	3.6.2	All equipment shall be protected against faults and surge currents	Design Criteria Section 15.7.11	C	SY	3/12/2015	C00.002H TSP 16010, 1.1 D. TSP 16289								
13	3.6.2	CCTV camera system shall be compatible with the current version of the Department's SunGuideSM Software System.	Design Criteria Section 15.7.9	C	SY	3/12/2015	C00.002G TSP 17830, 1.01								

LEGEND		DESIGN VERIFICATION		CONSTRUCTION VERIFICATION		FINAL VERIFICATION	
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection		Name and Organization: _____ Date: _____		Name and Organization: _____ Date: _____	
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance		Approved by: _____ Date: _____		Approved by: _____ Date: _____		Approved by: _____ Date: _____	



# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists				Design Verification				Construction Verification				Final Verification			
<b>Certifiable Element:</b> 3.0 Communications  <b>Sub-Element:</b> 3.6 CCTV System  <b>Location:</b> Kissimmee Station MP A803.4  <b>Contract No.:</b>				<b>Notes or Restrictions:</b> 1. The Contractor will be responsible to ensure placement provides required coverage. 2. Tie in to existing OCC system - functionality of new systems dependent upon existing capabilities at the OCC.				<b>Notes or Restrictions:</b>				<b>Notes or Restrictions:</b>			
Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	3.6.1	Each station shall have a CCTV system to monitor incidents at the station and station pedestrian crossings.	Design Criteria Section 15.7.4	C	SY	3/12/2015	M20.701 M20.702 TSP 17830, 1.01 B.								
2	3.6.1	Station CCTV includes three Pan-Tilt-Zoom (PTZ) cameras per platform that are controlled from the OCC	Design Criteria Section 13.1.1 (6)	C	SY	3/12/2015	M20.701 M20.702 TSP 17830, 1.01 C.								
3	3.6.1	Cameras shall provide comprehensive coverage of the platforms and pedestrian crossing area and views in both directions along the tracks.	Design Criteria Section 15.7.9	C	SY	3/12/2015	TSP 17830, 1.01 B.								
4	3.6.1 3.6.4	Cameras shall provide clear views of fare collection equipment	Design Criteria Section 15.7.9	C	SY	3/12/2015	C00.002G TSP 17830, 1.01 Note 1.								
5	3.6.1 3.6.4	Cameras shall provide clear views of ECBs	Design Criteria Section 15.7.9	C	SY	3/12/2015	C00.002G TSP 17830, 1.01 Note 1.								
6	3.6.1 3.6.4	Cameras shall provide clear views of PATs	Design Criteria Section 15.7.9	C	SY	3/12/2015	C00.002G TSP 17830, 1.01 Note 1.								
7	3.6.1 3.6.4	Cameras shall be capable of remote viewing	Design Criteria Section 15.7.9	C	SY	3/12/2015	C00.002G TSP 17830, 1.01 Note 1.								
8	3.6.1 3.6.4	Cameras shall be capable of remote recording	Design Criteria Section 15.7.9	C	SY	3/12/2015	C00.002G TSP 17830, 1.01 G.								
9	3.6.1	Cameras can be triggered to a preset location by activation of the PAT	Design Criteria Section 15.7.9	C	SY	3/12/2015	TSP 17420, 3.01 C. Note 2.								
10	3.6.1	Cameras can be triggered to a preset location by activation of the ECB	Design Criteria Section 15.7.9	C	SY	3/12/2015	TSP 17420, 3.01 C. Note 2.								
11	3.6.2 3.6.3	All equipment shall be grounded	Design Criteria Section 15.7.11	C	SY	3/12/2015	M20.711 TSP 16289 C00.002H								
12	3.6.2	All equipment shall be protected against faults and surge currents	Design Criteria Section 15.7.11	C	SY	3/12/2015	C00.002H TSP 16010, 1.1 D. TSP 16289								
13	3.6.2	CCTV camera system shall be compatible with the current version of the Department's SunGuideSM Software System.	Design Criteria Section 15.7.9	C	SY	3/12/2015	C00.002G TSP 17830, 1.01								
<b>LEGEND</b> <b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other  <b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection  <b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance				<b>DESIGN VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				<b>CONSTRUCTION VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				<b>FINAL VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____			

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists				Design Verification				Construction Verification				Final Verification			
<b>Certifiable Element:</b> 3.0 Communications  <b>Sub-Element:</b> 3.6 CCTV System  <b>Location:</b> Poinciana Station MP A813.7  <b>Contract No.:</b>				<b>Notes or Restrictions:</b> 1. The Contractor will be responsible to ensure placement provides required coverage. 2. Tie in to existing OCC system - functionality of new systems dependent upon existing capabilities at the OCC.											
Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	3.6.1	Each station shall have a CCTV system to monitor incidents at the station and station pedestrian crossings.	Design Criteria Section 15.7.4	C	SY	3/12/2015	M20.701 M20.702 TSP 17830, 1.01 B.								
2	3.6.1	Station CCTV includes three Pan/Tilt-Zoom (PTZ) cameras per platform that are controlled from the OCC	Design Criteria Section 13.1.1 (6)	C	SY	3/12/2015	M20.701 M20.702 TSP 17830, 1.01 C.								
3	3.6.1	Cameras shall provide comprehensive coverage of the platforms and pedestrian crossing area and views in both directions along the tracks.	Design Criteria Section 15.7.9	C	SY	3/12/2015	TSP 17830, 1.01 B.								
4	3.6.1 3.6.4	Cameras shall provide clear views of fare collection equipment	Design Criteria Section 15.7.9	C	SY	3/12/2015	C00.002G TSP 17830, 1.01 Note 1.								
5	3.6.1 3.6.4	Cameras shall provide clear views of ECBs	Design Criteria Section 15.7.9	C	SY	3/12/2015	C00.002G TSP 17830, 1.01 Note 1.								
6	3.6.1 3.6.4	Cameras shall provide clear views of PATs	Design Criteria Section 15.7.9	C	SY	3/12/2015	C00.002G TSP 17830, 1.01 Note 1.								
7	3.6.1 3.6.4	Cameras shall be capable of remote viewing	Design Criteria Section 15.7.9	C	SY	3/12/2015	C00.002G TSP 17830, 1.01 Note 1.								
8	3.6.1 3.6.4	Cameras shall be capable of remote recording	Design Criteria Section 15.7.9	C	SY	3/12/2015	C00.002G TSP 17830, 1.01 G.								
9	3.6.1	Cameras can be triggered to a preset location by activation of the PAT	Design Criteria Section 15.7.9	C	SY	3/12/2015	TSP 17420, 3.01 C. Note 2.								
10	3.6.1	Cameras can be triggered to a preset location by activation of the ECB	Design Criteria Section 15.7.9	C	SY	3/12/2015	TSP 17420, 3.01 C. Note 2.								
11	3.6.2 3.6.3	All equipment shall be grounded	Design Criteria Section 15.7.11	C	SY	3/12/2015	M20.711 TSP 16289 TSP 16060 C00.002H								
12	3.6.2	All equipment shall be protected against faults and surge currents	Design Criteria Section 15.7.11	C	SY	3/12/2015	C00.002H TSP 16010, 1.1 D. TSP 16289								
13	3.6.2	CCTV camera system shall be compatible with the current version of the Department's SunGuideSM Software System.	Design Criteria Section 15.7.9	C	SY	3/12/2015	C00.002G TSP 17830, 1.01								
<b>LEGEND</b> <b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other  <b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection  <b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance				<b>DESIGN VERIFICATION</b>  Name and Organization: _____  Date: _____  Approved by: _____  Date: _____				<b>CONSTRUCTION VERIFICATION</b>  Name and Organization: _____  Date: _____  Approved by: _____  Date: _____				<b>FINAL VERIFICATION</b>  Name and Organization: _____  Date: _____  Approved by: _____  Date: _____			



# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists				Design Verification				Construction Verification				Final Verification			
<b>Certifiable Element:</b> 3.0 Communications  <b>Sub-Element:</b> 3.7 PAT System <b>Location:</b> Osceola (Tupperware) MP A 804.5  <b>Contract No.:</b>				<b>Notes or Restrictions:</b> 1. Tie in to existing OCC system - functionality of new systems dependent upon existing capabilities at the OCC.				<b>Notes or Restrictions:</b>				<b>Notes or Restrictions:</b>			
Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	3.7.1	PATs shall operate via VoIP and shall provide an automatic connection to the Customer Service Desk at the OCC	Design Criteria 15.2	C	SY	3/12/2015	M20.702 TSP 17420, 1.01 C.								
2	3.7.3	Provide 2 PATs at each station, one on each platform	Design Criteria 15.7.1	C	SY	3/12/2015	M20.702 E15.201, TSP 17420, 1.01 C.								
3	3.7.4	PATs shall be in compliance with 2010 ADA Standards, including installation.	Design Criteria 15.1	C	SY	3/12/2015	TSP 17420, 1.01 B and 1.06 B..								
4	3.7.1	PATs shall provide a direct connection to the OCC when the PAT is manually activated by pressing a button on the PAT	Design Criteria 15.7.1	C	SY	3/12/2015	TSP 17420, 1.01 C.								
5	3.7.5	PATs will have battery back-up.	Design Criteria 15.7.1	C	SY	3/12/2015	TSP 17420, 1.06 E..								
6	3.7.5	Each PAT shall be clearly labeled with its purpose to differentiate from the ECB.	Design Criteria 15.7.1	C	SY	3/12/2015	TSP 17420, 2.01 5b.								
7	3.7.2	All equipment shall be grounded	Design Criteria Section 15.7.11	C	SY	3/17/2015	M20.702 (Note 9), M20.711 (Note 5.) TSP 16060 TSP 16289								
8	3.7.2	All equipment shall be protected against faults and surge currents	Design Criteria Section 15.7.11	C	SY	3/17/2015	E00.704 TSP 16010, 1.1 D. TSP 16289								
<b>LEGEND</b> <b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other  <b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance				<b>DESIGN VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				<b>CONSTRUCTION VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				<b>FINAL VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____			

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists				Design Verification				Construction Verification				Final Verification			
<b>Certifiable Element:</b> 3.0 Communications  <b>Sub-Element:</b> 3.7 PAT System <b>Location:</b> Kissimmee Station MP A803.4  <b>Contract No.:</b>				<b>Notes or Restrictions:</b> 1. Tie in to existing OCC system - functionality of new systems dependent upon existing capabilities at the OCC.											
Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	3.7.1	PATs shall operate via VoIP and shall provide an automatic connection to the Customer Service Desk at the OCC	Design Criteria 15.2	C	SY	3/12/2015	M20.702 TSP 17420, 1.01 C.								
2	3.7.3	Provide 2 PATs at each station, one on each platform	Design Criteria 15.7.1	C	SY	3/12/2015	M20.702 E16.201, TSP 17420, 1.01 C.								
3	3.7.4	PATs shall be in compliance with 2010 ADA Standards, including installation.	Design Criteria 15.1	C	SY	3/12/2015	TSP 17420, 1.01 B and 1.06 B.								
4	3.7.1	PATs shall provide a direct connection to the OCC when the PAT is manually activated by pressing a button on the PAT	Design Criteria 15.7.1	C	SY	3/12/2015	TSP 17420, 1.01 C.								
5	3.7.5	PATs will have battery back-up.	Design Criteria 15.7.1	C	SY	3/12/2015	TSP 17420, 1.06 E.								
6	3.7.5	Each PAT shall be clearly labeled with its purpose to differentiate from the ECB.	Design Criteria 15.7.1	C	SY	3/12/2015	TSP 17420, 2.01 5b.								
7	3.7.2	All equipment shall be grounded	Design Criteria Section 15.7.11	C	SY	3/17/2015	M20.702 (Note 9), M20.711 (Note 5), TSP 16060 TSP 16289								
8	3.7.2	All equipment shall be protected against faults and surge currents	Design Criteria Section 15.7.11	C	SY	3/17/2015	E00.704 TSP 16010, 1.1 D. TSP 16289								
<b>LEGEND</b>				<b>DESIGN VERIFICATION</b>				<b>CONSTRUCTION VERIFICATION</b>				<b>FINAL VERIFICATION</b>			
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection		Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				Name and Organization: _____ Date: _____ Approved by: _____ Date: _____			
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance															

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists				Design Verification				Construction Verification				Final Verification			
<b>Certifiable Element:</b> 3.0 Communications  <b>Sub-Element:</b> 3.7 PAT System <b>Location:</b> Poinciana Station MP A813.7  <b>Contract No.:</b>				<b>Notes or Restrictions:</b> 1. Tie in to existing OCC system - functionality of new systems dependent upon existing capabilities at the OCC.											
Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	3.7.1	PATs shall operate via VoIP and shall provide an automatic connection to the Customer Service Desk at the OCC	Design Criteria 15.2	C	SY	3/12/2015	M20.702 TSP 17420, 1.01 C.								
2	3.7.3	Provide 2 PATs at each station, one on each platform	Design Criteria 15.7.1	C	SY	3/12/2015	M20.702 E17.201, TSP 17420, 1.01 C.								
3	3.7.4	PATs shall be in compliance with 2010 ADA Standards, including installation.	Design Criteria 15.1	C	SY	3/12/2015	TSP 17420, 1.01 B and 1.06 B.								
4	3.7.1	PATs shall provide a direct connection to the OCC when the PAT is manually activated by pressing a button on the PAT	Design Criteria 15.7.1	C	SY	3/12/2015	TSP 17420, 1.01 C.								
5	3.7.5	PATs will have battery back-up.	Design Criteria 15.7.1	C	SY	3/12/2015	TSP 17420, 1.06 E..								
6	3.7.5	Each PAT shall be clearly labeled with its purpose to differentiate from the ECB.	Design Criteria 15.7.1	C	SY	3/12/2015	TSP 17420, 2.01 5b.								
7	3.7.2	All equipment shall be grounded	Design Criteria Section 15.7.11	C	SY	3/17/2015	M20.702 (Note 9), M20.711 (Note 5), TSP 16060 TSP 16289								
8	3.7.2	All equipment shall be protected against faults and surge currents	Design Criteria Section 15.7.11	C	SY	3/17/2015	E00.704 TSP 16010, 1.1 D. TSP 16289								
<b>LEGEND</b> <b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other				<b>DESIGN VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				<b>CONSTRUCTION VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				<b>FINAL VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____			
<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection															
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance															

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists				Design Verification				Construction Verification				Final Verification							
<b>Certifiable Element:</b> 3.0 Communications  <b>Sub-Element:</b> 3.8 ECB System <b>Location:</b> Meadow Woods Station MP A A 801.20  <b>Contract No.:</b>				<b>Notes or Restrictions:</b> 1. Tie in to existing OCC system - functionality of new systems dependant upon existing capabilities at the OCC.				<b>Notes or Restrictions:</b>				<b>Notes or Restrictions:</b>							
Certifiable Item Description				Design Verification				Construction/Installation				Verification							
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification				
1	3.8.3	Each platform shall have an ECB.	Design Criteria Section 15.7.3	C	SY	3/12/2015	E14.201												
2	3.8.2	Each platform's ECB shall be connected to separate local telephone lines powered independent of the CTS system.	Design Criteria Section 15.7.3	C	SY	3/12/2015	M20.702 E14.201, TSP 17420, 1.01 C.												
3	3.8.4	ECBs shall meet ADA and ICC A117.1-2009 requirements.	Design Criteria Section 15.1 and 15.7.8	C	SY	3/12/2015	TSP 17420 1.01, B. and 3.02												
4	3.8.1 3.8.5	ECBs shall be monitored by the RPU for on hook/off hook condition. Off hook status shall be relayed by the RPU and to the Utility Console in the OCC.	Design Criteria Section 15.7.3	C	SY	3/12/2015	TSP 17420 2.01, 2. Note 1												
5	3.8.1 3.8.5	ECBs shall auto-dial the local 911 facility.	Design Criteria Section 15.7.3	C	SY	3/12/2015	M20.701 TSP 17420 2.01, 2. Note 1												
6	3.8.5	ECBs shall interface with CCTV system.	Design Criteria Section 15.7.9	C	SY	3/12/2015	M20.702 Note 1 TSP 17420 3.01 C.												
7	3.8.5	The ECB equipment shall be distinguishable from the PAT.	Design Criteria Section 15.7.3	C	SY	3/12/2015	TSP 17420 2.01, 5.												
8	3.8.2	All equipment shall be grounded	Design Criteria Section 15.7.11	C	SY	3/17/2015	M20.702 M20.711 TSP 16060												
9	3.8.2	All equipment shall be protected against faults and surge currents	Design Criteria Section 15.7.11	C	SY	3/17/2015	E00.704 TSP 16010, 1.1 D. TSP 16289												
10	3.8.5	ECBs will have battery back-up.	Design Criteria 15.7.3	C	SY	3/12/2015	M20.711 TSP 17420, 1.06 E.												
<b>LEGEND</b> <table style="width:100%; border:none;"> <tr> <td style="width:50%; border:none;"> <b>Means of Verification - Design</b>                      P = Plan Sheet    S = Specification                      RFI=RFI            O = Other                 </td> <td style="width:50%; border:none;"> <b>Means of Verification - Construction</b>                      M = Measurement                      T = Test    PS = Product Sheet                      V = Visual Inspection                 </td> </tr> <tr> <td colspan="2" style="border:none;"> <b>Status</b>                      C = Compliance                      N = Noncompliance                      P = Partial Compliance                 </td> </tr> </table>				<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other	<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection	<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance		<b>DESIGN VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				<b>CONSTRUCTION VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				<b>FINAL VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____			
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other	<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection																		
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance																			

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists				Design Verification				Construction Verification				Final Verification			
<b>Certifiable Element:</b> 3.0 Communications  <b>Sub-Element:</b> 3.8 ECB System <b>Location:</b> Osceola (Tupperware) MP A 804.5  <b>Contract No.:</b>				<b>Notes or Restrictions:</b> 1. Tie in to existing OCC system - functionality of new systems dependant upon existing capabilities at the OCC.				<b>Notes or Restrictions:</b>				<b>Notes or Restrictions:</b>			
Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	3.8.3	Each platform shall have an ECB.	Design Criteria Section 15.7.3	C	SY	3/12/2015	E15.201								
2	3.8.2	Each platform's ECB shall be connected to separate local telephone lines powered independent of the CTS system.	Design Criteria Section 15.7.3	C	SY	3/12/2015	M20.702 E15.201, TSP 17420, 1.01 C.								
3	3.8.4	ECBs shall meet ADA and ICC A117.1-2009 requirements.	Design Criteria Section 15.1 and 15.7.8	C	SY	3/12/2015	TSP 17420 1.01, B. and 3.02								
4	3.8.1 3.8.5	ECBs shall be monitored by the RPU for on hook/off hook condition. Off hook status shall be relayed by the RPU and to the Utility Console in the OCC.	Design Criteria Section 15.7.3	C	SY	3/12/2015	TSP 17420 2.01, 2. Note 1								
5	3.8.1 3.8.5	ECBs shall auto-dial the local 911 facility.	Design Criteria Section 15.7.3	C	SY	3/12/2015	M20.701 TSP 17420 2.01, 2. Note 1								
6	3.8.5	ECBs shall interface with CCTV system.	Design Criteria Section 15.7.9	C	SY	3/12/2015	M20.702 Note 1 TSP 17420 3.01 C.								
7	3.8.5	The ECB equipment shall be distinguishable from the PAT.	Design Criteria Section 15.7.3	C	SY	3/12/2015	TSP 17420 2.01, 5.								
8	3.8.2	All equipment shall be grounded	Design Criteria Section 15.7.11	C	SY	3/17/2015	M20.702 M20.711 TSP 16060								
9	3.8.2	All equipment shall be protected against faults and surge currents	Design Criteria Section 15.7.11	C	SY	3/12/2015	E00.704 TSP 16010, 1.1 D. TSP 16289								
10	3.8.5	ECBs will have battery back-up.	Design Criteria 15.7.3	C	SY	3/12/2015	M20.711 TSP 17420, 1.06 E.								
<b>LEGEND</b> <b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other  <b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection  <b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance				<b>DESIGN VERIFICATION</b>  Name and Organization: _____ Date: _____  Approved by: _____ Date: _____				<b>CONSTRUCTION VERIFICATION</b>  Name and Organization: _____ Date: _____  Approved by: _____ Date: _____				<b>FINAL VERIFICATION</b>  Name and Organization: _____ Date: _____  Approved by: _____ Date: _____			



# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists				Design Verification				Construction Verification				Final Verification			
<b>Certifiable Element:</b> 3.0 Communications  <b>Sub-Element:</b> 3.8 ECB System <b>Location:</b> Kissimmee Station MP A803.4  <b>Contract No.:</b>				<b>Notes or Restrictions:</b> 1. Tie in to existing OCC system - functionality of new systems dependant upon existing capabilities at the OCC.											
Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	3.8.3	Each platform shall have an ECB.	Design Criteria Section 15.7.3	C	SY	3/12/2015	E16.201								
2	3.8.2	Each platform's ECB shall be connected to separate local telephone lines powered independent of the CTS system.	Design Criteria Section 15.7.3	C	SY	3/12/2015	M20.702 E16.201 TSP 17420, 1.01 C.								
3	3.8.4	ECBs shall meet ADA and ICC A117.1-2009 requirements.	Design Criteria Section 15.1 and 15.7.8	C	SY	3/12/2015	TSP 17420 1.01, B. and 3.02								
4	3.8.1 3.8.5	ECBs shall be monitored by the RPU for on hook/off hook condition. Off hook status shall be relayed by the RPU and to the Utility Console in the OCC.	Design Criteria Section 15.7.3	C	SY	3/12/2015	TSP 17420 2.01, 2. Note 1								
5	3.8.1 3.8.5	ECBs shall auto-dial the local 911 facility.	Design Criteria Section 15.7.3	C	SY	3/12/2015	M20.701 TSP 17420 2.01, 2. Note 1								
6	3.8.5	ECBs shall interface with CCTV system.	Design Criteria Section 15.7.9	C	SY	3/12/2015	M20.702 Note 1 TSP 17420 3.01 C.								
7	3.8.5	The ECB equipment shall be distinguishable from the PAT.	Design Criteria Section 15.7.3	C	SY	3/12/2015	TSP 17420 2.01, 5.								
8	3.8.2	All equipment shall be grounded	Design Criteria Section 15.7.11	C	SY	3/17/2015	M20.702 M20.711 TSP 16060								
9	3.8.2	All equipment shall be protected against faults and surge currents	Design Criteria Section 15.7.11	C	SY	3/17/2015	E00.704 TSP 16010, 1.1 D. TSP 16289								
10	3.8.5	ECBs will have battery back-up.	Design Criteria 15.7.3	C	SY	3/12/2015	M20.711 TSP 17420, 1.06 E.								
<b>LEGEND</b>				<b>DESIGN VERIFICATION</b>				<b>CONSTRUCTION VERIFICATION</b>				<b>FINAL VERIFICATION</b>			
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection		Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				Name and Organization: _____ Date: _____ Approved by: _____ Date: _____			

# CFCRT Project Phase 2 South

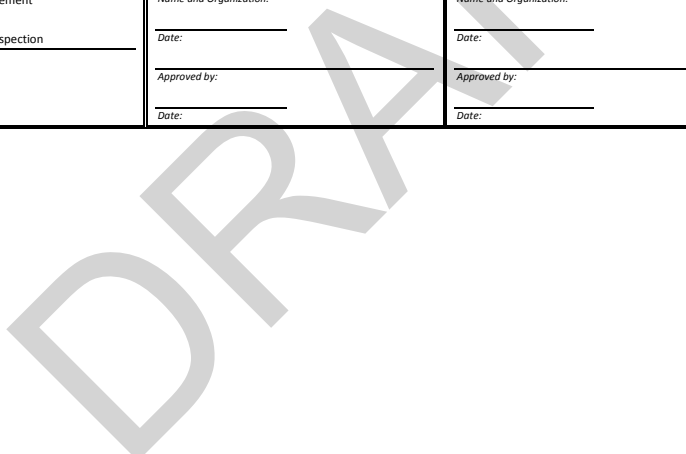
Safety and Security Certification Elements Design and Construction Conformance Checklists	Design Verification	Construction Verification	Final Verification
<b>Certifiable Element:</b> 3.0 Communications  <b>Sub-Element:</b> 3.8 ECB System <b>Location:</b> Poinciana Station MP A813.7  <b>Contract No.:</b>	<b>Notes or Restrictions:</b> 1. Tie in to existing OCC system - functionality of new systems dependant upon existing capabilities at the OCC.	<b>Notes or Restrictions:</b>	<b>Notes or Restrictions:</b>

Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	3.8.3	Each platform shall have an ECB.	Design Criteria Section 15.7.3	C	SY	3/12/2015	E17.201								
2	3.8.2	Each platform's ECB shall be connected to separate local telephone lines powered independent of the CTS system.	Design Criteria Section 15.7.3	C	SY	3/12/2015	M20.702 E17.201, TSP 17420, 1.01 C.								
3	3.8.4	ECBs shall meet ADA and ICC A117.1-2009 requirements.	Design Criteria Section 15.1 and 15.7.8	C	SY	3/12/2015	TSP 17420 1.01, B. and 3.02								
4	3.8.1 3.8.5	ECBs shall be monitored by the RPU for on hook/off hook condition. Off hook status shall be relayed by the RPU and to the Utility Console in the OCC.	Design Criteria Section 15.7.3	C	SY	3/12/2015	TSP 17420 2.01, 2. Note 1								
5	3.8.1 3.8.5	ECBs shall auto-dial the local 911 facility.	Design Criteria Section 15.7.3	C	SY	3/12/2015	M20.701 TSP 17420 2.01, 2. Note 1								
6	3.8.5	ECBs shall interface with CCTV system.	Design Criteria Section 15.7.9	C	SY	3/12/2015	M20.702 Note 1 TSP 17420 3.01 C.								
7	3.8.5	The ECB equipment shall be distinguishable from the PAT .	Design Criteria Section 15.7.3	C	SY	3/12/2015	TSP 17420 2.01, 5.								
8	3.8.2	All equipment shall be grounded	Design Criteria Section 15.7.11	C	SY	3/17/2015	M20.702 M20.711 TSP 16060								
9	3.8.2	All equipment shall be protected against faults and surge currents	Design Criteria Section 15.7.11	C	SY	3/17/2015	E00.704 TSP 16010, 1.1 D. TSP 16289								
10	3.8.5	ECBs will have battery back-up.	Design Criteria 15.7.3	C	SY	3/12/2015	M20.711 TSP 17420, 1.06 E.								

LEGEND		DESIGN VERIFICATION	CONSTRUCTION VERIFICATION	FINAL VERIFICATION
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other	<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection	Name and Organization: _____ Date: _____ Approved by: _____ Date: _____	Name and Organization: _____ Date: _____ Approved by: _____ Date: _____	Name and Organization: _____ Date: _____ Approved by: _____ Date: _____

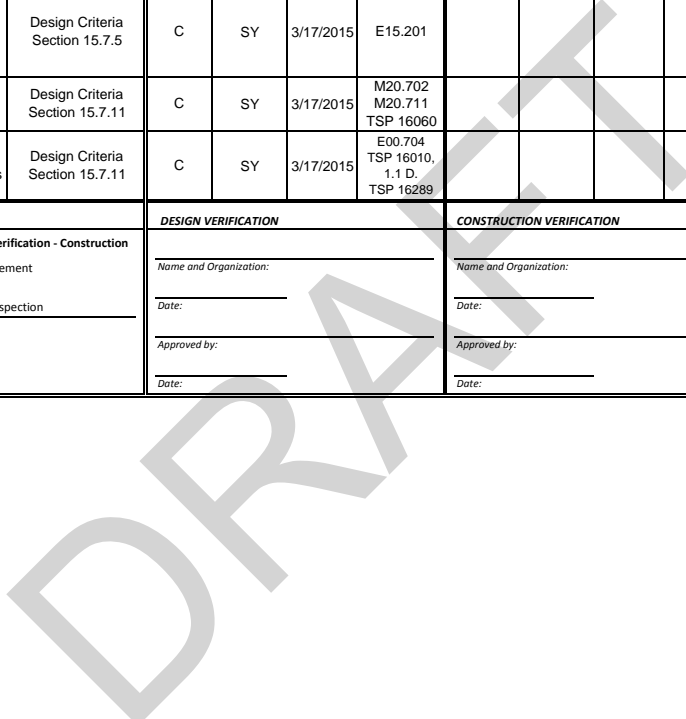
# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists				Design Verification				Construction Verification				Final Verification			
<b>Certifiable Element:</b> 3.0 Communications  <b>Sub-Element:</b> 3.9 Platform Equipment (Communication Cabinet or CCB) <b>Location:</b> Meadow Woods Station MP A801.20  <b>Contract No.:</b>				<b>Notes or Restrictions:</b> Note 1. This detail will be a requirement of acceptance.				<b>Notes or Restrictions:</b>				<b>Notes or Restrictions:</b>			
Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	3.9.5	CCB shall restrict unauthorized access, by using padlocks or latching hardware.	Design Criteria Section 15.7.5	C	SY	3/17/2015	TSP 17140 2.02 A.								
2	3.9.5	CCB shall be constructed without sharp edges.	Design Criteria 15.7.11 (3.)	C	SY	3/17/2015	TSP 17140 2.02 A. Note 1.								
3	3.9.1	CCB shall be located behind the platform, toward the center to minimize cable run lengths for platform equipment (cameras, PA, VMS, etc.)	Design Criteria Section 15.7.5	C	SY	3/17/2015	E14.201								
4	3.9.2	All equipment shall be grounded	Design Criteria Section 15.7.11	C	SY	3/17/2015	M20.702 M20.711 TSP 16060								
5	3.9.2	All equipment shall be protected against faults and surge currents	Design Criteria Section 15.7.11	C	SY	3/17/2015	E00.704 TSP 16010, 1.1 D. TSP 16289								
<b>LEGEND</b> Means of Verification - Design P = Plan Sheet    S = Specification RFI=RFI            O = Other  Status C = Compliance N = Noncompliance P = Partial Compliance				<b>DESIGN VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				<b>CONSTRUCTION VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				<b>FINAL VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____			



# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists				Design Verification				Construction Verification				Final Verification			
<b>Certifiable Element:</b> 3.0 Communications  <b>Sub-Element:</b> 3.9 Platform Equipment (Communication Cabinet or CCB) <b>Location:</b> Osceola (Tupperware) MP A 804.5  <b>Contract No.:</b> _____				<b>Notes or Restrictions:</b> Note 1. This detail will be a requirement of acceptance.				<b>Notes or Restrictions:</b>				<b>Notes or Restrictions:</b>			
Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	3.9.5	CCB shall restrict unauthorized access, by using padlocks or latching hardware.	Design Criteria Section 15.7.5	C	SY	3/17/2015	TSP 17140 2.02 A.								
2	3.9.5	CCB shall be constructed without sharp edges.	Design Criteria 15.7.11 (3.)	C	SY	3/17/2015	TSP 17140 2.02 A. Note 1.								
3	3.9.1	CCB shall be located behind the platform, toward the center to minimize cable run lengths for platform equipment (cameras, PA, VMS, etc.)	Design Criteria Section 15.7.5	C	SY	3/17/2015	E15.201								
4	3.9.2	All equipment shall be grounded	Design Criteria Section 15.7.11	C	SY	3/17/2015	M20.702 M20.711 TSP 16060								
5	3.9.2	All equipment shall be protected against faults and surge currents	Design Criteria Section 15.7.11	C	SY	3/17/2015	E00.704 TSP 16010, 1.1 D. TSP 16289								
<b>LEGEND</b> <b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other  <b>Means of Verification - Construction</b> M = Measurement T = Test V = Visual Inspection  <b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance				<b>DESIGN VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				<b>CONSTRUCTION VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				<b>FINAL VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____			



# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists				Design Verification				Construction Verification				Final Verification			
<b>Certifiable Element:</b> 3.0 Communications  <b>Sub-Element:</b> 3.9 Platform Equipment (Communication Cabinet or CCB) <b>Location:</b> Kissimmee Station MP A803.4  <b>Contract No.:</b>				<b>Notes or Restrictions:</b> Note 1. This detail will be a requirement of acceptance.				<b>Notes or Restrictions:</b>				<b>Notes or Restrictions:</b>			
Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	3.9.5	CCB shall restrict unauthorized access, by using padlocks or latching hardware.	Design Criteria Section 15.7.5	C	SY	3/17/2015	TSP 17140 2.02 A.								
2	3.9.5	CCB shall be constructed without sharp edges.	Design Criteria 15.7.11 (3.)	C	SY	3/17/2015	TSP 17140 2.02 A. Note 1.								
3	3.9.1	CCB shall be located behind the platform, toward the center to minimize cable run lengths for platform equipment (cameras, PA, VMS, etc.)	Design Criteria Section 15.7.5	C	SY	3/17/2015	E16.201								
4	3.9.2	All equipment shall be grounded	Design Criteria Section 15.7.11	C	SY	3/17/2015	M20.702 M20.711 TSP 16060								
5	3.9.2	All equipment shall be protected against faults and surge currents	Design Criteria Section 15.7.11	C	SY	3/17/2015	E00.704 TSP 16010, 1.1 D. TSP 16289								
<b>LEGEND</b> <b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other  <b>Means of Verification - Construction</b> M = Measurement T = Test V = Visual Inspection  <b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance				<b>DESIGN VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				<b>CONSTRUCTION VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				<b>FINAL VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____			

DRAFT

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists				Design Verification				Construction Verification				Final Verification			
<b>Certifiable Element:</b> 3.0 Communications  <b>Sub-Element:</b> 3.9 Platform Equipment (Communication Cabinet or CCB) <b>Location:</b> Poinciana Station MP A813.7  <b>Contract No.:</b>				<b>Notes or Restrictions:</b> Note 1. This detail will be a requirement of acceptance.				<b>Notes or Restrictions:</b>				<b>Notes or Restrictions:</b>			
Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	3.9.5	CCB shall restrict unauthorized access, by using padlocks or latching hardware.	Design Criteria Section 15.7.5	C	SY	3/17/2015	TSP 17140 2.02 A.								
2	3.9.5	CCB shall be constructed without sharp edges.	Design Criteria 15.7.11 (3.)	C	SY	3/17/2015	TSP 17140 2.02 A. Note 1.								
3	3.9.1	CCB shall be located behind the platform, toward the center to minimize cable run lengths for platform equipment (cameras, PA, VMS, etc.)	Design Criteria Section 15.7.5	C	SY	3/17/2015	E17.201								
4	3.9.2	All equipment shall be grounded	Design Criteria Section 15.7.11	C	SY	3/17/2015	M20.702 M20.711 TSP 16060								
5	3.9.2	All equipment shall be protected against faults and surge currents	Design Criteria Section 15.7.11	C	SY	3/17/2015	E00.704 TSP 16010, 1.1 D. TSP 16289								
LEGEND				DESIGN VERIFICATION				CONSTRUCTION VERIFICATION				FINAL VERIFICATION			
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test V = Visual Inspection		Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				Name and Organization: _____ Date: _____ Approved by: _____ Date: _____			

DRAFT

# CFCRT Project Phase 2 South

<b>Safety and Security Certification Elements Design and Construction Conformance Checklists</b>	Design Verification	Construction Verification	Final Verification
Certifiable Element: <u>5.0 TRACK AND STRUCTURES</u>  Sub-Element: <u>5.1 Intrusion Deterrents (5.1.2-5.1.3)</u> Location: <u>Meadow Woods Stn MP A801.2</u>  Contract No.: _____	Notes or Restrictions:	Notes or Restrictions:	Notes or Restrictions:

Certifiable Item Description				Design Verification				Construction/Installation				Verification				
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	
1	5.1.2	Platforms shall be separated by an intertrack fence. A fence centered between the two tracks shall provide a barrier to deter unauthorized passengers from crossing the tracks.	Design Criteria Section 17.6	C	GD	2/24/2015	T30.0222 T30.0234 T30.0247 T30.0248 T30.0269 C00.003E									
2	5.1.2	The top of the fence shall be 3 ft. 6 in. higher than the top of the lowest rail.	Design Criteria Section 17.6	C	GD	2/24/2015	H20.712 TSP 02820									
3	5.1.2	The fence shall be vinyl coated steel chain link and posts with steel top and bottom rails.	Design Criteria Section 17.6	C	GD	2/24/2015	H20.712									
4	5.1.2	The fence shall be constructed in interlocking, removable sections to facilitate track maintenance.	Design Criteria Section 17.6	C	GD	2/24/2015	C00.003E H20.712									
5	5.1.2	Supporting posts shall be removable from sleeves placed in a concrete foundation embedded a minimum of 2 feet.	Design Criteria Section 17.6	C	GD	2/24/2015	C00.003E H20.712									
6	5.1.2	The top of the concrete shall be no higher than the top of the lowest tie.	Design Criteria Section 17.6	C	GD	2/24/2015	C00.003E H20.712									
7	5.1.3	Fencing or other barriers such as landscaping (hazard rock) shall be considered to discourage pedestrian shortcuts across tracks or motor vehicle pathways.	Design Criteria Section 17.6.1	C	GD	2/24/2015	H14.007E H20.722 C14.007A C14.007B C14.007C C14.007D C14.007E C14.007F									
8	5.1.2	The intertrack fence shall extend beyond the platform at each end (100 feet minimum).	Design Criteria Section 17.6	C	GD	3/5/2015	T30.0222									

LEGEND		DESIGN VERIFICATION	CONSTRUCTION VERIFICATION	FINAL VERIFICATION
<b>Means of Verification - Design</b> Plan Sheet    Specification RFI            Other Product Sheet	<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection	Name and Organization: _____  Date: _____  Approved by: _____  Date: _____	Name and Organization: _____  Date: _____  Approved by: _____  Date: _____	Name and Organization: _____  Date: _____  Approved by: _____  Date: _____
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance				

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists	Design Verification	Construction Verification	Final Verification
<b>Certifiable Element:</b> 5.0 TRACK AND STRUCTURES  <b>Sub-Element:</b> 5.1 Intrusion Deterrents (5.1.2-5.1.3) <b>Location:</b> Osceola Parkway Stn MP A804.5  <b>Contract No.:</b> _____	<b>Notes or Restrictions:</b> _____ _____ _____ _____ _____	<b>Notes or Restrictions:</b> _____ _____ _____ _____ _____	<b>Notes or Restrictions:</b> _____ _____ _____ _____ _____

Certifiable Item Description				Design Verification				Construction/Installation				Verification				
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	
1	5.1.2	Platforms shall be separated by an intertrack fence. A fence centered between the two tracks shall provide a barrier to prevent deter unauthorized passengers from crossing the tracks.	Design Criteria Section 17.6	C	GD	2/24/2015	T30.0222 T30.0234 T30.0247 T30.0248 T30.0269 C00.003E									
2	5.1.2	The top of the fence shall be 3 ft. 6 in higher than the top of the lowest rail.	Design Criteria Section 17.6	C	GD	2/24/2015	H20.712 TSP 02820									
3	5.1.2	The fence shall be vinyl coated steel chain link and posts with steel top and bottom rails.	Design Criteria Section 17.6	C	GD	2/24/2015	H20.712									
4	5.1.2	The fence shall be constructed in interlocking, removable sections to facilitate track maintenance.	Design Criteria Section 17.6	C	GD	2/24/2015	C00.003E H20.712									
5	5.1.2	Supporting posts shall be removable from sleeves placed in a concrete foundation embedded a minimum of 2 feet.	Design Criteria Section 17.6	C	GD	2/24/2015	C00.003E H20.712									
6	5.1.2	The top of the concrete shall be no higher than the top of the lowest tie.	Design Criteria Section 17.6	C	GD	2/24/2015	C00.003E H20.712									
7	5.1.3	Fencing or other barriers such as landscaping (hazard rock) shall be considered to discourage pedestrian shortcuts across tracks or motor vehicle pathways.	Design Criteria Section 17.6.1	C	GD	2/24/2015	H15.007A H20.723 C15.007A C15.007B C15.007C C15.007D									
8	5.1.2	The intertrack fence shall extend beyond the platform at each end (100 feet minimum).	Design Criteria Section 17.6	C	GD	3/17/2015	T30.0234									

LEGEND		DESIGN VERIFICATION	CONSTRUCTION VERIFICATION	FINAL VERIFICATION
<b>Means of Verification - Design</b> Plan Sheet    Specification RFI            Other Product Sheet	<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection	Name and Organization: _____ Date: _____ Approved by: _____ Date: _____	Name and Organization: _____ Date: _____ Approved by: _____ Date: _____	Name and Organization: _____ Date: _____ Approved by: _____ Date: _____
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance				



# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists	Design Verification	Construction Verification	Final Verification
<b>Certifiable Element:</b> 5.0 TRACK AND STRUCTURES  <b>Sub-Element:</b> 5.1 Intrusion Deterrents (5.1.2-5.1.3) <b>Location:</b> Kissimmee Stn MP A808.03  <b>Contract No.:</b> _____	<b>Notes or Restrictions:</b> _____ _____ _____ _____ _____	<b>Notes or Restrictions:</b> _____ _____ _____ _____ _____	<b>Notes or Restrictions:</b> _____ _____ _____ _____ _____

Certifiable Item Description				Design Verification				Construction/Installation				Verification				
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	
1	5.1.2	Platforms shall be separated by an intertrack fence. A fence centered between the two tracks shall provide a barrier to deter unauthorized passengers from crossing the tracks.	Design Criteria Section 17.6	C	GD	2/24/2015	T30.0222 T30.0234 T30.0247 T30.0248 T30.0269 C00.003E									
2	5.1.2	The top of the fence shall be 3 ft. 6 in. higher than the top of the lowest rail.	Design Criteria Section 17.6	C	GD	2/24/2015	H20.712									
3	5.1.2	The fence shall be vinyl coated steel chain link and posts with steel top and bottom rails.	Design Criteria Section 17.6	C	GD	2/24/2015	H20.712									
4	5.1.2	The fence shall be constructed in interlocking, removable sections to facilitate track maintenance.	Design Criteria Section 17.6	C	GD	2/24/2015	C00.003E H20.712									
5	5.1.2	Supporting posts shall be removable from sleeves placed in a concrete foundation embedded a minimum of 2 feet.	Design Criteria Section 17.6	C	GD	2/24/2015	C00.003E H20.712									
6	5.1.2	The top of the concrete shall be no higher than the top of the lowest tie.	Design Criteria Section 17.6	C	GD	2/24/2015	C00.003E H20.712									
7	5.1.3	Fencing or other barriers such as landscaping (hazard rock) shall be considered to discourage pedestrian shortcuts across tracks or motor vehicle pathways.	Design Criteria Section 17.6.1	C	GD	2/24/2015	H16.007C H16.007D H20.724 C16.007C C16.007D									
8	5.1.2	The intertrack fence shall extend beyond the platform at each end (100 feet minimum).	Design Criteria Section 17.6	C	GD	3/17/2015	T30.0247 T30.0248									

LEGEND		DESIGN VERIFICATION	CONSTRUCTION VERIFICATION	FINAL VERIFICATION
<b>Means of Verification - Design</b> Plan Sheet    Specification RFI            Other Product Sheet	<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection	<b>Name and Organization:</b> _____ <b>Date:</b> _____ <b>Approved by:</b> _____ <b>Date:</b> _____	<b>Name and Organization:</b> _____ <b>Date:</b> _____ <b>Approved by:</b> _____ <b>Date:</b> _____	<b>Name and Organization:</b> _____ <b>Date:</b> _____ <b>Approved by:</b> _____ <b>Date:</b> _____
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance				

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists	Design Verification	Construction Verification	Final Verification
<b>Certifiable Element:</b> 5.0 TRACK AND STRUCTURES  <b>Sub-Element:</b> 5.1 Intrusion Deterrents (5.1.2-5.1.3) <b>Location:</b> Poinciana Stn MP A813.68  <b>Contract No.:</b> _____	<b>Notes or Restrictions:</b> _____ _____ _____ _____ _____	<b>Notes or Restrictions:</b> _____ _____ _____ _____ _____	<b>Notes or Restrictions:</b> _____ _____ _____ _____ _____

Certifiable Item Description				Design Verification				Construction/Installation				Verification				
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	
1	5.1.2	Platforms shall be separated by an intertrack fence. A fence centered between the two tracks shall provide a barrier to deter unauthorized passengers from crossing the tracks.	Design Criteria Section 17.6	C	GD	2/24/2015	T30.0222 T30.0234 T30.0247 T30.0248 T30.0269 C00.003E									
2	5.1.2	The top of the fence shall be 3 ft. 6 in. higher than the top of the lowest rail.	Design Criteria Section 17.6	C	GD	2/24/2015	H20.712									
3	5.1.2	The fence shall be vinyl coated steel chain link and posts with steel top and bottom rails.	Design Criteria Section 17.6	C	GD	2/24/2015	H20.712									
4	5.1.2	The fence shall be constructed in interlocking, removable sections to facilitate track maintenance.	Design Criteria Section 17.6	C	GD	2/24/2015	C00.003E H20.712									
5	5.1.2	Supporting posts shall be removable from sleeves placed in a concrete foundation embedded a minimum of 2 feet.	Design Criteria Section 17.6	C	GD	2/24/2015	C00.003E H20.712									
6	5.1.2	The top of the concrete shall be no higher than the top of the lowest tie.	Design Criteria Section 17.6	C	GD	2/24/2015	C00.003E H20.712									
7	5.1.3	Fencing or other barriers such as landscaping (hazard rock) shall be considered to discourage pedestrian shortcuts across tracks or motor vehicle pathways.	Design Criteria Section 17.6.1	C	GD	2/24/2015	H17.007A H17.007B H20.725 C17.007A C17.007B C17.007E C17.007F C17.007H C17.007J									
8	5.1.2	The intertrack fence shall extend beyond the platform at each end (100 feet minimum).	Design Criteria Section 17.6	C	GD	3/17/2015	T30.0269									

LEGEND		DESIGN VERIFICATION	CONSTRUCTION VERIFICATION	FINAL VERIFICATION
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI         O = Other	<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection	Name and Organization: _____ Date: _____ Approved by: _____ Date: _____	Name and Organization: _____ Date: _____ Approved by: _____ Date: _____	Name and Organization: _____ Date: _____ Approved by: _____ Date: _____
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance				

# CFCRT Project Phase 2 South

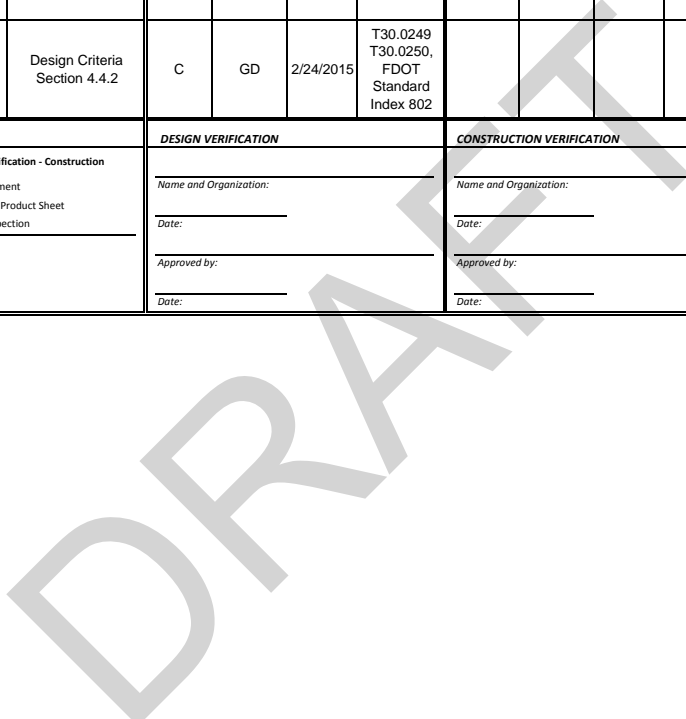
<b>Safety and Security Certification Elements Design and Construction Conformance Checklists</b>	Design Verification	Construction Verification	Final Verification
Certifiable Element: <u>5.0 TRACK AND STRUCTURES</u>  Sub-Element: <u>5.1 Intrusion Deterrents</u> Location: <u>Dakin-Ruby MP A808.07 - 808.28</u>  Contract No.: _____	Notes or Restrictions:	Notes or Restrictions:	Notes or Restrictions:

Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	5.1.2 14.6	An intertrack fence will be located centered between the two tracks shall provide a barrier to deter unauthorized persons from crossing the tracks.	DC Section 4.4.1 PHA TRES-017	C	JWB	2/17/2015	Dwg. C00.003E; H20.712								
2	5.1.2	The top of the fence shall be 3 ft. 6 inches higher than the top of the lowest rail.	Design Criteria Section 4.4.1	C	JWB	2/17/2015	Dwg. C00.003E; H20.712								
3	5.1.2	The fence shall be vinyl coated steel chain link and posts with steel top and bottom rails.	Design Criteria Section 4.4.1	C	GD	2/24/2015	H20.712								
4	5.1.2	The fence shall be constructed in interlocking, removable sections to facilitate track maintenance.	Design Criteria Section 4.4.1	C	JWB	2/17/2015	Dwg. C00.003E; H20.712								
5	5.1.2	Supporting posts shall be removable from sleeves placed in a concrete foundation embedded a minimum of 2 feet.	Design Criteria Section 4.4.1	C	JWB	2/17/2015	Dwg. C00.003E; H20.712								
6	5.1.2	The top of the concrete shall be no higher than the top of the lowest tie.	Design Criteria Section 4.4.1	C	JWB	2/17/2015	Dwg. C00.003E; H20.712								

LEGEND		DESIGN VERIFICATION	CONSTRUCTION VERIFICATION	FINAL VERIFICATION
<b>Means of Verification - Design</b> Plan Sheet    Specification RFI            Other Product Sheet	<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection	Name and Organization: _____ Date: _____ Approved by: _____ Date: _____	Name and Organization: _____ Date: _____ Approved by: _____ Date: _____	Name and Organization: _____ Date: _____ Approved by: _____ Date: _____
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance				

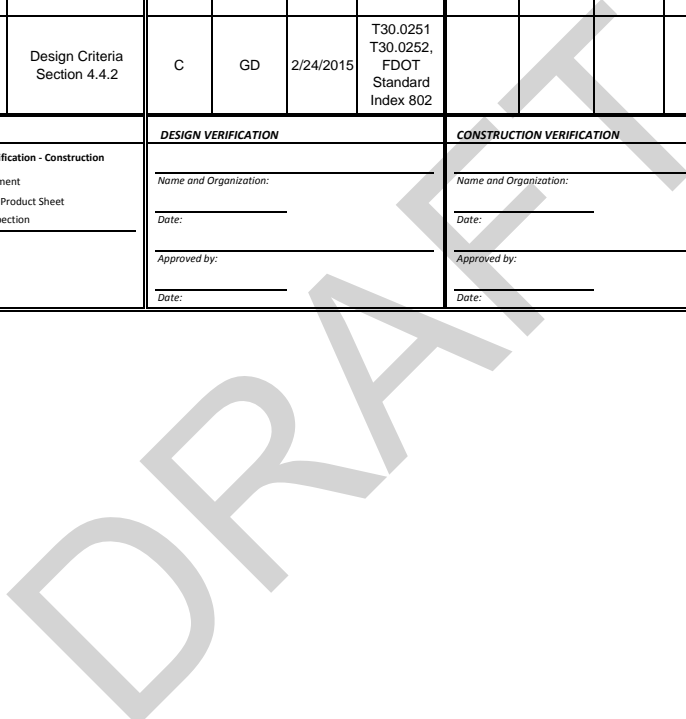
# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists				Design Verification				Construction Verification				Final Verification																			
Certifiable Element: <u>5.0 TRACK AND STRUCTURES</u>  Sub-Element: <u>5.1 Intrusion Deterrents</u> Location: <u>Beaumont and Clyde MP A808.53 - 808.77</u>  Contract No.: _____				Notes or Restrictions:				Notes or Restrictions:				Notes or Restrictions:																			
Certifiable Item Description				Design Verification				Construction/Installation				Verification																			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification																
1	5.1.1	Wayside fencing shall be placed, as determined by the Department, to provide a barrier to deter unauthorized persons from trespass into the ROW.	Design Criteria Section 4.4.2 PHA TRES-018	C	GD	2/24/2015	T30.0249 T30.0250																								
2	5.1.1	The wayside fence shall be a minimum of 6 ft. in height.	Design Criteria Section 4.4.2	C	GD	2/24/2015	T30.0249 T30.0250, FDOT Standard Index 802																								
<b>LEGEND</b> <table border="0"> <tr> <td colspan="2"><b>Means of Verification - Design</b></td> <td colspan="2"><b>Means of Verification - Construction</b></td> </tr> <tr> <td>P = Plan Sheet</td> <td>S = Specification</td> <td>M = Measurement</td> <td></td> </tr> <tr> <td>RFI=RFI</td> <td>O = Other</td> <td>T = Test PS = Product Sheet</td> <td></td> </tr> <tr> <td></td> <td></td> <td>V = Visual Inspection</td> <td></td> </tr> </table> <b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance				<b>Means of Verification - Design</b>		<b>Means of Verification - Construction</b>		P = Plan Sheet	S = Specification	M = Measurement		RFI=RFI	O = Other	T = Test PS = Product Sheet				V = Visual Inspection		<b>DESIGN VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				<b>CONSTRUCTION VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				<b>FINAL VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____			
<b>Means of Verification - Design</b>		<b>Means of Verification - Construction</b>																													
P = Plan Sheet	S = Specification	M = Measurement																													
RFI=RFI	O = Other	T = Test PS = Product Sheet																													
		V = Visual Inspection																													



# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists				Design Verification				Construction Verification				Final Verification			
<b>Certifiable Element: 5.0 TRACK AND STRUCTURES</b>  <b>Sub-Element: 5.1 Intrusion Deterrents</b> <b>Location: 17/92 Overpass MP A808.98</b>  <b>Contract No.:</b> _____				Notes or Restrictions:				Notes or Restrictions:				Notes or Restrictions:			
<b>Certifiable Item Description</b>				<b>Design Verification</b>				<b>Construction/Installation</b>				<b>Verification</b>			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	5.1.1	Wayside fencing shall be placed, as determined by the Department, to provide a barrier to deter unauthorized persons from trespass into the ROW.	Design Criteria Section 4.4.2 PHA TRES-018	C	GD	2/24/2015	T30.0251 T30.0252								
2	5.1.1	The wayside fence shall be a minimum of 6 ft. in height.	Design Criteria Section 4.4.2	C	GD	2/24/2015	T30.0251 T30.0252, FDOT Standard Index 802								
<b>LEGEND</b> <b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other  <b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection  <b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance				<b>DESIGN VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				<b>CONSTRUCTION VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				<b>FINAL VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____			



# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists				Design Verification				Construction Verification				Final Verification			
<b>Certifiable Element:</b> 5.0 TRACK AND STRUCTURES  <b>Sub-Element:</b> 5.2 TRACK AND APPLIANCES  <b>Location:</b> CP 796 (SLR) to CP 797 (TOFC Connection)  <b>Contract No.:</b>				<b>Notes or Restrictions:</b> Note 1. The location site of all rail lubricators shall be directed by the Department.  Note 2. A new CFRC Clearance Diagram currently under review by FDOT.											
Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	5.2.1 5.2.2	All new rail shall be 115 RE section and continuous welded (CWR).	Design Criteria Section 6.2.1	C	JWB	2/16/2015	TSP T024520								
2	5.2.1	All track will be Standard Gage (4'-8 1/2").	Design Criteria Section 6.3.2	C	JWB	2/16/2015	TSP T024530								
3	5.2.1	Standard control cooled rail shall be used except for curves of greater than 2 degrees and at SunRail stations (for a length = platform plus 200 ft. beyond each end of platform) where fully heat-treated carbon steel rail shall be used.	Design Criteria Section 6.2.1	C	JWB	2/16/2015	TSP T024530								
4	5.2.1 5.2.2	Rail shall be shop welded into a minimum of 1400 ft. strings to minimize the number of field welds.	Design Criteria Section 6.2.1	C	JWB	2/16/2015	TSP T024521								
5	5.2.2	On main tracks including passing sidings, wood ties shall not be spaced in excess of 19.5 inches on center.	Design Criteria Section 6.2.2	C	JWB	2/16/2015	TSP T024530								
6	5.2.2	At grade crossings, the ties shall be spaced in accordance with CFRC MWI 901-07.	Design Criteria Section 6.2.2	C	JWB	2/16/2015	TSP T024539								
7	5.2.2	For freight sidings and yards, maintenance of way tracks and layover facilities, the spacing shall not exceed 24 inches on center.	Design Criteria Section 6.2.2	C	JWB	2/23/2015	TSP T024580; T3.02.D.2								
8	5.2.2	Main track and passing siding ties shall be 9" x 7" x 8 ft. 6 in.	Design Criteria Section 6.2.2	C	JWB	2/16/2015	TSP T024530								
9	5.2.2	Highway grade crossing ties and pedestrian crossing ties shall be 9" x 7" x 10 feet. Other track ties shall be 8" x 6" x 8 ft. 6 in.	Design Criteria Section 6.2.2	C	JWB	2/16/2015	TSP T024530								
10	5.2.2	Turnouts, crossings, switches and special trackwork shall have ties (minimum 9" x 7") spaced in accordance with AREMA Guidelines and CFRC Standards.	Design Criteria Section 6.2.2	C	JWB	2/16/2015	TSP T024580 & CFRC MW 99001								
11	5.2.10	Sub-grade materials shall be placed in compacted layers over the full width of the embankment not exceeding 8 inches using approved mechanical compacting equipment before the next layer is placed with a minimum density of at least 95% of that obtained in a Modified Proctor Density Test, in accordance with ASTM D-1557.	Design Criteria Section 6.2.5	C	JWB	2/17/2015	TSP T024522								

12	5.2.10	Sub-grade shoulder to be sloped at 2H:1V. The sub-grade must be maintained in a well-drained condition at all time. Surfaces should be shaped and compacted during placement to facilitate positive drainage and minimize absorption of water.	Design Criteria Section 6.2.5	C	JWB	2/16/2015	Dwg T00.009; TSP T024522												
13	5.2.5	Electric flash butt welding shall be used whenever possible for field welds. CWR fabrication and electric-flash butt welding of rail, including quality assurance, shall be in accordance with AREMA Guidelines and CFRC Standards.	Design Criteria Section 6.2.1	C	JWB	2/16/2015	TSP T024530												
14	5.2.6	The base offset of rail ends to be thermite welded is recommended not to exceed 1/8 inch but in any case shall not exceed 1/4 inch.	Design Criteria Section 6.2.1	C	JWB	2/16/2015	TSP T024521												
15	5.2.8	Provide insulation joints in accordance with AREMA Manual, CFRC Standards and Route and Aspect Chart.	Design Criteria Section 6.3.5	C	JWB	2/16/2015	TSP T024534												
16	5.2.9	Ballasted track construction shall be used at all locations.	Design Criteria Section 6.1	C	JWB	2/16/2015	Dwg's T00.009-11; TSP T024523												
17	5.2.9	Contractors shall provide ballast in accordance with AREMA Guidelines. Use Granite Type 4A gradation for main lines; Type 5 gradation for yard areas.	Design Criteria Section 6.2.3	C	JWB	2/16/2015	TSP T024523												
18	5.2.9	Minimum ballast depth below bottom of ties at the rail shall be 8 inches on tangent section of track or below the bottom of the tie at the low rail on curved sections of track.	Design Criteria Section 6.2.3	C	JWB	2/16/2015	Dwg's T00.009-11; TSP T024523												
19	5.2.9	The ballast is to be level within the tie crib and 1 inch below the base of rail. The ballast shoulder shall extend 12 inches from the ends of ties to the edge of slope on tangent sections and the inside of curves and 18 inches on the outside of curves	Design Criteria Section 6.2.3	C	JWB	2/16/2015	Dwg's T00.009-11; TSP T024523												
20	5.2.10	Sub-ballast shall be composed of crusher run granite or limestone in accordance with AREMA Guidelines and acceptable to the Department.	Design Criteria Section 6.2.4	C	JWB	2/16/2015	TSP T024522 & CFRC MWI 301-04												
21	5.2.10	Sub-ballast shall be placed in a compacted 6 inch layer and graded to provide a minimum cross slope of 2% away from the center of the right of way. Sub-ballast shoulder to be sloped at 2H:1V.	Design Criteria Section 6.2.4	C	JWB	2/16/2015	Dwg's T00.009-11; TSP T024522												
22	5.2.12	All turnouts and crossovers shall be selected based on operating speeds provided in Section 15 Safety and Headway Criteria for Signal Block Layout Design for movements through the diverging routes.	Design Criteria Section 6.3	C	JWB	2/18/2015	AREMA Section 3.4 Speeds of Trains Through Level Turnouts, Table 5-3-7												
23	5.2.12	All special trackwork shall be located on horizontal and vertical tangents	Design Criteria Section 6.3	C	JWB	2/18/2015	Dwg's T30.0205-0269												

24	5.2.12	Rail lubricators shall be evaluated for all curves of 2 degrees or greater for both newly constructed and existing main line tracks and sidings.	Design Criteria Section 6.3				Note 1.											
25	5.2.13	Deraills shall be located on all freight sidings and yard lead tracks that slope downward to a main track or as freight operations dictate.	Design Criteria Section 6.3	C	JWB	2/16/2015	TSP T024534											
26	5.2.13	All deraills shall be capable of being locked.	Design Criteria Section 6.3	C	JWB	2/26/2015	TSP T024534; T2.06 Sliding Rail Deraill											
27	5.2.14	The typical horizontal distance between main track centerlines shall be 15 ft. 0 in. Field condition or right of way constraints may require the main track centers to be less than 15 ft. 0 in, but in no case shall the horizontal main track spacing be less than 13 ft. 6 in for tangent track.	Design Criteria Section 4.2.1	C	JWB	2/17/2015	Dwg.'s T00.009-014; T30.0205-0269											
28	5.2.14	Minimum horizontal distance between track centers shall be increased by 2 inches per degree of curvature where track centers are less than 15 ft. 0 in.	Design Criteria Section 4.2.2	C	JWB	2/18/2015	Dwg.'s T30.0205-0269											
29	5.2.14	The desired distance from main track to adjacent subsidiary tracks is 15 ft. 0 in. The minimum distance from main track to subsidiary tracks is 13 ft. 6 in.	Design Criteria Section 4.2.3	C	JWB	2/17/2015	Dwg.'s T00.009-014											
30	5.2.14	The desired horizontal clearance from track centerline to permanent obstruction shall be 18 ft. 0 in. The minimum horizontal clearance from the track centerline to a permanent obstruction shall be in accordance with CFOMA.	Design Criteria Section 4.3	Under review by CFRC COO			Note 2.											
31	5.2.14	For signals greater than 3 ft. 0 in above the top of rail, the minimum horizontal clearance from the track centerline shall be 8 ft. 6 in.	Design Criteria Section 4.3	C	JWB	2/25/2015	TSP T30070 Wayside Signals											
32	5.2.14	For signals and switch machines 3 ft. 0 in or less above the top of rail and located between tracks, the minimum horizontal clearance from the track centerline shall be 6 ft. 0 in.	Design Criteria Section 4.3				Note 2.											
33	5.2.14	On curves, both the desired and minimum horizontal clearances to obstructions shall be increased by 1 inch per 30 minutes of curvature, for obstructions on the inside of curve, plus 1 inch per inch of superelevation for every 5 ft. of height of the obstruction above the top of rail to a maximum of 3½ inches per inch of superelevation.	Design Criteria Section 4.3.1				Note 2.											
34	5.2.14	Whenever the outside track has the greater superelevation, increase the track centers 3 ½ inches per 1 inch of superelevation difference.	Design Criteria Section 4.3.1	C	JWB	2/18/2015	Dwg.'s T30.0205-0269											



35	5.2.14	The horizontal clearance from the tangent track centerline to a platform edge shall be 5 ft. 1 in.	Design Criteria Section 4.3.2	C	JWB	2/17/2015	Dwg.'s T00.014; T30.0205-0269								
36	5.2.15	Bumping posts shall be located at the ends of all stub-ended yard tracks.	Design Criteria Section 6.3	C	JWB	2/17/2015	Dwg. T30.0269								
37	5.2.16	The ditch grading and sizing shall comply with stormwater quality and quantity criteria as required by the South Florida Water Management District (SFWMD) and the Department.	Design Criteria Section 28.2	C	JWB	2/17/2015	Dwg.'s C30.0532-0596								
38	5.2.16	The proposed drainage Work activities shall also include the modification, extension, relocation and replacement of existing drainage structures and cross drains as needed to accommodate the railroad corridor improvements.	Design Criteria Section 28.2	C	JWB	2/17/2015	Dwg.'s C30.0532-0596								
39	5.2.16	Stormwater shall not be diverted onto property not previously receiving water from trackside ditches.	Design Criteria Section 28.2	C	JWB	2/17/2015	Dwg.'s C30.0532-0596								

LEGEND		DESIGN VERIFICATION		CONSTRUCTION VERIFICATION		FINAL VERIFICATION	
<b>Means of Verification - Design</b>		<b>Means of Verification - Construction</b>		Name and Organization: _____		Name and Organization: _____	
P = Plan Sheet	S = Specification	M = Measurement	_____	_____	_____	_____	_____
RFI=RFI	O = Other	T = Test PS = Product Sheet	Date: _____	Date: _____	Date: _____	Date: _____	Date: _____
<b>Status</b>		Approved by: _____		Approved by: _____		Approved by: _____	
C = Compliance		_____	Date: _____	_____	Date: _____	_____	Date: _____
N = Noncompliance							
P = Partial Compliance							

DRAFT

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists	Design Verification	Construction Verification	Final Verification
<b>Certifiable Element:</b> 5.0 TRACK AND STRUCTURES  <b>Sub-Element:</b> 5.2 TRACK AND APPLIANCES  <b>Location:</b> CP 797 (TOFC Connection) to CP 798 MP A796.9 - 798.0  <b>Contract No.:</b>	<b>Notes or Restrictions:</b> Note 1. The location site of all rail lubricators shall be directed by the Department.  Note 2. A new CFRC Clearance Diagram currently under review by FDOT.	<b>Notes or Restrictions:</b>	<b>Notes or Restrictions:</b>

Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	5.2.1 5.2.2	All new rail shall be 115 RE section and continuous welded (CWR).	Design Criteria Section 6.2.1	C	JWB	2/16/2015	TSP T024520								
2	5.2.1	All track will be Standard Gage (4'-8 1/2").	Design Criteria Section 6.3.2	C	JWB	2/16/2015	TSP T024530								
3	5.2.1	Standard control cooled rail shall be used except for curves of greater than 2 degrees and at SunRail stations (for a length = platform plus 200 ft. beyond each end of platform) where fully heat-treated carbon steel rail shall be used.	Design Criteria Section 6.2.1	C	JWB	2/16/2015	TSP T024530								
4	5.2.1 5.2.2	Rail shall be shop welded into a minimum of 1400 ft. strings to minimize the number of field welds.	Design Criteria Section 6.2.1	C	JWB	2/16/2015	TSP T024521								
5	5.2.2	On main tracks including passing sidings, wood ties shall not be spaced in excess of 19.5 inches on center.	Design Criteria Section 6.2.2	C	JWB	2/16/2015	TSP T024530								
6	5.2.2	At grade crossings, the ties shall be spaced in accordance with CFRC MWI 901-07.	Design Criteria Section 6.2.2	C	JWB	2/16/2015	TSP T024539								
7	5.2.2	For freight sidings and yards, maintenance of way tracks and layover facilities, the spacing shall not exceed 24 inches on center.	Design Criteria Section 6.2.2	C	JWB	2/23/2015	TSP T024580; T3.02.D.2								
8	5.2.2	Main track and passing siding ties shall be 9" x 7" x 8 ft. 6 in.	Design Criteria Section 6.2.2	C	JWB	2/16/2015	TSP T024530								
9	5.2.2	Highway grade crossing ties and pedestrian crossing ties shall be 9" x 7" x 10 feet. Other track ties shall be 8" x 6" x 8 ft. 6 in.	Design Criteria Section 6.2.2	C	JWB	2/16/2015	TSP T024530								
10	5.2.2	Turnouts, crossings, switches and special trackwork shall have ties (minimum 9" x 7") spaced in accordance with AREMA Guidelines and CFRC Standards.	Design Criteria Section 6.2.2	C	JWB	2/16/2015	TSP T024580 & CFRC MW 99001								

