Final Technical Memorandum

Conceptual Improvements to Implement Quiet Zone

SunRail Corridor – Initial Segment

Seminole and Orange County, Florida



Prepared for MetroPlan Orlando by GMB & VHB July 24, 2014

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EXECUTIVE SUMMARY

The Florida Department of Transportation is currently constructing a new commuter rail project in Central Florida called SunRail. When fully constructed it will consist of a new bi-direction commuter rail service from the northern terminus in Deland through Seminole, Orange, and Osceola counties to the southern limit in Poinciana along the existing CSXT "A" line corridor, now called the Central Florida Commuter Rail Line. Initial service began on Phase I (DeBary to Sand Lake Road) in May 2014. The new SunRail commuter rail service will operate on weekdays with a service frequency of 30-minute headways during the peak periods and 120-minute headways in the non-peak periods, which will increase the number of trains passing through communities.

MetroPlan Orlando and the surrounding communities in Seminole County and Orange County that will be served in Phase I are exploring ways to enhance pedestrian safety and the quality of life along the rail corridor particularly with the increased frequency of train horns blowing that will occur from additional train volumes. One of the steps MetroPlan has taken, through its Municipal Advisory Committee, is a proactive approach to evaluate the feasibility of implementing a Quiet Zone along the corridor.

MetroPlan Orlando has secured funds through FDOT and has retained the services of a consultant team to develop conceptual plans to outline improvements solely for the purpose of developing a planning level cost estimate of implementing a quiet zone. The consultant team has not been retained at this time to provide actual design or construction services. The improvements developed as part of this study are based on the Federal Railroad Administration's (FRA) "Use of Locomotive Horns at Highway-Railroad Grade Crossings; Final Rule," a Diagnostic Team Review organized by MetroPlan Orlando in September 2011, and FDOT input and local input. The grade crossings in Phase I are listed in Appendix A.

The following summarizes the estimate of probable design and construction costs.

Municipality	Initial Estimate of Probable Design and Construction Costs ¹	Amended Cost Difference ²		
Sanford	\$439,539	\$0		
Lake Mary	\$633,431	\$0		
Longwood	\$571,920	\$0		
Casselberry	\$0	\$0		
Altamonte Springs	\$418,729	\$0		
Maitland	\$1,856,655	\$210,250		
Winter Park	\$3,153,425	\$89,175		
Orlando	\$5,046,325	\$65,250		
Edgewood	\$321,843	\$43,500		
Uninc. Seminole County	\$1,880,677	\$34,800		
Uninc. Orange County ²	\$1,125,339	\$43,500		
Subtotals	\$15,447,883	\$486,475		
Total	\$15, 934, 358			

¹Includes a 25% contingency and 20% design fee.

The initial estimate shown was prepared upon completion of agency review. Subsequent to the completion of the review process, additional information became available as follows:

²See Appendix C for updated cost due to changes subsequent to final review.

- Combination pedestrian/road gates would not be allowed by FDOT. These gate assemblies were deleted and individual pedestrian and roadway gates were shown.
- Discussions with the FRA resulted in notification that a 3-quadrant gate system is not considered to be an SSM. Three (3) grade crossing locations were modified.

The crossings identified as being in the jurisdictions of Unincorporated Seminole and Orange Counties were provided by the SunRail Design Team.

Concept plans are included in Appendix B. Further breakdown of the costs are included in Appendix C.

PROJECT OBJECTIVE

The general objective of this report is to develop conceptual grade crossing plans and planning-level costs associated with implementing the required FRA Rule regarding Supplemental Safety Measures (SSMs) for ninety-two (92) grade crossings to establish a Quiet Zone in Phase I along the corridor. Recognizing that the absence of routine horn soundings significantly increases the risk of a crossing collision, as documented in USDOT studies, the FRA Quiet Zone Rule established SSMs aimed at reducing this risk have been recommended.

The final rule provides an opportunity for localities nationwide to mitigate the effects of train horn noise by establishing quiet zones. In a quiet zone, railroads have been directed to cease the routine sounding of their horns when approaching public highway-rail grade crossings. Train horns may still be used in emergency situations or to comply with other Federal regulations or railroad operating rules. Localities desiring to establish a quiet zone are first required to mitigate the increased risk caused by the absence of a horn.

SSMs are measures intended to modify grade crossings when train horns are not sounded and are defined as effective in the FRA rule and include the following:

- 1. Four Quadrant Gate System
- 2. Gates with Medians
- 3. One Way Street with Gate(s)
- 4. Close Railroad Crossing

It should be noted that installing SSMs are not the only way to establish a quiet zone per the FRA Rule, however, for the purpose of this study, our work only considered installing SSMs to eliminate the subjectivity of other types of modifications identified as Alternative Safety Measures (ASM). Following is a brief summary of ASMs:

Modifications to a grade crossing other than the four (4) aforementioned modifications would be considered Alternative Safety Measures and must be reviewed and approved by the FRA.

The FRA application Ouiet Zone Calculator also has on-line called the (OZC). an (http://safetydata.fra.dot.gov/quiet/quietzonehelp.htm) The QZC is a tool to allow local jurisdictions to research the feasibility of creating a quiet zone in their community employing a combination of SSMs, ASMs, or possibly no modifications to a particular crossing within a corridor. The QZC develops a Quiet Zone Risk Index (QZRI) based on the modifications made to grade crossings within the corridor, which is then then compared to the National Significant Risk Threshold (NSRT) to determine if a quiet zone can be established.

CONCEPT DEVELOPMENT PROCESS

Understanding the improvements that are currently being constructed by FDOT as part of the SunRail design-build project is a critical component to this exercise. Utilizing the infrastructure (i.e. signals, gates, technology software and hardware) currently being installed along the corridor as it will reduce the estimated probable construction cost to implement a Quiet Zone. If the infrastructure needed to implement the Quiet Zone was not being installed as part of the commuter rail project, the cost to implement a quiet zone would be significantly higher.

The basic outline of the efforts taken to develop the concepts is as follows:

<u>Data Collection</u> – Collected the current (July 2013) design plans from the SunRail design-build team and conducted site visit for each crossing to inventory existing conditions. During this time, local agencies were invited to attend the field visits. The field visits were conducted between July 16, 2013 and July 26, 2013. In addition to the field reviews, the "report of Quiet Zone Diagnostic Reviews" prepared by MetroPlan Orlando was also used as a source of information. The diagnostic team review was completed November 2011.

<u>Prepare Grade Crossing Base Plans</u> – Using the SunRail plans and results of the data collection efforts, a base plan was created for each grade crossing.

<u>Develop SSM Concept Plans</u> – Utilizing the information collected in the field and verifying the improvements being constructed by SunRail, additional measures were developed to upgrade the intersection to meet the requirements for SSM. In addition to the SSMs required for the roadway, the team also looked at and recommended improvements that could increase the awareness and safety for pedestrians.

<u>FDOT Review</u> – Upon completion of the draft concept plans, FDOT Traffic Operations and SunRail reviewed and commented on the concepts.

<u>Concept Plan Updates</u> – Upon receipt of the review comments from FDOT Traffic Operations and SunRail, the plans were updated and meetings conducted with the local agencies.

<u>Local Agency Review Meetings</u> – Upon completing the plan updates, the draft concept plans were distributed to each local agency for review and input. Following are the dates that the team met with the local agencies:

- December 18, 2013 Sanford, Lake Mary, Casselberry, and Altamonte Springs
- January 21, 2014 Maitland and Winter Park
- January 28, 2014 Orlando, Edgewood, and Seminole County
- January 30, 2014 Orange County

<u>Final Concept Plans</u> – Based on input from the local agency meetings, the concept plans were either modified or an alternative shown and submitted to FDOT and SunRail for final review and acceptance.

During the local review meetings, comments received on the concept plans that were preferences and reduced safety were noted, however, the plan was not revised to reflect a preference.

<u>Engineer's Planning Level Estimate of Probable Design and Construction Costs</u> – Average unit prices were obtained from FDOT's historical cost database. It should be noted that the assumptions made in generating the cost estimates are as follows:

- 1. The concept plans developed are not final construction drawings. The costs developed are planning level costs.
- 2. All 92 grade crossings will be included in a regional quiet zone. If the improvements are built separately, unit prices may increase due to reduced economies of scale.
- 3. The estimate of probable construction costs was produced using FDOT construction cost data as of February 2014. Adjustments must be made to account for construction activities if construction takes place beyond 2014.
- 4. Concept plans reflect implementation of SSM at each grade crossing per the FRA Rule.
- 5. It was assumed that improvements that were shown on the SunRail design-build team plans would be constructed even though they may not have been present at the time the field reviews were conducted in July 2013. Thus, there may need to be adjustments to reflect actual conditions.
- 6. Presence of certain technology hardware and software components installed as part of SunRail. Assumptions were made based on available information. Thus, there may need to be adjustments to reflect actual conditions.

CONCLUSION

The grade crossing concepts were prepared based on implementing SSMs as outlined in the FRA's Final Rule *Use of Locomotive Horns at Highway-Railroad Grade Crossing*. The concepts are not construction plans and further design details will need to be developed during the final design process.

This information will be provided to each of the municipalities along the corridor to assist them in understanding the costs associated with implementing a quiet zone. Local municipalities will be responsible for developing construction drawings and implementing Quiet Zone.

Although not required by the Rule, we recommend that each municipality strongly consider installing lighting and fencing along the corridor to further enhance the safety of pedestrians.

APPENDIX A – LIST OF CROSSINGS

- 1. I-4 Ramp/Monroe Avenue (621328U)
- 2. McCracken Road (622055F)
- 3. 18th Street (622056M)*
- 4. Southwest Road (622057U)*
- 5. Country Club Road (622059H)
- CR 46A/25th Street (622060C)* 6.
- 7. Airport Boulevard (622061J)*
- 8. Bellair Grove (915133W)
- 9. Pedigo Point (622063X)
- 10. Palmetto Street (622064E)
- 11. Lake Mary Boulevard (622065L)*
- 12. Country Club Road (622066T)*
- 13. CR 427 (622067A)*
- 14. Georgia Avenue (622068G)
- 15. E. Orange Avenue (622069N)
- 16. Palmetto Avenue (622070H)
- 17. Church Street (622071P)
- 18. CR 427 (622072W)*
- 19. SR 434 (622073D)
- 20. North Street (622074K)*
- 21. CR 427/Dixie Highway (622075S)*
- 22. Plumosa Avenue (622076Y)
- 23. North Street (622077F)*
- 24. Leonard Street (622078M)*
- 25. SR 436 (Altamonte Drive) (622080N)
- 26. Prairie Lake/Magnolia (643806D)
- 27. Ballard Street (622081V)
- 28. O'Brien Road (622082C)*
- 29. Mayo Avenue (621581P)
- 30. Sybelia Avenue (622084R)
- 31. George Avenue (622085X)
- 32. Horatio Avenue (622086E)
- 33. Packwood Avenue (622144X)
- 34. Maitland Avenue (622145E)
- 35. Ventris Avenue (622146L)
- 36. Palmetto Street (622147T)
- 37. Lake Avenue (622148A)**
- 38. N. Denning Drive (622150B)
- 39. W. Webster Avenue (622151H)
- 40. N. Pennsylvania Avenue (622152P)
- 41. N. New York Street (622153W)
- 42. Canton Avenue (622154D)
- 43. Pedestrian Crossing (622155K)
- 44. Pedestrian Crossing (622156S)
- 45. Morse Boulevard (622157Y)
- 46. Pedestrian Crossing (622159M)

- 47. Pedestrian Crossing (622160G)
- 48. New England Avenue (622161N)
- 49. New York Avenue (622163C)
- 50. Lyman Avenue (622162V)
- 51. Fairbanks Avenue (622164J)
- 52. Pennsylvania Avenue (622165R)
- 53. Holt Avenue (622166X)
- 54. Minnesota Avenue (622167E)
- 55. Denning Drive (622168L)
- 56. Orlando Avenue (622169T)
- 57. Westchester Avenue (622170M)
- 58. Virginia Drive (622174P)
- 59. Alden Road (622175W)
- 60. Highland Avenue (622176D)
- 61. Magnolia Street (622175S)
- Orange Avenue (SR 527) (622179Y) 62.
- 63. Marks Street (622180T)
- 64. Colonial Drive (622181A)
- 65. Concord Street (622182G)
- 66. Amelia Street (622183N)
- 67. Livingston Avenue (622185C)
- 68. Robinson Street (622186J)
- 69. Jefferson Street (622187R)
- 70. Washington Street (622188X)
- 71. Central Boulevard (622189E)
- 72. Pine Street (622190Y) 73.
- Church Street (622191F) 74. South Street (622192M)
- 75. America Street (622196P)
- 76.
- Hughey Ave. (622199K)
- 77. Ernestine Street (622198D)
- 78. Gore Street (622300G)
- 79. Columbia Street (322601N)
- 80. Kaley Avenue (622304J)
- 81. Grant Street (622306X)
- 82. Michigan Street (622307E)
- 83. Pineloch Road (622308L)**
- Drennen Avenue (622309 T)** 84.
- 85. Holden Avenue (622311U)
- 86. Jamaica Lane (622312B)**
- 87. Stratemeyer Drive (62313H)
- 88. Mary Jess Road (622314P)
- 89. Oakridge Avenue (622315W)**
- 90. Fairlane Avenue (622316D)**
- 91. Lancaster Road (622317K)**
- 92. Glenrose Avenue (622318S)**

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APPENDIX B – CONCEPT PLANS (Separate Cover)

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION

CONCEPT PLANS

FINANCIAL PROJECT ID 410735-1-12-11

INDEX OF CONCEPT PLANS

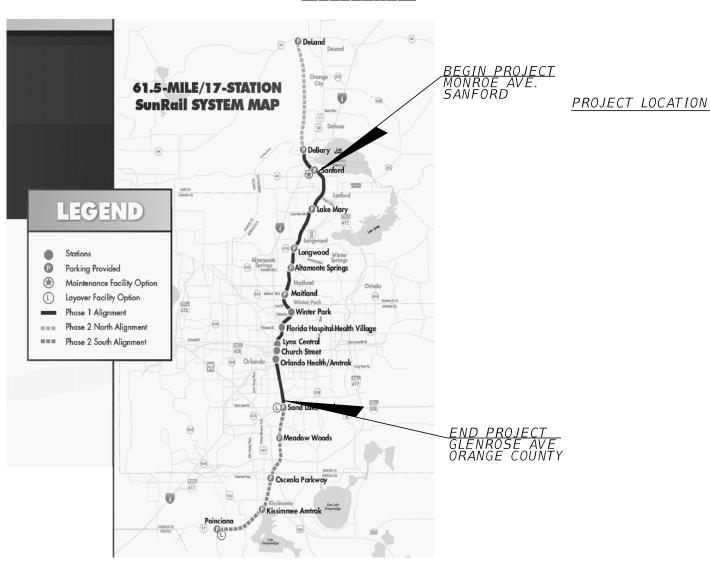
SHEET NO. SHEET DESCRIPTION GENERAL NOTES G-1

CROSSINGS IN SEMINOLE COUNTY

1 to 5 QUIETZONE CONCEPTUAL- SANFORD 6 to 11 QUIETZONE CONCEPTUAL- LAKE MARY 12 to 19 QUIETZONE CONCEPTUAL- LONGWOOD 20 QUIETZONE CONCEPTUAL- CASSELBERRY 21 to 26 QUIETZONE CONCEPTUAL- ALTAMONTE SPRINGS

CROSSINGS IN ORANGE COUNTY

27 to 34 QUIETZONE CONCEPTUAL- MAITLAND QUIETZONE CONCEPTUAL- WINTER PARK 35 to 47 QUIETZONE CONCEPTUAL- ORLANDO 48 to 72 73 to 81 QUIETZONE CONCEPTUAL- EDGEWOOD



PLANS PREPARED BY:

GMB ENGINEERS & PLANNERS, INC. 2602 E. LIVINGSTON STREET, ORLANDO, FL 32803 VANASSE HANGEN BRUSTLIN, INC. 225 E. ROBINSON STREET, SUITE 300 LANDMARK CENTER TWO ORLANDO, FL 32801

AYTONA BEACH

PIERCE

LAUDERDALE

NOTE: THE SCALE OF THESE PLANS MAY HAVE CHANGED DUE TO REPRODUCTION.

REV 1 (7/24/2014)

/Î\ SHEETS 19, 21, 27, 31, 34-36, 40, 41, 43, 61, 63, 64, 68, 73, 74, 77, 80

PLEASE NOTE THAT THESE ARE CONCEPT PLANS AND DO NOT REFLECT THE FINAL LOCATION OR LAYOUT OF THE CROSSING OR EQUIPMENT. DESIGN SURVEY WAS NOT COLLECTED OR USED TO GENERATE THE PLAN. THE CONCEPT REFLECTS THE ADDITIONAL EQUIPMENT NEEDED AND GENERAL LAYOUT OF THE INTERSECTION TO DEVELOP CONSTRUCTION COST. FURTHER DESIGN IS NEEDED TO DEVELOP FINAL CONSTRUCTION PLANS WHICH WILL BE COMPLETED BY OTHERS TO DETERMINE THE LOCATIONS AND FINAL GEOMETRIC IMPROVEMENTS THAT WILL BE REQUIRED.

LEGEND:

 \bowtie

EXISTING PEDESTRIAN GATE

EXISTING ROADWAY GATE

NEW PEDESTRIAN GATE BY SUNRAIL

NEW ROADWAY GATE BY SUNRAIL

PROPOSED PEDESTRIAN GATE

PROPOSED ROADWAY GATE

UPGRADE PEDESTRIAN GATE TO ROADWAY GATE & ROTATE PARALLEL TO TRACKS

UPGRADE PEDESTRIAN GATE TO ROADWAY GATE

 \bowtie EXISTING HOUSE

NEW HOUSE

VECHILE DETECTION ZONE (DETECTS DURING A TRAIN EVENT TO CLEAR QUE)

(CONSTANT DETECTION TO CLEAR A QUE)

QWICK KURB W/ DELINEATORS

CONC. MEDIAN SEPARATOR

CLEAR VEGETATION

 $\times \times \times \times$ CLOSE EXISTING DRIVEWAY

PROPOSED FENCE

INSTALL SIGNAL PREEMPTION

NIC NOT IN CONTRACT

NOTES TO REVIEWERS

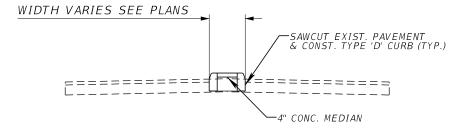
- 1. THE PROPOSED IMPROVEMENTS AT EACH GRADE CROSSING ARE BASED UPON INSTALLING SUPPLEMENTAL SAFETY MEASURES (SSM) AS OUTLINED IN THE FEDERAL RAILROAD ADMINISTRATION, 49CFR PART 222 AND 229, USE OF THE LOCOMOTIVE HORNS AT HIGHWAY RAIL GRADE CROSSINGS; FINAL RULE, DATED 8/17/2006. THE SSM'S ARE DESCRIBED AS FOLLOWS:
 - A. TEMPORARY CLOSURE OF PUBLIC HIGHWAY-RAIL GRADE CROSSING

 - B. FOUR QUADRANT GATE SYSTEM
 C. GATES WITH MEDIANS OR CHANNELIZING DEVICES D. ONE-WAY STREETS WITH GATES
 - E. PERMANENT CLOSURE OF A PUBLIC HIGHWAY-RAIL GRADE CROSSING
- 2. THE FOLLOWING CONCEPT PLANS WERE DEVELOPED BASED ON THE SUNRAIL DESIGN-BUILD PLANS PROVIDED BY ARCHER WESTERN-RAILWORKS.
 FIELD REVIEWS WERE CONDUCTED AT EVERY CROSSING TO VERIFY WHAT HAS BEEN BUILT. IMPROVEMENTS SHOWN IN THE SUNRAIL PLANS THAT
 HAVE NOT BEEN CONSTRUCTED ARE ASSUMED THAT THEY WILL BE BUILT, AS CONSTRUCTION ACTIVITIES ARE
 STILL ON-GOING.
- 3. THE INTENT OF THESE CONCEPT PLANS IS TO EVALUATE EACH CROSSING TO IDENTIFY THE ADDITIONAL MEASURES THAT WILL PROVIDE SUPPLEMENTAL SAFETY MEASURES TO GENERATE A PROBABLE COST OF CONSTRUCTION TO IMPLEMENT A QUIET ZONE. THE PROPOSED IMPROVEMENTS INCLUDE BUT ARE NOT LIMITED TO: NEW GATES & FLASHERS, RELOCATE & ROTATE GATES, EXTEND GATE ARM, INSTALL ISLAND MEDIANS, SIGNING & PAVEMENT MARKING IMPROVEMENTS, CLEAR VEGETATION, CLOSE EXISTING DRIVEWAYS, INSTALLING QWICK KURB, & INSTALL FENCING.
- 4. THE RECOMMENDATIONS OF THE METROPLAN ORLANDO REPORT "REPORT OF QUIET ZONE DIAGNOSTIC REVIEWS" NOVEMBER 2011 WERE THE BASIS FOR DEVELOPING THE CONCEPT PLANS.
- 5. A SCHEDULE WAS PUBLISHED DURING THE FIELD REVIEW PROCESS FOR LOCAL OFFICIALS TO PARTICIPATE AND PROVIDE INPUT/FEEDBACK/ SUGGESTIONS TO BE INCORPORATED INTO THESE CONCEPT PLANS.
- 6. IN ADDITION TO THE SSM'S DESCRIBED IN THE FINAL RULE, IT IS RECOMMENDED THAT THE ENTIRE RAIL CORRIDOR BE FENCED TO DISCOURAGE PEDESTRIAN CROSSING AT NON DESIGNATED LOCATIONS.
- 7. ALL HIGHWAY GRADE CROSSINGS SHALL INCLUDE GATES THAT WILL BLOCK SIDEWALKS WHEN THE GATE IS LOWERED.
- 8. ALL EXISTING PAVEMENT MARKINGS THAT CONFLICT WITH THE PROPOSED PAVEMENT MARKINGS ARE TO BE REMOVED.
- 9. ALL DRIVEWAY CLOSURES SHOWN ON THESE PLANS ARE RECOMMENDATIONS ONLY. PROPER COORDINATION WITH LOCAL GOVERNMENTS AND PROPERTY OWNERS WILL BE NECESSARY BEFORE THE CLOSURES TAKE PLACE.

