




Interoffice Memorandum

October 5, 2018

TO: Mayor Teresa Jacobs
and the Board of County Commissioners

FROM: Mark V. Massaro, P. E., Director, Public Works Department 

CONTACT PERSON: Christine Lofye, P.E., Manager 
Traffic Engineering Division

PHONE NUMBER: (407) 836-7890

SUBJ: **Railroad Reimbursement Agreement between Florida Department of Transportation, Florida Central Railroad Company, Inc., and Orange County for Traffic Control Improvements at the Florida Central Railroad Company Grade Crossing on Vulcan Road at RR Crossing No. 625278-G.**

Submitted for approval and execution is a tripartite agreement between the Florida Department of Transportation, Florida Central Railroad Company, Inc., and Orange County to upgrade from cross bucks to flashing lights and gates, Constant Warning Time, a remote, and signal cabinet on Vulcan Road, at RR Crossing No. 625278-G. The improvements, to be performed by Florida Central Railroad, will be funded by the Florida Department of Transportation at an estimated cost of \$191,816.00. Orange County agrees to pay one-half of the annual cost to maintain the railroad signals, as well as install and maintain pavement markings and advance warning signs for both approaches to the crossing. The County's portion of the total annual cost of this project is currently scheduled at \$1,800.


Staff recommends approval and execution of the Railroad Reimbursement Agreement and Resolution for traffic control improvements.

Action Requested: Approval and execution of (1) State of Florida Department of Transportation Railroad Reimbursement Agreement Grade Crossing Traffic Control Devices - County Financial Project No. 44236115701 by and between the State of Florida Department of Transportation, Florida Central Railroad Company, Inc. and Orange County for RR Crossing No. 625278-G and (2) State of Florida Department of Transportation County Resolution Grade Crossing Traffic Control Devices and Future Responsibility Financial Project No. 44236115701. District 2.

MVM/CNL/nad

Attachments

**RAILROAD REIMBURSEMENT AGREEMENT
GRADE CROSSING TRAFFIC CONTROL DEVICES - COUNTY**



FINANCIAL PROJECT NO.	ROAD NAME OR NUMBER	COUNTY NAME	PARCEL & R/W NUMBER	FAP NUMBER
44236115701	VULCAN ROAD	ORANGE 	1(75000-SIGG)	D519-002-B

THIS AGREEMENT, made and entered into this 10th day of JANUARY, 2019,
by and between the STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION, hereinafter called the
DEPARTMENT, and FLORIDA CENTRAL RAILROAD COMPANY, INC.,
a corporation organized and existing under the laws of FLORIDA,
with its principal place of business in the City of APOPKA, County of ORANGE,
State of FLORIDA, hereinafter called the COMPANY; and ORANGE
County, a Charter County and political subdivision of the State of Florida, acting by and through its Board of
County Commissioners, hereinafter called the COUNTY.

WITNESSETH:

WHEREAS, the DEPARTMENT is constructing, reconstructing or otherwise changing a portion of the Public Road
System, designated by the Financial Project ID 442361-1-57-01,
on VULCAN ROAD, which crosses at grade the right of way and
tracks of the COMPANY'S Milepost ST-805.36,
FDOT/AAR Crossing Number 625278-G, at or near APOPKA,
as shown on DEPARTMENT'S Plan Sheet No. 509-100 & 509-070, attached hereto as a part hereof; and

NOW, THEREFORE, in consideration of the mutual undertakings as herein set forth, the parties hereto agree
as follows:

1. The COMPANY shall furnish the necessary materials and install Automatic Grade Crossing Signals
Type III Class III and/or other traffic control devices at said location on an actual cost basis
and in accordance with (1) the attached detailed statement of the work, plans, and specifications; and (2) the
DEPARTMENT'S Standard Plans, Index 509-070 attached hereto and made a part hereof.
2. After installation of said signals is completed, fifty (50%)  percent of the expense thereof in
maintaining the same shall be borne by the COUNTY and fifty (50%)  percent shall be borne by the
COMPANY, as enumerated by the Schedule of Annual Cost of Automatic Highway Grade Crossing Devices attached
hereto and by this reference made a part hereof and subject to future revision upon agreement by all parties.
3. After said signals have been installed and found to be in satisfactory working order by the DEPARTMENT
and COMPANY hereto, the same shall be immediately put into service, operated and maintained by the COMPANY so
long as said COMPANY or its successors or assigns shall operate the said signals at said grade crossing; or until it is
agreed between the parties hereto that the signals are no longer necessary or until the said crossing is abandoned; or
legal requirements occur which shall cease operation of signals thereat.

The COMPANY agrees that any future relocation or adjustment of said signals shall be performed by the COMPANY, but at the expense of the party initiating such relocation. Upon relocation the maintenance responsibilities shall be in accordance with the provisions of this agreement. It is further agreed that the cost of maintaining any additional or replacement signal equipment at the same location will be shared as provided under Paragraph 2. above.

4. Unless otherwise agreed upon herein, the COUNTY agrees to ensure that at the crossing the advance warning signs and railroad crossing pavement markings will conform to the U.S. Department of Transportation Manual on Uniform Traffic Control Devices within 30 days of notification that the railroad signal improvements have been completed and that the COUNTY shall use reasonable efforts to continually maintain such signs and pavement markings at an acceptable level.

5. The COMPANY hereby agrees to install and/or adjust the necessary parts of its facilities along said road in accordance with the provisions set forth in the:

- ☐ (a) DEPARTMENT Procedure No. 725-080-002 Appendix D.4, and Rule 14.57.011 "Public Railroad-Highway Grade Crossing Costs", Florida Administrative Code.
- ☒ (b) Federal Highway Administration Federal-Aid Policy Guide, 23 C.F.R. Subchapter G, Part 646, Subpart B, and 23 C.F.R., Subchapter B, Part 140, Subpart I,

and any supplements thereto or revisions thereof, which, by reference hereto, are made a part hereof. The COMPANY further agrees to do all of such work, with its own forces or by a contractor paid under a contract let by the COMPANY, all under the supervision and approval of the DEPARTMENT and the Federal Highway Administration, when applicable.

6. The DEPARTMENT hereby agrees to reimburse the COMPANY for all costs incurred by it in the installation and/or adjustment of said facilities, in accordance with the provisions of Procedure No. 725-080-002 Appendix D-4 "Billing Requirements," and any supplements thereto or revisions thereof. It is understood and agreed by and between the parties hereto that preliminary engineering costs not incorporated within this agreement shall not be subject to payment by the DEPARTMENT.

7. Attached hereto, and by this reference made a part hereof, are plans and specifications of the work to be performed by the COMPANY pursuant to the terms hereof, and an itemized estimate of the cost thereof in the amount of \$ 191,816.00. All work performed by the COMPANY pursuant hereto, shall be performed according to these plans and specifications as approved by the DEPARTMENT and the Federal Highway Administration if federal aid participating; and all subsequent plan changes shall likewise be approved by the DEPARTMENT and the Federal Highway Administration, when applicable.

8. All labor, services, materials, and equipment furnished by the COMPANY in carrying out the work to be performed hereunder shall be billed by the COMPANY direct to the DEPARTMENT. Separate records as to the costs of

contract bid items and force account items performed for the COMPANY shall also be furnished by the COMPANY to the DEPARTMENT.