11	5.2.10	Sub-grade materials shall be placed in compacted layers over the full width of the embankment not exceeding 8 inches using approved mechanical compacting equipment before the next layer is placed with a minimum density of at least 95% of that obtained in a Modified Proctor Density Test, in accordance with ASTM D-1557.	Design Criteria Section 6.2.5	C	JWB	2/17/2015	TSP T024522											
12	5.2.10	Sub-grade shoulder to be sloped at 2H:1V. The sub-grade must be maintained in a well-drained condition at all time. Surfaces should be shaped and compacted during placement to facilitate positive drainage and minimize absorption of water.	Design Criteria Section 6.2.5	C	JWB	2/16/2015	Dwg T00.009; TSP T024522											
13	5.2.5	Electric flash butt welding shall be used whenever possible for field welds. CWR fabrication and electric-flash butt welding of rail, including quality assurance, shall be in accordance with AREMA Guidelines and CFRC Standards.	Design Criteria Section 6.2.1	C	JWB	2/16/2015	TSP T024530											
14	5.2.6	The base offset of rail ends to be thermite welded is recommended not to exceed 1/8 inch but in any case shall not exceed 1/4 inch.	Design Criteria Section 6.2.1	C	JWB	2/16/2015	TSP T024521											
15	5.2.8	Provide insulation joints in accordance with AREMA Manual, CFRC Standards and Route and Aspect Chart.	Design Criteria Section 6.3.5	C	JWB	2/16/2015	TSP T024534											
16	5.2.9	Ballasted track construction shall be used at all locations.	Design Criteria Section 6.1	C	JWB	2/16/2015	Dwg.'s T00.009-11; TSP T024523											
17	5.2.9	Contractors shall provide ballast in accordance with AREMA Guidelines. Use Granite Type 4A gradation for main lines; Type 5 gradation for yard areas.	Design Criteria Section 6.2.3	C	JWB	2/16/2015	TSP T024523											
18	5.2.9	Minimum ballast depth below bottom of ties at the rail shall be 8 inches on tangent section of track or below the bottom of the tie at the low rail on curved sections of track.	Design Criteria Section 6.2.3	C	JWB	2/16/2015	Dwg.'s T00.009-11; TSP T024523											
19	5.2.9	The ballast is to be level within the tie crib and 1 inch below the base of rail. The ballast shoulder shall extend 12 inches from the ends of ties to the edge of slope on tangent sections and the inside of curves and 18 inches on the outside of curves	Design Criteria Section 6.2.3	C	JWB	2/16/2015	Dwg.'s T00.009-11; TSP T024523											
20	5.2.10	Sub-ballast shall be composed of crusher run granite or limestone in accordance with AREMA Guidelines and acceptable to the Department.	Design Criteria Section 6.2.4	C	JWB	2/16/2015	TSP T024522 & CFRC MWI 301-04											

21	5.2.10	Sub-ballast shall be placed in a compacted 6 inch layer and graded to provide a minimum cross slope of 2% away from the center of the right of way. Sub-ballast shoulder to be sloped at 2H:1V.	Design Criteria Section 6.2.4	C	JWB	2/16/2015	Dwg.'s T00.009-11; TSP T024522											
22	5.2.12	All turnouts and crossovers shall be selected based on operating speeds provided in Section 15 Safety and Headway Criteria for Signal Block Layout Design for movements through the diverging routes.	Design Criteria Section 6.3	C	JWB	2/18/2015	AREMA Section 3.4 Speeds of Trains Through Level Turnouts, Table 5-3-7											
23	5.2.12	All special trackwork shall be located on horizontal and vertical tangents	Design Criteria Section 6.3	C	JWB	2/18/2015	Dwg.'s T30.0205-0269											
24	5.2.12	Rail lubricators shall be evaluated for all curves of 2 degrees or greater for both newly constructed and existing main line tracks and sidings.	Design Criteria Section 6.3				Note 1.											
25	5.2.13	Derailed shall be located on all freight sidings and yard lead tracks that slope downward to a main track or as freight operations dictate.	Design Criteria Section 6.3	C	JWB	2/16/2015	TSP T024534											
26	5.2.13	All derailed shall be capable of being locked.	Design Criteria Section 6.3	C	JWB	2/26/2015	TSP T024534; T2.06 Sliding Rail Derail											
27	5.2.14	The typical horizontal distance between main track centerlines shall be 15 ft. 0 in. Field condition or right of way constraints may require the main track centers to be less than 15 ft. 0 in, but in no case shall the horizontal main track spacing be less than 13 ft. 6 in for tangent track.	Design Criteria Section 4.2.1	C	JWB	2/17/2015	Dwg.'s T00.009-014; T30.0205-0269											
28	5.2.14	Minimum horizontal distance between track centers shall be increased by 2 inches per degree of curvature where track centers are less than 15 ft. 0 in.	Design Criteria Section 4.2.2	C	JWB	2/18/2015	Dwg.'s T30.0205-0269											
29	5.2.14	The desired distance from main track to adjacent subsidiary tracks is 15 ft. 0 in. The minimum distance from main track to subsidiary tracks is 13 ft. 6 in.	Design Criteria Section 4.2.3	C	JWB	2/17/2015	Dwg.'s T00.009-014											
30	5.2.14	The desired horizontal clearance from track centerline to permanent obstruction shall be 18 ft. 0 in. The minimum horizontal clearance from the track centerline to a permanent obstruction shall be in accordance with CFOMA.	Design Criteria Section 4.3	Under review by CFRC COO			Note 2.											
31	5.2.14	For signals greater than 3 ft. 0 in above the top of rail, the minimum horizontal clearance from the track centerline shall be 8 ft. 6 in.	Design Criteria Section 4.3	C	JWB	2/25/2015	TSP T30070 Wayside Signals											

32	5.2.14	For signals and switch machines 3 ft. 0 in or less above the top of rail and located between tracks, the minimum horizontal clearance from the track centerline shall be 6 ft. 0 in.	Design Criteria Section 4.3				Note 2.							
33	5.2.14	On curves, both the desired and minimum horizontal clearances to obstructions shall be increased by 1 inch per 30 minutes of curvature, for obstructions on the inside of curve, plus 1 inch per inch of superelevation for every 5 ft. of height of the obstruction above the top of rail to a maximum of 3½ inches per inch of superelevation.	Design Criteria Section 4.3.1				Note 2.							
34	5.2.14	Whenever the outside track has the greater superelevation, increase the track centers 3 ½ inches per 1 inch of superelevation difference.	Design Criteria Section 4.3.1	C	JWB	2/18/2015	Dwg.'s T30.0205-0269							
35	5.2.14	The horizontal clearance from the tangent track centerline to a platform edge shall be 5 ft. 1 in.	Design Criteria Section 4.3.2	C	JWB	2/17/2015	Dwg.'s T00.014; T30.0205-0269							
36	5.2.15	Bumping posts shall be located at the ends of all stub-ended yard tracks.	Design Criteria Section 6.3	C	JWB	2/17/2015	Dwg. T30.0269							
37	5.2.16	The ditch grading and sizing shall comply with stormwater quality and quantity criteria as required by the South Florida Water Management District (SFWMD) and the Department.	Design Criteria Section 28.2	C	JWB	2/17/2015	Dwg.'s C30.0532-0596							
38	5.2.16	The proposed drainage Work activities shall also include the modification, extension, relocation and replacement of existing drainage structures and cross drains as needed to accommodate the railroad corridor improvements.	Design Criteria Section 28.2	C	JWB	2/17/2015	Dwg.'s C30.0532-0596							
39	5.2.16	Stormwater shall not be diverted onto property not previously receiving water from trackside ditches.	Design Criteria Section 28.2	C	JWB	2/17/2015	Dwg.'s C30.0532-0596							

<b>LEGEND</b>		<b>DESIGN VERIFICATION</b>		<b>CONSTRUCTION VERIFICATION</b>		<b>FINAL VERIFICATION</b>	
<b>Means of Verification - Design</b>		<b>Means of Verification - Construction</b>		Name and Organization: _____		Name and Organization: _____	
P = Plan Sheet	S = Specification	M = Measurement	T = Test	PS = Product Sheet	V = Visual Inspection	Date: _____	
RFI=RFI	O = Other			Approved by: _____		Approved by: _____	
<b>Status</b>				Date: _____		Date: _____	
C = Compliance							
N = Noncompliance							
P = Partial Compliance							

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists	Design Verification	Construction Verification	Final Verification
<b>Certifiable Element:</b> 5.0 TRACK AND STRUCTURES  <b>Sub-Element:</b> 5.2 TRACK AND APPLIANCES  <b>Location:</b> CP 798 to CP 799  <b>Contract No.:</b>	<b>Notes or Restrictions:</b> Note 1. The location site of all rail lubricators shall be directed by the Department.  Note 2. A new CFRC Clearance Diagram currently under review by FDOT.	<b>Notes or Restrictions:</b>	<b>Notes or Restrictions:</b>

Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Design Verification				Construction/Installation				Verification				
				Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	
1	5.2.1 5.2.2	All new rail shall be 115 RE section and continuous welded (CWR).	Design Criteria Section 6.2.1	C	JWB	2/16/2015	TSP T024520									
2	5.2.1	All track will be Standard Gage (4'-8 1/2").	Design Criteria Section 6.3.2	C	JWB	2/16/2015	TSP T024530									
3	5.2.1	Standard control cooled rail shall be used except for curves of greater than 2 degrees and at SunRail stations (for a length = platform plus 200 ft. beyond each end of platform) where fully heat-treated carbon steel rail shall be used.	Design Criteria Section 6.2.1	C	JWB	2/16/2015	TSP T024530									
4	5.2.1 5.2.2	Rail shall be shop welded into a minimum of 1400 ft. strings to minimize the number of field welds.	Design Criteria Section 6.2.1	C	JWB	2/16/2015	TSP T024521									
5	5.2.2	On main tracks including passing sidings, wood ties shall not be spaced in excess of 19.5 inches on center.	Design Criteria Section 6.2.2	C	JWB	2/16/2015	TSP T024530									
6	5.2.2	At grade crossings, the ties shall be spaced in accordance with CFRC MWI 901-07.	Design Criteria Section 6.2.2	C	JWB	2/16/2015	TSP T024539									
7	5.2.2	For freight sidings and yards, maintenance of way tracks and layover facilities, the spacing shall not exceed 24 inches on center.	Design Criteria Section 6.2.2	C	JWB	2/23/2015	TSP T024580; T3.02.D.2									
8	5.2.2	Main track and passing siding ties shall be 9" x 7" x 8 ft. 6 in.	Design Criteria Section 6.2.2	C	JWB	2/16/2015	TSP T024530									
9	5.2.2	Highway grade crossing ties and pedestrian crossing ties shall be 9" x 7" x 10 feet. Other track ties shall be 8" x 6" x 8 ft. 6 in.	Design Criteria Section 6.2.2	C	JWB	2/16/2015	TSP T024530									
10	5.2.2	Turnouts, crossings, switches and special trackwork shall have ties (minimum 9" x 7") spaced in accordance with AREMA Guidelines and CFRC Standards.	Design Criteria Section 6.2.2	C	JWB	2/16/2015	TSP T024580 & CFRC MW 99001									

11	5.2.10	Sub-grade materials shall be placed in compacted layers over the full width of the embankment not exceeding 8 inches using approved mechanical compacting equipment before the next layer is placed with a minimum density of at least 95% of that obtained in a Modified Proctor Density Test, in accordance with ASTM D-1557.	Design Criteria Section 6.2.5	C	JWB	2/17/2015	TSP T024522											
12	5.2.10	Sub-grade shoulder to be sloped at 2H:1V. The sub-grade must be maintained in a well-drained condition at all time. Surfaces should be shaped and compacted during placement to facilitate positive drainage and minimize absorption of water.	Design Criteria Section 6.2.5	C	JWB	2/16/2015	Dwg T00.009; TSP T024522											
13	5.2.5	Electric flash butt welding shall be used whenever possible for field welds. CWR fabrication and electric-flash butt welding of rail, including quality assurance, shall be in accordance with AREMA Guidelines and CFRC Standards.	Design Criteria Section 6.2.1	C	JWB	2/16/2015	TSP T024530											
14	5.2.6	The base offset of rail ends to be thermite welded is recommended not to exceed 1/8 inch but in any case shall not exceed 1/4 inch.	Design Criteria Section 6.2.1	C	JWB	2/16/2015	TSP T024521											
15	5.2.8	Provide insulation joints in accordance with AREMA Manual, CFRC Standards and Route and Aspect Chart.	Design Criteria Section 6.3.5	C	JWB	2/16/2015	TSP T024534											
16	5.2.9	Ballasted track construction shall be used at all locations.	Design Criteria Section 6.1	C	JWB	2/16/2015	Dwg.'s T00.009-11; TSP T024523											
17	5.2.9	Contractors shall provide ballast in accordance with AREMA Guidelines. Use Granite Type 4A gradation for main lines; Type 5 gradation for yard areas.	Design Criteria Section 6.2.3	C	JWB	2/16/2015	TSP T024523											
18	5.2.9	Minimum ballast depth below bottom of ties at the rail shall be 8 inches on tangent section of track or below the bottom of the tie at the low rail on curved sections of track.	Design Criteria Section 6.2.3	C	JWB	2/16/2015	Dwg.'s T00.009-11; TSP T024523											
19	5.2.9	The ballast is to be level within the tie crib and 1 inch below the base of rail. The ballast shoulder shall extend 12 inches from the ends of ties to the edge of slope on tangent sections and the inside of curves and 18 inches on the outside of curves	Design Criteria Section 6.2.3	C	JWB	2/16/2015	Dwg.'s T00.009-11; TSP T024523											
20	5.2.10	Sub-ballast shall be composed of crusher run granite or limestone in accordance with AREMA Guidelines and acceptable to the Department.	Design Criteria Section 6.2.4	C	JWB	2/16/2015	TSP T024522 & CFRC MWI 301-04											
21	5.2.10	Sub-ballast shall be placed in a compacted 6 inch layer and graded to provide a minimum cross slope of 2% away from the center of the right of way. Sub-ballast shoulder to be sloped at 2H:1V.	Design Criteria Section 6.2.4	C	JWB	2/16/2015	Dwg.'s T00.009-11; TSP T024522											

22	5.2.12	All turnouts and crossovers shall be selected based on operating speeds provided in Section 15 Safety and Headway Criteria for Signal Block Layout Design for movements through the diverging routes.	Design Criteria Section 6.3	C	JWB	2/18/2015	AREMA Section 3.4 Speeds of Trains Through Level Turnouts, Table 5-3-7												
23	5.2.12	All special trackwork shall be located on horizontal and vertical tangents	Design Criteria Section 6.3	C	JWB	2/18/2015	Dwg.'s T30.0205-0269												
24	5.2.12	Rail lubricators shall be evaluated for all curves of 2 degrees or greater for both newly constructed and existing main line tracks and sidings.	Design Criteria Section 6.3				Note 1.												
25	5.2.13	Derailed shall be located on all freight sidings and yard lead tracks that slope downward to a main track or as freight operations dictate.	Design Criteria Section 6.3	C	JWB	2/16/2015	TSP T024534												
26	5.2.13	All derailed shall be capable of being locked.	Design Criteria Section 6.3	C	JWB	2/26/2015	TSP T024534; T2.06 Sliding Rail Derail												
27	5.2.14	The typical horizontal distance between main track centerlines shall be 15 ft. 0 in. Field condition or right of way constraints may require the main track centers to be less than 15 ft. 0 in, but in no case shall the horizontal main track spacing be less than 13 ft. 6 in for tangent track.	Design Criteria Section 4.2.1	C	JWB	2/17/2015	Dwg.'s T00.009-014; T30.0205-0269												
28	5.2.14	Minimum horizontal distance between track centers shall be increased by 2 inches per degree of curvature where track centers are less than 15 ft. 0 in.	Design Criteria Section 4.2.2	C	JWB	2/18/2015	Dwg.'s T30.0205-0269												
29	5.2.14	The desired distance from main track to adjacent subsidiary tracks is 15 ft. 0 in. The minimum distance from main track to subsidiary tracks is 13 ft. 6 in.	Design Criteria Section 4.2.3	C	JWB	2/17/2015	Dwg.'s T00.009-014												
30	5.2.14	The desired horizontal clearance from track centerline to permanent obstruction shall be 18 ft. 0 in. The minimum horizontal clearance from the track centerline to a permanent obstruction shall be in accordance with CFOMA.	Design Criteria Section 4.3	Under review by CFRC COO			Note 2.												
31	5.2.14	For signals greater than 3 ft. 0 in above the top of rail, the minimum horizontal clearance from the track centerline shall be 8 ft. 6 in.	Design Criteria Section 4.3	C	JWB	2/25/2015	TSP T30070 Wayside Signals												
32	5.2.14	For signals and switch machines 3 ft. 0 in or less above the top of rail and located between tracks, the minimum horizontal clearance from the track centerline shall be 6 ft. 0 in.	Design Criteria Section 4.3				Note 2.												



33	5.2.14	On curves, both the desired and minimum horizontal clearances to obstructions shall be increased by 1 inch per 30 minutes of curvature, for obstructions on the inside of curve, plus 1 inch per inch of superelevation for every 5 ft. of height of the obstruction above the top of rail to a maximum of 3½ inches per inch of superelevation.	Design Criteria Section 4.3.1				Note 2.							
34	5.2.14	Whenever the outside track has the greater superelevation, increase the track centers 3 ½ inches per 1 inch of superelevation difference.	Design Criteria Section 4.3.1	C	JWB	2/18/2015	Dwg.'s T30.0205-0269							
35	5.2.14	The horizontal clearance from the tangent track centerline to a platform edge shall be 5 ft. 1 in.	Design Criteria Section 4.3.2	C	JWB	2/17/2015	Dwg.'s T00.014; T30.0205-0269							
36	5.2.15	Bumping posts shall be located at the ends of all stub-ended yard tracks.	Design Criteria Section 6.3	C	JWB	2/17/2015	Dwg. T30.0269							
37	5.2.16	The ditch grading and sizing shall comply with stormwater quality and quantity criteria as required by the South Florida Water Management District (SFWMD) and the Department.	Design Criteria Section 28.2	C	JWB	2/17/2015	Dwg.'s C30.0532-0596							
38	5.2.16	The proposed drainage Work activities shall also include the modification, extension, relocation and replacement of existing drainage structures and cross drains as needed to accommodate the railroad corridor improvements.	Design Criteria Section 28.2	C	JWB	2/17/2015	Dwg.'s C30.0532-0596							
39	5.2.16	Stormwater shall not be diverted onto property not previously receiving water from trackside ditches.	Design Criteria Section 28.2	C	JWB	2/17/2015	Dwg.'s C30.0532-0596							

LEGEND		DESIGN VERIFICATION		CONSTRUCTION VERIFICATION		FINAL VERIFICATION	
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection		Name and Organization: _____ Date: _____		Name and Organization: _____ Date: _____	
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance		Approved by: _____ Date: _____		Approved by: _____ Date: _____		Approved by: _____ Date: _____	

# CFCRT Project Phase 2 South

<b>Safety and Security Certification Elements Design and Construction Conformance Checklists</b>	<b>Design Verification</b>	<b>Construction Verification</b>	<b>Final Verification</b>
<b>Certifiable Element:</b> 5.0 TRACK AND STRUCTURES  <b>Sub-Element:</b> 5.2 TRACK AND APPLIANCES  <b>Location:</b> CP 799 to CP 800  <b>Contract No.:</b>	<b>Notes or Restrictions:</b> Note 1. The location site of all rail lubricators shall be directed by the Department.  Note 2. A new CFRC Clearance Diagram currently under review by FDOT.	<b>Notes or Restrictions:</b>	<b>Notes or Restrictions:</b>

Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Design Verification				Construction/Installation				Verification					
				Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification		
1	5.2.1 5.2.2	All new rail shall be 115 RE section and continuous welded (CWR).	Design Criteria Section 6.2.1	C	JWB	2/16/2015	TSP T024520										
2	5.2.1	All track will be Standard Gage (4'-8 1/2").	Design Criteria Section 6.3.2	C	JWB	2/16/2015	TSP T024530										
3	5.2.1	Standard control cooled rail shall be used except for curves of greater than 2 degrees and at SunRail stations (for a length = platform plus 200 ft. beyond each end of platform) where fully heat-treated carbon steel rail shall be used.	Design Criteria Section 6.2.1	C	JWB	2/16/2015	TSP T024530										
4	5.2.1 5.2.2	Rail shall be shop welded into a minimum of 1400 ft. strings to minimize the number of field welds.	Design Criteria Section 6.2.1	C	JWB	2/16/2015	TSP T024521										
5	5.2.2	On main tracks including passing sidings, wood ties shall not be spaced in excess of 19.5 inches on center.	Design Criteria Section 6.2.2	C	JWB	2/16/2015	TSP T024530										
6	5.2.2	At grade crossings, the ties shall be spaced in accordance with CFRC MWI 901-07.	Design Criteria Section 6.2.2	C	JWB	2/16/2015	TSP T024539										
7	5.2.2	For freight sidings and yards, maintenance of way tracks and layover facilities, the spacing shall not exceed 24 inches on center.	Design Criteria Section 6.2.2	C	JWB	2/23/2015	TSP T024580; T3.02.D.2										
8	5.2.2	Main track and passing siding ties shall be 9" x 7" x 8 ft. 6 in.	Design Criteria Section 6.2.2	C	JWB	2/16/2015	TSP T024530										
9	5.2.2	Highway grade crossing ties and pedestrian crossing ties shall be 9" x 7" x 10 feet. Other track ties shall be 8" x 6" x 8 ft. 6 in.	Design Criteria Section 6.2.2	C	JWB	2/16/2015	TSP T024530										
10	5.2.2	Turnouts, crossings, switches and special trackwork shall have ties (minimum 9" x 7") spaced in accordance with AREMA Guidelines and CFRC Standards.	Design Criteria Section 6.2.2	C	JWB	2/16/2015	TSP T024580 & CFRC MW 99001										

11	5.2.10	Sub-grade materials shall be placed in compacted layers over the full width of the embankment not exceeding 8 inches using approved mechanical compacting equipment before the next layer is placed with a minimum density of at least 95% of that obtained in a Modified Proctor Density Test, in accordance with ASTM D-1557.	Design Criteria Section 6.2.5	C	JWB	2/17/2015	TSP T024522												
12	5.2.10	Sub-grade shoulder to be sloped at 2H:1V. The sub-grade must be maintained in a well-drained condition at all time. Surfaces should be shaped and compacted during placement to facilitate positive drainage and minimize absorption of water.	Design Criteria Section 6.2.5	C	JWB	2/16/2015	Dwg T00.009; TSP T024522												
13	5.2.5	Electric flash butt welding shall be used whenever possible for field welds. CWR fabrication and electric-flash butt welding of rail, including quality assurance, shall be in accordance with AREMA Guidelines and CFRC Standards.	Design Criteria Section 6.2.1	C	JWB	2/16/2015	TSP T024530												
14	5.2.6	The base offset of rail ends to be thermite welded is recommended not to exceed 1/8 inch but in any case shall not exceed 1/4 inch.	Design Criteria Section 6.2.1	C	JWB	2/16/2015	TSP T024521												
15	5.2.8	Provide insulation joints in accordance with AREMA Manual, CFRC Standards and Route and Aspect Chart.	Design Criteria Section 6.3.5	C	JWB	2/16/2015	TSP T024534												
16	5.2.9	Ballasted track construction shall be used at all locations.	Design Criteria Section 6.1	C	JWB	2/16/2015	Dwg.'s T00.009-11; TSP T024523												
17	5.2.9	Contractors shall provide ballast in accordance with AREMA Guidelines. Use Granite Type 4A gradation for main lines; Type 5 gradation for yard areas.	Design Criteria Section 6.2.3	C	JWB	2/16/2015	TSP T024523												
18	5.2.9	Minimum ballast depth below bottom of ties at the rail shall be 8 inches on tangent section of track or below the bottom of the tie at the low rail on curved sections of track.	Design Criteria Section 6.2.3	C	JWB	2/16/2015	Dwg.'s T00.009-11; TSP T024523												
19	5.2.9	The ballast is to be level within the tie crib and 1 inch below the base of rail. The ballast shoulder shall extend 12 inches from the ends of ties to the edge of slope on tangent sections and the inside of curves and 18 inches on the outside of curves	Design Criteria Section 6.2.3	C	JWB	2/16/2015	Dwg.'s T00.009-11; TSP T024523												
20	5.2.10	Sub-ballast shall be composed of crusher run granite or limestone in accordance with AREMA Guidelines and acceptable to the Department.	Design Criteria Section 6.2.4	C	JWB	2/16/2015	TSP T024522 & CFRC MWI 301-04												
21	5.2.10	Sub-ballast shall be placed in a compacted 6 inch layer and graded to provide a minimum cross slope of 2% away from the center of the right of way. Sub-ballast shoulder to be sloped at 2H:1V.	Design Criteria Section 6.2.4	C	JWB	2/16/2015	Dwg.'s T00.009-11; TSP T024522												

22	5.2.12	All turnouts and crossovers shall be selected based on operating speeds provided in Section 15 Safety and Headway Criteria for Signal Block Layout Design for movements through the diverging routes.	Design Criteria Section 6.3	C	JWB	2/18/2015	AREMA Section 3.4 Speeds of Trains Through Level Turnouts, Table 5-3-7											
23	5.2.12	All special trackwork shall be located on horizontal and vertical tangents	Design Criteria Section 6.3	C	JWB	2/18/2015	Dwg.'s T30.0205-0269											
24	5.2.12	Rail lubricators shall be evaluated for all curves of 2 degrees or greater for both newly constructed and existing main line tracks and sidings.	Design Criteria Section 6.3				Note 1.											
25	5.2.13	Derails shall be located on all freight sidings and yard lead tracks that slope downward to a main track or as freight operations dictate.	Design Criteria Section 6.3	C	JWB	2/16/2015	TSP T024534											
26	5.2.13	All derails shall be capable of being locked.	Design Criteria Section 6.3	C	JWB	2/26/2015	TSP T024534; T2.06 Sliding Rail Derail											
27	5.2.14	The typical horizontal distance between main track centerlines shall be 15 ft. 0 in. Field condition or right of way constraints may require the main track centers to be less than 15 ft. 0 in, but in no case shall the horizontal main track spacing be less than 13 ft. 6 in for tangent track.	Design Criteria Section 4.2.1	C	JWB	2/17/2015	Dwg.'s T00.009-014; T30.0205-0269											
28	5.2.14	Minimum horizontal distance between track centers shall be increased by 2 inches per degree of curvature where track centers are less than 15 ft. 0 in.	Design Criteria Section 4.2.2	C	JWB	2/18/2015	Dwg.'s T30.0205-0269											
29	5.2.14	The desired distance from main track to adjacent subsidiary tracks is 15 ft. 0 in. The minimum distance from main track to subsidiary tracks is 13 ft. 6 in.	Design Criteria Section 4.2.3	C	JWB	2/17/2015	Dwg.'s T00.009-014											
30	5.2.14	The desired horizontal clearance from track centerline to permanent obstruction shall be 18 ft. 0 in. The minimum horizontal clearance from the track centerline to a permanent obstruction shall be in accordance with CFOMA.	Design Criteria Section 4.3	Under review by CFRC COO			Note 2.											
31	5.2.14	For signals greater than 3 ft. 0 in above the top of rail, the minimum horizontal clearance from the track centerline shall be 8 ft. 6 in.	Design Criteria Section 4.3	C	JWB	2/25/2015	TSP T30070 Wayside Signals											
32	5.2.14	For signals and switch machines 3 ft. 0 in or less above the top of rail and located between tracks, the minimum horizontal clearance from the track centerline shall be 6 ft. 0 in.	Design Criteria Section 4.3				Note 2.											

33	5.2.14	On curves, both the desired and minimum horizontal clearances to obstructions shall be increased by 1 inch per 30 minutes of curvature, for obstructions on the inside of curve, plus 1 inch per inch of superelevation for every 5 ft. of height of the obstruction above the top of rail to a maximum of 3½ inches per inch of superelevation.	Design Criteria Section 4.3.1				Note 2.							
34	5.2.14	Whenever the outside track has the greater superelevation, increase the track centers 3 ½ inches per 1 inch of superelevation difference.	Design Criteria Section 4.3.1	C	JWB	2/18/2015	Dwg.'s T30.0205-0269							
35	5.2.14	The horizontal clearance from the tangent track centerline to a platform edge shall be 5 ft. 1 in.	Design Criteria Section 4.3.2	C	JWB	2/17/2015	Dwg.'s T00.014; T30.0205-0269							
36	5.2.15	Bumping posts shall be located at the ends of all stub-ended yard tracks.	Design Criteria Section 6.3	C	JWB	2/17/2015	Dwg. T30.0269							
37	5.2.16	The ditch grading and sizing shall comply with stormwater quality and quantity criteria as required by the South Florida Water Management District (SFWMD) and the Department.	Design Criteria Section 28.2	C	JWB	2/17/2015	Dwg.'s C30.0532-0596							
38	5.2.16	The proposed drainage Work activities shall also include the modification, extension, relocation and replacement of existing drainage structures and cross drains as needed to accommodate the railroad corridor improvements.	Design Criteria Section 28.2	C	JWB	2/17/2015	Dwg.'s C30.0532-0596							
39	5.2.16	Stormwater shall not be diverted onto property not previously receiving water from trackside ditches.	Design Criteria Section 28.2	C	JWB	2/17/2015	Dwg.'s C30.0532-0596							

<b>LEGEND</b>		<b>DESIGN VERIFICATION</b>		<b>CONSTRUCTION VERIFICATION</b>		<b>FINAL VERIFICATION</b>	
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection		Name and Organization: _____ Date: _____		Name and Organization: _____ Date: _____	
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance		Approved by: _____ Date: _____		Approved by: _____ Date: _____		Approved by: _____ Date: _____	

# CFCRT Project Phase 2 South

<b>Safety and Security Certification Elements Design and Construction Conformance Checklists</b>	<b>Design Verification</b>	<b>Construction Verification</b>	<b>Final Verification</b>
<b>Certifiable Element:</b> 5.0 TRACK AND STRUCTURES  <b>Sub-Element:</b> 5.2 TRACK AND APPLIANCES  <b>Location:</b> CP 800 to CP 801  <b>Contract No.:</b>	<b>Notes or Restrictions:</b> Note 1. The location site of all rail lubricators shall be directed by the Department.  Note 2. A new CFRC Clearance Diagram currently under review by FDOT.	<b>Notes or Restrictions:</b>	<b>Notes or Restrictions:</b>

Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	5.2.1 5.2.2	All new rail shall be 115 RE section and continuous welded (CWR).	Design Criteria Section 6.2.1	C	JWB	2/16/2015	TSP T024520								
2	5.2.1	All track will be Standard Gage (4'-8 1/2").	Design Criteria Section 6.3.2	C	JWB	2/16/2015	TSP T024530								
3	5.2.1	Standard control cooled rail shall be used except for curves of greater than 2 degrees and at SunRail stations (for a length = platform plus 200 ft. beyond each end of platform) where fully heat-treated carbon steel rail shall be used.	Design Criteria Section 6.2.1	C	JWB	2/16/2015	TSP T024530								
4	5.2.1 5.2.2	Rail shall be shop welded into a minimum of 1400 ft. strings to minimize the number of field welds.	Design Criteria Section 6.2.1	C	JWB	2/16/2015	TSP T024521								
5	5.2.2	On main tracks including passing sidings, wood ties shall not be spaced in excess of 19.5 inches on center.	Design Criteria Section 6.2.2	C	JWB	2/16/2015	TSP T024530								
6	5.2.2	At grade crossings, the ties shall be spaced in accordance with CFRC MWI 901-07.	Design Criteria Section 6.2.2	C	JWB	2/16/2015	TSP T024539								
7	5.2.2	For freight sidings and yards, maintenance of way tracks and layover facilities, the spacing shall not exceed 24 inches on center.	Design Criteria Section 6.2.2	C	JWB	2/23/2015	TSP T024580; T3.02.D.2								
8	5.2.2	Main track and passing siding ties shall be 9" x 7" x 8 ft. 6 in.	Design Criteria Section 6.2.2	C	JWB	2/16/2015	TSP T024530								
9	5.2.2	Highway grade crossing ties and pedestrian crossing ties shall be 9" x 7" x 10 feet. Other track ties shall be 8" x 6" x 8 ft. 6 in.	Design Criteria Section 6.2.2	C	JWB	2/16/2015	TSP T024530								
10	5.2.2	Turnouts, crossings, switches and special trackwork shall have ties (minimum 9" x 7") spaced in accordance with AREMA Guidelines and CFRC Standards.	Design Criteria Section 6.2.2	C	JWB	2/16/2015	TSP T024580 & CFRC MW 99001								

11	5.2.10	Sub-grade materials shall be placed in compacted layers over the full width of the embankment not exceeding 8 inches using approved mechanical compacting equipment before the next layer is placed with a minimum density of at least 95% of that obtained in a Modified Proctor Density Test, in accordance with ASTM D-1557.	Design Criteria Section 6.2.5	C	JWB	2/17/2015	TSP T024522												
12	5.2.10	Sub-grade shoulder to be sloped at 2H:1V. The sub-grade must be maintained in a well-drained condition at all time. Surfaces should be shaped and compacted during placement to facilitate positive drainage and minimize absorption of water.	Design Criteria Section 6.2.5	C	JWB	2/16/2015	Dwg T00.009; TSP T024522												
13	5.2.5	Electric flash butt welding shall be used whenever possible for field welds. CWR fabrication and electric-flash butt welding of rail, including quality assurance, shall be in accordance with AREMA Guidelines and CFRC Standards.	Design Criteria Section 6.2.1	C	JWB	2/16/2015	TSP T024530												
14	5.2.6	The base offset of rail ends to be thermite welded is recommended not to exceed 1/8 inch but in any case shall not exceed 1/4 inch.	Design Criteria Section 6.2.1	C	JWB	2/16/2015	TSP T024521												
15	5.2.8	Provide insulation joints in accordance with AREMA Manual, CFRC Standards and Route and Aspect Chart.	Design Criteria Section 6.3.5	C	JWB	2/16/2015	TSP T024534												
16	5.2.9	Ballasted track construction shall be used at all locations.	Design Criteria Section 6.1	C	JWB	2/16/2015	Dwg.'s T00.009-11; TSP T024523												
17	5.2.9	Contractors shall provide ballast in accordance with AREMA Guidelines. Use Granite Type 4A gradation for main lines; Type 5 gradation for yard areas.	Design Criteria Section 6.2.3	C	JWB	2/16/2015	TSP T024523												
18	5.2.9	Minimum ballast depth below bottom of ties at the rail shall be 8 inches on tangent section of track or below the bottom of the tie at the low rail on curved sections of track.	Design Criteria Section 6.2.3	C	JWB	2/16/2015	Dwg.'s T00.009-11; TSP T024523												
19	5.2.9	The ballast is to be level within the tie crib and 1 inch below the base of rail. The ballast shoulder shall extend 12 inches from the ends of ties to the edge of slope on tangent sections and the inside of curves and 18 inches on the outside of curves	Design Criteria Section 6.2.3	C	JWB	2/16/2015	Dwg.'s T00.009-11; TSP T024523												
20	5.2.10	Sub-ballast shall be composed of crusher run granite or limestone in accordance with AREMA Guidelines and acceptable to the Department.	Design Criteria Section 6.2.4	C	JWB	2/16/2015	TSP T024522 & CFRC MWI 301-04												
21	5.2.10	Sub-ballast shall be placed in a compacted 6 inch layer and graded to provide a minimum cross slope of 2% away from the center of the right of way. Sub-ballast shoulder to be sloped at 2H:1V.	Design Criteria Section 6.2.4	C	JWB	2/16/2015	Dwg.'s T00.009-11; TSP T024522												

22	5.2.12	All turnouts and crossovers shall be selected based on operating speeds provided in Section 15 Safety and Headway Criteria for Signal Block Layout Design for movements through the diverging routes.	Design Criteria Section 6.3	C	JWB	2/18/2015	AREMA Section 3.4 Speeds of Trains Through Level Turnouts, Table 5-3-7											
23	5.2.12	All special trackwork shall be located on horizontal and vertical tangents	Design Criteria Section 6.3	C	JWB	2/18/2015	Dwg.'s T30.0205-0269											
24	5.2.12	Rail lubricators shall be evaluated for all curves of 2 degrees or greater for both newly constructed and existing main line tracks and sidings.	Design Criteria Section 6.3				Note 1.											
25	5.2.13	Derrails shall be located on all freight sidings and yard lead tracks that slope downward to a main track or as freight operations dictate.	Design Criteria Section 6.3	C	JWB	2/16/2015	TSP T024534											
26	5.2.13	All derrails shall be capable of being locked.	Design Criteria Section 6.3	C	JWB	2/26/2015	TSP T024534; T2.06 Sliding Rail Derail											
27	5.2.14	The typical horizontal distance between main track centerlines shall be 15 ft. 0 in. Field condition or right of way constraints may require the main track centers to be less than 15 ft. 0 in, but in no case shall the horizontal main track spacing be less than 13 ft. 6 in for tangent track.	Design Criteria Section 4.2.1	C	JWB	2/17/2015	Dwg.'s T00.009-014; T30.0205-0269											
28	5.2.14	Minimum horizontal distance between track centers shall be increased by 2 inches per degree of curvature where track centers are less than 15 ft. 0 in.	Design Criteria Section 4.2.2	C	JWB	2/18/2015	Dwg.'s T30.0205-0269											
29	5.2.14	The desired distance from main track to adjacent subsidiary tracks is 15 ft. 0 in. The minimum distance from main track to subsidiary tracks is 13 ft. 6 in.	Design Criteria Section 4.2.3	C	JWB	2/17/2015	Dwg.'s T00.009-014											
30	5.2.14	The desired horizontal clearance from track centerline to permanent obstruction shall be 18 ft. 0 in. The minimum horizontal clearance from the track centerline to a permanent obstruction shall be in accordance with CFOMA.	Design Criteria Section 4.3	Under review by CFRC COO			Note 2.											
31	5.2.14	For signals greater than 3 ft. 0 in above the top of rail, the minimum horizontal clearance from the track centerline shall be 8 ft. 6 in.	Design Criteria Section 4.3	C	JWB	2/25/2015	TSP T30070 Wayside Signals											



32	5.2.14	For signals and switch machines 3 ft. 0 in or less above the top of rail and located between tracks, the minimum horizontal clearance from the track centerline shall be 6 ft. 0 in.	Design Criteria Section 4.3				Note 2.								
33	5.2.14	On curves, both the desired and minimum horizontal clearances to obstructions shall be increased by 1 inch per 30 minutes of curvature, for obstructions on the inside of curve, plus 1 inch per inch of superelevation for every 5 ft. of height of the obstruction above the top of rail to a maximum of 3½ inches per inch of superelevation.	Design Criteria Section 4.3.1				Note 2.								
34	5.2.14	Whenever the outside track has the greater superelevation, increase the track centers 3 ½ inches per 1 inch of superelevation difference.	Design Criteria Section 4.3.1	C	JWB	2/18/2015	Dwg.'s T30.0205-0269								
35	5.2.14	The horizontal clearance from the tangent track centerline to a platform edge shall be 5 ft. 1 in.	Design Criteria Section 4.3.2	C	JWB	2/17/2015	Dwg.'s T00.014; T30.0205-0269								
36	5.2.15	Bumping posts shall be located at the ends of all stub-ended yard tracks.	Design Criteria Section 6.3	C	JWB	2/17/2015	Dwg. T30.0269								
37	5.2.16	The ditch grading and sizing shall comply with stormwater quality and quantity criteria as required by the South Florida Water Management District (SFWMD) and the Department.	Design Criteria Section 28.2	C	JWB	2/17/2015	Dwg.'s C30.0532-0596								
38	5.2.16	The proposed drainage Work activities shall also include the modification, extension, relocation and replacement of existing drainage structures and cross drains as needed to accommodate the railroad corridor improvements.	Design Criteria Section 28.2	C	JWB	2/17/2015	Dwg.'s C30.0532-0596								
39	5.2.16	Stormwater shall not be diverted onto property not previously receiving water from trackside ditches.	Design Criteria Section 28.2	C	JWB	2/17/2015	Dwg.'s C30.0532-0596								

LEGEND		DESIGN VERIFICATION		CONSTRUCTION VERIFICATION		FINAL VERIFICATION	
<b>Means of Verification - Design</b>		<b>Means of Verification - Construction</b>		<b>Name and Organization:</b>		<b>Name and Organization:</b>	
P = Plan Sheet	S = Specification	M = Measurement					
RFI=RFI	O = Other	T = Test PS = Product Sheet					
<b>Status</b>		<b>Date:</b>		<b>Date:</b>		<b>Date:</b>	
C = Compliance							
N = Noncompliance		<b>Approved by:</b>		<b>Approved by:</b>		<b>Approved by:</b>	
P = Partial Compliance							
		<b>Date:</b>		<b>Date:</b>		<b>Date:</b>	

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists	Design Verification	Construction Verification	Final Verification
<b>Certifiable Element:</b> 5.0 TRACK AND STRUCTURES  <b>Sub-Element:</b> 5.2 TRACK AND APPLIANCES  <b>Location:</b> CP 801 to CP 803  <b>Contract No.:</b>	<b>Notes or Restrictions:</b> Note 1. The location site of all rail lubricators shall be directed by the Department.  Note 2. A new CFRC Clearance Diagram currently under review by FDOT.		

Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Design Verification				Construction/Installation				Verification					
				Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification		
1	5.2.1 5.2.2	All new rail shall be 115 RE section and continuous welded (CWR).	Design Criteria Section 6.2.1	C	JWB	2/16/2015	TSP T024520										
2	5.2.1	All track will be Standard Gage (4'-8 1/2").	Design Criteria Section 6.3.2	C	JWB	2/16/2015	TSP T024530										
3	5.2.1	Standard control cooled rail shall be used except for curves of greater than 2 degrees and at SunRail stations (for a length = platform plus 200 ft. beyond each end of platform) where fully heat-treated carbon steel rail shall be used.	Design Criteria Section 6.2.1	C	JWB	2/16/2015	TSP T024530										
4	5.2.1 5.2.2	Rail shall be shop welded into a minimum of 1400 ft. strings to minimize the number of field welds.	Design Criteria Section 6.2.1	C	JWB	2/16/2015	TSP T024521										
5	5.2.2	On main tracks including passing sidings, wood ties shall not be spaced in excess of 19.5 inches on center.	Design Criteria Section 6.2.2	C	JWB	2/16/2015	TSP T024530										
6	5.2.2	At grade crossings, the ties shall be spaced in accordance with CFRC MWI 901-07.	Design Criteria Section 6.2.2	C	JWB	2/16/2015	TSP T024539										
7	5.2.2	For freight sidings and yards, maintenance of way tracks and layover facilities, the spacing shall not exceed 24 inches on center.	Design Criteria Section 6.2.2	C	JWB	2/23/2015	TSP T024580; T3.02.D.2										
8	5.2.2	Main track and passing siding ties shall be 9" x 7" x 8 ft. 6 in.	Design Criteria Section 6.2.2	C	JWB	2/16/2015	TSP T024530										
9	5.2.2	Highway grade crossing ties and pedestrian crossing ties shall be 9" x 7" x 10 feet. Other track ties shall be 8" x 6" x 8 ft. 6 in.	Design Criteria Section 6.2.2	C	JWB	2/16/2015	TSP T024530										
10	5.2.2	Turnouts, crossings, switches and special trackwork shall have ties (minimum 9" x 7") spaced in accordance with AREMA Guidelines and CFRC Standards.	Design Criteria Section 6.2.2	C	JWB	2/16/2015	TSP T024580 & CFRC MW 99001										

Item No.	Certifiable Item Description			Design Verification				Construction/Installation				Verification			
	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
11	5.2.10	Sub-grade materials shall be placed in compacted layers over the full width of the embankment not exceeding 8 inches using approved mechanical compacting equipment before the next layer is placed with a minimum density of at least 95% of that obtained in a Modified Proctor Density Test, in accordance with ASTM D-1557.	Design Criteria Section 6.2.5	C	JWB	2/17/2015	TSP T024522								
12	5.2.10	Sub-grade shoulder to be sloped at 2H:1V. The sub-grade must be maintained in a well-drained condition at all time. Surfaces should be shaped and compacted during placement to facilitate positive drainage and minimize absorption of water.	Design Criteria Section 6.2.5	C	JWB	2/16/2015	Dwg T00.009; TSP T024522								
13	5.2.5	Electric flash butt welding shall be used whenever possible for field welds. CWR fabrication and electric-flash butt welding of rail, including quality assurance, shall be in accordance with AREMA Guidelines and CFRC Standards.	Design Criteria Section 6.2.1	C	JWB	2/16/2015	TSP T024530								
14	5.2.6	The base offset of rail ends to be thermite welded is recommended not to exceed 1/8 inch but in any case shall not exceed 1/4 inch.	Design Criteria Section 6.2.1	C	JWB	2/16/2015	TSP T024521								
15	5.2.8	Provide insulation joints in accordance with AREMA Manual, CFRC Standards and Route and Aspect Chart.	Design Criteria Section 6.3.5	C	JWB	2/16/2015	TSP T024534								
16	5.2.9	Ballasted track construction shall be used at all locations.	Design Criteria Section 6.1	C	JWB	2/16/2015	Dwg's T00.009-11; TSP T024523								
17	5.2.9	Contractors shall provide ballast in accordance with AREMA Guidelines. Use Granite Type 4A gradation for main lines; Type 5 gradation for yard areas.	Design Criteria Section 6.2.3	C	JWB	2/16/2015	TSP T024523								
18	5.2.9	Minimum ballast depth below bottom of ties at the rail shall be 8 inches on tangent section of track or below the bottom of the tie at the low rail on curved sections of track.	Design Criteria Section 6.2.3	C	JWB	2/16/2015	Dwg's T00.009-11; TSP T024523								
19	5.2.9	The ballast is to be level within the tie crib and 1 inch below the base of rail. The ballast shoulder shall extend 12 inches from the ends of ties to the edge of slope on tangent sections and the inside of curves and 18 inches on the outside of curves	Design Criteria Section 6.2.3	C	JWB	2/16/2015	Dwg's T00.009-11; TSP T024523								
20	5.2.10	Sub-ballast shall be composed of crusher run granite or limestone in accordance with AREMA Guidelines and acceptable to the Department.	Design Criteria Section 6.2.4	C	JWB	2/16/2015	TSP T024522 & CFRC MWI 301-04								

Item No.	Certifiable Item Description			Design Verification				Construction/Installation				Verification			
	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
21	5.2.10	Sub-ballast shall be placed in a compacted 6 inch layer and graded to provide a minimum cross slope of 2% away from the center of the right of way. Sub-ballast shoulder to be sloped at 2H:1V.	Design Criteria Section 6.2.4	C	JWB	2/16/2015	Dwg.'s T00.009-11; TSP T024522								
22	5.2.12	All turnouts and crossovers shall be selected based on operating speeds provided in Section 15 Safety and Headway Criteria for Signal Block Layout Design for movements through the diverging routes.	Design Criteria Section 6.3	C	JWB	2/18/2015	AREMA Section 3.4 Speeds of Trains Through Level Turnouts, Table 5-3-7								
23	5.2.12	All special trackwork shall be located on horizontal and vertical tangents	Design Criteria Section 6.3	C	JWB	2/18/2015	Dwg.'s T30.0205-0269								
24	5.2.12	Rail lubricators shall be evaluated for all curves of 2 degrees or greater for both newly constructed and existing main line tracks and sidings.	Design Criteria Section 6.3				Note 1.								
25	5.2.13	Derails shall be located on all freight sidings and yard lead tracks that slope downward to a main track or as freight operations dictate.	Design Criteria Section 6.3	C	JWB	2/16/2015	TSP T024534								
26	5.2.13	All derails shall be capable of being locked.	Design Criteria Section 6.3	C	JWB	2/26/2015	TSP T024534; T2.06 Sliding Rail Deraill								
27	5.2.14	The typical horizontal distance between main track centerlines shall be 15 ft. 0 in. Field condition or right of way constraints may require the main track centers to be less than 15 ft. 0 in, but in no case shall the horizontal main track spacing be less than 13 ft. 6 in for tangent track.	Design Criteria Section 4.2.1	C	JWB	2/17/2015	Dwg.'s T00.009-014; T30.0205-0269								
28	5.2.14	Minimum horizontal distance between track centers shall be increased by 2 inches per degree of curvature where track centers are less than 15 ft. 0 in.	Design Criteria Section 4.2.2	C	JWB	2/18/2015	Dwg.'s T30.0205-0269								
29	5.2.14	The desired distance from main track to adjacent subsidiary tracks is 15 ft. 0 in. The minimum distance from main track to subsidiary tracks is 13 ft. 6 in.	Design Criteria Section 4.2.3	C	JWB	2/17/2015	Dwg.'s T00.009-014								
30	5.2.14	The desired horizontal clearance from track centerline to permanent obstruction shall be 18 ft. 0 in. The minimum horizontal clearance from the track centerline to a permanent obstruction shall be in accordance with CFOMA.	Design Criteria Section 4.3	Under review by CFRC COO			Note 2.								
31	5.2.14	For signals greater than 3 ft. 0 in above the top of rail, the minimum horizontal clearance from the track centerline shall be 8 ft. 6 in.	Design Criteria Section 4.3	C	JWB	2/25/2015	TSP T30070 Wayside Signals								



# CFCRT Project Phase 2 South

<b>Safety and Security Certification Elements Design and Construction Conformance Checklists</b>	<b>Design Verification</b>	<b>Construction Verification</b>	<b>Final Verification</b>
<b>Certifiable Element:</b> 5.0 TRACK AND STRUCTURES  <b>Sub-Element:</b> 5.2 TRACK AND APPLIANCES  <b>Location:</b> CP 803 to CP 806  <b>Contract No.:</b>	<b>Notes or Restrictions:</b> Note 1. The location site of all rail lubricators shall be directed by the Department.  Note 2. A new CFRC Clearance Diagram currently under review by FDOT.	<b>Notes or Restrictions:</b>	<b>Notes or Restrictions:</b>

Item No.	Certifiable Item Description			Design Verification				Construction/Installation				Verification			
	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	5.2.1 5.2.2	All new rail shall be 115 RE section and continuous welded (CWR).	Design Criteria Section 6.2.1	C	JWB	2/16/2015	TSP T024520								
2	5.2.1	All track will be Standard Gage (4'-8 1/2").	Design Criteria Section 6.3.2	C	JWB	2/16/2015	TSP T024530								
3	5.2.1	Standard control cooled rail shall be used except for curves of greater than 2 degrees and at SunRail stations (for a length = platform plus 200 ft. beyond each end of platform) where fully heat-treated carbon steel rail shall be used.	Design Criteria Section 6.2.1	C	JWB	2/16/2015	TSP T024530								
4	5.2.1 5.2.2	Rail shall be shop welded into a minimum of 1400 ft. strings to minimize the number of field welds.	Design Criteria Section 6.2.1	C	JWB	2/16/2015	TSP T024521								
5	5.2.2	On main tracks including passing sidings, wood ties shall not be spaced in excess of 19.5 inches on center.	Design Criteria Section 6.2.2	C	JWB	2/16/2015	TSP T024530								
6	5.2.2	At grade crossings, the ties shall be spaced in accordance with CFRC MWI 901-07.	Design Criteria Section 6.2.2	C	JWB	2/16/2015	TSP T024539								
7	5.2.2	For freight sidings and yards, maintenance of way tracks and layover facilities, the spacing shall not exceed 24 inches on center.	Design Criteria Section 6.2.2	C	JWB	2/23/2015	TSP T024580; T3.02.D.2								
8	5.2.2	Main track and passing siding ties shall be 9" x 7" x 8 ft. 6 in.	Design Criteria Section 6.2.2	C	JWB	2/16/2015	TSP T024530								
9	5.2.2	Highway grade crossing ties and pedestrian crossing ties shall be 9" x 7" x 10 feet. Other track ties shall be 8" x 6" x 8 ft. 6 in.	Design Criteria Section 6.2.2	C	JWB	2/16/2015	TSP T024530								
10	5.2.2	Turnouts, crossings, switches and special trackwork shall have ties (minimum 9" x 7") spaced in accordance with AREMA Guidelines and CFRC Standards.	Design Criteria Section 6.2.2	C	JWB	2/16/2015	TSP T024580 & CFRC MW 99001								

11	5.2.10	Sub-grade materials shall be placed in compacted layers over the full width of the embankment not exceeding 8 inches using approved mechanical compacting equipment before the next layer is placed with a minimum density of at least 95% of that obtained in a Modified Proctor Density Test, in accordance with ASTM D-1557.	Design Criteria Section 6.2.5	C	JWB	2/17/2015	TSP T024522											
12	5.2.10	Sub-grade shoulder to be sloped at 2H:1V. The sub-grade must be maintained in a well-drained condition at all time. Surfaces should be shaped and compacted during placement to facilitate positive drainage and minimize absorption of water.	Design Criteria Section 6.2.5	C	JWB	2/16/2015	Dwg T00.009; TSP T024522											
13	5.2.5	Electric flash butt welding shall be used whenever possible for field welds. CWR fabrication and electric-flash butt welding of rail, including quality assurance, shall be in accordance with AREMA Guidelines and CFRC Standards.	Design Criteria Section 6.2.1	C	JWB	2/16/2015	TSP T024530											
14	5.2.6	The base offset of rail ends to be thermite welded is recommended not to exceed 1/8 inch but in any case shall not exceed 1/4 inch.	Design Criteria Section 6.2.1	C	JWB	2/16/2015	TSP T024521											
15	5.2.8	Provide insulation joints in accordance with AREMA Manual, CFRC Standards and Route and Aspect Chart.	Design Criteria Section 6.3.5	C	JWB	2/16/2015	TSP T024534											
16	5.2.9	Ballasted track construction shall be used at all locations.	Design Criteria Section 6.1	C	JWB	2/16/2015	Dwg's T00.009-11; TSP T024523											
17	5.2.9	Contractors shall provide ballast in accordance with AREMA Guidelines. Use Granite Type 4A gradation for main lines; Type 5 gradation for yard areas.	Design Criteria Section 6.2.3	C	JWB	2/16/2015	TSP T024523											
18	5.2.9	Minimum ballast depth below bottom of ties at the rail shall be 8 inches on tangent section of track or below the bottom of the tie at the low rail on curved sections of track.	Design Criteria Section 6.2.3	C	JWB	2/16/2015	Dwg's T00.009-11; TSP T024523											
19	5.2.9	The ballast is to be level within the tie crib and 1 inch below the base of rail. The ballast shoulder shall extend 12 inches from the ends of ties to the edge of slope on tangent sections and the inside of curves and 18 inches on the outside of curves	Design Criteria Section 6.2.3	C	JWB	2/16/2015	Dwg's T00.009-11; TSP T024523											
20	5.2.10	Sub-ballast shall be composed of crusher run granite or limestone in accordance with AREMA Guidelines and acceptable to the Department.	Design Criteria Section 6.2.4	C	JWB	2/16/2015	TSP T024522 & CFRC MWI 301-04											
21	5.2.10	Sub-ballast shall be placed in a compacted 6 inch layer and graded to provide a minimum cross slope of 2% away from the center of the right of way. Sub-ballast shoulder to be sloped at 2H:1V.	Design Criteria Section 6.2.4	C	JWB	2/16/2015	Dwg's T00.009-11; TSP T024522											

22	5.2.12	All turnouts and crossovers shall be selected based on operating speeds provided in Section 15 Safety and Headway Criteria for Signal Block Layout Design for movements through the diverging routes.	Design Criteria Section 6.3	C	JWB	2/18/2015	AREMA Section 3.4 Speeds of Trains Through Level Turnouts, Table 5-3-7											
23	5.2.12	All special trackwork shall be located on horizontal and vertical tangents	Design Criteria Section 6.3	C	JWB	2/18/2015	Dwg.'s T30.0205-0269											
24	5.2.12	Rail lubricators shall be evaluated for all curves of 2 degrees or greater for both newly constructed and existing main line tracks and sidings.	Design Criteria Section 6.3				Note 1.											
25	5.2.13	Derails shall be located on all freight sidings and yard lead tracks that slope downward to a main track or as freight operations dictate.	Design Criteria Section 6.3	C	JWB	2/16/2015	TSP T024534											
26	5.2.13	All derails shall be capable of being locked.	Design Criteria Section 6.3	C	JWB	2/26/2015	TSP T024534; T2.06 Sliding Rail Derail											
27	5.2.14	The typical horizontal distance between main track centerlines shall be 15 ft. 0 in. Field condition or right of way constraints may require the main track centers to be less than 15 ft. 0 in, but in no case shall the horizontal main track spacing be less than 13 ft. 6 in for tangent track.	Design Criteria Section 4.2.1	C	JWB	2/17/2015	Dwg.'s T00.009-014; T30.0205-0269											
28	5.2.14	Minimum horizontal distance between track centers shall be increased by 2 inches per degree of curvature where track centers are less than 15 ft. 0 in.	Design Criteria Section 4.2.2	C	JWB	2/18/2015	Dwg.'s T30.0205-0269											
29	5.2.14	The desired distance from main track to adjacent subsidiary tracks is 15 ft. 0 in. The minimum distance from main track to subsidiary tracks is 13 ft. 6 in.	Design Criteria Section 4.2.3	C	JWB	2/17/2015	Dwg.'s T00.009-014											
30	5.2.14	The desired horizontal clearance from track centerline to permanent obstruction shall be 18 ft. 0 in. The minimum horizontal clearance from the track centerline to a permanent obstruction shall be in accordance with CFOMA.	Design Criteria Section 4.3	Under review by CFRC COO			Note 2.											
31	5.2.14	For signals greater than 3 ft. 0 in above the top of rail, the minimum horizontal clearance from the track centerline shall be 8 ft. 6 in.	Design Criteria Section 4.3	C	JWB	2/25/2015	TSP T30070 Wayside Signals											
32	5.2.14	For signals and switch machines 3 ft. 0 in or less above the top of rail and located between tracks, the minimum horizontal clearance from the track centerline shall be 6 ft. 0 in.	Design Criteria Section 4.3				Note 2.											



33	5.2.14	On curves, both the desired and minimum horizontal clearances to obstructions shall be increased by 1 inch per 30 minutes of curvature, for obstructions on the inside of curve, plus 1 inch per inch of superelevation for every 5 ft. of height of the obstruction above the top of rail to a maximum of 3½ inches per inch of superelevation.	Design Criteria Section 4.3.1				Note 2.							
34	5.2.14	Whenever the outside track has the greater superelevation, increase the track centers 3 ½ inches per 1 inch of superelevation difference.	Design Criteria Section 4.3.1	C	JWB	2/18/2015	Dwg.'s T30.0205-0269							
35	5.2.14	The horizontal clearance from the tangent track centerline to a platform edge shall be 5 ft. 1 in.	Design Criteria Section 4.3.2	C	JWB	2/17/2015	Dwg.'s T00.014; T30.0205-0269							
36	5.2.14	The horizontal clearance for platforms located within a horizontal curve shall be 5 ft. 1 in and additionally increased by 1 inch per 30 minutes of curvature, for obstructions on the inside of curve, plus 1 inch per inch of superelevation for every 5 ft. of height of the obstruction above the top of rail to a maximum of 3½ inches per inch of superelevation.	Design Criteria Section 4.3.2	C	JWB	2/17/2015	Dwg.'s T00.014; T30.0234 C00.003E C15.007A A15.201 A15.202							
37	5.2.15	Bumping posts shall be located at the ends of all stub-ended yard tracks.	Design Criteria Section 6.3	C	JWB	2/17/2015	Dwg. T30.0269							
38	5.2.16	The ditch grading and sizing shall comply with stormwater quality and quantity criteria as required by the South Florida Water Management District (SFWMD) and the Department.	Design Criteria Section 28.2	C	JWB	2/17/2015	Dwg.'s C30.0532-0596							
39	5.2.16	The proposed drainage Work activities shall also include the modification, extension, relocation and replacement of existing drainage structures and cross drains as needed to accommodate the railroad corridor improvements.	Design Criteria Section 28.2	C	JWB	2/17/2015	Dwg.'s C30.0532-0596							
40	5.2.16	Stormwater shall not be diverted onto property not previously receiving water from trackside ditches.	Design Criteria Section 28.2	C	JWB	2/17/2015	Dwg.'s C30.0532-0596							

<b>LEGEND</b>		<b>DESIGN VERIFICATION</b>		<b>CONSTRUCTION VERIFICATION</b>		<b>FINAL VERIFICATION</b>	
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection		Name and Organization: _____ Date: _____		Name and Organization: _____ Date: _____	
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance		Approved by: _____ Date: _____		Approved by: _____ Date: _____		Approved by: _____ Date: _____	

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists	Design Verification	Construction Verification	Final Verification
<b>Certifiable Element:</b> 5.0 TRACK AND STRUCTURES  <b>Sub-Element:</b> 5.2 TRACK AND APPLIANCES  <b>Location:</b> CP 806 to CP 809  <b>Contract No.:</b>	<b>Notes or Restrictions:</b> Note 1. The location site of all rail lubricators shall be directed by the Department.  Note 2. A new CFRC Clearance Diagram currently under review by FDOT.		

Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	5.2.1 5.2.2	All new rail shall be 115 RE section and continuous welded (CWR).	Design Criteria Section 6.2.1	C	JWB	2/16/2015	TSP T024520								
2	5.2.1	All track will be Standard Gage (4'-8 1/2").	Design Criteria Section 6.3.2	C	JWB	2/16/2015	TSP T024530								
3	5.2.1	Standard control cooled rail shall be used except for curves of greater than 2 degrees and at SunRail stations (for a length = platform plus 200 ft. beyond each end of platform) where fully heat-treated carbon steel rail shall be used.	Design Criteria Section 6.2.1	C	JWB	2/16/2015	TSP T024530								
4	5.2.1 5.2.2	Rail shall be shop welded into a minimum of 1400 ft. strings to minimize the number of field welds.	Design Criteria Section 6.2.1	C	JWB	2/16/2015	TSP T024521								
5	5.2.2	On main tracks including passing sidings, wood ties shall not be spaced in excess of 19.5 inches on center.	Design Criteria Section 6.2.2	C	JWB	2/16/2015	TSP T024530								
6	5.2.2	At grade crossings, the ties shall be spaced in accordance with CFRC MWI 901-07.	Design Criteria Section 6.2.2	C	JWB	2/16/2015	TSP T024539								
7	5.2.2	For freight sidings and yards, maintenance of way tracks and layover facilities, the spacing shall not exceed 24 inches on center.	Design Criteria Section 6.2.2	C	JWB	2/23/2015	TSP T024580; T3.02.D.2								
8	5.2.2	Main track and passing siding ties shall be 9" x 7" x 8 ft. 6 in.	Design Criteria Section 6.2.2	C	JWB	2/16/2015	TSP T024530								
9	5.2.2	Highway grade crossing ties and pedestrian crossing ties shall be 9" x 7" x 10 feet. Other track ties shall be 8" x 6" x 8 ft. 6 in.	Design Criteria Section 6.2.2	C	JWB	2/16/2015	TSP T024530								
10	5.2.2	Turnouts, crossings, switches and special trackwork shall have ties (minimum 9" x 7") spaced in accordance with AREMA Guidelines and CFRC Standards.	Design Criteria Section 6.2.2	C	JWB	2/16/2015	TSP T024580 & CFRC MW 99001								

11	5.2.10	Sub-grade materials shall be placed in compacted layers over the full width of the embankment not exceeding 8 inches using approved mechanical compacting equipment before the next layer is placed with a minimum density of at least 95% of that obtained in a Modified Proctor Density Test, in accordance with ASTM D-1557.	Design Criteria Section 6.2.5	C	JWB	2/17/2015	TSP T024522												
12	5.2.10	Sub-grade shoulder to be sloped at 2H:1V. The sub-grade must be maintained in a well-drained condition at all time. Surfaces should be shaped and compacted during placement to facilitate positive drainage and minimize absorption of water.	Design Criteria Section 6.2.5	C	JWB	2/16/2015	Dwg T00.009; TSP T024522												
13	5.2.5	Electric flash butt welding shall be used whenever possible for field welds. CWR fabrication and electric-flash butt welding of rail, including quality assurance, shall be in accordance with AREMA Guidelines and CFRC Standards.	Design Criteria Section 6.2.1	C	JWB	2/16/2015	TSP T024530												
14	5.2.6	The base offset of rail ends to be thermite welded is recommended not to exceed 1/8 inch but in any case shall not exceed 1/4 inch.	Design Criteria Section 6.2.1	C	JWB	2/16/2015	TSP T024521												
15	5.2.8	Provide insulation joints in accordance with AREMA Manual, CFRC Standards and Route and Aspect Chart.	Design Criteria Section 6.3.5	C	JWB	2/16/2015	TSP T024534												
16	5.2.9	Ballasted track construction shall be used at all locations.	Design Criteria Section 6.1	C	JWB	2/16/2015	Dwg.'s T00.009-11; TSP T024523												
17	5.2.9	Contractors shall provide ballast in accordance with AREMA Guidelines. Use Granite Type 4A gradation for main lines; Type 5 gradation for yard areas.	Design Criteria Section 6.2.3	C	JWB	2/16/2015	TSP T024523												
18	5.2.9	Minimum ballast depth below bottom of ties at the rail shall be 8 inches on tangent section of track or below the bottom of the tie at the low rail on curved sections of track.	Design Criteria Section 6.2.3	C	JWB	2/16/2015	Dwg.'s T00.009-11; TSP T024523												
19	5.2.9	The ballast is to be level within the tie crib and 1 inch below the base of rail. The ballast shoulder shall extend 12 inches from the ends of ties to the edge of slope on tangent sections and the inside of curves and 18 inches on the outside of curves	Design Criteria Section 6.2.3	C	JWB	2/16/2015	Dwg.'s T00.009-11; TSP T024523												
20	5.2.10	Sub-ballast shall be composed of crusher run granite or limestone in accordance with AREMA Guidelines and acceptable to the Department.	Design Criteria Section 6.2.4	C	JWB	2/16/2015	TSP T024522 & CFRC MWI 301-04												
21	5.2.10	Sub-ballast shall be placed in a compacted 6 inch layer and graded to provide a minimum cross slope of 2% away from the center of the right of way. Sub-ballast shoulder to be sloped at 2H:1V.	Design Criteria Section 6.2.4	C	JWB	2/16/2015	Dwg.'s T00.009-11; TSP T024522												

22	5.2.12	All turnouts and crossovers shall be selected based on operating speeds provided in Section 15 Safety and Headway Criteria for Signal Block Layout Design for movements through the diverging routes.	Design Criteria Section 6.3	C	JWB	2/18/2015	AREMA Section 3.4 Speeds of Trains Through Level Turnouts, Table 5-3-7											
23	5.2.12	All special trackwork shall be located on horizontal and vertical tangents	Design Criteria Section 6.3	C	JWB	2/18/2015	Dwg.'s T30.0205-0269											
24	5.2.12	Rail lubricators shall be evaluated for all curves of 2 degrees or greater for both newly constructed and existing main line tracks and sidings.	Design Criteria Section 6.3				Note 1.											
25	5.2.13	Derailed shall be located on all freight sidings and yard lead tracks that slope downward to a main track or as freight operations dictate.	Design Criteria Section 6.3	C	JWB	2/16/2015	TSP T024534											
26	5.2.13	All derailed shall be capable of being locked.	Design Criteria Section 6.3	C	JWB	2/26/2015	TSP T024534; T2.06 Sliding Rail Derail											
27	5.2.14	The typical horizontal distance between main track centerlines shall be 15 ft. 0 in. Field condition or right of way constraints may require the main track centers to be less than 15 ft. 0 in, but in no case shall the horizontal main track spacing be less than 13 ft. 6 in for tangent track.	Design Criteria Section 4.2.1	C	JWB	2/17/2015	Dwg.'s T00.009-014; T30.0205-0269											
28	5.2.14	Minimum horizontal distance between track centers shall be increased by 2 inches per degree of curvature where track centers are less than 15 ft. 0 in.	Design Criteria Section 4.2.2	C	JWB	2/18/2015	Dwg.'s T30.0205-0269											
29	5.2.14	The desired distance from main track to adjacent subsidiary tracks is 15 ft. 0 in. The minimum distance from main track to subsidiary tracks is 13 ft. 6 in.	Design Criteria Section 4.2.3	C	JWB	2/17/2015	Dwg.'s T00.009-014											
30	5.2.14	The desired horizontal clearance from track centerline to permanent obstruction shall be 18 ft. 0 in. The minimum horizontal clearance from the track centerline to a permanent obstruction shall be in accordance with CFOMA.	Design Criteria Section 4.3	Under review by CFRC COO			Note 2.											
31	5.2.14	For signals greater than 3 ft. 0 in above the top of rail, the minimum horizontal clearance from the track centerline shall be 8 ft. 6 in.	Design Criteria Section 4.3	C	JWB	2/25/2015	TSP T30070 Wayside Signals											
32	5.2.14	For signals and switch machines 3 ft. 0 in or less above the top of rail and located between tracks, the minimum horizontal clearance from the track centerline shall be 6 ft. 0 in.	Design Criteria Section 4.3				Note 2.											