10. NO OBJECT GREATER THAN 6" IN HEIGHT SHALL BE PLACED WITHIN 12' OF THE Q OF THE RAILROAD TRACKS.

11. TYPICAL SIGN SIZE ARE AS FOLLOWS: W-10-9P 30" x 24" W-10-9 36" x 36"

CONC. MEDIAN DETAIL:



REVISIONS				
DATE	DESCRIPTION	DATE	DESCRIPTION] GMB
				2
				VAN
				225 E

REPARED BY MB ENGINEERS & PLANNERS, INC. 2602 E. LIVINGSTON STREET, 2602 ORLANDO, FL 32803 ANASSE HANGEN BRUSTLIN, INC. 5 E. ROBINSON STREET, SUITE 300 LANDMARK CENTER TWO ORLANDO, FL 32801

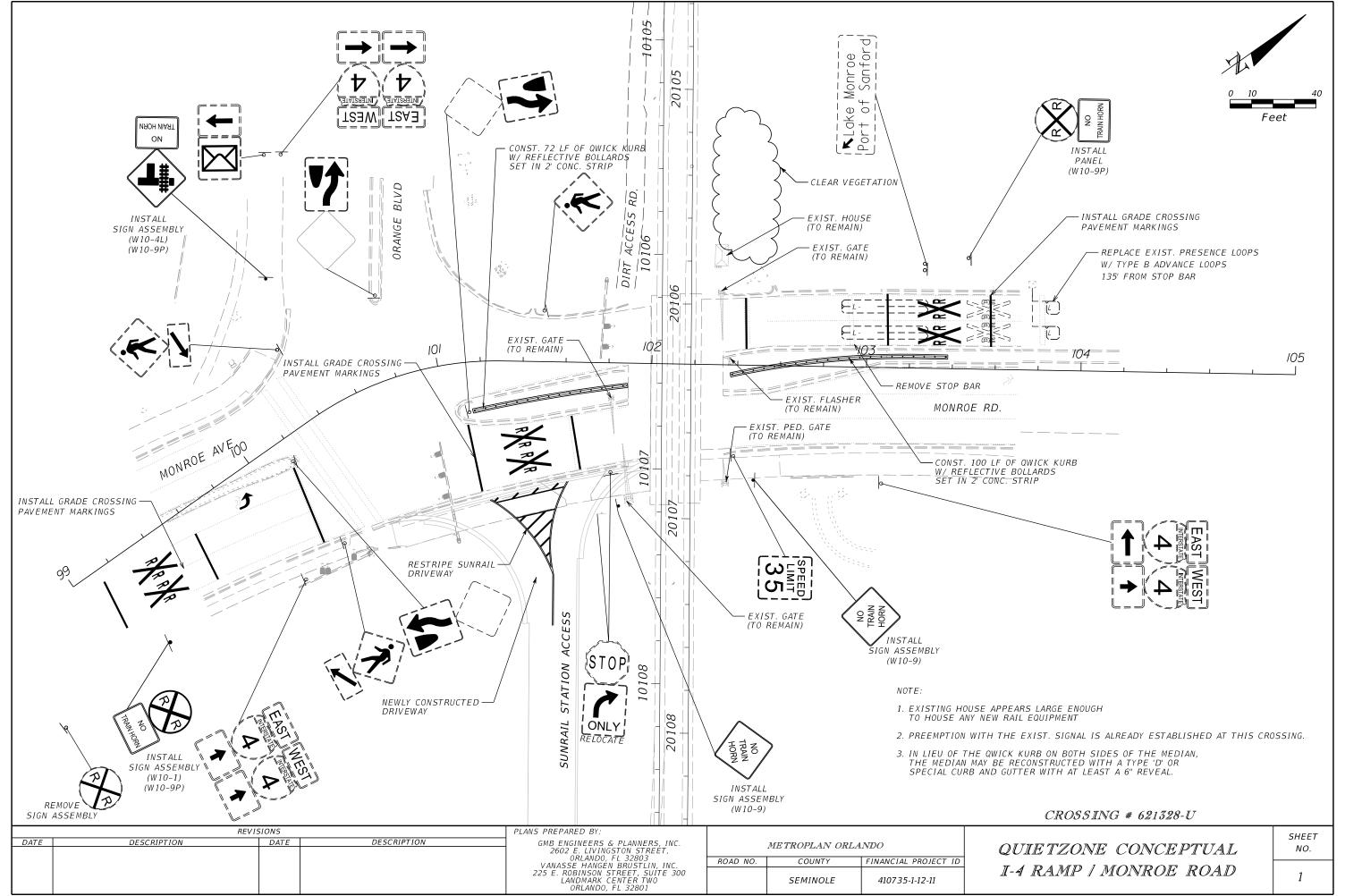
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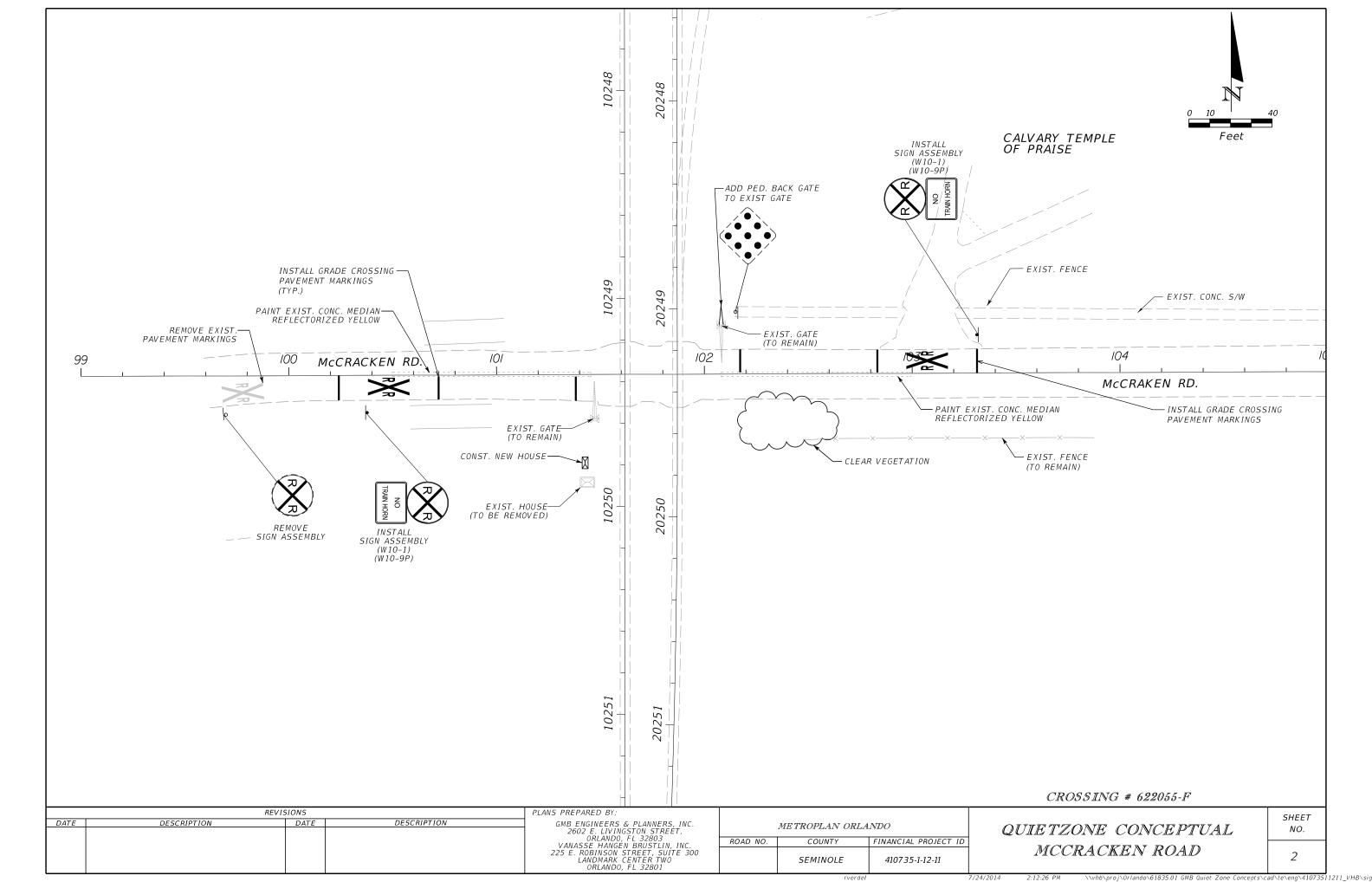
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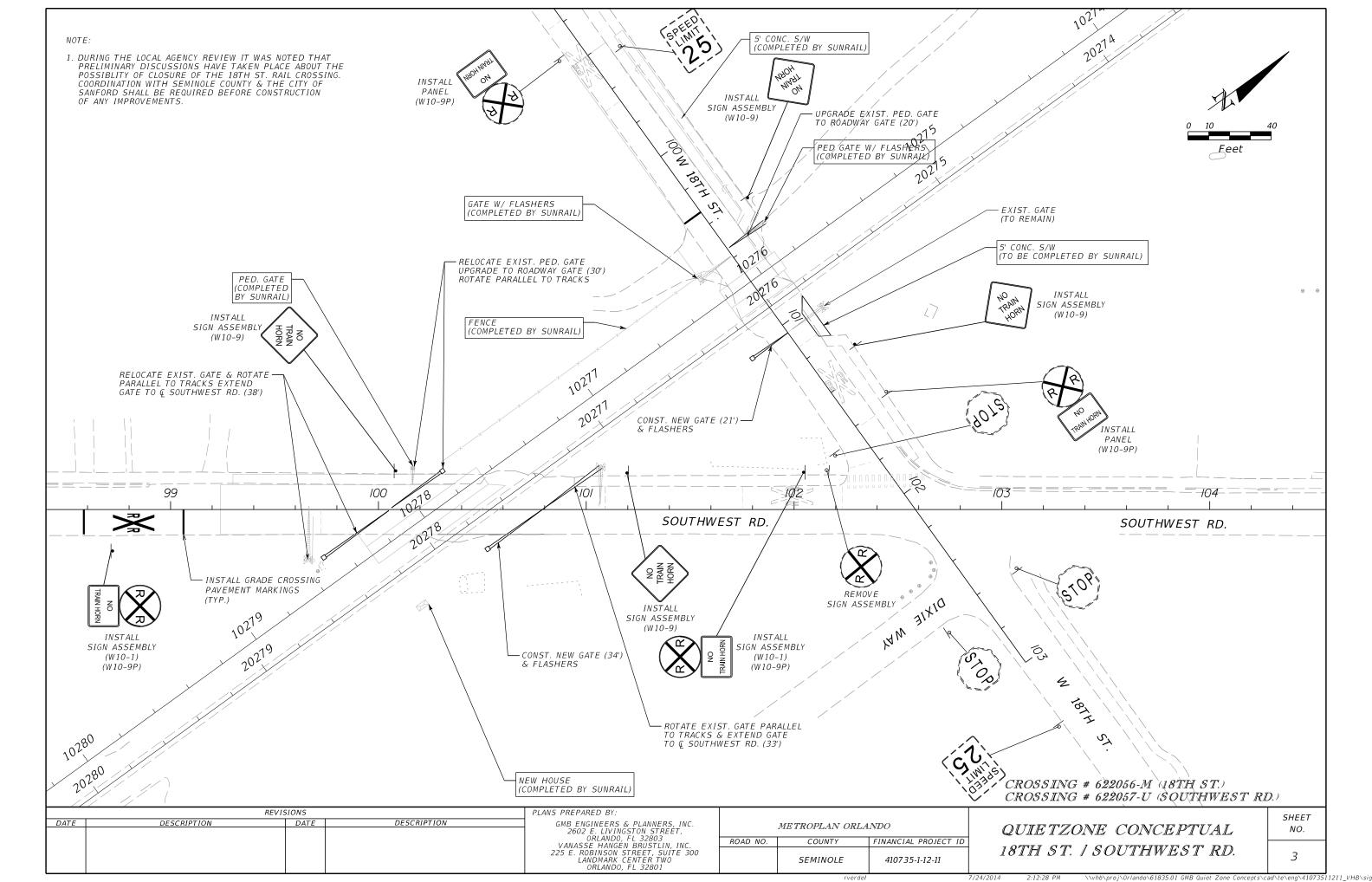
GRADE CROSSING LEGEND & GENERAL NOTES

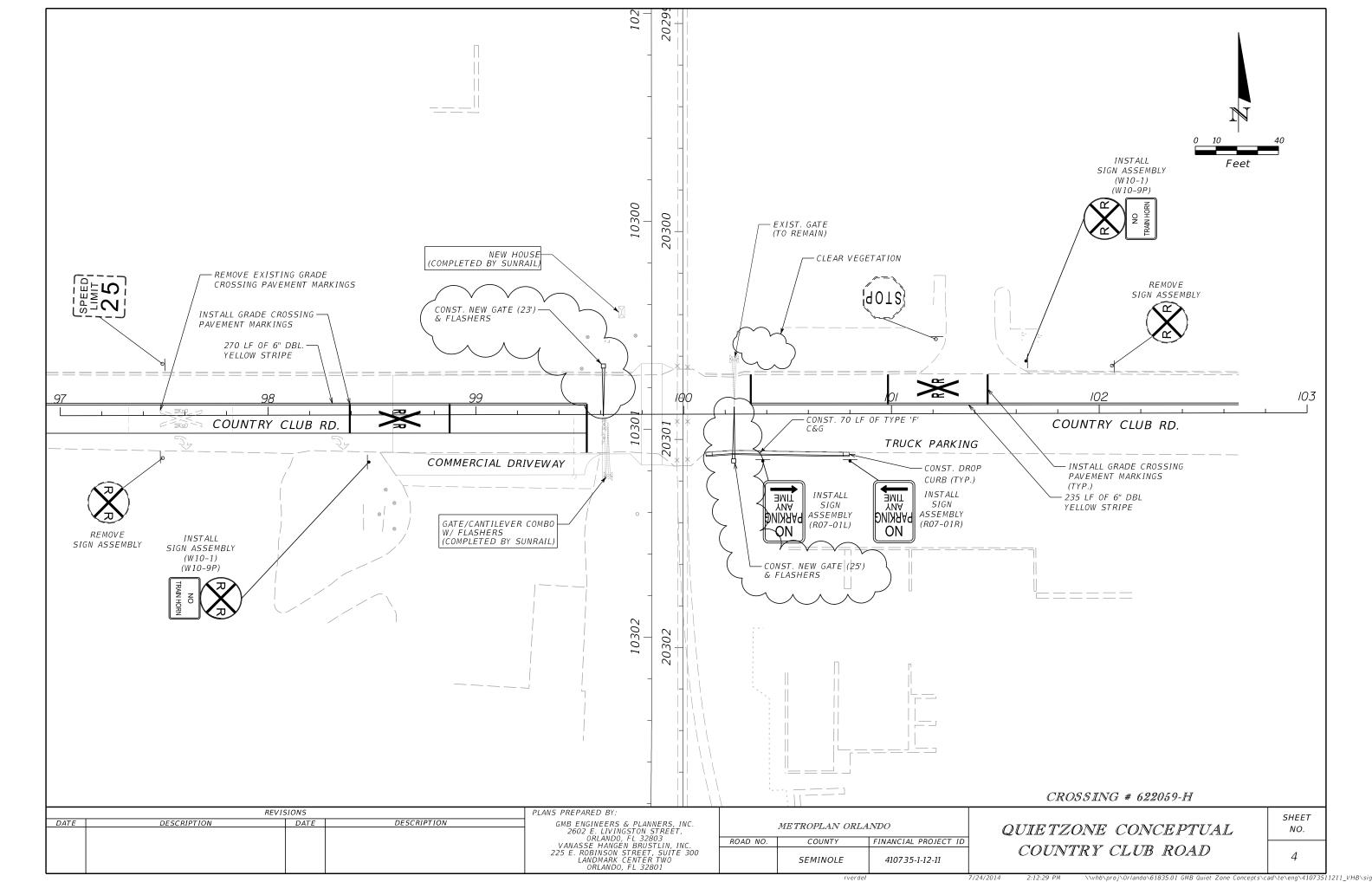
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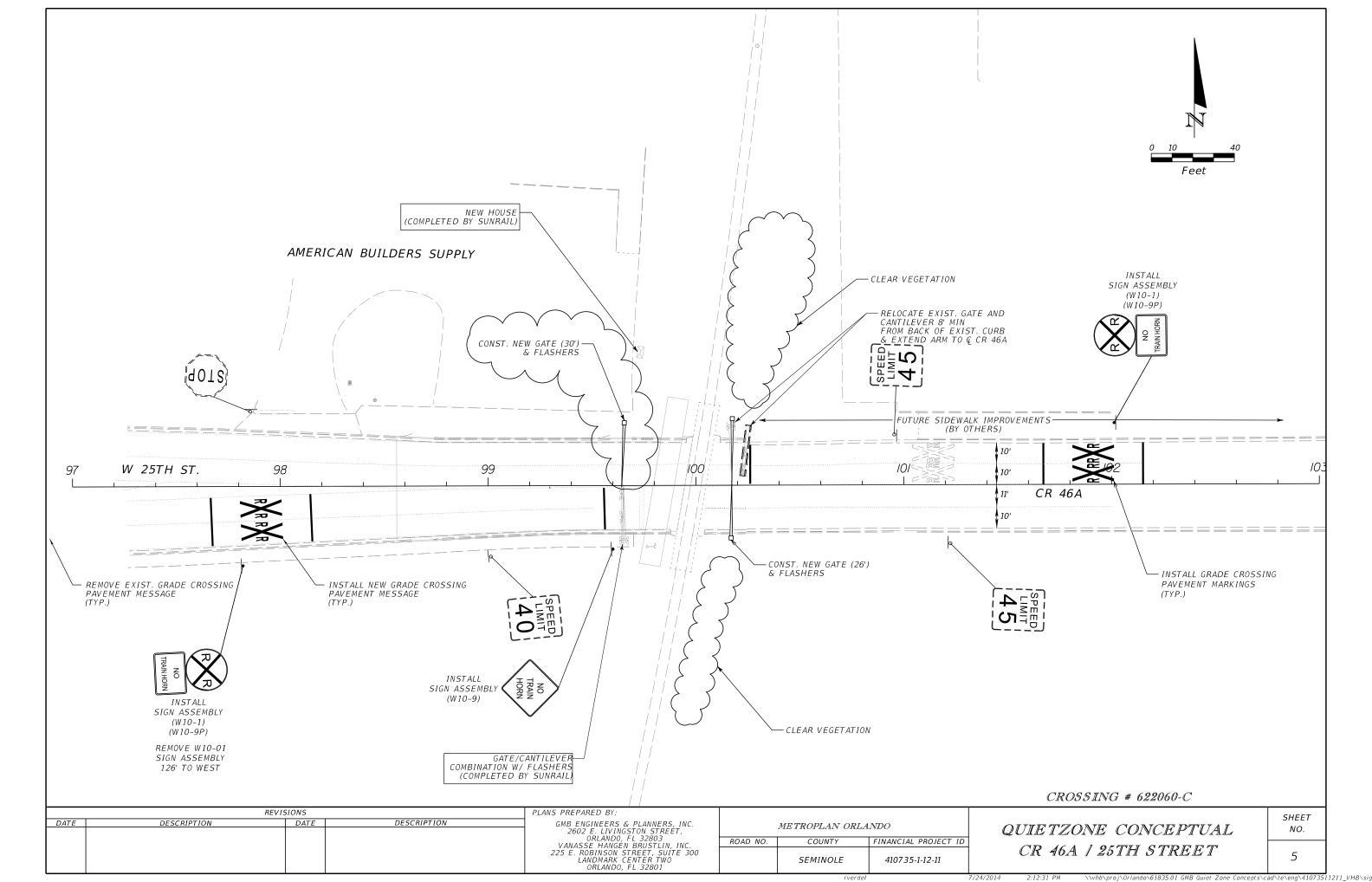
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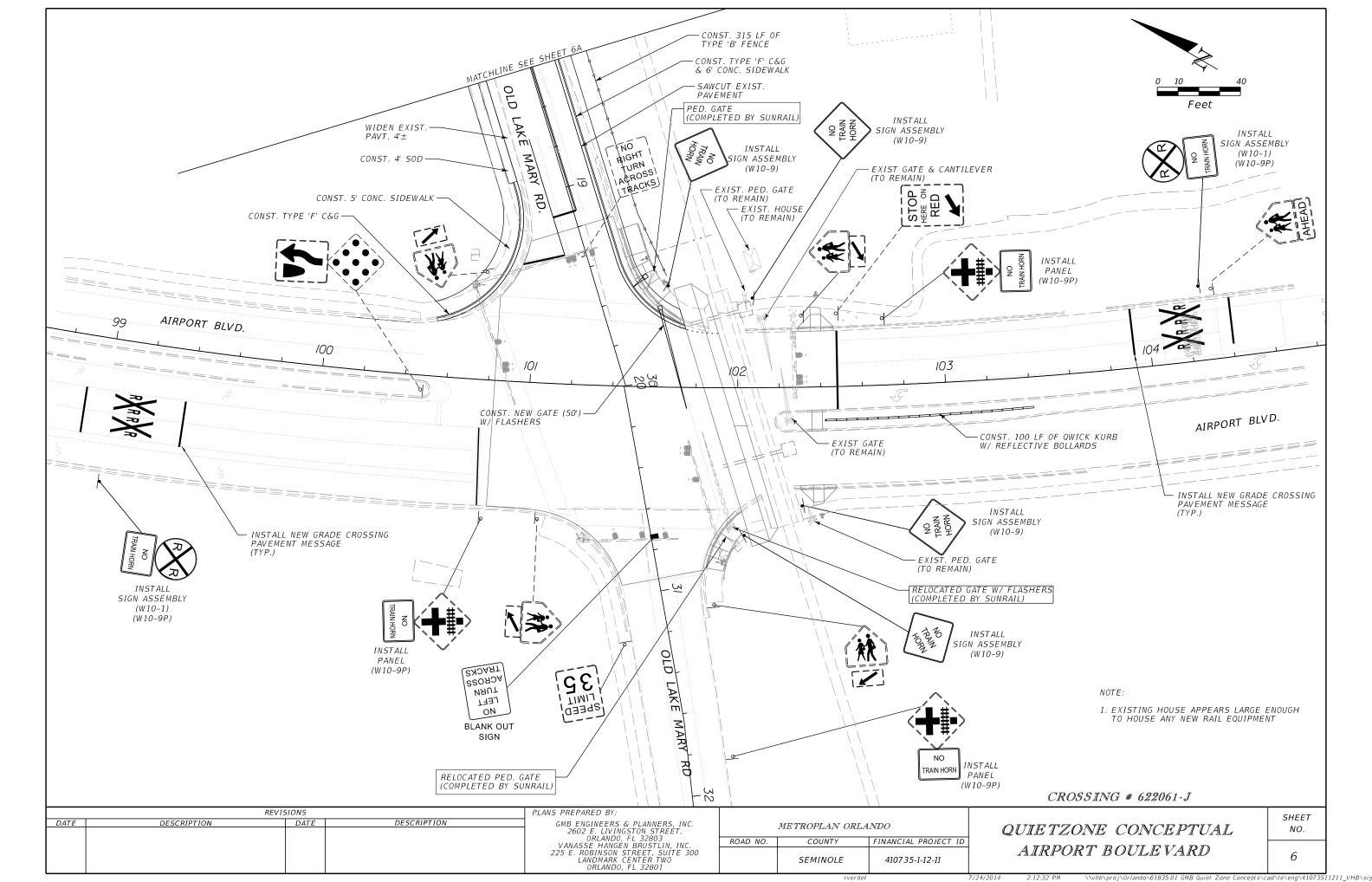