9. The COMPANY has determined that the method to be used in developing the relocation or installation cost shall be as specified for the method checked and described hereafter:

- ☒ (a) Actual and related indirect costs accumulated in accordance with a work order accounting procedure prescribed by the applicable Federal or State regulatory body.
- ☐ (b) Actual and related indirect costs accumulated in accordance with an established accounting procedure developed by the COMPANY and approved by the DEPARTMENT.
- ☐ (c) An agreed lump sum \$ _____, as supported by a detail analysis of estimated cost attached hereto. (NOTE: This method is not applicable where the estimated cost of the proposed adjustment exceeds \$100,000.)

10. The installation and/or adjustment of the COMPANY'S facility as planned ☐ will ☒ will not involve additional work over and above the minimum reimbursable requirements of the DEPARTMENT. (If upgrading and/or nonreimbursable work is involved at the option of the COMPANY, then credit against the cost of the project is required and will be governed by the method checked and described hereafter):

- ☐ (a) _____ % will be applied to the final billing of work actually accomplished to determine required credit for (betterment) and/or (expired service life) and/or (nonreimbursable segments).
- ☐ (b) All work involving nonreimbursable segments will be performed by special COMPANY work or job order number apart and separate from the reimbursable portion of the work; such work or job order number to be _____. The COMPANY further agrees to clearly identify such additional work areas in the COMPANY'S plans and estimates for the total work covered by this Agreement.
- ☐ (c) \$ _____ credited for ☐ betterment ☐ expired service life
☐ nonreimbursable segments in accord with Article 9.(c) hereinabove.

11. It is specifically agreed by and between the DEPARTMENT and the COMPANY that the DEPARTMENT shall receive fair and adequate credit for any salvage which shall accrue to the COMPANY as a result of the above installation and/or adjustment work.

12. It is further agreed that the cost of all improvements made during this adjustment work shall be borne by the COMPANY, subject only to the DEPARTMENT bearing such portion of this cost as represents the cost of adjustment of previously existing facility, less salvage credit as set forth in the immediately preceding paragraph.

13. Upon completion of the work the COMPANY shall, within one hundred eighty (180) days, furnish the DEPARTMENT with two (2) copies of its final and complete billing of all costs incurred in connection with the work performed hereunder, such statement to follow as closely as possible the order of the items contained in the estimate attached hereto. The totals for labor, overhead, travel expense, transportation, equipment, material and supplies, handling costs and other services shall be shown in such a manner as will permit ready comparison with the approved plans and estimates. Materials shall be itemized where they represent major components of cost in the relocation following the pattern set out in the approved estimate as closely as is possible. Salvage credits from recovered and replaced permanent and recovered temporary materials shall be reported in said bills in relative position with the charge for the replacement or the original charge for temporary use.

The final billing shall show the description and site of the Project; the date on which the first work was performed, or, if preliminary engineering or right-of-way items are involved, the date on which the earliest item of billed expense was incurred; the date on which the last work was performed or the last item of billed expense was incurred; and the location where the records and accounts billed can be audited. Adequate reference shall be made in the billing to the COMPANY'S records, accounts and other relevant documents. All cost records and accounts shall be subject to audit by a representative of the DEPARTMENT. Upon receipt of invoices, prepared in accordance with the provisions of the above indicated Reimbursement Policy, the DEPARTMENT agrees to reimburse the COMPANY in the amount of such actual costs as approved by the DEPARTMENT'S auditor.

14. Payment shall be made only after receipt and approval of goods and services unless advance payments are authorized by the DEPARTMENT's Comptroller under Section 334.044(29), F.S., or by the Department of Financial Services under Section 215.422(14), Florida Statutes (F.S.).

15. In accordance with Section 287.058, Florida Statutes, the following provisions are in this Agreement: If this Contract involves units of deliverables, then such units must be received and accepted in writing by the Contract Manager prior to payments. Bills for fees or other compensation for services or expenses shall be submitted in detail sufficient for a proper preaudit and postaudit thereof.

16. Bills for travel expenses specifically authorized in this agreement shall be submitted and paid in accordance with DEPARTMENT Rule 14-57.011 "Public Railroad-Highway Grade Crossing Costs" and the Federal Highway Administration Federal-Aid Policy Guide, Subchapter B, Part 140, Subpart I "Reimbursement for Railroad Work."

17. In accordance with Section 215.422, Florida Statutes, the following provisions are in this Agreement: Contractors providing goods and services to the Department should be aware of the following time frames. Upon receipt, the Department has five (5) working days to inspect and approve the goods and services, unless the Agreement specifies otherwise. The Department has 20 days to deliver a request for payment (voucher) to the Department of Financial Services. The 20 days are measured from the latter of the date the invoice is received or the goods or services are received, inspected and approved.

If a payment is not available within 40 days, a separate interest penalty at a rate as established pursuant to Section 215.422(3)(b), Florida Statutes, will be due and payable, in addition to the invoice amount, to the Contractor. Interest penalties of less than one (1) dollar will not be enforced unless the Contractor requests payment. Invoices which have to be returned to a Contractor because of Contractor preparation errors will result in a delay in the payment. The invoice payment requirements do not start until a properly completed invoice is provided to the Department.

A Vendor Ombudsman has been established within the Department of Financial Services. The duties of this individual include acting as an advocate for contractors/vendors who may be experiencing problems in obtaining timely payment(s) from a state agency. The Vendor Ombudsman may be contacted at (850) 413-5516 or by calling the Division of Consumer Services at 1-877-693-5236.

18. In the event this contract is for services in excess of TWENTY FIVE THOUSAND DOLLARS (\$25,000.00) and a term for a period of more than one year, the provisions of Section 339.135(6)(a), Florida Statutes, are hereby incorporated:

The Department, during any fiscal year, shall not expend money, incur any liability, or enter into any contract which, by its terms, involves the expenditure of money in excess of the amounts budgeted as available for expenditure during such fiscal year. Any contract, verbal or written, made in violation of this subsection is null and void, and no money may be paid on such contract. The Department shall require a statement from the Comptroller of the Department that such funds are available prior to entering into any such contract or other binding commitment of funds. Nothing herein contained shall prevent the making of contracts for periods exceeding one year, but any contract so made shall be executory only for the value of the services to be rendered or agreed to be paid for in succeeding fiscal years; and this paragraph shall be incorporated verbatim in all contracts of the Department which are for an amount in excess of TWENTY FIVE THOUSAND DOLLARS (\$25,000.00) and which have a term for a period of more than one year.

19. In accordance with Section 287.133 (2)(a), Florida Statutes, the following provisions are included in this Agreement:

A person or affiliate who has been placed on the convicted vendor list following a conviction for a public entity crime may not submit a bid, proposal, or reply on a contract to provide any goods or services to a public entity; may not submit a bid, proposal, or reply on a contract with a public entity for the construction or repair of a public building or public work; may not submit bids, proposals, or replies on leases of real property to a public entity; may not be awarded or perform work as a contractor, supplier, subcontractor, or consultant under a contract with any public entity; and may not transact business with any public entity in excess of the threshold amount provided in s.287.017 for CATEGORY TWO for a period of 36 months following the date of being placed on the convicted vendor list.

20. In accordance with Section 287.134(2)(a), Florida Statutes, the following provisions are included in this Agreement:

An entity or affiliate who has been placed on the discriminatory vendor list may not submit a bid, proposal, or reply on a contract to provide any goods or services to a public entity; may not submit a bid, proposal, or reply on a contract with a public entity for the construction or repair of a public building or public work; may not submit bids, proposals, or replies on leases of real property to a public entity; may not be awarded or perform work as a contractor, supplier, subcontractor, or consultant under a contract with any public entity; and may not transact business with any public entity.