33	5.2.14	On curves, both the desired and minimum horizontal clearances to obstructions shall be increased by 1 inch per 30 minutes of curvature, for obstructions on the inside of curve, plus 1 inch per inch of superelevation for every 5 ft. of height of the obstruction above the top of rail to a maximum of 3½ inches per inch of superelevation.	Design Criteria Section 4.3.1				Note 2.							
34	5.2.14	Whenever the outside track has the greater superelevation, increase the track centers 3 ½ inches per 1 inch of superelevation difference.	Design Criteria Section 4.3.1	C	JWB	2/18/2015	Dwg.'s T30.0205-0269							
35	5.2.14	The horizontal clearance from the tangent track centerline to a platform edge shall be 5 ft. 1 in.	Design Criteria Section 4.3.2	C	JWB	2/17/2015	Dwg.'s T00.014; T30.0205-0269							
36	5.2.14	The horizontal clearance for platforms located within a horizontal curve shall be 5 ft. 1 in and additionally increased by 1 inch per 30 minutes of curvature, for obstructions on the inside of curve, plus 1 inch per inch of superelevation for every 5 ft. of height of the obstruction above the top of rail to a maximum of 3½ inches per inch of superelevation.	Design Criteria Section 4.3.2	C	JWB	2/17/2015	Dwg.'s T00.014; T30.0247 C16.007C, C16.007D A16.201, A16.202							
37	5.2.15	Bumping posts shall be located at the ends of all stub-ended yard tracks.	Design Criteria Section 6.3	C	JWB	2/17/2015	Dwg. T30.0269							
38	5.2.16	The ditch grading and sizing shall comply with stormwater quality and quantity criteria as required by the South Florida Water Management District (SFWMD) and the Department.	Design Criteria Section 28.2	C	JWB	2/17/2015	Dwg.'s C30.0532-0596							
39	5.2.16	The proposed drainage Work activities shall also include the modification, extension, relocation and replacement of existing drainage structures and cross drains as needed to accommodate the railroad corridor improvements.	Design Criteria Section 28.2	C	JWB	2/17/2015	Dwg.'s C30.0532-0596							
40	5.2.16	Stormwater shall not be diverted onto property not previously receiving water from trackside ditches.	Design Criteria Section 28.2	C	JWB	2/17/2015	Dwg.'s C30.0532-0596							

<b>LEGEND</b>		<b>DESIGN VERIFICATION</b>		<b>CONSTRUCTION VERIFICATION</b>		<b>FINAL VERIFICATION</b>	
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection		Name and Organization: _____ Date: _____		Name and Organization: _____ Date: _____	
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance		Approved by: _____ Date: _____		Approved by: _____ Date: _____		Approved by: _____ Date: _____	

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists	Design Verification	Construction Verification	Final Verification
<b>Certifiable Element:</b> 5.0 TRACK AND STRUCTURES  <b>Sub-Element:</b> 5.2 TRACK AND APPLIANCES  <b>Location:</b> CP 809 to CP 813  <b>Contract No.:</b> _____	<b>Notes or Restrictions:</b> Note 1. The location site of all rail lubricators shall be directed by the Department.  Note 2. A new CFRC Clearance Diagram currently under review by FDOT.	<b>Notes or Restrictions:</b>       	<b>Notes or Restrictions:</b>       

Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	5.2.1 5.2.2	All new rail shall be 115 RE section and continuous welded (CWR).	Design Criteria Section 6.2.1	C	JWB	2/16/2015	TSP T024520								
2	5.2.1	All track will be Standard Gage (4'-8 1/2").	Design Criteria Section 6.3.2	C	JWB	2/16/2015	TSP T024530								
3	5.2.1	Standard control cooled rail shall be used except for curves of greater than 2 degrees and at SunRail stations (for a length = platform plus 200 ft. beyond each end of platform) where fully heat-treated carbon steel rail shall be used.	Design Criteria Section 6.2.1	C	JWB	2/16/2015	TSP T024530								
4	5.2.1 5.2.2	Rail shall be shop welded into a minimum of 1400 ft. strings to minimize the number of field welds.	Design Criteria Section 6.2.1	C	JWB	2/16/2015	TSP T024521								
5	5.2.2	On main tracks including passing sidings, wood ties shall not be spaced in excess of 19.5 inches on center.	Design Criteria Section 6.2.2	C	JWB	2/16/2015	TSP T024530								
6	5.2.2	At grade crossings, the ties shall be spaced in accordance with CFRC MWI 901-07.	Design Criteria Section 6.2.2	C	JWB	2/16/2015	TSP T024539								
7	5.2.2	For freight sidings and yards, maintenance of way tracks and layover facilities, the spacing shall not exceed 24 inches on center.	Design Criteria Section 6.2.2	C	JWB	2/23/2015	TSP T024580; T3.02.D.2								
8	5.2.2	Main track and passing siding ties shall be 9" x 7" x 8 ft. 6 in.	Design Criteria Section 6.2.2	C	JWB	2/16/2015	TSP T024530								
9	5.2.2	Highway grade crossing ties and pedestrian crossing ties shall be 9" x 7" x 10 feet. Other track ties shall be 8" x 6" x 8 ft. 6 in.	Design Criteria Section 6.2.2	C	JWB	2/16/2015	TSP T024530								
10	5.2.2	Turnouts, crossings, switches and special trackwork shall have ties (minimum 9" x 7") spaced in accordance with AREMA Guidelines and CFRC Standards.	Design Criteria Section 6.2.2	C	JWB	2/16/2015	TSP T024580 & CFRC MW 99001								

11	5.2.10	Sub-grade materials shall be placed in compacted layers over the full width of the embankment not exceeding 8 inches using approved mechanical compacting equipment before the next layer is placed with a minimum density of at least 95% of that obtained in a Modified Proctor Density Test, in accordance with ASTM D-1557.	Design Criteria Section 6.2.5	C	JWB	2/17/2015	TSP T024522											
12	5.2.10	Sub-grade shoulder to be sloped at 2H:1V. The sub-grade must be maintained in a well-drained condition at all time. Surfaces should be shaped and compacted during placement to facilitate positive drainage and minimize absorption of water.	Design Criteria Section 6.2.5	C	JWB	2/16/2015	Dwg T00.009; TSP T024522											
13	5.2.5	Electric flash butt welding shall be used whenever possible for field welds. CWR fabrication and electric-flash butt welding of rail, including quality assurance, shall be in accordance with AREMA Guidelines and CFRC Standards.	Design Criteria Section 6.2.1	C	JWB	2/16/2015	TSP T024530											
14	5.2.6	The base offset of rail ends to be thermite welded is recommended not to exceed 1/8 inch but in any case shall not exceed 1/4 inch.	Design Criteria Section 6.2.1	C	JWB	2/16/2015	TSP T024521											
15	5.2.8	Provide insulation joints in accordance with AREMA Manual, CFRC Standards and Route and Aspect Chart.	Design Criteria Section 6.3.5	C	JWB	2/16/2015	TSP T024534											
16	5.2.9	Ballasted track construction shall be used at all locations.	Design Criteria Section 6.1	C	JWB	2/16/2015	Dwg.'s T00.009-11; TSP T024523											
17	5.2.9	Contractors shall provide ballast in accordance with AREMA Guidelines. Use Granite Type 4A gradation for main lines; Type 5 gradation for yard areas.	Design Criteria Section 6.2.3	C	JWB	2/16/2015	TSP T024523											
18	5.2.9	Minimum ballast depth below bottom of ties at the rail shall be 8 inches on tangent section of track or below the bottom of the tie at the low rail on curved sections of track.	Design Criteria Section 6.2.3	C	JWB	2/16/2015	Dwg.'s T00.009-11; TSP T024523											
19	5.2.9	The ballast is to be level within the tie crib and 1 inch below the base of rail. The ballast shoulder shall extend 12 inches from the ends of ties to the edge of slope on tangent sections and the inside of curves and 18 inches on the outside of curves	Design Criteria Section 6.2.3	C	JWB	2/16/2015	Dwg.'s T00.009-11; TSP T024523											
20	5.2.10	Sub-ballast shall be composed of crusher run granite or limestone in accordance with AREMA Guidelines and acceptable to the Department.	Design Criteria Section 6.2.4	C	JWB	2/16/2015	TSP T024522 & CFRC MWI 301-04											

21	5.2.10	Sub-ballast shall be placed in a compacted 6 inch layer and graded to provide a minimum cross slope of 2% away from the center of the right of way. Sub-ballast shoulder to be sloped at 2H:1V.	Design Criteria Section 6.2.4	C	JWB	2/16/2015	Dwg.'s T00.009-11; TSP T024522												
22	5.2.12	All turnouts and crossovers shall be selected based on operating speeds provided in Section 15 Safety and Headway Criteria for Signal Block Layout Design for movements through the diverging routes.	Design Criteria Section 6.3	C	JWB	2/18/2015	AREMA Section 3.4 Speeds of Trains Through Level Turnouts, Table 5-3-7												
23	5.2.12	All special trackwork shall be located on horizontal and vertical tangents	Design Criteria Section 6.3	C	JWB	2/18/2015	Dwg.'s T30.0205-0269												
24	5.2.12	Rail lubricators shall be evaluated for all curves of 2 degrees or greater for both newly constructed and existing main line tracks and sidings.	Design Criteria Section 6.3				Note 1.												
25	5.2.13	Derails shall be located on all freight sidings and yard lead tracks that slope downward to a main track or as freight operations dictate.	Design Criteria Section 6.3	C	JWB	2/16/2015	TSP T024534												
26	5.2.13	All derails shall be capable of being locked.	Design Criteria Section 6.3	C	JWB	2/26/2015	TSP T024534; T2.06 Sliding Rail Deraill												
27	5.2.14	The typical horizontal distance between main track centerlines shall be 15 ft. 0 in. Field condition or right of way constraints may require the main track centers to be less than 15 ft. 0 in, but in no case shall the horizontal main track spacing be less than 13 ft. 6 in for tangent track.	Design Criteria Section 4.2.1	C	JWB	2/17/2015	Dwg.'s T00.009-014; T30.0205-0269												
28	5.2.14	Minimum horizontal distance between track centers shall be increased by 2 inches per degree of curvature where track centers are less than 15 ft. 0 in.	Design Criteria Section 4.2.2	C	JWB	2/18/2015	Dwg.'s T30.0205-0269												
29	5.2.14	The desired distance from main track to adjacent subsidiary tracks is 15 ft. 0 in. The minimum distance from main track to subsidiary tracks is 13 ft. 6 in.	Design Criteria Section 4.2.3	C	JWB	2/17/2015	Dwg.'s T00.009-014												
30	5.2.14	The desired horizontal clearance from track centerline to permanent obstruction shall be 18 ft. 0 in. The minimum horizontal clearance from the track centerline to a permanent obstruction shall be in accordance with CFOMA.	Design Criteria Section 4.3	Under review by CFRC COO			Note 2.												
31	5.2.14	For signals greater than 3 ft. 0 in above the top of rail, the minimum horizontal clearance from the track centerline shall be 8 ft. 6 in.	Design Criteria Section 4.3	C	JWB	2/25/2015	TSP T30070 Wayside Signals												



32	5.2.14	For signals and switch machines 3 ft. 0 in or less above the top of rail and located between tracks, the minimum horizontal clearance from the track centerline shall be 6 ft. 0 in.	Design Criteria Section 4.3				Note 2.							
33	5.2.14	On curves, both the desired and minimum horizontal clearances to obstructions shall be increased by 1 inch per 30 minutes of curvature, for obstructions on the inside of curve, plus 1 inch per inch of superelevation for every 5 ft. of height of the obstruction above the top of rail to a maximum of 3½ inches per inch of superelevation.	Design Criteria Section 4.3.1				Note 2.							
34	5.2.14	Whenever the outside track has the greater superelevation, increase the track centers 3 ½ inches per 1 inch of superelevation difference.	Design Criteria Section 4.3.1	C	JWB	2/18/2015	Dwg.'s T30.0205-0269							
35	5.2.14	The horizontal clearance from the tangent track centerline to a platform edge shall be 5 ft. 1 in.	Design Criteria Section 4.3.2	C	JWB	2/17/2015	Dwg.'s T00.014; T30.0205-0269							
36	5.2.15	Bumping posts shall be located at the ends of all stub-ended yard tracks.	Design Criteria Section 6.3	C	JWB	2/17/2015	Dwg. T30.0269							
37	5.2.16	The ditch grading and sizing shall comply with stormwater quality and quantity criteria as required by the South Florida Water Management District (SFWMD) and the Department.	Design Criteria Section 28.2	C	JWB	2/17/2015	Dwg.'s C30.0532-0596							
38	5.2.16	The proposed drainage Work activities shall also include the modification, extension, relocation and replacement of existing drainage structures and cross drains as needed to accommodate the railroad corridor improvements.	Design Criteria Section 28.2	C	JWB	2/17/2015	Dwg.'s C30.0532-0596							
39	5.2.16	Stormwater shall not be diverted onto property not previously receiving water from trackside ditches.	Design Criteria Section 28.2	C	JWB	2/17/2015	Dwg.'s C30.0532-0596							

<b>LEGEND</b>		<b>DESIGN VERIFICATION</b>		<b>CONSTRUCTION VERIFICATION</b>		<b>FINAL VERIFICATION</b>	
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection		Name and Organization: _____ Date: _____		Name and Organization: _____ Date: _____	
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance		Approved by: _____ Date: _____		Approved by: _____ Date: _____		Approved by: _____ Date: _____	

# CFCRT Project Phase 2 South

<b>Safety and Security Certification Elements Design and Construction Conformance Checklists</b>	<b>Design Verification</b>	<b>Construction Verification</b>	<b>Final Verification</b>
<b>Certifiable Element:</b> 5.0 TRACK AND STRUCTURES  <b>Sub-Element:</b> 5.2 TRACK AND APPLIANCES  <b>Location:</b> CP 813 to CP 814  <b>Contract No.:</b>	<b>Notes or Restrictions:</b> Note 1. The location site of all rail lubricators shall be directed by the Department.  Note 2. A new CFRC Clearance Diagram currently under review by FDOT.	<b>Notes or Restrictions:</b>	<b>Notes or Restrictions:</b>

Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	5.2.1 5.2.2	All new rail shall be 115 RE section and continuous welded (CWR).	Design Criteria Section 6.2.1	C	JWB	2/16/2015	TSP T024520								
2	5.2.1	All track will be Standard Gage (4'-8 1/2").	Design Criteria Section 6.3.2	C	JWB	2/16/2015	TSP T024530								
3	5.2.1	Standard control cooled rail shall be used except for curves of greater than 2 degrees and at SunRail stations (for a length = platform plus 200 ft. beyond each end of platform) where fully heat-treated carbon steel rail shall be used.	Design Criteria Section 6.2.1	C	JWB	2/16/2015	TSP T024530								
4	5.2.1 5.2.2	Rail shall be shop welded into a minimum of 1400 ft. strings to minimize the number of field welds.	Design Criteria Section 6.2.1	C	JWB	2/16/2015	TSP T024521								
5	5.2.2	On main tracks including passing sidings, wood ties shall not be spaced in excess of 19.5 inches on center.	Design Criteria Section 6.2.2	C	JWB	2/16/2015	TSP T024530								
6	5.2.2	At grade crossings, the ties shall be spaced in accordance with CFRC MWI 901-07.	Design Criteria Section 6.2.2	C	JWB	2/16/2015	TSP T024539								
7	5.2.2	For freight sidings and yards, maintenance of way tracks and layover facilities, the spacing shall not exceed 24 inches on center.	Design Criteria Section 6.2.2	C	JWB	2/23/2015	TSP T024580; T3.02.D.2								
8	5.2.2	Main track and passing siding ties shall be 9" x 7" x 8 ft. 6 in.	Design Criteria Section 6.2.2	C	JWB	2/16/2015	TSP T024530								
9	5.2.2	Highway grade crossing ties and pedestrian crossing ties shall be 9" x 7" x 10 feet. Other track ties shall be 8" x 6" x 8 ft. 6 in.	Design Criteria Section 6.2.2	C	JWB	2/16/2015	TSP T024530								
10	5.2.2	Turnouts, crossings, switches and special trackwork shall have ties (minimum 9" x 7") spaced in accordance with AREMA Guidelines and CFRC Standards.	Design Criteria Section 6.2.2	C	JWB	2/16/2015	TSP T024580 & CFRC MW 99001								

11	5.2.10	Sub-grade materials shall be placed in compacted layers over the full width of the embankment not exceeding 8 inches using approved mechanical compacting equipment before the next layer is placed with a minimum density of at least 95% of that obtained in a Modified Proctor Density Test, in accordance with ASTM D-1557.	Design Criteria Section 6.2.5	C	JWB	2/17/2015	TSP T024522											
12	5.2.10	Sub-grade shoulder to be sloped at 2H:1V. The sub-grade must be maintained in a well-drained condition at all time. Surfaces should be shaped and compacted during placement to facilitate positive drainage and minimize absorption of water.	Design Criteria Section 6.2.5	C	JWB	2/16/2015	Dwg T00.009; TSP T024522											
13	5.2.5	Electric flash butt welding shall be used whenever possible for field welds. CWR fabrication and electric-flash butt welding of rail, including quality assurance, shall be in accordance with AREMA Guidelines and CFRC Standards.	Design Criteria Section 6.2.1	C	JWB	2/16/2015	TSP T024530											
14	5.2.6	The base offset of rail ends to be thermite welded is recommended not to exceed 1/8 inch but in any case shall not exceed 1/4 inch.	Design Criteria Section 6.2.1	C	JWB	2/16/2015	TSP T024521											
15	5.2.8	Provide insulation joints in accordance with AREMA Manual, CFRC Standards and Route and Aspect Chart.	Design Criteria Section 6.3.5	C	JWB	2/16/2015	TSP T024534											
16	5.2.9	Ballasted track construction shall be used at all locations.	Design Criteria Section 6.1	C	JWB	2/16/2015	Dwg.'s T00.009-11; TSP T024523											
17	5.2.9	Contractors shall provide ballast in accordance with AREMA Guidelines. Use Granite Type 4A gradation for main lines; Type 5 gradation for yard areas.	Design Criteria Section 6.2.3	C	JWB	2/16/2015	TSP T024523											
18	5.2.9	Minimum ballast depth below bottom of ties at the rail shall be 8 inches on tangent section of track or below the bottom of the tie at the low rail on curved sections of track.	Design Criteria Section 6.2.3	C	JWB	2/16/2015	Dwg.'s T00.009-11; TSP T024523											
19	5.2.9	The ballast is to be level within the tie crib and 1 inch below the base of rail. The ballast shoulder shall extend 12 inches from the ends of ties to the edge of slope on tangent sections and the inside of curves and 18 inches on the outside of curves	Design Criteria Section 6.2.3	C	JWB	2/16/2015	Dwg.'s T00.009-11; TSP T024523											
20	5.2.10	Sub-ballast shall be composed of crusher run granite or limestone in accordance with AREMA Guidelines and acceptable to the Department.	Design Criteria Section 6.2.4	C	JWB	2/16/2015	TSP T024522 & CFRC MWI 301-04											

21	5.2.10	Sub-ballast shall be placed in a compacted 6 inch layer and graded to provide a minimum cross slope of 2% away from the center of the right of way. Sub-ballast shoulder to be sloped at 2H:1V.	Design Criteria Section 6.2.4	C	JWB	2/16/2015	Dwg.'s T00.009-11; TSP T024522											
22	5.2.12	All turnouts and crossovers shall be selected based on operating speeds provided in Section 15 Safety and Headway Criteria for Signal Block Layout Design for movements through the diverging routes.	Design Criteria Section 6.3	C	JWB	2/18/2015	AREMA Section 3.4 Speeds of Trains Through Level Turnouts, Table 5-3-7											
23	5.2.12	All special trackwork shall be located on horizontal and vertical tangents	Design Criteria Section 6.3	C	JWB	2/18/2015	Dwg.'s T30.0205-0269											
24	5.2.12	Rail lubricators shall be evaluated for all curves of 2 degrees or greater for both newly constructed and existing main line tracks and sidings.	Design Criteria Section 6.3				Note 1.											
25	5.2.13	Derails shall be located on all freight sidings and yard lead tracks that slope downward to a main track or as freight operations dictate.	Design Criteria Section 6.3	C	JWB	2/16/2015	TSP T024534											
26	5.2.13	All derails shall be capable of being locked.	Design Criteria Section 6.3	C	JWB	2/26/2015	TSP T024534; T2.06 Sliding Rail Derail											
27	5.2.14	The typical horizontal distance between main track centerlines shall be 15 ft. 0 in. Field condition or right of way constraints may require the main track centers to be less than 15 ft. 0 in, but in no case shall the horizontal main track spacing be less than 13 ft. 6 in for tangent track.	Design Criteria Section 4.2.1	C	JWB	2/17/2015	Dwg.'s T00.009-014; T30.0205-0269											
28	5.2.14	Minimum horizontal distance between track centers shall be increased by 2 inches per degree of curvature where track centers are less than 15 ft. 0 in.	Design Criteria Section 4.2.2	C	JWB	2/18/2015	Dwg.'s T30.0205-0269											
29	5.2.14	The desired distance from main track to adjacent subsidiary tracks is 15 ft. 0 in. The minimum distance from main track to subsidiary tracks is 13 ft. 6 in.	Design Criteria Section 4.2.3	C	JWB	2/17/2015	Dwg.'s T00.009-014											
30	5.2.14	The desired horizontal clearance from track centerline to permanent obstruction shall be 18 ft. 0 in. The minimum horizontal clearance from the track centerline to a permanent obstruction shall be in accordance with CFOMA.	Design Criteria Section 4.3				Under review by CFRC COO	Note 2.										

31	5.2.14	For signals greater than 3 ft. 0 in above the top of rail, the minimum horizontal clearance from the track centerline shall be 8 ft. 6 in.	Design Criteria Section 4.3	C	JWB	2/25/2015	TSP T30070 Wayside Signals											
32	5.2.14	For signals and switch machines 3 ft. 0 in or less above the top of rail and located between tracks, the minimum horizontal clearance from the track centerline shall be 6 ft. 0 in.	Design Criteria Section 4.3				Note 2.											
33	5.2.14	On curves, both the desired and minimum horizontal clearances to obstructions shall be increased by 1 inch per 30 minutes of curvature, for obstructions on the inside of curve, plus 1 inch per inch of superelevation for every 5 ft. of height of the obstruction above the top of rail to a maximum of 3½ inches per inch of superelevation.	Design Criteria Section 4.3.1				Note 2.											
34	5.2.14	Whenever the outside track has the greater superelevation, increase the track centers ½ inches per 1 inch of superelevation difference.	Design Criteria Section 4.3.1	C	JWB	2/18/2015	Dwg.'s T30.0205-0269											
35	5.2.14	The horizontal clearance from the tangent track centerline to a platform edge shall be 5 ft. 1 in.	Design Criteria Section 4.3.2	C	JWB	2/17/2015	Dwg.'s T00.014; T30.0205-0269											
36	5.2.14	The horizontal clearance for platforms located within a horizontal curve shall be 5 ft. 1 in and additionally increased by 1 inch per 30 minutes of curvature, for obstructions on the inside of curve, plus 1 inch per inch of superelevation for every 5 ft. of height of the obstruction above the top of rail to a maximum of 3½ inches per inch of superelevation.	Design Criteria Section 4.3.2	C	JWB	2/17/2015	Dwg.'s T00.014; T30.0269 C00.003E C17.007A C17.007B A17.201 A17.202											
37	5.2.15	Bumping posts shall be located at the ends of all stub-ended yard tracks.	Design Criteria Section 6.3	C	JWB	2/17/2015	Dwg. T30.0269											
38	5.2.16	The ditch grading and sizing shall comply with stormwater quality and quantity criteria as required by the South Florida Water Management District (SFWMD) and the Department.	Design Criteria Section 28.2	C	JWB	2/17/2015	Dwg.'s C30.0532-0596											
39	5.2.16	The proposed drainage Work activities shall also include the modification, extension, relocation and replacement of existing drainage structures and cross drains as needed to accommodate the railroad corridor improvements.	Design Criteria Section 28.2	C	JWB	2/17/2015	Dwg.'s C30.0532-0596											

40	5.2.16	Stormwater shall not be diverted onto property not previously receiving water from trackside ditches.	Design Criteria Section 28.2	C	JWB	2/17/2015	Dwg.'s C30.0532-0596							
----	--------	-------------------------------------------------------------------------------------------------------	------------------------------	---	-----	-----------	----------------------	--	--	--	--	--	--	--

LEGEND		DESIGN VERIFICATION		CONSTRUCTION VERIFICATION		FINAL VERIFICATION	
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection		Name and Organization: _____ Date: _____		Name and Organization: _____ Date: _____	
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance				Approved by: _____ Date: _____		Approved by: _____ Date: _____	

DRAFT

# CFCRT Project Phase 2 South

Safety and Security Certification Elements				Design Verification				Construction Verification				Final Verification			
Certifiable Element: <b>5.0 TRACK AND STRUCTURES</b> Sub-Element: <b>5.3 GRADE CROSSINGS (Civil)</b> Location: <b>Landstreet Rd A 797.70</b> Contract No.: _____				Notes or Restrictions:				Notes or Restrictions:				Notes or Restrictions:			
<b>Certifiable Item Description</b>				<b>Design Verification</b>				<b>Construction/Installation</b>				<b>Verification</b>			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	5.3.6	Tie spacing at crossing will be placed on 19.5" centers for rubber interface and timber crossings. For concrete and full depth rubber crossings, tie spacing shall comply with manufacturer's requirements.	Design Criteria 3.1 MWI 901.07	C	CCM	2/18/2015	TSP 24539 refers to TSP24530 and MWI 901								
2	5.3.6	The roadway section at the grade crossing shall be equal to that of the approach roadway.	Design Criteria 3.1 1.) Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways, Chapter 3 2.) Florida Department of Transportation Design Standards 2015	C	CCM	2/18/2015	T30.0401A								
3	5.3.6	The grade crossing shall utilize a full-depth precast concrete system. The crossing surface width shall be 2 ft. wider than the adjacent travel way of the roadway, including shoulders, sidewalks, etc., if any.	Design Criteria 3.1 1.) Florida Department of Transportation Design Standards.	C	CCM	2/18/2015	T30.0401A								
4	5.3.3	Detour plans for road closures shall be prepared in accordance with the Department requirements for all grade crossings requiring closure for construction.	Design Criteria 3.1 1.) Florida Department of Transportation Design Standards, Index 600 series	C	CCM	2/18/2015	T30.0401D								
5	5.3.3	Horizontal and Vertical geometry shall be prepared in accordance with Department requirements for all grade crossings.	Design Criteria 3.1 1.) Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways, Chapter 3 2.) Florida Department of Transportation Design Standards 2015	C	CCM	2/18/2015	T30.0401A-B								
6	5.3.2	Pedestrian sidewalks at grade crossings include Detectable Warning Devices within the sidewalk surface.	Design Criteria 3.1 1.) Florida Department of Transportation Design Standards. 2.) Manual on Uniform Traffic Control Devices 2009	C	CCM	2/18/2015	T30.0401A								

LEGEND		DESIGN VERIFICATION		CONSTRUCTION VERIFICATION		FINAL VERIFICATION	
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection		Name and Organization: _____ Date: _____		Name and Organization: _____ Date: _____	
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance		Approved by: _____ Date: _____		Approved by: _____ Date: _____		Approved by: _____ Date: _____	

# CFCRT Project Phase 2 South

Safety and Security Certification Elements				Design Verification				Construction Verification				Final Verification			
Certifiable Element: <b>5.0 TRACK AND STRUCTURES</b> Sub-Element: <b>5.3 GRADE CROSSINGS (Civil)</b> Location: <b>Pine St A 797.94</b> Contract No.: _____				Notes or Restrictions:				Notes or Restrictions:				Notes or Restrictions:			
Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	5.3.6	Tie spacing at crossing will be placed on 19.5" centers for rubber interface and timber crossings. For concrete and full depth rubber crossings, tie spacing shall comply with manufacturer's requirements.	Design Criteria 3.1 MWI 901.07	C	CCM	2/18/2015	TSP 24539 refers to TSP24530 and MWI 901								
2	5.3.1	Roadway warning signs shall be placed at all public grade crossings per MUTCD	Design Criteria 3.1 1.)Manual on Uniform Traffic Control Devices 2009 2.)Florida Department of Transportation Design Standards 2015	C	CCM	2/18/2015	T30.0402F								
3	5.3.6	The roadway section at the grade crossing shall be equal to that of the approach roadway.	Design Criteria 3.1 1.) Manual of Uniform Minimum Standards for Design Criteria 3.1 Design, Construction and Maintenance for Streets and Highways, Chapter 3 2.)Florida Department of Transportation Design Standards 2015	C	CCM	2/18/2015	T30.0402B								
4	5.3.6	The grade crossing shall utilize a full-depth precast concrete system. The crossing surface width shall be 2 ft. wider than the adjacent travel way of the roadway, including shoulders, sidewalks, etc., if any.	Design Criteria 3.1 1.)Florida Department of Transportation Design Standards.	C	CCM	2/18/2015	T30.0402B								
5	5.3.1	Pavement markings for roadway grade crossings shall meet MUTCD.	Design Criteria 3.1 1.)Manual on Uniform Traffic Control Devices 2009	C	CCM	2/18/2015	T30.0402F								
6	5.3.3	Detour plans for road closures shall be prepared in accordance with the Department requirements for all grade crossings requiring closure for construction.	Design Criteria 3.1 1.)Florida Department of Transportation Design Standards, Index 600 series	C	CCM	2/18/2015	T30.0402G								
7	5.3.3	Horizontal and Vertical geometry shall be prepared in accordance with Department requirements for all grade crossings.	Design Criteria 3.1 1.) Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways, Chapter 3 2.)Florida Department of Transportation Design Standards 2015	C	CCM	2/18/2015	T30.0402B-C								



8	5.3.2	Pedestrian sidewalks at grade crossings include Detectable Warning Devices within the sidewalk surface.	Design Criteria 3.1 1.) Florida Department of Transportation Design Standards. 2.) Manual on Uniform Traffic Control Devices 2009	C	CCM	2/18/2015	T30.0402B						
---	-------	---------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------	---	-----	-----------	-----------	--	--	--	--	--	--

<b>LEGEND</b>		<b>DESIGN VERIFICATION</b>		<b>CONSTRUCTION VERIFICATION</b>		<b>FINAL VERIFICATION</b>	
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection		Name and Organization: _____ Date: _____		Name and Organization: _____ Date: _____	
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance				Approved by: _____ Date: _____		Approved by: _____ Date: _____	

DRAFT

# CFCRT Project Phase 2 South

Safety and Security Certification Elements				Design Verification				Construction Verification				Final Verification			
Certifiable Element: <b>5.0 TRACK AND STRUCTURES</b> Sub-Element: <b>5.3 GRADE CROSSINGS (Civil)</b> Location: <b>4th St A 798.24</b> Contract No.: _____				Notes or Restrictions:				Notes or Restrictions:				Notes or Restrictions:			
Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	5.3.6	Tie spacing at crossing will be placed on 19.5" centers for rubber interface and timber crossings. For concrete and full depth rubber crossings, tie spacing shall comply with manufacturer's requirements.	Design Criteria 3.1 MWI 901.07	C	CCM	2/18/2015	TSP 24539 refers to TSP24530 and MWI 901								
2	5.3.1	Roadway warning signs shall be placed at all public grade crossings per MUTCD	Design Criteria 3.1 1.)Manual on Uniform Traffic Control Devices 2009 2.)Florida Department of Transportation Design Standards 2015	C	CCM	2/18/2015	T30.0403E								
3	5.3.6	The roadway section at the grade crossing shall be equal to that of the approach roadway.	Design Criteria 3.1 1.) Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways, Chapter 3 2.)Florida Department of Transportation Design Standards 2015	C	CCM	2/18/2015	T30.0403A-B								
4	5.3.6	The grade crossing shall utilize a full-depth precast concrete system. The crossing surface width shall be 2 ft. wider than the adjacent travel way of the roadway, including shoulders, sidewalks, etc., if any.	Design Criteria 3.1 1.)Florida Department of Transportation Design Standards.	C	CCM	2/18/2015	T30.0403B								
5	5.3.1	Pavement markings for roadway grade crossings shall meet MUTCD.	Design Criteria 3.1 1.)Manual on Uniform Traffic Control Devices 2009	C	CCM	2/18/2015	T30.0403E								
6	5.3.3	Detour plans for road closures shall be prepared in accordance with the Department requirements for all grade crossings requiring closure for construction.	Design Criteria 3.1 1.)Florida Department of Transportation Design Standards, Index 600 series	C	CCM	2/18/2015	T30.0403F								
7	5.3.3	Horizontal and Vertical geometry shall be prepared in accordance with Department requirements for all grade crossings.	Design Criteria 3.1 1.) Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways, Chapter 3 2.)Florida Department of Transportation Design Standards 2015	C	CCM	2/18/2015	T30.0403B-C								

LEGEND		DESIGN VERIFICATION	CONSTRUCTION VERIFICATION	FINAL VERIFICATION	
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI          O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection	Name and Organization: _____ Date: _____	Name and Organization: _____ Date: _____	Name and Organization: _____ Date: _____
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance		Approved by: _____ Date: _____	Approved by: _____ Date: _____	Approved by: _____ Date: _____	

DRAFT

# CFCRT Project Phase 2 South

Safety and Security Certification Elements	Design Verification	Construction Verification	Final Verification
<b>Certifiable Element:</b> <u>5.0 TRACK AND STRUCTURES</u>  <b>Sub-Element:</b> <u>5.3 GRADE CROSSINGS (Civil)</u> <b>Location:</b> <u>Taft-Vineland Rd A 798.75</u>  <b>Contract No.:</b> _____	<b>Notes or Restrictions:</b> Note 1: No signing or pavement markings within limits of construction.	<b>Notes or Restrictions:</b>	<b>Notes or Restrictions:</b>

Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Design Verification				Construction/Installation				Verification					
				Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification		
1	5.3.6	Tie spacing at crossing will be placed on 19.5" centers for rubber interface and timber crossings. For concrete and full depth rubber crossings, tie spacing shall comply with manufacturer's requirements.	Design Criteria 3.1 MWI 901.07	C	CCM	2/18/2015	TSP 24539 refers to TSP24530 and MWI 901										
2	5.3.1	Roadway warning signs shall be placed at all public grade crossings per MUTCD	Design Criteria 3.1 1.)Manual on Uniform Traffic Control Devices 2009 2.)Florida Department of Transportation Design Standards 2015	C	CCM	2/18/2015	Note 1										
3	5.3.6	The roadway section at the grade crossing shall be equal to that of the approach roadway.	Design Criteria 3.1 1.) Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways, Chapter 3 2.)Florida Department of Transportation Design Standards 2015	C	CCM	2/18/2015	T30.0404A										
4	5.3.6	The grade crossing shall utilize a full-depth precast concrete system. The crossing surface width shall be 2 ft. wider than the adjacent travel way of the roadway, including shoulders, sidewalks, etc., if any.	Design Criteria 3.1 1.)Florida Department of Transportation Design Standards.	C	CCM	2/18/2015	T30.0404A										
5	5.3.1	Pavement markings for roadway grade crossings shall meet MUTCD.	Design Criteria 3.1 1.)Manual on Uniform Traffic Control Devices 2009	C	CCM	2/18/2015	Note 1										
6	5.3.3	Detour plans for road closures shall be prepared in accordance with the Department requirements for all grade crossings requiring closure for construction.	Design Criteria 3.1 1.)Florida Department of Transportation Design Standards, Index 600 series	C	CCM	2/18/2015	T30.0404F										
7	5.3.3	Horizontal and Vertical geometry shall be prepared in accordance with Department requirements for all grade crossings.	Design Criteria 3.1 1.) Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways, Chapter 3 2.)Florida Department of Transportation Design Standards 2015	C	CCM	2/18/2015	T30.0404A-B										

8	5.3.2	Pedestrian sidewalks at grade crossings include Detectable Warning Devices within the sidewalk surface.	Design Criteria 3.1 1.) Florida Department of Transportation Design Standards. 2.) Manual on Uniform Traffic Control Devices 2009	C	CCM	2/18/2015	T30.0404A						
---	-------	---------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------	---	-----	-----------	-----------	--	--	--	--	--	--

<b>LEGEND</b>		<b>DESIGN VERIFICATION</b>		<b>CONSTRUCTION VERIFICATION</b>		<b>FINAL VERIFICATION</b>	
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection		Name and Organization: _____ Date: _____		Name and Organization: _____ Date: _____	
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance		Name and Organization: _____ Date: _____		Name and Organization: _____ Date: _____		Name and Organization: _____ Date: _____	

DRAFT

# CFCRT Project Phase 2 South

Safety and Security Certification Elements				Design Verification				Construction Verification				Final Verification			
Certifiable Element: <b>5.0 TRACK AND STRUCTURES</b>  Sub-Element: <b>5.3 GRADE CROSSINGS (Civil)</b> Location: <b>E. Wetherbee Rd A 800.77</b>  Contract No.: _____				Notes or Restrictions:				Notes or Restrictions:				Notes or Restrictions:			
Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	5.3.6	Tie spacing at crossing will be placed on 19.5" centers for rubber interface and timber crossings. For concrete and full depth rubber crossings, tie spacing shall comply with manufacturer's requirements.	Design Criteria 3.1 MWI 901.07	C	CCM	2/18/2015	TSP 24539 refers to TSP24530 and MWI 901								
2	5.3.1	Roadway warning signs shall be placed at all public grade crossings	Design Criteria 3.1 1.)Manual on Uniform Traffic Control Devices 2009 2.)Florida Department of Transportation Design Standards 2015	C	CCM	2/18/2015	T30.0405H								
3	5.3.6	The roadway section at the grade crossing shall be equal to that of the approach roadway.	Design Criteria 3.1 1.) Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways, Chapter 3 2.)Florida Department of Transportation Design Standards 2015	C	CCM	2/18/2015	T30.0405A-C								
4	5.3.6	The grade crossing shall utilize a full-depth precast concrete system. The crossing surface width shall be 2 ft. wider than the adjacent travel way of the roadway, including shoulders, sidewalks, etc., if any.	Design Criteria 3.1 1.)Florida Department of Transportation Design Standards.	C	CCM	2/18/2015	T30.0405C								
5	5.3.1	Pavement markings and signage for roadway grade crossings shall meet MUTCD.	Design Criteria 3.1 1.)Manual on Uniform Traffic Control Devices 2009	C	CCM	2/18/2015	T30.0405H								
6	5.3.3	Detour plans for road closures shall be prepared in accordance with the Department requirements for all grade crossings requiring closure for construction.	Design Criteria 3.1 1.)Florida Department of Transportation Design Standards, Index 600 series	C	CCM	2/18/2015	T30.0405I-J								
7	5.3.2	Pedestrian sidewalks at grade crossings include Detectable Warning Devices within the sidewalk surface.	Design Criteria 3.1 1.)Florida Department of Transportation Design Standards. 2.) Manual on Uniform Traffic Control Devices 2009	C	CCM	2/18/2015	T30.0405C								

8	5.3.3	Horizontal and Vertical geometry shall be prepared in accordance with Department requirements for all grade crossings.	Design Criteria 3.1 1.) Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways, Chapter 3 2.) Florida Department of Transportation Design Standards 2015	C	CCM	2/18/2015	T30.0405C-D								
9	5.3.2	Pedestrian facilities shall be prepared in accordance with Department requirements for all grade crossings.	1.) Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways, Chapter 8 2.) Florida Department of Transportation Design Standards 2015	C	CCM	2/18/2015	T30.0405C-D								

<b>LEGEND</b>		<b>DESIGN VERIFICATION</b>		<b>CONSTRUCTION VERIFICATION</b>		<b>FINAL VERIFICATION</b>	
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection		Name and Organization: _____ Date: _____		Name and Organization: _____ Date: _____	
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance				Approved by: _____ Date: _____		Approved by: _____ Date: _____	

DRAFT

# CFCRT Project Phase 2 South

Safety and Security Certification Elements				Design Verification				Construction Verification				Final Verification			
Certifiable Element: <b>5.0 TRACK AND STRUCTURES</b> Sub-Element: <b>5.3 GRADE CROSSINGS (Civil)</b> Location: <b>Fairway Woods Blvd A 801.15</b> Contract No.: _____				Notes or Restrictions:				Notes or Restrictions:				Notes or Restrictions:			
Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	5.3.6	Tie spacing at crossing will be placed on 19.5" centers for rubber interface and timber crossings. For concrete and full depth rubber crossings, tie spacing shall comply with manufacturer's requirements.	Design Criteria 3.1 MWI 901.07	C	CCM	2/18/2015	TSP 24539 refers to TSP24530 and MWI 901								
2	5.3.1	Roadway warning signs shall be placed at all public grade crossings	Design Criteria 3.1 1.)Manual on Uniform Traffic Control Devices 2009 2.)Florida Department of Transportation Design Standards 2015	C	CCM	2/18/2015	T30.0406F								
3	5.3.6	The roadway section at the grade crossing shall be equal to that of the approach roadway.	Design Criteria 3.1 1.) Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways, chapter 3 2.)Florida Department of Transportation Design Standards 2015	C	CCM	2/18/2015	T30.0406A-B								
4	5.3.6	The grade crossing shall utilize a full-depth precast concrete system. The crossing surface width shall be 2 ft. wider than the adjacent travel way of the roadway, including shoulders, sidewalks, etc., if any.	Design Criteria 3.1 1.)Florida Department of Transportation Design Standards.	C	CCM	2/18/2015	T30.0406B								
5	5.3.1	Pavement markings and signage for roadway grade crossings shall meet MUTCD.	Design Criteria 3.1 1.)Manual on Uniform Traffic Control Devices 2009	C	CCM	2/18/2015	T30.0406F								
6	5.3.3	Detour plans for road closures shall be prepared in accordance with the Department requirements for all grade crossings requiring closure for construction.	Design Criteria 3.1 1.)Florida Department of Transportation Design Standards, Index 600 series	C	CCM	2/18/2015	T30.0406G								
7	5.3.2	Pedestrian sidewalks at grade crossings include Detectable Warning Devices within the sidewalk surface.	Design Criteria 3.1 1.)Florida Department of Transportation Design Standards. 2.) Manual on Uniform Traffic Control Devices 2009	C	CCM	2/18/2015	T30.0406B								



8	5.3.3	Horizontal and Vertical geometry shall be prepared in accordance with Department requirements for all grade crossings.	1.) Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways, Chapter 3 2.) Florida Department of Transportation Design Standards 2015	C	CCM	2/18/2015	T30.0406B-C							
9	5.3.2	Pedestrian facilities shall be prepared in accordance with Department requirements for all grade crossings.	Design Criteria 3.1 1.) Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways, chapter 8 2.) Florida Department of Transportation Design Standards 2015	C	CCM	2/18/2015	T30.0406B-C							

<b>LEGEND</b>		<b>DESIGN VERIFICATION</b>		<b>CONSTRUCTION VERIFICATION</b>		<b>FINAL VERIFICATION</b>	
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection		Name and Organization: _____ Date: _____		Name and Organization: _____ Date: _____	
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance				Approved by: _____ Date: _____		Approved by: _____ Date: _____	

DRAFT

# CFCRT Project Phase 2 South

Safety and Security Certification Elements				Design Verification				Construction Verification				Final Verification			
Certifiable Element: <b>5.0 TRACK AND STRUCTURES</b> Sub-Element: <b>5.3 GRADE CROSSINGS (Civil)</b> Location: <b>Garden St A 805.08</b> Contract No.: _____				Notes or Restrictions:				Notes or Restrictions:				Notes or Restrictions:			
Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	5.3.6	Tie spacing at crossing will be placed on 19.5" centers for rubber interface and timber crossings. For concrete and full depth rubber crossings, tie spacing shall comply with manufacturer's requirements.	Design Criteria 3.1 MWI 901.07	C	CCM	2/18/2015	TSP 24539 refers to TSP24530 and MWI 901								
2	5.3.1	Roadway warning signs shall be placed at all public grade crossings	Design Criteria 3.1 1.)Manual on Uniform Traffic Control Devices 2009 2.)Florida Department of Transportation Design Standards 2015	C	CCM	2/18/2015	T30.0407F								
3	5.3.6	The roadway section at the grade crossing shall be equal to that of the approach roadway.	Design Criteria 3.1 1.) Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways, Chapter 3 2.)Florida Department of Transportation Design Standards 2015	C	CCM	2/18/2015	T30.0407A-B								
4	5.3.6	The grade crossing shall utilize a full-depth precast concrete system. The crossing surface width shall be 2 ft. wider than the adjacent travel way of the roadway, including shoulders, sidewalks, etc., if any.	Design Criteria 3.1 1.)Florida Department of Transportation Design Standards.	C	CCM	2/18/2015	T30.0407B								
5	5.3.1	Pavement markings and signage for roadway grade crossings shall meet MUTCD.	Design Criteria 3.1 1.)Manual on Uniform Traffic Control Devices 2009	C	CCM	2/18/2015	T30.0407F								
6	5.3.3	Detour plans for road closures shall be prepared in accordance with the Department requirements for all grade crossings requiring closure for construction.	Design Criteria 3.1 1.)Florida Department of Transportation Design Standards, Index 600 series	C	CCM	2/18/2015	T30.0407G								
7	5.3.3	Horizontal and Vertical geometry shall be prepared in accordance with Department requirements for all grade crossings.	Design Criteria 3.1 1.) Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways, Chapter 3 2.)Florida Department of Transportation Design Standards 2015	C	CCM	2/18/2015	T30.0407B-C								

LEGEND		DESIGN VERIFICATION	CONSTRUCTION VERIFICATION	FINAL VERIFICATION	
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection	Name and Organization: _____ Date: _____	Name and Organization: _____ Date: _____	Name and Organization: _____ Date: _____
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance		Approved by: _____ Date: _____	Approved by: _____ Date: _____	Approved by: _____ Date: _____	

DRAFT

# CFCRT Project Phase 2 South

Safety and Security Certification Elements				Design Verification				Construction Verification				Final Verification			
Certifiable Element: <b>5.0 TRACK AND STRUCTURES</b>  Sub-Element: <b>5.3 GRADE CROSSINGS (Civil)</b> Location: <b>E Carroll St A 805.70</b>  Contract No.: _____				Notes or Restrictions:				Notes or Restrictions:				Notes or Restrictions:			
Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	5.3.6	Tie spacing at crossing will be placed on 19.5" centers for rubber interface and timber crossings. For concrete and full depth rubber crossings, tie spacing shall comply with manufacturer's requirements.	Design Criteria 3.1 MWI 901.07	C	CCM	2/18/2015	TSP 24539 refers to TSP24530 and MWI 901								
2	5.3.1	Roadway warning signs shall be placed at all public grade crossings	Design Criteria 3.1 1.)Manual on Uniform Traffic Control Devices 2009 2.)Florida Department of Transportation Design Standards 2015	C	CCM	2/18/2015	T30.0408F								
3	5.3.6	The roadway section at the grade crossing shall be equal to that of the approach roadway.	Design Criteria 3.1 1.) Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways, Chapter 3 2.)Florida Department of Transportation Design Standards 2015	C	CCM	2/18/2015	T30.0408A-B								
4	5.3.6	The grade crossing shall utilize a full-depth precast concrete system. The crossing surface width shall be 2 ft. wider than the adjacent travel way of the roadway, including shoulders, sidewalks, etc., if any.	Design Criteria 3.1 1.)Florida Department of Transportation Design Standards.	C	CCM	2/18/2015	T30.0408B								
5	5.3.1	Pavement markings and signage for roadway grade crossings shall meet MUTCD.	Design Criteria 3.1 1.)Manual on Uniform Traffic Control Devices 2009	C	CCM	2/18/2015	T30.0408F								
6	5.3.3	Detour plans for road closures shall be prepared in accordance with the Department requirements for all grade crossings requiring closure for construction.	Design Criteria 3.1 1.)Florida Department of Transportation Design Standards, Index 600 series	C	CCM	2/18/2015	T30.0408G								
7	5.3.3	Horizontal and Vertical geometry shall be prepared in accordance with Department requirements for all grade crossings.	Design Criteria 3.1 1.) Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways, Chapter 3 2.)Florida Department of Transportation Design Standards 2015	C	CCM	2/18/2015	T30.0408B-C								

LEGEND		DESIGN VERIFICATION	CONSTRUCTION VERIFICATION	FINAL VERIFICATION	
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection	Name and Organization: _____ Date: _____	Name and Organization: _____ Date: _____	Name and Organization: _____ Date: _____
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance		Approved by: _____ Date: _____	Approved by: _____ Date: _____	Approved by: _____ Date: _____	

DRAFT

# CFCRT Project Phase 2 South

Safety and Security Certification Elements				Design Verification				Construction Verification				Final Verification			
Certifiable Element: <b>5.0 TRACK AND STRUCTURES</b>  Sub-Element: <b>5.3 GRADE CROSSINGS (Civil)</b> Location: <b>E Donegan Ave A 806.22</b>  Contract No.: _____				Notes or Restrictions:				Notes or Restrictions:				Notes or Restrictions:			
Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	5.3.6	Tie spacing at crossing will be placed on 19.5" centers for rubber interface and timber crossings. For concrete and full depth rubber crossings, tie spacing shall comply with manufacturer's requirements.	Design Criteria 3.1 MWI 901.07	C	CCM	2/18/2015	TSP 24539 refers to TSP24530 and MWI 901								
2	5.3.1	Roadway warning signs shall be placed at all public grade crossings	Design Criteria 3.1 1.)Manual on Uniform Traffic Control Devices 2009 2.)Florida Department of Transportation Design Standards 2015	C	CCM	2/18/2015	T30.0409E								
3	5.3.6	The roadway section at the grade crossing shall be equal to that of the approach roadway.	Design Criteria 3.1 1.) Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways, Chapter 3 2.)Florida Department of Transportation Design Standards 2015	C	CCM	2/18/2015	T30.0409A-B								
4	5.3.6	The grade crossing shall utilize a full-depth precast concrete system. The crossing surface width shall be 2 ft. wider than the adjacent travel way of the roadway, including shoulders, sidewalks, etc., if any.	Design Criteria 3.1 1.)Florida Department of Transportation Design Standards.	C	CCM	2/18/2015	T30.0409B								
5	5.3.1	Pavement markings and signage for roadway grade crossings shall meet MUTCD.	Design Criteria 3.1 1.)Manual on Uniform Traffic Control Devices 2009	C	CCM	2/18/2015	T30.0409E								
6	5.3.3	Detour plans for road closures shall be prepared in accordance with the Department requirements for all grade crossings requiring closure for construction.	Design Criteria 3.1 1.)Florida Department of Transportation Design Standards, Index 600 series	C	CCM	2/18/2015	T30.0409F								
7	5.3.2	Pedestrian sidewalks at grade crossings include Detectable Warning Devices within the sidewalk surface.	1.)Florida Department of Transportation Design Standards. 2.) Manual on Uniform Traffic Control Devices 2009	C	CCM	2/18/2015	T30.0409B								

8	5.3.3	Horizontal and Vertical geometry shall be prepared in accordance with Department requirements for all grade crossings.	1.) Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways, Chapter 3 2.) Florida Department of Transportation Design Standards 2015	C	CCM	2/18/2015	T30.0409B-C								
9	5.3.2	Pedestrian facilities shall be prepared in accordance with Department requirements for all grade crossings.	Design Criteria 3.1 1.) Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways, Chapter 8 2.) Florida Department of Transportation Design Standards 2015	C	CCM	2/18/2015	T30.0409B								

<b>LEGEND</b>		<b>DESIGN VERIFICATION</b>		<b>CONSTRUCTION VERIFICATION</b>		<b>FINAL VERIFICATION</b>	
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection		Name and Organization: _____ Date: _____		Name and Organization: _____ Date: _____	
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance		Name and Organization: _____ Date: _____		Name and Organization: _____ Date: _____		Name and Organization: _____ Date: _____	

DRAFT

# CFCRT Project Phase 2 South

Safety and Security Certification Elements				Design Verification				Construction Verification				Final Verification			
Certifiable Element: <b>5.0 TRACK AND STRUCTURES</b> Sub-Element: <b>5.3 GRADE CROSSINGS (Civil)</b> Location: <b>E Vine St/RT. 192 A 807.23</b> Contract No.: _____				Notes or Restrictions:				Notes or Restrictions:				Notes or Restrictions:			
Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	5.3.6	Tie spacing at crossing will be placed on 19.5" centers for rubber interface and timber crossings. For concrete and full depth rubber crossings, tie spacing shall comply with manufacturer's requirements.	Design Criteria 3.1 MWI 901.07	C	CCM	2/18/2015	TSP 24539 refers to TSP24530 and MWI 901								
2	5.3.1	Roadway warning signs shall be placed at all public grade crossings	Design Criteria 3.1 1.)Manual on Uniform Traffic Control Devices 2009 2.)Florida Department of Transportation Design Standards 2015	C	CCM	2/18/2015	T30.0410F								
3	5.3.6	The roadway section at the grade crossing shall be equal to that of the approach roadway.	Design Criteria 3.1 1.) Florida Department of Transportation Plans Preparation Manual, Chapter 2 2.)Florida Department of Transportation Design Standards 2015	C	CCM	2/18/2015	T30.410B-C								
4	5.3.6	The grade crossing shall utilize a full-depth precast concrete system. The crossing surface width shall be 2 ft. wider than the adjacent travel way of the roadway, including shoulders, sidewalks, etc., if any.	Design Criteria 3.1 1.)Florida Department of Transportation Design Standards, Index 600 series	C	CCM	2/18/2015	T30.0410B								
5	5.3.1	Pavement markings and signage for roadway grade crossings shall meet MUTCD.	Design Criteria 3.1 1.)Manual on Uniform Traffic Control Devices 2009	C	CCM	2/18/2015	T30.410F								
6	5.3.3	Detour plans for road closures shall be prepared in accordance with the Department requirements for all grade crossings requiring closure for construction.	Design Criteria 3.1 1.)Florida Department of Transportation Design Standards, Index 600 series	C	CCM	2/18/2015	T30.410G-H								
7	5.3.2	Pedestrian sidewalks at grade crossings include Detectable Warning Devices within the sidewalk surface.	1.)Florida Department of Transportation Design Standards, Chapter 2 2.) Manual on Uniform Traffic Control Devices 2009	C	CCM	2/18/2015	T30.410B								



8	5.3.3	Horizontal and Vertical geometry shall be prepared in accordance with Department requirements for all grade crossings.	1.) Florida Department of Transportation Plans Preparation Manual, chapter 2 2.)Florida Department of Transportation Design Standards 2015	C	CCM	2/18/2015	T30.410B-C								
9	5.3.2	Pedestrian facilities shall be prepared in accordance with Department requirements for all grade crossings.	Design Criteria 3.1 1.) Florida Department of Transportation Plan Preparation Manual, Chapter 8 2.)Florida Department of Transportation Design Standards 2015	C	CCM	2/18/2015	T30.410B-C								

<b>LEGEND</b>		<b>DESIGN VERIFICATION</b>		<b>CONSTRUCTION VERIFICATION</b>		<b>FINAL VERIFICATION</b>	
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection		Name and Organization: _____ Date: _____		Name and Organization: _____ Date: _____	
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance				Approved by: _____ Date: _____		Approved by: _____ Date: _____	

DRAFT

# CFCRT Project Phase 2 South

Safety and Security Certification Elements				Design Verification				Construction Verification				Final Verification			
Certifiable Element: <b>5.0 TRACK AND STRUCTURES</b>  Sub-Element: <b>5.3 GRADE CROSSINGS (Civil)</b> Location: <b>E Magnolia Ave A 807.43</b>  Contract No.: _____				Notes or Restrictions:				Notes or Restrictions:				Notes or Restrictions:			
Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	5.3.6	Tie spacing at crossing will be placed on 19.5" centers for rubber interface and timber crossings. For concrete and full depth rubber crossings, tie spacing shall comply with manufacturer's requirements.	Design Criteria 3.1 MWI 901.07	C	CCM	2/18/2015	TSP 24539 refers to TSP24530 and MWI 901								
2	5.3.1	Roadway warning signs shall be placed at all public grade crossings	Design Criteria 3.1 1.)Manual on Uniform Traffic Control Devices 2009 2.)Florida Department of Transportation Design Standards 2015	C	CCM	2/18/2015	T30.411F								
3	5.3.6	The roadway section at the grade crossing shall be equal to that of the approach roadway.	Design Criteria 3.1 1.) Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways, Chapter 3 2.)Florida Department of Transportation Design Standards 2015	C	CCM	2/18/2015	T30.411A-B								
4	5.3.6	The grade crossing shall utilize a full-depth precast concrete system. The crossing surface width shall be 2 ft. wider than the adjacent travel way of the roadway, including shoulders, sidewalks, etc., if any.	Design Criteria 3.1 1.)Florida Department of Transportation Design Standards.	C	CCM	2/18/2015	T30.0411B								
5	5.3.1	Pavement markings and signage for roadway grade crossings shall meet MUTCD.	Design Criteria 3.1 1.)Manual on Uniform Traffic Control Devices 2009	C	CCM	2/18/2015	T30.0411F								
6	5.3.3	Detour plans for road closures shall be prepared in accordance with the Department requirements for all grade crossings requiring closure for construction.	Design Criteria 3.1 1.)Florida Department of Transportation Design Standards, Index 600 series	C	CCM	2/18/2015	T30.0411G								
7	5.3.3	Horizontal and Vertical geometry shall be prepared in accordance with Department requirements for all grade crossings.	Design Criteria 3.1 1.) Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways, Chapter 3 2.)Florida Department of Transportation Design Standards 2015	C	CCM	2/18/2015	T30.0411B-C								

LEGEND		DESIGN VERIFICATION	CONSTRUCTION VERIFICATION	FINAL VERIFICATION	
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection	Name and Organization: _____ Date: _____	Name and Organization: _____ Date: _____	Name and Organization: _____ Date: _____
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance		Approved by: _____ Date: _____	Approved by: _____ Date: _____	Approved by: _____ Date: _____	

DRAFT

# CFCRT Project Phase 2 South

Safety and Security Certification Elements				Design Verification				Construction Verification				Final Verification			
Certifiable Element: <b>5.0 TRACK AND STRUCTURES</b> Sub-Element: <b>5.3 GRADE CROSSINGS (Civil)</b> Location: <b>E Oak St A 807.49</b> Contract No.: _____				Notes or Restrictions:				Notes or Restrictions:				Notes or Restrictions:			
Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	5.3.6	Tie spacing at crossing will be placed on 19.5" centers for rubber interface and timber crossings. For concrete and full depth rubber crossings, tie spacing shall comply with manufacturer's requirements.	Design Criteria 3.1 MWI 901.07	C	CCM	2/18/2015	TSP 24539 refers to TSP24530 and MWI 901								
2	5.3.1	Roadway warning signs shall be placed at all public grade crossings	Design Criteria 3.1 1.)Manual on Uniform Traffic Control Devices 2009 2.)Florida Department of Transportation Design Standards 2015	C	CCM	2/18/2015	T30.0412H								
3	5.3.6	The roadway section at the grade crossing shall be equal to that of the approach roadway.	Design Criteria 3.1 1.) Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways, Chapter 3 2.)Florida Department of Transportation Design Standards 2015	C	CCM	2/18/2015	T30.0411A-B								
4	5.3.6	The grade crossing shall utilize a full-depth precast concrete system. The crossing surface width shall be 2 ft. wider than the adjacent travel way of the roadway, including shoulders, sidewalks, etc., if any.	Design Criteria 3.1 1.)Florida Department of Transportation Design Standards.	C	CCM	2/18/2015	T30.0412B								
5	5.3.1	Pavement markings and signage for roadway grade crossings shall meet MUTCD.	Design Criteria 3.1 1.)Manual on Uniform Traffic Control Devices 2009	C	CCM	2/18/2015	T30.412H								
6	5.3.3	Detour plans for road closures shall be prepared in accordance with the Department requirements for all grade crossings requiring closure for construction.	Design Criteria 3.1 1.)Florida Department of Transportation Design Standards.	C	CCM	2/18/2015	T30.0412I								
7	5.3.2	Pedestrian sidewalks at grade crossings include Detectable Warning Devices within the sidewalk surface.	Design Criteria 3.1 1.)Florida Department of Transportation Design Standards. 2.) Manual on Uniform Traffic Control Devices 2009	C	CCM	2/18/2015	T30.0412B								

8	5.3.3	Horizontal and Vertical geometry shall be prepared in accordance with Department requirements for all grade crossings.	Design Criteria 3.1 1.) Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways, Chapter 3 2.) Florida Department of Transportation Design Standards 2015	C	CCM	2/18/2015	T30.0412B-C								
9	5.3.2	Pedestrian facilities shall be prepared in accordance with Department requirements for all grade crossings.	Design Criteria 3.1 1.) Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways, Chapter 8 2.) Florida Department of Transportation Design Standards 2015	C	CCM	2/18/2015	T30.0412B-C								

<b>LEGEND</b>		<b>DESIGN VERIFICATION</b>		<b>CONSTRUCTION VERIFICATION</b>		<b>FINAL VERIFICATION</b>	
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection		Name and Organization: _____ Date: _____		Name and Organization: _____ Date: _____	
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance		Name and Organization: _____ Date: _____		Name and Organization: _____ Date: _____		Name and Organization: _____ Date: _____	

DRAFT

# CFCRT Project Phase 2 South

Safety and Security Certification Elements				Design Verification				Construction Verification				Final Verification			
Certifiable Element: <b>5.0 TRACK AND STRUCTURES</b> Sub-Element: <b>5.3 GRADE CROSSINGS (Civil)</b> Location: <b>E Park St A 807.70</b> Contract No.: _____				Notes or Restrictions:				Notes or Restrictions:				Notes or Restrictions:			
Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	5.3.6	Tie spacing at crossing will be placed on 19.5" centers for rubber interface and timber crossings. For concrete and full depth rubber crossings, tie spacing shall comply with manufacturer's requirements.	Design Criteria 3.1 MWI 901.07	C	CCM	2/18/2015	TSP 24539 refers to TSP24530 and MWI 901								
2	5.3.1	Roadway warning signs shall be placed at all public grade crossings	Design Criteria 3.1 1.)Manual on Uniform Traffic Control Devices 2009 2.)Florida Department of Transportation Design Standards 2015	C	CCM	2/18/2015	T30.0413J								
3	5.3.6	The roadway section at the grade crossing shall be equal to that of the approach roadway.	Design Criteria 3.1 1.) Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways, Chapter 3 2.)Florida Department of Transportation Design Standards 2015	C	CCM	2/18/2015	T30.0413A-B								
4	5.3.6	The grade crossing shall utilize a full-depth precast concrete system. The crossing surface width shall be 2 ft. wider than the adjacent travel way of the roadway, including shoulders, sidewalks, etc., if any.	Design Criteria 3.1 1.)Florida Department of Transportation Design Standards.	C	CCM	2/18/2015	T30.0413								
5	5.3.1	Pavement markings and signage for roadway grade crossings shall meet MUTCD.	Design Criteria 3.1 1.)Manual on Uniform Traffic Control Devices 2009	C	CCM	2/18/2015	T30.0413J								
6	5.3.3	Detour plans for road closures shall be prepared in accordance with the Department requirements for all grade crossings requiring closure for construction.	Design Criteria 3.1 1.)Florida Department of Transportation Design Standards.	C	CCM	2/18/2015	T30.0413K								
7	5.3.2	Pedestrian sidewalks at grade crossings include Detectable Warning Devices within the sidewalk surface.	Design Criteria 3.1 1.)Florida Department of Transportation Design Standards. 2.) Manual on Uniform Traffic Control Devices 2009	C	CCM	2/18/2015	T30.0413B								

8	5.3.3	Horizontal and Vertical geometry shall be prepared in accordance with Department requirements for all grade crossings.	Design Criteria 3.1 1.) Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways, Chapter 3 2.) Florida Department of Transportation Design Standards 2015	C	CCM	2/18/2015	T30.0413B-C								
9	5.3.2	Pedestrian facilities shall be prepared in accordance with Department requirements for all grade crossings.	Design Criteria 3.1 1.) Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways, Chapter 8 2.) Florida Department of Transportation Design Standards 2015	C	CCM	2/18/2015	T30.0413B								

LEGEND		DESIGN VERIFICATION		CONSTRUCTION VERIFICATION		FINAL VERIFICATION			
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection		<b>Name and Organization:</b> _____ <b>Date:</b> _____		<b>Name and Organization:</b> _____ <b>Date:</b> _____		<b>Name and Organization:</b> _____ <b>Date:</b> _____	
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance				<b>Approved by:</b> _____ <b>Date:</b> _____		<b>Approved by:</b> _____ <b>Date:</b> _____		<b>Approved by:</b> _____ <b>Date:</b> _____	

DRAFT

# CFCRT Project Phase 2 South

Safety and Security Certification Elements				Design Verification				Construction Verification				Final Verification			
Certifiable Element: <b>5.0 TRACK AND STRUCTURES</b> Sub-Element: <b>5.3 GRADE CROSSINGS (Civil)</b> Location: <b>E. Neptune Rd./Drury A 807.94</b> Contract No.: _____				Notes or Restrictions:				Notes or Restrictions:				Notes or Restrictions:			
Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	5.3.6	Tie spacing at crossing will be placed on 19.5" centers for rubber interface and timber crossings. For concrete and full depth rubber crossings, tie spacing shall comply with manufacturer's requirements.	Design Criteria 3.1 MWI 901.07	C	CCM	2/18/2015	TSP 24539 refers to TSP24530 and MWI 901								
2	5.3.1	Roadway warning signs shall be placed at all public grade crossings	Design Criteria 3.1 1.)Manual on Uniform Traffic Control Devices 2009 2.)Florida Department of Transportation Design Standards 2015	C	CCM	2/18/2015	T30.0414H								
3	5.3.6	The roadway section at the grade crossing shall be equal to that of the approach roadway.	Design Criteria 3.1 1.) Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways, Chapter 3 2.)Florida Department of Transportation Design Standards 2015	C	CCM	2/18/2015	T30.0414A-B								
4	5.3.6	The grade crossing shall utilize a full-depth precast concrete system. The crossing surface width shall be 2 ft. wider than the adjacent travel way of the roadway, including shoulders, sidewalks, etc., if any.	Design Criteria 3.1 1.)Florida Department of Transportation Design Standards.	C	CCM	2/18/2015	T30.0414B								
5	5.3.1	Pavement markings and signage for roadway grade crossings shall meet MUTCD.	Design Criteria 3.1 1.)Manual on Uniform Traffic Control Devices 2009	C	CCM	2/18/2015	T30.0414H								
6	5.3.3	Detour plans for road closures shall be prepared in accordance with the Department requirements for all grade crossings requiring closure for construction.	Design Criteria 3.1 1.)Florida Department of Transportation Design Standards.	C	CCM	2/18/2015	T30.0414I								
7	5.3.2	Pedestrian sidewalks at grade crossings include Detectable Warning Devices within the sidewalk surface.	Design Criteria 3.1 1.)Florida Department of Transportation Design Standards. 2.) Manual on Uniform Traffic Control Devices 2009	C	CCM	2/18/2015	T30.0414B								



8	5.3.3	Horizontal and Vertical geometry shall be prepared in accordance with Department requirements for all grade crossings.	Design Criteria 3.1 1.) Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways, Chapter 3 2.) Florida Department of Transportation Design Standards 2015	C	CCM	2/18/2015	T30.0414B-C								
9	5.3.2	Pedestrian facilities shall be prepared in accordance with Department requirements for all grade crossings.	Design Criteria 3.1 1.) Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways, Chapter 8 2.) Florida Department of Transportation Design Standards 2015	C	CCM	2/18/2015	T30.0414B-C								

<b>LEGEND</b>		<b>DESIGN VERIFICATION</b>		<b>CONSTRUCTION VERIFICATION</b>		<b>FINAL VERIFICATION</b>	
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection		Name and Organization: _____ Date: _____		Name and Organization: _____ Date: _____	
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance		Approved by: _____ Date: _____		Approved by: _____ Date: _____		Approved by: _____ Date: _____	

DRAFT

# CFCRT Project Phase 2 South

Safety and Security Certification Elements				Design Verification				Construction Verification				Final Verification			
Certifiable Element: <b>5.0 TRACK AND STRUCTURES</b>  Sub-Element: <b>5.3 GRADE CROSSINGS (Civil)</b> Location: <b>E. Dakin Ave A 808.07</b>  Contract No.: _____				Notes or Restrictions:				Notes or Restrictions:				Notes or Restrictions:			
Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	5.3.6	Tie spacing at crossing will be placed on 19.5" centers for rubber interface and timber crossings. For concrete and full depth rubber crossings, tie spacing shall comply with manufacturer's requirements.	Design Criteria 3.1 MWI 901.07	C	CCM	2/18/2015	TSP 24539 refers to TSP24530 and MWI 901								
2	5.3.1	Roadway warning signs shall be placed at all public grade crossings	Design Criteria 3.1 1.) Manual on Uniform Traffic Control Devices 2009 2.) Florida Department of Transportation Design Standards 2015	C	CCM	2/18/2015	T30.0415F								
3	5.3.6	The roadway section at the grade crossing shall be equal to that of the approach roadway.	Design Criteria 3.1 1.) Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways, Chapter 3 2.) Florida Department of Transportation Design Standards 2015	C	CCM	2/18/2015	T30.0415A-B								
4	5.3.6	The grade crossing shall utilize a full-depth precast concrete system. The crossing surface width shall be 2 ft. wider than the adjacent travel way of the roadway, including shoulders, sidewalks, etc., if any.	Design Criteria 3.1 1.) Florida Department of Transportation Design Standards.	C	CCM	2/18/2015	T30.0415B								
5	5.3.1	Pavement markings and signage for roadway grade crossings shall meet MUTCD.	Design Criteria 3.1 1.) Manual on Uniform Traffic Control Devices 2009	C	CCM	2/18/2015	T30.0415F								
6	5.3.3	Detour plans for road closures shall be prepared in accordance with the Department requirements for all grade crossings requiring closure for construction.	Design Criteria 3.1 1.) Florida Department of Transportation Design Standards.	C	CCM	2/18/2015	T30.0415G								
7	5.3.2	Pedestrian sidewalks at grade crossings include Detectable Warning Devices within the sidewalk surface.	Design Criteria 3.1 1.) Florida Department of Transportation Design Standards. 2.) Manual on Uniform Traffic Control Devices 2009	C	CCM	2/18/2015	T30.0415B								