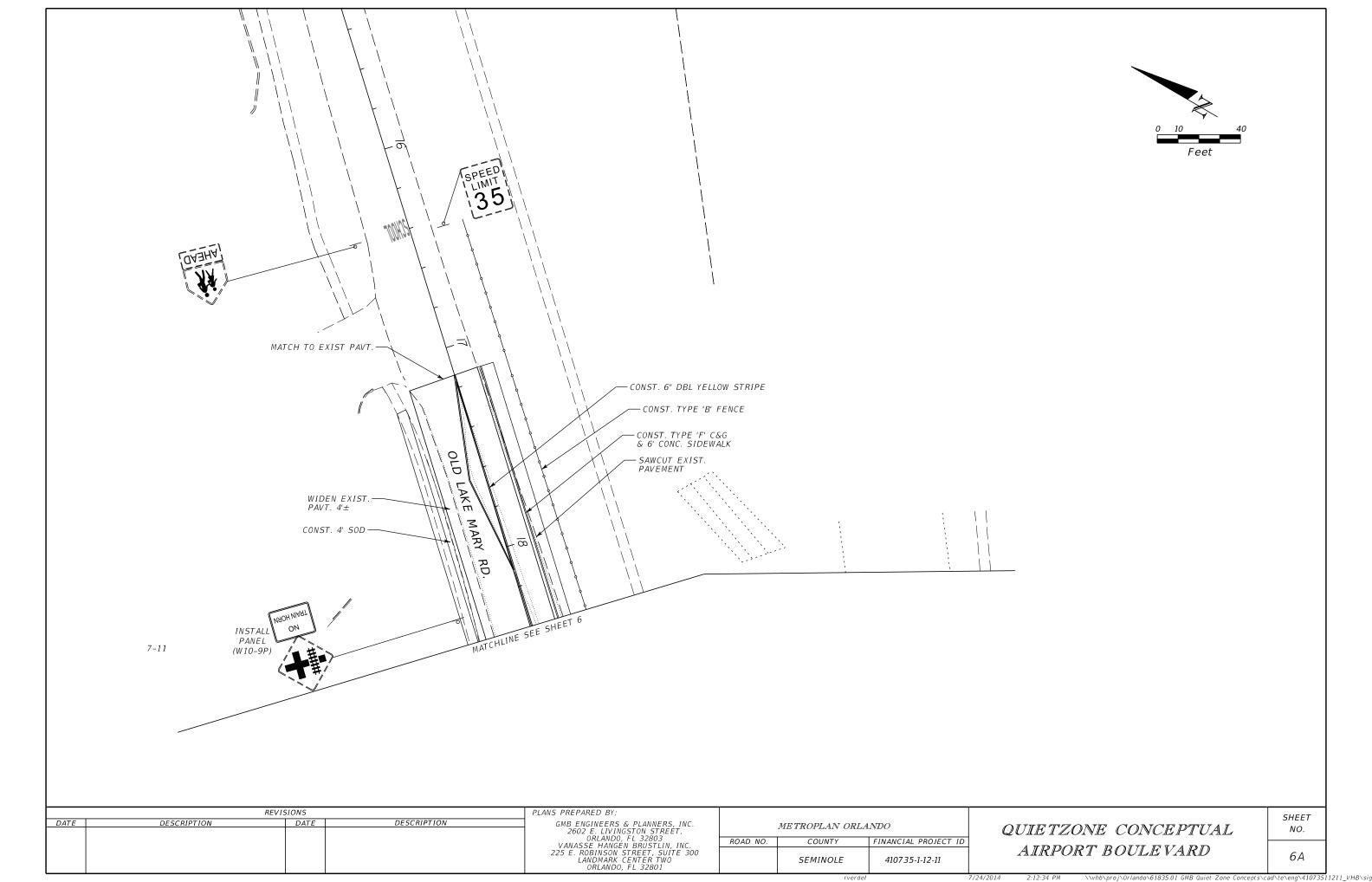


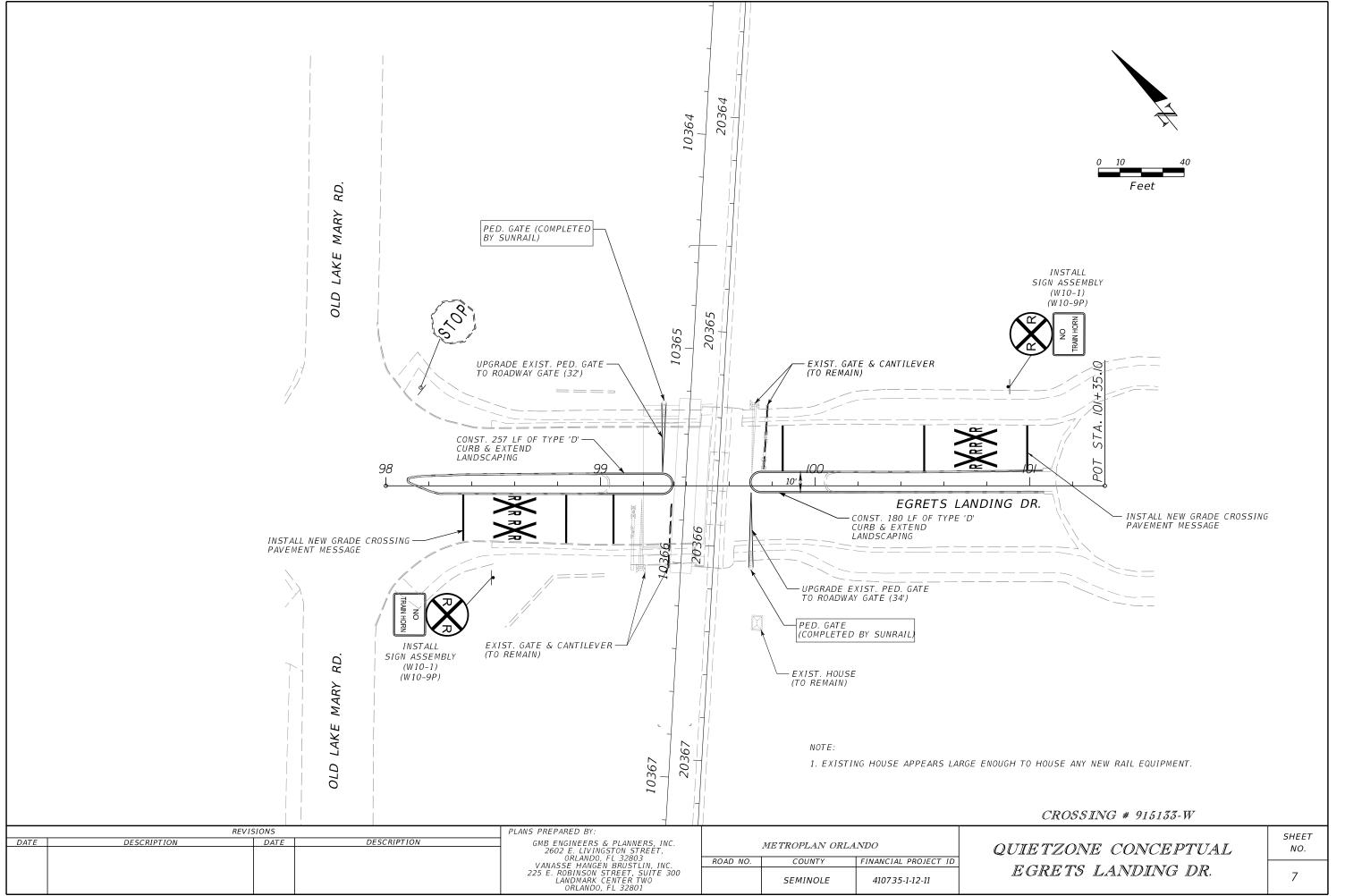


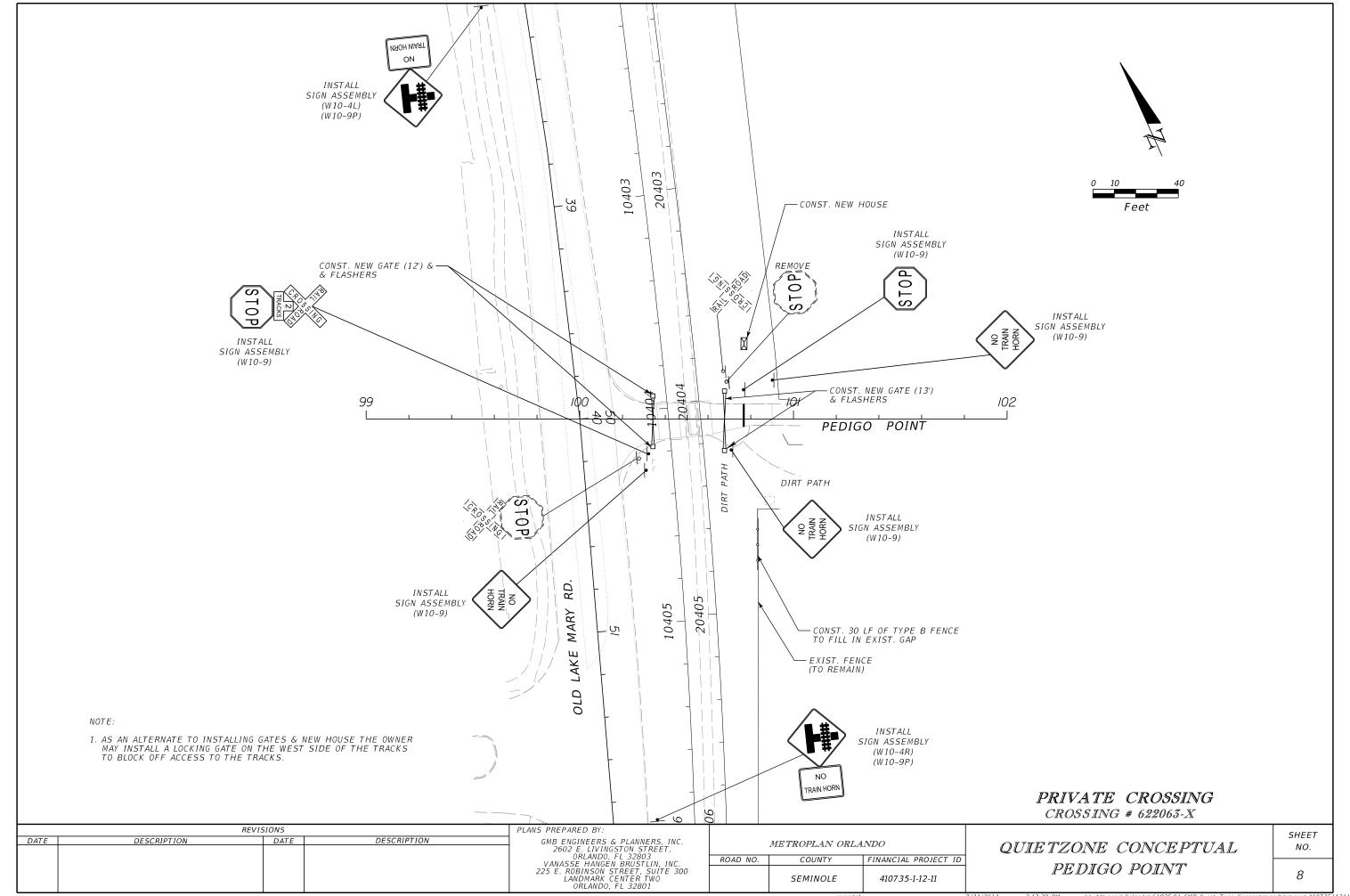


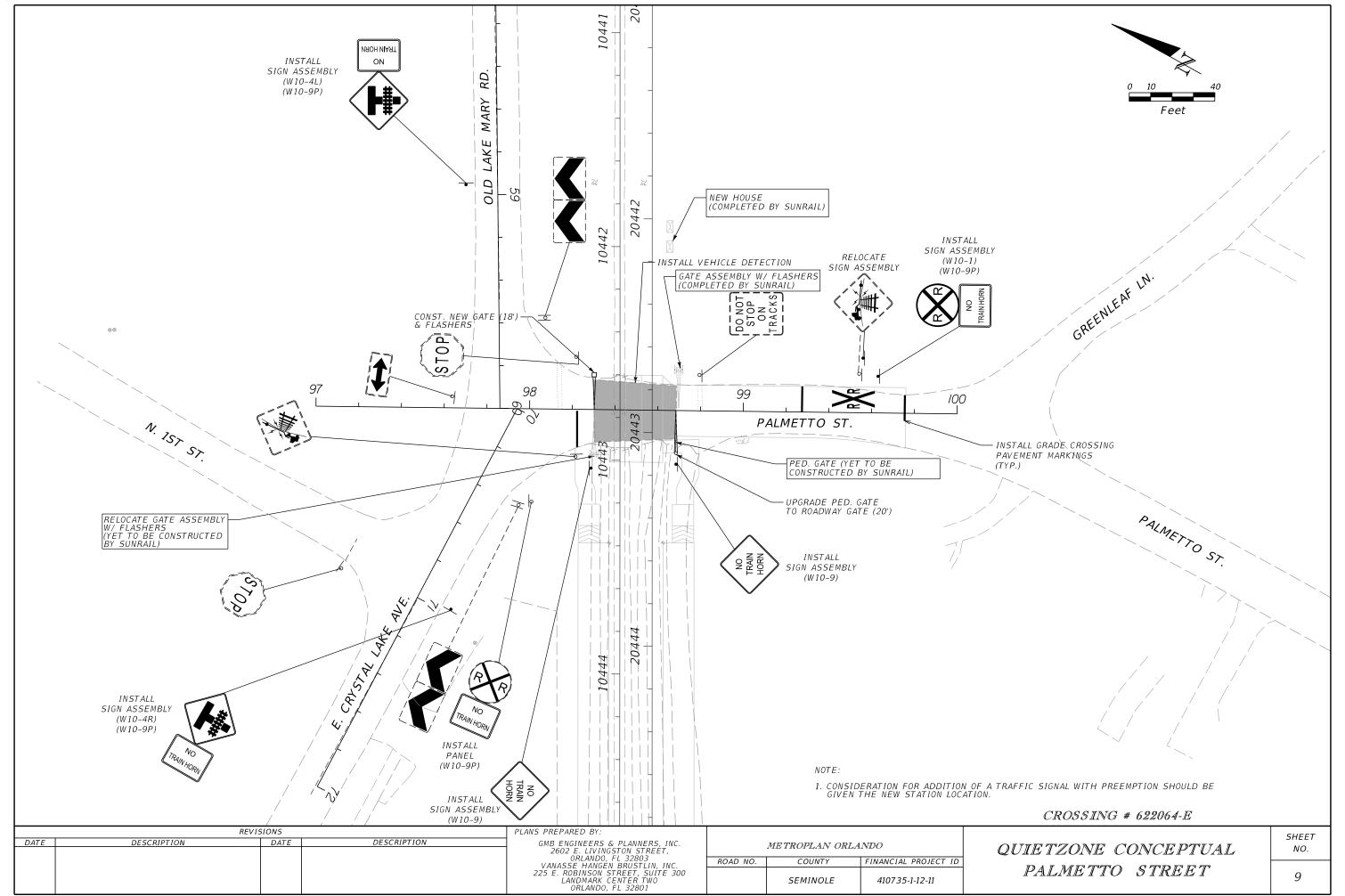


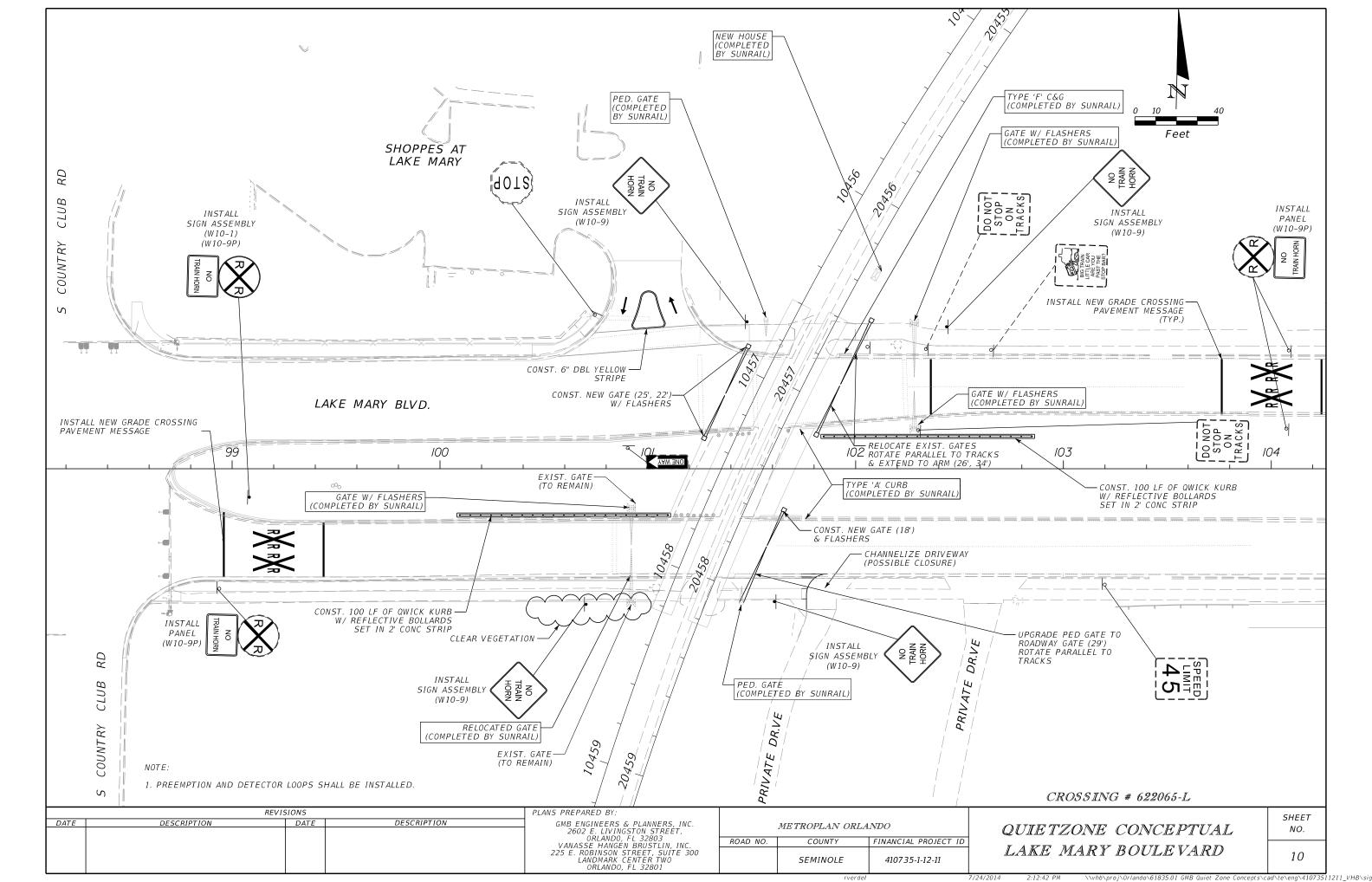


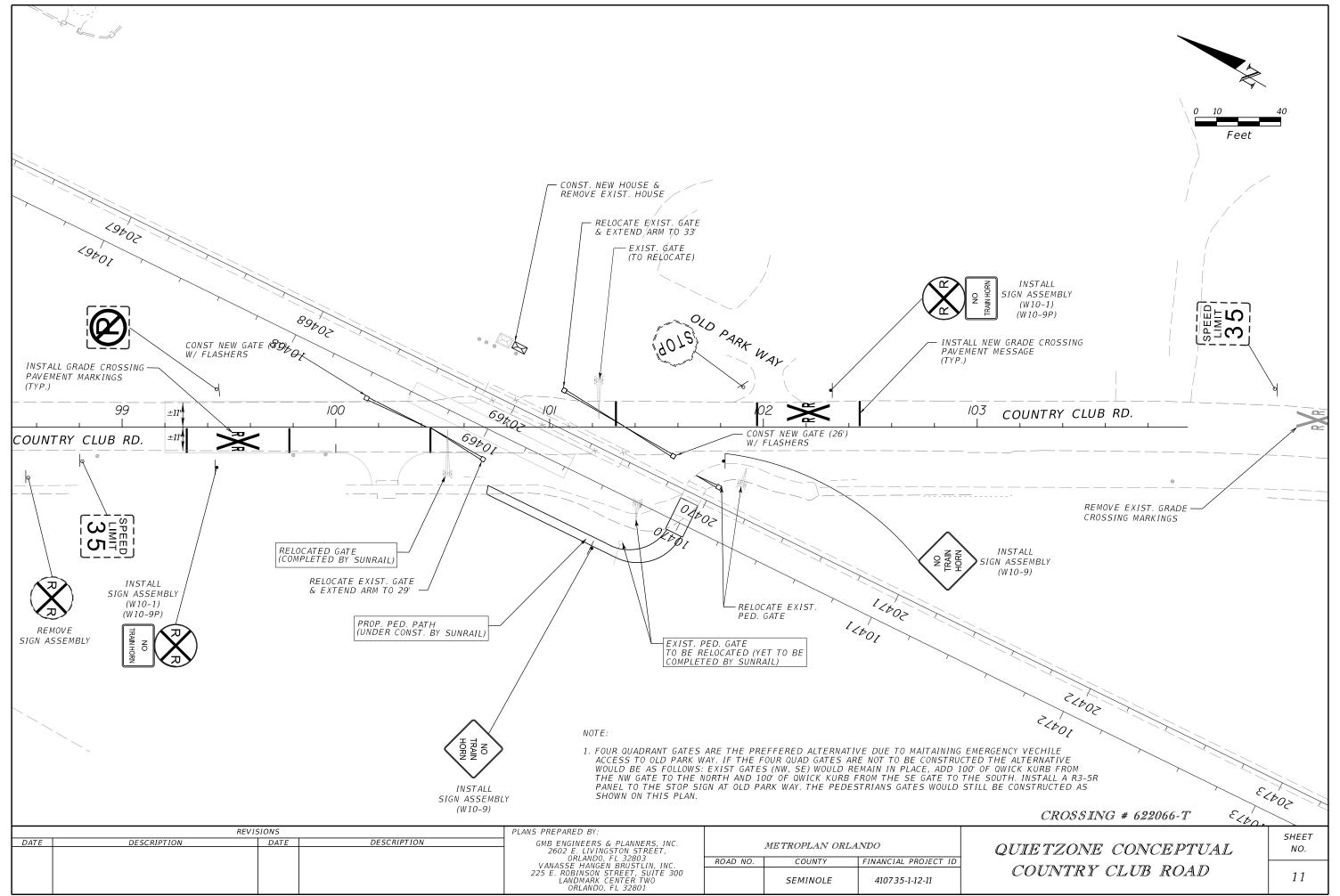


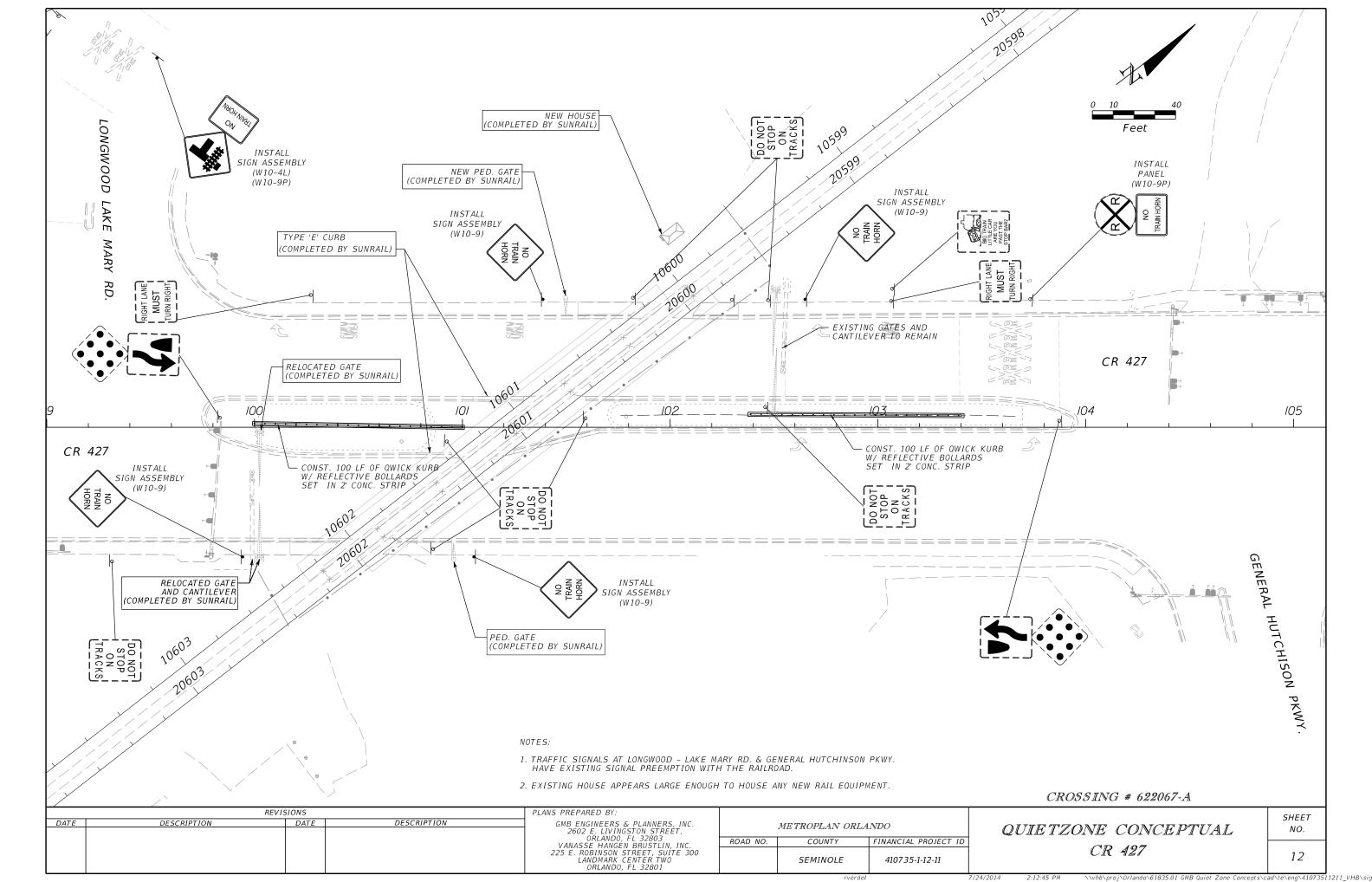