21. In accordance with Section 287.0582, Florida Statutes, the following provision is included in this Agreement:

The Department's obligation to pay under this contract is contingent upon an annual appropriation by the Florida Legislature.

22. The COMPANY covenants and agrees that it will indemnify and hold harmless the DEPARTMENT and COUNTY all of the DEPARTMENT'S and COUNTY'S officers, agents, and employees from any claim, loss, damage, cost charge, or expense arising out of any act, action, neglect, omission or delay by the COMPANY during the performance of the contract,

whether direct or indirect, and whether to any person or property to which the DEPARTMENT or COUNTY or said parties may be subject, except that neither the COMPANY nor any of its sub-contractors will be liable under this section for damages arising out of injury or damage to persons or property directly caused or resulting from the sole negligence of the DEPARTMENT or COUNTY or any of its respective officers, agents, or employees.

23. COMPANY shall:

1. utilize the U.S. Department of Homeland Security's E-Verify system to verify the employment eligibility of all new employees hired by the COMPANY during the term of the contract; and
2. expressly require any subcontractors performing work or providing services pursuant to the state contract to likewise utilize the U.S. Department of Homeland Security's E-Verify system to verify the employment eligibility of all new employees hired by the subcontractor during the contract term.

24. It is understood and agreed by the parties to this Agreement that if any part, term, or provision of this Agreement is held illegal by the courts or in conflict with any law of the State of Florida, the validity of the remaining portions or provisions shall not be affected, and the rights and obligations of the parties shall be construed and enforced as if the Agreement did not contain the particular part, term, or provision held to be invalid.

25. Any questions or matters arising under this Agreement as to validity, construction, enforcement, performance, or otherwise, shall be determined in accordance with the laws of the State of Florida. Venue for any action arising out of or in any way related to this Agreement shall lie exclusively in a state court of appropriate jurisdiction in Leon County, Florida.

26. The parties agree to bear their own attorney's fees and costs with respect to this Agreement.

27. The parties agree that this Agreement is binding on the parties, their heirs-at-law, and their assigns and successors in interest as evidenced by their signatures and lawful executions below.

28. A modification or waiver of any of the provisions of this Agreement shall be effective only if made in writing and executed with the same formality as this Agreement.

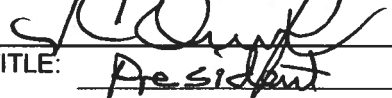
29. Paragraphs 2, 3, 4 and 22 were modified, prior to execution by all parties, at the request of Orange County.

IN WITNESS WHEREOF, the parties hereto have caused these presents to be executed by their duly authorized officers, the day and year first above written.

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

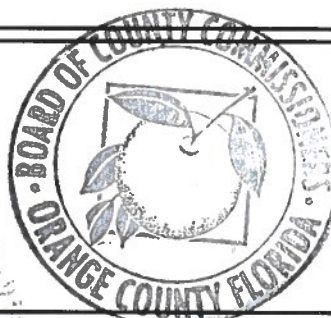
BY: 
(TITLE: Director of Transportation Operations)

COMPANY: FLORIDA CENTRAL RAILROAD COMPANY, INC.

BY: 
(TITLE: President)

ORANGE COUNTY, FLORIDA

BY: 
(TITLE: County Administrator)



Legal Review

BY:  12/4/18
Attorney - DOT Date

Approved as to Funds
Available

BY: _____
Comptroller - DOT Date

Approved as to FAPG
Requirements

BY: _____
FHWA Date

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
**RAILROAD GRADE CROSSING TRAFFIC CONTROL DEVICES
ANNUAL MAINTENANCE COSTS**

725-090-41
RAIL
OGC - 07/16

FINANCIAL PROJECT NO.	ROAD NAME OR NUMBER	COUNTY NAME	PARCEL & R/W NUMBER	FAP NUMBER
44236115701	VULCAN ROAD	ORANGE <input checked="" type="checkbox"/>	1(75000-SIGG)	

COMPANY NAME: FLORIDA CENTRAL RAILROAD COMPANY, INC.

A. FDOT/AAR XING NO.: 625278-G RR MILE POST TIE: ST-805.36

B. TYPE SIGNALS PROPOSED III CLASS III DOT INDEX: 509-070

**SCHEDULE OF ANNUAL COST OF AUTOMATIC
HIGHWAY GRADE CROSSING TRAFFIC CONTROL DEVICES**

Annual Maintenance Cost Exclusive of Installation

<u>CLASS</u>	<u>DESCRIPTION</u>	<u>COST*</u>
I	2-Quadrant Flashing Lights with One Track	\$2,386.00
II	2-Quadrant Flashing Lights with Multiple Tracks	\$3,158.00
III	2-Quadrant Flashing Lights and Gates with One Track	\$3,600.00
IV	2-Quadrant Flashing Lights and Gates with Multiple Tracks	\$4,520.00
V	3 or 4-Quadrant Flashing Lights and Gates with One Track	\$7,116.00
VI	3 or 4-Quadrant Flashing Lights and Gates with Multiple Tracks	\$8,930.00

AUTHORITY: FLORIDA ADMINISTRATIVE RULE 14-57.011
Public Railroad-Highway Grade Crossing Costs

EFFECTIVE DATE: July 22, 1982

GENERAL AUTHORITY: 334.044, F.S.

SPECIFIC LAW IMPLEMENTED: 335.141, F.S.

*This schedule will become effective July 1, 2016 and will be reviewed every 5 years and revised as appropriate based on the Consumer Price Index for all Urban Consumers published by the U.S. Department of Labor.

12/EL

PARCEL 1 (R/W JOB 75500-XNGG)
SECTION 75500-6600
Orange County Public Works
Roads & Drainage Division
Orange County, Florida
STATE ROAD NO. Vulcan Road
COUNTY Orange Xing # 625278G

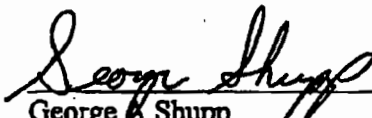
April 4, 2017

Florida Central Railroad
Company, Inc.
3001 W. Orange Ave.
Apopka, Florida 32703
Attention: Ms. Karen Kuivinen
Manager of Real Estate and Contracts

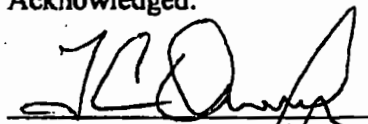
RE: Railroad Crossing at Vulcan Road
DOT #625278G MP ST 805.2
Orange County, Florida

Dear Ms. Kuivinen:

This letter will confirm that the captioned railroad crossing is, according to a search of the Public Records of Orange County, Florida, a public right of way and maintained as such by Orange County, Florida as part of Vulcan Road. It is our understanding that pursuant to this letter you will cause the captioned railroad crossing to be officially registered with the Federal Railroad Administration as a public crossing. Please confirm the foregoing registration for our records. Your cooperation is appreciated and thank you.