8	5.3.3	Horizontal and Vertical geometry shall be prepared in accordance with Department requirements for all grade crossings.	Design Criteria 3.1 1.) Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways, Chapter 3 2.) Florida Department of Transportation Design Standards 2015	C	CCM	2/18/2015	T30.0415B-C							
9	5.3.2	Pedestrian facilities shall be prepared in accordance with Department requirements for all grade crossings.	Design Criteria 3.1 1.) Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways, Chapter 8 2.) Florida Department of Transportation Design Standards 2015	C	CCM	2/18/2015	T30.0415B							

<b>LEGEND</b>		<b>DESIGN VERIFICATION</b>		<b>CONSTRUCTION VERIFICATION</b>		<b>FINAL VERIFICATION</b>	
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection		Name and Organization: _____ Date: _____		Name and Organization: _____ Date: _____	
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance		Approved by: _____ Date: _____		Approved by: _____ Date: _____		Approved by: _____ Date: _____	

DRAFT

# CFCRT Project Phase 2 South

Safety and Security Certification Elements				Design Verification				Construction Verification				Final Verification			
Certifiable Element: <b>5.0 TRACK AND STRUCTURES</b>  Sub-Element: <b>5.3 GRADE CROSSINGS (Civil)</b> Location: <b>E Monument St A 808.15</b>  Contract No.: _____				Notes or Restrictions:				Notes or Restrictions:				Notes or Restrictions:			
Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	5.3.6	Tie spacing at crossing will be placed on 19.5" centers for rubber interface and timber crossings. For concrete and full depth rubber crossings, tie spacing shall comply with manufacturer's requirements.	Design Criteria 3.1 MWI 901.07	C	CCM	2/18/2015	TSP 24539 refers to TSP24530 and MWI 901								
2	5.3.1	Roadway warning signs shall be placed at all public grade crossings	Design Criteria 3.1 1.)Manual on Uniform Traffic Control Devices 2009 2.)Florida Department of Transportation Design Standards 2015	C	CCM	2/18/2015	T30.0416F								
3	5.3.6	The roadway section at the grade crossing shall be equal to that of the approach roadway.	Design Criteria 3.1 1.) Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways, Chapter 3 2.)Florida Department of Transportation Design Standards 2015	C	CCM	2/18/2015	T30.0416A-B								
4	5.3.6	The grade crossing shall utilize a full-depth precast concrete system. The crossing surface width shall be 2 ft. wider than the adjacent travel way of the roadway, including shoulders, sidewalks, etc., if any.	Design Criteria 3.1 1.)Florida Department of Transportation Design Standards.	C	CCM	2/18/2015	T30.0416B								
5	5.3.1	Pavement markings and signage for roadway grade crossings shall meet MUTCD.	Design Criteria 3.1 1.)Manual on Uniform Traffic Control Devices 2009	C	CCM	2/18/2015	T30.0416F								
6	5.3.3	Detour plans for road closures shall be prepared in accordance with the Department requirements for all grade crossings requiring closure for construction.	Design Criteria 3.1 1.)Florida Department of Transportation Design Standards.	C	CCM	2/18/2015	T30.0416G								
7	5.3.2	Pedestrian sidewalks at grade crossings include Detectable Warning Devices within the sidewalk surface.	Design Criteria 3.1 1.)Florida Department of Transportation Design Standards. 2.) Manual on Uniform Traffic Control Devices 2009	C	CCM	2/18/2015	T30.0416B								

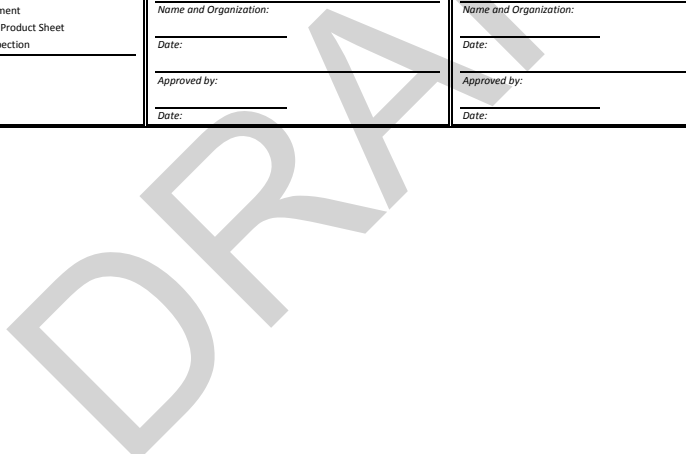
8	5.3.3	Horizontal and Vertical geometry shall be prepared in accordance with Department requirements for all grade crossings.	Design Criteria 3.1 1.) Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways, Chapter 3 2.) Florida Department of Transportation Design Standards 2015	C	CCM	2/18/2015	T30.0416B-C								
9	5.3.2	Pedestrian facilities shall be prepared in accordance with Department requirements for all grade crossings.	Design Criteria 3.1 1.) Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways, Chapter 8 2.) Florida Department of Transportation Design Standards 2015	C	CCM	2/18/2015	T30.0416B-C								

LEGEND		DESIGN VERIFICATION		CONSTRUCTION VERIFICATION		FINAL VERIFICATION			
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection		<b>Name and Organization:</b> _____ <b>Date:</b> _____		<b>Name and Organization:</b> _____ <b>Date:</b> _____		<b>Name and Organization:</b> _____ <b>Date:</b> _____	
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance				<b>Approved by:</b> _____ <b>Date:</b> _____		<b>Approved by:</b> _____ <b>Date:</b> _____		<b>Approved by:</b> _____ <b>Date:</b> _____	

DRAFT

# CFCRT Project Phase 2 South

Safety and Security Certification Elements				Design Verification				Construction Verification				Final Verification			
Certifiable Element: <b>5.0 TRACK AND STRUCTURES</b>  Sub-Element: <b>5.3 GRADE CROSSINGS (Civil)</b> Location: <b>Memorial Walkway - A 808.22 TO BE REMOVED</b>  Contract No.: _____				Notes or Restrictions: _____ _____ _____ _____ _____				Notes or Restrictions: _____ _____ _____ _____ _____				Notes or Restrictions: _____ _____ _____ _____ _____			
Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	5.3.1	Roadway warning signs shall be placed per MUTCD	Design Criteria 3.1 1.)Manual on Uniform Traffic Control Devices 2009 2.)Florida Department of Transportation Design Standards 2015	C	CCM	2/18/2015	T30.0417A								
2	4.4.2	Intertrack fencing shall be placed to provide a barrier to deter unauthorized persons from trespass into the ROW	Design Criteria 4.4.2	C	CCM	2/18/2015	T30.0248								
<b>LEGEND</b> Means of Verification - Design P = Plan Sheet    S = Specification RFI=RFI            O = Other  Status C = Compliance N = Noncompliance P = Partial Compliance				<b>DESIGN VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				<b>CONSTRUCTION VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				<b>FINAL VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____			



# CFCRT Project Phase 2 South

Safety and Security Certification Elements				Design Verification				Construction Verification				Final Verification			
Certifiable Element: <b>5.0 TRACK AND STRUCTURES</b> Sub-Element: <b>5.3 GRADE CROSSINGS (Civil)</b> Location: <b>Ruby Ave A 808.28</b> Contract No.: _____				Notes or Restrictions:				Notes or Restrictions:				Notes or Restrictions:			
Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	5.3.6	Tie spacing at crossing will be placed on 19.5" centers for rubber interface and timber crossings. For concrete and full depth rubber crossings, tie spacing shall comply with manufacturer's requirements.	Design Criteria 3.1 MWI 901.07	C	CCM	2/18/2015	TSP 24539 refers to TSP24530 and MWI 901								
2	5.3.1	Roadway warning signs shall be placed at all public grade crossings	Design Criteria 3.1 1.)Manual on Uniform Traffic Control Devices 2009 2.)Florida Department of Transportation Design Standards 2015	C	CCM	2/18/2015	T30.0418G								
3	5.3.6	The roadway section at the grade crossing shall be equal to that of the approach roadway.	Design Criteria 3.1 1.) Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways, Chapter 3 2.)Florida Department of Transportation Design Standards 2015	C	CCM	2/18/2015	T30.0418A-B								
4	5.3.6	The grade crossing shall utilize a full-depth precast concrete system. The crossing surface width shall be 2 ft. wider than the adjacent travel way of the roadway, including shoulders, sidewalks, etc., if any.	Design Criteria 3.1 1.)Florida Department of Transportation Design Standards.	C	CCM	2/18/2015	T30.0418B								
5	5.3.1	Pavement markings and signage for roadway grade crossings shall meet MUTCD.	Design Criteria 3.1 1.)Manual on Uniform Traffic Control Devices 2009	C	CCM	2/18/2015	T30.0418G								
6	5.3.3	Detour plans for road closures shall be prepared in accordance with the Department requirements for all grade crossings requiring closure for construction.	Design Criteria 3.1 1.)Florida Department of Transportation Design Standards.	C	CCM	2/18/2015	T30.0418H								
7	5.3.2	Pedestrian sidewalks at grade crossings include Detectable Warning Devices within the sidewalk surface.	Design Criteria 3.1 1.)Florida Department of Transportation Design Standards. 2.) Manual on Uniform Traffic Control Devices 2009	C	CCM	2/18/2015	T30.0418B								

8	5.3.3	Horizontal and Vertical geometry shall be prepared in accordance with Department requirements for all grade crossings.	Design Criteria 3.1 1.) Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways, Chapter 3 2.) Florida Department of Transportation Design Standards 2015	C	CCM	2/18/2015	T30.0418B-C								
9	5.3.2	Pedestrian facilities shall be prepared in accordance with Department requirements for all grade crossings.	Design Criteria 3.1 1.) Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways, Chapter 8 2.) Florida Department of Transportation Design Standards 2015	C	CCM	2/18/2015	T30.0418B-C								

<b>LEGEND</b>		<b>DESIGN VERIFICATION</b>		<b>CONSTRUCTION VERIFICATION</b>		<b>FINAL VERIFICATION</b>	
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection		Name and Organization: _____ Date: _____		Name and Organization: _____ Date: _____	
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance		Name and Organization: _____ Date: _____		Name and Organization: _____ Date: _____		Name and Organization: _____ Date: _____	

DRAFT



# CFCRT Project Phase 2 South

Safety and Security Certification Elements	Design Verification	Construction Verification	Final Verification
<b>Certifiable Element: 5.0 TRACK AND STRUCTURES</b>  <b>Sub-Element: 5.3 GRADE CROSSINGS (Civil)</b> <b>Location: Beaumont Ave A 808.53</b>  <b>Contract No.:</b> _____	<b>Notes or Restrictions:</b> Note 1: Beaumont Ave is a new roadway and crossing _____ _____ _____ _____ _____	<b>Notes or Restrictions:</b> _____ _____ _____ _____ _____	<b>Notes or Restrictions:</b> _____ _____ _____ _____ _____

Certifiable Item Description				Design Verification				Construction/Installation				Verification				
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	
1	5.3.6	Tie spacing at crossing will be placed on 19.5" centers for rubber interface and timber crossings. For concrete and full depth rubber crossings, tie spacing shall comply with manufacturer's requirements.	Design Criteria 3.1 MWI 901.07	C	CCM	2/18/2015	TSP 24539 refers to TSP24530 and MWI 901									
2	5.3.1	Roadway warning signs shall be placed at all public grade crossings per MUTCD	Design Criteria 3.1 1.)Manual on Uniform Traffic Control Devices 2009 2.)Florida Department of Transportation Design Standards 2015	C	CCM	2/18/2015	T30.0419D									
3	5.3.6	The roadway section at the grade crossing shall be equal to that of the approach roadway.	Design Criteria 3.1 1.) Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways, Chapter 3 2.)Florida Department of Transportation Design Standards 2015	C	CCM	2/18/2015	T30.0419A-B									
4	5.3.6	The grade crossing shall utilize a full-depth precast concrete system. The crossing surface width shall be 2 ft. wider than the adjacent travel way of the roadway, including shoulders, sidewalks, etc., if any.	Design Criteria 3.1 1.)Florida Department of Transportation Design Standards.	C	CCM	2/18/2015	T30.0419B									
5	5.3.1	Pavement markings for roadway grade crossings shall meet MUTCD.	Design Criteria 3.1 1.)Manual on Uniform Traffic Control Devices 2009	C	CCM	2/18/2015	T30.0419D									
6	5.3.3	Detour plans for road closures shall be prepared in accordance with the Department requirements for all grade crossings requiring closure for construction.	Design Criteria 3.1 1.)Florida Department of Transportation Design Standards, Index 600 series	NA		2/18/2015	Note 1									
7	5.3.3	Horizontal and Vertical geometry shall be prepared in accordance with Department requirements for all grade crossings.	Design Criteria 3.1 1.) Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways, Chapter 3 2.)Florida Department of Transportation Design Standards 2015	C	CCM	2/18/2015	T30.0419B-C									

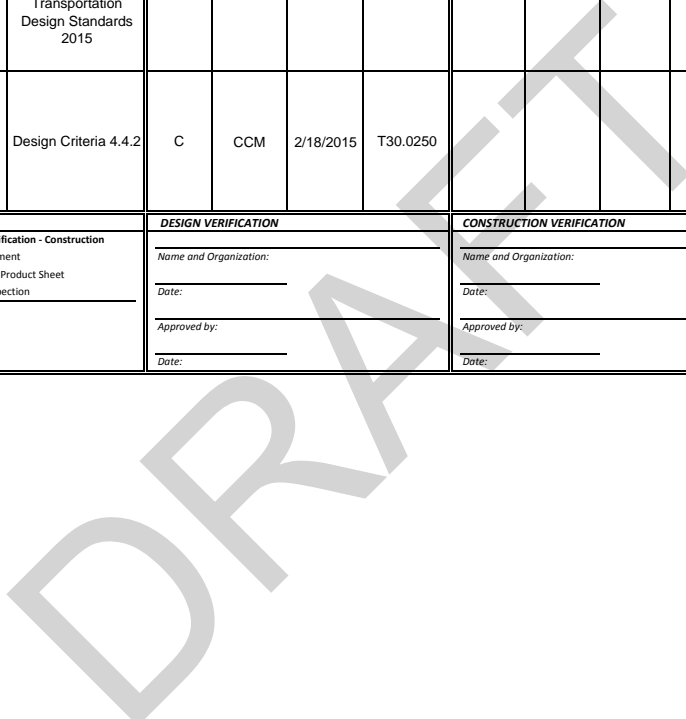
8	5.3.2	Pedestrian sidewalks at grade crossings include Detectable Warning Devices within the sidewalk surface.	Design Criteria 3.1 1.) Florida Department of Transportation Design Standards. 2.) Manual on Uniform Traffic Control Devices 2009	C	CCM	2/18/2015	T30.0419B						
---	-------	---------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------	---	-----	-----------	-----------	--	--	--	--	--	--

<b>LEGEND</b>		<b>DESIGN VERIFICATION</b>		<b>CONSTRUCTION VERIFICATION</b>		<b>FINAL VERIFICATION</b>	
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection		Name and Organization: _____ Date: _____		Name and Organization: _____ Date: _____	
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance				Approved by: _____ Date: _____		Approved by: _____ Date: _____	

DRAFT

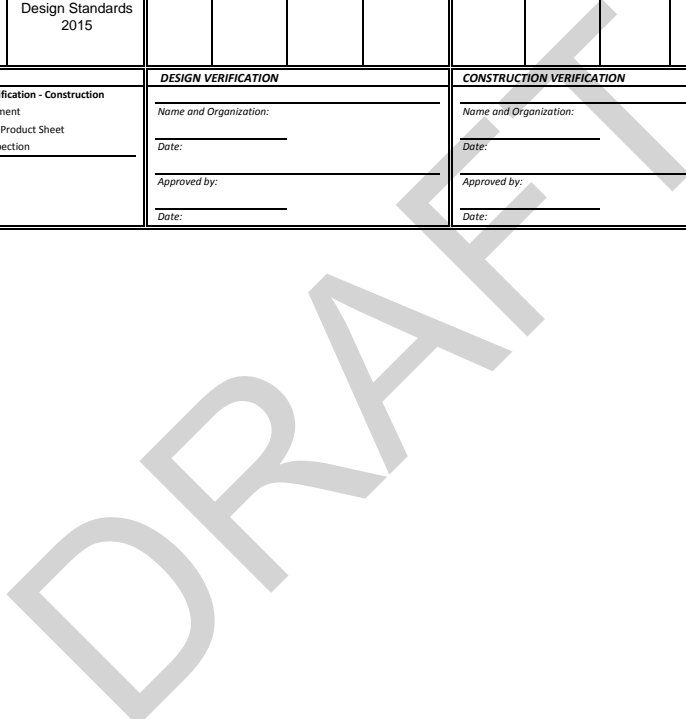
# CFCRT Project Phase 2 South

Safety and Security Certification Elements				Design Verification				Construction Verification				Final Verification			
Certifiable Element: <b>5.0 TRACK AND STRUCTURES</b>  Sub-Element: <b>5.3 GRADE CROSSINGS</b> Location: <b>Vernon Rd - MP A 808.61 TO BE REMOVED</b>  Contract No.: _____				Notes or Restrictions: _____				Notes or Restrictions: _____				Notes or Restrictions: _____			
<b>Certifiable Item Description</b>				<b>Design Verification</b>				<b>Construction/Installation</b>				<b>Verification</b>			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	5.3.1	Roadway warning signs shall be placed per MUTCD	Design Criteria 3.1 1.)Manual on Uniform Traffic Control Devices 2009 2.)Florida Department of Transportation Design Standards 2015	C	CCM	2/18/2015	T30.0420A								
2	4.4.2	Wayside fencing shall be placed to provide a barrier to deter unauthorized persons from trespass into the ROW	Design Criteria 4.4.2	C	CCM	2/18/2015	T30.0250								
<b>LEGEND</b> Means of Verification - Design P = Plan Sheet    S = Specification RFI=RFI            O = Other  Status C = Compliance N = Noncompliance P = Partial Compliance				<b>DESIGN VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				<b>CONSTRUCTION VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				<b>FINAL VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____			



# CFCRT Project Phase 2 South

Safety and Security Certification Elements				Design Verification				Construction Verification				Final Verification			
Certifiable Element: <b>5.0 TRACK AND STRUCTURES</b> Sub-Element: <b>5.3 GRADE CROSSINGS (Civil)</b> Location: <b>Penfield Ave A 808.76 (to be relocated)</b> Contract No.: _____				Notes or Restrictions:				Notes or Restrictions:				Notes or Restrictions:			
Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	5.3.1	Roadway warning signs shall be placed per MUTCD	Design Criteria 3.1 1.)Manual on Uniform Traffic Control Devices 2009 2.)Florida Department of Transportation Design Standards 2015	C	CCM	2/18/2015	T30.0422H								
<b>LEGEND</b> Means of Verification - Design P = Plan Sheet    S = Specification RF1-RF1            O = Other Status C = Compliance N = Noncompliance P = Partial Compliance				<b>DESIGN VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				<b>CONSTRUCTION VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				<b>FINAL VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____			



# CFCRT Project Phase 2 South

Safety and Security Certification Elements				Design Verification				Construction Verification				Final Verification			
Certifiable Element: <b>5.0 TRACK AND STRUCTURES</b>  Sub-Element: <b>5.3 GRADE CROSSINGS (Civil)</b> Location: <b>S. Clyde Ave A 808.77</b>  Contract No.: _____				Notes or Restrictions:				Notes or Restrictions:				Notes or Restrictions:			
Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	5.3.6	Tie spacing at crossing will be placed on 19.5" centers for rubber interface and timber crossings. For concrete and full depth rubber crossings, tie spacing shall comply with manufacturer's requirements.	Design Criteria 3.1 MWI 901.07	C	CCM	2/18/2015	TSP 24539 refers to TSP24530 and MWI 901								
2	5.3.1	Roadway warning signs shall be placed at all public grade crossings per MUTCD	Design Criteria 3.1 1.) Manual on Uniform Traffic Control Devices 2009 2.) Florida Department of Transportation Design Standards 2015	C	CCM	2/18/2015	T30.0422H								
3	5.3.6	The roadway section at the grade crossing shall be equal to that of the approach roadway.	Design Criteria 3.1 1.) Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways, Chapter 3 2.) Florida Department of Transportation Design Standards 2015	C	CCM	2/18/2015	T30.0422A-B								
4	5.3.6	The grade crossing shall utilize a full-depth precast concrete system. The crossing surface width shall be 2 ft. wider than the adjacent travel way of the roadway, including shoulders, sidewalks, etc., if any.	Design Criteria 3.1 1.) Florida Department of Transportation Design Standards.	C	CCM	2/18/2015	T30.0422B								
5	5.3.1	Pavement markings for roadway grade crossings shall meet MUTCD.	Design Criteria 3.1 1.) Manual on Uniform Traffic Control Devices 2009	C	CCM	2/18/2015	T30.0422H								
6	5.3.3	Detour plans for road closures shall be prepared in accordance with the Department requirements for all grade crossings requiring closure for construction.	Design Criteria 3.1 1.) Florida Department of Transportation Design Standards, Index 600 series	C	CCM	2/18/2015	T30.0422I								
7	5.3.3	Horizontal and Vertical geometry shall be prepared in accordance with Department requirements for all grade crossings.	Design Criteria 3.1 1.) Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways, Chapter 3 2.) Florida Department of Transportation Design Standards 2015	C	CCM	2/18/2015	T30.0422B-C								

8	5.3.2	Pedestrian sidewalks at grade crossings include Detectable Warning Devices within the sidewalk surface.	Design Criteria 3.1 1.) Florida Department of Transportation Design Standards. 2.) Manual on Uniform Traffic Control Devices 2009	C	CCM	2/18/2015	T30.0422B-C						
---	-------	---------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------	---	-----	-----------	-------------	--	--	--	--	--	--

<b>LEGEND</b>		<b>DESIGN VERIFICATION</b>		<b>CONSTRUCTION VERIFICATION</b>		<b>FINAL VERIFICATION</b>	
<b>Means of Verification - Design</b>		<b>Means of Verification - Construction</b>		<b>Name and Organization:</b>		<b>Name and Organization:</b>	
P = Plan Sheet	S = Specification	M = Measurement		_____		_____	
RFI=RFI	O = Other	T = Test PS = Product Sheet		<b>Date:</b>		<b>Date:</b>	
		V = Visual Inspection		_____		_____	
<b>Status</b>				<b>Approved by:</b>		<b>Approved by:</b>	
C = Compliance				_____		_____	
N = Noncompliance				<b>Date:</b>		<b>Date:</b>	
P = Partial Compliance				_____		_____	

DRAFT

# CFCRT Project Phase 2 South

Safety and Security Certification Elements	Design Verification	Construction Verification	Final Verification
Certifiable Element: <b>5.0 TRACK AND STRUCTURES</b>  Sub-Element: <b>5.3 GRADE CROSSINGS (Civil)</b> Location: <b>Pleasant Hill Rd / CR 531 (Hoagland) A 810.45</b>  Contract No.: _____	Notes or Restrictions: _____ _____ _____ _____ _____	Notes or Restrictions: _____ _____ _____ _____ _____	Notes or Restrictions: _____ _____ _____ _____ _____

Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Design Verification				Construction/Installation				Verification			
				Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	5.3.6	Tie spacing at crossing will be placed on 19.5" centers for rubber interface and timber crossings. For concrete and full depth rubber crossings, tie spacing shall comply with manufacturer's requirements.	Design Criteria 3.1 MWI 901.07	C	CCM	2/18/2015	TSP 24539 refers to TSP24530 and MWI 901								
2	5.3.1	Roadway warning signs shall be placed at all public grade crossings	Design Criteria 3.1 1.) Manual on Uniform Traffic Control Devices 2009 2.) Florida Department of Transportation Design Standards 2015	C	CCM	2/18/2015	T30.0423G								
3	5.3.6	The roadway section at the grade crossing shall be equal to that of the approach roadway.	Design Criteria 3.1 1.) Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways, Chapter 3 2.) Florida Department of Transportation Design Standards 2015	C	CCM	2/18/2015	T30.0423A-B								
4	5.3.6	The grade crossing shall utilize a full-depth precast concrete system. The crossing surface width shall be 2 ft. wider than the adjacent travel way of the roadway, including shoulders, sidewalks, etc., if any.	Design Criteria 3.1 1.) Florida Department of Transportation Design Standards.	C	CCM	2/18/2015	T30.0423B								
5	5.3.1	Pavement markings and signage for roadway grade crossings shall meet MUTCD.	Design Criteria 3.1 1.) Manual on Uniform Traffic Control Devices 2009	C	CCM	2/18/2015	T30.0423G								
6	5.3.3	Detour plans for road closures shall be prepared in accordance with the Department requirements for all grade crossings requiring closure for construction.	Design Criteria 3.1 1.) Florida Department of Transportation Design Standards, Index 600 series	C	CCM	2/18/2015	T30.0423H								
7	5.3.3	Horizontal and Vertical geometry shall be prepared in accordance with Department requirements for all grade crossings.	Design Criteria 3.1 1.) Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways, Chapter 3 2.) Florida Department of Transportation Design Standards 2015	C	CCM	2/18/2015	T30.0423B-C								

LEGEND		DESIGN VERIFICATION	CONSTRUCTION VERIFICATION	FINAL VERIFICATION	
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection	Name and Organization: _____ Date: _____	Name and Organization: _____ Date: _____	Name and Organization: _____ Date: _____
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance		Approved by: _____ Date: _____	Approved by: _____ Date: _____	Approved by: _____ Date: _____	

DRAFT



# CFCRT Project Phase 2 South

Safety and Security Certification Elements				Design Verification				Construction Verification				Final Verification			
Certifiable Element: <b>5.0 TRACK AND STRUCTURES</b> Sub-Element: <b>5.3 GRADE CROSSINGS (Civil)</b> Location: <b>Crestridge Dr. A 812.16</b> Contract No.: _____				Notes or Restrictions:				Notes or Restrictions:				Notes or Restrictions:			
Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	5.3.6	Tie spacing at crossing will be placed on 19.5" centers for rubber interface and timber crossings. For concrete and full depth rubber crossings, tie spacing shall comply with manufacturer's requirements.	Design Criteria 3.1 MWI 901.07	C	CCM	2/18/2015	TSP 24539 refers to TSP24530 and MWI 901								
2	5.3.1	Roadway warning signs shall be placed at all public grade crossings	Design Criteria 3.1 1.)Manual on Uniform Traffic Control Devices 2009 2.)Florida Department of Transportation Design Standards 2015	C	CCM	2/18/2015	T30.0424E								
3	5.3.6	The roadway section at the grade crossing shall be equal to that of the approach roadway.	Design Criteria 3.1 1.) Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways, Chapter 3 2.)Florida Department of Transportation Design Standards 2015	C	CCM	2/18/2015	T30.0424A-B								
4	5.3.6	The grade crossing shall utilize a full-depth precast concrete system. The crossing surface width shall be 2 ft. wider than the adjacent travel way of the roadway, including shoulders, sidewalks, etc., if any.	Design Criteria 3.1 1.)Florida Department of Transportation Design Standards.	C	CCM	2/18/2015	T30.0424B								
5	5.3.1	Pavement markings and signage for roadway grade crossings shall meet MUTCD.	Design Criteria 3.1 1.)Manual on Uniform Traffic Control Devices 2009	C	CCM	2/18/2015	T30.0424E								
6	5.3.3	Detour plans for road closures shall be prepared in accordance with the Department requirements for all grade crossings requiring closure for construction.	Design Criteria 3.1 1.)Florida Department of Transportation Design Standards, Index 600 series	C	CCM	2/18/2015	T30.0424F								
7	5.3.3	Horizontal and Vertical geometry shall be prepared in accordance with Department requirements for all grade crossings.	Design Criteria 3.1 1.) Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways, Chapter 3 2.)Florida Department of Transportation Design Standards 2015	C	CCM	2/18/2015	T30.0424B-C								

LEGEND		DESIGN VERIFICATION	CONSTRUCTION VERIFICATION	FINAL VERIFICATION
<b>Means of Verification - Design</b>				
P = Plan Sheet	S = Specification	<i>Name and Organization:</i>	<i>Name and Organization:</i>	<i>Name and Organization:</i>
RFI-RFI	O = Other	Date:	Date:	Date:
<b>Means of Verification - Construction</b>		<i>Approved by:</i>	<i>Approved by:</i>	<i>Approved by:</i>
M = Measurement	T = Test PS = Product Sheet	Date:	Date:	Date:
	V = Visual Inspection			
<b>Status</b>				
C = Compliance				
N = Noncompliance				
P = Partial Compliance				

DRAFT

# CFCRT Project Phase 2 South

Safety and Security Certification Elements				Design Verification				Construction Verification				Final Verification			
Certifiable Element: <u>5.0 TRACK AND STRUCTURES</u>  Sub-Element: <u>5.3 GRADE CROSSINGS (Civil)</u> Location: <u>Poinciana Blvd A 813.77 - N/A</u>  Contract No.: _____				Notes or Restrictions: <u>No civil work proposed at this grade crossing</u> _____ _____ _____ _____				Notes or Restrictions: _____ _____ _____ _____				Notes or Restrictions: _____ _____ _____ _____			
Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
<b>LEGEND</b>				<b>DESIGN VERIFICATION</b>				<b>CONSTRUCTION VERIFICATION</b>				<b>FINAL VERIFICATION</b>			
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection		Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				Name and Organization: _____ Date: _____ Approved by: _____ Date: _____			

DRAFT

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists				Design Verification				Construction Verification				Final Verification			
<b>Certifiable Element:</b> 5.0 TRACK AND STRUCTURES  <b>Sub-Element:</b> 5.4 Retaining Walls and Crashwalls <b>Location:</b> Retaining Wall MP A806.73  <b>Contract No.:</b> _____				<b>Notes or Restrictions:</b> Note 1: - THIS RETAINING WALL IS NOT WITHIN THE VSLMF LIMITS				<b>Notes or Restrictions:</b>				<b>Notes or Restrictions:</b>			
Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	5.4.1	Retaining walls subject to VSLMF loads	See Certifiable Element 6.0, Storage & Layover Yard (VSLMF)				N/A Note 1								
2	5.4.1	Retaining walls subject to railroad surcharge loads to include design parameters identified within geotech report	Report of Geotechnical Engineering Investigation, Mainline Improvements, Section 7.8	C	GD	2/12/2015	B80673.001 B80673.002 C80673.001								
3	5.4.1	When the top of a retaining wall is >2 ft. to ground, provide handrails, reflective markers and crew warning signs	Design Criteria Section 24.3.3	C	GD	2/12/2015	B80673.001 B80673.004 T30.6321								
4	5.2.16	Backfill and drainage materials to be designed in accordance with AREMA & FDOT requirements	Design Criteria Section 24.3.3 & AREMA Ch.8, Part 5 & FDOT Structures Design Guidelines, 3.5.3 Sheet Piles	C	GD	2/23/2015	C30.0521 To C30.0528  C30.0597 C30.0598								
5	5.4.1	Retaining walls to be designed in accordance with FDOT requirements	Design Criteria Section 24.3.3 & FDOT Structures Manual, Section 3.5.3 Sheet Piles	C	GD	2/23/2015	C00.002E								
<b>LEGEND</b>				<b>DESIGN VERIFICATION</b>				<b>CONSTRUCTION VERIFICATION</b>				<b>FINAL VERIFICATION</b>			
<b>Means of Verification - Design</b> Plan Sheet    Specification RFI            Other Product Sheet		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection		Name and Organization: _____  Date: _____  Approved by: _____  Date: _____				Name and Organization: _____  Date: _____  Approved by: _____  Date: _____				Name and Organization: _____  Date: _____  Approved by: _____  Date: _____			

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists				Design Verification				Construction Verification				Final Verification					
<b>Certifiable Element:</b> 5.0 TRACK AND STRUCTURES <hr/> <b>Sub-Element:</b> 5.4 Retaining Walls and Crashwalls <b>Location:</b> Retaining Wall MP A806.8 <hr/> <b>Contract No.:</b> _____				<b>Notes or Restrictions:</b> _____ _____ _____ _____ _____				<b>Notes or Restrictions:</b> _____ _____ _____ _____ _____				<b>Notes or Restrictions:</b> _____ _____ _____ _____ _____					
Certifiable Item Description				Design Verification				Construction/Installation				Verification					
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification		
1	5.4.1	Retaining walls subject to railroad surcharge loads to include design parameters identified within geotech report	Report of Geotechnical Engineering Investigation, Mainline Improvements, Section 7.8	C	GD	2/12/2015	B80673.001 B80673.002 B80680.001 C80680.001										
2	5.4.1	When the top of a retaining wall is >2 ft. to ground, provide handrails, reflective markers and crew warning signs	Design Criteria Section 24.3.3	C	GD	2/12/2015	B80680.001 B80673.001 T30.6323										
3	5.2.16	Backfill and drainage materials to be designed in accordance with AREMA & FDOT requirements	Design Criteria Section 24.3.3 & AREMA Ch.8, Part 5 & FDOT Structures Design Guidelines, 3.5.3 Sheet Piles	C	GD	2/23/2015	C30.0521 To C30.0528  C30.0597 C30.0598										
4	5.4.1	Retaining walls to be designed in accordance with FDOT requirements	Design Criteria Section 24.3.3 & FDOT Structures Manual, Section 3.5.3 Sheet Piles	C	GD	2/23/2015	C00.002E										
<b>LEGEND</b> <table style="width:100%; border: none;"> <tr> <td style="width: 50%; border: none;"> <b>Means of Verification - Design</b>                      Plan Sheet    Specification                      RFI            Other                      Product Sheet                 </td> <td style="width: 50%; border: none;"> <b>Means of Verification - Construction</b>                      M = Measurement                      T = Test    PS = Product Sheet                      V = Visual Inspection                 </td> </tr> </table>				<b>Means of Verification - Design</b> Plan Sheet    Specification RFI            Other Product Sheet	<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection	<b>DESIGN VERIFICATION</b> <hr/> <b>Name and Organization:</b> _____ <hr/> <b>Date:</b> _____ <hr/> <b>Approved by:</b> _____ <hr/> <b>Date:</b> _____				<b>CONSTRUCTION VERIFICATION</b> <hr/> <b>Name and Organization:</b> _____ <hr/> <b>Date:</b> _____ <hr/> <b>Approved by:</b> _____ <hr/> <b>Date:</b> _____				<b>FINAL VERIFICATION</b> <hr/> <b>Name and Organization:</b> _____ <hr/> <b>Date:</b> _____ <hr/> <b>Approved by:</b> _____ <hr/> <b>Date:</b> _____			
<b>Means of Verification - Design</b> Plan Sheet    Specification RFI            Other Product Sheet	<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection																

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists				Design Verification				Construction Verification				Final Verification				
<b>Certifiable Element:</b> 5.0 TRACK AND STRUCTURES <hr/> <b>Sub-Element:</b> 5.4 Retaining Walls and Crashwalls <b>Location:</b> Retaining Wall MP A806.9 <hr/> <b>Contract No.:</b> _____				<b>Notes or Restrictions:</b> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>				<b>Notes or Restrictions:</b> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>				<b>Notes or Restrictions:</b> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>				
Certifiable Item Description				Design Verification				Construction/Installation				Verification				
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	
1	5.4.1	Retaining walls subject to railroad surcharge loads to include design parameters identified within geotech report	Report of Geotechnical Engineering Investigation, Mainline Improvements, Section 7.8	C	GD	2/12/2015	B80690.001 B80690.002 B80690.006 B80673.001 B80673.002 C80689.001									
2	5.4.1	When the top of a retaining wall is >2 ft. to ground, provide handrails, reflective markers and crew warning signs	Design Criteria Section 24.3.3	C	GD	2/12/2015	B80673.001 B80690.002 B80690.006 T30.6325 T30.6326 T30.6327									
3	5.2.16	Backfill and drainage materials to be designed in accordance with AREMA & FDOT requirements	Design Criteria Section 24.3.3 & AREMA Ch.8, Part 5 & FDOT Structures Design Guidelines, 3.5.3 Sheet Piles	C	GD	2/23/2015	C30.0521 To C30.0528  C30.0597 C30.0598									
4	5.4.1	Retaining walls to be designed in accordance with FDOT requirements	Design Criteria Section 24.3.3 & FDOT Structures Manual, Section 3.5.3 Sheet Piles	C	GD	2/23/2015	C00.002E									
LEGEND				DESIGN VERIFICATION				CONSTRUCTION VERIFICATION				FINAL VERIFICATION				
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection		<b>Name and Organization:</b> _____ <b>Date:</b> _____				<b>Name and Organization:</b> _____ <b>Date:</b> _____				<b>Name and Organization:</b> _____ <b>Date:</b> _____				
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance				<b>Approved by:</b> _____ <b>Date:</b> _____				<b>Approved by:</b> _____ <b>Date:</b> _____				<b>Approved by:</b> _____ <b>Date:</b> _____				

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists				Design Verification				Construction Verification				Final Verification							
<b>Certifiable Element:</b> 5.0 TRACK AND STRUCTURES <hr/> <b>Sub-Element:</b> 5.4 Retaining Walls and Crashwalls <b>Location:</b> Retaining Wall MP A807.08 <hr/> <b>Contract No.:</b> _____				<b>Notes or Restrictions:</b> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>				<b>Notes or Restrictions:</b> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>				<b>Notes or Restrictions:</b> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>							
Certifiable Item Description				Design Verification				Construction/Installation				Verification							
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification				
1	5.4.1	Retaining walls subject to railroad surcharge loads to include design parameters identified within geotech report	Report of Geotechnical Engineering Investigation, Mainline Improvements, Section 7.8	C	GD	2/12/2015	B80708.001 B80673.001 B80673.002 C80708.001												
2	5.4.1	When the top of a retaining wall is >2 ft. to ground, provide handrails, reflective markers and crew warning signs	Design Criteria Section 24.3.3	C	GD	2/12/2015	B80708.001 B80673.001 B80673.002 T30.6329 T30.6330												
3	5.2.16	Backfill and drainage materials to be designed in accordance with AREMA & FDOT requirements	Design Criteria Section 24.3.3 & AREMA Ch.8, Part 5 & FDOT Structures Design Guidelines, 3.5.3 Sheet Piles	C	GD	2/23/2015	C30.0521 To C30.0528  C30.0597 C30.0598												
4	5.4.1	Retaining walls to be designed in accordance with FDOT requirements	Design Criteria Section 24.3.3 & FDOT Structures Manual, Section 3.5.3 Sheet Piles	C	GD	2/23/2015	C00.002E												
<b>LEGEND</b> <table style="width:100%; border:none;"> <tr> <td style="width:50%; border:none;"> <b>Means of Verification - Design</b>            P = Plan Sheet    S = Specification            RFI=RFI        O = Other         </td> <td style="width:50%; border:none;"> <b>Means of Verification - Construction</b>            M = Measurement            T = Test    PS = Product Sheet            V = Visual Inspection         </td> </tr> <tr> <td colspan="2" style="border:none;"> <b>Status</b>            C = Compliance            N = Noncompliance            P = Partial Compliance         </td> </tr> </table>				<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI        O = Other	<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection	<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance		<b>DESIGN VERIFICATION</b> <hr/> <i>Name and Organization:</i> _____ <hr/> Date: _____ <hr/> Approved by: _____ <hr/> Date: _____				<b>CONSTRUCTION VERIFICATION</b> <hr/> <i>Name and Organization:</i> _____ <hr/> Date: _____ <hr/> Approved by: _____ <hr/> Date: _____				<b>FINAL VERIFICATION</b> <hr/> <i>Name and Organization:</i> _____ <hr/> Date: _____ <hr/> Approved by: _____ <hr/> Date: _____			
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI        O = Other	<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection																		
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance																			

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists				Design Verification				Construction Verification				Final Verification			
<b>Certifiable Element:</b> 5.0 TRACK AND STRUCTURES <hr/> <b>Sub-Element:</b> 5.4 Retaining Walls and Crashwalls <b>Location:</b> Retaining Wall MP A812.9 - North End VSLMF <hr/> <b>Contract No.:</b> _____				<b>Notes or Restrictions:</b> Note 1: Wall removed.				<b>Notes or Restrictions:</b>				<b>Notes or Restrictions:</b>			
<b>Certifiable Item Description</b>				<b>Design Verification</b>				<b>Construction/Installation</b>				<b>Verification</b>			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	5.4.1	Retaining walls subject to railroad surcharge loads to include design parameters identified within geotech report	Report of Geotechnical Engineering Investigation, Mainline Improvements, Section 7.8				Note 1								
2	5.4.1	When the top of a retaining wall is >2 ft. to ground, provide handrails, reflective markers and crew warning signs	Design Criteria Section 24.3.3				Note 1								
3	5.2.16	Backfill and drainage materials to be designed in accordance with AREMA & FDOT requirements	Design Criteria Section 24.3.3 & AREMA Ch.8, Part 5 & FDOT Structures Design Guidelines, 3.5.3 Sheet Piles				Note 1								
4	5.4.1	Retaining walls to be designed in accordance with FDOT requirements	Design Criteria Section 24.3.3 & FDOT Structures Manual, Section 3.5.3 Sheet Piles				Note 1								
<b>LEGEND</b>				<b>DESIGN VERIFICATION</b>				<b>CONSTRUCTION VERIFICATION</b>				<b>FINAL VERIFICATION</b>			
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI          O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection		Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				Name and Organization: _____ Date: _____ Approved by: _____ Date: _____			



# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists				Design Verification				Construction Verification				Final Verification				
<b>Certifiable Element:</b> 5.0 TRACK AND STRUCTURES  <b>Sub-Element:</b> 5.4 Retaining Walls and Crashwalls <b>Location:</b> Retaining Wall MP A813.55 - South End VSLMF  <b>Contract No.:</b> _____				<b>Notes or Restrictions:</b> _____ _____ _____ _____ _____				<b>Notes or Restrictions:</b> _____ _____ _____ _____ _____				<b>Notes or Restrictions:</b> _____ _____ _____ _____ _____				
Certifiable Item Description				Design Verification				Construction/Installation				Verification				
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	
1	5.4.1	Retaining walls subject to railroad surcharge loads to include design parameters identified within geotech report	Report of Geotechnical Engineering Investigation, Mainline Improvements, Section 7.8	C	GD	2/12/2015	B81355.001 B80673.001 B80673.002 C81355.001									
2	5.4.1	When the top of a retaining wall is >2 ft. to ground, provide handrails, reflective markers and crew warning signs	Design Criteria Section 24.3.3	C	GD	2/12/2015	B81355.001 B80673.001 B80673.002 T30.6504									
3	5.2.16	Backfill and drainage materials to be designed in accordance with AREMA & FDOT requirements	Design Criteria Section 24.3.3 & AREMA Ch.8, Part 5 & FDOT Structures Design Guidelines, 3.5.3 Sheet Piles	C	GD	2/23/2015	C30.0521 To C30.0528  C30.0597 C30.0598									
4	5.4.1	Retaining walls to be designed in accordance with FDOT requirements	Design Criteria Section 24.3.3 & FDOT Structures Manual, Section 3.5.3 Sheet Piles	C	GD	2/23/2015	C00.002E									
LEGEND				DESIGN VERIFICATION				CONSTRUCTION VERIFICATION				FINAL VERIFICATION				
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection		<b>Name and Organization:</b> _____ <b>Date:</b> _____				<b>Name and Organization:</b> _____ <b>Date:</b> _____				<b>Name and Organization:</b> _____ <b>Date:</b> _____				
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance				<b>Approved by:</b> _____ <b>Date:</b> _____				<b>Approved by:</b> _____ <b>Date:</b> _____				<b>Approved by:</b> _____ <b>Date:</b> _____				

# CFCRT Project Phase 2 South

Safety and Security Certification Elements	Design Verification	Construction Verification	Final Verification
Certifiable Element: <b>5.0 TRACK AND STRUCTURES</b>  Sub-Element: <b>5.4 Retaining Walls and Crashwalls</b> Location: <b>Crashwall MP A799.8 Orange Ave.</b>  Contract No.: _____	<b>Notes or Restrictions:</b> _____ _____ _____ _____ _____	<b>Notes or Restrictions:</b> _____ _____ _____ _____ _____	<b>Notes or Restrictions:</b> _____ _____ _____ _____ _____

Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	5.4.2	Crash walls shall be designed in accordance with AREMA & FDOT Structures Design Guideline requirements and shall be a min 2'-6" thick	AREMA Ch. 8, 2.1.5 Pier Protection; FDOT Structures Design Guidelines, 2.6.7 Structures Over or Adjacent to Railroad and Light Rail Tracks	C	GD	2/13/2015	B79980.002 B79980.003 B79980.004 B79980.005								
2	5.4.2	Bridge piers 12-25 ft. clear from track center line shall have 6 ft. min crash wall height above TOR; piers <12 ft. clear from track center line shall have 12 ft. min crash wall height above TOR	AREMA Ch. 8, 2.1.5 Pier Protection; Design Criteria 24.6.1	C	GD	2/13/2015	B79980.001 B79980.002 B79980.003 B79980.004 B79980.005								
3	5.4.2	Crash wall shall extend 1 ft. beyond the outermost overhead bridge column	AREMA Ch. 8, 2.1.5 Pier Protection	C	GD	2/13/2015	B79980.002 B79980.003 B79980.004 B79980.005								
4	5.4.2	Crash wall foundation shall extend 4 ft. min below the lowest surrounding grade	AREMA Ch. 8, 2.1.5 Pier Protection	C	GD	2/13/2015	B79980.002 B79980.003								
5	5.4.2	Crash wall concrete to be in accordance with FDOT Structures Design Guidelines	Design Criteria Section 24.2 Materials; FDOT Std Spec Section 346 Portland Cement Concrete	C	GD	2/23/2015	B00.001								

LEGEND		DESIGN VERIFICATION		CONSTRUCTION VERIFICATION		FINAL VERIFICATION	
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other	<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection	Name and Organization: _____ Date: _____ Approved by: _____ Date: _____	Name and Organization: _____ Date: _____ Approved by: _____ Date: _____	Name and Organization: _____ Date: _____ Approved by: _____ Date: _____	Name and Organization: _____ Date: _____ Approved by: _____ Date: _____		



# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists				Design Verification				Construction Verification				Final Verification			
Certifiable Element: <u>5.0 TRACK AND STRUCTURES</u>  Sub-Element: <u>Bridges 5.5</u> Location: <u>Slough Creek MP A800.6</u>  Contract No.: _____				Notes or Restrictions:				Notes or Restrictions:				Notes or Restrictions:			
Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	5.5.8	At bridge approaches, ten bridge approach ties (10 ft. long) are required at 20 inches on center (or matching existing tie spacing) at each end of the structure in accordance with CFRC MWI 1404-03.	Design Criteria Section 6.2.2	C	JWB	2/17/2015	T024530								
2	5.2.16	Hydraulic analysis shall satisfy AREMA and FDOT requirements	AREMA Ch. 1, Part 3 Natural Waterways; FDOT Drainage Manual, Ch. 2 Open Channel	C	GD	2/13/2015	B8006.001 B8006.005 C30.0520								
3	5.5.1	Bridge design loads shall be E-80	AREMA Ch.8, 2.2.3 Design Loads; Ch. 15, 1.3 Loads, Forces & Stresses; Design Criteria Section 24.3.2	C	GD	2/13/2015	B8006.001								
4	5.5.1	Design to include additional Dead Load to accommodate 6" of future track surfacing	AREMA Ch.8, 2.2.3 Design Loads; Ch. 15, 1.3 Loads, Forces & Stresses; Design Criteria Section 24.3.2	C	GD	2/13/2015	B8006.001								
5	5.5.1	Bridge design loads to be accordance with AREMA guidelines. This includes (but not limited to): dead; live; impact; rocking; centrifugal; earth pressure; buoyancy; wind; longitudinal; earthquake; stream flow pressure and other loads	AREMA Ch. 8, 2.2.3 Design Loads; Ch. 15, 1.3 Loads, Forces & Stresses; Design Criteria Section 24.3.2	C	GD	2/13/2015	B8006.001								
6	5.2.14 5.5.1	Provide horizontal and vertical clearances in accordance with AREMA Guidelines	AREMA Ch. 15, 1.2.6 Clearances; Design Criteria Section 24.1.3	C	GD	2/16/2015	B8006.019 T30.6154								
7	5.5.1	Wind load on bridges shall be in accordance with AREMA guidelines; wind load on unloaded structure shall be increased to account for 130 mph base design wind velocity	AREMA Ch. 8, 2.2.3 Design Loads; Ch. 15, 1.3 Loads, Forces & Stresses; Design Criteria Section 24.3.2	C	GD	2/24/2015	B8006.001								
8	5.5.1 5.5.3	Design prestressed concrete girders (PCG) in accordance with AREMA guidelines	AREMA Ch. 8, Part 17 Prestressed Concrete	C	GD	2/16/2015	B8006.001								
9	5.5.1	Stresses in precompressed tensile zone at service loads for PCG's shall not exceed 0 psi	AREMA Ch. 8, Section 17.16 Allowable Stresses	C	GD	2/24/2015	CFRC MP A800.6 Orlando Subdivision Design Calculation Submittal								
10	5.5.1	Design steel structures in accordance with AREMA guidelines	AREMA Ch. 15, Section 1.4 Allowable Stresses	C	GD	2/24/2015	B8006.001								



# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists	Design Verification	Construction Verification	Final Verification
<b>Certifiable Element:</b> 5.0 TRACK AND STRUCTURES <b>Sub-Element:</b> Bridges 5.5 <b>Location:</b> Shingle Creek MP A811.3 <b>Contract No.:</b>	Notes or Restrictions:	Notes or Restrictions:	Notes or Restrictions:

Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	5.5.1	At bridge approaches, ten bridge approach ties (10 ft. long) are required at 20 inches on center (or matching existing tie spacing) at each end of the structure in accordance with CFRC MWI 1404-03.	Design Criteria Section 6.2.2	C	JWB	2/17/2015	T024530								
2	5.2.16	Hydraulic analysis shall satisfy AREMA and FDOT requirements	AREMA Ch. 1, Part 3 Natural Waterways; FDOT Drainage Manual, Ch. 2 Open Channel	C	GD	2/16/2015	B8113.002 B8113.040 C30.0530 T30.6438 T30.6439 T30.6440								
3	5.5.1	Bridge design loads shall be E-80	AREMA Ch.8, 2.2.3 Design Loads; Ch. 15, 1.3 Loads, Forces & Stresses; Design Criteria Section 24.3.2	C	GD	2/16/2015	B8113.002								
4	5.5.1	Design to include additional Dead Load to accommodate 6" of future track surfacing	AREMA Ch.8, 2.2.3 Design Loads; Ch. 15, 1.3 Loads, Forces & Stresses; Design Criteria Section 24.3.2	C	GD	2/16/2015	B8113.002								
5	5.5.1	Bridge design loads to be accordance with AREMA guidelines. This includes (but not limited to): dead; live; impact; rocking; centrifugal; earth pressure; buoyancy; wind; longitudinal; earthquake; stream flow pressure and other loads	AREMA Ch. 8, 2.2.3 Design Loads; Ch. 15, 1.3 Loads, Forces & Stresses; Design Criteria Section 24.3.2	C	GD	2/16/2015	B8113.002								
6	5.2.14 5.5.1	Provide horizontal and vertical clearances in accordance with AREMA Guidelines	AREMA Ch. 15, 1.2.6 Clearances; Design Criteria Section 24.1.3	C	GD	2/16/2015	B8113.008 B8113.009 B8113.030 B8113.037 T30.6438 T30.6439 T30.6440								
7	5.5.1	Wind load on bridges shall be in accordance with AREMA guidelines; wind load on unloaded structure shall be increased to account for 130 mph base design wind velocity	AREMA Ch. 8, 2.2.3 Design Loads; Ch. 15, 1.3 Loads, Forces & Stresses; Design Criteria Section 24.3.2	C	GD	2/24/2015	B8113.002								
8	5.5.1 5.5.3	Design prestressed concrete girders (PCG) in accordance with AREMA guidelines	AREMA Ch. 8, Part 17 Prestressed Concrete	C	GD	2/24/2015	B8113.002								

9	5.5.1	Stresses in precompressed tensile zone at service loads for PCG's shall not exceed 0 psi	AREMA Ch. 8, Section 17.16 Allowable Stresses	C	GD	2/24/2015	CFRC MP A811.3 Orlando Subdivision Shingle Creek Design Calculation Submittal											
10	5.5.1	Design steel structures in accordance with AREMA guidelines	AREMA Ch. 15, Section 1.4 Allowable Stresses	C	GD	2/24/2015	B8113.002											
11	5.5.1 5.5.3	28 day compressive strength for prestressed concrete girders shall meet or exceed 6,000 psi; min release strength = 5,000 psi	Design Criteria, Section 24.2 Materials	C	GD	2/16/2015	B8113.002 B8113.023											
12	5.5.1	For steel structures, the Required Design Number of Stress Cycles is N >2,000,000; limit allowable fatigue stress to Category B	AREMA Ch. 15, Section 1.3.13 Fatigue	C	GD	2/16/2015	B8113.029											
13	5.5.1	Reinforcing steel shall conform to ASTM A-615 Grade 60	Design Criteria, Section 24.2 Materials; FDOT Section 931 Metal Accessory Materials for Concrete Pavement & Concrete Structures	C	GD	2/16/2015	B8113.002											
14	5.5.1	Reinforcing steel design shall conform to AREMA Guidelines and FDOT Structures Design Manual & Structures Detailing Manual	Design Criteria, Section 24.2 Materials; FDOT Structures Detailing Manual, Section 4.3 Reinforcing Steel & AREMA Ch. 8, Section 2 Details of Reinforcement	C	GD	2/24/2015	B8113.002											
15	5.5.1 5.5.2	Pile loads, downdrag, scour resistance shall not exceed values determined by geotech report	Report of Geotechnical Engineering Investigation, MP A800.6, Pile Data Table	C	GD	2/16/2015	C8113.001 C8113.002 C8113.003 C8113.004 C8113.005 C8113.006 C8113.007 B8113.011 B8113.012 C30.0530											
16	5.5.1 5.5.2	Substructure concrete to be in accordance with FDOT Structures Design Manual, Table 1.4.3-1, Structural Concrete Class Requirements	Design Criteria Section 24.2 Materials; FDOT Structures Manual	C	GD	2/16/2015	B8113.002											
17	5.5.1 5.5.4	Bearings shall be designed in accordance with AREMA Guidelines	Design Criteria Section 24.5.8 Bridge Foundations; AREMA Ch. 15, Part 10 Bearing Design	C	GD	2/16/2015	B8113.031											
18	5.5.1 5.5.2	18" square prestressed precast concrete piles shall be designed in accordance with FDOT Index 20600 Series Concrete Piles	FDOT Structures Manual, Section 3.5 Driven Piles	C	GD	2/16/2015	B8113.011 B8113.012											
19	5.5.1 5.5.5	Walkways and handrails shall be provided on both sides in accordance with AREMA Guidelines. In general, walkways shall not be less than 20" wide.	Design Criteria Section 24.3.7 Bridge Foundations; AREMA Ch. 15, Section 8.5 Walkways and Handrails on Bridges	C	GD	2/16/2015	B8113.037 B8113.038 B8113.039 T30.6438 T30.6439 T30.6440											

LEGEND		DESIGN VERIFICATION		CONSTRUCTION VERIFICATION		FINAL VERIFICATION	
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI          O = Other <b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet		Name and Organization: _____ _____ Approved by: _____ Date: _____		Name and Organization: _____ _____ Approved by: _____ Date: _____	

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists	Design Verification	Construction Verification	Final Verification
<b>Certifiable Element:</b> 5.0 TRACK AND STRUCTURES  <b>Sub-Element:</b> 5.6.1 Concrete Box Culverts  <b>Location:</b> South of FL Turnpike (Slough Creek) MP A803.9  <b>Contract No.:</b> _____	<b>Notes or Restrictions:</b> _____ _____ _____ _____ _____	<b>Notes or Restrictions:</b> _____ _____ _____ _____ _____	<b>Notes or Restrictions:</b> _____ _____ _____ _____ _____

Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	5.2.16	Hydraulic analysis shall satisfy AREMA and FDOT requirements	AREMA 8.16.3.2; FDOT Drainage Manual, Ch. 4 - Cross Drain Hydraulics	C	GD	2/24/2015	Stormwater Management Computations and Environmental Resource Permit Application Volume III, Appendix F								
2	5.6.1	Concrete box culvert design live load shall be E-80	AREMA Ch. 8, Section 16.4 Design Loads; Design Criteria Section 24.3.2	C	GD	2/16/2015	B8039.002								
3	5.6.1	Design to include additional Dead Load to accommodate 6" of future track surfacing	AREMA Ch. 8, Section 16.4 Design Loads; Design Criteria Section 24.3.2	C	GD	2/26/2015	MP A803.9 Concrete Box Culvert Calculations								
4	5.6.1	Utilize concrete box design equations and lateral pressure coefficients in accordance with AREMA guidelines	AREMA Design Loads; Ch. 8, Fig. 8-16-4 Design Equations U.S. Customary Units; Design Criteria Section 24.3.2	C	GD	2/25/2015	MP A803.9 Concrete Box Culvert Calculations								
5	5.6.1	Provide horizontal and vertical clearances in accordance with AREMA Guidelines	AREMA Ch. 15, 1.2.6 Clearances; Design Criteria Section 24.1.3	C	GD	2/16/2015	B8039.002 B8039.003								
6	5.6.1	Environmental classification to be in accordance with Geotechnical Report recommendations. Select concrete class using appropriate Concrete Location and Environmental Classification from FDOT Structures Design Guidelines.	Design Criteria, Section 24.2 Materials; FDOT Structures Design Guidelines, Table 1.4.3-1; Geotechnical Report, Table 19 Recommended Soil Parameters for Box Culvert Design	C	GD	2/16/2015	B8039.001 B8039.006								
7	5.6.1	Reinforcing steel design shall conform to AREMA Guidelines; FDOT Structures Design Manual & FDOT Structures Detailing Manual	Design Criteria, Section 24.2 Materials; FDOT Structures Detailing Manual, Section 4.3 Reinforcing Steel & AREMA Ch. 8, Section 2 Details of Reinforcement	C	GD	2/16/2015	B8039.006								
8	5.6.1	Design bearing pressure for concrete box base shall not exceed allowable bearing resistance value provided by geotech report	Report of Geotechnical Engineering Investigation, Table 19, Recommended Soil Parameters for Box Culvert Design	C	GD	2/16/2015	B8039.001								



9	5.6.1	If the top of the concrete box culvert headwall is >2 ft. to ground, provide handrails, reflective markers and crew warning signs	Design Criteria Section 24.3.3	C	GD	2/16/2015	B8039.002 B8039.003								
10	5.6.1	Design retaining and headwalls in accordance with AREMA Guidelines and FDOT Structures Design Manual	Design Criteria Section 24.3.3; AREMA Ch. 8, Part 5 Retaining Walls, Abutments & Piers; FDOT Structures Design Guidelines, Section 3.13 Retaining Wall Design	C	GD	2/16/2015	B8039.001 B8039.002 B8039.006								

LEGEND		DESIGN VERIFICATION		CONSTRUCTION VERIFICATION		FINAL VERIFICATION	
<b>Means of Verification - Design</b>		<b>Means of Verification - Construction</b>		Name and Organization: _____		Name and Organization: _____	
P = Plan Sheet	S = Specification	M = Measurement	T = Test PS = Product Sheet	Date: _____	Date: _____	Date: _____	Date: _____
RFI=RFI	O = Other	V = Visual Inspection		Approved by: _____	Approved by: _____	Approved by: _____	Approved by: _____
<b>Status</b>				Date: _____	Date: _____	Date: _____	Date: _____
C = Compliance							
N = Noncompliance							
P = Partial Compliance							

DRAFT

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists				Design Verification				Construction Verification				Final Verification			
Certifiable Element: <u>5.0 TRACK AND STRUCTURES</u>  Sub-Element: <u>5.6.1 Concrete Box Culverts</u> Location: <u>South of E. Carroll MP A805.9</u>  Contract No.: _____				Notes or Restrictions:				Notes or Restrictions:				Notes or Restrictions:			
Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	5.2.16	Hydraulic analysis shall satisfy AREMA and FDOT requirements	AREMA 8.16.3.2; FDOT Drainage Manual, Ch. 4 - Cross Drain Hydraulics	C	GD	2/24/2015	Stormwater Management Computations and Environmental Resource Permit Application Volume III, Appendix F								
2	5.6.1	Concrete box culvert design live load shall be E-80	AREMA Ch.8, Section 16.4 Design Loads; Design Criteria Section 24.3.2	C	GD	2/16/2015	B8059.002								
3	5.6.1	Design to include additional Dead Load to accommodate 6" of future track surfacing	AREMA Ch.8, Section 16.4 Design Loads; Design Criteria Section 24.3.2	C	GD	2/26/2015	MP A805.9 Concrete Box Culvert Calculations								
4	5.6.1	Utilize concrete box design equations and lateral pressure coefficients in accordance with AREMA guidelines	AREMA Design Loads; Ch. 8, Fig. 8-16-4 Design Equations U.S. Customary Units; Design Criteria Section 24.3.2	C	GD	2/25/2015	MP A805.9 Concrete Box Culvert Calculations								
5	5.6.1	Provide horizontal and vertical clearances in accordance with AREMA Guidelines	AREMA Ch. 15, 1.2.6 Clearances; Design Criteria Section 24.1.3	C	GD	2/16/2015	B8059.002 B8059.003								
6	5.6.1	Environmental classification to be in accordance with Geotechnical Report recommendations. Select concrete class using appropriate Concrete Location and Environmental Classification from FDOT Structures Design Guidelines.	Design Criteria, Section 24.2 Materials; FDOT Structures Design Guidelines, Table 1.4.3-1; Geotechnical Report, Table 19 Recommended Soil Parameters for Box Culvert Design	C	GD	2/16/2015	B8059.001 B8059.006								
7	5.6.1	Reinforcing steel design shall conform to AREMA Guidelines; FDOT Structures Design Manual & FDOT Structures Detailing Manual	Design Criteria, Section 24.2 Materials; FDOT Structures Detailing Manual, Section 4.3 Reinforcing Steel & AREMA Ch. 8, Section 2 Details of Reinforcement	C	GD	2/16/2015	B8059.006								

8	5.6.1	Design bearing pressure for concrete box base shall not exceed allowable bearing resistance value provided by geotech report	Report of Geotechnical Engineering Investigation, Table 19, Recommended Soil Parameters for Box Culvert Design	C	GD	2/16/2015	B8059.001								
9	5.6.1	If the top of the concrete box culvert headwall is >2 ft. to ground, provide handrails, reflective markers and crew warning signs	Design Criteria Section 24.3.3	C	GD	2/16/2015	B8059.002 B8059.003								
10	5.6.1	Design retaining and headwalls in accordance with AREMA Guidelines and FDOT Structures Design Manual	Design Criteria Section 24.3.3; AREMA Ch. 8, Part 5 Retaining Walls, Abutments & Piers; FDOT Structures Design Guidelines, Section 3.13 Retaining Wall Design	C	GD	2/16/2015	B8059.006								

LEGEND		DESIGN VERIFICATION		CONSTRUCTION VERIFICATION		FINAL VERIFICATION	
<b>Means of Verification - Design</b>		<b>Means of Verification - Construction</b>		Name and Organization: _____		Name and Organization: _____	
P = Plan Sheet	S = Specification	M = Measurement		Date: _____	Date: _____	Date: _____	Date: _____
RFI=RFI	O = Other	T = Test PS = Product Sheet		Approved by: _____	Approved by: _____	Approved by: _____	Approved by: _____
<b>Status</b>				Date: _____	Date: _____	Date: _____	Date: _____
C = Compliance							
N = Noncompliance							
P = Partial Compliance							

DRAFT

# CFCRT Project Phase 2 South

Safety and Security Certification Elements				Design Verification				Construction Verification				Final Verification			
Certifiable Element: <b>5.0 TRACK AND STRUCTURES</b>  Sub-Element: <b>5.6.1 Concrete Box Culverts</b> Location: <b>South of Vine St MP A806.9</b>  Contract No.: _____				Notes or Restrictions:				Notes or Restrictions:				Notes or Restrictions:			
Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	5.2.16	Hydraulic analysis shall satisfy AREMA and FDOT requirements	AREMA 8.16.3.2; FDOT Drainage Manual, Ch. 4 - Cross Drain Hydraulics	C	GD	2/16/2015	B80690.004 B80690.006								
2	5.6.1	Concrete box culvert design live load shall be E-80	AREMA Ch.8, Section 16.4 Design Loads; Design Criteria Section 24.3.2	C	GD	2/16/2015	B80690.001 B80673.001 B80690.006								
3	5.6.1	Design to include additional Dead Load to accommodate 6" of future track surfacing	AREMA Ch.8, Section 16.4 Design Loads; Design Criteria Section 24.3.2	C	GD	2/16/2015	B80690.006								
4	5.6.1	Utilize concrete box design equations and lateral pressure coefficients in accordance with AREMA guidelines	AREMA Design Loads; Ch. 8, Fig. 8-16-4 Design Equations U.S. Customary Units; Design Criteria Section 24.3.2	C	GD	2/24/2015	B80690.006								
5	5.6.1	Provide horizontal and vertical clearances in accordance with AREMA Guidelines	AREMA Ch. 15, 1.2.6 Clearances; Design Criteria Section 24.1.3	C	GD	2/24/2015	B80690.006								
6	5.6.1	Environmental classification to be in accordance with Geotechnical Report recommendations. Select concrete class using appropriate Concrete Location and Environmental Classification from FDOT Structures Design Guidelines.	Design Criteria, Section 24.2 Materials; FDOT Structures Design Guidelines, Table 1.4.3-1; Geotechnical Report, Table 19 Recommended Soil Parameters for Box Culvert Design	C	GD	2/16/2015	B80673.001 B80690.006								
7	5.6.1	Reinforcing steel design shall conform to AREMA Guidelines; FDOT Structures Design Manual & FDOT Structures Detailing Manual	Design Criteria, Section 24.2 Materials; FDOT Structures Detailing Manual, Section 4.3 Reinforcing Steel & AREMA Ch. 8, Section 2 Details of Reinforcement	C	GD	2/24/2015	B80690.006								

8	5.6.1	Design bearing pressure for concrete box base shall not exceed allowable bearing resistance value provided by geotech report	Report of Geotechnical Engineering Investigation, Table 19, Recommended Soil Parameters for Box Culvert Design	C	GD	2/16/2015	C8069.001										
9	5.6.1	If the top of the concrete box culvert headwall is >2 ft. to ground, provide handrails, reflective markers and crew warning signs	Design Criteria Section 24.3.3	C	GD	2/16/2015	B80690.002 B80690.006										
10	5.6.1	Design retaining and headwalls in accordance with AREMA Guidelines and FDOT Structures Design Manual	Design Criteria Section 24.3.3; AREMA Ch. 8, Part 5 Retaining Walls, Abutments & Piers; FDOT Structures Design Guidelines, Section 3.13 Retaining Wall Design	C	GD	2/16/2015	B80690.001 B80690.006										
11	5.6.1	Design steel sheet pile retaining walls to provide required clearance for Kinder Morgan 10" diameter pipeline crossing ROW	FDOT Structures Design Guidelines, Section 3.13 Retaining Wall Design	C	GD	2/16/2015	B80690.003 B80690.006										

<b>LEGEND</b>		<b>DESIGN VERIFICATION</b>		<b>CONSTRUCTION VERIFICATION</b>		<b>FINAL VERIFICATION</b>	
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection		Name and Organization: _____ Date: _____		Name and Organization: _____ Date: _____	
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance		Approved by: _____ Date: _____		Approved by: _____ Date: _____		Approved by: _____ Date: _____	