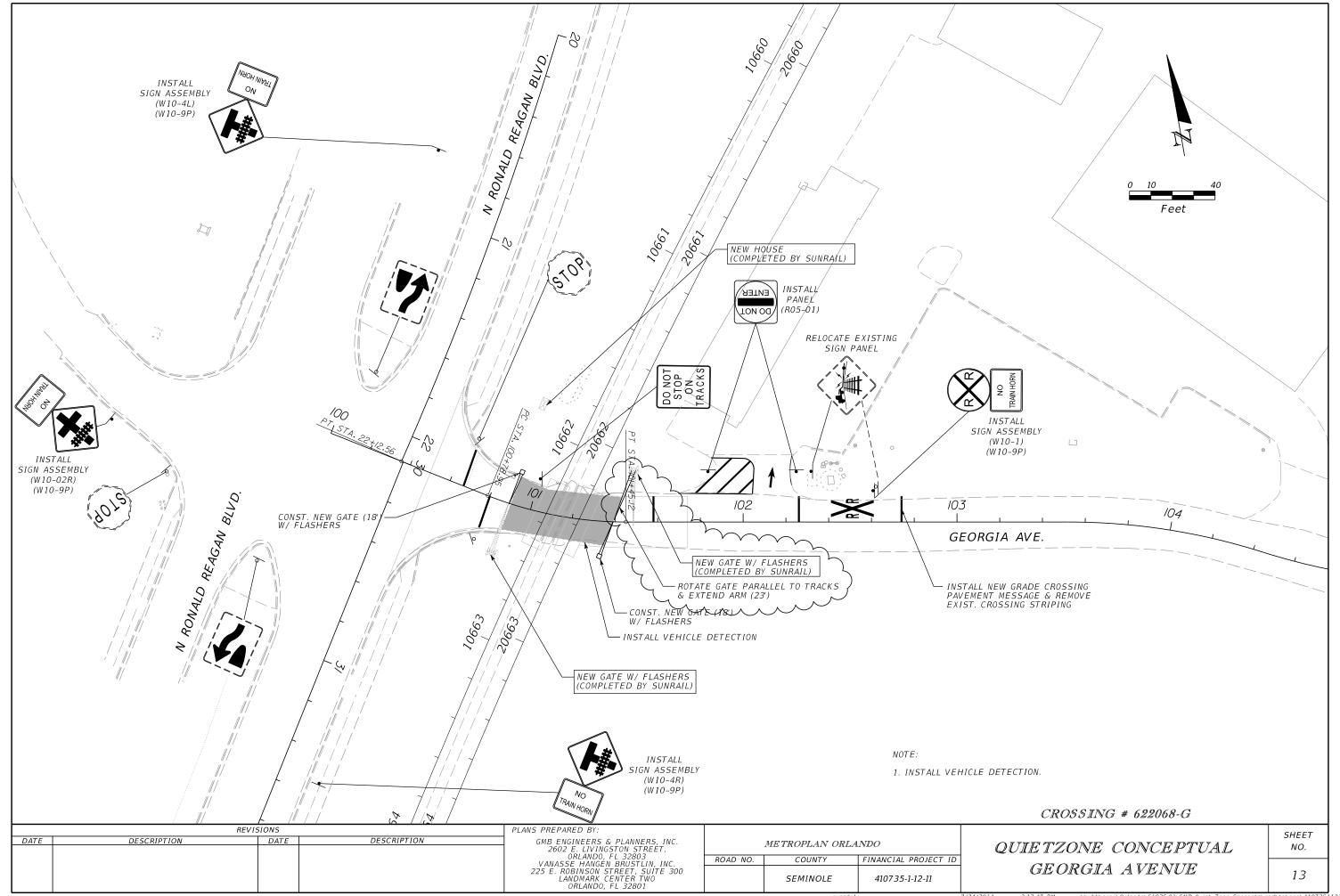


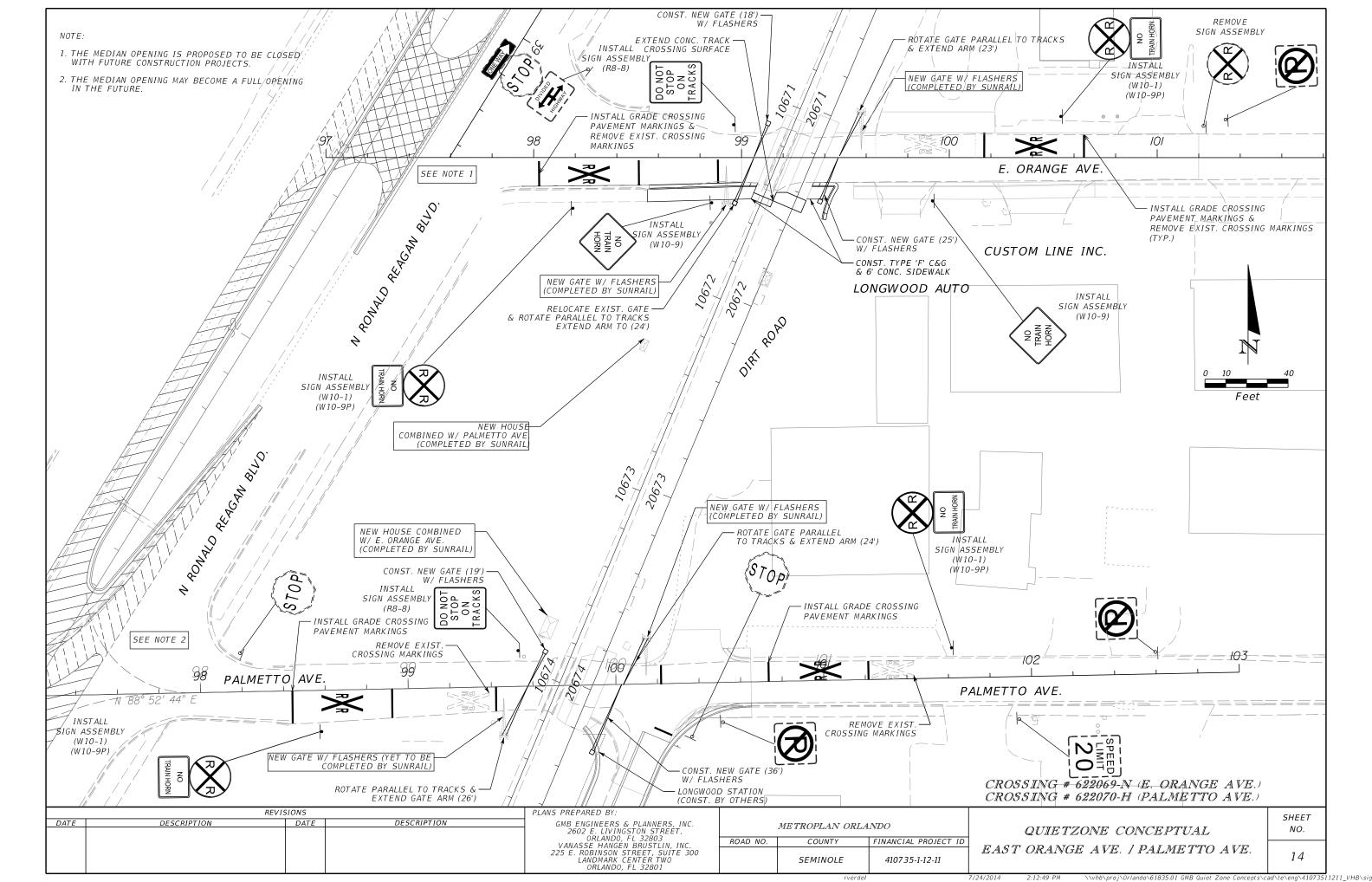


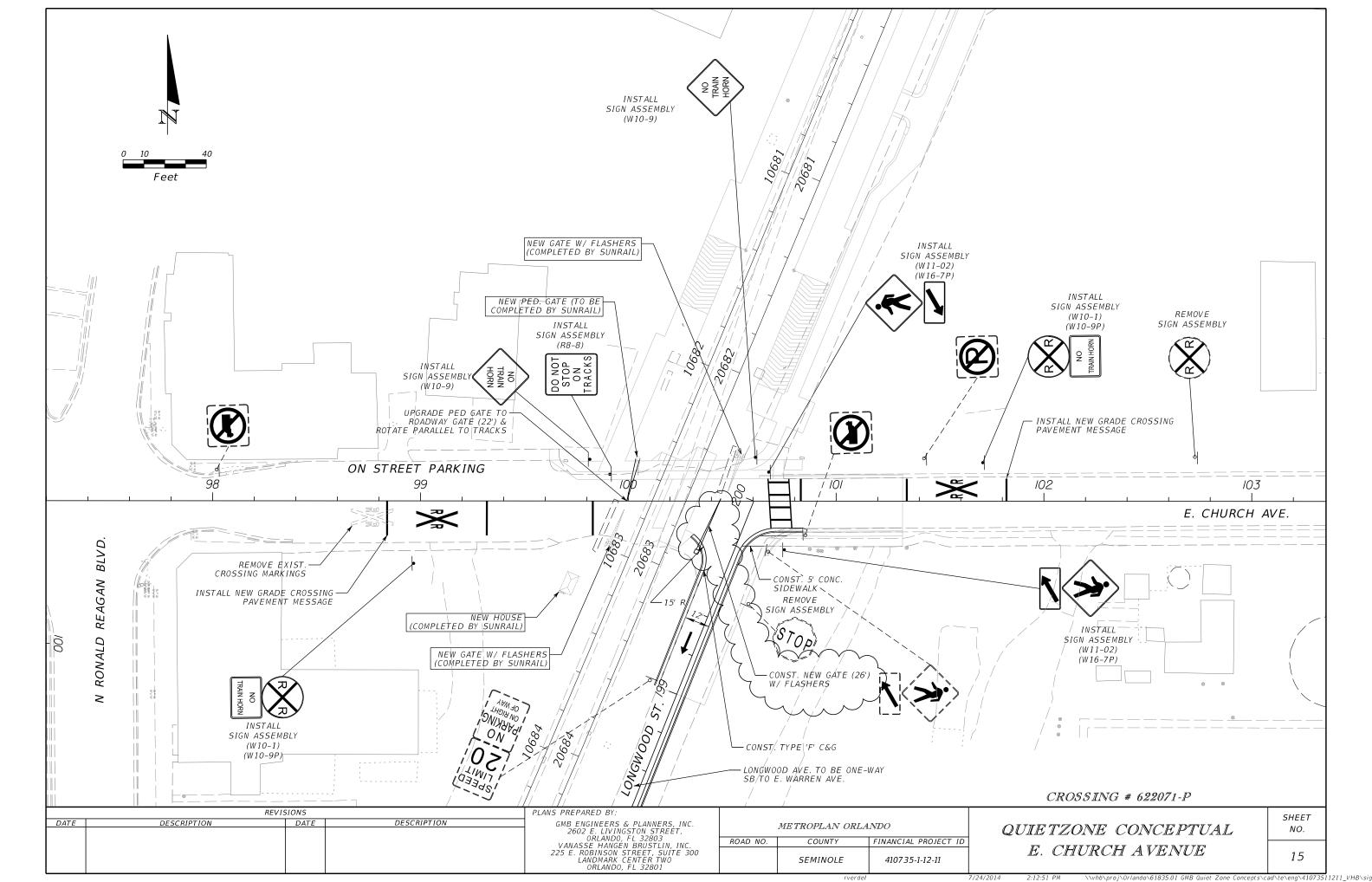


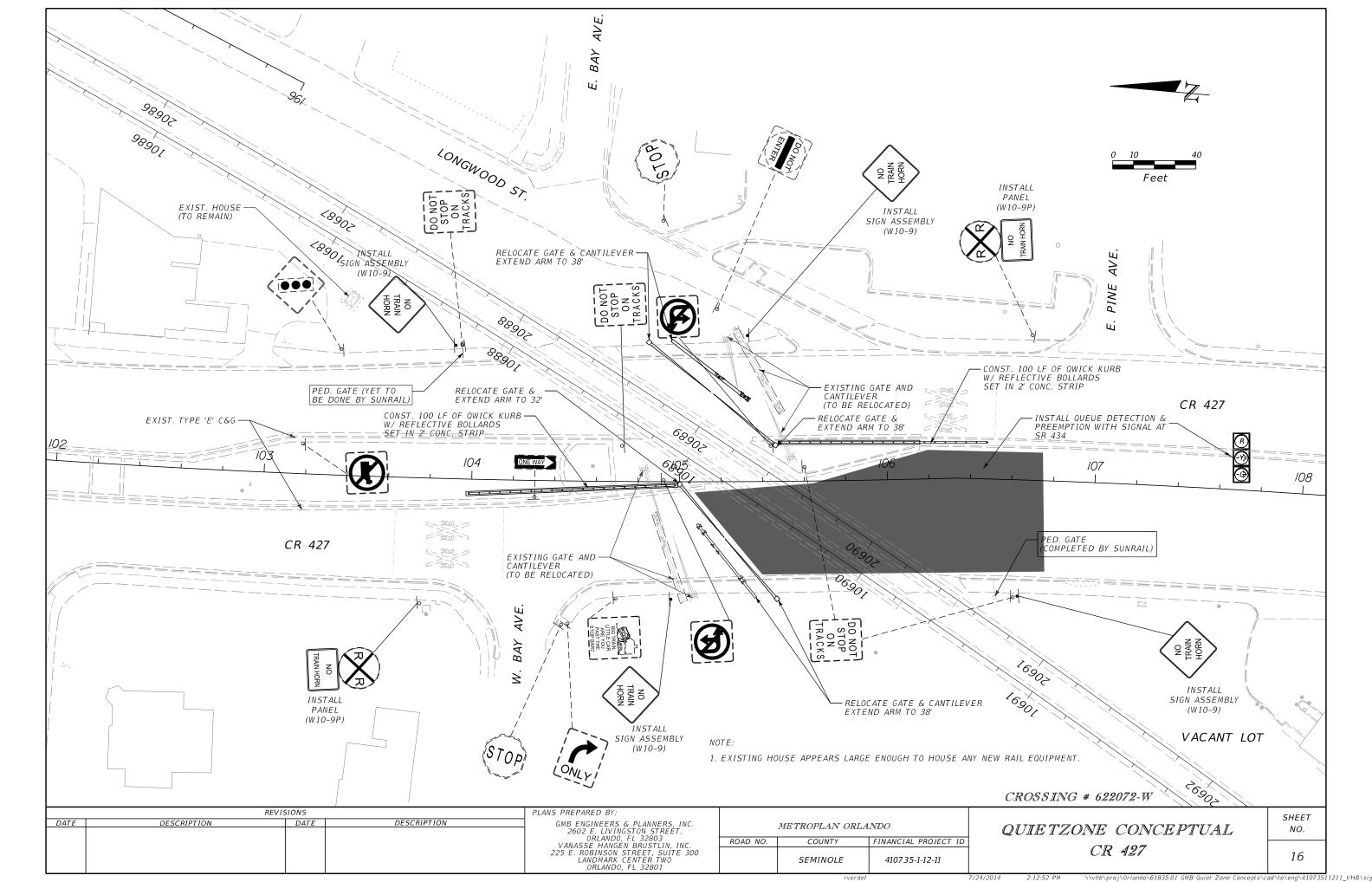


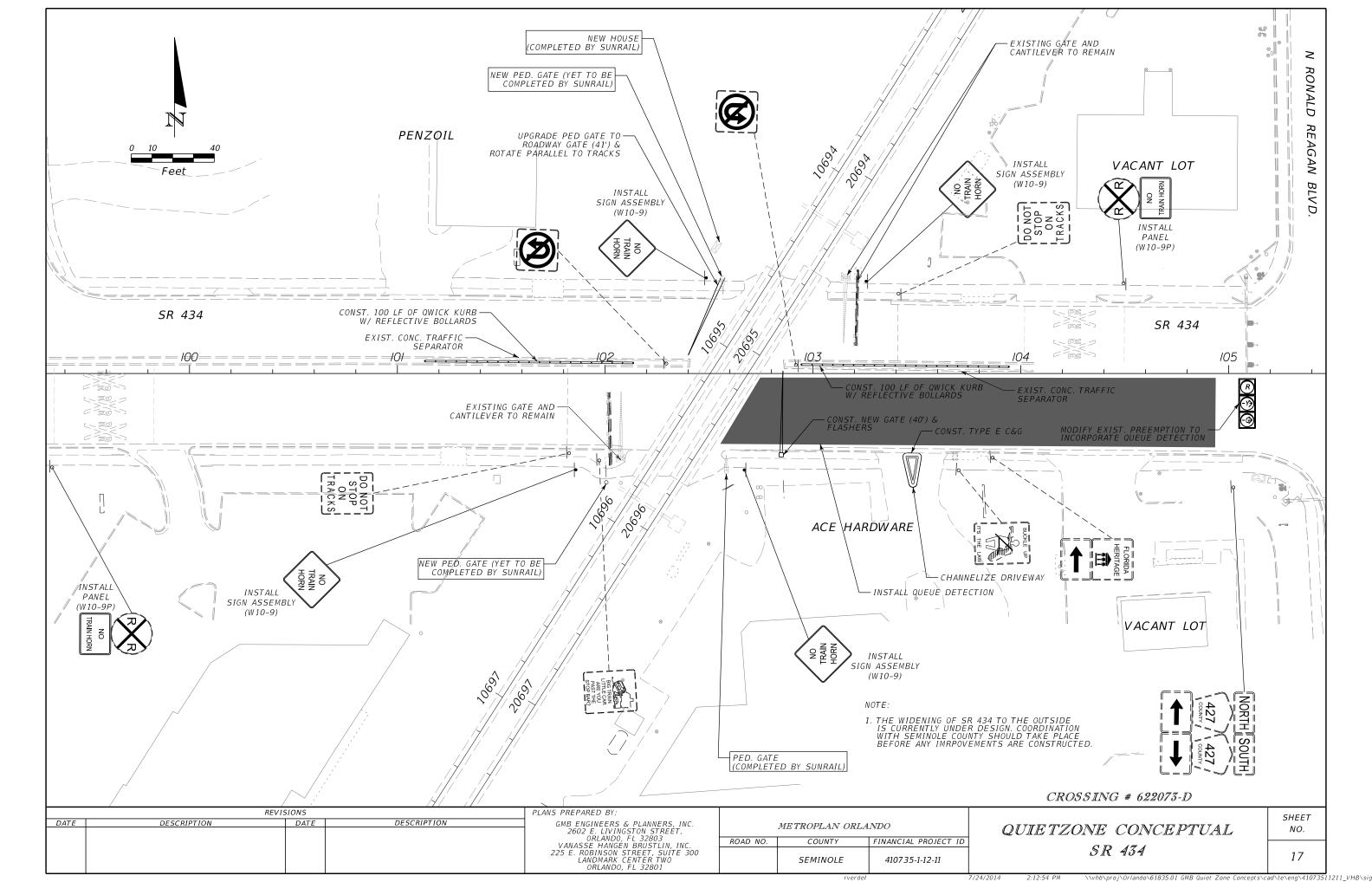


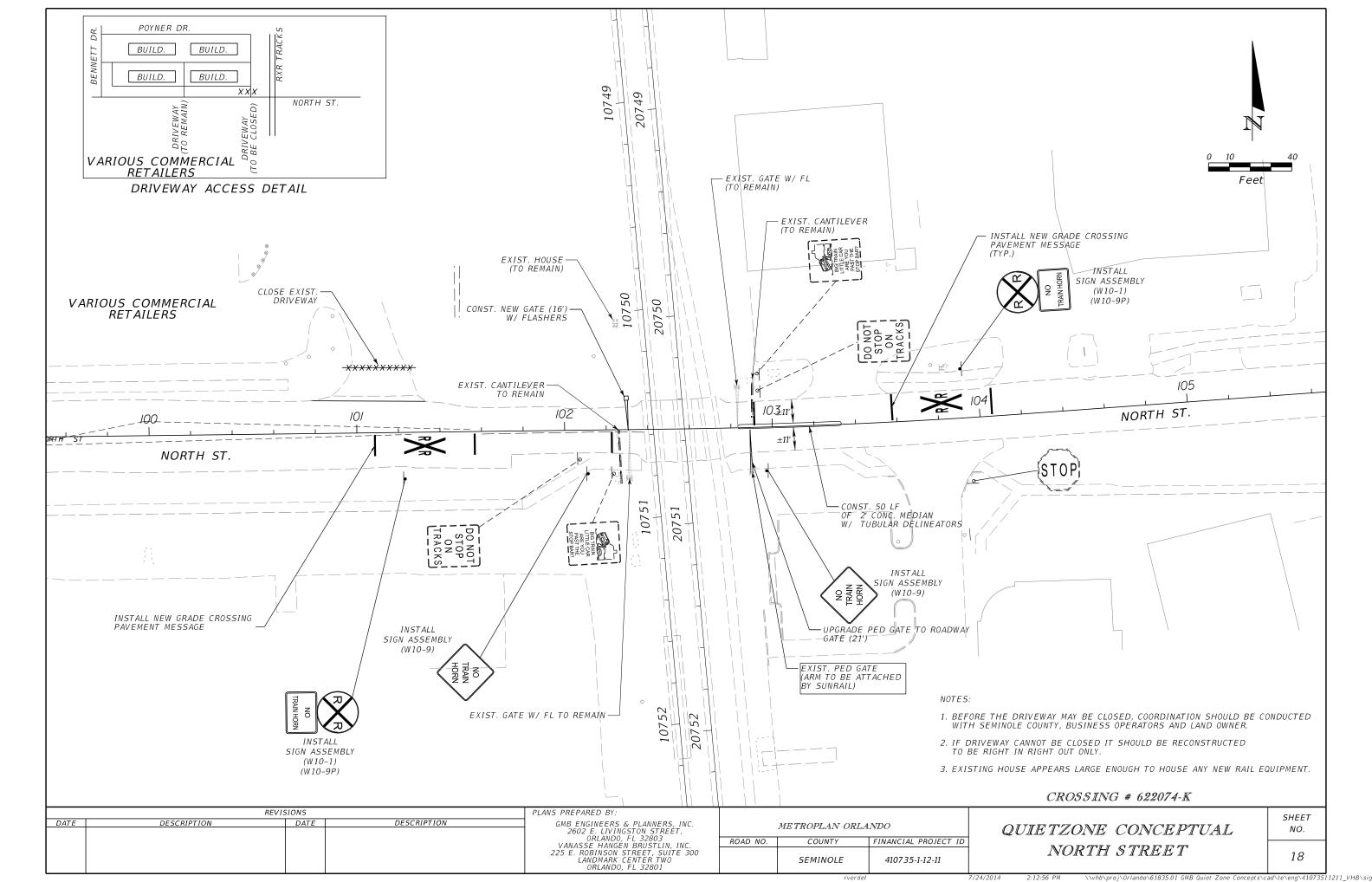


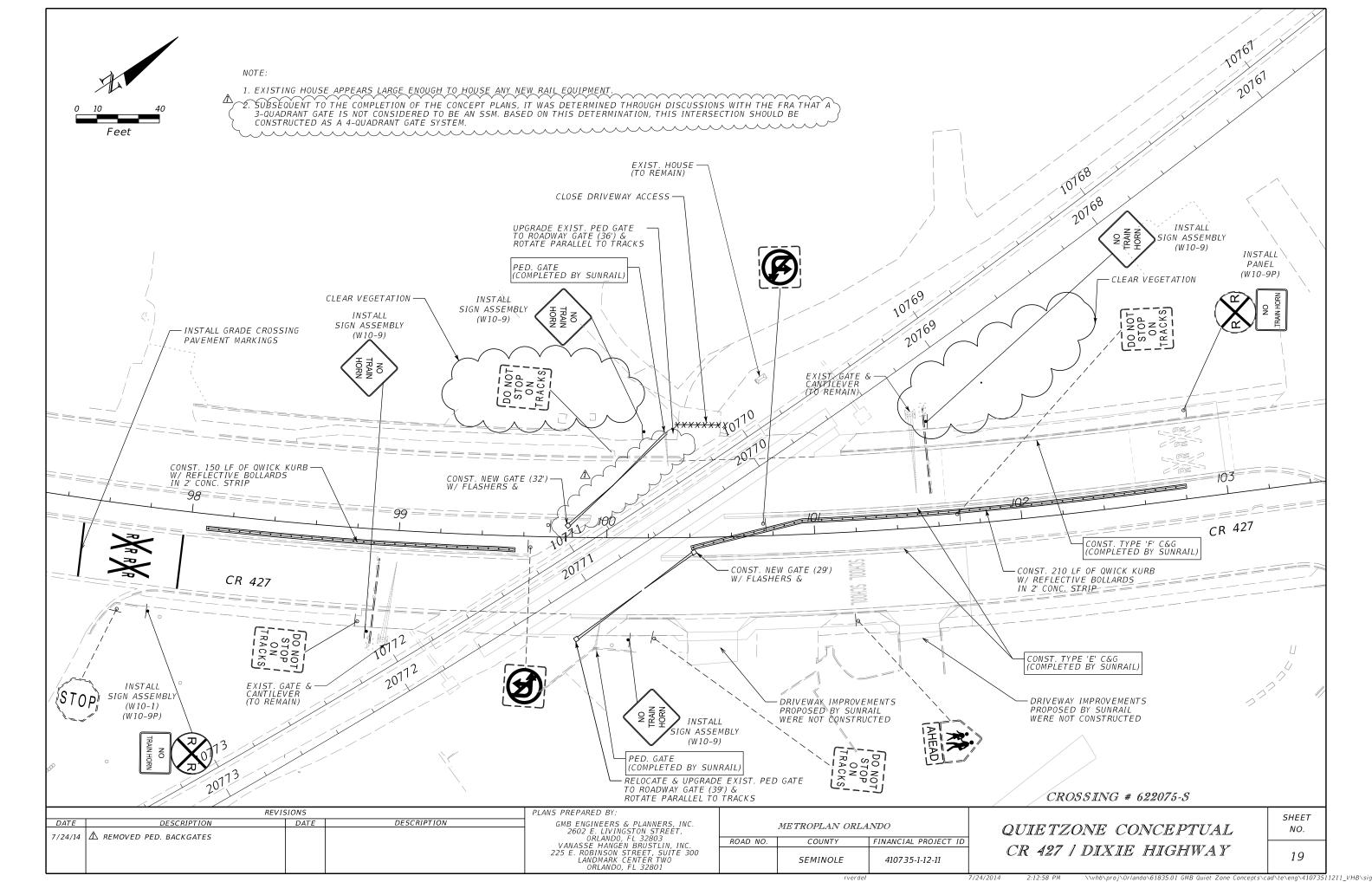