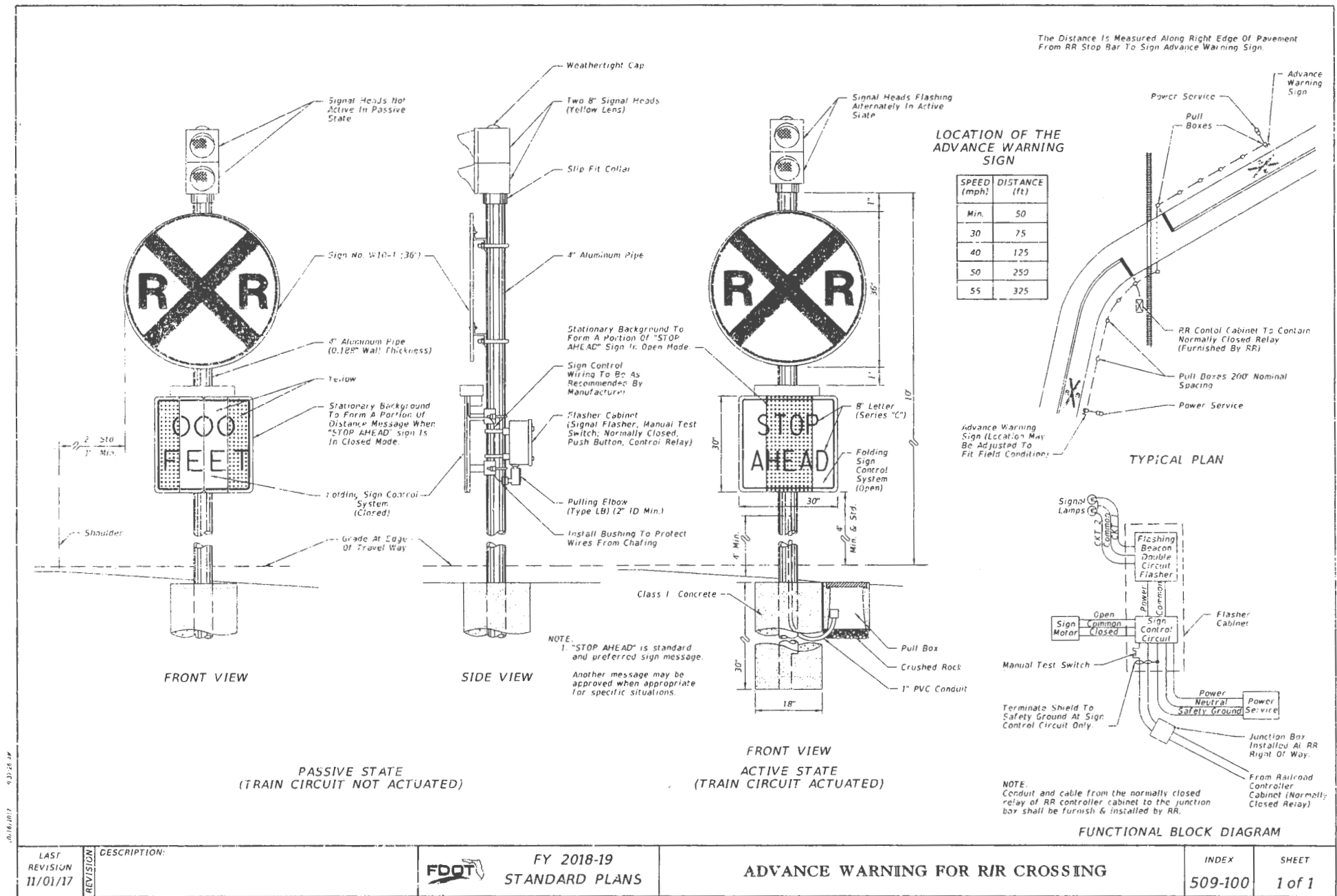

George A. Shupp
Assistant Project Manager
Orange County Public Works
Roads & Drainage Division
Orange County, Florida

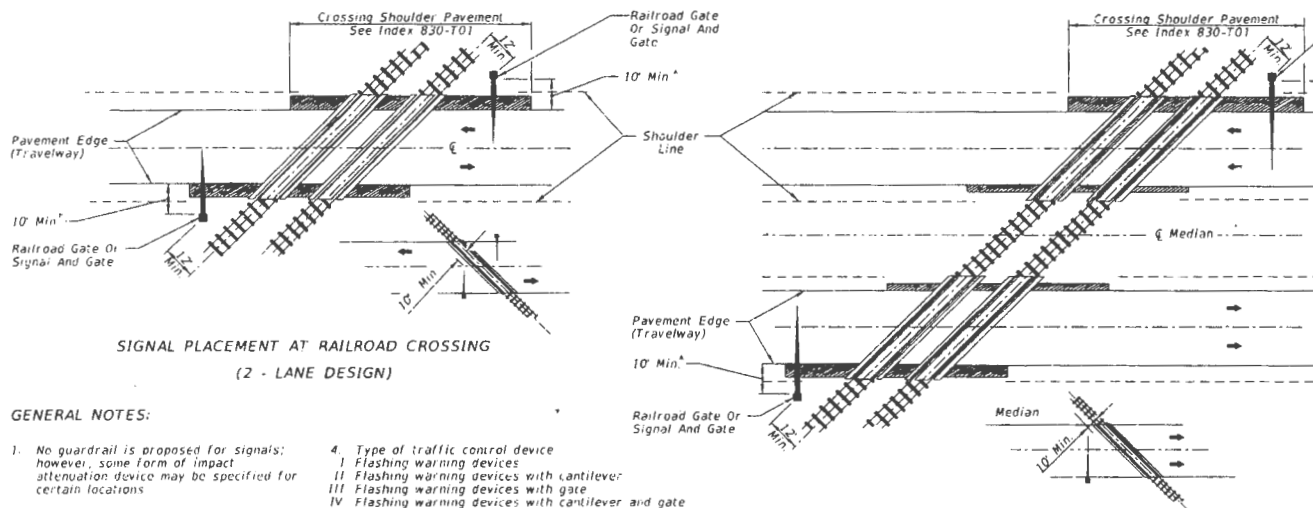
Acknowledged:


Thomas C. Owen, President
Florida Central Railroad Company Inc. 4/5/17

Crossing Name	DDOT #	Scope Of Work	Price
Emerald Rd. (Ocala) FM	DOT# 62725P	Material, labor, expenses and equipment to replace and install (2) new gate mechanisms and replace SCX with PMO-3. Price includes all required field materials consisting of the cable, conduits, rail bonds, track connection kits, and all other miscellaneous materials to complete the new signal system.	\$77,750.17
Oak Rd. (Ocala)	DOT# 62722SW	Material, labor, expenses and equipment to replace SCX with PMO-3. Price includes all required field materials consisting of the cable, conduits, rail bonds, track connection kits, and all other miscellaneous materials to complete the new signal system.	\$42,572.47
S. Mt. Homer Rd. (Tavares)	DOT# 62200HV	Material, labor, expenses and equipment to install new flasher and gate type signals equipped with 12" LED light units and pole mounted bells. Price includes a new factory wired shelter using a XP-4 for train detection equipment. Price includes all required field materials consisting of the cable, conduits, rail bonds, track connection kits, ac meter service and all other miscellaneous materials to complete the new signal system.	\$191,815.24
CR-452/Lake Dora Dr. (Tavares)	DOT# 621998L	Material, labor, expenses and equipment to install (3) new flasher and gate type signals equipped with 12" LED light units and pole mounted bells and (3) Ped gates. Price includes a new factory wired shelter using a XP-4 with remote for train detection equipment. Price includes all required field materials consisting of the cable, conduits, rail bonds, track connection kits, ac meter service and all other miscellaneous materials to complete the new signal system.	\$294,970.83
West Ponkan Rd. (Apopka)	DOT# 625206K	Material, labor, expenses and equipment to install new flasher and gate type signals equipped with 12" LED light units and pole mounted bells. Price includes a new factory wired shelter using a XP-4 for train detection equipment. Price includes all required field materials consisting of the cable, conduits, rail bonds, track connection kits, ac meter service and all other miscellaneous materials to complete the new signal system.	\$191,815.24
Bethune Ave. (Winter Garden)	DOT# 621887U	Material, labor, expenses and equipment to install new flasher and gate type signals equipped with 12" LED light units and pole mounted bells. Price includes a new factory wired shelter using T-Boss with remote for train detection equipment and (1) pedestrian gate. Price includes all required field materials consisting of the cable, conduits, rail bonds, track connection kits, ac meter service and all other miscellaneous materials to complete the new signal system. Reuse existing short concrete power pole.	\$184,275.41
SR-438/W. Silverstar (Winter Garden)	DOT# 621879C	Material, labor, expenses and equipment to install new flasher and gate type signals equipped with 12" LED light units and pole mounted bells. Price includes a new factory wired shelter using a PMO-3 for train detection equipment. Price to include one pedestrian gate. Price includes all required field materials consisting of the cable, conduits, rail bonds, track connection kits, ac meter service and all other miscellaneous materials to complete the new signal system. Includes removal of existing (2) cantilevers.	\$200,466.16
Gilliam Rd. (Winter Garden)	DOT# 621861S	Material, labor, expenses and equipment to install new flasher and gate type signals equipped with 12" LED light units and pole mounted bells. Price includes a new factory wired shelter using a PMO-3 with shunt enhancer for train detection equipment. Price includes all required field materials consisting of the cable, conduits, rail bonds, track connection kits, ac meter service and all other miscellaneous materials to complete the new signal system.	\$178,907.67
W. 4th St. (Apopka)	DOT# 625266M	Material, labor, expenses and equipment to install new flasher and gate type signals equipped with 12" LED light units and pole mounted bells. Price includes a new factory wired shelter using a XP-4 for train detection equipment. Price includes all required field materials consisting of the cable, conduits, rail bonds, track connection kits, ac meter service and all other miscellaneous materials to complete the new signal system.	\$181,815.24
E. 8th St. (Apopka)	DOT# 625271J	Material, labor, expenses and equipment to install new flasher and gate type signals equipped with 12" LED light units and pole mounted bells. Price includes a new factory wired shelter using XP-4 for train detection equipment. Price includes (2) ped gates and all required field materials consisting of the cable, conduits, rail bonds, track connection kits, ac meter service and all other miscellaneous materials to complete the new signal system. Remove existing 8th St. equipment from the nearby Orange Trail bungalow.	\$243,970.93
S. Highland Ave. (Apopka)	DOT# 625273X	Material, labor, expenses and equipment to install new flasher and gate type signals equipped with 12" LED light units and pole mounted bells. Price includes a new factory wired shelter using XP-4 for train detection equipment. Price includes all required field materials consisting of the cable, conduits, rail bonds, track connection kits, ac meter service and all other miscellaneous materials to complete the new signal system.	\$191,815.24
US-441/Orange Blossom (Orlando)	DOT# 62365A	Material, labor, expenses and equipment to remove and replace (2) cantilevers with (2) new cantilevers equipped with 12" LED light units. Price to include (1) pedestrian gate equipped. Price includes all required field materials consisting of the cable, conduits, ac meter service and all other miscellaneous materials to complete the new signal system. Price to include upgrading of existing shelf relays to plug in relays.	\$187,522.55
W. New Hampshire St. (Orlando)	DOT# 62360R	Material, labor, expenses and equipment to install new flasher and gate type signals equipped with 12" LED light units and pole mounted bells. Price includes a new factory wired shelter using T-Boss with remote for train detection equipment. Price includes all required field materials consisting of the cable, conduits, rail bonds, track connection kits, ac meter service and all other miscellaneous materials to complete the new signal system. Add sideights and new curb in S.W. quad.	\$177,888.50
NW 1st St (Newberry)	DOT# 622497K	Material, labor, expenses and equipment to install new flasher and gate type signals equipped with 12" LED light units and pole mounted bells with side lights. Price includes a new factory wired shelter using a PMO-3 with remote for train detection equipment. Price includes all required field materials consisting of the cable, conduits, rail bonds, track connection kits, ac meter service and all other miscellaneous materials to complete the new signal system.	\$177,134.04

Crossing No: 6252763		Roadway: VULCAN RD (PRIVATE)		RR Street:		District: 5		County: Orange	
PRIVATE	HWY	AT GRADE		Industrial	City: Apopka	NEAR CITY		OPEN-TRACK	ACTIVE
Rank 2016:	SR No.:			RR Company:	FCEN		Date: 03/21/2017		
Rank 2015: 4756	CR No.:			Division Name:	TAMPA		Team Members:		
Rank 2014:	US No.:			Subdivision Name:	ORLANDO		Albritton		
	Latitude:	28.640200		Branch Name:	ST 830		Ganey		
	Longitude:	-81.470000		RR Milepost:	805.36		Iacono		
Field Review Comments: Upgrade from XB's to FL&G's							Regalado		
FCEN has documentation that this is a PUBLIC (not Private) crossing.									
Team Recommendations: 2- FL&G's, CWT, remote, a cabinet, cable, conduit & power									
Highway Speed:	35	<input type="checkbox"/>		Train Speed Range:	5-25	<input type="checkbox"/>			
Crossing Angle:	60-90 DEG	<input type="checkbox"/>		Max Time Table Speed:	25	<input type="checkbox"/>			
AADT:	0	<input type="checkbox"/>		Day Thru/Switch:	0/2	<input type="checkbox"/>			
Percent Trucks:	0 (2009)	<input type="checkbox"/>		Night Thru/Switch:	0/0	<input type="checkbox"/>			
School Buses:	0 (2013)	<input type="checkbox"/>		Train Service: Freight		<input type="checkbox"/>			
Street Types:	Two-Way Street	<input type="checkbox"/>		Passenger Count/Day:	0	<input type="checkbox"/>			
Thru Lanes:	2	<input type="checkbox"/>		Train Count Date:	10/17/2011	<input type="checkbox"/>			
Aux Lanes:	0	<input type="checkbox"/>		Main Tracks:	1	<input type="checkbox"/>			
Hazmat Route?	YES	<input type="checkbox"/>		Other Tracks:		<input type="checkbox"/>			
Emergency Services Route?	NO	<input type="checkbox"/>				<input type="checkbox"/>			
Emergency Notification Signs:	NO	<input type="checkbox"/>		Train Signals?	NO	<input type="checkbox"/>			
Crossbuck(4x4 post):	2	<input type="checkbox"/>		Train Signal Proximity:	NO	<input type="checkbox"/>			
Crossbuck Sign:	2	<input type="checkbox"/>		Train Detection:	None	<input type="checkbox"/>			
Stop Sign:	2	<input type="checkbox"/>		Event Recorder?		<input type="checkbox"/>			
Yield Sign:	0	<input type="checkbox"/>		Number of Bells:	0	<input type="checkbox"/>			
Low Ground Clearance Signs:	0	<input type="checkbox"/>		Post Mounted Flashing Lights:	0	<input type="checkbox"/>			
Exempt Signs:		<input type="checkbox"/>				<input type="checkbox"/>			
Trespass Signs:	YES	<input type="checkbox"/>		Roadway Gate Count:	0	<input type="checkbox"/>			
W10-1	0	R10-6a	0	W8-1	0				
W10-2	0	R11-2	0	W10-8	0				
W10-3	0	R15-2P	0	W10-9	0				
W10-4	0	R15-6	0	W10-9P	0				
W10-11	0	R15-6a	0	W10-11a	0				
W10-12	0	R15-7	0	W10-11b	0				
R3-1a	0	R15-7a	0	W10-13P	0				
R3-2a	0	R15-8	0	W10-14P	0				
R8-8	0	Pvt Crossing	0	W10-14aP	0				
R8-9	0	Look Out	0	W10-15P	0				
R8-10	0	R8-8 w/Beacon	0	Slow	0				
R8-10a	0	W3-1		W10-1w/Beacon	0				
R10-6	0	W3-3		LED Signs	0				
Surface Installment Date:				<input type="checkbox"/>		LED Count:			
Surface Type:				CONCRETE	<input type="checkbox"/>	Install - Upgrade:			
Pvmt Mtk:				NONE	<input type="checkbox"/>	Maintenance Responsibility:			
Surface Condition:					<input type="checkbox"/>	COUNTY			
Approach:				LOS C = Minor erosion	<input type="checkbox"/>	Roadway Paved:			
Vehicle Reaction:				LOS D = Bouncing	<input type="checkbox"/>	YES			
Driver Reaction:				LOS C = Most drivers slow down	<input type="checkbox"/>	Tracks run down street?			
Rail/Pad Movement:				LOS B = Uneven	<input type="checkbox"/>	NO			
Incident History: 04/2000					<input type="checkbox"/>	Sidewalks on Crossing Approach?			
					<input type="checkbox"/>	NO			
					<input type="checkbox"/>	Sidewalks Thru Crossing?			
					<input type="checkbox"/>	NO			
					<input type="checkbox"/>	Crossing illuminated?			
					<input type="checkbox"/>	NO			
					<input type="checkbox"/>	Commerical Power?			
					<input type="checkbox"/>	YES			
					<input type="checkbox"/>	Alternative Power?			
					<input type="checkbox"/>	NO			
						Recommended Warning Device: PRIVATE CROSSING			