DRAFT

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists				Design Verification				Construction Verification				Final Verification			
Certifiable Element: <u>5.0 TRACK AND STRUCTURES</u>  Sub-Element: <u>5.6.1 Concrete Box Culverts</u> Location: <u>Adjacent to VSLMF MP A813.3</u>  Contract No.: _____				Notes or Restrictions:				Notes or Restrictions:				Notes or Restrictions:			
Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	5.2.16	Hydraulic analysis shall satisfy AREMA and FDOT requirements	AREMA 8.16.3.2; FDOT Drainage Manual, Ch. 4 - Cross Drain Hydraulics	C	GD	2/24/2015	Stormwater Management Computations and Environmental Resource Permit Application Volume III, Appendix F								
2	5.6.1	Concrete box culvert design live load shall be E-80	AREMA Ch.8, Section 16.4 Design Loads; Design Criteria Section 24.3.2	C	GD	2/16/2015	B8131.002								
3	5.6.1	Design to include additional Dead Load to accommodate 6" of future track surfacing	AREMA Ch.8, Section 16.4 Design Loads; Design Criteria Section 24.3.2	C	GD	2/26/2015	MP A813.1 Concrete Box Culvert Calculations								
4	5.6.1	Utilize concrete box design equations and lateral pressure coefficients in accordance with AREMA guidelines	AREMA Design Loads; Ch. 8, Fig. 8-16-4 Design Equations U.S. Customary Units; Design Criteria Section 24.3.2	C	GD	2/25/2015	MP A813.1 Concrete Box Culvert Calculations								
5	5.6.1	Provide horizontal and vertical clearances in accordance with AREMA Guidelines	AREMA Ch. 15, 1.2.6 Clearances; Design Criteria Section 24.1.3	C	GD	2/16/2015	B8131.002 B8131.003								
6	5.6.1	Environmental classification to be in accordance with Geotechnical Report recommendations. Select concrete class using appropriate Concrete Location and Environmental Classification from FDOT Structures Design Guidelines.	Design Criteria, Section 24.2 Materials; FDOT Structures Design Guidelines, Table 1.4.3-1; Geotechnical Report, Table 19 Recommended Soil Parameters for Box Culvert Design	C	GD	2/16/2015	B8131.001 B8131.006								
7	5.6.1	Reinforcing steel design shall conform to AREMA Guidelines; FDOT Structures Design Manual & FDOT Structures Detailing Manual	Design Criteria, Section 24.2 Materials; FDOT Structures Detailing Manual, Section 4.3 Reinforcing Steel & AREMA Ch. 8, Section 2 Details of Reinforcement	C	GD	2/16/2015	B8131.006								

8	5.6.1	Design bearing pressure for concrete box base shall not exceed allowable bearing resistance value provided by geotech report	Report of Geotechnical Engineering Investigation, Table 19, Recommended Soil Parameters for Box Culvert Design	C	GD	2/25/2015	MP A813.1 Concrete Box Culvert Calculations								
9	5.6.1	If the top of the concrete box culvert headwall is >2 ft. to ground, provide handrails, reflective markers and crew warning signs	Design Criteria Section 24.3.3	C	GD	2/16/2015	B8131.002 B8131.003								
10	5.6.1	Design retaining and headwalls in accordance with AREMA Guidelines and FDOT Structures Design Manual	Design Criteria Section 24.3.3; AREMA Ch. 8, Part 5 Retaining Walls, Abutments & Piers; FDOT Structures Design Guidelines, Section 3.13 Retaining Wall Design	C	GD	2/16/2015	B8131.001 B8131.002 B8131.003 B8131.006								

<b>LEGEND</b>		<b>DESIGN VERIFICATION</b>		<b>CONSTRUCTION VERIFICATION</b>		<b>FINAL VERIFICATION</b>	
<b>Means of Verification - Design</b>		<b>Means of Verification - Construction</b>		Name and Organization: _____		Name and Organization: _____	
P = Plan Sheet    S = Specification RFI=RFI            O = Other		M = Measurement T = Test    PS = Product Sheet V = Visual Inspection		Date: _____		Date: _____	
<b>Status</b>		Approved by: _____		Approved by: _____		Approved by: _____	
C = Compliance N = Noncompliance P = Partial Compliance		Date: _____		Date: _____		Date: _____	

DRAFT

# CFCRT Project Phase 2 South

<b>Safety and Security Certification Elements Design and Construction Conformance Checklists</b>	Design Verification	Construction Verification	Final Verification
Certifiable Element: <u>6.0 Storage and Layover Yard (VSLMF)</u>  Sub-Element: <u>6.1 General Yard</u> Location: <u>VSLMF - Poinciana</u>  Contract No.: _____	<b>Notes or Restrictions:</b> 1. Mechanical derail locations within the VSLMF will be labeled on the plans. Ongoing coordination for location of derails.  2. Track gate design under revision.	<b>Notes or Restrictions:</b> _____ _____ _____ _____ _____	<b>Notes or Restrictions:</b> _____ _____ _____ _____ _____

Certifiable Item Description				Design Verification				Construction/Installation				Verification				
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	
1	6.1.7	PTZ CCTV security cameras shall be installed in the yard to provide coverage of all storage tracks, parking areas, entrance gates and buildings within the yard.	Design Criteria Section 29.8.9	C	DB	2/18/2015	M18.007A M18.007C M18.007D M18.007E M18.201									
2	6.1.7	Video from the CCTV security cameras shall be fed to the OCC video control and recording system	Design Criteria Section 29.8.9	C	DB	2/18/2015	M18.202									
3	6.1.7	Provide 6 ft. high FDOT Type B fencing for the periphery of the Yard, in conjunction with lighting, surveillance, and remote access control mechanisms.	Design Criteria Section 29.8.9	C	DB	2/18/2015	C18.007A to C18.007E									
4	6.1.7	Gates shall be provided at all access points, including walkways, the primary access road and the track. If a pedestrian gate is identified it shall be manually operated and secured using a CFRC switch lock.	Design Criteria Section 29.8.9	C	DB	2/18/2015	C18.007A C18.007C C18.007E									
5	6.1.7	A moveable, motor-operated gate shall also be provided across the entrance track to the facility with a lockable gate control panel provided at the gate accessible from both sides of the fence.	Design Criteria Section 29.8.9	N												
6	6.1.7	The track gate control panel(s) shall be capable of being locked with a standard CFRC switch key.	Design Criteria Section 29.8.9	N			Note 2									



7	6.1.4 6.1.7	The entrance track gates shall also be equipped with a Dual Tone Multi-Frequency Input/output (DTMF I/O) Remote Activation System to provide a DTMF code to enable train crews to remotely open the entrance track gate and a similar code to close the gate.	Design Criteria Section 29.8.9	N			Note 2								
8	6.1.4	Provide direct access to and from the mainline to the storage tracks	Design Criteria Section 29.5.3	C	DB	2/18/2015	T30.0268								
9	6.1.1	Space storage tracks to allow sufficient clearance between track centers for cleaning and fueling operations.	Design Criteria Section 29.5.3	C	DB	2/18/2015	T00.015 T30.0266 T30.0267 T30.0268								
10	6.1.3	Mechanical derails compliant with 49CFR218, painted blue, permanently fixed to cross ties at the entering end of each track at the clearance point leading into the fueling/storage yard tracks.	Design Criteria Section 29.5.3	NC	GD	3/23/2015	Note 1								
11	6.1.8	Fire protection (hydrants) at various yard locations as required by code	Design Criteria Section 29.5.3	C	DB	2/18/2015	FP18.008A FP18.008B FP18.008C FP18.008E FP18.720								
12	6.1.1	Horizontal curves shall be simple curves without super elevation or spirals	Design Criteria Section 29.8.1	C	DB	2/18/2015	T30.0267 T30.0268 T30.0204A T30.0204B								
13	6.1.1	Minimum horizontal curve radius shall be 300 ft.	Design Criteria Section 29.8.1	C	DB	2/18/2015	T30.0267 T30.0268 T30.0204A T30.0204B								
14	6.1.1	Yard tracks shall have a maximum grade of 1%	Design Criteria Section 29.8.1	C	DB	2/18/2015	T30.0267 T30.0268								
15	6.1.3	No. 10 turnouts with curved switch points are required from the mainline tracks at specific locations	Design Criteria Section 29.8.1	C	DB	2/18/2015	T30.0268 T30.0204C								
16	6.1.3	No. 10 turnouts are required for all other turnouts	Design Criteria Section 29.8.1	C	DB	2/18/2015	T30.0267 T30.0268 T30.0204C								
17	6.1.2	Drainage system elements should have minimum slopes and clean-outs as specified.	Design Criteria Section 29.8.2	C	DB	2/18/2015	C30.0593 to C30.0596								

18	6.1.3	Retaining walls subject to VSLMF loads to be designed in accordance with FDOT Structures Manual requirements	Design Criteria Section 23.3.3	C	JWB	2/18/2015	Report of Geotechnical Engineering Investigation, Mainline Improvements, Section 7.8 B80673.001 B80673.002 B81355.001 C81355.001									
19	6.1.3	Retaining walls subject to VSLMF loads to include design parameters identified within geotech report	Design Criteria Section 23.3.3	C	JWB	2/18/2015	Report of Geotechnical Engineering Investigation, Mainline Improvements, Section 7.8 B80673.001 B80673.002 B81355.001 C81355.001									
20	6.1.3	When the top of a retaining wall is >2 ft. to ground, provide handrails, reflective markers and crew warning signs	Design Criteria Section 23.3.3	C	JWB	2/18/2015	B80673.001 B81355.001 T30.6504									

<b>LEGEND</b>		<b>DESIGN VERIFICATION</b>		<b>CONSTRUCTION VERIFICATION</b>		<b>FINAL VERIFICATION</b>	
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection		Name and Organization: _____ Date: _____ Approved by: _____ Date: _____		Name and Organization: _____ Date: _____ Approved by: _____ Date: _____	
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance							

DRAFT

# CFCRT Project Phase 2 South

<b>Safety and Security Certification Elements Design and Construction Conformance Checklists</b>	Design Verification	Construction Verification	Final Verification
Certifiable Element: <u>6.0 Storage and Layover Yard (VSLMF)</u>  Sub-Element: <u>6.2 Yard Utilities</u> Location: <u>VSLMF - Poinciana</u>  Contract No.: _____	Notes or Restrictions: 1. Pending receipt of final photometrics	Notes or Restrictions:	Notes or Restrictions:

Certifiable Item Description				Design Verification				Construction/Installation				Verification				
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	
1	6.2	Each storage track shall have one or more Utility Stations strategically located to provide Standby Power, Compressed Air and Non-potable Water to maximum number of stored trains on each storage track	Design Criteria Section 29.5.3	C	VMD	3/2/2015	E18.007A E18.007B E18.007C P18.007A P18.007B P18.007C									
2	6.2.1	Compressed air for the Yard shall include, at a minimum the appropriate number of compressors capable of maintaining 110 psi pressure with integrated refrigerated air dryer complete with receiver tank	Design Criteria Section 29.5.3	C	SWL	3/2/2015	P18.007D									
3	6.2.1	Compressed air units located on a concrete pads designed to secure and support the unit	Design Criteria Section 29.5.3	C	SWL	3/2/2015	P18.007D C18.007D									
4	6.2.4	The air compressor is contained in a weather-proof and conditioned enclosure.	Design Criteria Section 29.5.3	C	SWL	3/2/2015	P18.007D, See Note 4 on drawing.									
5	6.2.3	High-mast lighting adequate for yard, parking and storage area security. Lighting shall be sufficient for operations to be performed safely.	Design Criteria Section 29.5.3	P	VMD	3/2/2015	E18.007A E18.007B E18.007C E18.007D E18.007E Note 1									
6	6.2.3	Provide power stub-out from the main building to the end of the parking lot, based on the location of the 20' X 20' storage pad.	Design Criteria Section 29.5.3	C	VMD	3/24/2015	E18.007D									
7	6.2.2	The sanitary sewer system for the crew building is to be connected to a municipal sewer system.	Design Criteria Section 29.8.5	C	DSB	3/24/2015	FP18.008E									
8	6.1.2	The storage yard shall be provided with a series of underdrains that shall be connected to the storm drainage system.	Design Criteria Section 29.8.2	C	DSB	3/24/2015	C30.0593- C30.0595									
9	6.1.2	Surface drainage, particularly near switches, shall be provided as necessary.	Design Criteria Section 29.8.2	C	DSB	3/24/2015	C30.0593- C30.0595									
10	6.2.3	Provide a weather-protective housing to enclose an engine-generator set, including batteries and battery charger. Housing shall be reinforced and anchored to concrete pad to withstand 130 mph wind	Design Criteria Section 29.8.6 2008 NFPA 110 sect. 5-2.1, FBC	C	VMD	3/2/2015	TSP 16231									

11	6.2.3	The generator shall include outdoor sound reducing housing and all necessary equipment, devices, controls and instrumentation for complete standby generation system to meet all power requirements for the VSLMF facility, including remote/automatic starting, transfer of the load, and automatic shutdown.	Design Criteria Section 29.8.6	C	VMD	3/2/2015	TSP 16231								
12	6.2.3	Each automatic transfer switch shall consist of a power transfer module and control panel module, inter-connected to provide complete automatic operation. The equipment supplied shall meet the requirements of the NEC and all applicable local codes and regulations.	Design Criteria Section 29.8.6	C	VMD	3/2/2015	TSP 16415								
13	6.2.3	Emergency Generator control panel shall be configured to detect failure and warning conditions and generate an alarm indication sent to the crew building when failure conditions exist.	Design Criteria Section 29.8.6	C	VMD	3/2/2015	E18.201 TSP 16231.2.4								
14	6.2.2	A water source shall be provided adjacent to the Toilet Dumping Station	Design Criteria Section 29.5.3	C	SWL	3/2/2015	P18.007C								
15	6.2.2	Water service to the VSLMF crew building and yard are required for basic sanitation, vehicle cleaning, fire protection and train consist daily service requirements.	Design Criteria Section 29.8.4	C	SWL	3/2/2015	P18.007A- P18.007E, P18.201- P18.251, FP18.008A- FP18.721								
16	6.2.2	The Toilet Dumping Station location shall provide for easy access for 'vactor' truck removal operation	Design Criteria Section 29.5.3	C	SWL	3/24/2015	P18.007C								

<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection		Name and Organization: _____ Date: _____		Name and Organization: _____ Date: _____		Name and Organization: _____ Date: _____	
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance				Approved by: _____ Date: _____		Approved by: _____ Date: _____		Approved by: _____ Date: _____	

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists				Design Verification				Construction Verification				Final Verification			
<b>Certifiable Element:</b> 6.0 Storage and Layover Yard (VSLMF) <b>Sub-Element:</b> 6.3 Service Track Systems <b>Location:</b> VSLMF - Poinciana <b>Contract No.:</b> _____				<b>Notes or Restrictions:</b>				<b>Notes or Restrictions:</b>				<b>Notes or Restrictions:</b>			
<b>Certifiable Item Description</b>				<b>Design Verification</b>				<b>Construction/Installation</b>				<b>Verification</b>			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	6.3.3	A single Toilet Dumping Station (10,000 gallon underground holding tank) for train toilet effluent shall be provided within the yard	Design Criteria Section 29.5.3	C	SWL	3/24/2015	P18.007C								
2	6.3.1	Pans or fabric mats shall be installed on all layover tracks where fueling will occur	Design Criteria Section 29.5.3	C	DSB	3/24/2015	T00.016, T30.0267-T30.0268								
3	6.3.1	The fueling area shall include purpose-built track drip/containment pans or track mats with a retention system of sufficient length to simultaneously accommodate all train consists for fueling and lubrication top-up.	Design Criteria Section 29.6	C	DSB	3/24/2015	T00.016, T30.0267-T30.0268								
4	6.3.1	A double walled sub-base fuel tank shall be used in conjunction with the diesel powered generator set and shall contain a minimum of 400 gallons but no more than 550 gallons.	Design Criteria Section 29.8.6	P	VMD	3/2/2015	E18.401 TSP 16231.2.3(B) (4)								
<b>LEGEND</b>				<b>DESIGN VERIFICATION</b>				<b>CONSTRUCTION VERIFICATION</b>				<b>FINAL VERIFICATION</b>			
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection		<b>Name and Organization:</b> _____ <b>Date:</b> _____ <b>Approved by:</b> _____ <b>Date:</b> _____				<b>Name and Organization:</b> _____ <b>Date:</b> _____ <b>Approved by:</b> _____ <b>Date:</b> _____				<b>Name and Organization:</b> _____ <b>Date:</b> _____ <b>Approved by:</b> _____ <b>Date:</b> _____			

# CFCRT Project Phase 2 South

<b>Safety and Security Certification Elements Design and Construction Conformance Checklists</b>	Design Verification	Construction Verification	Final Verification
Certifiable Element: <u>6.0 Storage and Layover Yard (VSLMF)</u>  Sub-Element: <u>6.4 Crew Building</u>  Location: <u>VSLMF - Poinciana</u>  Contract No.: _____	Notes or Restrictions:  1. Signal Systems Design Contract - Design in Progress 2. Determination of material to be stored at this location is the responsibility of Operations.	Notes or Restrictions:	Notes or Restrictions:

Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	6.4	Crew building shall be provided with adequate space for a minimum of six train crews	Design Criteria Section 29.7.1	C	TH	3/5/2015	A18.101								
2	6.4.3	This crew building shall be accessible.	Design Criteria Section 29.7.1	C	TH	3/5/2015	C18.013E A18.101 A18.803								
3	6.4.11	This crew building shall be secure and require key-card access.	Design Criteria Section 29.7.1 and 29.8.9	C	TH	3/5/2015	M18.201 A18.803								
4	6.4.8	Adequate lighting and emergency lighting shall be provided.	Design Criteria Section 29.7.1	C	VMD	3/24/2015	E18.102 E18.301 Crew building Photometrics								
5	6.4.2 6.4.4	Restrooms and locker room shall be provided for both genders	Design Criteria Section 29.7.1	C	TH	3/5/2015	A18.101 A18.701								
6	6.4.5 6.4.11	One secure office space with separate key-card access.	Design Criteria Section 29.7.1	C	TH	3/5/2015	M18.201 A18.803								
7	6.4.6 6.4.11	One secure server room with separate key-card access.	Design Criteria Section 29.7.1	C	TH	3/5/2015	M18.201 A18.803								
8	6.4.6	Servers, fiber optic connections, and communications equipment shall be housed in the Server Room.	Design Criteria Section 29.7.2	C	SY	3/16/2015	M18.201 M18.202								
9	6.4.6 6.4.9	Servers shall be protected by a UPS for uninterrupted operation during a transfer from normal commercial power to the standby generator.	Design Criteria Section 29.7.2	C	SY	3/16/2015	M18.202								
10	6.4.10	The building shall be protected from lightning and have surge protection devices as required for the protection of control and communications equipment.	Design Criteria Section 29.7.1	C	VMD	3/2/2015	E18.202 E18.401								
10	6.4.10	Ensure that lightning protection systems and air terminals at the location of the ACC conforms to NFPA 780 and that the air terminal extends at least 2 ft. above the object or area it is to protect and is mounted at the top of the pole or structure in such a way as to allow for an exothermic weld connection to the grounding down cable.	Design Criteria Section 29.8.6 NFPA 780, Standard for the Installation of Lightning Protection Systems	C	CF	3/25/2015	E18.202.								
11	6.4.1 6.4.11	A secure, key-card only accessible room shall be required within the crew building to provide a redundant (backup) train control center in the event that the CFRC Dispatch Facility (Operations Control Center - OCC) is not operable or is significantly damaged	Design Criteria Section 29.7.2	C	TH	3/6/2015	A18.201 A18.803								
12	6.4.1	The ACC shall consist of a single dispatcher work station equipped with CTC computer, utility/SCADA (IS) computer and a communications computer	Design Criteria Section 29.7.2	N/A			Note 1								

13	6.4.1 6.4.6 6.4.11	The server room and Alternate Control Center room shall not have a window.	Design Criteria Section 29.8.9	C	TH	3/5/2013	A18.201										
14	6.4.1	The CAD system shall be connected to the fiber optic system for communications with the Control Points and radio towers.	Design Criteria Section 29.7.2	N/A			Note 1										
15	6.4.1	ACC Systems required to be operational when the CAD system is placed on line include, but are not limited to: CAD System, Radio System, WBI System, Telephone - voice and fax, Recording Capability	Design Criteria Section 29.7.2	N/A			Note 1										
16	6.4.12	The structural design of all buildings and facilities shall conform to all cited requirements.	Design Criteria Section 29.2	C	CM	3/6/2015	S00.002 C00.002E C00.002F										
17	6.4.12	Mechanical, electrical and plumbing systems shall conform to Florida Building Code requirements	Design Criteria Section 29.2	C	JWB	2/18/2015	C00.002H TSP - 15010 TSP - 15011 TSP - 16010										
18	6.4.12	VSLMF foundation loads to conform with design parameters identified within geotech report	Report of Geotechnical Engineering Investigation, VSLMF, Section 6.0	C	CM	3/6/2015	C00.002E S00.002 S20.714 S18.201										
19	6.4.12	The VSLMF shall meet the following: Basic Wind Speed is 138 mph; Risk Category II; Site Exposure Category C and roof dead load is 20 psf.	Design Criteria Section 23.4.2	C	CM	3/6/2015	S00.002										
20	6.4.3	Flooring materials shall be slip resistant.	Design Criteria Section 29.2	C	TH	3/15/2015	A18.801 TSP 09651										
21	6.4.3	Adequate egress out of the building shall be provided from all spaces. This includes pathway widths and door widths. 2009 Edition, NFPA 101 Life Safety Code, 7.2.6.	Design Criteria Section 29.7.1	C	TH	3/15/2015	A18.101										
22	6.4.10	Fire extinguishers shall be located at no more than 75 ft. travel distance from each other.	Design Criteria Section 29.7.1	C	TH	3/15/2015	A18.101										

23	6.4.3	Changes in level of flooring materials shall be level to each other and comply with 2010 ADA Standards for Accessible Design, Title II, Chapter 3, 303.2. "Changes in level of 1/4 inch (6.4mm) high maximum shall be permitted to be vertical."	Design Criteria Section 29.7.1	C	TH	3/15/2015	A18.801 A18.805								
24	6.4.3	Grab bars shall be located at restrooms in compliance with ADA standards	Design Criteria Section 29.7.1	C	TH	3/15/2015	A18.701								
25	6.4.3	Grab bars in restrooms shall be able to withstand 200 lbs. of lateral load.	Design Criteria Section 29.7.1	C	TH	3/15/2015	A18.701 TSP 10801								
26	6.4.8	Adequate lighting levels for security on the exterior face of the building	Design Criteria Section 29.7.1	C	VMD	3/24/2015	E18.301 Crew Building Photometrics								
27	6.4.12	Secure roof deck and trusses to prevent hazard during severe storm.	Design Criteria Section 29.2	C	CM	3/5/2015	S00.002								
28	6.4.12	Bearing wall must be reinforced to resist high wind pressures during severe storm to provide safety.	Design Criteria Section 29.2	C	CM	3/5/2015	S00.002								
29	6.4.12	Windows and doors must resist high wind pressures during severe storm to provide safety.	Design Criteria Section 29.2	C	CM	3/5/2015	S00.002								
30	6.1.6	The storage pad shall be located a minimum of 200' from the Crew Building and track in an area of the yard appropriate for storing materials.	DC Section 24.1.4	C	GD	3/24/2015	C18.007D C18.007E Note 2.								

LEGEND		Name and Organization:		CONSTRUCTION VERIFICATION		FINAL VERIFICATION	
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection		Name and Organization: _____ Date: _____		Name and Organization: _____ Date: _____	
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance		Approved by: _____ Date: _____		Approved by: _____ Date: _____		Approved by: _____ Date: _____	



# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists	Design Verification	Construction Verification	Final Verification
<b>Certifiable Element:</b> 6.0 Storage and Layover Yard (VSLMF)  <b>Sub-Element:</b> 6.5 Parking Lot and Access Roads  <b>Location:</b> VSLMF - Poinciana  <b>Contract No.:</b>	<b>Notes or Restrictions:</b> 1. Tie in to existing OCC system - functionality of new systems dependent upon existing capabilities at the OCC. 2. Building entrances are not adjacent to service road 3. Remotely monitored gate lock not indicated 4. Pending receipt of final photometrics		

Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	6.5.5	Parking, including accessible parking spaces shall be provided within the fenced facility in conformance with State and Federal requirements.	Design Criteria Section 29.8.8 and Section 20.6	C	DSB	3/24/2015	C18.013E								
2	6.5.3	Provide adequate vehicle storage distance between Old Tampa Highway and the entrance security gate and entrance security pad (keypad/keycard access).	Design Criteria Section 29.8.9	C	DSB	3/24/2015	C18.007E								
3	6.5.3	Entrance road dimensions shall allow adequate width for the security pad at the entrance gates to accommodate large tractor trailer trucks entering the facility.	Design Criteria Section 29.8.9	C	DSB	3/24/2015	C18.007E								
4	6.5.5	All roadway gates shall have key-card access compatible with the CFRC VSMF, be motor-operated and remotely controlled. Key cards in use with the existing CFRC security systems shall have the ability to operate the security/access systems installed at the VSLMF.	Design Criteria Section 29.8.9	C	SY	3/18/2015	M18.007A M18.007C M18.007E Note 1								
5	6.5.5	Roadway gates shall be provided with a remotely monitored locking system that provides an indication of gate status to the VSLMF Office.	Design Criteria Section 29.8.9	N	DSB	3/24/2015	Note 3								
6	6.5.5	Security lighting shall be placed as necessary to illuminate gate areas.	Design Criteria Section 29.8.9	C	VMD	3/2/2015	E18.007A E18.007C E18.007E								
7	6.5.5	Pan/tilt/zoom (PTZ) CCTV security cameras shall be provided at the entrance gates.	Design Criteria Section 29.8.9	C	SY	3/12/2015	M18.007A M18.007C M18.007E								
8	6.5.5	Video from the CCTV security cameras shall be fed to the OCC video control and recording system	Design Criteria Section 29.8.9	N/A			Note 1 M18.201 M18.202								

9	6.5.1	Provide access roads to storage yard and service aisles	Design Criteria Section 29.5.3	C	DSB	3/24/2015	C18.007A-C18.007E								
10	6.5.1	Access roads shall accommodate service and emergency vehicle access	Design Criteria Section 29.5.3	C	DSB	3/24/2015	C18.007A-C18.007E								
11	6.5.5	Provide bollards or other intrusion-deterrent material to protect VSLMF equipment, holding tanks or building entrances adjacent to the service road	Design Criteria Section 29.5.3	C	DSB	3/24/2015	Note 2 C18.007A-C18.007C								
12	6.5	Site preparation and pavement design to be in accordance with geotech recommendations	Report of Geotechnical Engineering Investigation, VSLMF, Section 6.0	C	DSB	3/24/2015	C00.003B								
13	6.5.7	Artificial lighting shall be provided for safety in all open parking areas with due consideration for adjacent land uses.	Design Criteria Section 29.8.8	C	VMD	3/2/2015	E18.007D E18.007E								
14	6.5.7	The average maintained foot-candle values are indicated in 19.7 Illumination Design Levels.	Design Criteria Section 29.8.8	N	VMD	3/3/2015	Note 4								
15	6.5.7	Pole foundations shall extend 24 inches above parking lot grade when not located behind curb or curb stops to reduce pole damage.	Design Criteria Section 29.8.8	C	VMD	3/2/2015	E18.007D E18.007E								

<b>LEGEND</b>		<b>DESIGN VERIFICATION</b>		<b>CONSTRUCTION VERIFICATION</b>		<b>FINAL VERIFICATION</b>	
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection		_____ Name and Organization: _____ Date:		_____ Name and Organization: _____ Date:	
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance		_____ Approved by: _____ Date:		_____ Approved by: _____ Date:		_____ Approved by: _____ Date:	

DRAFT

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists				Design Verification				Construction Verification				Final Verification			
Certifiable Element: <u>7.0 Station Platforms</u>  Sub-Element: <u>7.1 Platform and Mini-High Geometry</u> Location: <u>Meadow Woods Station A 801.21</u>  Contract No.: _____				Notes or Restrictions:				Notes or Restrictions:				Notes or Restrictions:			
Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	7.1.1	The track side edge of main platforms shall be 8 inches maximum Above Top of Rail of the plane.	Design Criteria Section 17.3	C	TH	3/4/2015	C00.003E A00.002 A20.607 A14.201 A14.202								
2	7.1.1	The track side edge of main platforms shall be 5 feet 1 inch from track centerline.	Design Criteria Section 17.3	C	TH	3/4/2015	C00.003E C14.007E A14.201 A14.202								
3	7.1.2	The minimum width for a side platform is 14 feet.	Design Criteria Section 17.2	C	TH	3/4/2015	C00.003E A20.401 S20.403 A14.201 A14.202								
4	7.1.2	The edge of the platform shall also be parallel to the track horizontally.	Design Criteria Section 17.2	C	TH	3/4/2015	C00.002A C00.003E								
5	7.1.2	All platforms shall have a minimum drainage cross slope of 0.5%.	Design Criteria Section 17.3	C	TH	3/4/2015	C00.003E								
6	7.1.2	The Station Platform plans identify a "Platform Dimensioning Control Point" on each platform to coordinate dimensions.	Design Criteria Section 17.1	C	TH	3/4/2015	A20.606 C14.007E A14.201 A14.202								
7	7.1.1	The track side edge of mini-high platforms shall be 22 inches maximum above top of rail.	Design Criteria Section 17.3	C	TH	3/4/2015	C00.003E A20.607 A14.201 A14.202								
8	7.1.1 7.1.2	The track side edge of mini-high platforms shall be 7 feet 6 inches from track centerline.	Design Criteria Section 17.3	C	TH	3/4/2015	C00.003E A14.202								
9	7.1.2 7.1.3	Ramps that are part of a required means of egress shall not be less than 44 inches wide.	Design Criteria Section 17.4	C	TH	3/4/2015	C00.003E A14.201 A14.202								
10	7.1.2	The maximum rise for any ramp run shall be 30 inches.	Design Criteria Section 17.4	C	TH	3/4/2015	C00.003E C14.009E A14.201 A14.202								
11	7.1.3	Ramps shall have level landings at bottom and top of each ramp and each ramp run.	Design Criteria Section 17.4	C	TH	3/4/2015	A20.401 A14.202								
12	7.1.2	The bottom of each ramp shall not have less than 72 inches of straight and level clearance.	Design Criteria Section 17.4	C	TH	3/4/2015	A20.401 A14.202								
13	7.1.2 7.1.3	Changes in level from walk paths / sidewalks to platforms shall be level to each other and comply with 2010 ADA Standards for Accessible Design, Title II, Chapter 3, 303.2. "Changes in level of 1/4 inch (6.4mm) high maximum shall be permitted to be vertical."	Design Criteria 17.1.1	C	DSB	3/12/2015	C14.009E								

14	7.1.2 7.1.3	Changes in level from pavers to platform concrete shall be level to each other and comply with 2010 ADA Standards for Accessible Design, Title II, Chapter 3, 303.2. "Changes in level of 1/4 inch (6.4mm) high maximum shall be permitted to be vertical."	Design Criteria 17.1.1	C	TH	3/4/2015	TSP 02780.3.3E											
15	4.1.5 7.1.2 7.1.3	Placement of Ticket Vending Machines on the main platforms, shall comply with 2010 ADA Standards for Accessible Design, Title II, Chapter 305, section 305.5. They shall have a clear floor or ground space of 30 inches with a forward approach and 48 inches clear with a parallel approach.	Design Criteria 17.1.1	C	TH	3/4/2015	A20.401 A20.416 A14.201											
16	4.2.6 7.1.2 7.1.3	Placement of Ticket Validators on the main platforms, shall comply with 2010 ADA Standards for Accessible Design, Title II, Chapter 305, section 305.5. They shall have a clear floor or ground space of 30 inches with a forward approach and 48 inches clear with a parallel approach.	Design Criteria 17.1.1	C	TH	3/4/2015	A20.401 A14.201 A14.202											
17	3.7.4 7.1.2 7.1.3	Placement of Passenger Assist Telephones on the main platforms, shall comply with 2010 ADA Standards for Accessible Design, Title II, Chapter 305, section 305.5. They shall have a clear floor or ground space of 30 inches with a forward approach and 48 inches clear with a parallel approach.	Design Criteria 17.1.1	C	TH	3/4/2015	A20.401 A14.202											
18	3.8.4 7.1.2 7.1.3	Placement of Emergency Call Boxes on the main platforms, shall comply with 2010 ADA Standards for Accessible Design, Title II, Chapter 305, section 305.5. They shall have a clear floor or ground space of 30 inches with a forward approach and 48 inches clear with a parallel approach.	Design Criteria 17.1.1	C	TH	3/4/2015	A20.401 A14.202											
19	7.1.2 7.1.3 8.4.1.	Placement of Drinking Fountains on the main platforms, shall comply with 2010 ADA Standards for Accessible Design, Title II, Chapter 305, section 305.5. They shall have a clear floor or ground space of 30 inches with a forward approach and 48 inches clear with a parallel approach.	Design Criteria 17.1.1	C	TH	3/4/2015	A20.401 A14.201											
20	7.1.2	Light poles will not be located within 60 inches of the top or bottom ramps at landings.	Design Criteria 17.4	C	TH	3/4/2015	A14.201 A14.202 E14.004											
21	7.1.3	Ramps used as a part of a means of egress at the main platform shall have a running slope no steeper than 1:12 (8.33% slope), shall comply with 2010 ADA Standards for Accessible Design, Title II, Chapter 405, section 405.2.	Design Criteria 17.4	C	TH	3/4/2015	C00.003E C14.007E A14.201 A14.202											

22	7.1.4	Ramps used as a part of a means of egress at the mini-highs shall have a running slope no steeper than 1:12 (8.33% slope), shall comply with 2010 ADA Standards for Accessible Design, Title II, Chapter 405, section 405.2.	Design Criteria 17.4	C	TH	3/4/2015	C00.003E C14.007E A14.201 A14.202								
23	7.1.2	The cross slope of ramp surfaces shall shall not be steeper than 1:48 (2% slope), shall comply with 2010 ADA Standards for Accessible Design, Title II, Chapter 406, section 405.3	Design Criteria 17.4	C	TH	3/4/2015	C00.003E C14.009E A14.201 A14.202								
24	7.1.2 7.1.3	Clear width of a ramp run and, where handrails are provided, the clear width between handrails shall be 36 inches minimum, shall comply with 2010 ADA Standards for Accessible Design, Title II, Chapter 405, section 405.5.	Design Criteria 17.1.1	C	TH	3/4/2015	A14.202								
25	7.1.2 7.1.3	Landings at tops and bottoms of ramps at the main platforms, will have a clear width at least as wide as the widest ramp run leading to the landing, shall comply with 2010 ADA Standards for Accessible Design, Title II, Chapter 405, section 405.7.2.	Design Criteria 17.4	C	TH	3/4/2015	C00.003E A14.201 A14.202								
26	7.1.3	Landings at tops and bottoms of ramps at the mini-highs, will have a clear width at least as wide as the widest ramp run leading to the landing, shall comply with 2010 ADA Standards for Accessible Design, Title II, Chapter 405, section 405.7.2.	Design Criteria 17.4	C	TH	3/4/2015	C00.003E A14.202								
27	7.1.2 7.1.3	Landings at the main platforms shall have a clear length of 60 inches long minimum, and shall comply with 2010 ADA Standards for Accessible Design, Title II, Chapter 405, section 405.7.3.	Design Criteria 17.4	C	TH	3/4/2015	C00.003E A14.201 A14.202								

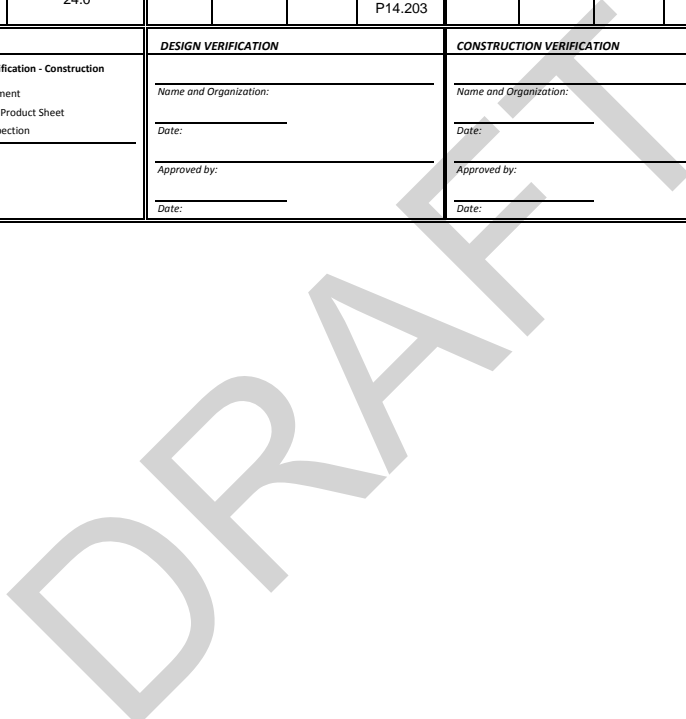
LEGEND		DESIGN VERIFICATION		CONSTRUCTION VERIFICATION		FINAL VERIFICATION	
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI          O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection		<b>Name and Organization:</b> _____ <b>Date:</b> _____		<b>Name and Organization:</b> _____ <b>Date:</b> _____	
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance		<b>Approved by:</b> _____ <b>Date:</b> _____		<b>Approved by:</b> _____ <b>Date:</b> _____		<b>Approved by:</b> _____ <b>Date:</b> _____	

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists				Design Verification				Construction Verification				Final Verification			
<b>Certifiable Element:</b> 7.0 Station Platforms  <b>Sub-Element:</b> 7.2 Platform Safety Elements <b>Location:</b> Meadow Woods Station A 801.21  <b>Contract No.:</b> _____				<b>Notes or Restrictions:</b>				<b>Notes or Restrictions:</b>				<b>Notes or Restrictions:</b>			
<b>Certifiable Item Description</b>				<b>Design Verification</b>				<b>Construction/Installation</b>				<b>Verification</b>			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	7.2.1	The surface of all station walking surfaces shall be non-skid and of long-wearing weather resistant materials.	Design Criteria 17.5	C	TH	3/4/2015	TSP 02780.2.1(A) ASTM C902								
2	7.2.1	Guardrails at main platform at north and south ends shall turn 90 degrees towards the track. End post will be 6 inches on center off the back edge of the detectable warning paver.	Design Criteria 17.4	C	TH	3/4/2015	A20.401 A20.791 A14.201 A14.202								
3	7.2.1	Guardrails at the Mini-High platforms shall turn 90 degrees towards the track. End post will be 6 inches on center off the edge of the platform.	Design Criteria 17.4	C	TH	3/4/2015	A20.401 A20.791 A14.202								
4	7.2.2	Detectable warning pavers at the main platforms, shall comply with 2010 ADA Standards for Accessible Design, Title II. Truncated dome size, spacing and contrast shall follow requirements in chapter 7, part 705.	Design Criteria 17.1.1	C	TH	3/4/2015	A20.401 A20.416 A20.606 A20.794 A14.201 A14.202 TSP 02780								
5	7.2.2	Detectable warning pavers at the mini-highs, shall comply with 2010 ADA Standards for Accessible Design, Title II. Truncated dome size, spacing and contrast shall follow requirements in chapter 7, part 705.	Design Criteria 17.1.1	C	TH	3/4/2015	A20.401 A20.416 A20.614 A20.794 A14.202 TSP 02780								
6	7.2.2	Detectable warning pavers at the the crosswalks and walkpaths, shall comply with 2010 ADA Standards for Accessible Design, Title II. Truncated dome size, spacing and contrast shall follow requirements in chapter 7, part 705.	Design Criteria 17.1.1	C	TH	3/4/2015	C00.003D A20.794 A14.202 TSP 02780								
7	7.2.3	Warning stripe stating "STAND BEHIND YELLOW LINE" shall be placed at inside edge of the detectable warning paver. Located 24'-0" O.C. at main platforms.	Design Criteria 17.5	C	TH	3/4/2015	A20.401 A20.416 A20.606 A20.794 A14.201 A14.202 TSP 02780								
8	7.2.3	Warning stripe stating "STAND BEHIND YELLOW LINE" shall be placed at inside edge of the detectable warning paver. Location centered at Mini-High.	Design Criteria 17.5	C	TH	3/4/2015	A20.401 A20.416 A20.614 A20.794 A14.202 TSP 02780								
<b>LEGEND</b>				<b>DESIGN VERIFICATION</b>				<b>CONSTRUCTION VERIFICATION</b>				<b>FINAL VERIFICATION</b>			
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection		Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				Name and Organization: _____ Date: _____ Approved by: _____ Date: _____			

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists				Design Verification				Construction Verification				Final Verification			
Certifiable Element: <u>7.0 Station Platforms</u>  Sub-Element: <u>7.3 Platform Drainage</u> Location: <u>Meadow Woods Station A 801.21</u>  Contract No.: _____				Notes or Restrictions:				Notes or Restrictions:				Notes or Restrictions:			
<b>Certifiable Item Description</b>				<b>Design Verification</b>				<b>Construction/Installation</b>				<b>Verification</b>			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	7.3	Concrete base below pavers shall incorporate an underdrain system to transport water away from the platform.	Design Criteria 17.5	C	DSB	3/12/2015	A20.416								
2	7.3	Downspouts shall not flow on to platform or walking surfaces, impede pedestrian flow, or create slippery areas.	Design Criteria 24.0	C	DSB	3/12/2015	P14.201 P14.202 P14.203								
<b>LEGEND</b> <b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other  <b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection  <b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance				<b>DESIGN VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				<b>CONSTRUCTION VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				<b>FINAL VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____			



# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists				Design Verification				Construction Verification				Final Verification			
Certifiable Element: <u>8.0 Platform Amenities</u>  Sub-Element: <u>8.1 Canopies</u> Location: <u>Meadow Woods Station A 801.21</u>  Contract No.: _____				Notes or Restrictions:				Notes or Restrictions:				Notes or Restrictions:			
Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	8.1.1 8.2.1	Any station element that could be targeted for theft or vandalism (e.g., light fixtures, sign units, speakers, cameras, etc.) shall be located a minimum of 7 feet 6 inches above traveled pathways.	Design Criteria Section 18.1	C	TH	3/4/2015	A20.605 A20.606 A20.614 A20.615								
2	8.1.1 8.2.1	Horizontal elements (e.g., low member of canopy framework, etc.) shall be located a minimum of 9 feet 0 inches and a maximum of 11 feet 0 inches above the traveled pathways.	Design Criteria Section 18.1	C	CM	3/6/2015	S20.601								
3	8.1.1 8.1.2	The canopy shall be located as close as possible to the back of the platform and cantilevered to provide maximum coverage of the platform.	Design Criteria Section 18.2	C	TH	3/4/2015	A20.606 S20.402 S20.601								
4	8.1.2	Protection from rain shall be provided for fare collection equipment, including a 3 feet x 3 feet area in the front of the equipment, and seating.	Design Criteria Section 18.2	C	TH	3/4/2015	A14.301 A14.302								
5	8.1.2	The design should assume that the rain is falling at a 30 degree angle from vertical (slightly windblown).	Design Criteria Section 18.2	C	DSB	3/12/2015	A20.607 A20.614								
6	8.1.2	Drip lines should not be over traveled pathways.	Design Criteria Section 18.2	C	DSB	3/12/2015	A20.607 A20.614 S20.604 S20.607								
7	8.1.3	Roof deck and fasteners shall resist wind loads to prevent debris during severe storm.	DC Section 23.3.1 and Section 25.1	C	CM	3/6/2015	C00.002E S00.001 TSP 05300 McElroy 11/17/14 Design Calc's								
8	8.1.3	Canopy main structure and anchorage to foundations must resist roof live, dead and wind loads to protect public.	DC Section 23.3.1 and Section 25.1	C	CM	3/6/2015	C00.002E S00.001 S20.701 TSP 05120 McElroy 11/17/14 Design Calc's								
9	8.1.3	Foundations must support main canopy structure and resist anchor bolt loads to provide stability during severe storm.	DC Section 23.3.1 and Section 25.1	C	CM	3/6/2015	C00.002E S00.001 S00.003 TSP 03310 TSP 05120 McElroy 11/17/14 Design Calc's								



10	8.1.2	Slope top of concrete to trench drains and to edges to reduce ponding on platforms to keep walking surface dry.	DC Section 17.3 and 17.4	C	TH	3/4/2015	A20.416 S20.403 S20.709								
11	8.1.4	Offset guardrail post to clear canopy column base and cover to provide guardrail with code required barrier to protect public.	DC Section 17	C	CM	3/6/2015	S20.701								
12	8.1.3	Connections for signage must resist design wind pressures to prevent debris or hazard during severe storm.	DC Section 23.3.1 and Section 25.1	C	CM	3/6/2015	C00.002E S00.001 S20.711								
13	8.1.4	Precast concrete unit at tactile warning strip must be secured in accordance with manufacturer's written standards to prevent hazard at walkway.	DC Section 17.5	C	TH	3/4/2015	A20.794 TSP 02780								

LEGEND		DESIGN VERIFICATION		CONSTRUCTION VERIFICATION		FINAL VERIFICATION			
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI          O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection		<b>Name and Organization:</b> _____ <b>Date:</b> _____ <b>Approved by:</b> _____ <b>Date:</b> _____		<b>Name and Organization:</b> _____ <b>Date:</b> _____ <b>Approved by:</b> _____ <b>Date:</b> _____		<b>Name and Organization:</b> _____ <b>Date:</b> _____ <b>Approved by:</b> _____ <b>Date:</b> _____	
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance									

DRAFT

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists				Design Verification				Construction Verification				Final Verification			
<b>Certifiable Element:</b> 8.0 Platform Amenities  <b>Sub-Element:</b> 8.2 Signage and Graphics <b>Location:</b> Meadow Woods Station A 801.21  <b>Contract No.:</b> _____				<b>Notes or Restrictions:</b> Note 1: Sign content to be provided by others _____ _____ _____ _____				<b>Notes or Restrictions:</b> _____ _____ _____ _____				<b>Notes or Restrictions:</b> _____ _____ _____ _____			
Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	8.2.1 8.2.2	Station platform signs with the name of the station must be visible so that riders can identify the station from within the train and know whether or not to get off the train. Station names must be clearly visible and within the sight lines of standing and sitting riders from within the vehicle on both sides when not obstructed by another vehicle.	ADA Standards for Transportation Facilities Section 810.6.3 Station Names	C	TBG	3/6/2015	W14.705 W14.706 W14.707 W20.716A								
2	8.2.2	Station Platform Identification (Type I Sign): All font sizes to conform to applicable/relevant legibility standards.	Design Criteria Section 21.1, 2010 ADA Standards for Accessible Design Section 703 Signs	C	TBG	3/6/2015	W14.705 W14.707								
3	8.2.2	Directory (Type K Sign): all font sizes to conform to applicable/relevant legibility standards.	Design Criteria Section 21.1, 2010 ADA Standards for Accessible Design Section 703 Signs	N/A			Note 1								
4	8.2.2	Directory Sign (Type K Sign) to be internally illuminated.	Design Criteria Section 21.1	C	TBG	3/6/2015	W20.717								
<b>LEGEND</b>				<b>DESIGN VERIFICATION</b>				<b>CONSTRUCTION VERIFICATION</b>				<b>FINAL VERIFICATION</b>			
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection		<b>Name and Organization:</b> _____ <b>Date:</b> _____ <b>Approved by:</b> _____ <b>Date:</b> _____				<b>Name and Organization:</b> _____ <b>Date:</b> _____ <b>Approved by:</b> _____ <b>Date:</b> _____				<b>Name and Organization:</b> _____ <b>Date:</b> _____ <b>Approved by:</b> _____ <b>Date:</b> _____			

# CFCRT Project Phase 2 South

<b>Safety and Security Certification Elements Design and Construction Conformance Checklists</b>	Design Verification	Construction Verification	Final Verification
<b>Certifiable Element:</b> 8.0 Platform Amenities  <b>Sub-Element:</b> 8.3 Electrical  <b>Location:</b> Meadow Woods Station A 801.21  <b>Contract No.:</b>	Notes or Restrictions:	Notes or Restrictions:	Notes or Restrictions:

Certifiable Item Description				Design Verification				Construction/Installation				Verification				
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	
1	8.3.2	Duplex GFCI electrical outlet boxes are to be located flush mounted to the finished vertical face and shall have lockable covers.	Design Criteria 18.9	C	VMD	3/2/2015	A20.794 E00.701 E00.703 E14.201 E14.202									
2	8.3.1	Grounds shall be provided for transformer cases and other metal housing for transformers and associated apparatus.	Design Criteria Section 11.11	C	VMD	3/2/2015	E00.702 E00.704 E00.705 TSP 16060									
3	8.3.1	The grounding system shall have a resistance to earth of not more than 5 ohms.	Design Criteria Section 11.11	C	VMD	3/2/2015	TSP 16060.3.5.F. 1									
4	8.3.2	All equipment cabinet sites shall have both primary and secondary surge protection on the AC power.	Design Criteria Section 15.7.11	C	VMD	3/2/2015	E00.702 E14.001									
5	8.3.2	The receptacles, switches, and light fixtures shall use a minimum of AWG #12 copper wires.	Design Criteria Section 15.7.11	C	VMD	3/2/2015	C00.002H E14.001									
6	8.3.2	Provide two 110V, 20 amp, single phase GFI protected electrical receptacles in weatherproof housing/box with a lockable cover located to allow full coverage of the platform and fare vending area(s) with a 75 foot extension cord.	Design Criteria Section 18.9	C	VMD	3/2/2015	E00.701 E00.703 E14.201 E14.202									
7	8.3.3	Each station shall be equipped with emergency battery backup lighting (90 minutes).	Design Criteria Section 19.6	C	VMD	3/2/2015	E14.301 E14.302 TSP 16265.2.5.A. 1									
8	8.3.5	Light fixtures for platform illumination shall be incorporated into the integrated structural elements of the station canopy and light standards and shall serve to illuminate signage as well as platform edge, advertising, seating, fare areas, ramps and stairs.	Design Criteria Section 19.4	C	VMD	3/2/2015	E00.704 E14.301 E14.302									
9	8.3	The design should minimize the opportunity for standing water to accumulate.	Design Criteria 18.9	C	VMD	3/2/2015	E00.701 E00.703									

LEGEND		DESIGN VERIFICATION	CONSTRUCTION VERIFICATION	FINAL VERIFICATION
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other	<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection	Name and Organization: _____ Date: _____ Approved by: _____ Date: _____	Name and Organization: _____ Date: _____ Approved by: _____ Date: _____	Name and Organization: _____ Date: _____ Approved by: _____ Date: _____
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance				





# CFCRT Project Phase 2 South

<b>Safety and Security Certification Elements Design and Construction Conformance Checklists</b>	<b>Design Verification</b>	<b>Construction Verification</b>	<b>Final Verification</b>
<b>Certifiable Element:</b> 9.0 Parking / Plaza/Station Boundary  <b>Sub-Element:</b> 9.1 Intrusion Deterrents <b>Location:</b> Meadow Woods Station A 801.21  <b>Contract No.:</b>	<b>Notes or Restrictions:</b>     	<b>Notes or Restrictions:</b>     	<b>Notes or Restrictions:</b>     

Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	9.1	Hazard rock shall be used to channelize pedestrians away from unauthorized areas/ deter trespass activity at the station locations.	Design Criteria Section 17.6.1	C	TBG	3/3/2015	H14.007E H20.722								
2	9.1	Decorative fencing provided in the station area shall provide a barrier for safety and security by reinforcing designated pedestrian and vehicular circulation system movement.	Design Criteria Section 20.6.3.6	C	TBG	3/3/2015	H20.711 H14.007D H20.722 TSP 02826								
3	9.1	Vinyl coated chain link fencing provided in the station area shall provide a barrier for safety and security by reinforcing designated pedestrian and vehicular circulation system movement.	Design Criteria Section 20.6.3.7	C	TBG	3/3/2015	H20.711 H14.007D H20.722 TSP 02820								
4	9.1	Provide bollards at potential vehicular access locations around the station perimeter.	Design Criteria Section 20.1	C	TBG	3/3/2015	H20.715 H14.007D H20.722 TSP 02871								

LEGEND		DESIGN VERIFICATION		CONSTRUCTION VERIFICATION		FINAL VERIFICATION	
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection		Name and Organization: _____ Date: _____		Name and Organization: _____ Date: _____	
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance		Approved by: _____ Date: _____		Approved by: _____ Date: _____		Approved by: _____ Date: _____	

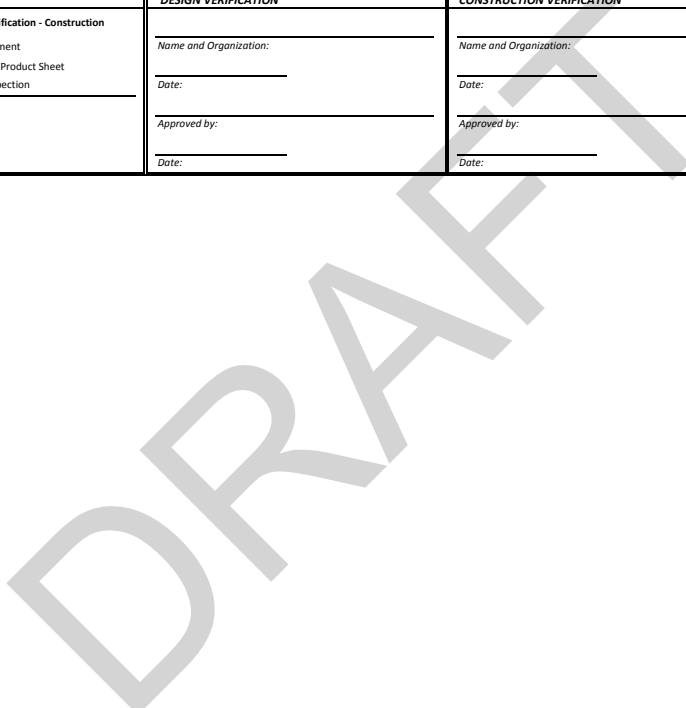
# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists				Design Verification				Construction Verification				Final Verification			
<b>Certifiable Element:</b> 9.0 Parking / Plaza/Station Boundary <b>Sub-Element:</b> 9.2 Pavement Marking <b>Location:</b> Meadow Woods Station A 801.21 <b>Contract No.:</b>				Notes or Restrictions:				Notes or Restrictions:				Notes or Restrictions:			
<b>Certifiable Item Description</b>				<b>Design Verification</b>				<b>Construction/Installation</b>				<b>Verification</b>			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	9.2	Minimum dimensions for vehicular stalls shall be minimum 8.5 feet wide and 18 feet deep, unless otherwise dictated by governing entity/municipality.	Design Criteria Section 20.6	C	DSB	3/12/2015	C14.013C C14.013D C14.013E C14.013F								
<b>LEGEND</b> <b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other  <b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance				<b>DESIGN VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				<b>CONSTRUCTION VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				<b>FINAL VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____			

DRAFT

# CFCRT Project Phase 2 South

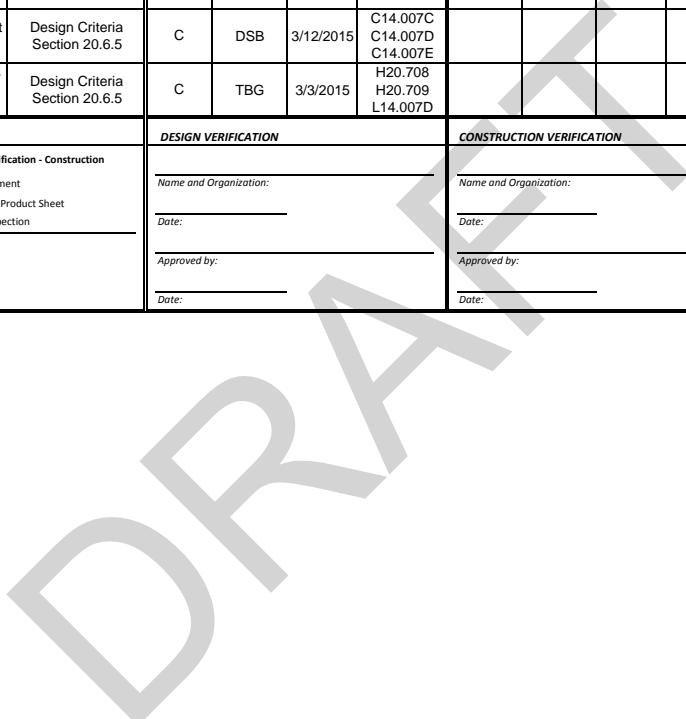
Safety and Security Certification Elements Design and Construction Conformance Checklists				Design Verification				Construction Verification				Final Verification			
<b>Certifiable Element:</b> 9.0 Parking / Plaza/Station Boundary <hr/> <b>Sub-Element:</b> 9.3 Drainage <b>Location:</b> Meadow Woods Station A 801.21 <hr/> <b>Contract No.:</b> _____				<b>Notes or Restrictions:</b> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>				<b>Notes or Restrictions:</b> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>				<b>Notes or Restrictions:</b> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>			
Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	9.3	Drainage shall be provided along walkway surface to collect rainwater and drain to an approved storm water collection system.	Design Criteria 19.3	C	DSB	3/12/2015	C14.010C C14.010D C14.010E C14.010F								
LEGEND				DESIGN VERIFICATION				CONSTRUCTION VERIFICATION				FINAL VERIFICATION			
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection		<b>Name and Organization:</b> _____ <b>Date:</b> _____ <b>Approved by:</b> _____ <b>Date:</b> _____				<b>Name and Organization:</b> _____ <b>Date:</b> _____ <b>Approved by:</b> _____ <b>Date:</b> _____				<b>Name and Organization:</b> _____ <b>Date:</b> _____ <b>Approved by:</b> _____ <b>Date:</b> _____			
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance															





# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists				Design Verification				Construction Verification				Final Verification			
Certifiable Element: <u>9.0 Parking / Plaza/Station Boundary</u> Sub-Element: <u>9.4 Pedestrian Routes</u> Location: <u>Meadow Woods Station A 801.21</u> Contract No.: _____				Notes or Restrictions:				Notes or Restrictions:				Notes or Restrictions:			
<b>Certifiable Item Description</b>				<b>Design Verification</b>				<b>Construction/Installation</b>				<b>Verification</b>			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	9.4	Pedestrian circulation shall provide direct and convenient approaches to station platforms from off the site and from each of the individual sections of the lot.	Design Criteria Section 20.6.5	C	DSB	3/12/2015	C14.007C C14.007D C14.007E								
2	9.4	Walkways shall be at least 5 feet 0 inches wide.	Design Criteria Section 20.6.5	C	DSB	3/12/2015	C14.007C C14.007D C14.007E								
3	9.4	Design does not allow short cuts through the bus bays by adding fencing or other means.	Design Criteria Section 20.6.5	C	TBG	3/3/2015	H20.708 H20.709 L14.007D								
<b>LEGEND</b> Means of Verification - Design P = Plan Sheet    S = Specification RFI=RFI            O = Other Status C = Compliance N = Noncompliance P = Partial Compliance				<b>DESIGN VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				<b>CONSTRUCTION VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				<b>FINAL VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____			



# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists				Design Verification				Construction Verification				Final Verification			
<b>Certifiable Element:</b> 9.0 Parking / Plaza/Station Boundary <b>Sub-Element:</b> 9.5 Entrance/Exits <b>Location:</b> Meadow Woods Station A 801.21 <b>Contract No.:</b>				Notes or Restrictions:				Notes or Restrictions:				Notes or Restrictions:			
Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	9.5	The minimum distance between any intersection and a station entrance should be 150 feet or as required for weaving and/or left hand turn stacking, whichever is greater.	Design Criteria Section 20.2	C	DSB	3/12/2015	C14.007 C14.007C C14.007D C14.007E								
2	9.5	For larger stations, more than one station exit to the local street system shall be considered to reduce traffic delays.	Design Criteria Section 20.3	C	DSB	3/12/2015	C14.007 C14.007C C14.007D C14.007E								
3	9.5	Kiss-and-ride drop-off shall be separated from the parking area and shall have direct routing from the adjacent street to drop-off and pick-up points and back to the adjacent street system.	Design Criteria Section 20.5	C	DSB	3/12/2015	C14.007 C14.007C C14.007D C14.007E								
4	9.5	Conflicts should be avoided between entrance roadways and large pedestrian movements.	Design Criteria Section 20.2	C	DSB	3/12/2015	C14.007 C14.007C C14.007D C14.007E								
<b>LEGEND</b>				<b>DESIGN VERIFICATION</b>				<b>CONSTRUCTION VERIFICATION</b>				<b>FINAL VERIFICATION</b>			
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection		Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				Name and Organization: _____ Date: _____ Approved by: _____ Date: _____			

# CFCRT Project Phase 2 South

<b>Safety and Security Certification Elements Design and Construction Conformance Checklists</b>	<b>Design Verification</b>	<b>Construction Verification</b>	<b>Final Verification</b>
<b>Certifiable Element:</b> 9.0 Parking / Plaza/Station Boundary <hr/> <b>Sub-Element:</b> 9.6 Way-Finding Signage <b>Location:</b> Meadow Woods Station A 801.21 <hr/> <b>Contract No.:</b> _____	<b>Notes or Restrictions:</b> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	<b>Notes or Restrictions:</b> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	<b>Notes or Restrictions:</b> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>

Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	9.6	Station Identification Pylon (Type A Sign): All font sizes to conform to applicable/relevant legibility standards.	Design Criteria Section 21.1, 2010 ADA Standards for Accessible Design Section 703 Signs	C	TBG	3/3/2015	W14.700								
2	9.6	Station Identification Pylon (Type A Sign) to be internally illuminated or with uplighting.	Design Criteria Section 21.1	C	TBG	3/3/2015	W20.701 W20.705								
3	9.6	Vehicular Entrance Directional (Type B Sign): All font sizes to conform to applicable/relevant legibility standards.	Design Criteria Section 21.1, 2010 ADA Standards for Accessible Design Section 703 Signs	C	TBG	3/3/2015	W14.701 W14.702								
4	9.6	Vehicular Entrance Directional (Type B Sign) indirectly illuminated by site lighting.	Design Criteria Section 21.1	C	TBG	3/3/2015	W14.007C W14.007D W14.007E E14.002 E14.003 E14.004 E14.005								
5	9.6	Vehicular Wayfinding Signs (Type C Sign): All font sizes to conform to applicable/relevant legibility standards.	Design Criteria Section 21.1, 2010 ADA Standards for Accessible Design Section 703 Signs	C	TBG	3/3/2015	W14.702								
6	9.6	Vehicular Wayfinding Signs (Type C Sign) indirectly illuminated by site lighting.	Design Criteria Section 21.1	C	TBG	3/3/2015	W14.007C W14.007D W14.007E E14.002 E14.003 E14.004 E14.005								
7	9.6	Pedestrian Wayfinding Signs (Type E, F Signs): All font sizes to conform to applicable/relevant legibility standards.	Design Criteria Section 21.1, 2010 ADA Standards for Accessible Design Section 703 Signs	C	TBG	3/3/2015	W14.703 W14.704								
8	9.6	Pedestrian Wayfinding Signs (Type E, F Signs) indirectly illuminated by site lighting.	Design Criteria Section 21.1	C	TBG	3/3/2015	W14.007C W14.007E								
9	9.6	An area shall be provided on the Station Identification Pylon, Vehicular Entrance Directional, and the Directory Sign for the Sunrail Logo (Type A, B, C Signs)	Design Criteria Section 21.1	C	TBG	3/3/2015	W14.700 W14.701 W14.702								

<b>LEGEND</b>		<b>DESIGN VERIFICATION</b>	<b>CONSTRUCTION VERIFICATION</b>	<b>FINAL VERIFICATION</b>
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other	<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection	Name and Organization: _____ Date: _____ Approved by: _____ Date: _____	Name and Organization: _____ Date: _____ Approved by: _____ Date: _____	Name and Organization: _____ Date: _____ Approved by: _____ Date: _____

# CFCRT Project Phase 2 South

<b>Safety and Security Certification Elements Design and Construction Conformance Checklists</b>	Design Verification	Construction Verification	Final Verification
<b>Certifiable Element:</b> 9.0 Parking / Plaza/Station Boundary <hr/> <b>Sub-Element:</b> 9.8 Electrical <b>Location:</b> Meadow Woods Station A 801.21 <hr/> <b>Contract No.:</b> _____	Notes or Restrictions:	Notes or Restrictions:	Notes or Restrictions:

Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	9.8	Artificial light sources to obtain the required foot candle levels shall be no higher than 12 feet in station plaza.	Design Criteria Section 19.4	C	VMD	3/2/2015	E14.001 E14.003 E14.004								
2	9.8	Artificial light sources to obtain the required foot candle levels shall be no higher than 24 feet in parking lots.	Design Criteria Section 19.4	C	VMD	3/2/2015	E14.001 E14.002 E14.003 E14.004 E14.005								
3	9.8	Pole foundations shall extend 24 inches above parking lot grade when not located behind curb or curb stops to reduce pole damage.	Design Criteria Section 19.4	C	VMD	3/2/2015	E00.705 E14.002 E14.003 E14.004 E14.005								
4	9.8	All light fixtures shall be: • Vandal resistant construction • U.L. rated for exterior use • Reasonable to maintain • Designed to withstand corrosive environments • High wind proof	Design Criteria Section 19.4	C	VMD	3/2/2015	E14.001 TSP 16521								
5	9.8	Artificial lighting shall be provided for safety in all open station site areas with due consideration for adjacent land uses.	Design Criteria Section 19.4	C	VMD	3/2/2015	E14.002 E14.003 E14.004 E14.005 Photometrics								
6	9.8	If the vehicles are capable of hitting light poles when being parked, curbs or concrete around the light poles shall be added.	Design Criteria Section 19.4	C	VMD	3/2/2015	E00.705 E14.002 E14.003 E14.004 E14.005								
7	9.8	Light pole, anchorage and foundations must resist wind loads to prevent hazard during severe storm.	Design Criteria Section 19.4	C	CM	3/6/2015	C00.002E C00.002F S00.001 S20.710 TSP 03310								

LEGEND		DESIGN VERIFICATION		CONSTRUCTION VERIFICATION		FINAL VERIFICATION	
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other	<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection	Name and Organization: _____ Date: _____ Approved by: _____ Date: _____	Name and Organization: _____ Date: _____ Approved by: _____ Date: _____	Name and Organization: _____ Date: _____ Approved by: _____ Date: _____	Name and Organization: _____ Date: _____ Approved by: _____ Date: _____		

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists				Design Verification				Construction Verification				Final Verification			
<b>Certifiable Element:</b> 9.0 Parking / Plaza/Station Boundary <hr/> <b>Sub-Element:</b> 9.9 Landscaping <b>Location:</b> Meadow Woods Station A 801.21 <hr/> <b>Contract No.:</b> _____				<b>Notes or Restrictions:</b> <hr/> <hr/> <hr/> <hr/> <hr/>				<b>Notes or Restrictions:</b> <hr/> <hr/> <hr/> <hr/> <hr/>				<b>Notes or Restrictions:</b> <hr/> <hr/> <hr/> <hr/> <hr/>			
Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	9.9	Design to follow CPTED guidelines to provide a safe and secure environment throughout the transit system.	Design Criteria Section 22.4	C	TBG	3/3/2015	C00.002D NOTE #8								
2	9.9	Control access to the system by reinforcing designated pedestrian and vehicular circulation system movement and creating barriers elsewhere along the ROW as required.	Design Criteria Section 22.1	C	TBG	3/3/2015	L14.007C L14.007D L14.007E L14.007F								
3	9.9	Plant material will be selected to minimize obstruction of pedestrian paths.	Design Criteria Section 22.6.1	C	TBG	3/3/2015	L14.007C L14.007D L14.007E L14.007F L20.701								
4	9.9	Plant material will be selected to provide clear sight lines and to minimize hiding places	Design Criteria Section 22.6.1	C	TBG	3/3/2015	L14.007C L14.007D L14.007E L14.007F L20.701								
5	9.9	Plant material will be selected to minimize maintenance.	Design Criteria Section 22.6.1	C	TBG	3/3/2015	L14.007C L14.007D L14.007E L14.007F L20.701								
<b>LEGEND</b> <b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other <b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection <b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance				<b>DESIGN VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				<b>CONSTRUCTION VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				<b>FINAL VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____			

# CFCRT Project Phase 2 South

<b>Safety and Security Certification Elements Design and Construction Conformance Checklists</b>	Design Verification	Construction Verification	Final Verification
<b>Certifiable Element:</b> 9.0 Parking / Plaza/Station Boundary  <b>Sub-Element:</b> 9.10 Hardscaping <b>Location:</b> Meadow Woods Station A 801.21  <b>Contract No.:</b> _____	Notes or Restrictions:	Notes or Restrictions:	Notes or Restrictions:

Certifiable Item Description				Design Verification				Construction/Installation				Verification				
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	
1	9.10	Concrete Pavers - Material shall be precast concrete pavers with integral color.	Design Criteria Section 20.6.3.3	C	DSB	3/12/2015	TSP 02780.2.1.A 1.C ASTM C979									
2	9.10 9.14	Concrete Pavers - Walking surface is non-skid and conforms to ADA regulations.	Design Criteria Section 20.6.3.3, 2010 ADA Standards for Accessible Design Section 302 Floor of Ground Surfaces, 303 Changes in Level	C	DSB	3/12/2015	TSP 02780.2.1(A) ASTM C902									
3	9.10 9.14	Concrete Paving in plaza is to be non-skid and conforms to ADA regulations.	Design Criteria Section 20.6.3.3, 2010 ADA Standards for Accessible Design Section 302 Floor of Ground Surfaces, 303 Changes in Level	C	TBG	3/5/2015	H20.702									
4	9.10	Stamped Concrete - Material shall be integral color or color hardener.	Design Criteria Section 20.6.3.4	C	TBG	3/3/2015	TSP 03355.2.2.A TSP 03355.2.2.C									
5	9.10 9.14	Stamped Concrete - Surface is non-skid and conforms to ADA regulations.	Design Criteria Section 20.6.3.4, 2010 ADA Standards for Accessible Design Section 302 Floor of Ground Surfaces, 303 Changes in Level	C	TBG	3/3/2015	H20.701 H20.702									
6	9.10	Stamped Concrete - Surface is sealed.	Design Criteria Section 20.6.3.4	C	TBG	3/3/2015	TSP 03355.2.2.E									
7	9.10	18" Ht. Seat walls to be easily viewed from all sides to minimize hiding places.	Design Criteria Section 20.6.3.1	C	TBG	3/3/2015	H14.007D H14.007E									
8	9.10	18" Ht. Seat walls to include skate deterrent brackets.	Design Criteria Section 20.6.3.1	C	TBG	3/3/2015	H20.713 H20.714 TSP 02872									

<b>LEGEND</b>		<b>DESIGN VERIFICATION</b>	<b>CONSTRUCTION VERIFICATION</b>	<b>FINAL VERIFICATION</b>
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other	<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection	Name and Organization: _____  Date: _____  Approved by: _____  Date: _____	Name and Organization: _____  Date: _____  Approved by: _____  Date: _____	Name and Organization: _____  Date: _____  Approved by: _____  Date: _____

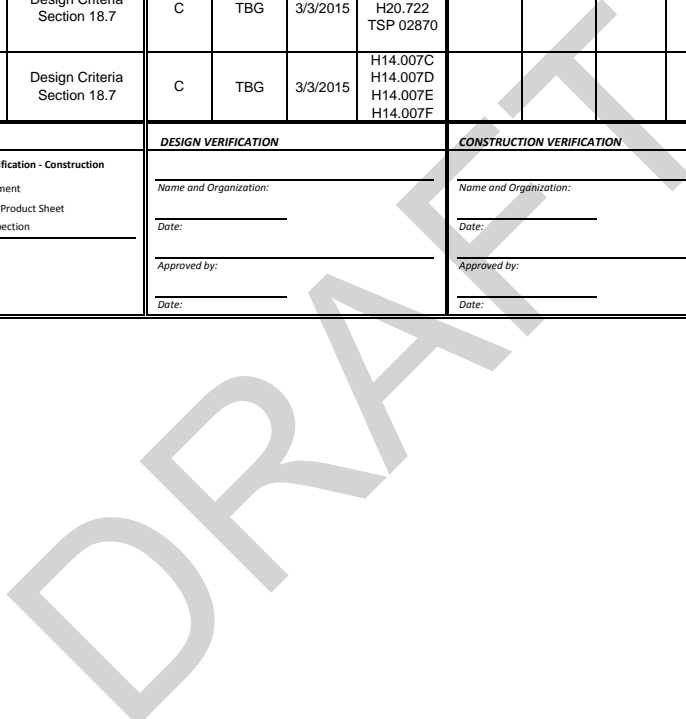
# CFCRT Project Phase 2 South

<b>Safety and Security Certification Elements Design and Construction Conformance Checklists</b>	Design Verification	Construction Verification	Final Verification
------------------------------------------------------------------------------------------------------	---------------------	---------------------------	--------------------

<b>Certifiable Element:</b> 9.0 Parking / Plaza/Station Boundary  <b>Sub-Element:</b> 9.11 Amenities <b>Location:</b> Meadow Woods Station A 801.21  <b>Contract No.:</b> _____	<b>Notes or Restrictions:</b> _____ _____ _____ _____ _____	<b>Notes or Restrictions:</b> _____ _____ _____ _____ _____	<b>Notes or Restrictions:</b> _____ _____ _____ _____ _____
------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------	----------------------------------------------------------------------------	----------------------------------------------------------------------------

Certifiable Item Description				Design Verification				Construction/Installation				Verification				
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	
1	9.11	Bench and/or seat designs shall strongly discourage individuals from lying down and/or sleeping	Design Criteria Section 18.3	C	TBG	3/3/2015	H20.718 H20.722									
2	9.11	Trash receptacles with clear plastic containers shall be provided on the platforms, fare vending area, platform plaza, and bus/shuttle areas.	Design Criteria Section 18.7	C	TBG	3/3/2015	H20.719 H20.722 TSP 02870									
3	9.11	Trash receptacles shall not be provided for the parking or kiss-and-ride areas.	Design Criteria Section 18.7	C	TBG	3/3/2015	H14.007C H14.007D H14.007E H14.007F									

LEGEND		DESIGN VERIFICATION	CONSTRUCTION VERIFICATION	FINAL VERIFICATION
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI          O = Other	<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection	<b>Name and Organization:</b> _____ <b>Date:</b> _____ <b>Approved by:</b> _____ <b>Date:</b> _____	<b>Name and Organization:</b> _____ <b>Date:</b> _____ <b>Approved by:</b> _____ <b>Date:</b> _____	<b>Name and Organization:</b> _____ <b>Date:</b> _____ <b>Approved by:</b> _____ <b>Date:</b> _____



# CFCRT Project Phase 2 South

<b>Safety and Security Certification Elements Design and Construction Conformance Checklists</b>				Design Verification				Construction Verification				Final Verification			
Certifiable Element: <u>9.0 Parking / Plaza/Station Boundary</u>  Sub-Element: <u>9.12 Art-in-Transit</u> Location: <u>Meadow Woods Station A 801.21</u>  Contract No.: _____				Notes or Restrictions: Note 1: Will need to be verified after ART shop drawings are provided.				Notes or Restrictions:				Notes or Restrictions:			
<b>Certifiable Item Description</b>				<b>Design Verification</b>				<b>Construction/Installation</b>				<b>Verification</b>			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	9.12	Art-in-Transit shall be appropriate for site, including safety and security considerations and scale.	Design Criteria Section 20.6.3.8	N/A		3/3/2015	Note 1								
2	9.12	Durability of materials.	Design Criteria Section 20.6.3.8	N/A		3/3/2015	Note 1								
3	9.12	Resistance to vandalism.	Design Criteria Section 20.6.3.8	N/A		3/3/2015	Note 1								
4	9.12	No sharp edges if located in pedestrian accessible area.	Design Criteria Section 20.6.3.8	N/A		3/3/2015	Note 1								
<b>LEGEND</b> <b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other  <b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection  <b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance				<b>DESIGN VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				<b>CONSTRUCTION VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				<b>FINAL VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____			





# CFCRT Project Phase 2 South

<b>Safety and Security Certification Elements Design and Construction Conformance Checklists</b>	Design Verification	Construction Verification	Final Verification
<b>Certifiable Element:</b> 9.0 Parking / Plaza/Station Boundary <hr/> <b>Sub-Element:</b> 9.13 Bicycle Storage <b>Location:</b> Meadow Woods Station A 801.21 <hr/> <b>Contract No.:</b> _____	Notes or Restrictions:	Notes or Restrictions:	Notes or Restrictions:

Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	9.13	Bicycle storage provided in the station area (not in close proximity to the platform or plaza area where people congregate).	Design Criteria Section 20.6.3.5	C	TBG	3/3/2015	H20.710 H20.721 H14.007D H14.007E H20.722 TSP 02870								
2	9.13	Constructed on hard surfaces.	Design Criteria Section 20.6.3.5	C	TBG	3/3/2015	H20.710 H20.721 H14.007D H14.007E H20.722 TSP 02870								
3	9.13	Easily accessible to the interior station site and the street system.	Design Criteria Section 20.6.3.5	C	TBG	3/3/2015	H14.007D H14.007E								
4	9.13	Located for minimum interference with pedestrian flow.	Design Criteria Section 20.6.3.5	C	TBG	3/3/2015	H14.007D H14.007E								
5	9.13	Provide secure bike racks to allow bicycles to be locked.	Design Criteria Section 20.6.3.5	C	TBG	3/3/2015	H20.721 H14.007D H14.007E								

<b>LEGEND</b>		<b>DESIGN VERIFICATION</b>				<b>CONSTRUCTION VERIFICATION</b>				<b>FINAL VERIFICATION</b>					
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection		Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				Name and Organization: _____ Date: _____ Approved by: _____ Date: _____			

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists				Design Verification				Construction Verification				Final Verification			
<b>Certifiable Element:</b> 9.0 Parking / Plaza/Station Boundary <hr/> <b>Sub-Element:</b> 9.14 ADA Requirement <b>Location:</b> Meadow Woods Station A 801.21 <hr/> <b>Contract No.:</b> _____				Notes or Restrictions:				Notes or Restrictions:				Notes or Restrictions:			
<b>Certifiable Item Description</b>				<b>Design Verification</b>				<b>Construction/Installation</b>				<b>Verification</b>			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	9.14	Number of designated accessible parking spaces provided is appropriate for the station.	DOT Standards 208.502, FL Statute 17346	C	DSB	3/12/2015	C14.007 C14.007D C14.007E								
2	9.14	Signs that are being placed on the track side of a station sidewalk need to be located as far as practical from the tracks and adjacent to the sidewalk.	Design Criteria Section 4.2	C	TBG	3/3/2015	W14.007E								
3	9.14	Accessible parking spaces at stations shall be provided near the station platform and in conformance with State and Federal requirements, in particular 49 CFR Parts 27, 37 and 38 and the 2010 ADA Standards for Accessible Design 2010 Standards Section 206 and 208 and the Highway Capacity Manual.	Design Criteria Section 20.6.1	C	DSB	3/12/2015	C14.007D C14.007E C00.003C C00.002A GENNOTE#2								
4	9.14	Continuous smooth surface ramps without vertical rises and grades less than 8 percent shall be provided from the handicapped parking surface to sidewalks and station platforms.	Design Criteria Section 20.6.1	C	DSB	3/12/2015	C00.003C C14.009D C14.009E								
5	9.14	The placement of these parking spaces within the stations' footprints shall consider the distance individuals with disabilities must travel as well as user convenience.	Design Criteria Section 20.6.1	C	DSB	3/12/2015	C14.007D C14.007E								
<b>LEGEND</b>				<b>DESIGN VERIFICATION</b>				<b>CONSTRUCTION VERIFICATION</b>				<b>FINAL VERIFICATION</b>			
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection		Name and Organization: _____				Name and Organization: _____				Name and Organization: _____			
<b>Status</b>				Date: _____				Date: _____				Date: _____			
C = Compliance				Approved by: _____				Approved by: _____				Approved by: _____			
N = Noncompliance				Date: _____				Date: _____				Date: _____			
P = Partial Compliance															

# CFCRT Project Phase 2 South

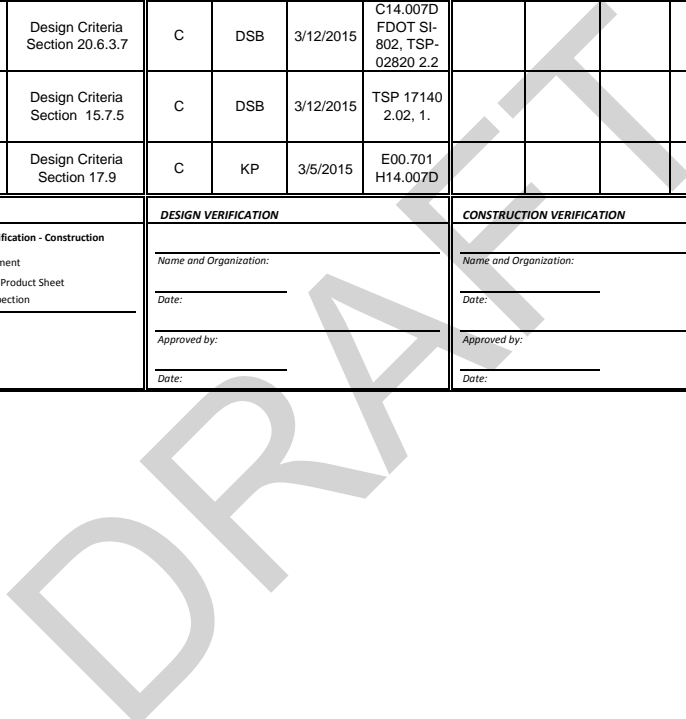
<b>Safety and Security Certification Elements Design and Construction Conformance Checklists</b>	Design Verification	Construction Verification	Final Verification
Certifiable Element: <u>10.0 Utility Yard</u>  Sub-Element: <u>10.1 Station Utility Yard Components</u> Location: <u>Meadow Woods Station A 801.21</u>  Contract No.: _____	Notes or Restrictions:	Notes or Restrictions:	Notes or Restrictions:

Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	10.1	Ensure that the surge suppressors and lightning arrestors are capable of meeting or exceeding the device protection requirements as contained in Section 785-1.	Design Criteria Section 15.7.11	C	SY	3/20/2015	TSP 17100.3.2 A. 10 TSP 17140.1.01								
2	10.1	Consider multiple devices installed in the same equipment cabinet to be a single installation for the purpose of providing grounding and surge suppression.	Design Criteria Section 15.7.11	C	SY	3/20/2015	E00.702 E00.705 M20.711								
3	10.1	Provide the equipment cabinet with a transfer switch rated for the design load of the cabinet's main breaker to provide an alternate power source using a generator.	Design Criteria Section 15.7.11	C	VMD	3/2/2015	E00.702 E00.705 E14.001 TSP 16415.2.2								
4	10.1	Include a generator connection consisting of, at a minimum, the manual transfer switch and twist-lock connector for generator hookup.	Design Criteria Section 15.7.11	C	VMD	3/2/2015	E00.705								
5	10.1	Locate this generator connection as close as possible to the main AC circuit breaker. Never locate the generator connection on the main cabinet door or back door.	Design Criteria Section 15.7.11	C	VMD	3/2/2015	E00.702 E00.705 E14.001								
6	10.1	Ensure that the cabinet is able to utilize a mobile emergency generator during power outages. The emergency generator connection shall allow the station site to be powered from a portable generator in the event that the commercial power is lost.	Design Criteria Section 15.7.11, 3.3	C	VMD	3/2/2015	E00.702 E00.705 E14.001								
7	10.1	Communications equipment shall be housed in weather-proof cabinets in the station utility yard.	Design Criteria Section 15.7.5	C	SY	3/20/2015	TSP 17140.2.02, A.								
8	10.1	The communications equipment cabinet shall be serviced with a UPS to provide continuous power with at least 90 minutes of back-up power.	Design Criteria Section 15.7.5	C	SY	3/20/2015	M20.701 TSP 17840 1.01. and 2.01.								
9	10.1	Cabinets shall be installed above the 100-year flood plain.	Design Criteria Section 15.7.5	C	DSB	3/20/2015	C14.009D								
10	10.1	Each equipment cabinet shall be equipped with an approved RPU and shall monitor all alarms within the equipment cabinet as well as other alarms (i.e., ECB operation).	Design Criteria Section 15.7.5	C	SY	3/20/2015	TSP 17850.1.01 G.								
11	10.1	Locate and label the transfer switch and twist lock connector on a lockable, weatherproof and dustproof cover.	Design Criteria Section 15.7.11, 3.2	C	VMD	3/2/2015	E00.702 E00.705 E14.001								

<b>LEGEND</b>		<b>DESIGN VERIFICATION</b>	<b>CONSTRUCTION VERIFICATION</b>	<b>FINAL VERIFICATION</b>
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other	<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection	Name and Organization: _____  Date: _____  Approved by: _____  Date: _____	Name and Organization: _____  Date: _____  Approved by: _____  Date: _____	Name and Organization: _____  Date: _____  Approved by: _____  Date: _____
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance				

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists				Design Verification				Construction Verification				Final Verification			
<b>Certifiable Element:</b> 10.0 Meadow Woods Utility Yard  <b>Sub-Element:</b> 10.2 Intrusion Deterrents <b>Location:</b> Meadow Woods Station A 801.21  <b>Contract No.:</b> _____				<b>Notes or Restrictions:</b>				<b>Notes or Restrictions:</b>				<b>Notes or Restrictions:</b>			
<b>Certifiable Item Description</b>				<b>Design Verification</b>				<b>Construction/Installation</b>				<b>Verification</b>			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	10.2	Utility yard fencing should shall never be closer than 7'6" from tangent track and additional clearance shall be added where a curve exists.	Design Criteria Section 4	C	DSB	3/12/2015	C14.007D								
2	10.2	Vinyl coated chain link fencing shall be 6 feet tall to provide safety and security.	Design Criteria Section 20.6.3.7	C	DSB	3/12/2015	C14.007D FDOT SI-802, TSP-02820 2.2								
3	10.2	Access to the cabinets shall be restricted, such as by latching hardware and padlocks.	Design Criteria Section 15.7.5	C	DSB	3/12/2015	TSP 17140 2.02, 1.								
4	10.2	All cabinets within the lockable enclosure shall be accessible on all sides.	Design Criteria Section 17.9	C	KP	3/5/2015	E00.701 H14.007D								
<b>LEGEND</b>				<b>DESIGN VERIFICATION</b>				<b>CONSTRUCTION VERIFICATION</b>				<b>FINAL VERIFICATION</b>			
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection		Name and Organization: _____ Date: _____				Name and Organization: _____ Date: _____				Name and Organization: _____ Date: _____			
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance				Approved by: _____ Date: _____				Approved by: _____ Date: _____				Approved by: _____ Date: _____			



# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists				Design Verification				Construction Verification				Final Verification				
Certifiable Element: <u>7.0 Station Platforms</u> Sub-Element: <u>7.1 Platform and Mini-High Geometry</u> Location: <u>Osceola Station A804.52</u> Contract No.: _____				Notes or Restrictions:				Notes or Restrictions:				Notes or Restrictions:				
Certifiable Item Description				Design Verification				Construction/Installation				Verification				
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	
1	7.1.1	The track side edge of main platforms shall be 8 inches maximum Above Top of Rail of the plane.	Design Criteria Section 17.3	C	TH	3/4/2015	C00.003E A00.002 A20.607 A15.201 A15.202									
2	7.1.1	The track side edge of main platforms shall be 5 feet 1 inch from track centerline.	Design Criteria Section 17.3	C	TH	3/4/2015	C00.003E C15.007A A15.201 A15.202									
3	7.1.2	The minimum width for a side platform is 14 feet.	Design Criteria Section 17.2	C	TH	3/4/2015	C00.003E A20.401 S20.403 A15.201 A15.202									
4	7.1.1	The edge of the platform shall also be parallel to the track horizontally.	Design Criteria Section 17.2	C	TH	3/4/2015	C00.002A C00.003E									
5	7.1.2	All platforms shall have a minimum drainage cross slope of 0.5%.	Design Criteria Section 17.3	C	TH	3/4/2015	C00.003E									
6	7.1.2	The Station Platform plans identify a "Platform Dimensioning Control Point" on each platform to coordinate dimensions.	Design Criteria Section 17.1	C	TH	3/4/2015	A20.606 C15.007A A15.201 A15.202									
7	7.1.1	The track side edge of mini-high platforms shall be 22 inches maximum above top of rail	Design Criteria Section 17.3	C	TH	3/4/2015	C00.003E A00.002 A20.607 A15.201 A15.202									
8	7.1.1 7.1.2	The track side edge of mini-high platforms shall be 7 feet 6 inches from track centerline.	Design Criteria Section 17.3	C	TH	3/4/2015	C00.003E A15.202									
9	7.1.2 7.1.3	Ramps that are part of a required means of egress shall not be less than 44 inches wide.	Design Criteria Section 17.4	C	TH	3/4/2015	C00.003E C15.007A A15.201 A15.202									
10	7.1.2	The maximum rise for any ramp run shall be 30 inches.	Design Criteria Section 17.4	C	TH	3/4/2015	C00.003E C15.009A A15.201 A15.202									
11	7.1.3	Ramps shall have level landings at bottom and top of each ramp and each ramp run.	Design Criteria Section 17.4	C	TH	3/4/2015	A20.401 A15.202									
12	7.1.2	The bottom of each ramp shall not have less than 72 inches of straight and level clearance.	Design Criteria Section 17.4	C	TH	3/4/2015	A20.401 A15.202									
13	7.1.2 7.1.3	Changes in level from walk paths / sidewalks to platforms shall be level to each other and comply with 2010 ADA Standards for Accessible Design, Title II, Chapter 3, 303.2. "Changes in level of 1/4 inch (6.4mm) high maximum shall be permitted to be vertical."	Design Criteria 17.1.1	C	DSB	3/12/2015	C15.009A									
14	7.1.2 7.1.3	Changes in level from pavers to platform concrete shall be level to each other and comply with 2010 ADA Standards for Accessible Design, Title II, Chapter 3, 303.2. "Changes in level of 1/4 inch (6.4mm) high maximum shall be permitted to be vertical."	Design Criteria 17.1.1	C	TH	3/4/2015	TSP 02780.3.3E, C15.009A									
15	4.1.5 7.1.2 7.1.3	Placement of Ticket Vending Machines on the main platforms, shall comply with 2010 ADA Standards for Accessible Design, Title II, Chapter 305, section 305.5. They shall have a clear floor or ground space of 30 inches with a forward approach and 48 inches clear with a parallel approach.	Design Criteria 17.1.1	C	TH	3/4/2015	A20.401 A20.416 A15.201									

16	4.2.6 7.1.2 7.1.3	Placement of Ticket Validators on the main platforms, shall comply with 2010 ADA Standards for Accessible Design, Title II, Chapter 305, section 305.5. They shall have a clear floor or ground space of 30 inches with a forward approach and 48 inches clear with a parallel approach.	Design Criteria 17.1.1	C	TH	3/4/2015	A20.401 A15.201 A15.202											
17	3.7.4 7.1.2 7.1.3	Placement of Passenger Assist Telephones on the main platforms, shall comply with 2010 ADA Standards for Accessible Design, Title II, Chapter 305, section 305.5. They shall have a clear floor or ground space of 30 inches with a forward approach and 48 inches clear with a parallel approach.	Design Criteria 17.1.1	C	TH	3/4/2015	A20.401 A14.201											
18	3.8.4 7.1.2 7.1.3	Placement of Emergency Call Boxes on the main platforms, shall comply with 2010 ADA Standards for Accessible Design, Title II, Chapter 305, section 305.5. They shall have a clear floor or ground space of 30 inches with a forward approach and 48 inches clear with a parallel approach.	Design Criteria 17.1.1.	C	TH	3/4/2015	A20.401 A14.201											
19	7.1.2 7.1.3 8.4.1.	Placement of Drinking Fountains on the main platforms, shall comply with 2010 ADA Standards for Accessible Design, Title II, Chapter 305, section 305.5. They shall have a clear floor or ground space of 30 inches with a forward approach and 48 inches clear with a parallel approach.	Design Criteria 17.1.1.	C	TH	3/4/2015	A20.401 A15.201											
20	7.1.2	Light poles will not be located within 60 inches of the top or bottom ramps at landings.	Design Criteria 17.4	C	TH	3/4/2015	A15.201 A15.202 E15.002											
21	7.1.3	The ramp runs at the main platforms shall have a running slope no steeper than 1:12 (8.33% slope), shall comply with 2010 ADA Standards for Accessible Design, Title II, Chapter 405, section 405.2.	Design Criteria 17.4	C	TH	3/4/2015	C00.003E C15.007A A15.201 A15.202											
22	7.1.4	The ramp runs at the mini-highs shall have a running slope no steeper than 1:12 (8.33% slope), shall comply with 2010 ADA Standards for Accessible Design, Title II, Chapter 405, section 405.2.	Design Criteria 17.4	C	TH	3/4/2015	C00.003E C15.007A A15.201 A15.202											
23	7.1.2	Ramp runs cross slope shall not be steeper than 1:48 (2% slope), shall comply with 2010 ADA Standards for Accessible Design, Title II, Chapter 406, section 405.3	Design Criteria 17.4	C	TH	3/4/2015	C00.003E C15.009A A15.201 A15.202											
24	7.1.2 7.1.3	Clear width of a ramp run and, where handrails are provided, the clear width between handrails shall be 36 inches minimum, shall comply with 2010 ADA Standards for Accessible Design, Title II, Chapter 405, section 405.5.	Design Criteria 17.1.1	C	TH	3/4/2015	A15.202											

25	7.1.2 7.1.3	Landings at tops and bottoms of ramps at the main platforms, will have a clear width at least as wide as the widest ramp run leading to the landing, shall comply with 2010 ADA Standards for Accessible Design, Title II, Chapter 405, section 405.7.2.	Design Criteria 17.4	C	TH	3/4/2015	C00.003E A15.201 A15.202								
26	7.1.3	Landings at tops and bottoms of ramps at the mini-highs, will have a clear width at least as wide as the widest ramp run leading to the landing, shall comply with 2010 ADA Standards for Accessible Design, Title II, Chapter 405, section 405.7.2.	Design Criteria 17.4	C	TH	3/4/2015	C00.003E A15.202								
27	7.1.2 7.1.3	Landings at the main platforms shall have a clear length shall be 60 inches long minimum, and shall comply with 2010 ADA Standards for Accessible Design, Title II, Chapter 405, section 405.7.3.	Design Criteria 17.4	C	TH	3/4/2015	C00.003E A15.201 A15.202								

<b>LEGEND</b>		<b>DESIGN VERIFICATION</b>		<b>CONSTRUCTION VERIFICATION</b>		<b>FINAL VERIFICATION</b>	
<b>Means of Verification - Design</b>		<b>Means of Verification - Construction</b>					
P = Plan Sheet	S = Specification	M = Measurement					
RFI=RFI	O = Other	T = Test PS = Product Sheet					
<b>Status</b>							
C = Compliance							
N = Noncompliance							
P = Partial Compliance							
		Name and Organization:		Name and Organization:		Name and Organization:	
		Date:		Date:		Date:	
		Approved by:		Approved by:		Approved by:	
		Date:		Date:		Date:	

DRAFT

# CFCRT Project Phase 2 South

<b>Safety and Security Certification Elements Design and Construction Conformance Checklists</b>	Design Verification	Construction Verification	Final Verification
Certifiable Element: <u>7.0 Station Platforms</u>  Sub-Element: <u>7.2 Platform Safety Elements</u> Location: <u>Osceola Station A804.52</u>  Contract No.: _____	Notes or Restrictions:	Notes or Restrictions:	Notes or Restrictions:

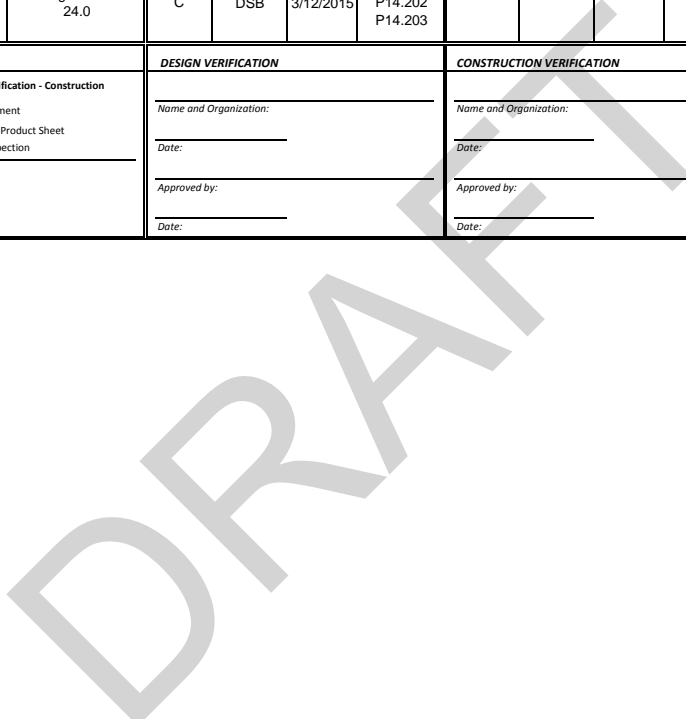
Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	7.2.1	The surface of all station walking surfaces shall be non-skid and of long-wearing weather resistant materials.	Design Criteria 17.5	C	TH	3/4/2015	Section 02780.2.1(A) ASTM C902								
2	7.2.1	Guardrails at main platform at north and south ends shall turn 90 degrees towards the track. End post will be 6 inches on center off the back edge of the detectable warning paver.	Design Criteria 17.4	C	TH	3/4/2015	A20.401 A20.791 A15.201 A15.202								
3	7.2.1	Guardrails at the Mini-High platforms shall turn 90 degrees towards the track. End post will be 6 inches on center off the edge of the platform.	Design Criteria 17.4	C	TH	3/4/2015	A20.401 A20.791 A15.202								
4	7.2.2	Detectable warning pavers at the main platforms, shall comply with 2010 ADA Standards for Accessible Design, Title II. Truncated dome size, spacing and contrast shall follow requirements in chapter 7, part 705.	Design Criteria 17.1.1	C	TH	3/4/2015	A20.401 A20.416 A20.606 A20.794 A15.201 A15.202 TSP 02780								
5	7.2.2	Detectable warning pavers at the mini-highs, shall comply with 2010 ADA Standards for Accessible Design, Title II. Truncated dome size, spacing and contrast shall follow requirements in chapter 7, part 705.	Design Criteria 17.1.1	C	TH	3/4/2015	A20.401 A20.416 A20.614 A20.794 A15.202 TSP 02780								
6	7.2.2	Detectable warning pavers at the crosswalks and walk paths, shall comply with 2010 ADA Standards for Accessible Design, Title II. Truncated dome size, spacing and contrast shall follow requirements in chapter 7, part 705.	Design Criteria 17.1.1	C	TH	3/4/2015	C00.003D, A20.794 A15.202 TSP 02780								
7	7.2.3	Warning stripe stating "STAND BEHIND YELLOW LINE" shall be placed at inside edge of the detectable warning paver. Located 24'-0" O.C. at main platforms.	Design Criteria 17.5	C	TH	3/4/2015	A20.401 A20.416 A20.606 A20.794 A15.201 A15.202 TSP 02780								
8	7.2.3	Warning stripe stating "STAND BEHIND YELLOW LINE" shall be placed at inside edge of the detectable warning paver. Location centered at Mini-High.	Design Criteria 17.5	C	TH	3/4/2015	A20.401 A20.416 A20.614 A20.794 A15.202 TSP 02780								

<b>LEGEND</b>		<b>DESIGN VERIFICATION</b>	<b>CONSTRUCTION VERIFICATION</b>	<b>FINAL VERIFICATION</b>
Means of Verification - Design P = Plan Sheet    S = Specification RFI=RFI            O = Other	Means of Verification - Construction M = Measurement T = Test    PS = Product Sheet V = Visual Inspection	Name and Organization: _____ Date: _____ Approved by: _____ Date: _____	Name and Organization: _____ Date: _____ Approved by: _____ Date: _____	Name and Organization: _____ Date: _____ Approved by: _____ Date: _____
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance				



# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists				Design Verification				Construction Verification				Final Verification			
Certifiable Element: <u>7.0 Station Platforms</u> Sub-Element: <u>7.3 Platform Drainage</u> Location: <u>Osceola Station A804.52</u> Contract No.: _____				Notes or Restrictions:				Notes or Restrictions:				Notes or Restrictions:			
<b>Certifiable Item Description</b>				<b>Design Verification</b>				<b>Construction/Installation</b>				<b>Verification</b>			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	7.3	Concrete base below pavers shall incorporate an underdrain system to transport water away from the platform.	Design Criteria 17.5	C	DSB	3/12/2015	A20.416								
2	7.3	Downspouts shall not flow on to platform or walking surfaces, impede pedestrian flow, or create slippery areas.	Design Criteria 24.0	C	DSB	3/12/2015	P14.201 P14.202 P14.203								
<b>LEGEND</b>				<b>DESIGN VERIFICATION</b>				<b>CONSTRUCTION VERIFICATION</b>				<b>FINAL VERIFICATION</b>			
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection		Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				Name and Organization: _____ Date: _____ Approved by: _____ Date: _____			



# CFCRT Project Phase 2 South

<b>Safety and Security Certification Elements Design and Construction Conformance Checklists</b>	Design Verification	Construction Verification	Final Verification
<b>Certifiable Element:</b> 8.0 Platform Amenities  <b>Sub-Element:</b> 8.1 Canopies <b>Location:</b> Osceola Station A804.52  <b>Contract No.:</b>	Notes or Restrictions:	Notes or Restrictions:	Notes or Restrictions:

Certifiable Item Description				Design Verification				Construction/Installation				Verification				
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	
1	8.1.1 8.2.1	Any station element that could be targeted for theft or vandalism (e.g., light fixtures, sign units, speakers, cameras, etc.) shall be located a minimum of 7 feet 6 inches above traveled pathways.	Design Criteria Section 18.1	C	TH	3/4/2015	A20.605 A20.606 A20.607 A20.614 A20.615									
2	8.1.1 8.2.1	Horizontal elements (e.g., low member of canopy framework, etc.) shall be located a minimum of 9 feet 0 inches and a maximum of 11 feet 0 inches above the traveled pathways.	Design Criteria Section 18.1	C	CM	3/6/2015	S20.601									
3	8.1.1 8.1.2	The canopy shall be located as close as possible to the back of the platform and cantilevered to provide maximum coverage of the platform.	Design Criteria Section 18.2	C	TH	3/4/2015	A20.606 S20.402 S20.601									
4	8.1.2	Protection from rain shall be provided for fare collection equipment, map viewing areas and seating.	Design Criteria Section 18.2	C	TH	3/4/2015	A15.301 A15.302									
5	8.1.2	The design should assume that the rain is falling at a 30 degree angle from vertical (slightly windblown).	Design Criteria Section 18.2	C	DSB	3/12/2015	A20.607 A20.614									
6	8.1.2	Drip lines should not be over traveled pathways.	Design Criteria Section 18.2	C	DSB	3/12/2015	A20.607 A20.614 S20.604 S20.607									
7	8.1.3	Roof deck and fasteners shall resist wind loads to prevent debris during severe storm.	DC Section 23.3.1 and Section 25.1	C	CM	3/6/2015	C00.002E S00.001 TSP 05300 McElroy 11/17/14 Design Calc's									
8	8.1.3	Canopy main structure and anchorage to foundations must resist roof live, dead and wind loads to protect public.	DC Section 23.3.1 and Section 25.1	C	CM	3/6/2015	C00.002E S00.001 S20.701 TSP 05120 McElroy 11/17/14 Design Calc's									
9	8.1.3	Foundations must support main canopy structure and resist anchor bolt loads to provide stability during severe storm.	DC Section 23.3.1 and Section 25.1	C	CM	3/6/2015	C00.002E S00.001 S00.003 TSP 03310 TSP 05120 McElroy 11/17/14 Design Calc's									

10	8.1.2	Slope top of concrete to trench drains and to edges to reduce ponding on platforms to keep walking surface dry.	DC Section 17.3 and 17.4	C	TH	3/4/2015	A20.416 S20.403 S20.709								
11	8.1.4	Offset guardrail post to clear canopy column base and cover to provide guardrail with code required barrier to protect public.	DC Section 17	C	CM	3/6/2015	S20.701								
12	8.1.3	Connections for signage must resist design wind pressures to prevent debris or hazard during severe storm.	DC Section 23.3.1 and Section 25	C	CM	3/6/2015	C00.002E S00.001 S20.711								
13	8.1.4	Precast concrete unit at tactile warning strip must be secured in accordance with manufacturer's written standards to prevent hazard at walkway.	DC Section 17.5	C	TH	3/4/2015	A20.794 TSP 02780								

LEGEND		DESIGN VERIFICATION		CONSTRUCTION VERIFICATION		FINAL VERIFICATION			
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI          O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection		<b>Name and Organization:</b> _____ <b>Date:</b> _____ <b>Approved by:</b> _____ <b>Date:</b> _____		<b>Name and Organization:</b> _____ <b>Date:</b> _____ <b>Approved by:</b> _____ <b>Date:</b> _____		<b>Name and Organization:</b> _____ <b>Date:</b> _____ <b>Approved by:</b> _____ <b>Date:</b> _____	
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance									

DRAFT

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists				Design Verification				Construction Verification				Final Verification							
<b>Certifiable Element:</b> <u>8.0 Platform Amenities</u>  <b>Sub-Element:</b> <u>8.2 Signage and Graphics</u> <b>Location:</b> <u>Osceola Station A804.52</u>  <b>Contract No.:</b> _____				<b>Notes or Restrictions:</b> <u>Note 1: Sign content to be provided by</u> <u>others</u> _____ _____ _____				<b>Notes or Restrictions:</b> _____ _____ _____				<b>Notes or Restrictions:</b> _____ _____ _____							
Certifiable Item Description				Design Verification				Construction/Installation				Verification							
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification				
1	8.2.1 8.2.2	Station platform signs with the name of the station must be visible so that riders can identify the station from within the train and know whether or not to get off the train. Station names must be clearly visible and within the sight lines of standing and sitting riders from within the vehicle on both sides when not obstructed by another vehicle.	ADA Standards for Transportation Facilities Section 810.6.3 Station Names	C	TBG	3/6/2015	W15.705, W15.706, W15.707 W20.716A												
2	8.2.2	Station Platform Identification (Type I Sign): All font sizes to conform to applicable/relevant legibility standards.	Design Criteria Section 21.1, 2010 ADA Standards for Accessible Design Section 703 Signs	C	TBG	3/6/2015	W15.705, W15.707												
3	8.2.2	Directory (Type K Sign): all font sizes to conform to applicable/relevant legibility standards.	Design Criteria Section 21.1, 2010 ADA Standards for Accessible Design Section 703 Signs	N/A			Note 1												
4	8.2.2	Directory Sign (Type K Sign) to be internally illuminated.	Design Criteria Section 21.1	C	TBG	3/6/2015	W20.717												
<b>LEGEND</b> <table style="width:100%; border: none;"> <tr> <td style="width: 50%; border: none;"> <b>Means of Verification - Design</b>            P = Plan Sheet    S = Specification            RFI=RFI            O = Other         </td> <td style="width: 50%; border: none;"> <b>Means of Verification - Construction</b>            M = Measurement            T = Test    PS = Product Sheet            V = Visual Inspection         </td> </tr> <tr> <td colspan="2" style="border: none;"> <b>Status</b>            C = Compliance            N = Noncompliance            P = Partial Compliance         </td> </tr> </table>				<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other	<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection	<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance		<b>DESIGN VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				<b>CONSTRUCTION VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				<b>FINAL VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____			
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other	<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection																		
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance																			

# CFCRT Project Phase 2 South

<b>Safety and Security Certification Elements Design and Construction Conformance Checklists</b>	Design Verification	Construction Verification	Final Verification
Certifiable Element: <u>8.0 Platform Amenities</u>  Sub-Element: <u>8.3 Electrical</u> Location: <u>Osceola Station A804.52</u>  Contract No.: _____	Notes or Restrictions:	Notes or Restrictions:	Notes or Restrictions:

Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	8.3.2	Duplex GFCI electrical outlet boxes are to be located flush mounted to the finished vertical face and shall have lockable covers.	Design Criteria 18.9	C	VMD	3/2/2015	A20.794 E00.701 E00.703 E15.201 E15.202								
2	8.3.1	Grounds shall be provided for transformer cases and other metal housing for transformers and associated apparatus.	Design Criteria Section 11.11	C	VMD	3/2/2015	E00.702 E00.704 E00.705 TSP 16060								
3	8.3.1	The grounding system shall have a resistance to earth of not more than 5 ohms.	Design Criteria Section 11.11	C	VMD	3/2/2015	TSP 16060.3.5.F. 1								
4	8.3.2	All equipment cabinet sites shall have both primary and secondary surge protection on the AC power.	Design Criteria Section 15.7.11	C	VMD	3/2/2015	E00.702 E15.001								
5	8.3.2	The receptacles, switches, and light fixtures shall use a minimum of AWG #12 copper wires.	Design Criteria Section 15.7.11	C	VMD	3/2/2015	C00.002H E15.001								
6	8.3.2	Provide two 110V, 20 amp, single phase GFI protected electrical receptacles in weatherproof housing/box with a lockable cover located to allow full coverage of the platform and fare vending area(s) with a 75 foot extension cord.	Design Criteria Section 18.9	C	VMD	3/2/2015	E00.701 E00.703 E15.201 E15.202								
7	8.3.3	Each station shall be equipped with emergency battery backup lighting (90 minutes).	Design Criteria Section 19.6	C	VMD	3/2/2015	E15.301 E15.302 TSP 16265.2.5.A. 1								
8	8.3.5	Light fixtures for platform illumination shall be incorporated into the integrated structural elements of the station canopy and light standards and shall serve to illuminate signage as well as platform edge, advertising, seating, fare areas, ramps and stairs.	Design Criteria Section 19.4	C	VMD	3/2/2015	E00.704 E15.301 E15.302								
9	8.3	The design should minimize the opportunity for standing water to accumulate.	Design Criteria 18.9	C	VMD	3/2/2015	E00.701 E00.703								

LEGEND		DESIGN VERIFICATION				CONSTRUCTION VERIFICATION				FINAL VERIFICATION			
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection				Name and Organization: _____ Date: _____				Name and Organization: _____ Date: _____			
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance						Approved by: _____ Date: _____				Approved by: _____ Date: _____			



# CFCRT Project Phase 2 South

<b>Safety and Security Certification Elements Design and Construction Conformance Checklists</b>	Design Verification	Construction Verification	Final Verification
Certifiable Element: <u>8.0 Platform Amenities</u>  Sub-Element: <u>8.5 Amenity Specifications</u> Location: <u>Osceola Station A804.52</u>  Contract No.: _____	Notes or Restrictions:	Notes or Restrictions:	Notes or Restrictions:

Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	8.5.2	Align all joints at guardrails at the main platforms.	Design Criteria 17.4	C	TH	3/4/2015	TSP 05525.3.2								
2	8.5.2	Align all joints at guardrails at the mini-highs.	Design Criteria 17.4	C	TH	3/4/2015	TSP 05525.3.2								
3	8.5.2	Handrails shall have a continuous smooth surface with no rough or sharp edges at the main platforms.	Design Criteria 17.4	C	TH	3/4/2015	TSP 05525.2.3.G								
4	8.5.2	Handrails shall have a continuous smooth surface with no rough or sharp edges at the mini-highs.	Design Criteria 17.4	C	TH	3/4/2015	TSP 05525.2.3.G								
5	8.5.1	Bench and/or seat designs shall strongly discourage individuals from lying down and/or sleeping.	Design Criteria Section 18.3	C	TH	3/4/2015	H20.718 H20.723 TSP 02870								
6	8.5.1	Seats shall not permit rain to accumulate nor stain easily when vandalized by graffiti.	Design Criteria Section 18.3	C	TH	3/4/2015	H20.718 H20.723 TSP 02870								
7	8.5.3	Trash receptacles with clear plastic containers shall be provided.	Design Criteria Section 18.7	C	TH	3/4/2015	H20.719 H20.723 TSP 02870								
8	8.5.3	Trash receptacles shall not be placed in the travel path of the station platforms.	Design Criteria Section 18.7	C	TH	3/4/2015	A15.201 A15.202								

LEGEND		DESIGN VERIFICATION	CONSTRUCTION VERIFICATION	FINAL VERIFICATION
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other	<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection	Name and Organization: _____ Date: _____ Approved by: _____ Date: _____	Name and Organization: _____ Date: _____ Approved by: _____ Date: _____	Name and Organization: _____ Date: _____ Approved by: _____ Date: _____

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists				Design Verification				Construction Verification				Final Verification			
Certifiable Element: <u>9.0 Parking / Plaza/Station Boundary</u>  Sub-Element: <u>9.1 Intrusion Deterrents</u> Location: <u>Osceola Station A804.52</u>  Contract No.: _____				Notes or Restrictions:				Notes or Restrictions:				Notes or Restrictions:			
Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	9.1	Hazard rock shall be used to channelize pedestrians away from unauthorized areas/ deter trespass activity at the station locations.	Design Criteria Section 17.6.1	C	TBG	3/5/2015	H15.007A H20.723								
2	9.1	Decorative fencing provided in the station area shall provide a barrier for safety and security by reinforcing designated pedestrian and vehicular circulation system movement.	Design Criteria Section 20.6.3.6	C	TBG	3/5/2015	H20.711 H15.007A H15.007C H20.723 TSP 02826								
3	9.1	Vinyl coated chain link fencing provided in the station area shall provide a barrier for safety and security by reinforcing designated pedestrian and vehicular circulation system movement.	Design Criteria Section 20.6.3.7	C	TBG	3/5/2015	H20.711 H15.007A H15.007B H15.007C H20.723 TSP 02820								
4	9.1	Provide bollards at potential vehicular access locations around the station perimeter.	Design Criteria Section 20.1	C	TBG	3/5/2015	H20.715 H15.007A H15.007C H20.723 TSP 02871								
<b>LEGEND</b>				<b>DESIGN VERIFICATION</b>				<b>CONSTRUCTION VERIFICATION</b>				<b>FINAL VERIFICATION</b>			
Means of Verification - Design P = Plan Sheet    S = Specification RFI=RFI            O = Other		Means of Verification - Construction M = Measurement T = Test    PS = Product Sheet V = Visual Inspection		Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				Name and Organization: _____ Date: _____ Approved by: _____ Date: _____			



# CFCRT Project Phase 2 South

<b>Safety and Security Certification Elements Design and Construction Conformance Checklists</b>				Design Verification				Construction Verification				Final Verification			
Certifiable Element: <u>9.0 Parking / Plaza/Station Boundary</u>  Sub-Element: <u>9.2 Pavement Marking</u> Location: <u>Osceola Station A804.52</u>  Contract No.: _____				Notes or Restrictions:				Notes or Restrictions:				Notes or Restrictions:			
<b>Certifiable Item Description</b>				<b>Design Verification</b>				<b>Construction/Installation</b>				<b>Verification</b>			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	9.2	Minimum dimensions for vehicular stalls shall be minimum 8.5 feet wide and 18 feet deep, unless otherwise dictated by governing entity/municipality.	Design Criteria Section 20.6	C	DSB	3/12/2015	C15.013A C15.013B C15.013C C15.013E C15.013F								
<b>LEGEND</b> Means of Verification - Design P = Plan Sheet    S = Specification RFI=RFI            O = Other  Status C = Compliance N = Noncompliance P = Partial Compliance				<b>DESIGN VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				<b>CONSTRUCTION VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				<b>FINAL VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____			



# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists				Design Verification				Construction Verification				Final Verification			
Certifiable Element: <u>9.0 Parking / Plaza/Station Boundary</u> Sub-Element: <u>9.3 Drainage</u> Location: <u>Osceola Station A804.52</u> Contract No.: _____				Notes or Restrictions:				Notes or Restrictions:				Notes or Restrictions:			
<b>Certifiable Item Description</b>				<b>Design Verification</b>				<b>Construction/Installation</b>				<b>Verification</b>			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	9.3	Drainage shall be provided along walkway surface to collect rainwater and drain to an approved storm water collection system.	Design Criteria 19.3	C	DSB	3/12/2015	C15.007A C15.007B C15.007C C15.007E C15.007F								
<b>LEGEND</b> Means of Verification - Design P = Plan Sheet    S = Specification RFI=RFI            O = Other Status C = Compliance N = Noncompliance P = Partial Compliance				<b>DESIGN VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				<b>CONSTRUCTION VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				<b>FINAL VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____			

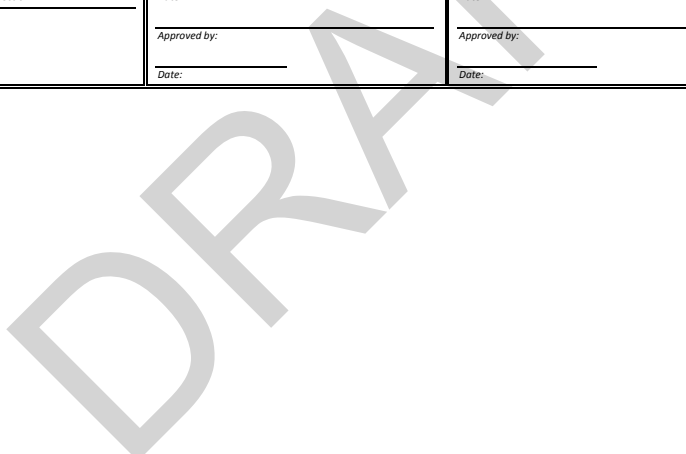
DRAFT

# CFCRT Project Phase 2 South

<b>Safety and Security Certification Elements Design and Construction Conformance Checklists</b>	Design Verification	Construction Verification	Final Verification
<b>Certifiable Element:</b> 9.0 Parking / Plaza/Station Boundary <hr/> <b>Sub-Element:</b> 9.4 Pedestrian Routes <b>Location:</b> Osceola Station A804.52 <hr/> <b>Contract No.:</b> _____	Notes or Restrictions:	Notes or Restrictions:	Notes or Restrictions:

Certifiable Item Description				Design Verification				Construction/Installation				Verification				
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	
1	9.4	Pedestrian circulation shall provide direct and convenient approaches to station platforms from off the site and from each of the individual sections of the lot.	Design Criteria Section 20.6.5	C	DSB	3/12/2015	C15.007A C15.007B C15.007C C15.007E C15.007F									
2	9.4	Walkways shall be at least 5 feet 0 inches wide.	Design Criteria Section 20.6.5	C	DSB	3/12/2015	C15.007A C15.007B C15.007C C15.007E C15.007F									
3	9.4	Design does not allow short cuts through the bus bays by adding fencing or other means.	Design Criteria Section 20.6.5	C	TBG	3/5/2015	H20.708 H20.709 H15.007C H15.007D									

<b>LEGEND</b>				<b>DESIGN VERIFICATION</b>				<b>CONSTRUCTION VERIFICATION</b>				<b>FINAL VERIFICATION</b>			
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection		Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				Name and Organization: _____ Date: _____ Approved by: _____ Date: _____			
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance															



# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists				Design Verification				Construction Verification				Final Verification				
<b>Certifiable Element:</b> <u>9.0 Parking / Plaza/Station Boundary</u>  <b>Sub-Element:</b> <u>9.5 Entrance/Exits</u> <b>Location:</b> <u>Osceola Station A804.52</u>  <b>Contract No.:</b> _____				<b>Notes or Restrictions:</b> _____ _____ _____ _____ _____				<b>Notes or Restrictions:</b> _____ _____ _____ _____ _____				<b>Notes or Restrictions:</b> _____ _____ _____ _____ _____				
Certifiable Item Description				Design Verification				Construction/Installation				Verification				
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	
1	9.5	The minimum distance between any intersection and a station entrance should be 150 feet or as required for weaving and/or left hand turn stacking, whichever is greater.	Design Criteria Section 20.2	C	DSB	3/12/2015	C15.007 C15.007F C15.014A									
2	9.5	For larger stations, more than one station exit to the local street system shall be considered to reduce traffic delays.	Design Criteria Section 20.3	C	DSB	3/12/2015	C15.007 C15.007F C15.014A									
3	9.5	Kiss-and-ride drop-off shall be separated from the parking area and shall have direct routing from the adjacent street to drop-off and pick-up points and back to the adjacent street system.	Design Criteria Section 20.5	C	DSB	3/12/2015	C15.007 C15.007C									
4	9.5	Conflicts should be avoided between entrance roadways and large pedestrian movements.	Design Criteria Section 20.2	C	DSB	3/12/2015	C15.007 C15.007A C15.007C C15.007E C15.007F									
LEGEND				DESIGN VERIFICATION				CONSTRUCTION VERIFICATION				FINAL VERIFICATION				
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI         O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection		<b>Name and Organization:</b> _____ <b>Date:</b> _____ <b>Approved by:</b> _____ <b>Date:</b> _____				<b>Name and Organization:</b> _____ <b>Date:</b> _____ <b>Approved by:</b> _____ <b>Date:</b> _____				<b>Name and Organization:</b> _____ <b>Date:</b> _____ <b>Approved by:</b> _____ <b>Date:</b> _____				

# CFCRT Project Phase 2 South

<b>Safety and Security Certification Elements Design and Construction Conformance Checklists</b>	Design Verification	Construction Verification	Final Verification
------------------------------------------------------------------------------------------------------	---------------------	---------------------------	--------------------

<b>Certifiable Element:</b> 9.0 Parking / Plaza/Station Boundary <hr/> <b>Sub-Element:</b> 9.6 Way-Finding Signage <b>Location:</b> Osceola Station A804.52 <hr/> <b>Contract No.:</b> _____	<b>Notes or Restrictions:</b> <hr/> <hr/> <hr/> <hr/>	<b>Notes or Restrictions:</b> <hr/> <hr/> <hr/> <hr/>	<b>Notes or Restrictions:</b> <hr/> <hr/> <hr/> <hr/>
-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------	-------------------------------------------------------------------	-------------------------------------------------------------------

Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	9.6	Station Identification Pylon (Type A Sign): All font sizes to conform to applicable/relevant legibility standards.	Design Criteria Section 22.1, 2010 ADA Standards for Accessible Design Section 703 Signs	C	TBG	3/5/2015	W15.700								
2	9.6	Station Identification Pylon (Type A Sign) to be internally illuminated or with uplighting.	Design Criteria Section 21.1	C	TBG	3/5/2015	W20.701 W20.705								
3	9.6	Vehicular Entrance Directional (Type B Sign): All font sizes to conform to applicable/relevant legibility standards.	Design Criteria Section 21.1, 2010 ADA Standards for Accessible Design Section 703 Signs	C	TBG	3/5/2015	W15.701								
4	9.6	Vehicular Entrance Directional (Type B Sign) indirectly illuminated by site lighting.	Design Criteria Section 21.1	C	TBG	3/5/2015	W15.007C								
5	9.6	Vehicular Wayfinding Signs (Type C Sign): All font sizes to conform to applicable/relevant legibility standards.	Design Criteria Section 21.1, 2010 ADA Standards for Accessible Design Section 703 Signs	C	TBG	3/5/2015	W15.702								
6	9.6	Vehicular Wayfinding Signs (Type C Sign) indirectly illuminated by site lighting.	Design Criteria Section 21.1	C	TBG	3/5/2015	W15.007A W15.007C								
7	9.6	Pedestrian Wayfinding Signs (Type E, F Signs): All font sizes to conform to applicable/relevant legibility standards.	Design Criteria Section 21.1, 2010 ADA Standards for Accessible Design Section 703 Signs	C	TBG	3/5/2015	W15.703 W15.704								
8	9.6	Pedestrian Wayfinding Signs (Type E, F Signs) indirectly illuminated by site lighting.	Design Criteria Section 21.1	C	TBG	3/5/2015	W15.007A W15.007C								
9	9.6	An area shall be provided on the Station Identification Pylon, Vehicular Entrance Directional, and the Directory Sign for the Sunrail Logo (Type A, B, C Signs)	Design Criteria Section 21.1	C	TBG	3/5/2015	W15.700 W15.701 W15.702								

LEGEND		DESIGN VERIFICATION	CONSTRUCTION VERIFICATION	FINAL VERIFICATION
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other	<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection	Name and Organization: _____ Date: _____ Approved by: _____ Date: _____	Name and Organization: _____ Date: _____ Approved by: _____ Date: _____	Name and Organization: _____ Date: _____ Approved by: _____ Date: _____

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists				Design Verification				Construction Verification				Final Verification				
Certifiable Element: <u>9.0 Parking / Plaza/Station Boundary</u>  Sub-Element: <u>9.8 Electrical</u> Location: <u>Osceola Station A804.52</u>  Contract No.: _____				Notes or Restrictions:				Notes or Restrictions:				Notes or Restrictions:				
<b>Certifiable Item Description</b>				<b>Design Verification</b>				<b>Construction/Installation</b>				<b>Verification</b>				
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	
1	9.8	Artificial light sources to obtain the required foot candle levels shall be no higher than 12 feet in station plaza.	Design Criteria Section 19.4	C	VMD	3/2/2015	E15.001 E15.002 E15.003 E15.004									
2	9.8	Artificial light sources to obtain the required foot candle levels shall be no higher than 24 feet in parking lots.	Design Criteria Section 19.4	C	VMD	3/2/2015	E15.001 E15.004									
3	9.8	Pole foundations shall extend 24 inches above parking lot grade when not located behind curb or curb stops to reduce pole damage.	Design Criteria Section 19.4	C	VMD	3/2/2015	E00.705 E15.004									
4	9.8	All light fixtures shall be: • Vandal resistant construction • U.L. rated for exterior use • Reasonable to maintain • Designed to withstand corrosive environments • High wind proof	Design Criteria Section 19.4	C	VMD	3/2/2015	E16.001 TSP 16521									
5	9.8	Artificial lighting shall be provided for safety in all open station site areas with due consideration for adjacent land uses.	Design Criteria Section 19.4	C	VMD	3/2/2015	E15.002 E15.003 E15.004 Photometrics									
6	9.8	If the vehicles are capable of hitting light poles when being parked, curbs or concrete around the light poles shall be added.	Design Criteria Section 19.4	C	VMD	3/2/2015	E00.705 E15.004									
7	9.8	Light pole, anchorage and foundations must resist wind loads to prevent hazard during severe storm.	Design Criteria Section 19.4	C	CM	3/6/2015	C00.002E C00.002F S00.001 S20.710 TSP 03310									
<b>LEGEND</b>				<b>DESIGN VERIFICATION</b>				<b>CONSTRUCTION VERIFICATION</b>				<b>FINAL VERIFICATION</b>				
Means of Verification - Design P = Plan Sheet    S = Specification RFI=RFI            O = Other		Means of Verification - Construction M = Measurement T = Test    PS = Product Sheet V = Visual Inspection		Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				

# CFCRT Project Phase 2 South

<b>Safety and Security Certification Elements Design and Construction Conformance Checklists</b>	<b>Design Verification</b>	<b>Construction Verification</b>	<b>Final Verification</b>
<b>Certifiable Element:</b> 9.0 Parking / Plaza/Station Boundary  <b>Sub-Element:</b> 9.9 Landscaping <b>Location:</b> Osceola Station A804.52  <b>Contract No.:</b>	<b>Notes or Restrictions:</b> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	<b>Notes or Restrictions:</b> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	<b>Notes or Restrictions:</b> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>

Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	9.9	Design to follow CPTED guidelines to provide a safe and secure environment throughout the transit system.	Design Criteria Section 22.4	C	TBG	3/5/2015	C00.002D NOTE #8								
2	9.9	Control access to the system by reinforcing designated pedestrian and vehicular circulation system movement and creating barriers elsewhere along the ROW as required.	Design Criteria Section 22.1	C	TBG	3/5/2015	L15.007A L15.007B L15.007C								
3	9.9	Plant material will be selected to minimize obstruction of pedestrian paths.	Design Criteria Section 22.6.1	C	TBG	3/5/2015	L15.007A L15.007B L15.007C L20.702								
4	9.9	Plant material will be selected to provide clear sight lines and to minimize hiding places	Design Criteria Section 22.6.1	C	TBG	3/5/2015	L15.007A L15.007B L15.007C L20.702								
5	9.9	Plant material will be selected to minimize maintenance.	Design Criteria Section 22.6.1	C	TBG	3/5/2015	L15.007A L15.007B L15.007C L20.702								

LEGEND		DESIGN VERIFICATION		CONSTRUCTION VERIFICATION		FINAL VERIFICATION	
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection		<b>Name and Organization:</b> _____ <b>Date:</b> _____		<b>Name and Organization:</b> _____ <b>Date:</b> _____	
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance		<b>Approved by:</b> _____ <b>Date:</b> _____		<b>Approved by:</b> _____ <b>Date:</b> _____		<b>Approved by:</b> _____ <b>Date:</b> _____	

# CFCRT Project Phase 2 South

<b>Safety and Security Certification Elements</b> <b>Design and Construction Conformance Checklists</b>	Design Verification	Construction Verification	Final Verification
<b>Certifiable Element:</b> 9.0 Parking / Plaza/Station Boundary <hr/> <b>Sub-Element:</b> 9.10 Hardscaping <b>Location:</b> Osceola Station A804.52 <hr/> <b>Contract No.:</b> _____	<b>Notes or Restrictions:</b> Note 1: None at this location <hr/> <hr/> <hr/> <hr/>	<b>Notes or Restrictions:</b> <hr/> <hr/> <hr/> <hr/>	<b>Notes or Restrictions:</b> <hr/> <hr/> <hr/> <hr/>

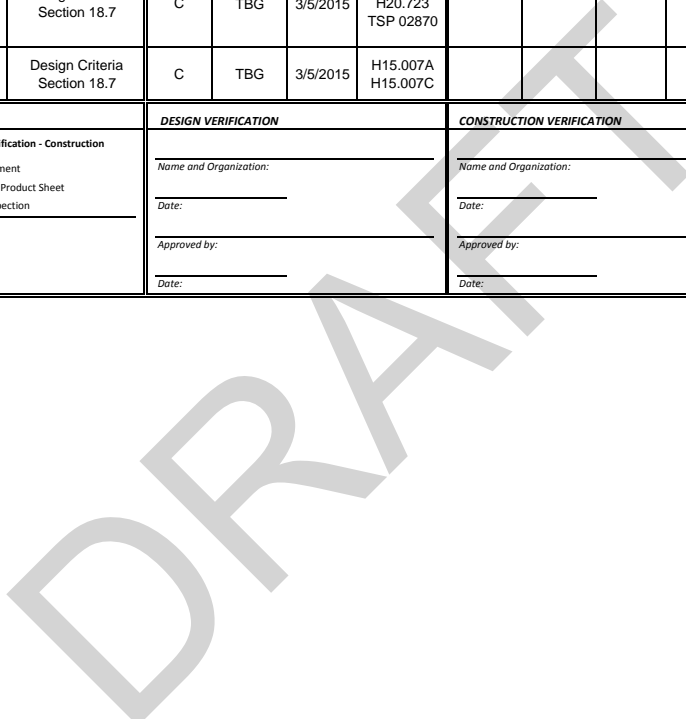
Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	9.10	Concrete Pavers - Material shall be precast concrete pavers with integral color.	Design Criteria Section 20.6.3.3	N/A			Note 1								
2	9.10 9.14	Concrete Pavers - Walking surface is non-skid and conforms to ADA regulations.	Design Criteria Section 20.6.3.3, 2010 ADA Standards for Accessible Design Section 302 Floor of Ground Surfaces, 303 Changes in Level	N/A			Note 1								
3	9.10 9.14	Concrete Paving in plaza is to be non-ski and conforms to ADA regulations.	Design Criteria Section 20.6.3.3, 2010 ADA Standards for Accessible Design Section 302 Floor of Ground Surfaces, 303 Changes in Level	C	TBG	3/5/2015	H20.702								
4	9.10	Stamped Concrete - Material shall be integral color or color hardener.	Design Criteria Section 20.6.3.4	C	TBG	3/5/2015	TSP 03355.2.2.A TSP 03355.2.2.C								
5	9.10 9.14	Stamped Concrete - Surface is non-skid and conforms to ADA regulations.	Design Criteria Section 20.6.3.4, 2010 ADA Standards for Accessible Design Section 302 Floor of Ground Surfaces, 303 Changes in Level	C	TBG	3/5/2015	H20.701, H20.702								
6	9.10	Stamped Concrete - Surface is sealed.	Design Criteria Section 20.6.3.4	C	TBG	3/5/2015	TSP 03355.2.2.E								
7	9.10	18" Ht. Seat walls to be easily viewed from all sides to minimize hiding places.	Design Criteria Section 20.6.3.1	C	TBG	3/5/2015	H15.007A H15.007C								
8	9.10	18" Ht. Seat walls to include skate deterrent brackets.	Design Criteria Section 20.6.3.1	C	TBG	3/5/2015	H20.714 TSP 02872								

LEGEND		DESIGN VERIFICATION		CONSTRUCTION VERIFICATION		FINAL VERIFICATION	
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI          O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection		Name and Organization: _____ Date: _____		Name and Organization: _____ Date: _____	
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance		Approved by: _____ Date: _____		Approved by: _____ Date: _____		Approved by: _____ Date: _____	



# CFCRT Project Phase 2 South

<b>Safety and Security Certification Elements Design and Construction Conformance Checklists</b>				Design Verification				Construction Verification				Final Verification			
Certifiable Element: <u>9.0 Parking / Plaza/Station Boundary</u>  Sub-Element: <u>9.11 Amenities</u> Location: <u>Osceola Station A804.52</u>  Contract No.: _____				Notes or Restrictions:				Notes or Restrictions:				Notes or Restrictions:			
<b>Certifiable Item Description</b>				<b>Design Verification</b>				<b>Construction/Installation</b>				<b>Verification</b>			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	9.11	Bench and/or seat designs shall strongly discourage individuals from lying down and/or sleeping.	Design Criteria Section 18.3	C	TBG	3/5/2015	H20.718 H20.723								
2	9.11	Trash receptacles with clear plastic containers shall be provided on the platforms, fare vending area, platform plaza, and bus/shuttle areas.	Design Criteria Section 18.7	C	TBG	3/5/2015	H20.719 H20.723 TSP 02870								
3	9.11	Trash receptacles shall not be provided for the parking or kiss-and-ride areas.	Design Criteria Section 18.7	C	TBG	3/5/2015	H15.007A H15.007C								
<b>LEGEND</b>				<b>DESIGN VERIFICATION</b>				<b>CONSTRUCTION VERIFICATION</b>				<b>FINAL VERIFICATION</b>			
Means of Verification - Design P = Plan Sheet    S = Specification RFI=RFI            O = Other		Means of Verification - Construction M = Measurement T = Test    PS = Product Sheet V = Visual Inspection		Name and Organization: _____  Date: _____  Approved by: _____  Date: _____				Name and Organization: _____  Date: _____  Approved by: _____  Date: _____				Name and Organization: _____  Date: _____  Approved by: _____  Date: _____			



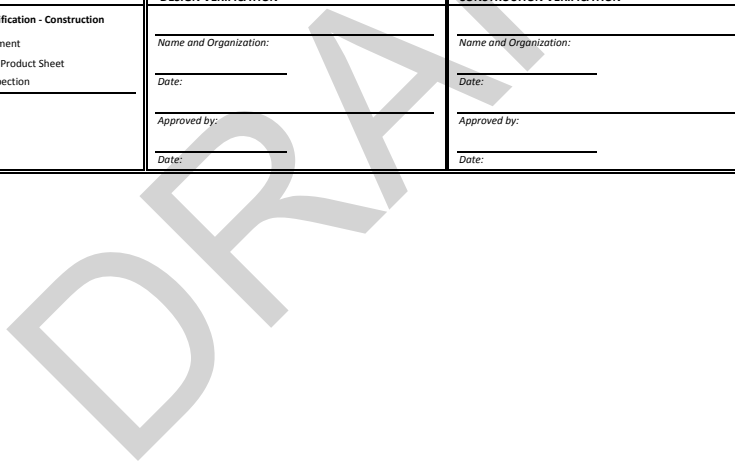
# CFCRT Project Phase 2 South

<b>Safety and Security Certification Elements Design and Construction Conformance Checklists</b>				Design Verification				Construction Verification				Final Verification			
<b>Certifiable Element:</b> 9.0 Parking / Plaza/Station Boundary <hr/> <b>Sub-Element:</b> 9.12 Art-in-Transit <b>Location:</b> Osceola Station A804.52 <hr/> <b>Contract No.:</b> _____				<b>Notes or Restrictions:</b> <hr/> Note 1: Will need to be verified after ART shop drawings are provided. <hr/> <hr/> <hr/> <hr/>				<b>Notes or Restrictions:</b> <hr/> <hr/> <hr/> <hr/> <hr/>				<b>Notes or Restrictions:</b> <hr/> <hr/> <hr/> <hr/> <hr/>			
<b>Certifiable Item Description</b>				<b>Design Verification</b>				<b>Construction/Installation</b>				<b>Verification</b>			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	9.12	Art-in-Transit shall be appropriate for site, including safety and security considerations and scale.	Design Criteria Section 20.6.3.8	N/A			Note 1								
2	9.12	Durability of materials.	Design Criteria Section 20.6.3.8	N/A			Note 1								
3	9.12	Resistance to vandalism.	Design Criteria Section 20.6.3.8	N/A			Note 1								
4	9.12	No sharp edges if located in pedestrian accessible area.	Design Criteria Section 20.6.3.8	N/A			Note 1								
<b>LEGEND</b>				<b>DESIGN VERIFICATION</b>				<b>CONSTRUCTION VERIFICATION</b>				<b>FINAL VERIFICATION</b>			
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test   PS = Product Sheet V = Visual Inspection		Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				Name and Organization: _____ Date: _____ Approved by: _____ Date: _____			



# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists				Design Verification				Construction Verification				Final Verification			
<b>Certifiable Element:</b> 9.0 Parking / Plaza/Station Boundary <b>Sub-Element:</b> 9.13 Bicycle Storage <b>Location:</b> Osceola Station A804.52 <b>Contract No.:</b>				Notes or Restrictions:				Notes or Restrictions:				Notes or Restrictions:			
<b>Certifiable Item Description</b>				<b>Design Verification</b>				<b>Construction/Installation</b>				<b>Verification</b>			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	9.13	Bicycle storage provided in the station area (not in close proximity to the platform or plaza area where people congregate).	Design Criteria Section 20.6.3.5	C	TBG	3/5/2015	H20.710 H20.721 H15.007A H15.007C H20.723 TSP 02870								
2	9.13	Constructed of hard surfaces.	Design Criteria Section 20.6.3.5	C	TBG	3/5/2015	H20.710 H20.721 H15.007A H15.007C H20.723 TSP 02870								
3	9.13	Easily accessible to the interior station site and the street system.	Design Criteria Section 20.6.3.5	C	TBG	3/5/2015	H15.007A H15.007C								
4	9.13	Located for minimum interference with pedestrian flow.	Design Criteria Section 20.6.3.5	C	TBG	3/5/2015	H15.007A H15.007C								
5	9.13	Provide secure bike racks to allow bicycles to be locked.	Design Criteria Section 20.6.3.5	C	TBG	3/5/2015	H20.721 H15.007A H15.007C								
<b>LEGEND</b> <b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other <b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection <b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance				<b>DESIGN VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				<b>CONSTRUCTION VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				<b>FINAL VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____			



# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists				Design Verification				Construction Verification				Final Verification				
<b>Certifiable Element:</b> 9.0 Parking / Plaza/Station Boundary  <b>Sub-Element:</b> 9.14 ADA Requirement <b>Location:</b> Osceola Station A804.52  <b>Contract No.:</b> _____				<b>Notes or Restrictions:</b> _____ _____ _____ _____ _____				<b>Notes or Restrictions:</b> _____ _____ _____ _____ _____				<b>Notes or Restrictions:</b> _____ _____ _____ _____ _____				
Certifiable Item Description				Design Verification				Construction/Installation				Verification				
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	
1	9.14	Number of designated accessible parking spaces provided is appropriate for the station.	DOT Standards 208.502, FL Statute 17346	C	DSB	3/12/2015	C14.007 C14.007D C14.007E									
2	9.14	Signs that are being placed on the track side of a station sidewalk need to be located as far as practical from the tracks and adjacent to the sidewalk.	Design Criteria Section 4.2	C	TBG	3/3/2015	W15.007A									
3	9.14	Accessible parking spaces at stations shall be provided near the station platform and in conformance with State and Federal requirements, in particular 49 CFR Parts 27, 37 and 38 and the 2010 ADA Standards for Accessible Design 2010 Standards Section 206 and 208 and the Highway Capacity Manual.	Design Criteria Section 20.6.1	C	DSB	3/12/2015	C14.007D C14.007E C00.003C C00.002A GENNOTE#2									
4	9.14	Continuous smooth surface ramps without vertical rises and grades less than 8 percent shall be provided from the handicapped parking surface to sidewalks and station platforms.	Design Criteria Section 20.6.1	C	DSB	3/12/2015	C00.003C C14.009D C14.009E									
5	9.14	The placement of these parking spaces within the stations' footprints shall consider the distance individuals with disabilities must travel as well as user convenience.	Design Criteria Section 20.6.1	C	DSB	3/12/2015	C15.007A									
<b>LEGEND</b>				<b>DESIGN VERIFICATION</b>				<b>CONSTRUCTION VERIFICATION</b>				<b>FINAL VERIFICATION</b>				
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection		Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance																

# CFCRT Project Phase 2 South

<b>Safety and Security Certification Elements Design and Construction Conformance Checklists</b>	Design Verification	Construction Verification	Final Verification
Certifiable Element: <u>10.0 Utility Yard</u>  Sub-Element: <u>10.1 Station Utility Yard Components</u> Location: <u>Osceola Station A804.52</u>  Contract No.: _____	Notes or Restrictions:	Notes or Restrictions:	Notes or Restrictions:

Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	10.1	Ensure that the surge suppressors and lightning arrestors are capable of meeting or exceeding the device protection requirements as contained in Section 785-1.	Design Criteria Section 15.7.11	C	SY	3/20/2015	TSP 17100, 3.2 A. 10 TSP 17140, 1.01								
2	10.1	Consider multiple devices installed in the same equipment cabinet to be a single installation for the purpose of providing grounding and surge suppression.	Design Criteria Section 15.7.11	C	SY	3/20/2015	E00.705 E15.001 M20.711								
3	10.1	Provide the equipment cabinet with a transfer switch rated for the design load of the cabinet's main breaker to provide an alternate power source using a generator.	Design Criteria Section 15.7.11	C	VMD	3/2/2015	E00.702 E00.705 E15.001 TSP 16415, 2.2								
4	10.1	Include a generator connection consisting of, at a minimum, the manual transfer switch and twist-lock connector for generator hookup.	Design Criteria Section 15.7.11	C	VMD	3/2/2015	E00.702 E00.705 E15.001 TSP 16415, 2.2								
5	10.1	Locate this generator panel as close as possible to the main AC circuit breaker. Never locate the generator access panel on the main cabinet door or back door.	Design Criteria Section 15.7.11	C	VMD	3/2/2015	E00.702 E00.705 E15.001								
6	10.1	Ensure that the cabinet is able to utilize a mobile emergency generator during power outages. The emergency generator connection shall allow the station site to be powered from a portable generator in the event that both the commercial power and emergency power is lost.	Design Criteria Section 15.7.11, 3.3	C	VMD	3/2/2015	E00.702 E00.705 E15.001								
7	10.1	Communications equipment shall be housed in weather-proof cabinets in the station utility yard.	Design Criteria Section 15.7.5	C	SY	3/20/2015	TSP 17140, 2.02, A.								
8	10.1	The utility yard equipment shall be serviced with a UPS to provide continuous power with at least 90 minutes of back-up power.	Design Criteria Section 15.7.5	C	SY	3/20/2015	M20.701 TSP 17840 1.01, and 2.01.								