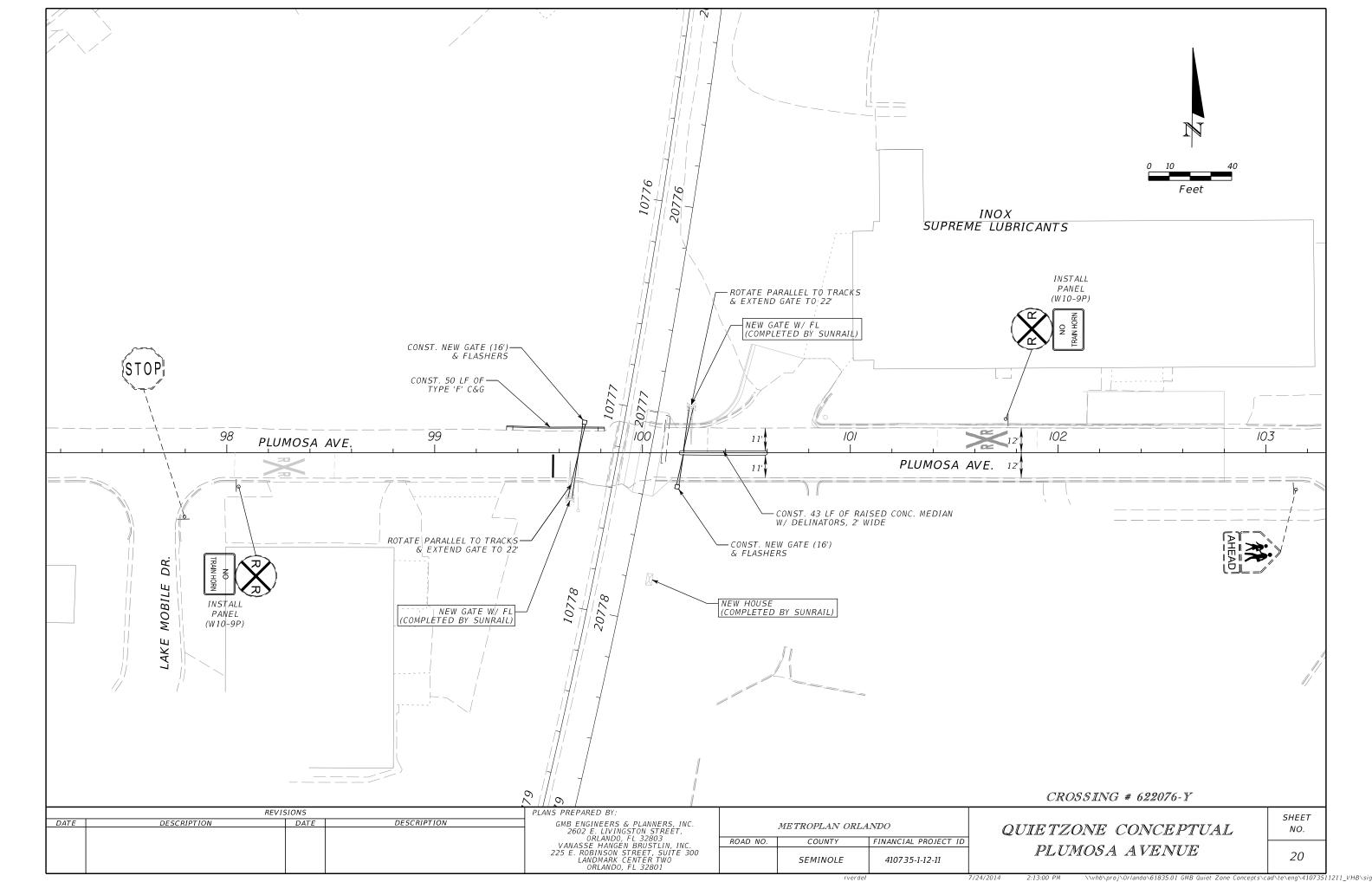


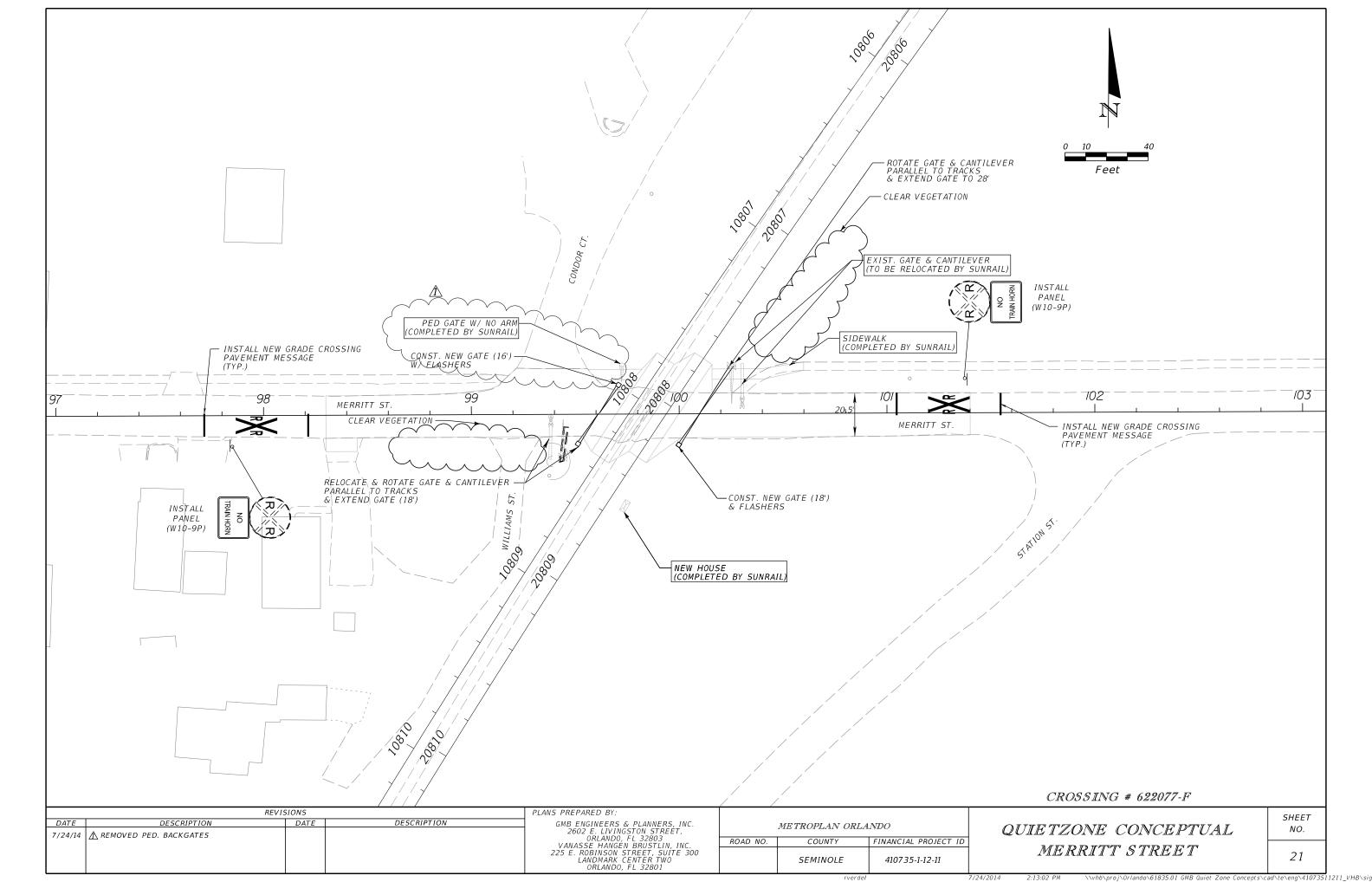


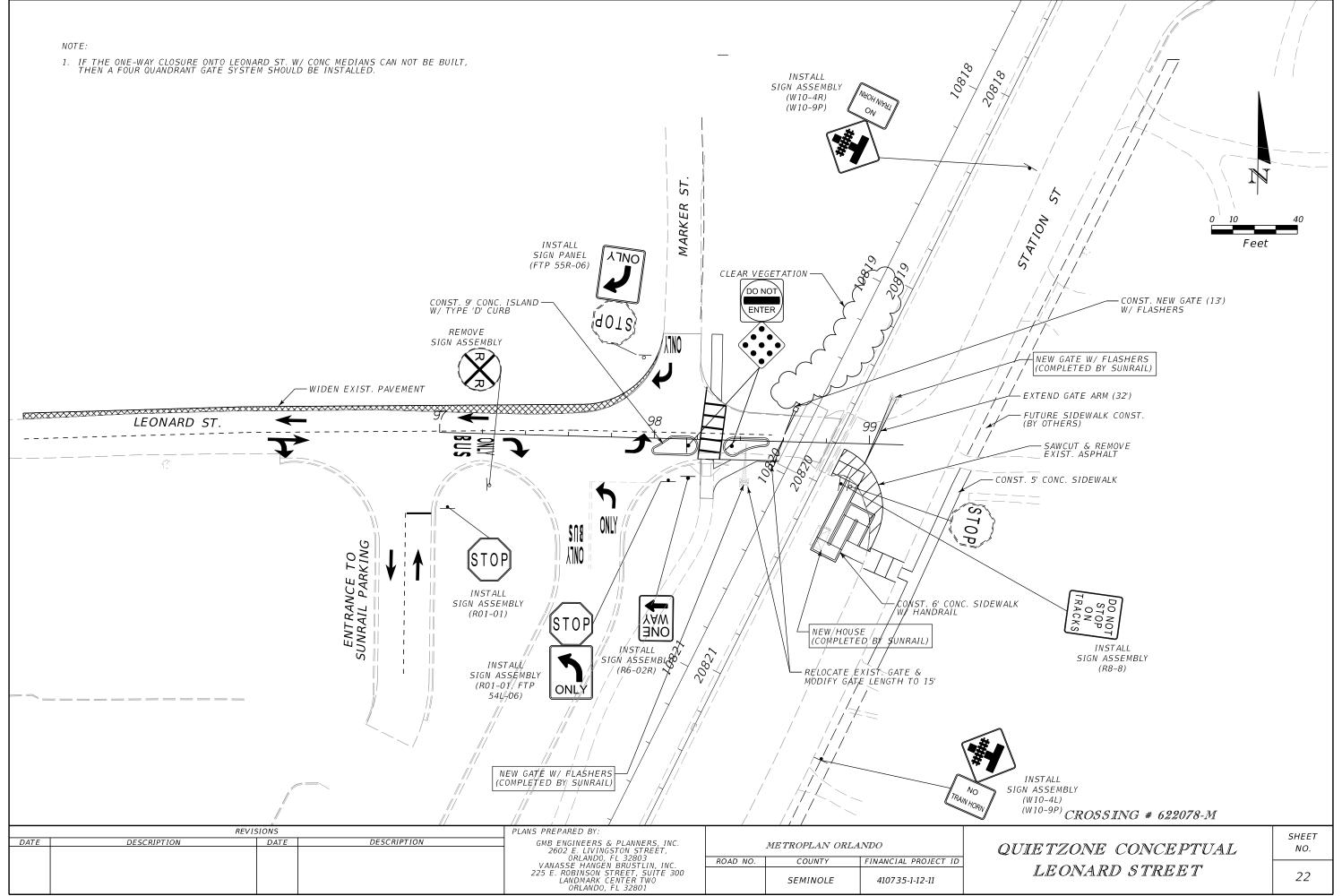


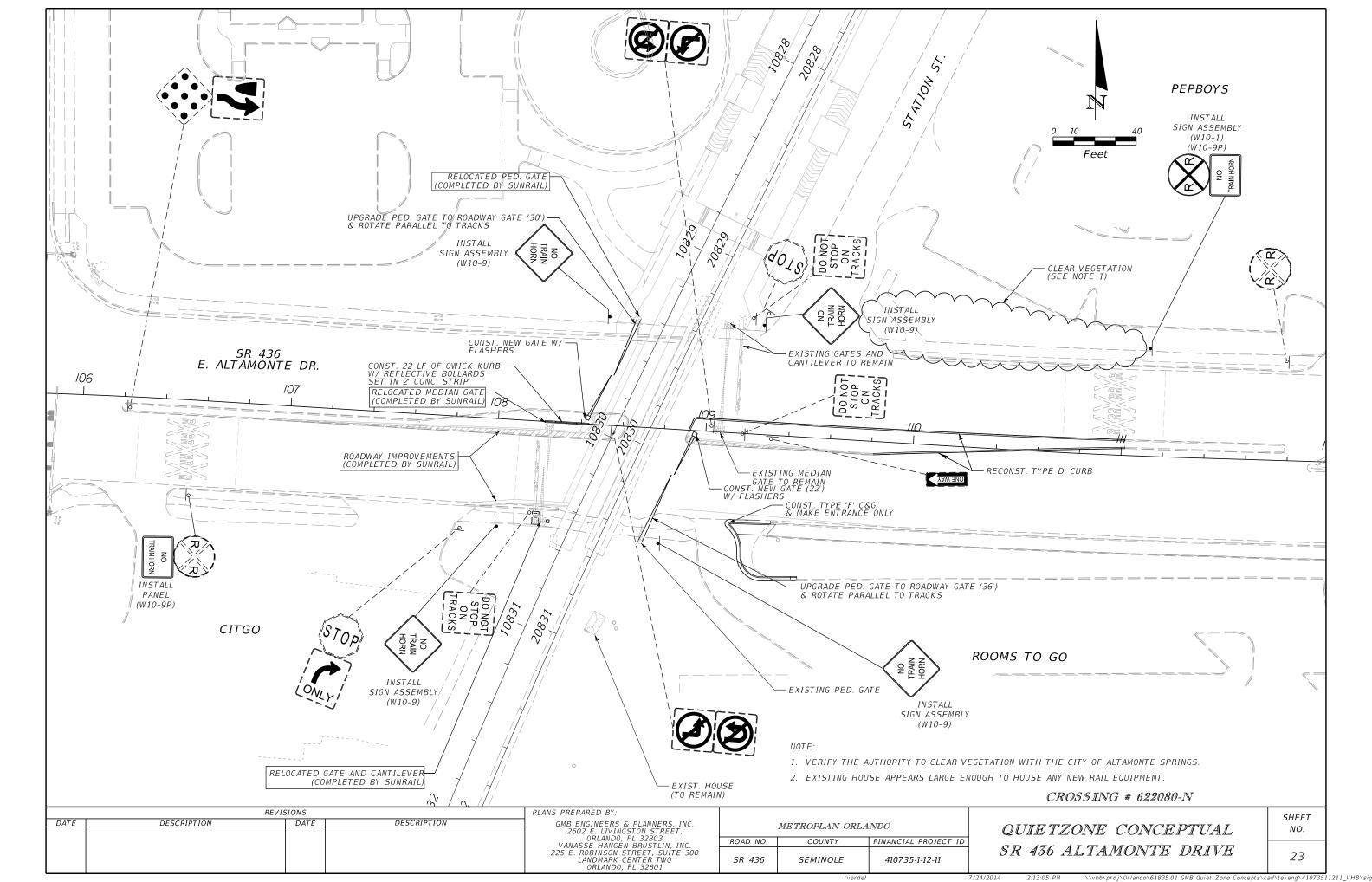


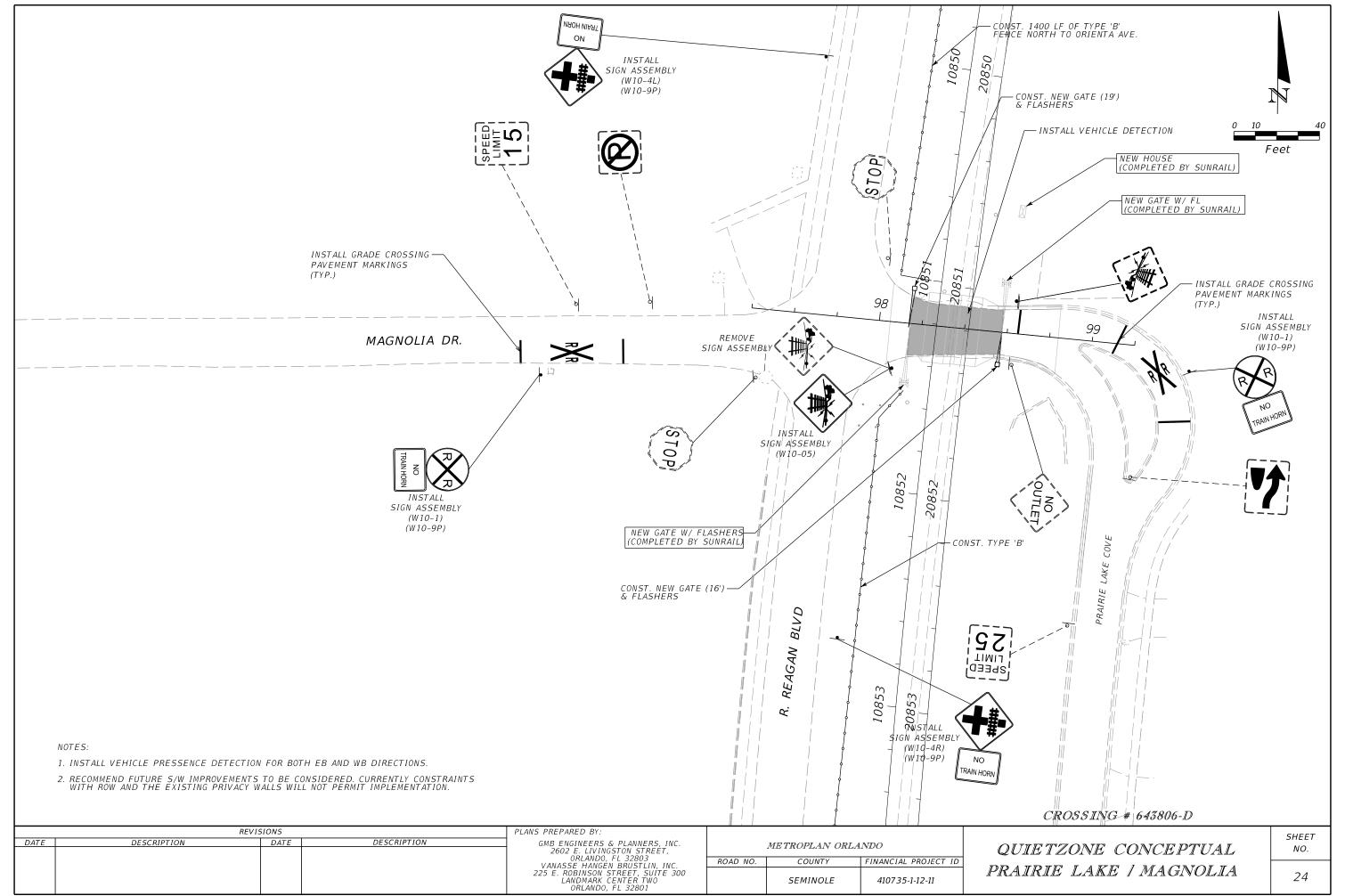


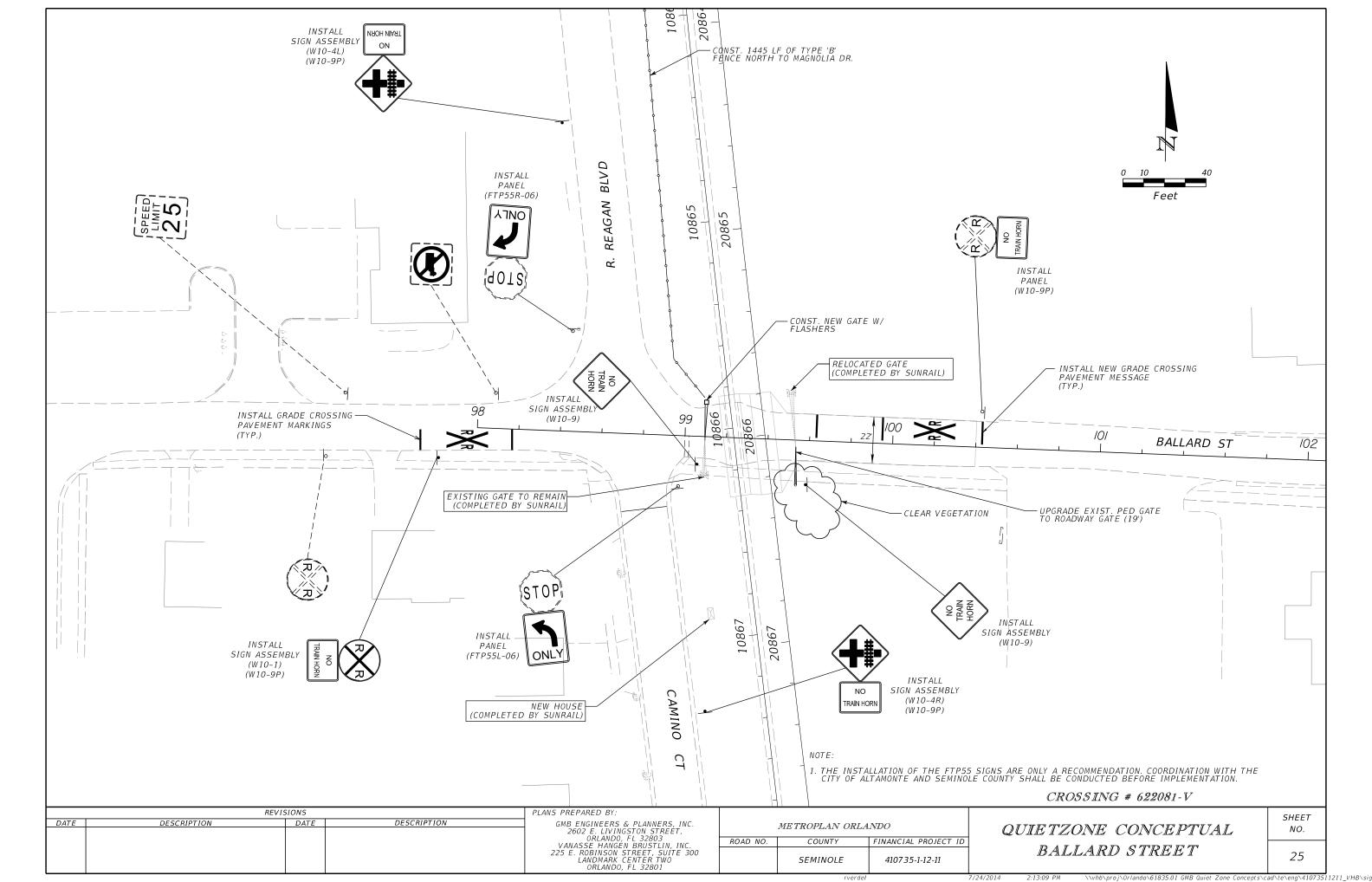


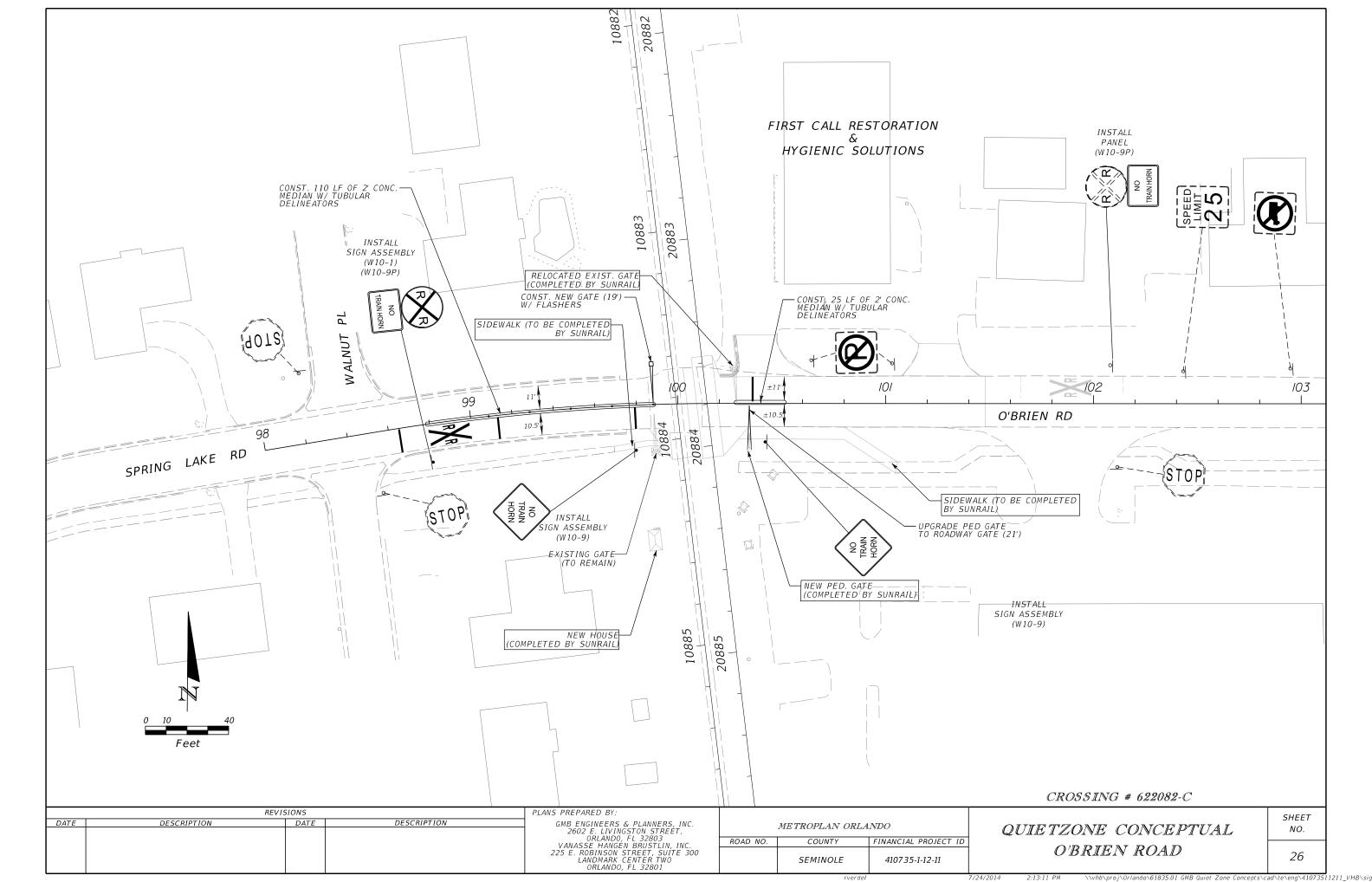