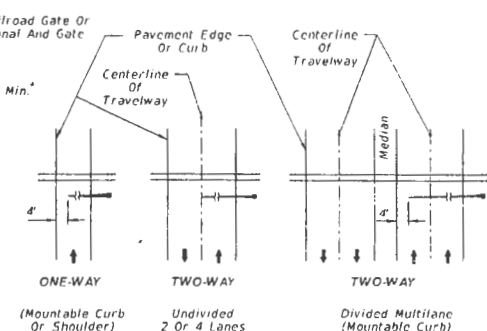




GENERAL NOTES:

1. No guardrail is proposed for signals; however, some form of impact attenuation device may be specified for certain locations.
2. Advance flasher to be installed when and as called for in plans or specifications.
3. Top of foundation shall be no higher than 4" above finished shoulder grade.
4. Type of traffic control device:
 - I. Flashing warning devices
 - II. Flashing warning devices with cantilever
 - III. Flashing warning devices with gate
 - IV. Flashing warning devices with cantilever and gate
 - V. Gate
5. Class of traffic control devices (Not Shown):
 - I. 2 Quadrant flashing warning devices-one track
 - II. 2 Quadrant flashing warning devices-multiple tracks
 - III. 2 Quadrant flashing warning devices and gates-one track
 - IV. 2 Quadrant flashing warning devices and gates-multiple tracks
 - V. 3-4 Quadrant flashing warning devices and gates-one track
 - VI. 2-4 Quadrant flashing warning devices and gates-multiple tracks

**SIGNAL PLACEMENT AT RAILROAD CROSSING
(4 - LANE DESIGN)**

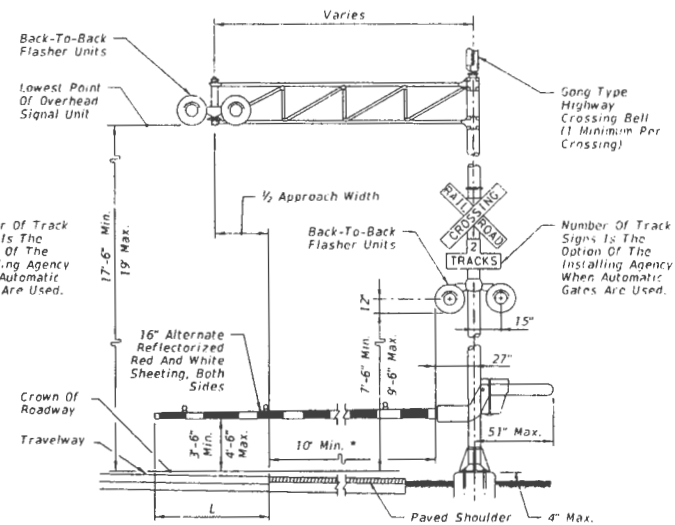
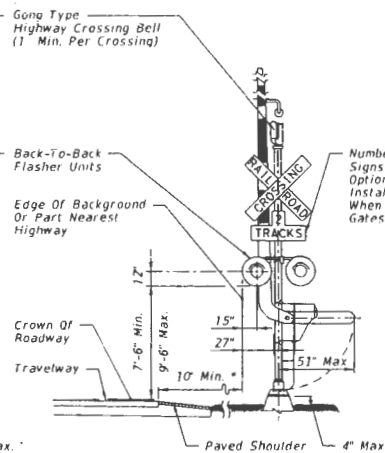
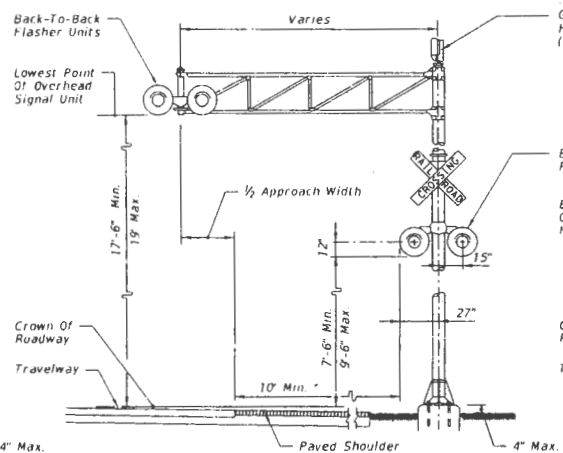
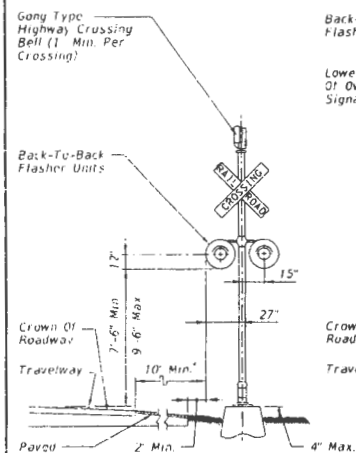


Note:
Arrows denote direction of travel not pavement markings
Gate Length Requirements See Note 5 Sheet 3.

FIGURE 1

Note:
Two separate foundations may be required (one for signals, one for gate), depending on type of equipment used.