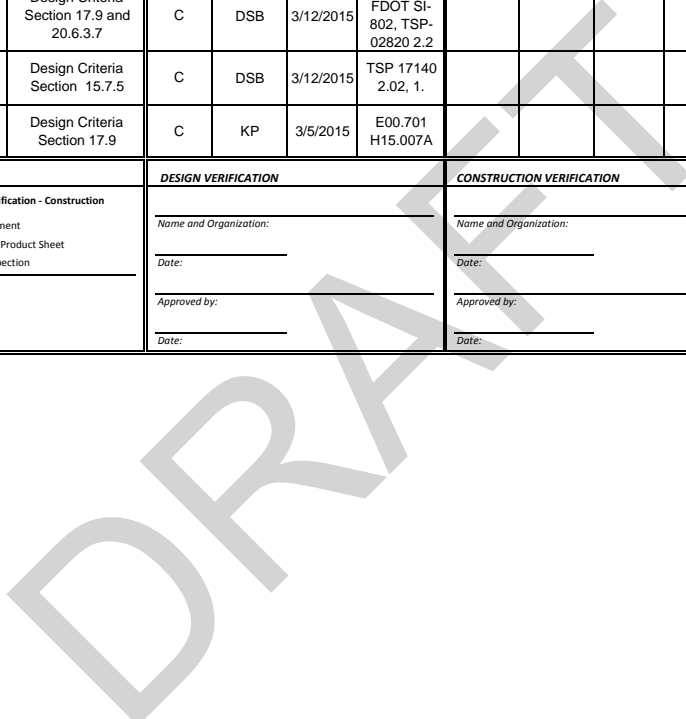
9	10.1	Cabinets shall be installed above the 100-year flood plain.	Design Criteria Section 15.7.5	C	DSB	3/20/2015	C15.009A								
10	10.1	Each equipment cabinet shall be equipped with an approved RPU and shall monitor all alarms within the equipment cabinet as well as other alarms (i.e., ECB operation).	Design Criteria Section 15.7.5	C	SY	3/20/2015	TSP 17850, 1.01 G.								
11	10.1	Locate and label the transfer switch and twist lock connector on a lockable, weatherproof and dustproof cover.	Design Criteria Section 15.7.11, 3.2	C	VMD	3/2/2015	E00.702 E00.705 E15.001								

<b>LEGEND</b>		<b>DESIGN VERIFICATION</b>		<b>CONSTRUCTION VERIFICATION</b>		<b>FINAL VERIFICATION</b>	
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection		Name and Organization: _____ Date: _____		Name and Organization: _____ Date: _____	
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance		Approved by: _____ Date: _____		Approved by: _____ Date: _____		Approved by: _____ Date: _____	

DRAFT

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists				Design Verification				Construction Verification				Final Verification			
<b>Certifiable Element:</b> 10.0 Station Utility Yard <b>Sub-Element:</b> 10.2 Intrusion Deterrents <b>Location:</b> Osceola Station A804.52 <b>Contract No.:</b>				<b>Notes or Restrictions:</b>				<b>Notes or Restrictions:</b>				<b>Notes or Restrictions:</b>			
<b>Certifiable Item Description</b>				<b>Design Verification</b>				<b>Construction/Installation</b>				<b>Verification</b>			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	10.2	Utility yard fencing should shall never be closer than 7'6" from tangent track and additional clearance shall be added where a curve exists.	Design Criteria Section 4 and 17.9	C	DSB	3/12/2015	C15.007A								
2	10.2	Vinyl coated chain link fencing shall be 6 feet tall to provide safety and security .	Design Criteria Section 17.9 and 20.6.3.7	C	DSB	3/12/2015	C15.007A, FDOT SI-802, TSP-02820 2.2								
3	10.2	Access to the cabinets shall be restricted, such as by latching hardware and padlocks.	Design Criteria Section 15.7.5	C	DSB	3/12/2015	TSP 17140 2.02, 1.								
4	10.2	All cabinets within the lockable enclosure shall be accessible on all sides.	Design Criteria Section 17.9	C	KP	3/5/2015	E00.701 H15.007A								
<b>LEGEND</b>				<b>DESIGN VERIFICATION</b>				<b>CONSTRUCTION VERIFICATION</b>				<b>FINAL VERIFICATION</b>			
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection		<b>Name and Organization:</b> _____ <b>Date:</b> _____ <b>Approved by:</b> _____ <b>Date:</b> _____				<b>Name and Organization:</b> _____ <b>Date:</b> _____ <b>Approved by:</b> _____ <b>Date:</b> _____				<b>Name and Organization:</b> _____ <b>Date:</b> _____ <b>Approved by:</b> _____ <b>Date:</b> _____			



# CFCRT Project Phase 2 South

Safety and Security Certification Elements				Design Verification				Construction Verification				Final Verification			
Certifiable Element: <u>12.0 Bus Shelters</u> Sub-Element: <u>12.1 Bus Shelter Foundations</u> Location: <u>Osceola Station A804.52</u> Contract No.: _____				Notes or Restrictions: _____				Notes or Restrictions: _____				Notes or Restrictions: _____			
<b>Certifiable Item Description</b>				<b>Design Verification</b>				<b>Construction/Installation</b>				<b>Verification</b>			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	12.1	Shelter foundation in compliance with ADA Standards	Design Criteria 20.6.3.2	C	CCM	3/23/2015	C15.009A C15.009C								
2	12.1	"Horizontal clearance: Shelter foundation"	Design Criteria 20.4	C	CCM	3/23/2015	H15.007A H15.007C								
<b>LEGEND</b> <b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other  <b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection  <b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance				<b>DESIGN VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				<b>CONSTRUCTION VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				<b>FINAL VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____			

DRAFT



# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists				Design Verification				Construction Verification				Final Verification			
Certifiable Element: <u>7.0 Station Platforms</u>  Sub-Element: <u>7.1 Platform and Mini-High Geometry</u> Location: <u>Kissimmee Station A807.98</u>  Contract No.: _____				Notes or Restrictions:				Notes or Restrictions:				Notes or Restrictions:			
Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	7.1.1	The track side edge of main platforms shall be 8 inches maximum Above Top of Rail of the plane.	Design Criteria Section 17.3	C	TH	3/5/2015	A00.002 A20.671 A16.201 A16.202								
2	7.1.1	The track side edge of main platforms shall be 5 feet 4 inch from track centerline.	Design Criteria Section 17.3	C	TH	3/5/2015	C16.007C C16.007D A16.201 A16.202								
3	7.1.2	The minimum width for a side platform is 14 feet.	Design Criteria Section 17.2	C	TH	3/5/2015	A20.415 A20.671 S20.609								
4	7.1.2	The edge of the platform shall also be parallel to the track horizontally.	Design Criteria Section 17.2	C	TH	3/5/2015	C00.002A								
5	7.1.2	All platforms shall have a minimum drainage cross slope of 0.5%.	Design Criteria Section 17.3	C	TH	3/5/2015	A16.201 A16.202								
6	7.1.2	The Station Platform plans identify a "Platform Dimensioning Control Point" on each platform to coordinate dimensions.	Design Criteria Section 17.1	C	TH	3/5/2015	A20.671 C16.007C C16.007D A16.201								
7	7.1.1	The track side edge of mini-high platforms shall be 22 inches maximum above top of rail.	Design Criteria Section 17.3	C	TH	3/5/2015	A20.614 A16.202								
8	7.1.2	The track side edge of mini-high platforms shall be 7 feet 6 inches from track centerline.	Design Criteria Section 17.3	C	TH	3/5/2015	A16.202								
9	7.1.2 7.1.3	Ramps that are part of a required means of egress shall not be less than 44 inches wide.	Design Criteria Section 17.4	C	TH	3/5/2015	A16.201 A16.202								
10	7.1.2	The maximum rise for any ramp run shall be 30 inches.	Design Criteria Section 17.4	C	TH	3/5/2015	C16.009C C16.009D A16.201 A16.202								
11	7.1.3	Ramps shall have level landings at bottom and top of each ramp and each ramp run.	Design Criteria Section 17.4	C	TH	3/5/2015	A20.415 A16.202								
12	7.1.2	The bottom of each ramp shall not have less than 72 inches of straight and level clearance.	Design Criteria Section 17.4	C	TH	3/5/2015	A20.415 A16.202								
13	7.1.2 7.1.3	Changes in level from walk paths / sidewalks to platforms shall be level to each other and comply with 2010 ADA Standards for Accessible Design, Title II, Chapter 3, 303.2. "Changes in level of 1/4 inch (6.4mm) high maximum shall be permitted to be vertical."	Design Criteria 17.1.1.	C	DSB	3/12/2015	C16.009C C16.009D								
14	7.1.2 7.1.3	Changes in level from pavers to platform concrete shall be level to each other and comply with 2010 ADA Standards for Accessible Design, Title II, Chapter 3, 303.2. "Changes in level of 1/4 inch (6.4mm) high maximum shall be permitted to be vertical."	Design Criteria 17.1.1.	C	TH	3/5/2015	TSP 02780.3.3E								
15	4.1.5 7.1.2 7.1.3	Placement of Ticket Vending Machines on the main platforms, shall comply with 2010 ADA Standards for Accessible Design, Title II, Chapter 305, section 305.5. They shall have a clear floor or ground space of 30 inches with a forward approach and 48 inches clear with a parallel approach.	Design Criteria 17.1.1.	C	TH	3/5/2015	A20.415 A20.416 A16.201 A16.202								
16	4.2.6 7.1.2 7.1.3	Placement of Ticket Validators on the main platforms, shall comply with 2010 ADA Standards for Accessible Design, Title II, Chapter 305, section 305.5. They shall have a clear floor or ground space of 30 inches with a forward approach and 48 inches clear with a parallel approach.	Design Criteria 17.1.1.	C	TH	3/5/2015	A20.415 A16.201 A16.202								

17	3.7.4 7.1.2 7.1.3	Placement of Passenger Assist Telephones on the main platforms, shall comply with 2010 ADA Standards for Accessible Design, Title II, Chapter 305, section 305.5. They shall have a clear floor or ground space of 30 inches with a forward approach and 48 inches clear with a parallel approach.	Design Criteria 17.1.1.	C	TH	3/5/2015	A20.416 A16.201											
18	3.8.4 7.1.2 7.1.3	Placement of Emergency Call Boxes on the main platforms, shall comply with 2010 ADA Standards for Accessible Design, Title II, Chapter 305, section 305.5. They shall have a clear floor or ground space of 30 inches with a forward approach and 48 inches clear with a parallel approach.	Design Criteria 17.1.1.	C	TH	3/5/2015	A20.416 A16.201											
19	7.1.2 7.1.3 8.4.1	Placement of Drinking Fountains on the main platforms, shall comply with 2010 ADA Standards for Accessible Design, Title II, Chapter 305, section 305.5. They shall have a clear floor or ground space of 30 inches with a forward approach and 48 inches clear with a parallel approach.	Design Criteria 17.1.1	C	TH	3/5/2015	A20.415 A16.202											
20	7.1.2	Light poles will not be located within 60 inches of the top or bottom ramps at landings.	Design Criteria 17.4	C	TH	3/5/2015	A16.201 A16.202 E16.002											
21	7.1.3	Ramps used as a part of a means of egress at the main platform shall have a running slope no steeper than 1:12 (8.33% slope), shall comply with 2010 ADA Standards for Accessible Design, Title II, Chapter 405, section 405.2.	Design Criteria 17.4	C	TH	3/5/2015	C16.009C A16.201 A16.202											
22	7.1.4	Ramps used as a part of a means of egress at the mini-highs shall have a running slope no steeper than 1:12 (8.33% slope), shall comply with 2010 ADA Standards for Accessible Design, Title II, Chapter 405, section 405.2.	Design Criteria 17.4	C	TH	3/5/2015	C16.009C A16.202											
23	7.1.2	Ramp runs cross slope shall not be steeper than 1:48 (2% slope), shall comply with 2010 ADA Standards for Accessible Design, Title II, Chapter 406, section 405.3	Design Criteria 17.4	C	TH	3/5/2015	C16.009C C16.009D A16.201 A16.202											
24	7.1.2 7.1.3	Clear width of a ramp run and, where handrails are provided, the clear width between handrails shall be 36 inches minimum, shall comply with 2010 ADA Standards for Accessible Design, Title II, Chapter 405, section 405.5.	Design Criteria 17.1.1	C	TH	3/5/2015	A16.202											
25	7.1.2 7.1.3	Landings at tops and bottoms of ramps at the main platforms, will have a clear width at least as wide as the wide ramp run leading to the landing, shall comply with 2010 ADA Standards for Accessible Design, Title II, Chapter 405, section 405.7.2.	Design Criteria 17.4	C	TH	3/5/2015	A16.201 A16.202											
26	7.1.3	Landings at tops and bottoms of ramps at the mini-highs, will have a clear width at least as wide as the wide ramp run leading to the landing, shall comply with 2010 ADA Standards for Accessible Design, Title II, Chapter 405, section 405.7.2.	Design Criteria 17.4	C	TH	3/5/2015	A16.202											
27	7.1.2 7.1.3	Landings at the main platforms shall have a clear length shall be 60 inches long minimum, and shall comply with 2010 ADA Standards for Accessible Design, Title II, Chapter 405, section 405.7.3.	Design Criteria 17.4	C	TH	3/5/2015	A16.201 A16.202											

LEGEND		DESIGN VERIFICATION		CONSTRUCTION VERIFICATION		FINAL VERIFICATION		
<b>Means of Verification - Design</b>		<b>Means of Verification - Construction</b>						
P = Plan Sheet	S = Specification	M = Measurement						
RFI=RFI	O = Other	T = Test PS = Product Sheet						
		V = Visual Inspection						
<b>Status</b>								
C = Compliance								
N = Noncompliance								
P = Partial Compliance								
		Name and Organization:		Name and Organization:		Name and Organization:		
		Date:		Date:		Date:		
		Approved by:		Approved by:		Approved by:		
		Date:		Date:		Date:		





# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists				Design Verification				Construction Verification				Final Verification			
Certifiable Element: <u>8.0 Platform Amenities</u>  Sub-Element: <u>8.1 Canopies</u> Location: <u>Kissimmee Station A807.98</u>  Contract No.: _____				Notes or Restrictions: Note 1: Kissimmee is Type F Canopy Style to match historic Amtrak Station Note 2: Track clearance envelope canopy setback minimum 7'6" from track centerline. Platform edge in 5'4" from track centerline after curvature adjustment. Therefore canopy drip line is over platform on track side. Back side of canopy is not over pedestrian path.											
Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	8.1.1 8.2.1	Any station element that could be targeted for theft or vandalism (e.g., light fixtures, sign units, speakers, cameras, etc.) shall be located a minimum of 7 feet 6 inches above traveled pathways.	Design Criteria Section 18.1	C	DSB	3/24/2015	A20.671 M20.712 M20.713								
2	8.1.1 8.2.1	Horizontal elements (e.g., low member of canopy framework, etc.) shall be located a minimum of 9 feet 0 inches and a maximum of 11 feet 0 inches above the traveled pathways.	Design Criteria Section 18.1	N/A	TH	3/5/2015	A20.671 A20.672 A20.673 A20.674 Note 1								
3	8.1.1 8.1.2	The canopy shall be located as close as possible to the back of the platform and cantilevered to provide maximum coverage of the platform.	Design Criteria Section 18.2	N/A	TH	3/5/2015	A20.671 A20.672 A20.673 A20.674 Note 1								
4	8.1.2	Protection from rain shall be provided for fare collection equipment, map viewing areas and seating.	Design Criteria Section 18.2	C	TH	3/5/2015	A16.301 A16.302								
5	8.1.2	The design should assume that the rain is falling at a 30 degree angle from vertical (slightly windblown).	Design Criteria Section 18.2	N/A			Note 1								
6	8.1.2	Drip lines should not be over traveled pathways.	Design Criteria Section 18.2	P	DSB	3/24/2015	A20.672 Note 2								
7	8.1.3	Roof deck and fasteners shall resist wind loads to prevent debris during severe storm.	DC Section 23.3.1 and Section 25.1	C	CM	3/6/2015	C00.002E S00.001 TSP 05300 McElroy 11/17/14 Design Calc's								
8	8.1.3	Canopy main structure and anchorage to foundations must resist roof live, dead and wind loads to protect public.	DC Section 23.3.1 and Section 25.1	C	CM	3/6/2015	C00.002E S00.001 S20.701 TSP 05120 McElroy 11/17/14 Design Calc's								
9	8.1.3	Foundations must support main canopy structure and resist anchor bolt loads to provide stability during severe storm.	DC Section 23.3.1 and Section 25.1	C	CM	3/6/2015	C00.002E S00.001 S00.003 TSP 03310 TSP 05120 McElroy 11/17/14 Design Calc's								

10	8.1.2	Slope top of concrete to trench drains and to edges to reduce ponding on platforms to keep walking surface dry.	DC Section 17.3 and 17.4	C	TH	3/4/2015	A20.416 S20.408								
11	8.1.4	Offset guardrail post to clear canopy column base and cover to provide guardrail with code required barrier to protect public.	DC Section 17	C	CM	3/6/2015	S20.701								
12	8.1.3	Connections for signage must resist design wind pressures to prevent debris or hazard during severe storm.	DC Section 23.3.1 and Section 25.1	C	CM	3/6/2015	C00.002E S00.001 S20.711								
13	8.1.4	Precast concrete unit at tactile warning strip must be secured in accordance with manufacturer's written standards to prevent hazard at walkway.	DC Section 17.5	C	TH	3/5/2015	A20.794 TSP 02780								

LEGEND		DESIGN VERIFICATION		CONSTRUCTION VERIFICATION		FINAL VERIFICATION	
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI          O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection		<b>Name and Organization:</b> _____ <b>Date:</b> _____ <b>Approved by:</b> _____ <b>Date:</b> _____		<b>Name and Organization:</b> _____ <b>Date:</b> _____ <b>Approved by:</b> _____ <b>Date:</b> _____	
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance							

DRAFT

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists				Design Verification				Construction Verification				Final Verification				
<b>Certifiable Element:</b> 8.0 Platform Amenities  <b>Sub-Element:</b> 8.2 Signage and Graphics <b>Location:</b> Kissimmee Station A807.98  <b>Contract No.:</b>				<b>Notes or Restrictions:</b> Note 1: Sign content to be provided by others				<b>Notes or Restrictions:</b>				<b>Notes or Restrictions:</b>				
Certifiable Item Description				Design Verification				Construction/Installation				Verification				
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	
1	8.2.1 8.2.2	Station platform signs with the name of the station must be visible so that riders can identify the station from within the train and know whether or not to get off the train. Station names must be clearly visible and within the sight lines of standing and sitting riders from within the vehicle on both sides when not obstructed by another vehicle.	2010 ADA Standards for Accessible Design Section 810.6.3 Station Names	C	TBG	3/6/2015	W16.705 W16.706 W16.707 W16.709									
2	8.2.2	Station Platform Identification (Type I Sign): All font sizes to conform to applicable/relevant legibility standards.	Design Criteria Section 21.1, 2010 ADA Standards for Accessible Design Section 703 Signs	C	TBG	3/6/2015	W16.705 W16.707 W16.709									
3	8.2.2	Directory (Type K Sign): all font sizes to conform to applicable/relevant legibility standards.	Design Criteria Section 21.1, 2010 ADA Standards for Accessible Design Section 703 Signs	N/A			Note 1									
4	8.2.2	Directory Sign (Type K Sign) to be internally illuminated.	Design Criteria Section 21.1	C	TBG	3/6/2015	W20.717									
LEGEND				DESIGN VERIFICATION				CONSTRUCTION VERIFICATION				FINAL VERIFICATION				
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection		<b>Name and Organization:</b> _____ <b>Date:</b> _____ <b>Approved by:</b> _____ <b>Date:</b> _____				<b>Name and Organization:</b> _____ <b>Date:</b> _____ <b>Approved by:</b> _____ <b>Date:</b> _____				<b>Name and Organization:</b> _____ <b>Date:</b> _____ <b>Approved by:</b> _____ <b>Date:</b> _____				

# CFCRT Project Phase 2 South

<b>Safety and Security Certification Elements Design and Construction Conformance Checklists</b>	Design Verification	Construction Verification	Final Verification
Certifiable Element: <u>8.0 Platform Amenities</u>  Sub-Element: <u>8.3 Electrical</u> Location: <u>Kissimmee Station A807.98</u>  Contract No.: _____	Notes or Restrictions:	Notes or Restrictions:	Notes or Restrictions:

Certifiable Item Description				Design Verification				Construction/Installation				Verification				
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	
1	8.3.2	Duplex GFCI electrical outlet boxes are to be located flush mounted to the finished vertical face and shall have lockable covers.	Design Criteria 18.9	C	VMD	3/2/2015	A20.794 E00.701 E00.703 E16.201 E16.202									
2	8.3.1	Grounds shall be provided for transformer cases and other metal housing for transformers and associated apparatus.	Design Criteria Section 11.11	C	VMD	3/2/2015	E00.702 E00.704 E00.705 TSP 16060									
3	8.3.1	The grounding system shall have a resistance to earth of not more than 5 ohms.	Design Criteria Section 11.11	C	VMD	3/2/2015	TSP 16060.3.5.F.1									
4	8.3.2	All equipment cabinet sites shall have both primary and secondary surge protection on the AC power.	Design Criteria Section 15.7.11	C	VMD	3/2/2015	E00.702 E16.001									
5	8.3.2	The receptacles, switches, and light fixtures shall use a minimum of AWG #12 copper wires.	Design Criteria Section 15.7.11	C	VMD	3/2/2015	C00.002H E16.001									
6	8.3.2	Provide two 110V, 20 amp, single phase GFI protected electrical receptacles in weatherproof housing/box with a lockable cover located to allow full coverage of the platform and fare vending area(s) with a 75 foot extension cord.	Design Criteria Section 18.9	C	VMD	3/2/2015	E00.701 E00.703 E16.201 E16.202									
7	8.3.3	Each station shall be equipped with emergency battery backup lighting (90 minutes).	Design Criteria Section 19.6	C	VMD	3/2/2015	E16.301 E16.302 TSP 16265.2.5.A.1									
8	8.3.5	Light fixtures for platform illumination shall be incorporated into the integrated structural elements of the station canopy and light standards and shall serve to illuminate signage as well as platform edge, advertising, seating, fare areas, ramps and stairs.	Design Criteria Section 19.4	C	VMD	3/2/2015	E00.704 E16.301 E16.302									
9	8.3	The design should minimize the opportunity for standing water to accumulate.	Design Criteria 18.9	C	VMD	3/2/2015	E00.701 E00.703									

<b>LEGEND</b>		<b>DESIGN VERIFICATION</b>	<b>CONSTRUCTION VERIFICATION</b>	<b>FINAL VERIFICATION</b>
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RF1=RF1        O = Other	<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection	Name and Organization: _____  Date: _____  Approved by: _____  Date: _____	Name and Organization: _____  Date: _____  Approved by: _____  Date: _____	Name and Organization: _____  Date: _____  Approved by: _____  Date: _____
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance				

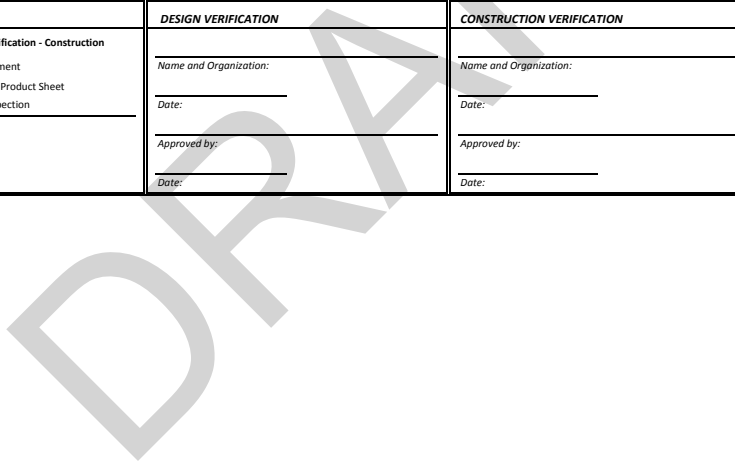






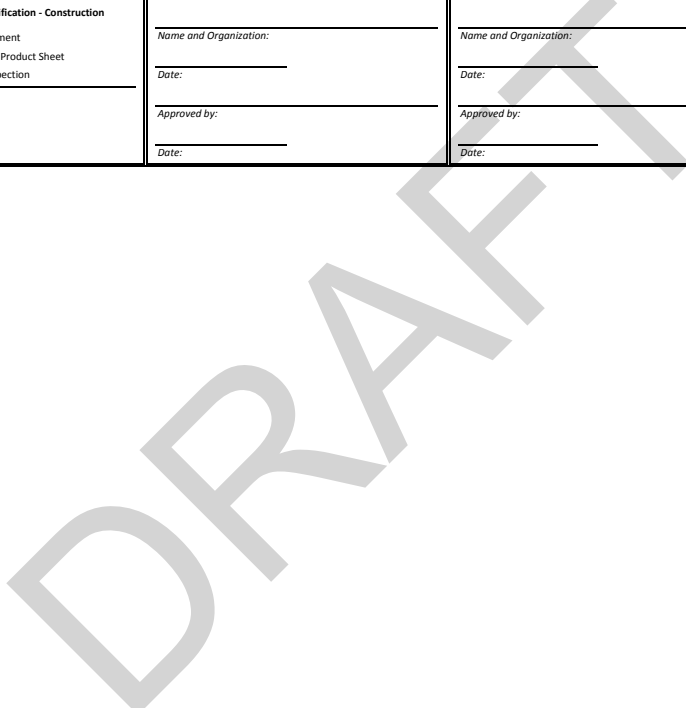
# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists				Design Verification				Construction Verification				Final Verification			
<b>Certifiable Element:</b> 9.0 Station Parking / Plaza/Station Boundary <hr/> <b>Sub-Element:</b> 9.1 Intrusion Deterrents <b>Location:</b> Kissimmee Station A807.98 <hr/> <b>Contract No.:</b> _____				<b>Notes or Restrictions:</b> Note 1: None at this location <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>				<b>Notes or Restrictions:</b> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>				<b>Notes or Restrictions:</b> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>			
Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	9.1	Hazard rock shall be used to channelize pedestrians away from unauthorized areas/ deter trespass activity at the station locations.	Design Criteria Section 17.6.1	C	TBG	3/5/2015	H16.007C H16.007D H20.724								
2	9.1	Decorative fencing provided in the station area shall provide a barrier for safety and security by reinforcing designated pedestrian and vehicular circulation system movement.	Design Criteria Section 20.6.3.6	N/A			Note 1								
3	9.1	Vinyl coated chain link fencing provided in the station area shall provide a barrier for safety and security by reinforcing designated pedestrian and vehicular circulation system movement.	Design Criteria Section 20.6.3.7	C	TBG	3/5/2015	H20.711 H16.007C H16.007D TSP 02820								
4	9.10	Provide bollards at potential vehicular access locations around the station perimeter.	Design Criteria Section 20.1	N/A			Note 1								
<b>LEGEND</b>				<b>DESIGN VERIFICATION</b>				<b>CONSTRUCTION VERIFICATION</b>				<b>FINAL VERIFICATION</b>			
<b>Means of Verification - Design</b>		<b>Means of Verification - Construction</b>		Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				Name and Organization: _____ Date: _____ Approved by: _____ Date: _____			
Plan Sheet	Specification	M = Measurement													
RFI	Other	T = Test PS = Product Sheet													
Product Sheet		V = Visual Inspection													
<b>Status</b>															
C = Compliance															
N = Noncompliance															
P = Partial Compliance															



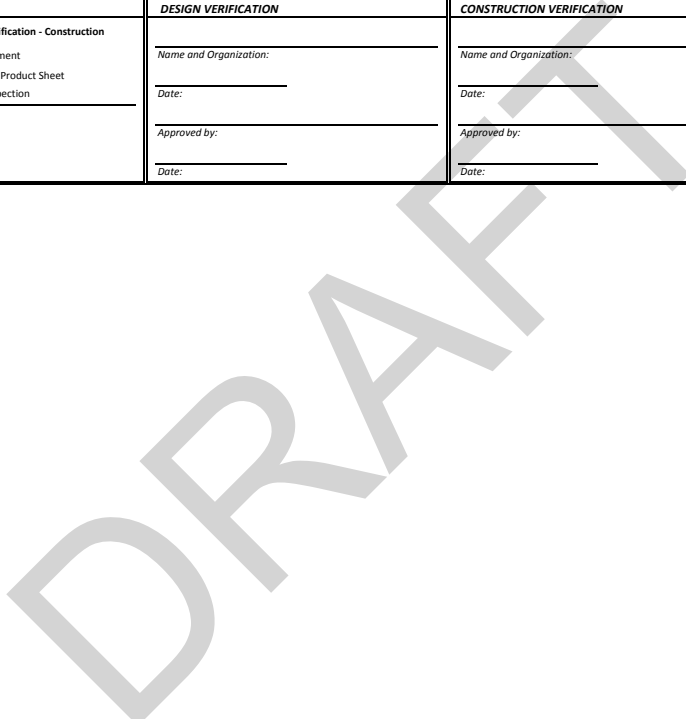
# CFCRT Project Phase 2 South

<b>Safety and Security Certification Elements Design and Construction Conformance Checklists</b>				Design Verification				Construction Verification				Final Verification				
Certifiable Element: <u>9.0 Station Parking / Plaza/Station Boundary</u>  Sub-Element: <u>9.2 Pavement Marking</u> Location: <u>Kissimmee Station A807.98</u>  Contract No.: _____				Notes or Restrictions:				Notes or Restrictions:				Notes or Restrictions:				
<b>Certifiable Item Description</b>				<b>Design Verification</b>				<b>Construction/Installation</b>				<b>Verification</b>				
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	
1	9.2	Minimum dimensions for vehicular stalls shall be 8.5 feet wide and 18 feet deep, unless otherwise dictated by governing entity/municipality.	Design Criteria Section 20.6	C	DSB	3/12/2015	C16.013C C16.013D									
<b>LEGEND</b>				<b>DESIGN VERIFICATION</b>				<b>CONSTRUCTION VERIFICATION</b>				<b>FINAL VERIFICATION</b>				
Means of Verification - Design Plan Sheet    Specification RFI            Other Product Sheet		Means of Verification - Construction M = Measurement T = Test    PS = Product Sheet V = Visual Inspection		Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				



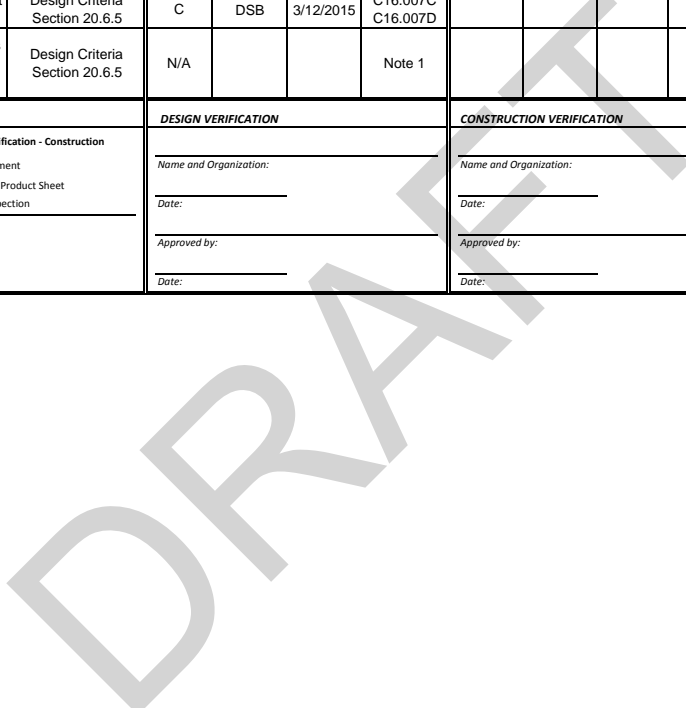
# CFCRT Project Phase 2 South

<b>Safety and Security Certification Elements Design and Construction Conformance Checklists</b>				Design Verification				Construction Verification				Final Verification																																																							
Certifiable Element: <u>9.0 Station Parking / Plaza/Station Boundary</u> Sub-Element: <u>9.3 Drainage</u> Location: <u>Kissimmee Station A807.98</u> Contract No.: _____				Notes or Restrictions: _____				Notes or Restrictions: _____				Notes or Restrictions: _____																																																							
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th colspan="4">Certifiable Item Description</th> <th colspan="4">Design Verification</th> <th colspan="4">Construction/Installation</th> <th colspan="4">Verification</th> </tr> <tr> <th>Item No.</th> <th>Master CIL Item No.</th> <th>Safety/Security Design Criteria Item</th> <th>Design or Cross Reference (Source Document)</th> <th>Status</th> <th>Design Verified By</th> <th>Date</th> <th>Means of Verification</th> <th>Status</th> <th>Verified By</th> <th>Date</th> <th>Means of Verification</th> <th>Status</th> <th>Verified By</th> <th>Date</th> <th>Means of Verification</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1</td> <td style="text-align: center;">9.3</td> <td>Drainage shall be provided along walkway surface to collect rainwater and drain to an approved storm water collection system.</td> <td style="text-align: center;">Design Criteria 19.3</td> <td style="text-align: center;">C</td> <td style="text-align: center;">DSB</td> <td style="text-align: center;">3/12/2015</td> <td style="text-align: center;">C16.010C C16.010D</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>				Certifiable Item Description				Design Verification				Construction/Installation				Verification				Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	1	9.3	Drainage shall be provided along walkway surface to collect rainwater and drain to an approved storm water collection system.	Design Criteria 19.3	C	DSB	3/12/2015	C16.010C C16.010D									<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2">DESIGN VERIFICATION</th> <th colspan="2">CONSTRUCTION VERIFICATION</th> <th colspan="2">FINAL VERIFICATION</th> </tr> </thead> <tbody> <tr> <td colspan="2">                     Name and Organization: _____                      Date: _____                      Approved by: _____                      Date: _____                 </td> <td colspan="2">                     Name and Organization: _____                      Date: _____                      Approved by: _____                      Date: _____                 </td> <td colspan="2">                     Name and Organization: _____                      Date: _____                      Approved by: _____                      Date: _____                 </td> </tr> </tbody> </table>				DESIGN VERIFICATION		CONSTRUCTION VERIFICATION		FINAL VERIFICATION		Name and Organization: _____ Date: _____ Approved by: _____ Date: _____		Name and Organization: _____ Date: _____ Approved by: _____ Date: _____		Name and Organization: _____ Date: _____ Approved by: _____ Date: _____	
Certifiable Item Description				Design Verification				Construction/Installation				Verification																																																							
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification																																																				
1	9.3	Drainage shall be provided along walkway surface to collect rainwater and drain to an approved storm water collection system.	Design Criteria 19.3	C	DSB	3/12/2015	C16.010C C16.010D																																																												
DESIGN VERIFICATION		CONSTRUCTION VERIFICATION		FINAL VERIFICATION																																																															
Name and Organization: _____ Date: _____ Approved by: _____ Date: _____		Name and Organization: _____ Date: _____ Approved by: _____ Date: _____		Name and Organization: _____ Date: _____ Approved by: _____ Date: _____																																																															
<b>LEGEND</b> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td colspan="2">Means of Verification - Design</td> <td colspan="2">Means of Verification - Construction</td> </tr> <tr> <td>Plan Sheet</td> <td>Specification</td> <td>M = Measurement</td> <td></td> </tr> <tr> <td>RFI</td> <td>Other</td> <td>T = Test</td> <td>PS = Product Sheet</td> </tr> <tr> <td>Product Sheet</td> <td></td> <td>V = Visual Inspection</td> <td></td> </tr> <tr> <td colspan="2"><b>Status</b></td> <td colspan="2"></td> </tr> <tr> <td colspan="2">C = Compliance</td> <td colspan="2"></td> </tr> <tr> <td colspan="2">N = Noncompliance</td> <td colspan="2"></td> </tr> <tr> <td colspan="2">P = Partial Compliance</td> <td colspan="2"></td> </tr> </table>				Means of Verification - Design		Means of Verification - Construction		Plan Sheet	Specification	M = Measurement		RFI	Other	T = Test	PS = Product Sheet	Product Sheet		V = Visual Inspection		<b>Status</b>				C = Compliance				N = Noncompliance				P = Partial Compliance																																			
Means of Verification - Design		Means of Verification - Construction																																																																	
Plan Sheet	Specification	M = Measurement																																																																	
RFI	Other	T = Test	PS = Product Sheet																																																																
Product Sheet		V = Visual Inspection																																																																	
<b>Status</b>																																																																			
C = Compliance																																																																			
N = Noncompliance																																																																			
P = Partial Compliance																																																																			



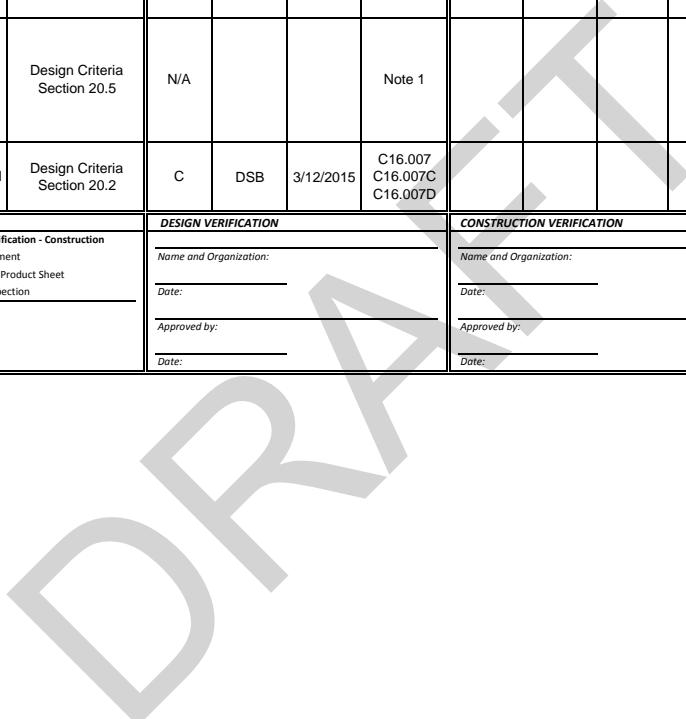
# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists				Design Verification				Construction Verification				Final Verification			
<b>Certifiable Element:</b> 9.0 Station Parking / Plaza/Station Boundary <hr/> <b>Sub-Element:</b> 9.4 Pedestrian Routes <b>Location:</b> Kissimmee Station A807.98 <hr/> <b>Contract No.:</b> _____				<b>Notes or Restrictions:</b> Note 1: None at this location _____ _____ _____ _____				<b>Notes or Restrictions:</b> _____ _____ _____ _____				<b>Notes or Restrictions:</b> _____ _____ _____ _____			
Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	9.4	Pedestrian circulation shall provide direct and convenient approaches to station platforms from off the site and from each of the individual sections of the lot.	Design Criteria Section 20.6.5	C	DSB	3/12/2015	C16.007C C16.007D								
2	9.4	Walkways shall be at least 5 feet 0 inches wide.	Design Criteria Section 20.6.5	C	DSB	3/12/2015	C16.007C C16.007D								
3	9.4	Design does not allow short cuts through the bus bays by adding fencing or other means.	Design Criteria Section 20.6.5	N/A			Note 1								
<b>LEGEND</b>				<b>DESIGN VERIFICATION</b>				<b>CONSTRUCTION VERIFICATION</b>				<b>FINAL VERIFICATION</b>			
<b>Means of Verification - Design</b>		<b>Means of Verification - Construction</b>		Name and Organization: _____				Name and Organization: _____				Name and Organization: _____			
Plan Sheet	Specification	M = Measurement		Date: _____				Date: _____				Date: _____			
RFI	Other	T = Test PS = Product Sheet		Approved by: _____				Approved by: _____				Approved by: _____			
Product Sheet		V = Visual Inspection		Date: _____				Date: _____				Date: _____			
<b>Status</b>															
C = Compliance															
N = Noncompliance															
P = Partial Compliance															



# CFCRT Project Phase 2 South

Safety and Security Certification Elements				Design Verification				Construction Verification				Final Verification			
Certifiable Element: <u>9.0 Parking / Plaza/Station Boundary</u> Sub-Element: <u>9.5 Entrance/Exits</u> Location: <u>Kissimmee Station A807.98</u> Contract No.: _____				Notes or Restrictions: <u>Note 1: None at this location</u>				Notes or Restrictions:				Notes or Restrictions:			
<b>Certifiable Item Description</b>				<b>Design Verification</b>				<b>Construction/Installation</b>				<b>Verification</b>			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	9.5	The minimum distance between any intersection and a station entrance should be 150 feet or as required for weaving and/or left hand turn stacking, whichever is greater.	Design Criteria Section 20.2	C	DSB	3/12/2015	C16.007 C16.007C C16.007D								
2	9.5	For larger stations, more than one station exit to the local street system shall be considered to reduce traffic delays.	Design Criteria Section 20.3	C	DSB	3/12/2015	C16.007 C16.007C C16.007D								
3	9.5	Kiss-and-ride drop-off shall be separated from the parking area and shall have direct routing from the adjacent street to drop-off and pick-up points and back to the adjacent street system.	Design Criteria Section 20.5	N/A			Note 1								
4	9.5	Conflicts should be avoided between entrance roadways and large pedestrian movements.	Design Criteria Section 20.2	C	DSB	3/12/2015	C16.007 C16.007C C16.007D								
<b>LEGEND</b> Means of Verification - Design P = Plan Sheet    S = Specification RFI=RFI            O = Other Status C = Compliance N = Noncompliance P = Partial Compliance				<b>DESIGN VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				<b>CONSTRUCTION VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				<b>FINAL VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____			



# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists				Design Verification				Construction Verification				Final Verification			
<b>Certifiable Element:</b> 9.0 Station Parking / Plaza/Station Boundary <hr/> <b>Sub-Element:</b> 9.6 Way-Finding Signage <b>Location:</b> Kissimmee Station A807.98 <hr/> <b>Contract No.:</b> _____				<b>Notes or Restrictions:</b> Note 1: None at this location <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>				<b>Notes or Restrictions:</b> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>				<b>Notes or Restrictions:</b> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>			
Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	9.6	Station Identification Pylon (Type A Sign): All font sizes to conform to applicable/relevant legibility standards.	Design Criteria Section 21.1, 2010 ADA Standards for Accessible Design Section 703 Signs	C	TBG	3/5/2015	W16.700								
2	9.6	Station Identification Pylon (Type A Sign) to be internally illuminated or with uplighting.	Design Criteria Section 21.1	N/A			Note 1								
3	9.6	Vehicular Entrance Directional (Type B Sign): All font sizes to conform to applicable/relevant legibility standards.	Design Criteria Section 21.1, 2010 ADA Standards for Accessible Design Section 703 Signs	N/A			Note 1								
4	9.6	Vehicular Entrance Directional (Type B Sign) indirectly illuminated by site lighting.	Design Criteria Section 21.1	N/A			Note 1								
5	9.6	Vehicular Wayfinding Signs (Type C Sign): All font sizes to conform to applicable/relevant legibility standards.	Design Criteria Section 21.1, 2010 ADA Standards for Accessible Design Section 703 Signs	C	TBG	3/5/2015	W16.702								
6	9.6	Vehicular Wayfinding Signs (Type C Sign) indirectly illuminated by site lighting.	Design Criteria Section 21.1	C	TBG	3/5/2015	W16.007D E16.002								
7	9.6	Pedestrian Wayfinding Signs (Type F Signs): All font sizes to conform to applicable/relevant legibility standards.	Design Criteria Section 21.1, 2010 ADA Standards for Accessible Design Section 703 Signs	C	TBG	3/5/2015	W16.704								
8	9.6	Pedestrian Wayfinding Signs (Type F Signs) indirectly illuminated by site lighting.	Design Criteria Section 21.1	C	TBG	3/5/2015	E16.002 W16.007C W16.007D								
LEGEND				DESIGN VERIFICATION				CONSTRUCTION VERIFICATION				FINAL VERIFICATION			
<b>Means of Verification - Design</b> Plan Sheet    Specification RFI            Other Product Sheet		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection		Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				Name and Organization: _____ Date: _____ Approved by: _____ Date: _____			

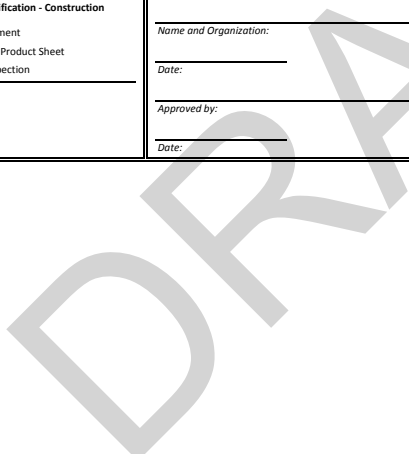


# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists				Design Verification				Construction Verification				Final Verification			
<b>Certifiable Element:</b> 9.0 Station Parking / Plaza/Station Boundary  <b>Sub-Element:</b> 9.8 Electrical <b>Location:</b> Kissimmee Station A807.98  <b>Contract No.:</b> _____				<b>Notes or Restrictions:</b> _____ _____ _____ _____ _____				<b>Notes or Restrictions:</b> _____ _____ _____ _____ _____				<b>Notes or Restrictions:</b> _____ _____ _____ _____ _____			
Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	9.8	Artificial light sources to obtain the required foot candle levels shall be no higher than 12 feet in station plaza.	Design Criteria Section 19.4	C	VMD	3/2/2015	E16.001 E16.002								
2	9.8	Artificial light sources to obtain the required foot candle levels shall be no higher than 24 feet in parking lots.	Design Criteria Section 19.4	C	VMD	3/2/2015	E16.001 E16.002								
3	9.8	Pole foundations shall extend 24 inches above parking lot grade when not located behind curb or curb stops to reduce pole damage.	Design Criteria Section 19.4	C	VMD	3/2/2015	E00.705 E16.002								
4	9.8	All light fixtures shall be: • Vandal resistant construction • U.L. rated for exterior use • Reasonable to maintain • Designed to withstand corrosive environments • High wind proof	Design Criteria Section 19.4	C	VMD	3/2/2015	E16.001 TSP 16521								
5	9.8	Artificial lighting shall be provided for safety in all open station site areas with due consideration for adjacent land uses.	Design Criteria Section 19.4	C	VMD	3/2/2015	E16.002 Photometrics								
6	9.8	If the vehicles are capable of hitting light poles when being parked, curbs or concrete around the light poles shall be added.	Design Criteria Section 19.4	C	VMD	3/2/2015	E00.705 E16.002								
7	9.8	Light pole, anchorage and foundations must resist wind loads to prevent hazard during severe storm.	Design Criteria Section 19.4	C	CM	3/6/2015	C00.002E C00.002F S00.001 S20.710 TSP 03310								
LEGEND				DESIGN VERIFICATION				CONSTRUCTION VERIFICATION				FINAL VERIFICATION			
<b>Means of Verification - Design</b> Plan Sheet    Specification RFI            Other Product Sheet		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection		<b>Name and Organization:</b> _____  <b>Date:</b> _____  <b>Approved by:</b> _____  <b>Date:</b> _____				<b>Name and Organization:</b> _____  <b>Date:</b> _____  <b>Approved by:</b> _____  <b>Date:</b> _____				<b>Name and Organization:</b> _____  <b>Date:</b> _____  <b>Approved by:</b> _____  <b>Date:</b> _____			

# CFCRT Project Phase 2 South

<b>Safety and Security Certification Elements Design and Construction Conformance Checklists</b>				Design Verification				Construction Verification				Final Verification			
Certifiable Element: <u>9.0 Station Parking / Plaza/Station Boundary</u>  Sub-Element: <u>9.9 Landscaping</u> Location: <u>Kissimmee Station A807.98</u>  Contract No.: _____				Notes or Restrictions:				Notes or Restrictions:				Notes or Restrictions:			
<b>Certifiable Item Description</b>				<b>Design Verification</b>				<b>Construction/Installation</b>				<b>Verification</b>			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	9.9	Design to follow CPTED guidelines to provide a safe and secure environment throughout the transit system.	Design Criteria Section 22.4	C	TBG	3/5/2015	C00.002D NOTE #8								
2	9.9	Control access to the system by reinforcing designated pedestrian and vehicular circulation system movement and creating barriers elsewhere along the ROW as required.	Design Criteria Section 22.1	C	TBG	3/5/2015	L16.007D								
3	9.9	Plant material will be selected to minimize obstruction of pedestrian paths.	Design Criteria Section 22.6.1	C	TBG	3/5/2015	L16.007D L20.703								
4	9.9	Plant material will be selected to provide clear sight lines and to minimize hiding places.	Design Criteria Section 22.6.1	C	TBG	3/5/2015	L16.007D L20.703								
5	9.9	Plant material will be selected to minimize maintenance.	Design Criteria Section 22.6.1	C	TBG	3/5/2015	L16.007D L20.703								
<b>LEGEND</b>				<b>DESIGN VERIFICATION</b>				<b>CONSTRUCTION VERIFICATION</b>				<b>FINAL VERIFICATION</b>			
<b>Means of Verification - Design</b>		<b>Means of Verification - Construction</b>		Name and Organization: _____				Name and Organization: _____				Name and Organization: _____			
Plan Sheet    Specification		M = Measurement		Date: _____				Date: _____				Date: _____			
RFI                    Other		T = Test    PS = Product Sheet		Approved by: _____				Approved by: _____				Approved by: _____			
Product Sheet		V = Visual Inspection		Date: _____				Date: _____				Date: _____			
<b>Status</b>															
C = Compliance															
N = Noncompliance															
P = Partial Compliance															

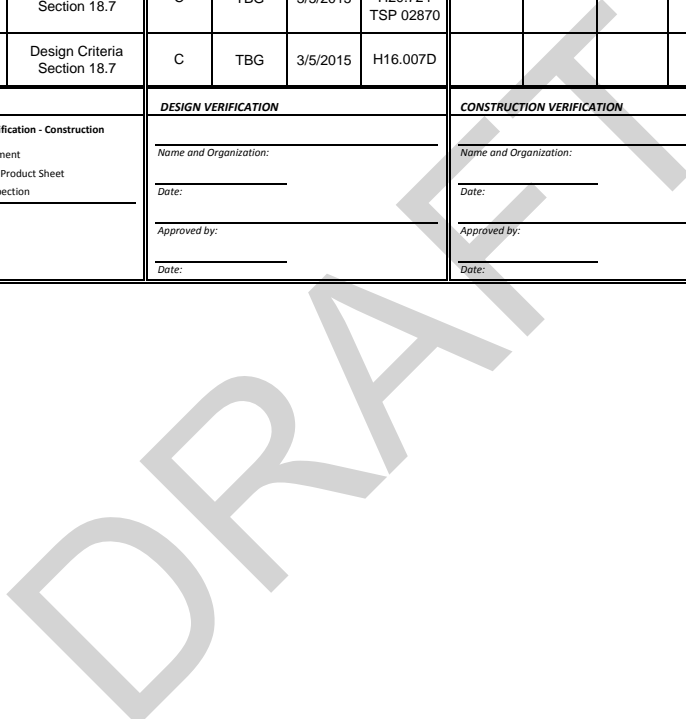


# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists				Design Verification				Construction Verification				Final Verification			
<b>Certifiable Element:</b> 9.0 Station Parking / Plaza/Station Boundary  <b>Sub-Element:</b> 9.10 Hardscaping <b>Location:</b> Kissimmee Station A807.98  <b>Contract No.:</b> _____				<b>Notes or Restrictions:</b> Note 1: None at this location _____ _____ _____ _____				<b>Notes or Restrictions:</b> _____ _____ _____ _____				<b>Notes or Restrictions:</b> _____ _____ _____ _____			
Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	9.10	Concrete Pavers - Material shall be precast concrete pavers with integral color.	Design Criteria Section 20.6.3.3	N/A			Note 1								
2	9.10 9.14	Concrete Pavers - Walking surface is non-skid and conforms to ADA regulations.	Design Criteria Section 20.6.3.3, 2010 ADA Standards for Accessible Design Section 302 Floor of Ground Surfaces, 303 Changes in Level	N/A			Note 1								
3	9.10 9.14	Concrete Paving in plaza is to be non-skid and conforms to ADA regulations.	Design Criteria Section 20.6.3.3, 2010 ADA Standards for Accessible Design Section 302 Floor of Ground Surfaces, 303 Changes in Level	C	TBG	3/5/2015	H20.702								
4	9.10	Stamped Concrete - Material shall be integral color or color hardener.	Design Criteria Section 20.6.3.4	N/A			Note 1								
5	9.10 9.14	Stamped Concrete - Surface is non-skid and conforms to ADA regulations.	Design Criteria Section 20.6.3.4, 2010 ADA Standards for Accessible Design Section 302 Floor of Ground Surfaces, 303 Changes in Level	N/A			Note 1								
6	9.10	Stamped Concrete - Surface is sealed.	Design Criteria Section 20.6.3.4	N/A			Note 1								
7	9.10	18" Ht. Seat walls to be easily viewed from all sides to minimize hiding places	Design Criteria Section 20.6.3.1	N/A			Note 1								
8	9.10	18" Ht. Seat walls to include skate deterrent brackets.	Design Criteria Section 20.6.3.1	N/A			Note 1								
<b>LEGEND</b>				<b>DESIGN VERIFICATION</b>				<b>CONSTRUCTION VERIFICATION</b>				<b>FINAL VERIFICATION</b>			
<b>Means of Verification - Design</b>		<b>Means of Verification - Construction</b>		Name and Organization: _____				Name and Organization: _____				Name and Organization: _____			
Plan Sheet	Specification	M = Measurement		Date: _____				Date: _____				Date: _____			
RFI	Other	T = Test PS = Product Sheet		Approved by: _____				Approved by: _____				Approved by: _____			
Product Sheet		V = Visual Inspection		Date: _____				Date: _____				Date: _____			
<b>Status</b>															
C = Compliance															
N = Noncompliance															
P = Partial Compliance															

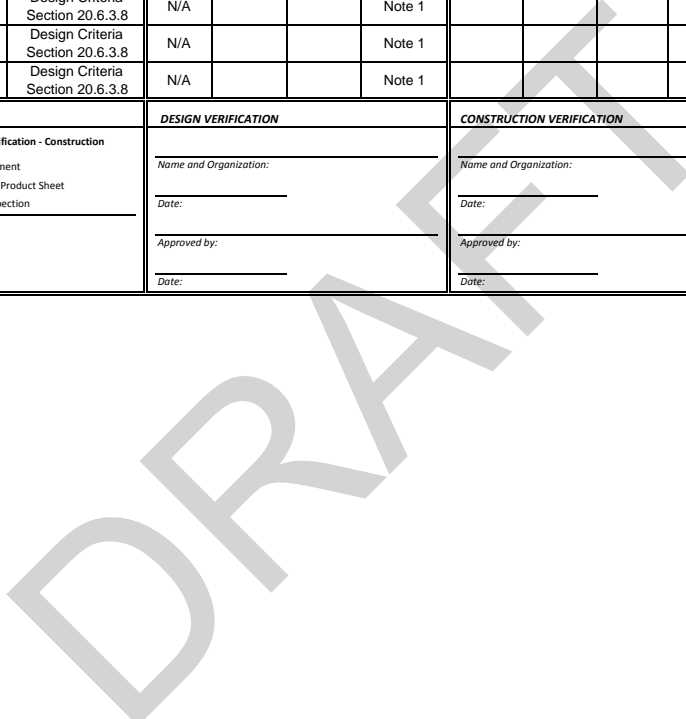
# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists				Design Verification				Construction Verification				Final Verification			
<b>Certifiable Element:</b> 9.0 Station Parking / Plaza/Station Boundary <hr/> <b>Sub-Element:</b> 9.11 Amenities <b>Location:</b> Kissimmee Station A807.98 <hr/> <b>Contract No.:</b> _____				<b>Notes or Restrictions:</b> _____ _____ _____ _____ _____				<b>Notes or Restrictions:</b> _____ _____ _____ _____ _____				<b>Notes or Restrictions:</b> _____ _____ _____ _____ _____			
Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	9.11	Bench and/or seat designs shall strongly discourage individuals from lying down and/or sleeping	Design Criteria Section 18.3	C	TBG	3/5/2015	H20.718 H20.724								
2	9.11	Trash receptacles with clear plastic containers shall be provided on the platforms, fare vending area, platform plaza,	Design Criteria Section 18.7	C	TBG	3/5/2015	H20.719 H20.724 TSP 02870								
3	9.11	Trash receptacles shall not be provided for the parking or kiss-and-ride areas.	Design Criteria Section 18.7	C	TBG	3/5/2015	H16.007D								
LEGEND				DESIGN VERIFICATION				CONSTRUCTION VERIFICATION				FINAL VERIFICATION			
<b>Means of Verification - Design</b> Plan Sheet    Specification RFI            Other Product Sheet		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection		<b>Name and Organization:</b> _____ <b>Date:</b> _____ <b>Approved by:</b> _____ <b>Date:</b> _____				<b>Name and Organization:</b> _____ <b>Date:</b> _____ <b>Approved by:</b> _____ <b>Date:</b> _____				<b>Name and Organization:</b> _____ <b>Date:</b> _____ <b>Approved by:</b> _____ <b>Date:</b> _____			
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance															



# CFCRT Project Phase 2 South

<b>Safety and Security Certification Elements Design and Construction Conformance Checklists</b>				Design Verification				Construction Verification				Final Verification			
Certifiable Element: <u>9.0 Station Parking / Plaza/Station Boundary</u>  Sub-Element: <u>9.12 Art-in-Transit</u> Location: <u>Kissimmee Station A807.98</u>  Contract No.: _____				Notes or Restrictions: Note 1: Will need to be verified after ART shop drawings are provided.				Notes or Restrictions:				Notes or Restrictions:			
<b>Certifiable Item Description</b>				<b>Design Verification</b>				<b>Construction/Installation</b>				<b>Verification</b>			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	9.12	Art-in-Transit shall be appropriate for site, including safety and security considerations and scale.	Design Criteria Section 20.6.3.8	N/A			Note 1								
2	9.12	Durability of materials.	Design Criteria Section 20.6.3.8	N/A			Note 1								
3	9.12	Resistance to vandalism.	Design Criteria Section 20.6.3.8	N/A			Note 1								
4	9.12	No sharp edges if located in pedestrian accessible area.	Design Criteria Section 20.6.3.8	N/A			Note 1								
<b>LEGEND</b>				<b>DESIGN VERIFICATION</b>				<b>CONSTRUCTION VERIFICATION</b>				<b>FINAL VERIFICATION</b>			
<b>Means of Verification - Design</b>		<b>Means of Verification - Construction</b>		Name and Organization: _____				Name and Organization: _____				Name and Organization: _____			
Plan Sheet	Specification	M = Measurement		Date: _____				Date: _____				Date: _____			
RFI	Other	T = Test PS = Product Sheet		Approved by: _____				Approved by: _____				Approved by: _____			
Product Sheet		V = Visual Inspection		Date: _____				Date: _____				Date: _____			
<b>Status</b>															
C = Compliance															
N = Noncompliance															
P = Partial Compliance															





# CFCRT Project Phase 2 South

<b>Safety and Security Certification Elements Design and Construction Conformance Checklists</b>	<b>Design Verification</b>	<b>Construction Verification</b>	<b>Final Verification</b>
<b>Certifiable Element:</b> 9.0 Parking / Plaza/Station Boundary <hr/> <b>Sub-Element:</b> 9.14 ADA Requirement <b>Location:</b> Kissimmee Station A807.98 <hr/> <b>Contract No.:</b> _____	<b>Notes or Restrictions:</b> <hr/> <hr/> <hr/> <hr/> <hr/>	<b>Notes or Restrictions:</b> <hr/> <hr/> <hr/> <hr/> <hr/>	<b>Notes or Restrictions:</b> <hr/> <hr/> <hr/> <hr/> <hr/>

Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	9.14	Number of designated accessible parking spaces provided is appropriate for the station.	DOT Standards 208.502, FL Statute 17346	C	DSB	3/12/2015	C16.007 C16.007C C16.007D								
2	9.14	Signs that are being placed on the track side of a station sidewalk need to be located as far as practical from the tracks and adjacent to the sidewalk.	Design Criteria Section 4.2	C	TBG	3/3/2015	W16.007C W16.007D								
3	9.14	Accessible parking spaces at stations shall be provided near the station platform and in conformance with State and Federal requirements, in particular 49 CFR Parts 27, 37 and 38 and the 2010 ADA Standards for Accessible Design 2010 Standards Section 206 and 208 and the Highway Capacity Manual.	Design Criteria Section 20.6.1	C	DSB	3/12/2015	C16.007C C16.007D C00.003C C00.002A GENNOTE# 2								
4	9.14	Continuous smooth surface ramps without vertical rises and grades less than 8 percent shall be provided from the handicapped parking surface to sidewalks and station platforms.	Design Criteria Section 20.6.1	C	DSB	3/12/2015	C00.003C C16.009C C16.009D								
5	9.14	The placement of these parking spaces within the stations' footprints shall consider the distance individuals with disabilities must travel as well as user convenience.	Design Criteria Section 20.6.1	C	DSB	3/12/2015	C16.007C C16.007D								

LEGEND		DESIGN VERIFICATION				CONSTRUCTION VERIFICATION				FINAL VERIFICATION			
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI          O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection				<b>Name and Organization:</b> _____ <b>Date:</b> _____				<b>Name and Organization:</b> _____ <b>Date:</b> _____			
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance		<b>Approved by:</b> _____ <b>Date:</b> _____				<b>Approved by:</b> _____ <b>Date:</b> _____				<b>Approved by:</b> _____ <b>Date:</b> _____			

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists				Design Verification				Construction Verification				Final Verification			
Certifiable Element: <u>10.0 Utility Yard</u>  Sub-Element: <u>10.1 Station Utility Yard Components</u> Location: <u>Kissimmee Station A807.98</u>  Contract No.: _____				Notes or Restrictions:				Notes or Restrictions:				Notes or Restrictions:			
Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	10.1	Ensure that the surge suppressors are capable of meeting or exceeding the device protection requirements as contained in Section 785-1.	Design Criteria Section 15.7.11	C	SY	3/20/2015	TSP 17100, 3.2 A, 10 TSP 17140, 1.01								
2	10.1	Consider multiple devices installed in the same equipment cabinet to be a single installation for the purpose of providing grounding and surge suppression.	Design Criteria Section 15.7.11	C	SY	3/20/2015	E00.702 E00.705 M20.711								
3	10.1	Provide the equipment cabinet with a transfer switch rated for the design load of the cabinet's main breaker to provide an alternate power source using a generator.	Design Criteria Section 15.7.11	C	VMD	3/2/2015	E00.702 E00.705 E16.001 TSP 16415, 2.2								
4	10.1	Include a generator connection consisting of, at a minimum, the manual transfer switch and twist-lock connector for generator hookup.	Design Criteria Section 15.7.11	C	VMD	3/2/2015	E00.702 E00.705 E16.001 TSP 16415, 2.2								
5	10.1	Locate this generator connection as close as possible to the main AC circuit breaker. Never locate the generator connection on the main cabinet door or back door.	Design Criteria Section 15.7.11	C	VMD	3/2/2015	E00.702 E00.705 E16.001								
6	10.1	Ensure that the cabinet is able to utilize a mobile emergency generator during power outages. The emergency generator connection shall allow the station site to be powered from a portable generator in the event that the commercial power is lost.	Design Criteria Section 15.7.11, 3.3	C	VMD	3/2/2015	E00.702 E00.705 E16.001								
7	10.1	Communications equipment shall be housed in weather-proof cabinets in the station utility yard.	Design Criteria Section 15.7.5	C	SY	3/20/2015	TSP 17140, 2.02, A.								