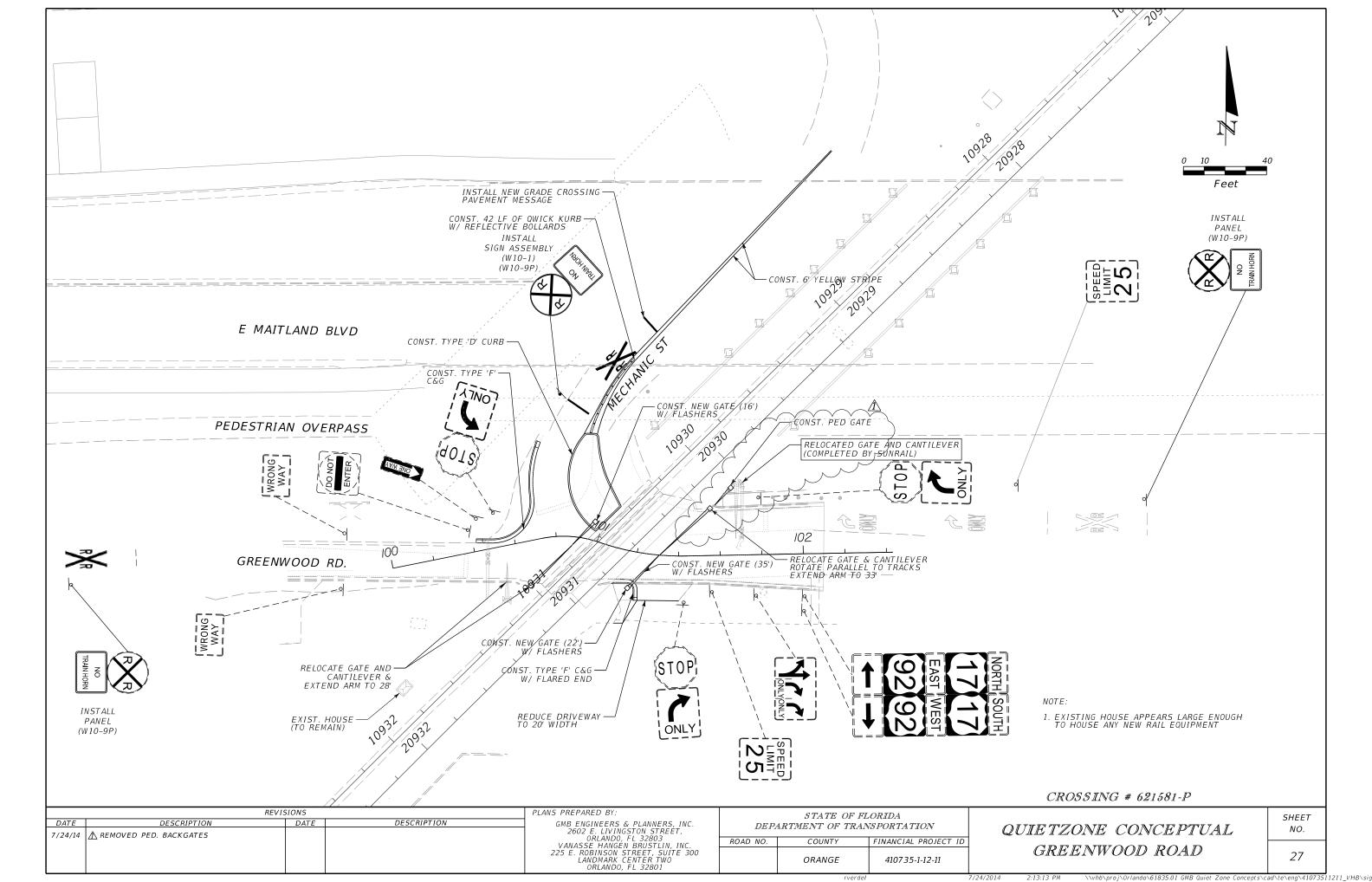


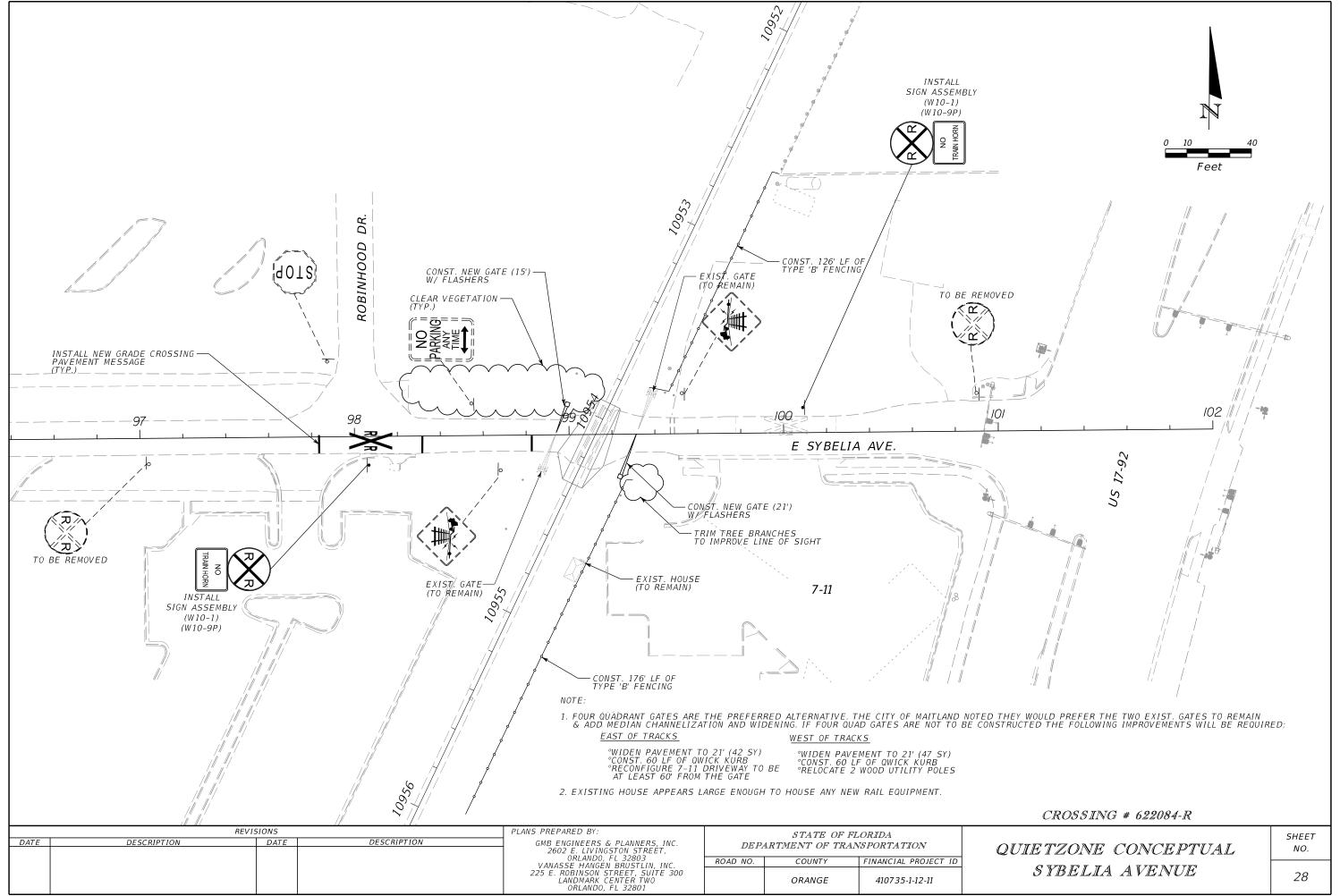


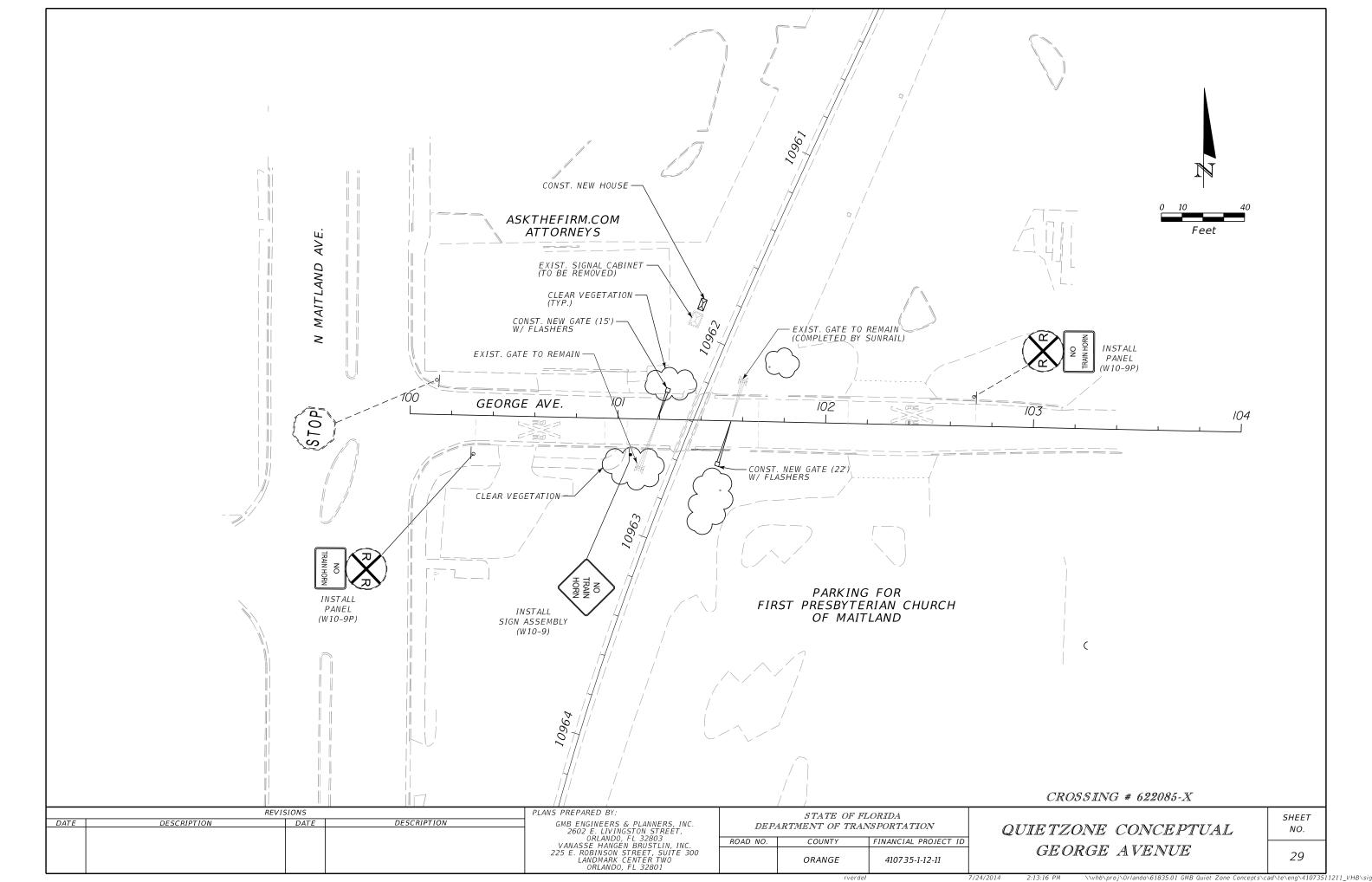


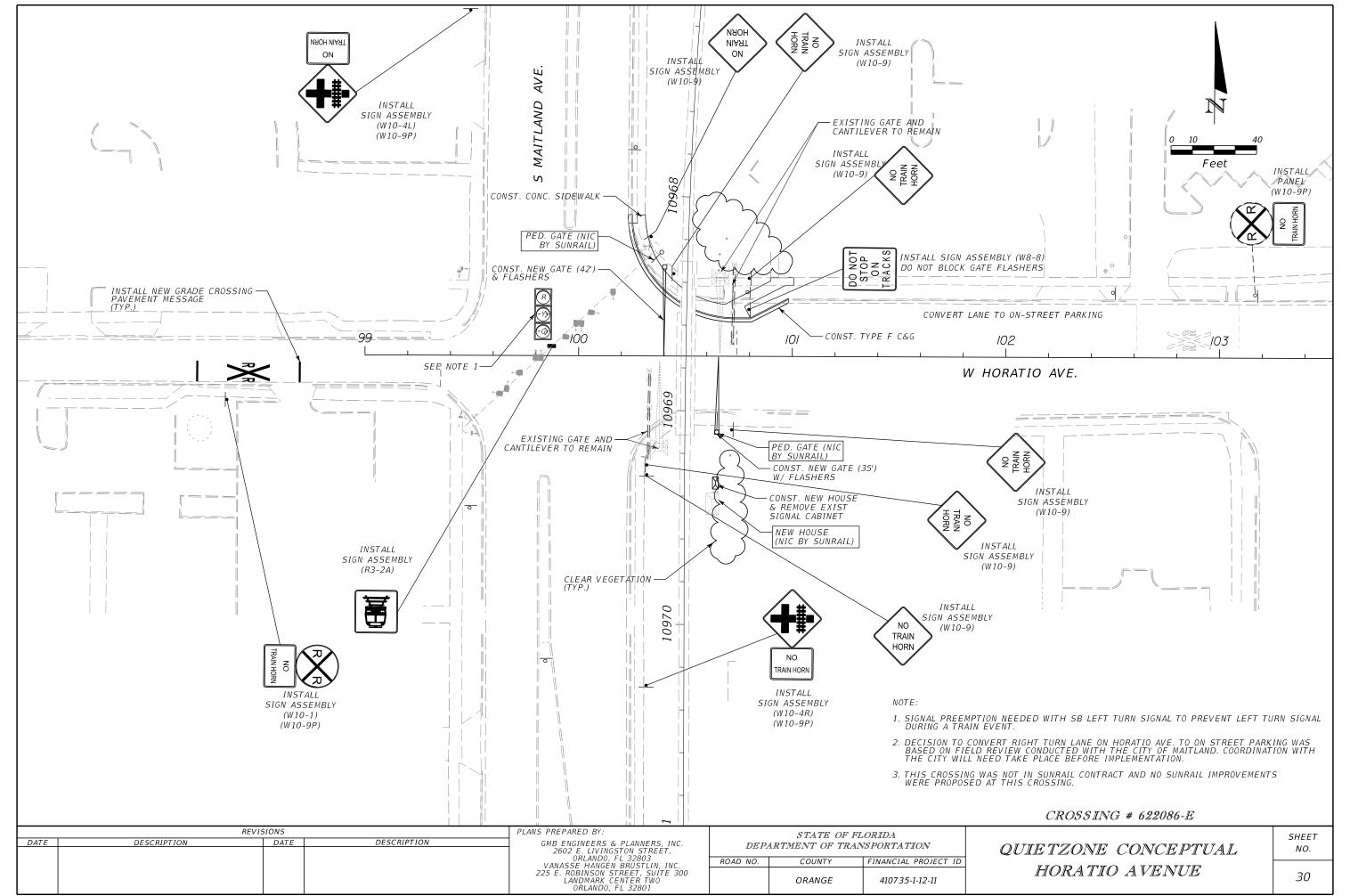


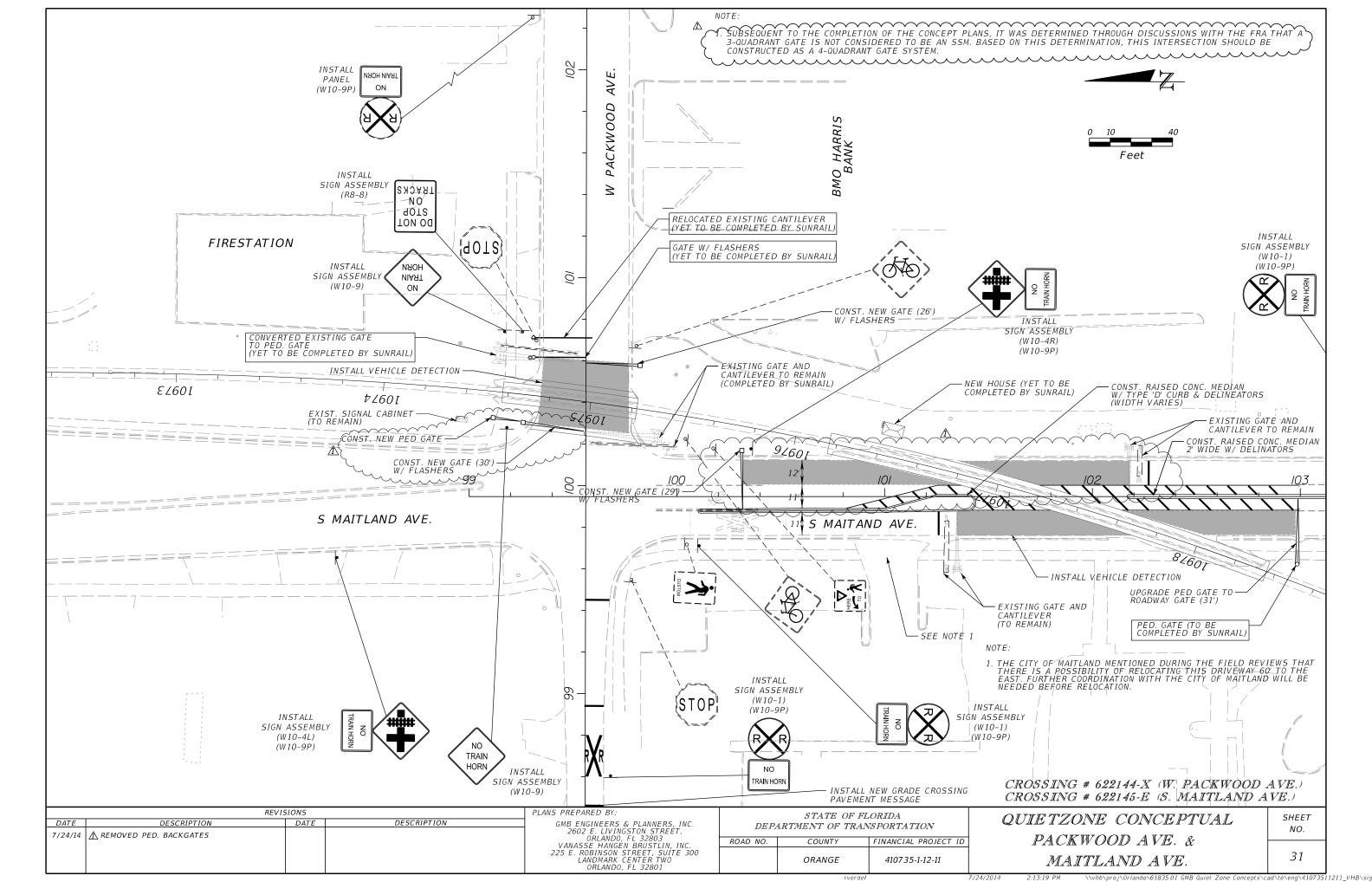


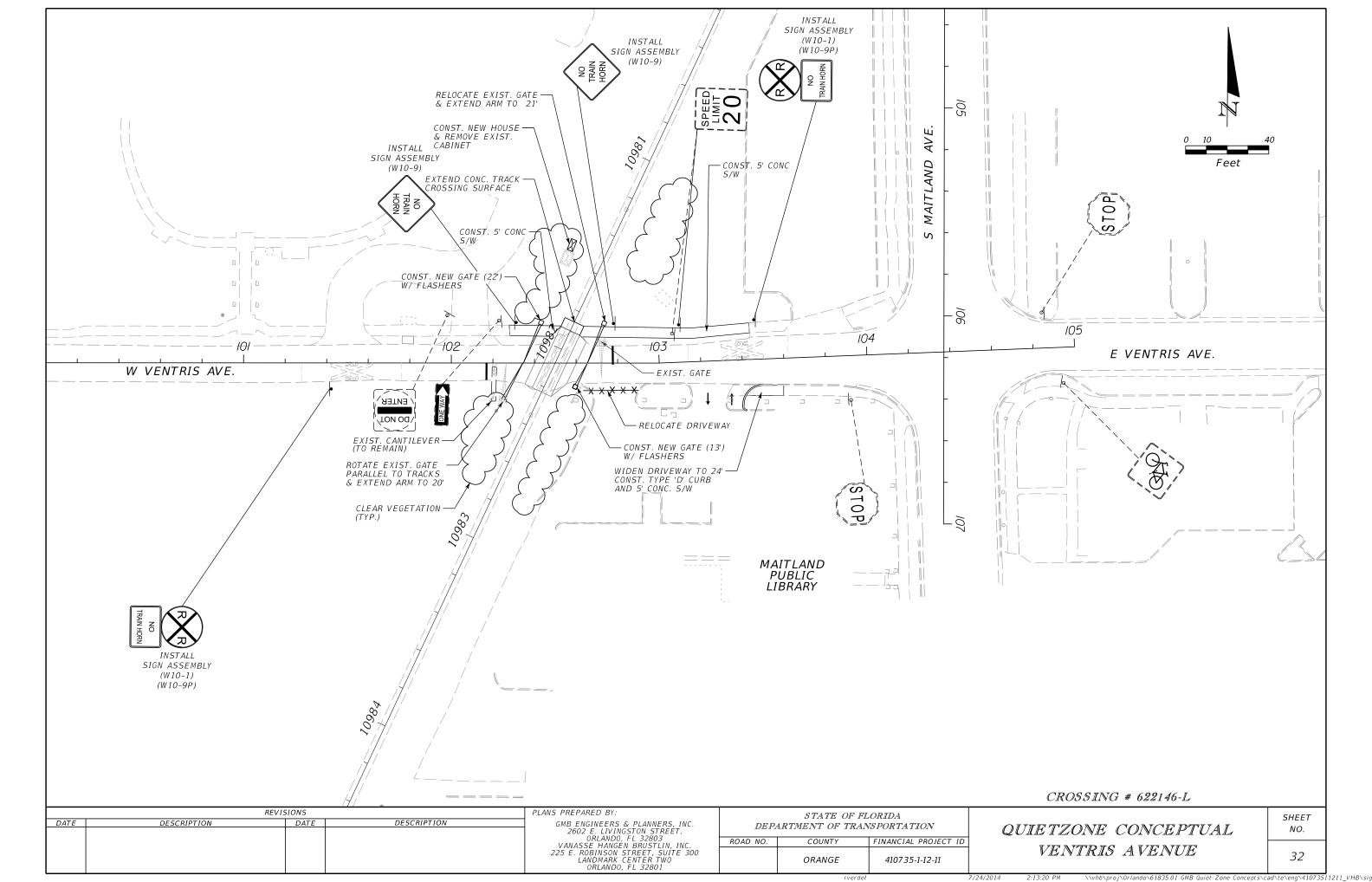


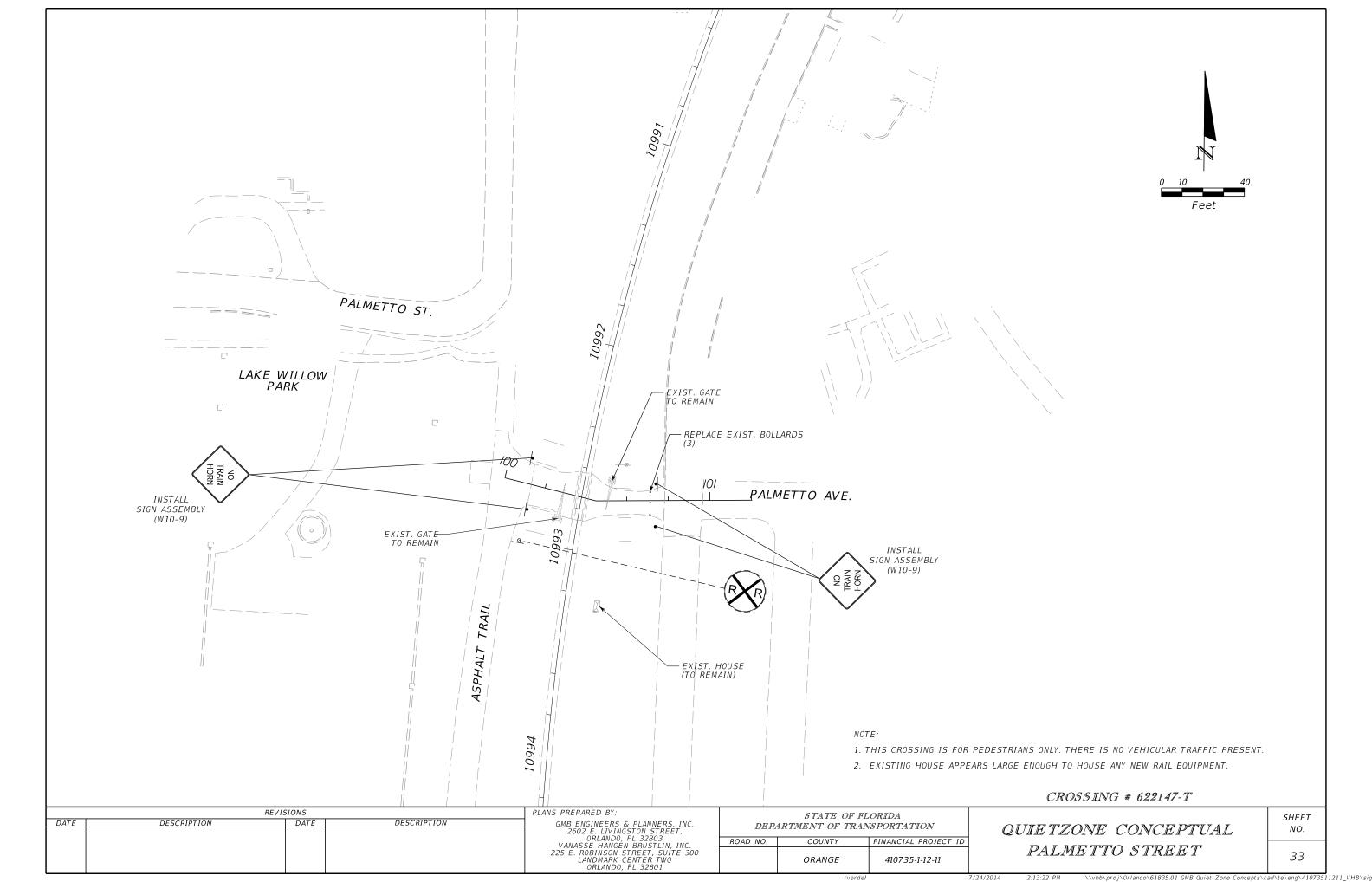


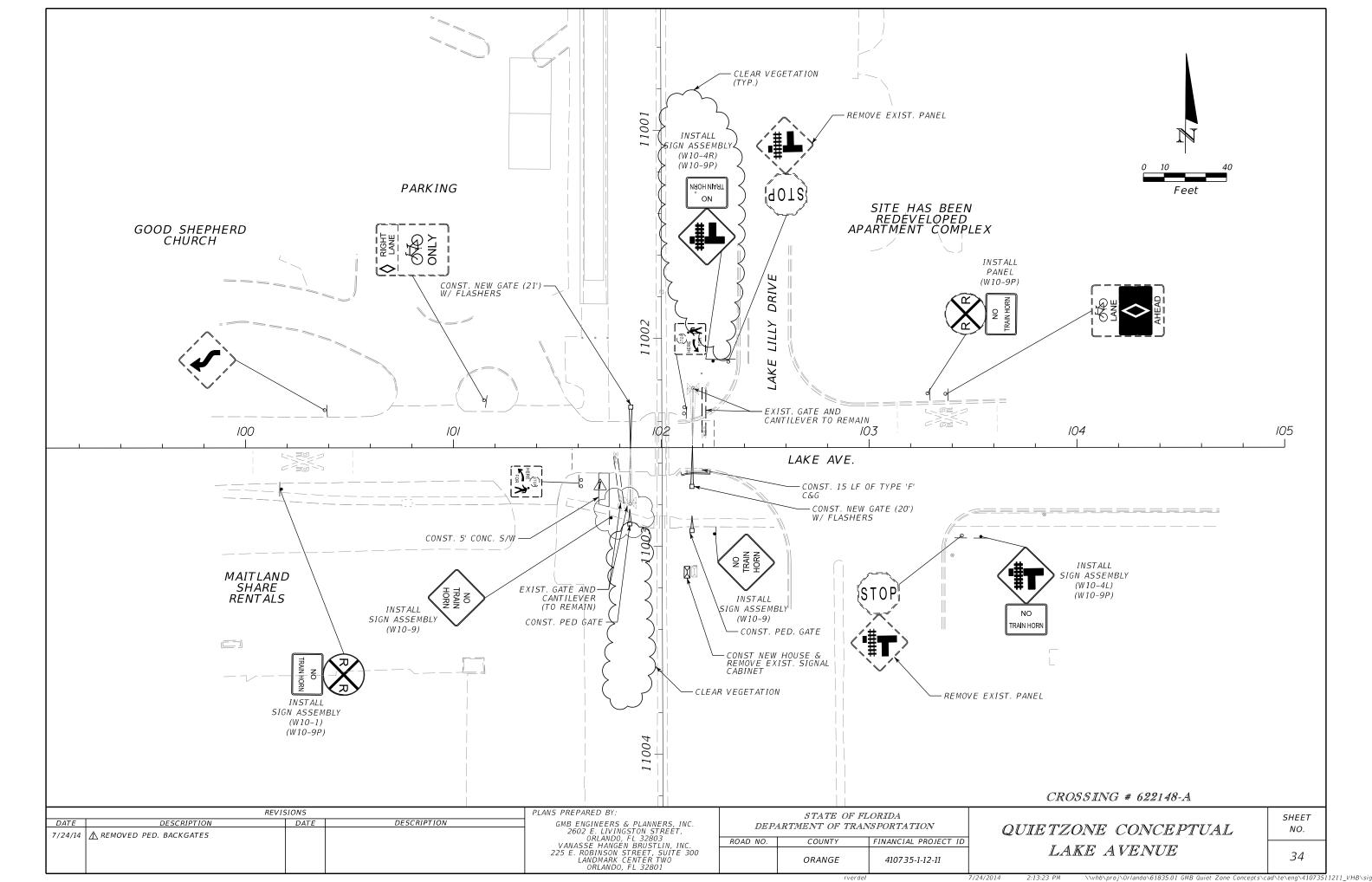