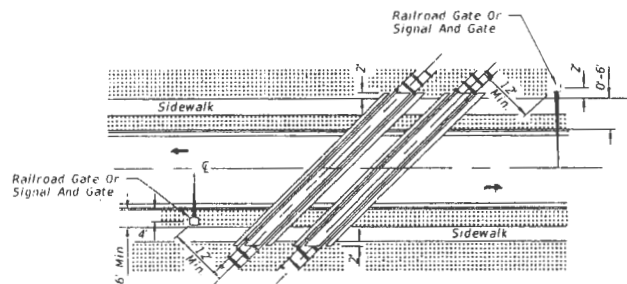
* When 10' is deemed impracticable the control device can be located as close as 2' from the edge of a paved shoulder but not less than 6' from the edge of the near traffic lane



TRAFFIC CONTROL DEVICES FOR FLUSH SHOULDER ROADWAY

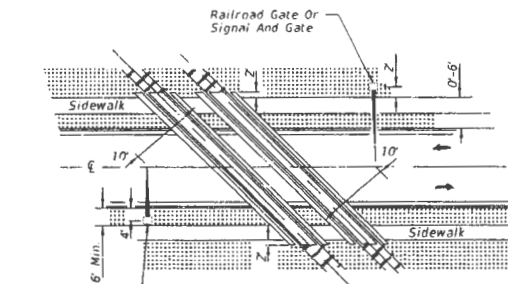
LAST REVISION	DESCRIPTION	FDOT	FY 2018-19 STANDARD PLANS	RAILROAD GRADE CROSSING TRAFFIC CONTROL DEVICES	INDEX	SHEET
11/01/17					509-070	1 of 4

OLD # 17882



ACUTE ANGLE (AND RIGHT ANGLE)

SIGNAL PLACEMENT AT RAILROAD CROSSING
(2 LANES, CURB & GUTTER)

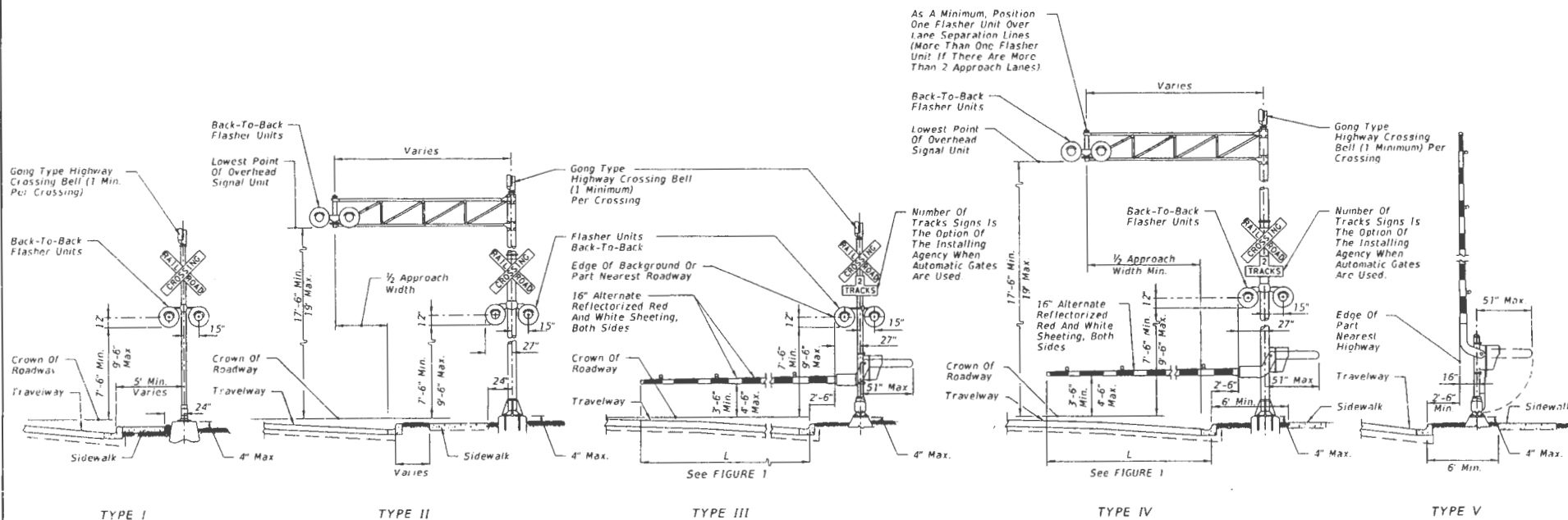


OBTUSE ANGLE

SIGNAL PLACEMENT AT RAILROAD CROSSING
(2 LANES, CURB & GUTTER)

NOTES:

1. The location of flashing warning devices and stop lines shall be established based on future (or present) installation of gate with appropriate track clearances.
2. Where plans call for railroad traffic control devices to be installed in curbed medians, the minimum median width shall be 12'-6".
3. Location of railroad traffic control device is based on the distance available between face of curb & sidewalk. 0' to 6' - Locate device outside sidewalk. Over 6' - Locate device between face of curb and sidewalk.
4. Stop line to be perpendicular to edge of roadway, approx. 15' from nearest rail; or R' from and parallel to gate when present.
5. When a cantilevered-arm flashing warning device is used, the minimum vertical clearance shall be 17'-6" from above the Crown of Roadway to the Lowest Point of the Overhead Signal Unit.

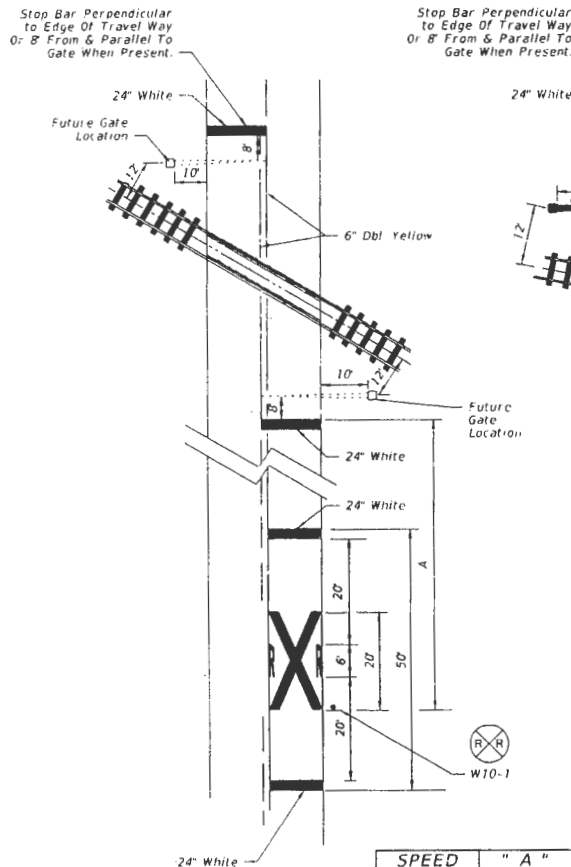


TRAFFIC CONTROL DEVICES FOR CURBED ROADWAY

LAST REVISION	DESCRIPTION:	FY 2018-19 STANDARD PLANS	RAILROAD GRADE CROSSING TRAFFIC CONTROL DEVICES	INDEX	SHEET
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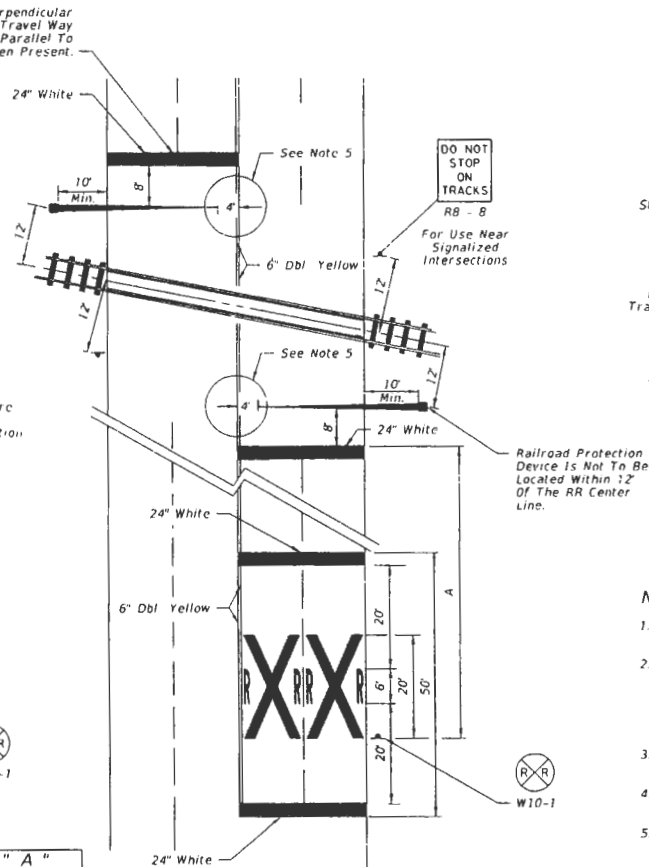
OLD # 17882