8	10.1	The communications equipment cabinet shall be serviced with a UPS to provide continuous power with at least 90 minutes of back-up power.	Design Criteria Section 15.7.5	C	SY	3/20/2015	M20.701 TSP 17840 1.01. and 2.01.								
9	10.1	Cabinets shall be installed above the 100-year flood plain.	Design Criteria Section 15.7.5	C	DSB	3/20/2015	C16.009D								
10	10.1	Each equipment cabinet shall be equipped with an approved RPU and shall monitor all alarms within the equipment cabinet as well as other alarms (i.e., ECB operation).	Design Criteria Section 15.7.5	C	SY	3/20/2015	TSP 17850, 1.01 G.								
11	10.1	Locate and label the transfer switch and twist lock connector on a lockable, weatherproof and dustproof cover.	Design Criteria Section 15.7.11, 3.2	C	VMD	3/2/2015	E00.702 E00.705 E16.001								

LEGEND		DESIGN VERIFICATION		CONSTRUCTION VERIFICATION		FINAL VERIFICATION	
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI          O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection		<b>Name and Organization:</b> _____ <b>Date:</b> _____ <b>Approved by:</b> _____ <b>Date:</b> _____		<b>Name and Organization:</b> _____ <b>Date:</b> _____ <b>Approved by:</b> _____ <b>Date:</b> _____	
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance							

DRAFT

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists				Design Verification				Construction Verification				Final Verification			
<b>Certifiable Element:</b> 10.0 Station Utility Yard  <b>Sub-Element:</b> 10.2 Station Utility Yard Intrusion Deterrents  <b>Location:</b> Kissimmee Station A807.98  <b>Contract No.:</b> _____				Notes or Restrictions:				Notes or Restrictions:				Notes or Restrictions:			
<b>Certifiable Item Description</b>				<b>Design Verification</b>				<b>Construction/Installation</b>				<b>Verification</b>			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	10.2	Utility yard fencing should shall never be closer than 7'6" from tangent track and additional clearance shall be added where a curve exists.	Design Criteria Section 4	C	DSB	3/12/2015	C16.007D								
2	10.2	Vinyl coated chain link fencing shall be 6 feet tall to provide safety and security .	Design Criteria Section 20.6.3.7	C	DSB	3/12/2015	C16.007D FDOT SI-802, TSP-02820 2.2								
3	10.2	Access to the cabinets shall be restricted, such as by latching hardware and padlocks.	Design Criteria Section 15.7.5	C	DSB	3/12/2015	TSP 17140 2.02, 1.								
4	10.2	All cabinets within the lockable enclosure shall be accessible on all sides.	Design Criteria Section 17.9	C	KP	3/5/2015	E00.701 H16.007D								
<b>LEGEND</b>				<b>DESIGN VERIFICATION</b>				<b>CONSTRUCTION VERIFICATION</b>				<b>FINAL VERIFICATION</b>			
<b>Means of Verification - Design</b> Plan Sheet    Specification RFI            Other Product Sheet		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection		Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				Name and Organization: _____ Date: _____ Approved by: _____ Date: _____			

DRAFT

# CFCRT Project Phase 2 South

Safety and Security Certification Elements				Design Verification				Construction Verification				Final Verification											
Certifiable Element: <u>12.0 Bus Shelters</u>  Sub-Element: <u>12.1 Bus Shelter Foundations</u> Location: <u>Kissimmee Station A807.98</u>  Contract No.: _____				<b>Notes or Restrictions:</b> Note 1: All bus shelters for this station located within the existing LYNX Kissimmee SuperStop _____ _____ _____ _____ _____				<b>Notes or Restrictions:</b> _____ _____ _____ _____ _____				<b>Notes or Restrictions:</b> _____ _____ _____ _____ _____											
Certifiable Item Description				Design Verification				Construction/Installation				Verification											
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification								
1	12.1	Shelter foundation in compliance with ADA Standards	Design Criteria 20.6.3.2	N/A			Note 1																
2	12.1	"Horizontal clearance: Shelter foundation"	Design Criteria 20.4	N/A			Note 1																
<b>LEGEND</b> <table border="0"> <tr> <td><b>Means of Verification - Design</b></td> <td><b>Means of Verification - Construction</b></td> </tr> <tr> <td>P = Plan Sheet    S = Specification</td> <td>M = Measurement</td> </tr> <tr> <td>RFI=RFI            O = Other</td> <td>T = Test    PS = Product Sheet</td> </tr> <tr> <td></td> <td>V = Visual Inspection</td> </tr> </table> <b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance				<b>Means of Verification - Design</b>	<b>Means of Verification - Construction</b>	P = Plan Sheet    S = Specification	M = Measurement	RFI=RFI            O = Other	T = Test    PS = Product Sheet		V = Visual Inspection	<b>DESIGN VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				<b>CONSTRUCTION VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				<b>FINAL VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____			
<b>Means of Verification - Design</b>	<b>Means of Verification - Construction</b>																						
P = Plan Sheet    S = Specification	M = Measurement																						
RFI=RFI            O = Other	T = Test    PS = Product Sheet																						
	V = Visual Inspection																						

DRAFT

# CFCRT Project Phase 2 South

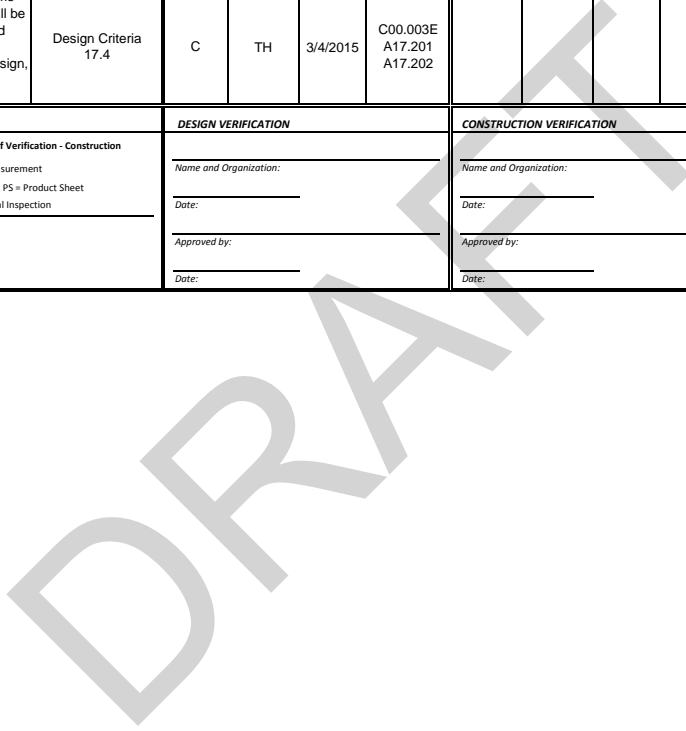
Safety and Security Certification Elements Design and Construction Conformance Checklists	Design Verification	Construction Verification	Final Verification
<b>Certifiable Element:</b> 7.0 Station Platforms  <b>Sub-Element:</b> 7.1 Platform and Mini-High Geometry <b>Location:</b> Poinciana Station A813.67  <b>Contract No.:</b>	<b>Notes or Restrictions:</b>    	<b>Notes or Restrictions:</b>    	<b>Notes or Restrictions:</b>    

Item No.	Certifiable Item Description			Design Verification				Construction/Installation				Verification			
	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	7.1.1	The track side edge of main platforms shall be 8 inches maximum Above Top of Rail of the plane.	Design Criteria Section 17.3	C	TH	3/4/2015	C00.003E A00.002 A20.607 A17.201 A17.202								
2	7.1.1	The track side edge of main platforms shall be 5 feet 1 inch from track centerline.	Design Criteria Section 17.3	C	TH	3/4/2015	C00.003E C17.007A C17.007B A17.201 A17.202								
3	7.1.2	The minimum width for a side platform is 14 feet.	Design Criteria Section 17.2	C	TH	3/4/2015	C00.003E A20.401 S20.403 A17.201 A17.202								
4	7.1.2	The edge of the platform shall also be parallel to the track horizontally.	Design Criteria Section 17.2	C	TH	3/4/2015	C00.002A C00.003E								
5	7.1.2	All platforms shall have a minimum drainage cross slope of 0.5%.	Design Criteria Section 17.3	C	TH	3/4/2015	C00.003E								
6	7.1.2	The Station Platform plans identify a "Platform Dimensioning Control Point" on each platform to coordinate dimensions.	Design Criteria Section 17.1	C	TH	3/4/2015	A20.606 C17.007A C17.007B A17.201 A17.202								
7	7.1.1	The track side edge of mini-high platforms shall be 22 inches maximum above top of rail.	Design Criteria Section 17.3	C	TH	3/4/2015	C00.003E A20.607 A17.201 A17.202								
8	7.1.1 7.1.2	The track side edge of mini-high platforms shall be 7 feet 6 inches from track centerline.	Design Criteria Section 17.3	C	TH	3/4/2015	C00.003E A17.202								
9	7.1.2 7.1.3	Ramps that are part of a required means of egress shall not be less than 44 inches wide.	Design Criteria Section 17.4	C	TH	3/4/2015	C00.003E A17.201 A17.202								
10	7.1.2	The maximum rise for any ramp run shall be 30 inches.	Design Criteria Section 17.4	C	TH	3/4/2015	C00.003E C17.009A C17.009B A17.201 A17.202								
11	7.1.3	Ramps shall have level landings at bottom and top of each ramp and each ramp run.	Design Criteria Section 17.4	C	TH	3/4/2015	A20.401 A17.202								
12	7.1.2	The bottom of each ramp shall not have less than 72 inches of straight and level clearance.	Design Criteria Section 17.4	C	TH	3/4/2015	A20.401 A17.202								
13	7.1.2 7.1.3	Changes in level from walk paths / sidewalks to platforms shall be level to each other and comply with 2010 ADA Standards for Accessible Design, Title II, Chapter 3, 303.2. "Changes in level of 1/4 inch (6.4mm) high maximum shall be permitted to be vertical."	Design Criteria 17.1.1	C	DSB	3/12/2015	C17.009A C17.009B								

14	7.1.2 7.1.3	Changes in level from pavers to platform concrete shall be level to each other and comply with 2010 ADA Standards for Accessible Design, Title II, Chapter 3, 303.2. "Changes in level of 1/4 inch (6.4mm) high maximum shall be permitted to be vertical."	Design Criteria 17.1.1	C	TH	3/4/2015	TSP 02780.3.3E											
15	4.1.5 7.1.2 7.1.3	Placement of Ticket Vending Machines on the main platforms, shall comply with 2010 ADA Standards for Accessible Design, Title II, Chapter 305, section 305.5. They shall have a clear floor or ground space of 30 inches with a forward approach and 48 inches clear with a parallel approach.	Design Criteria 17.1.1	C	TH	3/4/2015	A20.401 A20.416 A17.201											
16	4.2.6 7.1.2 7.1.3	Placement of Ticket Validators on the main platforms, shall comply with 2010 ADA Standards for Accessible Design, Title II, Chapter 305, section 305.5. They shall have a clear floor or ground space of 30 inches with a forward approach and 48 inches clear with a parallel approach.	Design Criteria 17.1.1	C	TH	3/4/2015	A20.401 A17.201 A17.202											
17	3.7.4 7.1.2 7.1.3	Placement of Passenger Assist Telephones on the main platforms, shall comply with 2010 ADA Standards for Accessible Design, Title II, Chapter 305, section 305.5. They shall have a clear floor or ground space of 30 inches with a forward approach and 48 inches clear with a parallel approach.	Design Criteria 17.1.1	C	TH	3/4/2015	A20.401 A17.202											
18	3.8.4 7.1.2 7.1.3	Placement of Emergency Call Boxes on the main platforms, shall comply with 2010 ADA Standards for Accessible Design, Title II, Chapter 305, section 305.5. They shall have a clear floor or ground space of 30 inches with a forward approach and 48 inches clear with a parallel approach.	Design Criteria 17.1.1	C	TH	3/4/2015	A20.401 A17.202											
19	7.1.2 7.1.3 8.4.1.	Placement of Drinking Fountains on the main platforms, shall comply with 2010 ADA Standards for Accessible Design, Title II, Chapter 305, section 305.5. They shall have a clear floor or ground space of 30 inches with a forward approach and 48 inches clear with a parallel approach.	Design Criteria 17.1.1	C	TH	3/4/2015	A20.401 A17.201											
20	7.1.2	Light poles will not be located within 60 inches of the top or bottom ramps at landings.	Design Criteria 17.4	C	TH	3/4/2015	A17.201 A17.202 E17.003 E17.004											
21	7.1.3	Ramps used as a part of a means of egress at the main platform shall have a running slope no steeper than 1:12 (8.33% slope), shall comply with 2010 ADA Standards for Accessible Design, Title II, Chapter 405, section 405.2.	Design Criteria 17.4	C	TH	3/4/2015	C00.003E C17.007A C17.007B A17.201 A17.202											
22	7.1.4	Ramps used as a part of a means of egress at the mini-highs shall have a running slope no steeper than 1:12 (8.33% slope), shall comply with 2010 ADA Standards for Accessible Design, Title II, Chapter 405, section 405.2.	Design Criteria 17.4	C	TH	3/4/2015	C00.003E C17.007A C17.007B A17.201 A17.202											

23	7.1.2	Ramp runs cross slope shall not be steeper than 1:48 (2% slope), shall comply with 2010 ADA Standards for Accessible Design, Title II, Chapter 406, section 405.3	Design Criteria 17.4	C	TH	3/4/2015	C00.003E C17.009A C17.009B A17.201 A17.202								
24	7.1.2 7.1.3	Clear width of a ramp run and, where handrails are provided, the clear width between handrails shall be 36 inches minimum, shall comply with 2010 ADA Standards for Accessible Design, Title II, Chapter 405, section 405.5.	Design Criteria 17.1.1	C	TH	3/4/2015	A17.202								
25	7.1.2 7.1.3	Landings at tops and bottoms of ramps at the main platforms, will have a clear width at least as wide as the widest ramp run leading to the landing, shall comply with 2010 ADA Standards for Accessible Design, Title II, Chapter 405, section 405.7.2.	Design Criteria 17.4	C	TH	3/4/2015	C00.003E A17.201 A17.202								
26	7.1.3	Landings at tops and bottoms of ramps at the mini-highs, will have a clear width at least as wide as the widest ramp run leading to the landing, shall comply with 2010 ADA Standards for Accessible Design, Title II, Chapter 405, section 405.7.2.	Design Criteria 17.4	C	TH	3/4/2015	C00.003E A17.202								
27	7.1.2 7.1.3	Landings at the main platforms shall have a clear length shall be 60 inches long minimum, and shall comply with 2010 ADA Standards for Accessible Design, Title II, Chapter 405, section 405.7.3.	Design Criteria 17.4	C	TH	3/4/2015	C00.003E A17.201 A17.202								

<b>LEGEND</b>		<b>DESIGN VERIFICATION</b>		<b>CONSTRUCTION VERIFICATION</b>		<b>FINAL VERIFICATION</b>	
<b>Means of Verification - Design</b>		<b>Means of Verification - Construction</b>		<b>Name and Organization:</b>		<b>Name and Organization:</b>	
P = Plan Sheet	S = Specification	M = Measurement		_____		_____	
RFI=RFI	O = Other	T = Test PS = Product Sheet		Date: _____		Date: _____	
		V = Visual Inspection		Approved by: _____		Approved by: _____	
<b>Status</b>				Date: _____		Date: _____	
C = Compliance				_____		_____	
N = Noncompliance				_____		_____	
P = Partial Compliance				_____		_____	



# CFCRT Project Phase 2 South

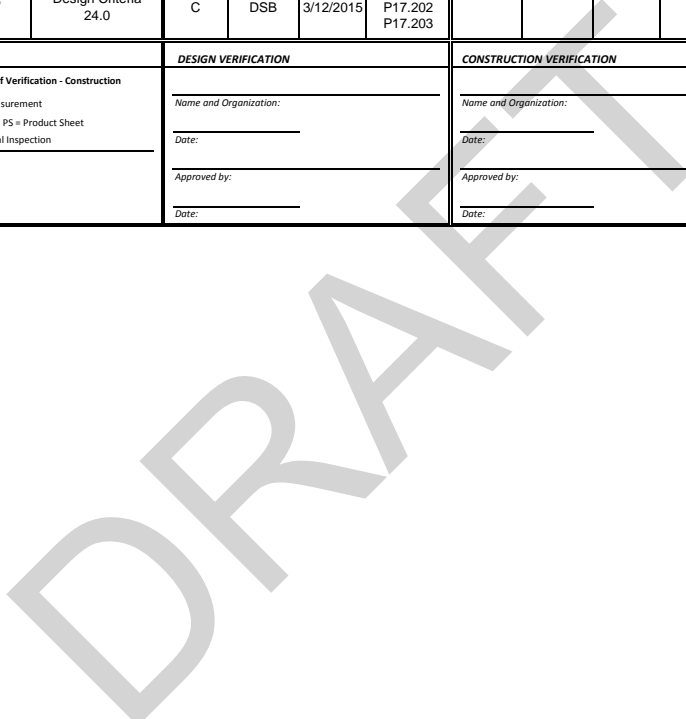
Safety and Security Certification Elements Design and Construction Conformance Checklists	Design Verification	Construction Verification	Final Verification
<b>Certifiable Element:</b> <u>7.0 Station Platforms</u>  <b>Sub-Element:</b> <u>7.2 Platform Safety Elements</u> <b>Location:</b> <u>Poinciana Station A813.67</u>  <b>Contract No.:</b> _____	<b>Notes or Restrictions:</b> _____ _____ _____ _____ _____	<b>Notes or Restrictions:</b> _____ _____ _____ _____ _____	<b>Notes or Restrictions:</b> _____ _____ _____ _____ _____

Item No.	Certifiable Item Description			Design Verification				Construction/Installation				Verification			
	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	7.2.1	The surface of all station walking surfaces shall be non-skid and of long-wearing weather resistant materials.	Design Criteria 17.5	C	TH	3/4/2015	TSP 02780.2.1(A) ASTM C902								
2	7.2.1	Guardrails at main platform at north and south ends shall turn 90 degrees towards the track. End post will be 6 inches on center off the back edge of the detectable warning paver.	Design Criteria 17.3	C	TH	3/4/2015	A20.401 A20.791 A17.201 A17.202								
3	7.2.1	Guardrails at the Mini-High platforms shall turn 90 degrees towards the track. End post will be 6 inches on center off the edge of the platform.	Design Criteria 17.4	C	TH	3/4/2015	A20.401 A20.791 A17.202								
4	7.2.2	Detectable warning pavers at the main platforms, shall comply with 2010 ADA Standards for Accessible Design, Title II. Truncated dome size, spacing and contrast shall follow requirements in chapter 7, part 705.	Design Criteria 17.1.1	C	TH	3/4/2015	A20.401 A20.416 A20.606 A20.794 A17.201 A17.202 TSP 02780								
5	7.2.2	Detectable warning pavers at the mini-highs, shall comply with 2010 ADA Standards for Accessible Design, Title II. Truncated dome size, spacing and contrast shall follow requirements in chapter 7, part 705.	Design Criteria 17.1.1	C	TH	3/4/2015	A20.401 A20.416 A20.614 A20.794 A17.202 TSP 02780								
6	7.2.2	Detectable warning pavers at the the crosswalks and walkpaths, shall comply with 2010 ADA Standards for Accessible Design, Title II. Truncated dome size, spacing and contrast shall follow requirements in chapter 7, part 705.	Design Criteria 17.1.1	C	TH	3/4/2015	C00.003D A20.794 A17.202 TSP 02780								
7	7.2.3	Warning stripe stating "STAND BEHIND YELLOW LINE" shall be placed at inside edge of the detectable warning paver. Located 24'-0" O.C. at main platforms.	Design Criteria 17.5	C	TH	3/4/2015	A20.401 A20.416 A20.606 A20.794 A17.201 A17.202 TSP 02780								
8	7.2.3	Warning stripe stating "STAND BEHIND YELLOW LINE" shall be placed at inside edge of the detectable warning paver. Location centered at Mini-High.	Design Criteria 17.5	C	TH	3/4/2015	A20.401 A20.416 A20.614 A20.794 A17.202 TSP 02780								

LEGEND		DESIGN VERIFICATION				CONSTRUCTION VERIFICATION				FINAL VERIFICATION			
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI          O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection				<b>Name and Organization:</b> _____ <b>Date:</b> _____				<b>Name and Organization:</b> _____ <b>Date:</b> _____			
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance		<b>Approved by:</b> _____ <b>Date:</b> _____				<b>Approved by:</b> _____ <b>Date:</b> _____				<b>Approved by:</b> _____ <b>Date:</b> _____			

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists				Design Verification				Construction Verification				Final Verification			
Certifiable Element: <u>7.0 Station Platforms</u>  Sub-Element: <u>7.3 Platform Drainage</u> Location: <u>Poinciana Station A813.67</u>  Contract No.: _____				Notes or Restrictions:				Notes or Restrictions:				Notes or Restrictions:			
<b>Certifiable Item Description</b>				<b>Design Verification</b>				<b>Construction/Installation</b>				<b>Verification</b>			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	7.3	Concrete base below pavers shall incorporate an underdrain system to transport water away from the platform.	Design Criteria 17.5	C	DSB	3/12/2015	A20.416								
2	7.3	Downspouts shall not flow on to platform or walking surfaces, impede pedestrian flow, or create slippery areas.	Design Criteria 24.0	C	DSB	3/12/2015	P17.201 P17.202 P17.203								
<b>LEGEND</b> Means of Verification - Design P = Plan Sheet    S = Specification RFI=RFI            O = Other  Status C = Compliance N = Noncompliance P = Partial Compliance				<b>DESIGN VERIFICATION</b> Name and Organization: _____ Date: _____  Approved by: _____ Date: _____				<b>CONSTRUCTION VERIFICATION</b> Name and Organization: _____ Date: _____  Approved by: _____ Date: _____				<b>FINAL VERIFICATION</b> Name and Organization: _____ Date: _____  Approved by: _____ Date: _____			





## CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists	Design Verification	Construction Verification	Final Verification
Certifiable Element: <u>8.0 Platform Amenities</u>  Sub-Element: <u>8.1 Canopies</u> Location: <u>Poinciana Station A813.67</u>  Contract No.: _____	Notes or Restrictions: _____ _____ _____ _____ _____	Notes or Restrictions: _____ _____ _____ _____ _____	Notes or Restrictions: _____ _____ _____ _____ _____

Certifiable Item Description				Design Verification				Construction/Installation				Verification				
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	
1	8.1.1 8.2.1	Any station element that could be targeted for theft or vandalism (e.g., light fixtures, sign units, speakers, cameras, etc.) shall be located a minimum of 7 feet 6 inches above traveled pathways.	Design Criteria Section 18.1	C	TH	3/4/2015	A20.605 A20.606 A20.607 A20.614 A20.615									
2	8.1.1 8.2.1	Horizontal elements (e.g., low member of canopy framework, etc.) shall be located a minimum of 9 feet 0 inches and a maximum of 11 feet 0 inches above the traveled pathways.	Design Criteria Section 18.1	C	CM	3/6/2015	S20.601									
3	8.1.1 8.2.1	The canopy shall be located as close as possible to the back of the platform and cantilevered to provide maximum coverage of the platform	Design Criteria Section 18.2	C	TH	3/4/2015	A20.606 S20.402 S20.601									
4	8.1.2	Protection from rain shall be provided for fare collection equipment, map viewing areas and seating.	Design Criteria Section 18.2	C	TH	3/4/2015	A14.301 A14.302									
5	8.1.2	The design should assume that the rain is falling at a 30 degree angle from vertical (slightly windblown).	Design Criteria Section 18.2	C	DSB	3/12/2015	A20.607 A20.614									
6	8.1.2	Drip lines should not be over traveled pathways.	Design Criteria Section 18.2	C	DSB	3/12/2015	A20.607 A20.614 S20.604 S20.607									
7	8.1.3	Roof deck and fasteners shall resist wind loads to prevent debris during severe storm.	DC Section 23.3.1 and Section 25	C	CM	3/6/2015	C00.002E S00.001 TSP 05300 McElroy 11/17/14 Design Calc's									
8	8.1.3	Canopy main structure and anchorage to foundations must resist roof live, dead and wind loads to protect public.	DC Section 23.3.1 and Section 25	C	CM	3/6/2015	C00.002E S00.001 S20.701 TSP 05120 McElroy 11/17/14 Design Calc's									
9	8.1.3	Foundations must support main canopy structure and resist anchor bolt loads to provide stability during severe storm.	DC Section 23.3.1 and Section 25	C	CM	3/6/2015	C00.002E S00.001 S00.003 TSP 03310 TSP 05120 McElroy 11/17/14 Design Calc's									

10	8.1.2	Slope top of concrete to trench drains and to edges to reduce ponding on platforms to keep walking surface dry.	DC Section 17.3 and 17.4	C	TH	3/4/2015	A20.416, S20.403, S20.709								
11	8.1.4	Offset guardrail post to clear canopy column base and cover to provide guardrail with code required barrier to protect public.	DC Section 17	C	CM	3/6/2015	S20.701								
12	8.1.3	Connections for signage must resist design wind pressures to prevent debris or hazard during severe storm.	DC Section 23.3.1 and Section 25	C	CM	3/6/2015	C00.002E S00.001 S20.711								
13	8.1.4	Precast concrete unit at tactile warning strip must be secured in accordance with manufacturer's written standards to prevent hazard at walkway.	DC Section 17.5	C	TH	3/4/2015	A20.794 TSP 02780								

LEGEND		DESIGN VERIFICATION		CONSTRUCTION VERIFICATION		FINAL VERIFICATION			
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection		<b>DESIGN VERIFICATION</b> Name and Organization: _____ Date: _____		<b>CONSTRUCTION VERIFICATION</b> Name and Organization: _____ Date: _____		<b>FINAL VERIFICATION</b> Name and Organization: _____ Date: _____	
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance				Approved by: _____ Date: _____		Approved by: _____ Date: _____		Approved by: _____ Date: _____	

DRAFT

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists				Design Verification				Construction Verification				Final Verification			
<b>Certifiable Element:</b> 8.0 Platform Amenities  <b>Sub-Element:</b> 8.2 Signage and Graphics <b>Location:</b> Poinciana Station A813.67  <b>Contract No.:</b>				<b>Notes or Restrictions:</b> Note 1: Sign content to be provided by others				<b>Notes or Restrictions:</b>				<b>Notes or Restrictions:</b>			
Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	8.2.1 8.2.2	Station platform signs with the name of the station must be visible so that riders can identify the station from within the train and know whether or not to get off the train. Station names must be clearly visible and within the sight lines of standing and sitting riders from within the vehicle on both sides when not obstructed by another vehicle.	2010 ADA Standards for Accessible Design Section 810.6.3 Station Names	C	TBG	3/6/2015	W17.705 W17.706 W17.707 W20.716A								
2	8.2.2	Station Platform Identification (Type I Sign): All font sizes to conform to applicable/relevant legibility standards.	Design Criteria Section 21.1, 2010 ADA Standards for Accessible Design Section 703 Signs	C	TBG	3/6/2015	W17.705 W17.707								
3	8.2.2	Directory (Type K Sign): all font sizes to conform to applicable/relevant legibility standards	Design Criteria Section 21.1, 2010 ADA Standards for Accessible Design Section 703 Signs	N/A			Note 1								
4	8.2.2	Directory Sign (Type K Sign) to be internally illuminated.	Design Criteria Section 21.1	C	TBG	3/6/2015	W20.717								
<b>LEGEND</b> <b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI          O = Other  <b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance				<b>DESIGN VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				<b>CONSTRUCTION VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				<b>FINAL VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____			

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists	Design Verification	Construction Verification	Final Verification
<b>Certifiable Element:</b> 8.0 Platform Amenities  <b>Sub-Element:</b> 8.3 Electrical <b>Location:</b> Poinciana Station A813.67  <b>Contract No.:</b>	<b>Notes or Restrictions:</b>     	<b>Notes or Restrictions:</b>     	<b>Notes or Restrictions:</b>     

Item No.	Certifiable Item Description			Design Verification				Construction/Installation				Verification			
	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	8.3.2	Duplex GFCI electrical outlet boxes are to be located flush mounted to the finished vertical face and shall have lockable covers.	Design Criteria 18.9	C	VMD	3/2/2015	A20.794, E00.701 E00.703 E17.201 E17.202								
2	8.3.1	Grounds shall be provided for transformer cases and other metal housing for transformers and associated apparatus.	Design Criteria Section 11.11	C	VMD	3/2/2015	E00.702 E00.704 E00.705 TSP 16060								
3	8.3.1	The grounding system shall have a resistance to earth of not more than 5 ohms.	Design Criteria Section 11.11	C	VMD	3/2/2015	TSP 16060.3.5.F.1								
4	8.3.2	All equipment cabinet sites shall have both primary and secondary surge protection on the AC power.	Design Criteria Section 15.7.11	C	VMD	3/2/2015	E00.702 E17.001								
5	8.3.2	The receptacles, switches, and light fixtures shall use a minimum of AWG #12 copper wires.	Design Criteria Section 15.7.11	C	VMD	3/2/2015	C00.002H E17.001								
6	8.3.2	Provide two 110V, 20 amp, single phase GFI protected electrical receptacles in weatherproof housing/box with a lockable cover located to allow full coverage of the platform and fare vending area(s) with a 75 foot extension cord.	Design Criteria Section 18.9	C	VMD	3/2/2015	E00.701 E00.703 E17.201 E17.202								
7	8.3.3	Each station shall be equipped with emergency battery backup lighting (90 minutes).	Design Criteria Section 19.6	C	VMD	3/2/2015	E17.301 E17.302 TSP 16265.2.5.A.1								
8	8.3.5	Light fixtures for platform illumination shall be incorporated into the integrated structural elements of the station canopy and light standards and shall serve to illuminate signage as well as platform edge, advertising, seating, fare areas, ramps and stairs.	Design Criteria Section 19.4	C	VMD	3/2/2015	E00.004 E17.301 E17.302								
9	8.3	The design should minimize the opportunity for standing water to accumulate.	Design Criteria 18.9	C	VMD	3/2/2015	E00.701 E00.703								

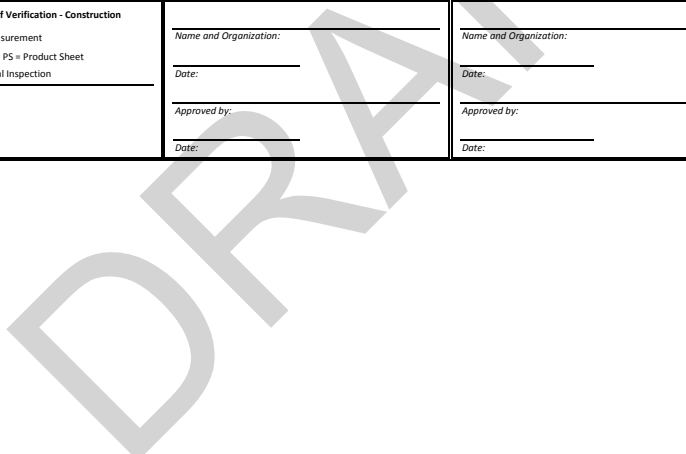
LEGEND		DESIGN VERIFICATION				CONSTRUCTION VERIFICATION				FINAL VERIFICATION			
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection				Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				Name and Organization: _____ Date: _____ Approved by: _____ Date: _____			
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance													

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists	Design Verification	Construction Verification	Final Verification
Certifiable Element: <u>8.0 Platform Amenities</u>  Sub-Element: <u>8.4 Plumbing</u> Location: <u>Poinciana Station A813.67</u>  Contract No.: _____	Notes or Restrictions:	Notes or Restrictions:	Notes or Restrictions:

Item No.	Certifiable Item Description			Design Verification				Construction/Installation				Verification			
	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
	8.4.2	Hose bibs are to be located flush mounted to the finished vertical face at 14.5-inches above finished platform of the cast-in-place pedestal at the directory signs. Box to have lockable covers.	Design Criteria 18.8	C	SWL	3/2/2015	P17.201 P17.202 P17.204 P17.206								
	8.4.2	Provide two standard flush hose bibs (quick-couplers) with lockable covers located to allow full coverage of the platform and fare vending area(s) with a 75 foot hose using potable water.	Design Criteria Section 18.8	C	SWL	3/2/2015	P17.201 P17.202 P17.204 P17.206								
	8.4.1	Water fountain provided on each Platform.	Design Criteria Section 18.8	C	SWL	3/2/2015	P17.201 P17.204								
	8.4.4	Provide condensate lines to drain away from the platform for each TVM.	Design Criteria Section 18.11	C	SWL	3/2/2015	A20.401 P17.201 P17.202 P17.205								

LEGEND		DESIGN VERIFICATION				CONSTRUCTION VERIFICATION				FINAL VERIFICATION			
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI        O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection				Name and Organization: _____ Date: _____				Name and Organization: _____ Date: _____			
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance		Approved by: _____ Date: _____				Approved by: _____ Date: _____				Approved by: _____ Date: _____			



# CFCRT Project Phase 2 South

<b>Safety and Security Certification Elements Design and Construction Conformance Checklists</b>	<b>Design Verification</b>	<b>Construction Verification</b>	<b>Final Verification</b>
<b>Certifiable Element:</b> 8.0 Platform Amenities <hr/> <b>Sub-Element:</b> 8.5 Amenity Specifications <b>Location:</b> Poinciana Station A813.67 <hr/> <b>Contract No.:</b> _____	<b>Notes or Restrictions:</b> <hr/> <hr/> <hr/> <hr/> <hr/>	<b>Notes or Restrictions:</b> <hr/> <hr/> <hr/> <hr/> <hr/>	<b>Notes or Restrictions:</b> <hr/> <hr/> <hr/> <hr/> <hr/>

Item No.	Certifiable Item Description			Design Verification				Construction/Installation				Verification			
	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	8.5.2	Align all joints at guardrails at the main platforms.	Design Criteria 17.4	C	TH	3/4/2015	TSP 05525.3.2								
2	8.5.2	Align all joints at guardrails at the mini-highs.	Design Criteria 17.4	C	TH	3/4/2015	TSP 05525.3.2								
3	8.5.2	Handrails shall have a continuous smooth surface with no rough or sharp edges at the main platforms.	Design Criteria 17.4	C	TH	3/4/2015	TSP 05525.2.3.G								
4	8.5.2	Handrails shall have a continuous smooth surface with no rough or sharp edges at the mini-highs.	Design Criteria 17.4	C	TH	3/4/2015	TSP 05525.2.3.G								
5	8.5.1	Bench and/or seat designs shall strongly discourage individuals from lying down and/or sleeping.	Design Criteria Section 18.3	C	TH	3/4/2015	H20.718 H20.725 TSP 02870								
6	8.5.1	Seats shall not permit rain to accumulate nor stain easily when vandalized by graffiti.	Design Criteria Section 18.3	C	TH	3/4/2015	H20.718 TSP 02870								
7	8.5.3	Trash receptacles with clear plastic containers shall be provided.	Design Criteria Section 18.7	C	TH	3/4/2015	H20.719 H20.725 TSP 02870								
8	8.5.3	Trash receptacles shall not be placed in the travel path of the station platforms.	Design Criteria Section 18.7	C	TH	3/4/2015	A17.201 A17.202								

LEGEND		DESIGN VERIFICATION				CONSTRUCTION VERIFICATION				FINAL VERIFICATION			
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI          O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection				<b>Name and Organization:</b> _____ <b>Date:</b> _____				<b>Name and Organization:</b> _____ <b>Date:</b> _____			
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance		<b>Approved by:</b> _____ <b>Date:</b> _____				<b>Approved by:</b> _____ <b>Date:</b> _____				<b>Approved by:</b> _____ <b>Date:</b> _____			

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists				Design Verification				Construction Verification				Final Verification			
Certifiable Element: <u>9.0 Parking / Plaza/Station Boundary</u> Sub-Element: <u>9.1 Intrusion Deterrents</u> Location: <u>Poinciana Station A813.67</u> Contract No.: _____				Notes or Restrictions:				Notes or Restrictions:				Notes or Restrictions:			
Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	9.1	Hazard rock shall be used to channelize pedestrians away from unauthorized areas/ deter trespass activity at the station locations.	Design Criteria Section 17.6.1	C	TBG	3/5/2015	H17.007A H17.007B H20.725								
2	9.1	Decorative fencing provided in the station area shall provide a barrier for safety and security by reinforcing designated pedestrian and vehicular circulation system movement.	Design Criteria Section 20.6.3.6	C	TBG	3/5/2015	H20.711 H17.007E H20.725 TSP 02826								
3	9.1	Vinyl coated chain link fencing provided in the station area shall provide a barrier for safety and security by reinforcing designated pedestrian and vehicular circulation system movement.	Design Criteria Section 20.6.3.7	C	TBG	3/5/2015	H20.711 H17.007A H17.007B H17.007D H17.007E H17.007F H20.725 TSP 02820								
4	9.1	Provide bollards at potential vehicular access locations around the station perimeter.	Design Criteria Section 20.1	C	TBG	3/5/2015	H20.715 H17.007E H17.007I H20.725 TSP 02871								

LEGEND		DESIGN VERIFICATION		CONSTRUCTION VERIFICATION		FINAL VERIFICATION	
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection		Name and Organization: _____ Date: _____ Approved by: _____ Date: _____		Name and Organization: _____ Date: _____ Approved by: _____ Date: _____	
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance							

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists				Design Verification				Construction Verification				Final Verification				
<b>Certifiable Element:</b> 9.0 Parking / Plaza/Station Boundary  <b>Sub-Element:</b> 9.2 Pavement Marking <b>Location:</b> Poinciana Station A813.67  <b>Contract No.:</b>				Notes or Restrictions:				Notes or Restrictions:				Notes or Restrictions:				
<b>Certifiable Item Description</b>				<b>Design Verification</b>				<b>Construction/Installation</b>				<b>Verification</b>				
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	
1	9.2	Minimum dimensions for vehicular stalls shall be minimum 8.5 feet wide and 18 feet deep, unless otherwise dictated by governing entity/municipality.	Design Criteria Section 20.6	C	DSB	3/12/2015	C17.013D C17.013E C17.013H C17.013I C17.013J									
<b>LEGEND</b> <b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other  <b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection  <b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance				<b>DESIGN VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				<b>CONSTRUCTION VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				<b>FINAL VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				

DRAFT



## CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists				Design Verification				Construction Verification				Final Verification			
<b>Certifiable Element:</b> 9.0 Parking / Plaza/Station Boundary <hr/> <b>Sub-Element:</b> 9.3 Drainage <b>Location:</b> Poinciana Station A813.67 <hr/> <b>Contract No.:</b> _____ <hr/>				Notes or Restrictions:				Notes or Restrictions:				Notes or Restrictions:			

Item No.	Certifiable Item Description			Design Verification				Construction/Installation				Verification			
	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	9.3	Drainage shall be provided along walkway surface to collect rainwater and drain to an approved storm water collection system.	Design Criteria 19.3	C	DSB	3/12/2015	C17.010 C17.010A C17.010B C17.010D C17.010E C17.010F C17.010H C17.010I C17.010J								

LEGEND			DESIGN VERIFICATION				CONSTRUCTION VERIFICATION				FINAL VERIFICATION			
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection	Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				Name and Organization: _____ Date: _____ Approved by: _____ Date: _____			
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance														

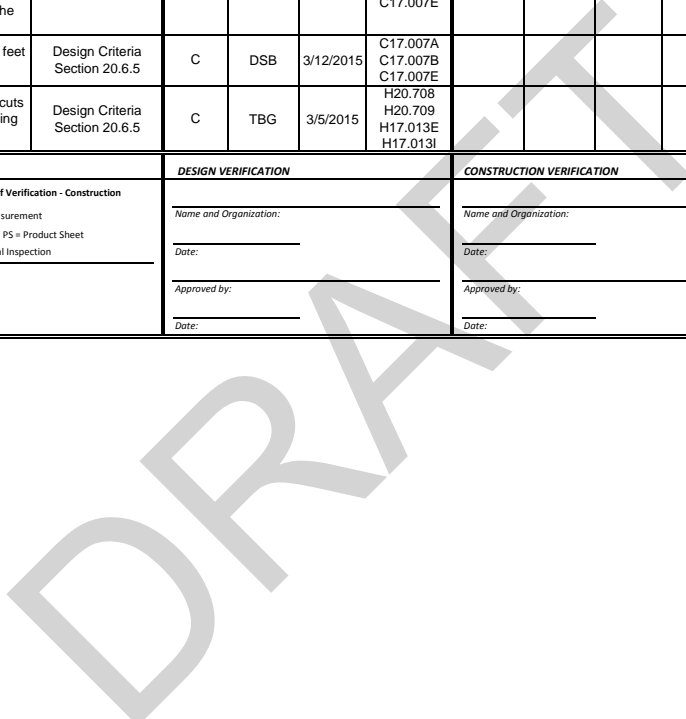
DRAFT

# CFCRT Project Phase 2 South

<b>Safety and Security Certification Elements Design and Construction Conformance Checklists</b>	<b>Design Verification</b>	<b>Construction Verification</b>	<b>Final Verification</b>
<b>Certifiable Element:</b> 9.0 Parking / Plaza/Station Boundary <hr/> <b>Sub-Element:</b> 9.4 Pedestrian Routes <b>Location:</b> Poinciana Station A813.67 <hr/> <b>Contract No.:</b> _____ <hr/>	<b>Notes or Restrictions:</b> <hr/> <hr/> <hr/> <hr/> 	<b>Notes or Restrictions:</b> <hr/> <hr/> <hr/> <hr/> 	<b>Notes or Restrictions:</b> <hr/> <hr/> <hr/> <hr/> 

Item No.	Certifiable Item Description			Design Verification				Construction/Installation				Verification			
	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	9.4	Pedestrian circulation shall provide direct and convenient approaches to station platforms from off the site and from each of the individual sections of the lot.	Design Criteria Section 20.6.5	C	DSB	3/12/2015	C17.007A C17.007B C17.007E								
2	9.4	Walkways shall be at least 5 feet 0 inches wide.	Design Criteria Section 20.6.5	C	DSB	3/12/2015	C17.007A C17.007B C17.007E								
3	9.4	Design does not allow short cuts through the bus bays by adding fencing or other means.	Design Criteria Section 20.6.5	C	TBG	3/5/2015	H20.708 H20.709 H17.013E H17.013I								

LEGEND		DESIGN VERIFICATION		CONSTRUCTION VERIFICATION		FINAL VERIFICATION	
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection		Name and Organization: _____ Date: _____		Name and Organization: _____ Date: _____	
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance				Approved by: _____ Date: _____		Approved by: _____ Date: _____	



# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists	Design Verification	Construction Verification	Final Verification
<b>Certifiable Element:</b> 9.0 Parking / Plaza/Station Boundary <b>Sub-Element:</b> 9.5 Entrance/Exits <b>Location:</b> Poinciana Station A813.67 <b>Contract No.:</b>	<b>Notes or Restrictions:</b> Note 1: Parcel orientation does not allow for more than one entrance due to spacing requirements.	<b>Notes or Restrictions:</b>	<b>Notes or Restrictions:</b>

Item No.	Certifiable Item Description			Design Verification				Construction/Installation				Verification			
	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	9.5	The minimum distance between any intersection and a station entrance should be 150 feet or as required for weaving and/or left hand turn stacking, whichever is greater.	Design Criteria Section 20.2	C	DSB	3/12/2015	C17.007 C17.007J								
2	9.5	For larger stations, more than one station exit to the local street system shall be considered to reduce traffic delays.	Design Criteria Section 20.3	N/A			Note1								
3	9.5	Kiss-and-ride drop-off shall be separated from the parking area and shall have direct routing from the adjacent street to drop-off and pick-up points and back to the adjacent street system.	Design Criteria Section 20.5	C	DSB	3/12/2015	C17.007 C17.007E								
4	9.5	Conflicts should be avoided between entrance roadways and large pedestrian movements.	Design Criteria Section 20.2	C	DSB	3/12/2015	C17.007 C17.007J								

LEGEND		DESIGN VERIFICATION	CONSTRUCTION VERIFICATION	FINAL VERIFICATION
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other	<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection	Name and Organization: _____ Date: _____ Approved by: _____ Date: _____	Name and Organization: _____ Date: _____ Approved by: _____ Date: _____	Name and Organization: _____ Date: _____ Approved by: _____ Date: _____
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance				

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists	Design Verification	Construction Verification	Final Verification
<b>Certifiable Element:</b> 9.0 Parking / Plaza/Station Boundary <hr/> <b>Sub-Element:</b> 9.6 Way-Finding Signage <b>Location:</b> Poinciana Station A813.67 <hr/> <b>Contract No.:</b> _____	<b>Notes or Restrictions:</b> <hr/> <hr/> <hr/> <hr/> <hr/>	<b>Notes or Restrictions:</b> <hr/> <hr/> <hr/> <hr/> <hr/>	<b>Notes or Restrictions:</b> <hr/> <hr/> <hr/> <hr/> <hr/>

Item No.	Certifiable Item Description			Design Verification				Construction/Installation				Verification			
	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	9.6	Station Identification Pylon (Type A Sign): All font sizes to conform to applicable/relevant legibility standards.	Design Criteria Section 21.1, 2010 ADA Standards for Accessible Design Section 703 Signs	C	TBG	3/5/2015	W17.700								
2	9.6	Station Identification Pylon (Type A Sign) to be internally illuminated or with uplighting.	Design Criteria Section 21.1	C	TBG	3/5/2015	W20.701 W20.705								
3	9.6	Vehicular Entrance Directional (Type B Sign): All font sizes to conform to applicable/relevant legibility standards.	Design Criteria Section 21.1, 2010 ADA Standards for Accessible Design Section 703 Signs	C	TBG	3/5/2015	W17.701								
4	9.6	Vehicular Entrance Directional (Type B Sign) indirectly illuminated by site lighting.	Design Criteria Section 21.1	C	TBG	3/5/2015	W17.007H W17.007I								
5	9.6	Vehicular Wayfinding Signs (Type C Sign): All font sizes to conform to applicable/relevant legibility standards.	Design Criteria Section 21.1, 2010 ADA Standards for Accessible Design Section 703 Signs	C	TBG	3/5/2015	W17.702								
6	9.6	Vehicular Wayfinding Signs (Type C Sign) indirectly illuminated by site lighting.	Design Criteria Section 21.1	C	TBG	3/5/2015	W17.007D W17.007E W17.007H								
7	9.6	Pedestrian Wayfinding Signs (Type E, F Signs): All font sizes to conform to applicable/relevant legibility standards.	Design Criteria Section 21.1, 2010 ADA Standards for Accessible Design Section 703 Signs	C	TBG	3/5/2015	W17.703 W17.704								
8	9.6	Pedestrian Wayfinding Signs (Type E, F Signs) indirectly illuminated by site lighting.	Design Criteria Section 21.1	C	TBG	3/5/2015	W17.007A W17.007B W17.007E								
9	9.6	An area shall be provided on the Station Identification Pylon, Vehicular Entrance Directional, and the Directory Sign for the Sunrail Logo (Type A, B, C Signs)	Design Criteria Section 22.1	C	TBG	3/5/2015	W17.700 W17.701 W17.702								

LEGEND		DESIGN VERIFICATION	CONSTRUCTION VERIFICATION	FINAL VERIFICATION
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other	<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection	<b>Name and Organization:</b> _____ <b>Date:</b> _____ <b>Approved by:</b> _____ <b>Date:</b> _____	<b>Name and Organization:</b> _____ <b>Date:</b> _____ <b>Approved by:</b> _____ <b>Date:</b> _____	<b>Name and Organization:</b> _____ <b>Date:</b> _____ <b>Approved by:</b> _____ <b>Date:</b> _____

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists	Design Verification	Construction Verification	Final Verification
<b>Certifiable Element:</b> 9.0 Parking / Plaza/Station Boundary <hr/> <b>Sub-Element:</b> 9.8 Electrical <b>Location:</b> Poinciana Station A813.67 <hr/> <b>Contract No.:</b> _____	Notes or Restrictions:	Notes or Restrictions:	Notes or Restrictions:

Certifiable Item Description				Design Verification				Construction/Installation				Verification					
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification		
1	9.8	Artificial light sources to obtain the required foot candle levels shall be no higher than 12 feet in station plaza.	Design Criteria Section 19.4	C	VMD	3/2/2015	E17.001 E17.003 E17.004 E17.006 E17.007 E17.001										
2	9.8	Artificial light sources to obtain the required foot candle levels shall be no higher than 24 feet in parking lots.	Design Criteria Section 19.4	C	VMD	3/2/2015	E17.005 E17.006 E17.008 E17.009 E17.010										
3	9.8	Pole foundations shall extend 24 inches above parking lot grade when not located behind curb or curb stops to reduce pole damage.	Design Criteria Section 19.4	C	VMD	3/2/2015	E00.705 E17.005 E17.006										
4	9.8	All light fixtures shall be: <ul style="list-style-type: none"> <li>• Vandal resistant construction</li> <li>• U.L. rated for exterior use</li> <li>• Reasonable to maintain</li> <li>• Designed to withstand corrosive environments</li> <li>• High wind proof</li> </ul>	Design Criteria Section 19.4	C	VMD	3/2/2015	E17.001 TSP 16521										
5	9.8	Artificial lighting shall be provided for safety in all open station site areas with due consideration for adjacent land uses.	Design Criteria Section 19.4	C	VMD	3/2/2015	E17.002 - E17.010 Photometrics										
6	9.8	If the vehicles are capable of hitting light poles when being parked, curbs or concrete around the light poles shall be added.	Design Criteria Section 20.6	C	VMD	3/2/2015	E00.705 E17.005 E17.006										
7	9.8	Light pole, anchorage and foundations must resist wind loads to prevent hazard during severe storm.	Design Criteria Section 19.4	C	CM	3/6/2015	C00.002E C00.002F S00.001 S20.710 TSP 03310										

LEGEND		DESIGN VERIFICATION	CONSTRUCTION VERIFICATION	FINAL VERIFICATION
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI          O = Other	<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection	Name and Organization: _____ Date: _____ Approved by: _____ Date: _____	Name and Organization: _____ Date: _____ Approved by: _____ Date: _____	Name and Organization: _____ Date: _____ Approved by: _____ Date: _____
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance				

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists	Design Verification	Construction Verification	Final Verification
<b>Certifiable Element:</b> 9.0 Parking / Plaza/Station Boundary <hr/> <b>Sub-Element:</b> 9.9 Landscaping <b>Location:</b> Poinciana Station A813.67 <hr/> <b>Contract No.:</b> _____	Notes or Restrictions:	Notes or Restrictions:	Notes or Restrictions:

Item No.	Certifiable Item Description			Design Verification				Construction/Installation				Verification			
	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	9.9	Design to follow CPTED guidelines to provide a safe and secure environment throughout the transit system.	Design Criteria Section 22.4	C	TBG	3/5/2015	C00.002D NOTE #8								
2	9.9	Control access to the system by reinforcing designated pedestrian and vehicular circulation system movement and creating barriers elsewhere along the ROW as required.	Design Criteria Section 22.1	C	TBG	3/5/2015	L17.007A L17.007B L17.007C L17.007D L17.007E L17.007F L17.007H L17.007I L17.007J L20.704								
3	9.9	Plant material will be selected to minimize obstruction of pedestrian paths.	Design Criteria Section 22.6.1	C	TBG	3/5/2015	L17.007A L17.007B L17.007E L17.007I L20.704								
4	9.9	Plant material will be selected to provide clear sight lines and to minimize hiding places	Design Criteria Section 22.6.1	C	TBG	3/5/2015	L17.007B L17.007D L17.007E L17.007F L17.007H L17.007I L17.007J L20.704								
5	9.9	Plant material will be selected to minimize maintenance.	Design Criteria Section 22.6.1	C	TBG	3/5/2015	L17.007A L17.007B L17.007C L17.007D L17.007E L17.007F L17.007H L17.007I L17.007J L20.704								

LEGEND		DESIGN VERIFICATION	CONSTRUCTION VERIFICATION	FINAL VERIFICATION
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI          O = Other	<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection	Name and Organization: _____ Date: _____ Approved by: _____ Date: _____	Name and Organization: _____ Date: _____ Approved by: _____ Date: _____	Name and Organization: _____ Date: _____ Approved by: _____ Date: _____
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance				

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists	Design Verification	Construction Verification	Final Verification
<b>Certifiable Element:</b> 9.0 Parking / Plaza/Station Boundary <hr/> <b>Sub-Element:</b> 9.10 Hardscaping <b>Location:</b> Poinciana Station A813.67 <hr/> <b>Contract No.:</b> _____	<b>Notes or Restrictions:</b> Note 1: None at this location _____ _____ _____ _____	<b>Notes or Restrictions:</b> _____ _____ _____ _____	<b>Notes or Restrictions:</b> _____ _____ _____ _____

Item No.	Certifiable Item Description			Design Verification				Construction/Installation				Verification			
	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	9.10	Concrete Pavers - Material shall be precast concrete pavers with integral color.	Design Criteria Section 20.6.3.3	N/A			Note 1								
2	9.10 9.14	Concrete Pavers - Walking surface is non-skid and conforms to ADA regulations.	Design Criteria Section 20.6.3.3, 2010 ADA Standards for Accessible Design Section 302 Floor of Ground Surfaces, 303 Changes in Level	N/A			Note 1								
3	9.10 9.14	Concrete Paving in plaza is to be non-skid and conforms to ADA regulations.	Design Criteria Section 20.6.3.3, 2010 ADA Standards for Accessible Design Section 302 Floor of Ground Surfaces, 303 Changes in Level	C	TBG	3/5/2015	H20.702								
4	9.10	Stamped Concrete - Material shall be integral color or color hardener.	Design Criteria Section 20.6.3.4	C	TBG	3/5/2015	TSP 03355.2.2.A, TSP 03355.2.2.C								
5	9.10 9.14	Stamped Concrete - Surface is non-skid and conforms to ADA regulations.	Design Criteria Section 20.6.3.4, 2010 ADA Standards for Accessible Design Section 302 Floor of Ground Surfaces, 303 Changes in Level	C	TBG	3/5/2015	H20.701, H20.702								
6	9.10	Stamped Concrete - Surface is sealed.	Design Criteria Section 20.6.3.4	C	TBG	3/5/2015	TSP 03355.2.2.E								
7	9.10	18" Ht. Seat walls to be easily viewed from all sides to minimize hiding places	Design Criteria Section 20.6.3.1	C	TBG	3/5/2015	H17.007A H17.007B H17.007E H17.007F								
8	9.10	18" Ht. Seat walls to include skate deterrent brackets.	Design Criteria Section 20.6.3.1	C	TBG	3/5/2015	H20.713 TSP 02872								

LEGEND		DESIGN VERIFICATION		CONSTRUCTION VERIFICATION		FINAL VERIFICATION	
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other	<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection	<b>Name and Organization:</b> _____ <b>Date:</b> _____ <b>Approved by:</b> _____ <b>Date:</b> _____	<b>Name and Organization:</b> _____ <b>Date:</b> _____ <b>Approved by:</b> _____ <b>Date:</b> _____	<b>Name and Organization:</b> _____ <b>Date:</b> _____ <b>Approved by:</b> _____ <b>Date:</b> _____	<b>Name and Organization:</b> _____ <b>Date:</b> _____ <b>Approved by:</b> _____ <b>Date:</b> _____		





## CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists				Design Verification				Construction Verification				Final Verification			
<b>Certifiable Element:</b> 9.0 Parking / Plaza/Station Boundary <b>Sub-Element:</b> 9.12 Art-in-Transit <b>Location:</b> Poinciana Station A813.67 <b>Contract No.:</b> _____				<b>Notes or Restrictions:</b> Note 1: Will need to be verified after ART shop drawings are provided.											
Certifiable Item Description				Design Verification				Construction/Installation				Verification			
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	9.12	Art-in-Transit shall be appropriate for site, including safety and security considerations and scale.	Design Criteria Section 18.16	N/A			Note 1								
2	9.12	Durability of materials.	Design Criteria Section 18.17	N/A			Note 1								
3	9.12	Resistance to vandalism.	Design Criteria Section 18.18	N/A			Note 1								
4	9.12	No sharp edges if located in pedestrian accessible area.	Design Criteria Section 20.6.3.8	N/A			Note 1								
<b>LEGEND</b> <b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other <b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance				<b>DESIGN VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				<b>CONSTRUCTION VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				<b>FINAL VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____			

DRAFT

## CFCRT Project Phase 2 South

<b>Safety and Security Certification Elements Design and Construction Conformance Checklists</b>	<b>Design Verification</b>	<b>Construction Verification</b>	<b>Final Verification</b>
------------------------------------------------------------------------------------------------------	----------------------------	----------------------------------	---------------------------

<b>Certifiable Element:</b> 9.0 Parking / Plaza/Station Boundary <hr/> <b>Sub-Element:</b> 9.13 Bicycle Storage <b>Location:</b> Poinciana Station A813.67 <hr/> <b>Contract No.:</b> _____	<b>Notes or Restrictions:</b> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	<b>Notes or Restrictions:</b> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	<b>Notes or Restrictions:</b> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>
------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------

Item No.	Certifiable Item Description			Design Verification				Construction/Installation				Verification				
	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	
1	9.13	Bicycle storage provided in the station area (not in close proximity to the platform or plaza area where people congregate).	Design Criteria Section 20.6.3.5	C	TBG	3/5/2015	H20.710 H20.721 H20.725 H17.007E TSP 02870									
2	9.13	Constructed of hard surfaces.	Design Criteria Section 20.6.3.5	C	TBG	3/5/2015	H20.710 H20.721 H20.725 H17.007E									
3	9.13	Easily accessible to the interior station site and the street system.	Design Criteria Section 20.6.3.5	C	TBG	3/5/2015	H17.007E									
4	9.13	Located for minimum interference with pedestrian flow.	Design Criteria Section 20.6.3.5	C	TBG	3/5/2015	H17.007E									
5	9.13	Provide secure bike racks to allow bicycles to be locked.	Design Criteria Section 20.6.3.5	C	TBG	3/5/2015	H17.007E H20.721 TSP 02870									

LEGEND		DESIGN VERIFICATION				CONSTRUCTION VERIFICATION				FINAL VERIFICATION			
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection				Name and Organization: _____ Date: _____				Name and Organization: _____ Date: _____			
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance		Approved by: _____ Date: _____				Approved by: _____ Date: _____				Approved by: _____ Date: _____			

DRAFT

## CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists				Design Verification				Construction Verification				Final Verification					
<b>Certifiable Element:</b> 9.0 Parking / Plaza/Station Boundary <hr/> <b>Sub-Element:</b> 9.14 ADA Requirement <b>Location:</b> Poinciana Station A813.67 <hr/> <b>Contract No.:</b> _____				Notes or Restrictions:				Notes or Restrictions:				Notes or Restrictions:					
<b>Certifiable Item Description</b>				<b>Design Verification</b>				<b>Construction/Installation</b>				<b>Verification</b>					
Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification		
1	9.14	Number of designated accessible parking spaces provided is appropriate for the station.	DOT Standards 208.502, FL Statute 17346	C	DSB	3/12/2015	C17.007 C17.007E										
2	9.14	Signs that are being placed on the track side of a station sidewalk need to be located as far as practical from the tracks and adjacent to the sidewalk.	Design Criteria Section 4.2	C	TBG	3/3/2015	W17.007E										
3	9.14	Accessible parking spaces at stations shall be provided near the station platform and in conformance with State and Federal requirements, in particular 49 CFR Parts 27, 37 and 38 and the 2010 ADA Standards for Accessible Design 2010 Standards Section 206 and 208 and the Highway Capacity Manual.	Design Criteria Section 20.6.1	C	DSB	3/12/2015	C00.003C C00.002A GENNOTE#2										
4	9.14	Continuous smooth surface ramps without vertical rises and grades less than 8 percent shall be provided from the handicapped parking surface to sidewalks and station platforms.	Design Criteria Section 20.6.1	C	DSB	3/12/2015	C00.003C										
5	9.14	The placement of these parking spaces within the stations' footprints shall consider the distance individuals with disabilities must travel as well as user convenience.	Design Criteria Section 20.6.1	C	DSB	3/12/2015	C17.007E										
<b>LEGEND</b> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none;"> <b>Means of Verification - Design</b>                      P = Plan Sheet    S = Specification                      RFI=RFI            O = Other                 </td> <td style="width: 50%; border: none;"> <b>Means of Verification - Construction</b>                      M = Measurement                      T = Test    PS = Product Sheet                      V = Visual Inspection                 </td> </tr> </table> <b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance				<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other	<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection	<b>DESIGN VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				<b>CONSTRUCTION VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				<b>FINAL VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____			
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other	<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection																

# CFCRT Project Phase 2 South

Safety and Security Certification Elements Design and Construction Conformance Checklists	Design Verification	Construction Verification	Final Verification
<b>Certifiable Element:</b> 10.0 Utility Yard <b>Sub-Element:</b> 10.1 Station Utility Yard Components <b>Location:</b> Poinciana Station A813.67 <b>Contract No.:</b>	Notes or Restrictions:	Notes or Restrictions:	Notes or Restrictions:

Item No.	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Design Verification				Construction/Installation				Verification			
				Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	10.1	Ensure that the surge suppressors and lightning arrestors are capable of meeting or exceeding the device protection requirements as contained in Section 785-1.	Design Criteria Section 15.7.11	C	SY	3/20/2015	TSP 17100, 3.2 A, 10 TSP 17140, 1.01								
2	10.1	Consider multiple devices installed in the same equipment cabinet to be a single installation for the purpose of providing grounding and surge suppression.	Design Criteria Section 15.7.11	C	SY	3/20/2015	E00.702 E00.705 M20.711								
3	10.1	Provide the equipment cabinet with a transfer switch rated for the design load of the cabinet's main breaker to provide an alternate power source using a generator.	Design Criteria Section 15.7.11	C	VMD	3/2/2015	E00.702 E00.705 TSP 16415, 2.2								
4	10.1	Include a generator connection consisting of, at a minimum, the manual transfer switch and twist-lock connector for generator hookup.	Design Criteria Section 15.7.11	C	VMD	3/2/2015	E00.705								
5	10.1	Locate this generator connection as close as possible to the main AC circuit breaker. Never locate the generator connection on the main cabinet door or back door.	Design Criteria Section 15.7.11	C	VMD	3/2/2015	E00.702 E00.705 E17.001								
6	10.1	Ensure that the cabinet is able to utilize a mobile emergency generator during power outages. The emergency generator connection shall allow the station site to be powered from a portable generator in the event that the commercial power is lost.	Design Criteria Section 15.7.11, 3.3	C	VMD	3/2/2015	E00.702 E00.705 E17.001								
7	10.1	Communications equipment shall be housed in weather-proof cabinets in the station utility yard.	Design Criteria Section 15.7.5	C	SY	3/20/2015	TSP 17140, 2.02, A.								
8	10.1	The utility yard equipment shall be serviced with a UPS to provide continuous power with at least 90 minutes of back-up power.	Design Criteria Section 15.7.5	C	SY	3/20/2015	M20.701 TSP 17840 1.01, and 2.01.								
9	10.1	Cabinets shall be installed above the 100-year flood plain.	Design Criteria Section 15.7.5	C	DSB	3/20/2015	C17.009E								
10	10.1	Each equipment cabinet shall be equipped with an approved RPU and shall monitor all alarms within the equipment cabinet as well as other alarms (i.e., ECB operation).	Design Criteria Section 15.7.5	C	SY	3/20/2015	TSP 17850, 1.01 G.								
11	10.1	Locate and label the transfer switch and twist lock connector on a lockable, weatherproof and dustproof cover.	Design Criteria Section 15.7.11, 3.2	C	VMD	3/2/2015	E00.702 E00.705 E17.001								

LEGEND		DESIGN VERIFICATION	CONSTRUCTION VERIFICATION	FINAL VERIFICATION
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other	<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection	Name and Organization: _____ Date: _____ Approved by: _____ Date: _____	Name and Organization: _____ Date: _____ Approved by: _____ Date: _____	Name and Organization: _____ Date: _____ Approved by: _____ Date: _____

# CFCRT Project Phase 2 South

<b>Safety and Security Certification Elements Design and Construction Conformance Checklists</b>	<b>Design Verification</b>	<b>Construction Verification</b>	<b>Final Verification</b>
<b>Certifiable Element:</b> <u>10.0 Utility Yard</u>  <b>Sub-Element:</b> <u>10.2 Intrusion Deterrents</u> <b>Location:</b> <u>Poinciana Station A813.67</u>  <b>Contract No.:</b> _____	<b>Notes or Restrictions:</b> _____ _____ _____ _____ _____	<b>Notes or Restrictions:</b> _____ _____ _____ _____ _____	<b>Notes or Restrictions:</b> _____ _____ _____ _____ _____

Item No.	Certifiable Item Description			Design Verification				Construction/Installation				Verification			
	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	10.2	Utility yard fencing should shall never be closer than 7'6" from tangent track and additional clearance shall be added where a curve exists.	Design Criteria Section 4	C	DSB	3/12/2015	C15.007A								
2	10.2	Vinyl coated chain link fencing shall be 6 feet tall to provide safety and security .	Design Criteria Section 20.6.3.7	C	DSB	3/12/2015	C15.007A FDOT SI-802, TSP-02820 2.2								
3	10.2	Access to the cabinets shall be restricted, such as by latching hardware and padlocks.	Design Criteria Section 15.7.5	C	DSB	3/12/2015	TSP 17140 2.02, 1.								
4	10.1	All cabinets within the lockable enclosure shall be accessible on all sides.	Design Criteria Section 17.9	C	KP	3/5/2015	E00.701 H15.007E								

<b>LEGEND</b> <b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection		<b>DESIGN VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				<b>CONSTRUCTION VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____				<b>FINAL VERIFICATION</b> Name and Organization: _____ Date: _____ Approved by: _____ Date: _____			
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance															

DRAFT

# CFCRT Project Phase 2 South

Safety and Security Certification Elements	Design Verification	Construction Verification	Final Verification
Certifiable Element: <u>12.0 Bus Shelters</u> Sub-Element: <u>12.1 Bus Shelter Foundations</u> Location: <u>Poinciana Station A813.67</u> Contract No.: _____	Notes or Restrictions:	Notes or Restrictions:	Notes or Restrictions:

Item No.	Certifiable Item Description			Design Verification				Construction/Installation				Verification			
	Master CIL Item No.	Safety/Security Design Criteria Item	Design or Cross Reference (Source Document)	Status	Design Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification	Status	Verified By	Date	Means of Verification
1	12.1	Shelter foundation in compliance with ADA Standards	Design Criteria 20.6.3.2	C	CCM	3/23/2015	C14.009E								
2	12.1	"Horizontal clearance: Shelter foundation"	Design Criteria 20.4	C	CCM	3/23/2015	H14.007E								

LEGEND		DESIGN VERIFICATION		CONSTRUCTION VERIFICATION		FINAL VERIFICATION			
<b>Means of Verification - Design</b> P = Plan Sheet    S = Specification RFI=RFI            O = Other		<b>Means of Verification - Construction</b> M = Measurement T = Test    PS = Product Sheet V = Visual Inspection		<b>DESIGN VERIFICATION</b> Name and Organization: _____ Date: _____		<b>CONSTRUCTION VERIFICATION</b> Name and Organization: _____ Date: _____		<b>FINAL VERIFICATION</b> Name and Organization: _____ Date: _____	
<b>Status</b> C = Compliance N = Noncompliance P = Partial Compliance		_____ Approved by: _____ Date: _____		_____ Approved by: _____ Date: _____		_____ Approved by: _____ Date: _____		_____ Approved by: _____ Date: _____	

DRAFT