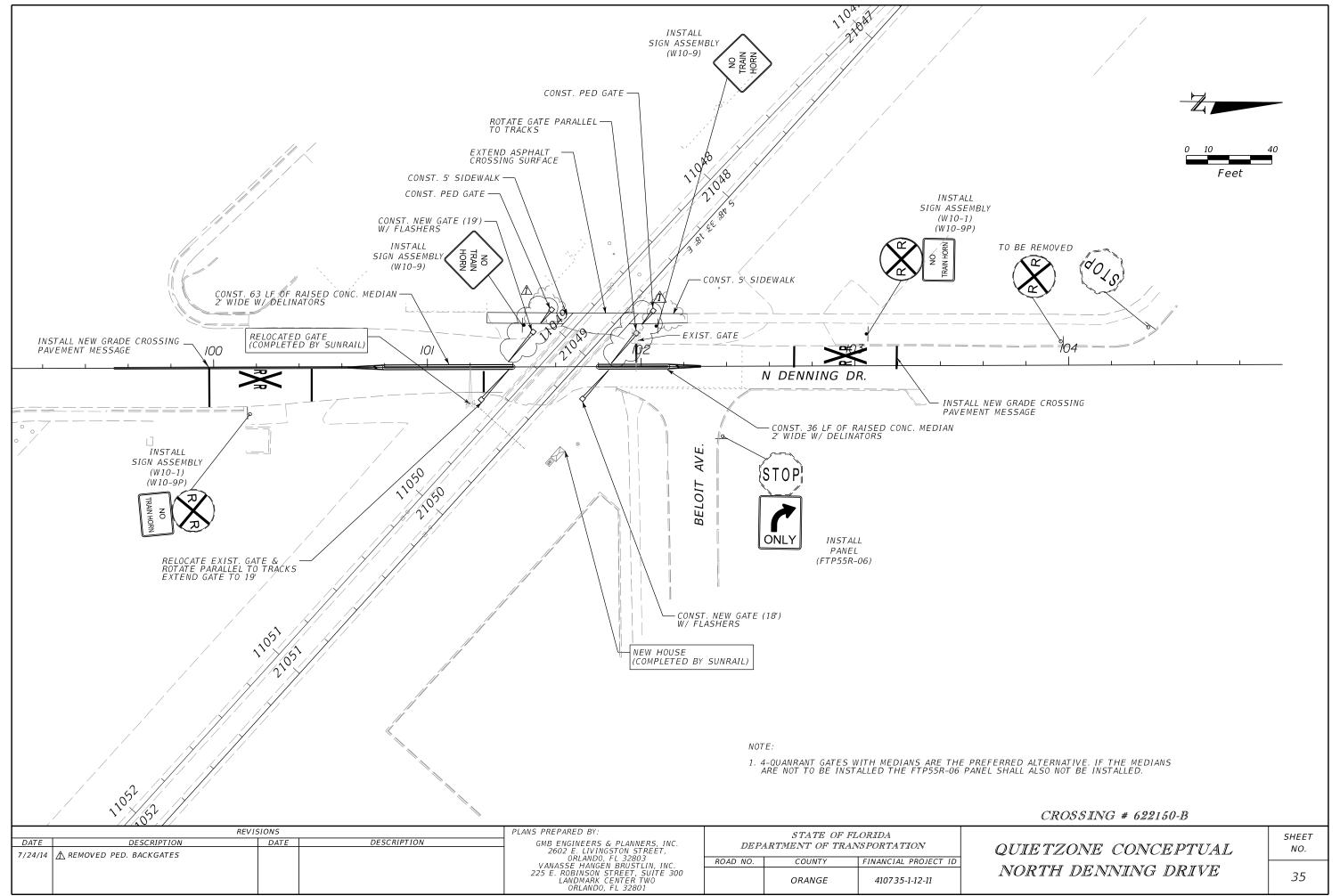


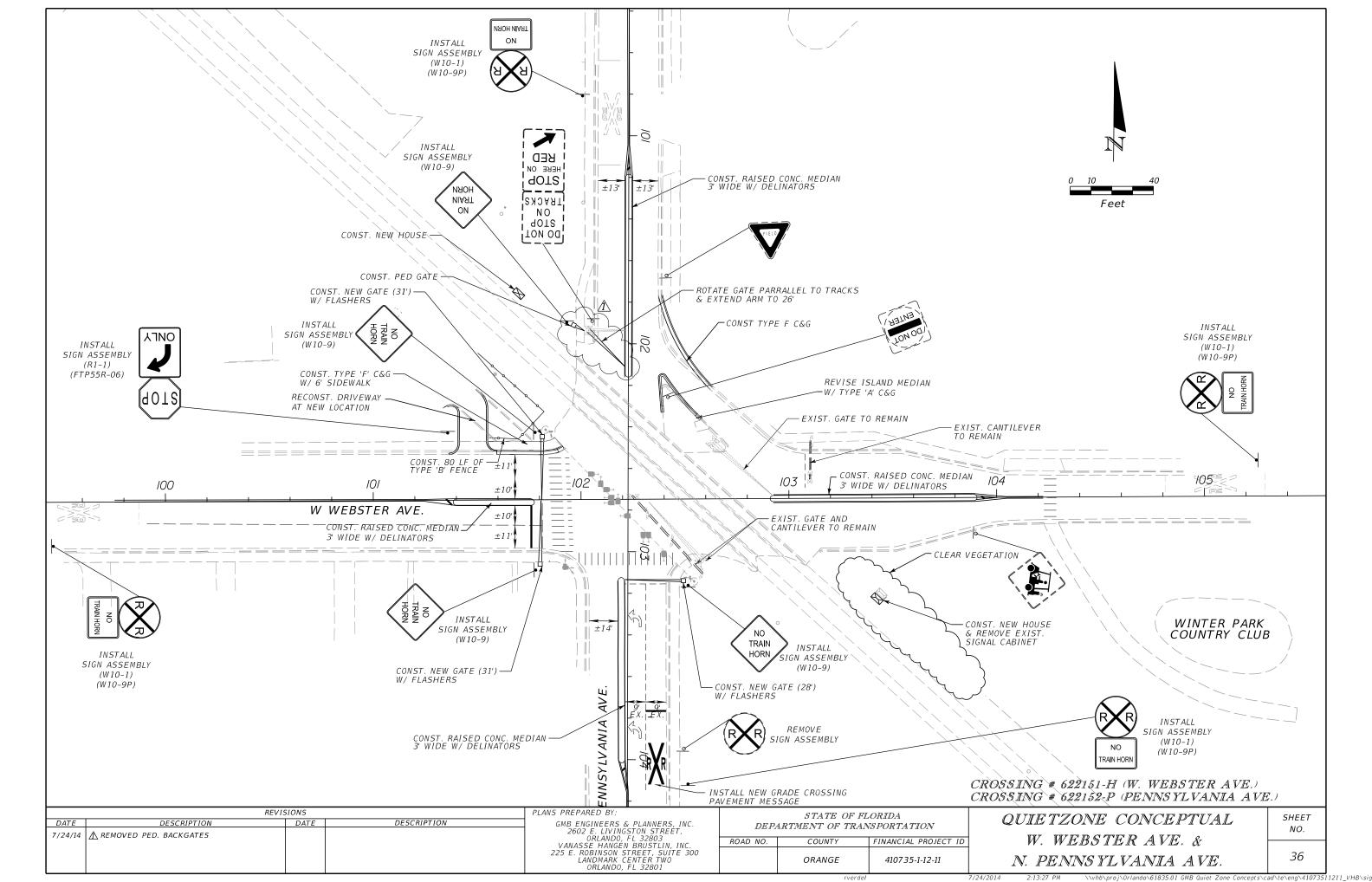


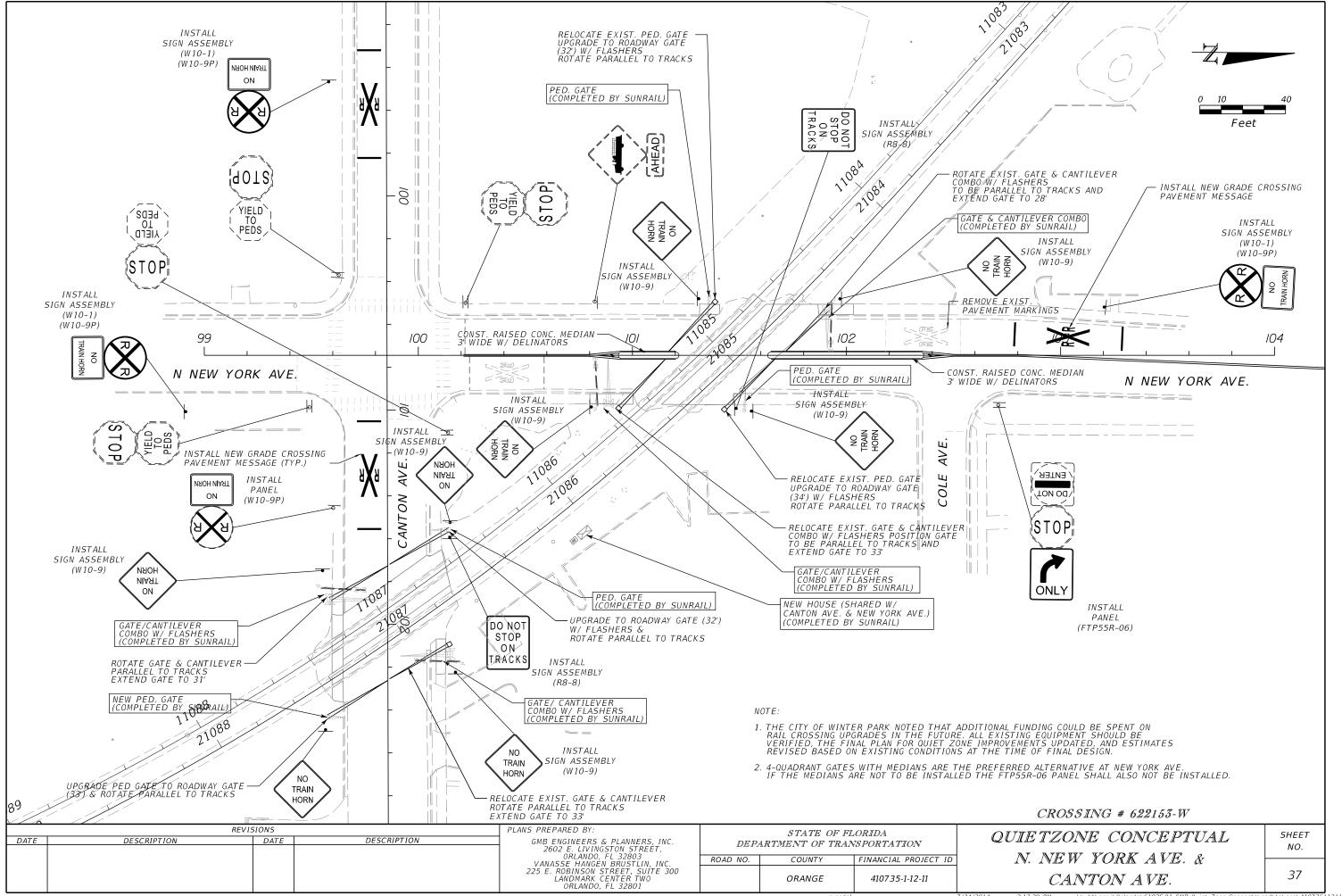


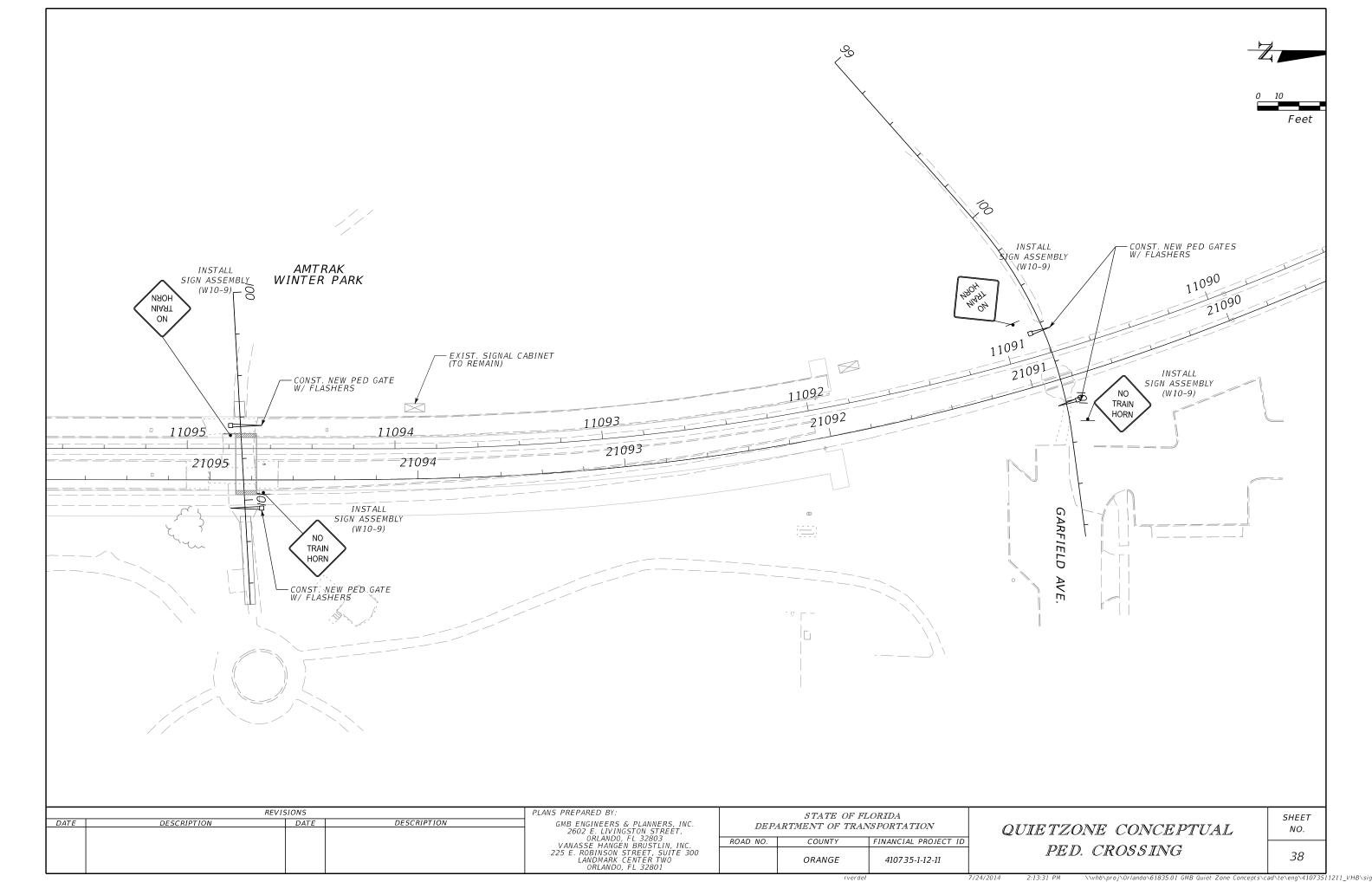


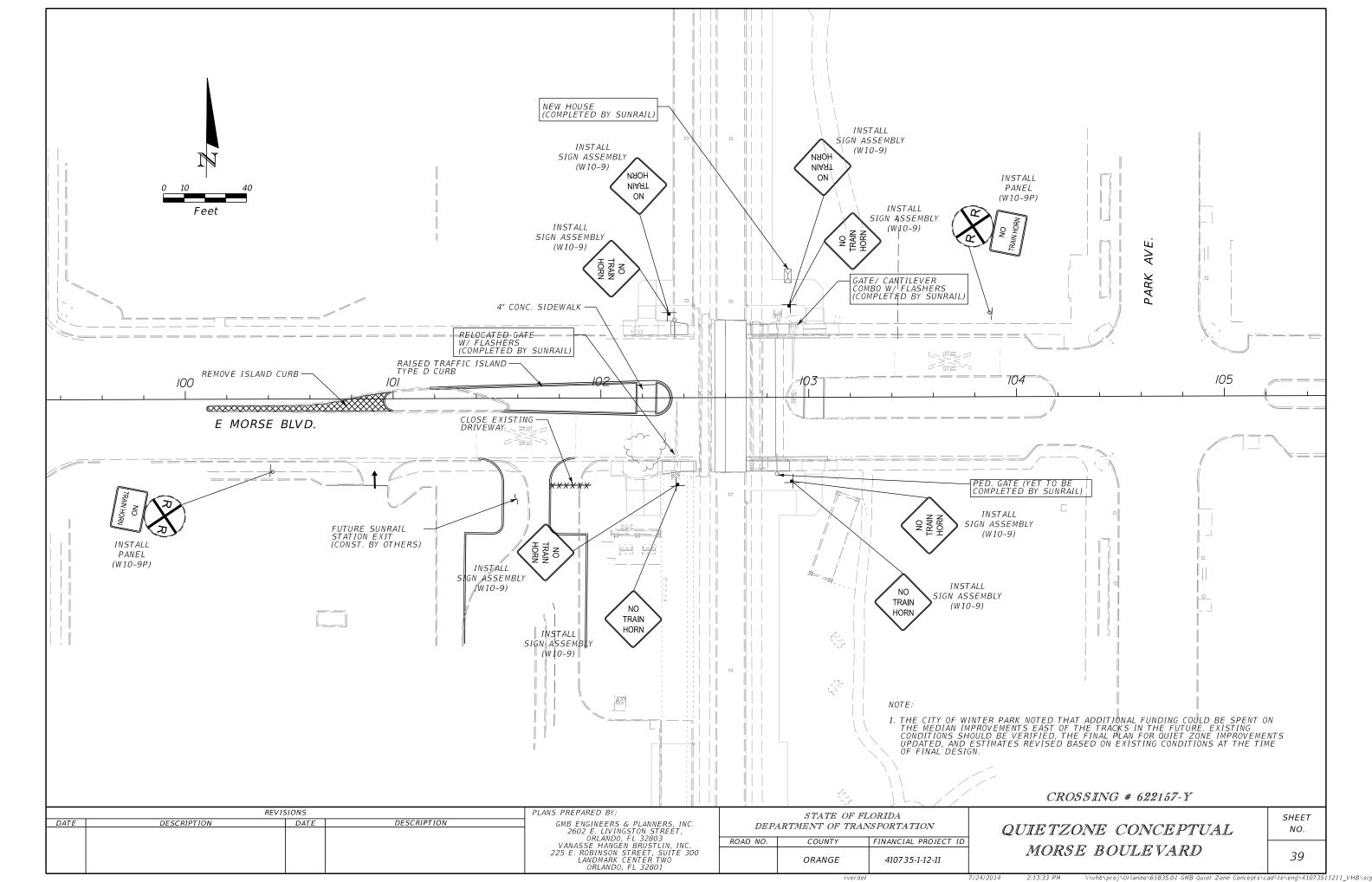


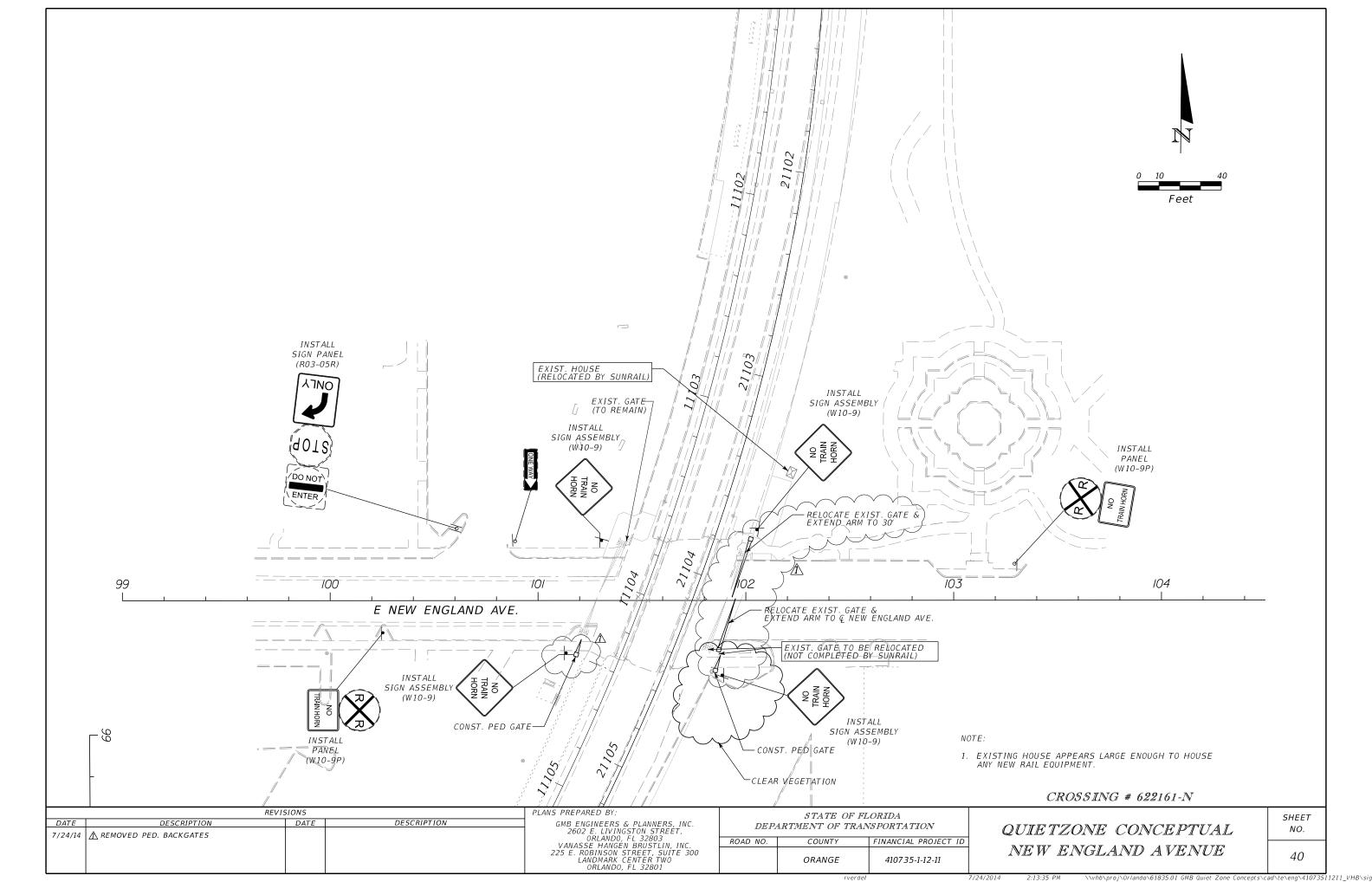


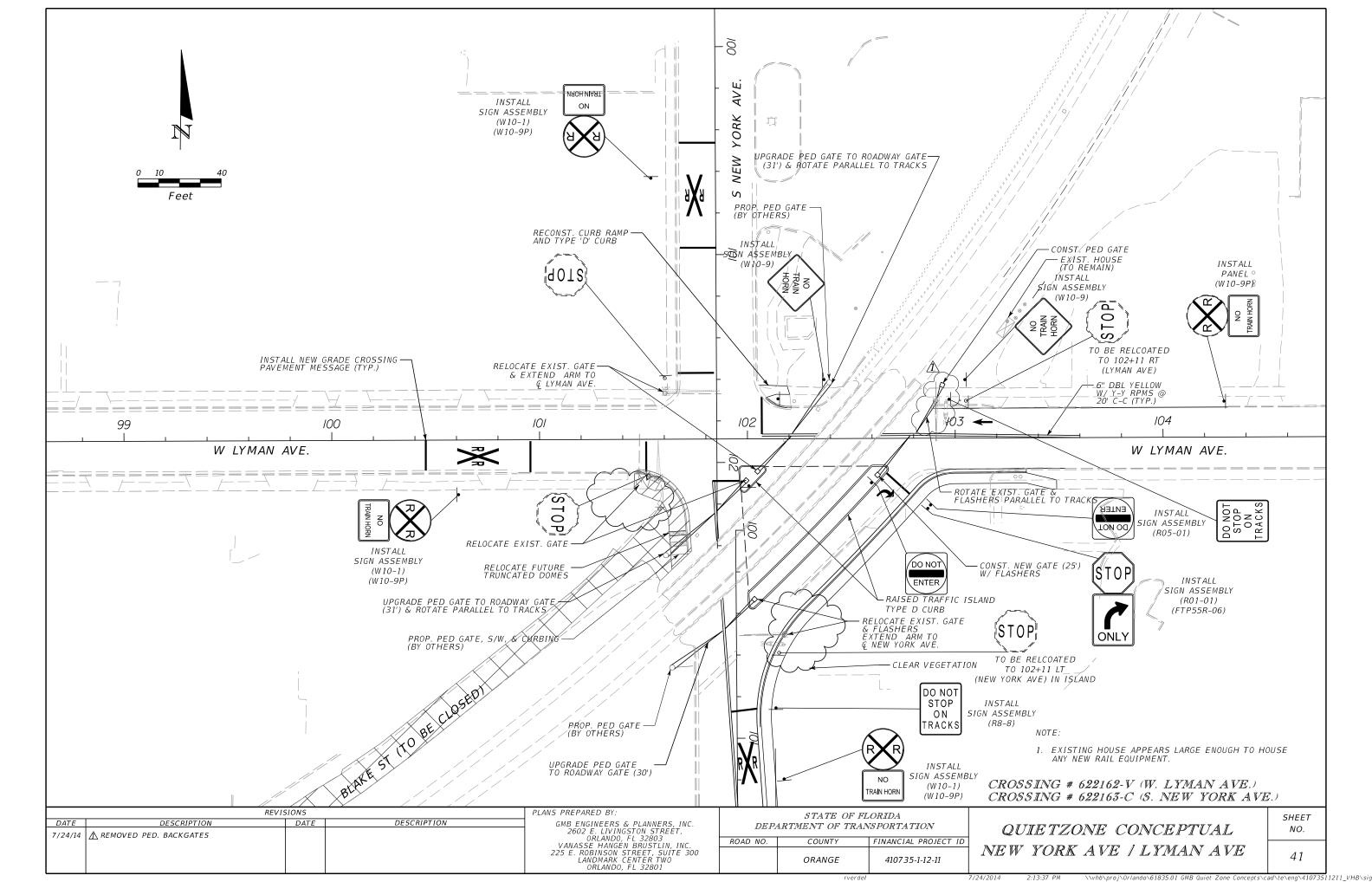