RAILROAD CROSSING AT TWO (2)-LANE ROADWAY

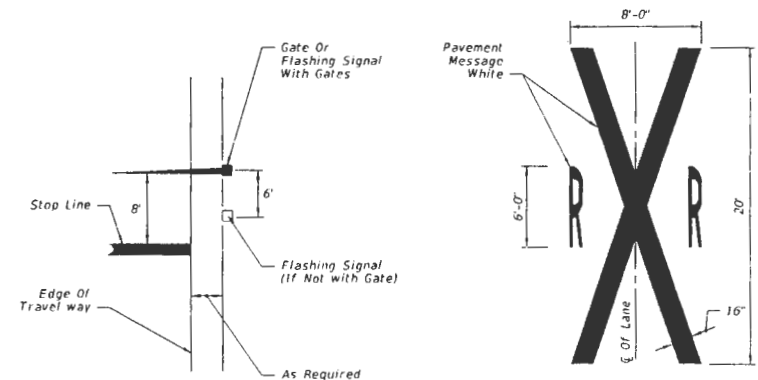


SPEED (mph)	"A" (ft)
60	400
55	325
50	250
45	175
40	125
35	100
URBAN	85 MIN

RAILROAD CROSSING AT MULTILANE ROADWAY

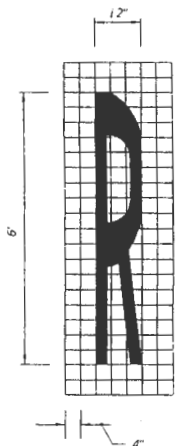


RELATIVE LOCATION OF CROSSING TRAFFIC CONTROL DEVICES

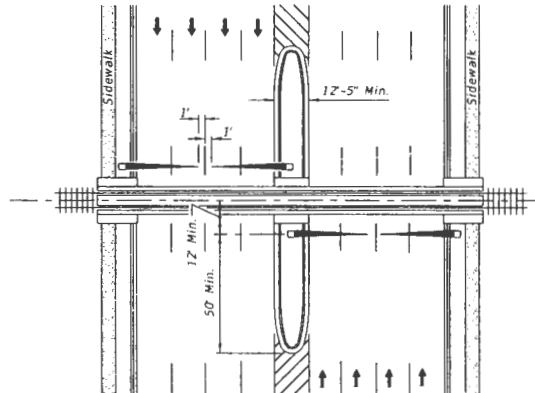
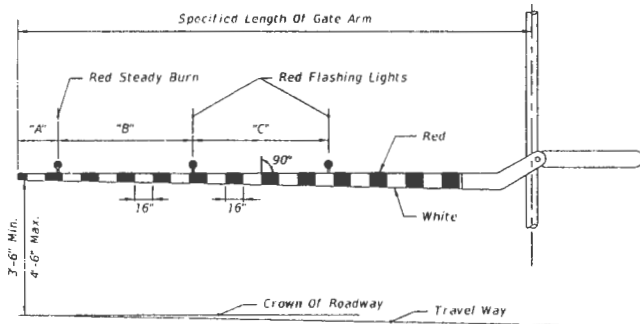


NOTES:

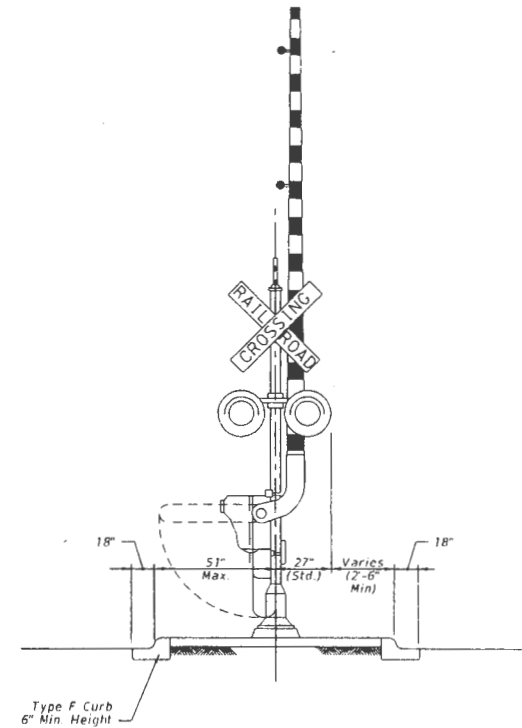
- When computing pavement message, quantities do not include traverse lines.
- Placement of sign W10-1 in a residential or business district, where low speeds are prevalent, the W10-1 sign may be placed a minimum distance of 100' from the crossing. Where street intersections occur between the RR pavement message and the tracks an additional W10-1 sign and additional pavement message should be used.
- A portion of the pavement markings symbol should be directly opposite the W10-1 sign.
- Recommended location for FTP-61-06 or FTP-62-06 signs, 100' urban and 300' rural. See Index 700-102 for sign details.
- Gate Length Requirements:
For Two-way undivided sections:
The gate should extend to within 1' of the center line. On multiple approaches the maximum gate length may not reach to within 1' of the center line. For those cases, the distance from the gate to the center line shall be a maximum of 4'.
For one-way or divided sections:
The gate shall be of sufficient length such that the distance from the gate tip to the inside edge of pavement is a maximum of 4'.



OLD # 17882



PLAN



MEDIAN SECTION AT SIGNAL GATES

RAILROAD GATE ARM LIGHT SPACING

Specified Length Of Gate Arm	Dimension "A"	Dimension "B"	Dimension "C"
14 Ft.	6"	36"	5'
15 Ft.	18"	36"	5'
16-17 Ft.	24"	36"	5'
18-19 Ft.	28"	41"	5'
20-23 Ft.	28"	4'	5'
24-28 Ft.	28"	5'	5'
29-31 Ft.	36"	6'	6'
32-34 Ft.	36"	7'	7'
35-37 Ft.	36"	9'	9'
38 And Over	36"	10'	10'

NOTE:
For additional information see the "Manual On Uniform Traffic Control Devices", Part 8; The "Traffic Control Handbook", Part VIII; and AASHTO "A Policy On Geometric Design Of Streets And Highways".

MEDIAN SIGNAL GATES FOR
MULTILANE UNDIVIDED URBAN SECTIONS
(THREE OR MORE DRIVING LANES IN ONE DIRECTION, 45 MPH OR LESS)

11/1/2017 2:22:17 PM

LAST REVISION 11/01/17	REVISION	DESCRIPTION:	FDOT	FY 2018-19 STANDARD PLANS	RAILROAD GRADE CROSSING TRAFFIC CONTROL DEVICES	INDEX 509-070	SHEET 4 of 4
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