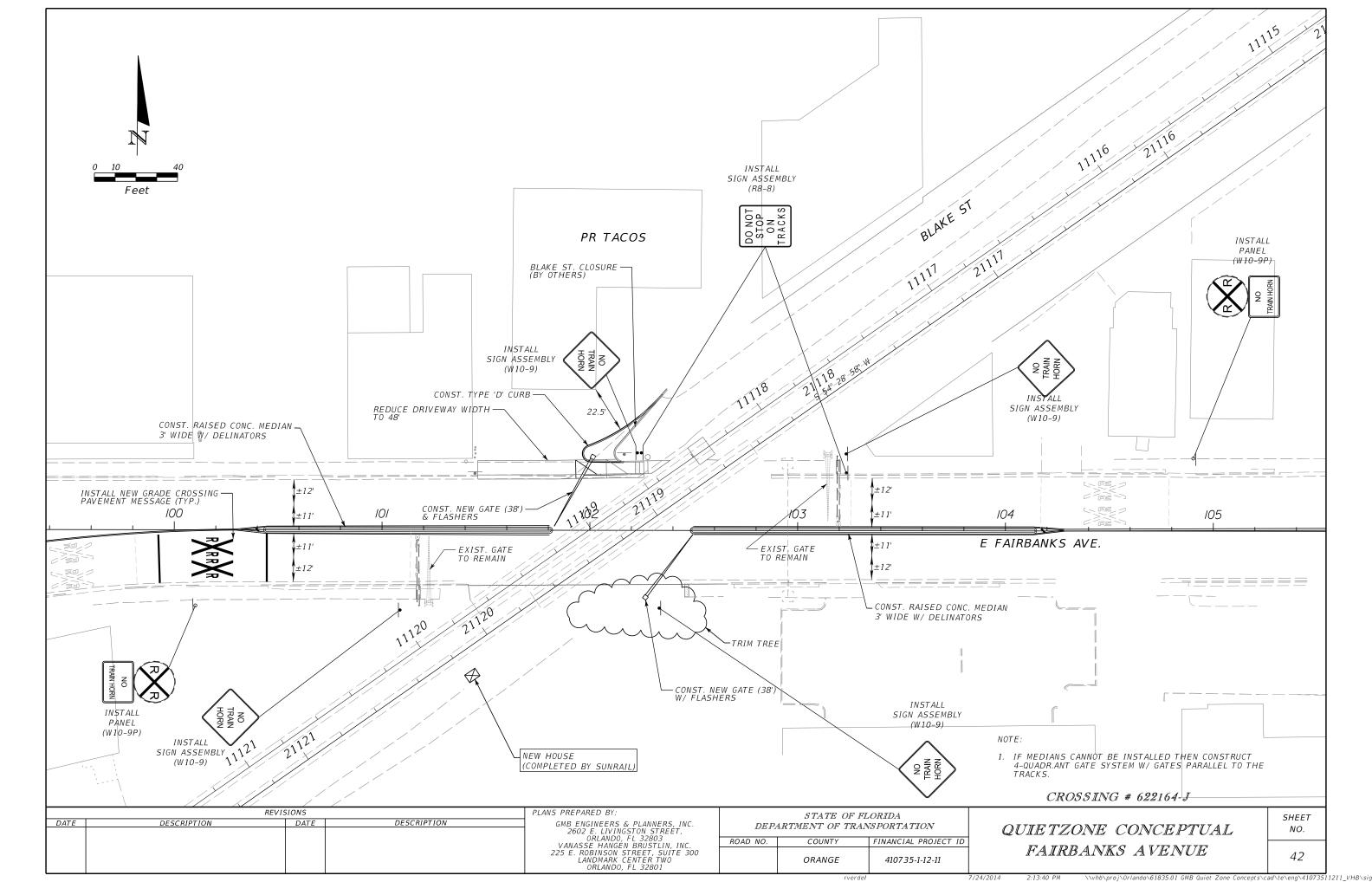


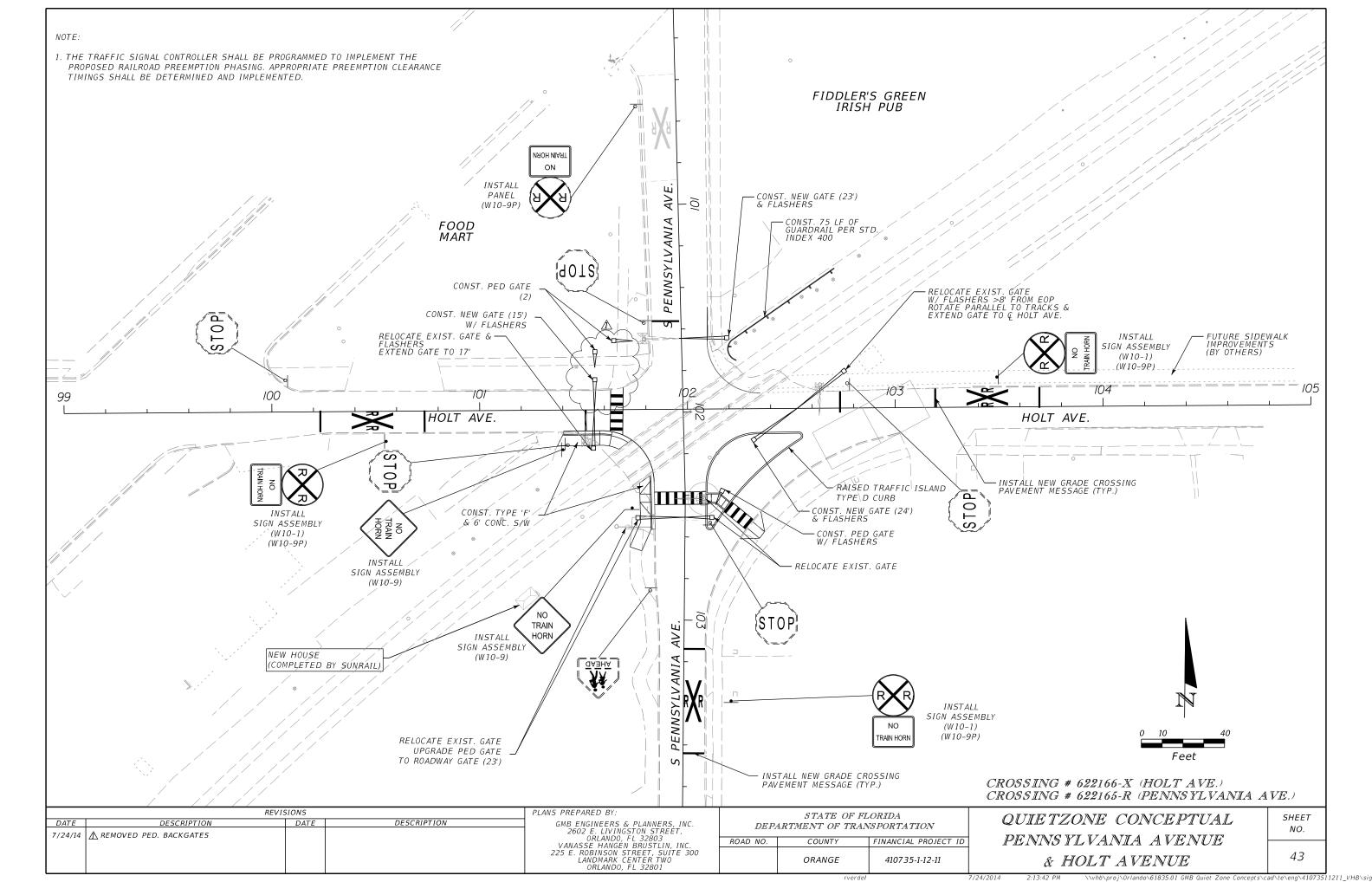


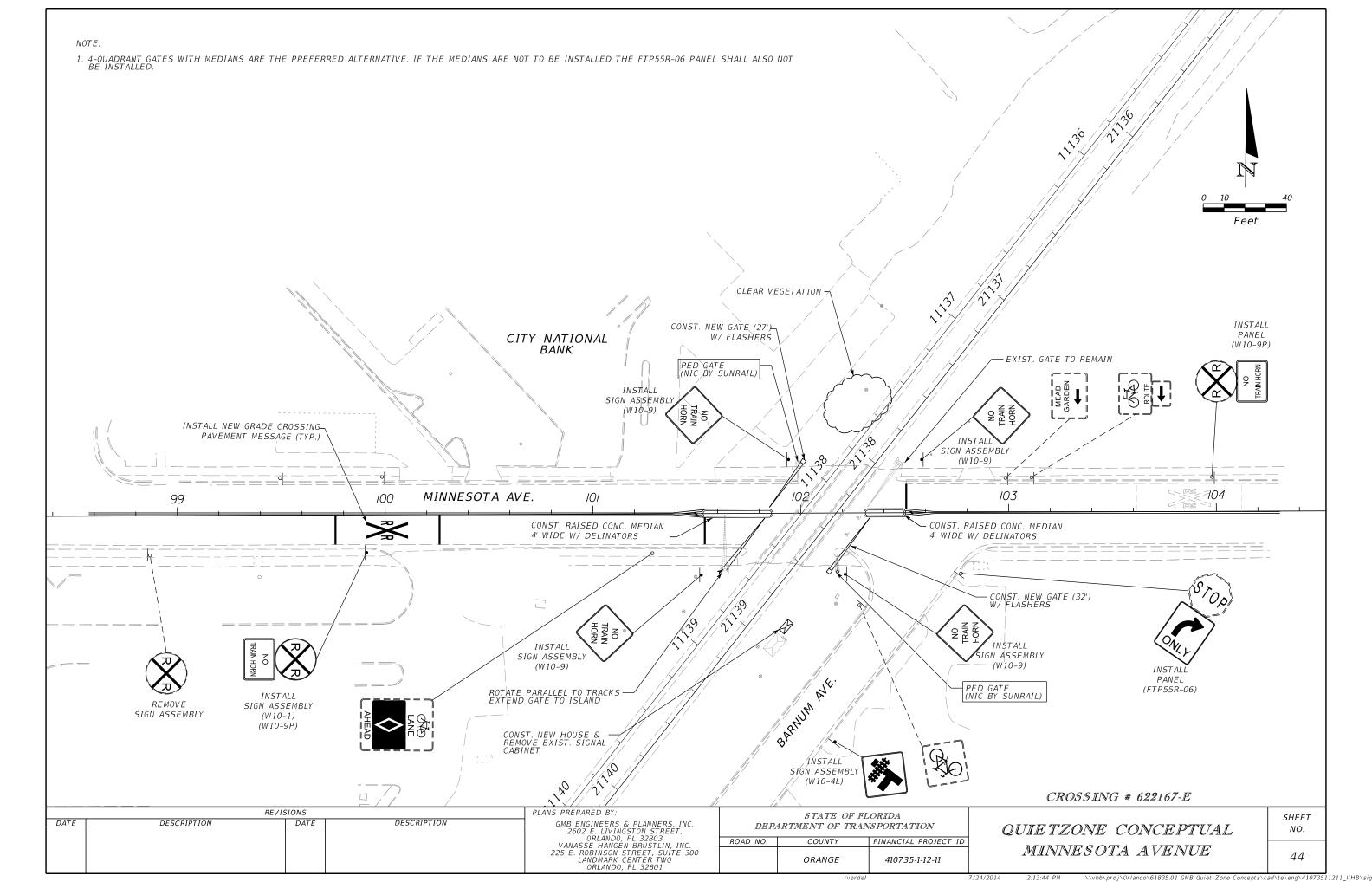


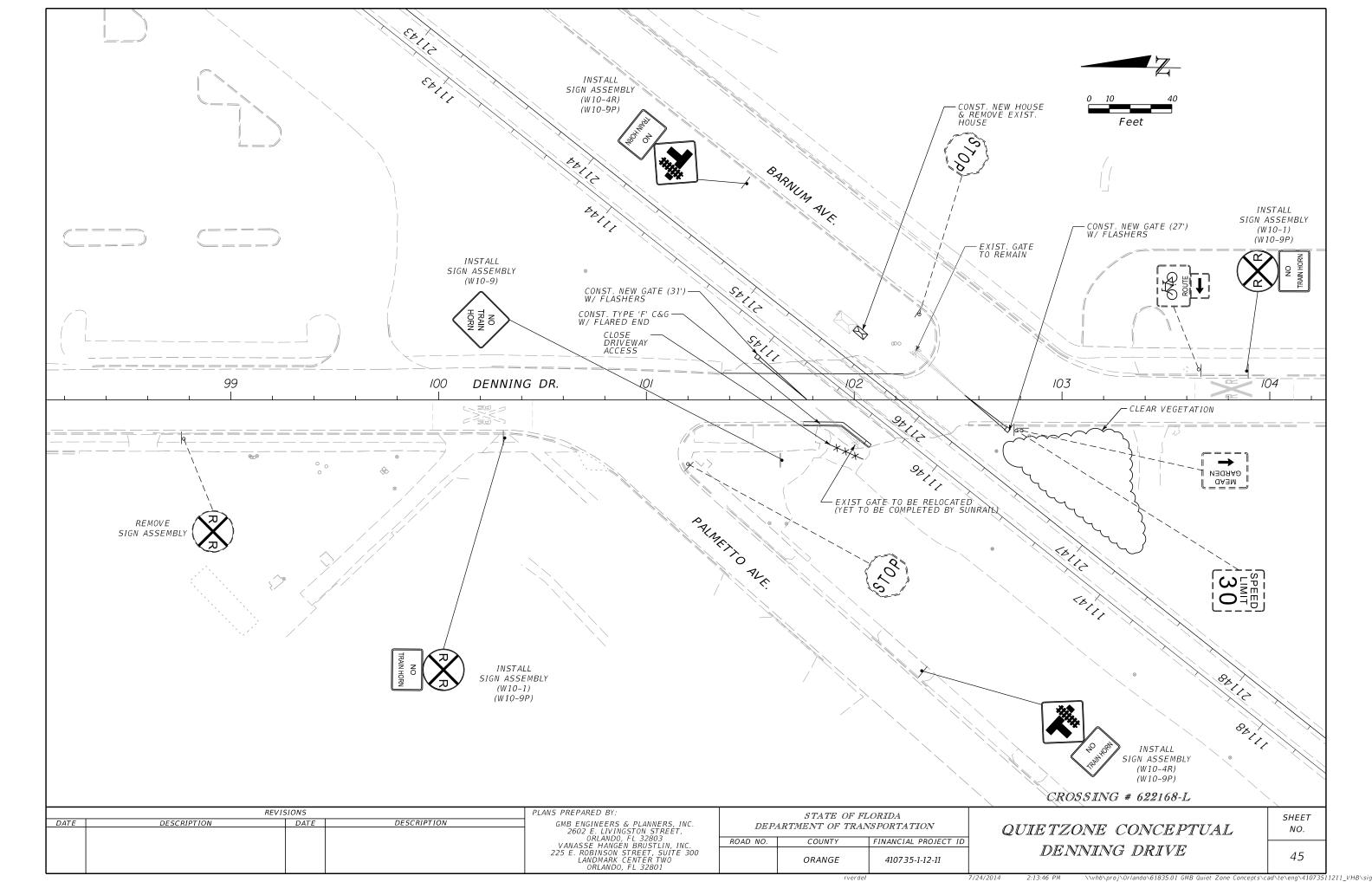


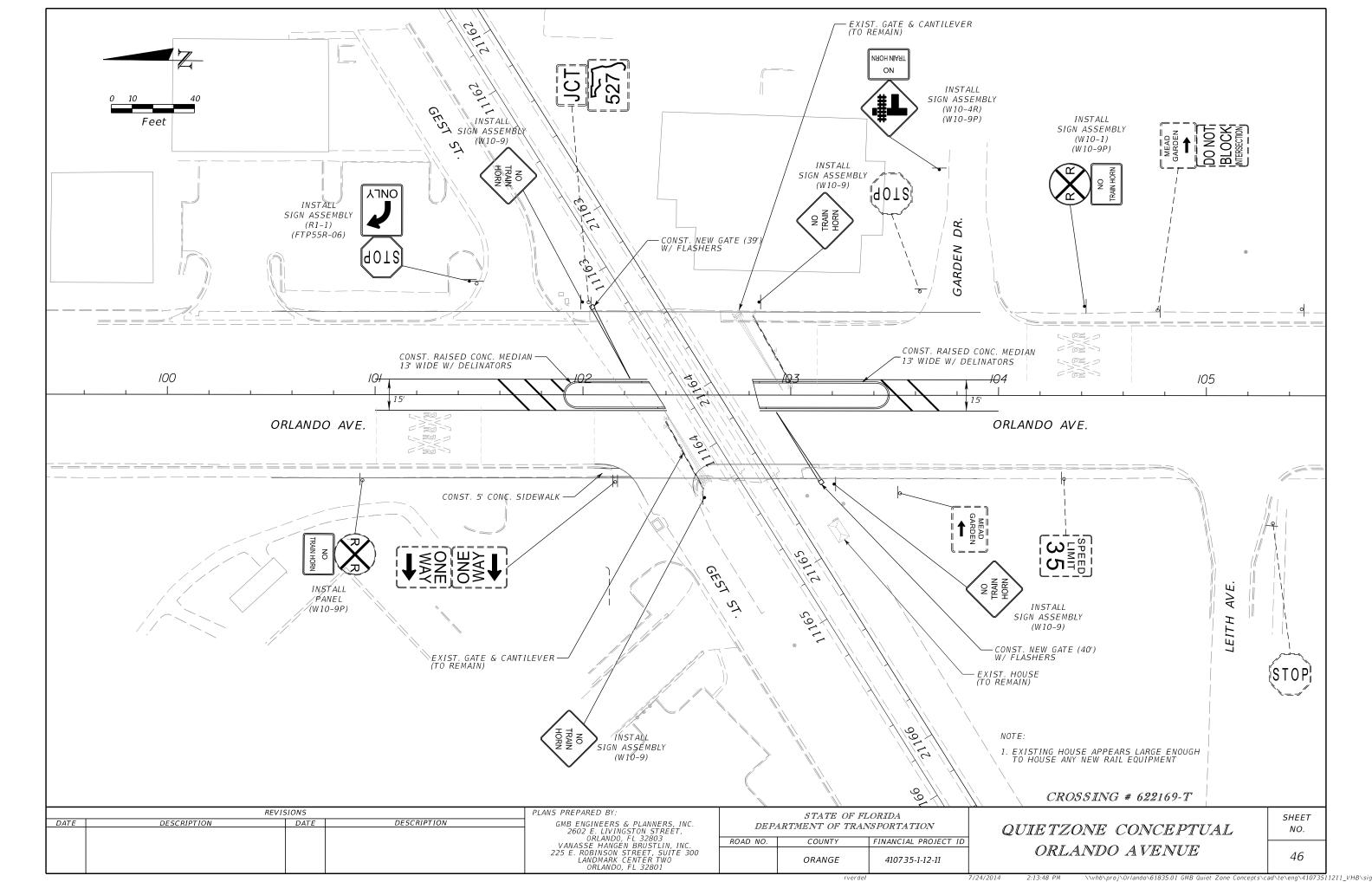


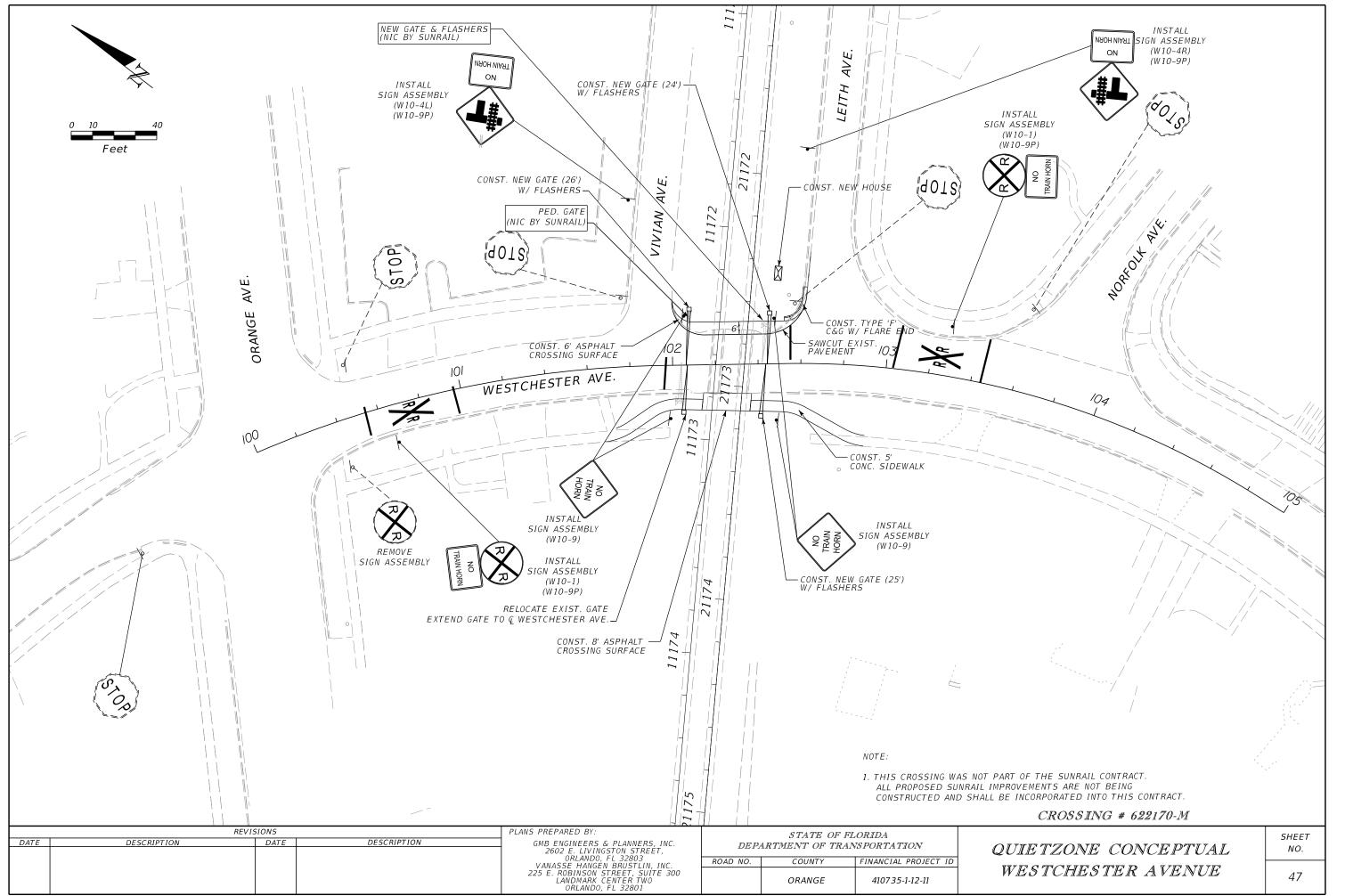


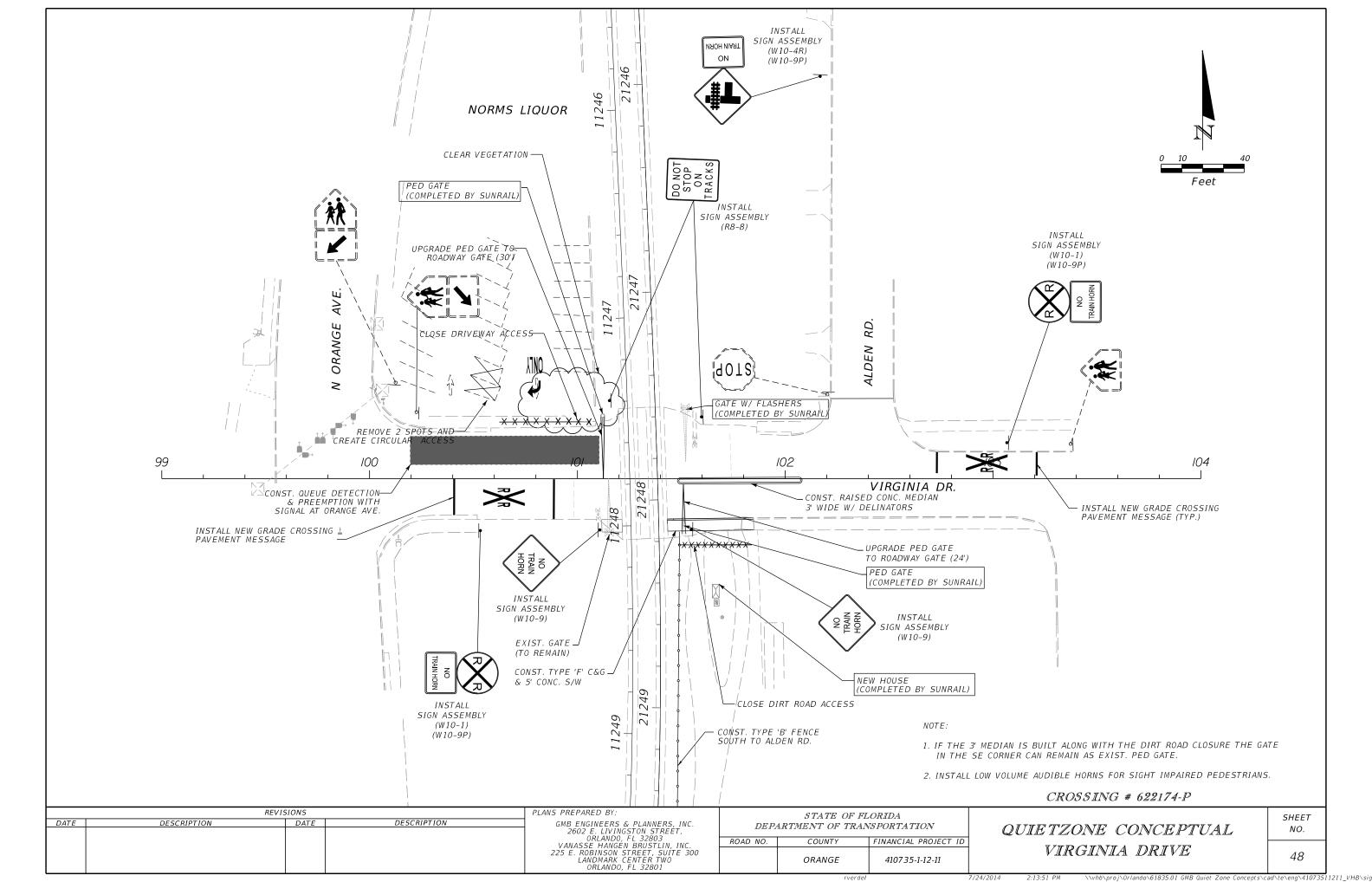


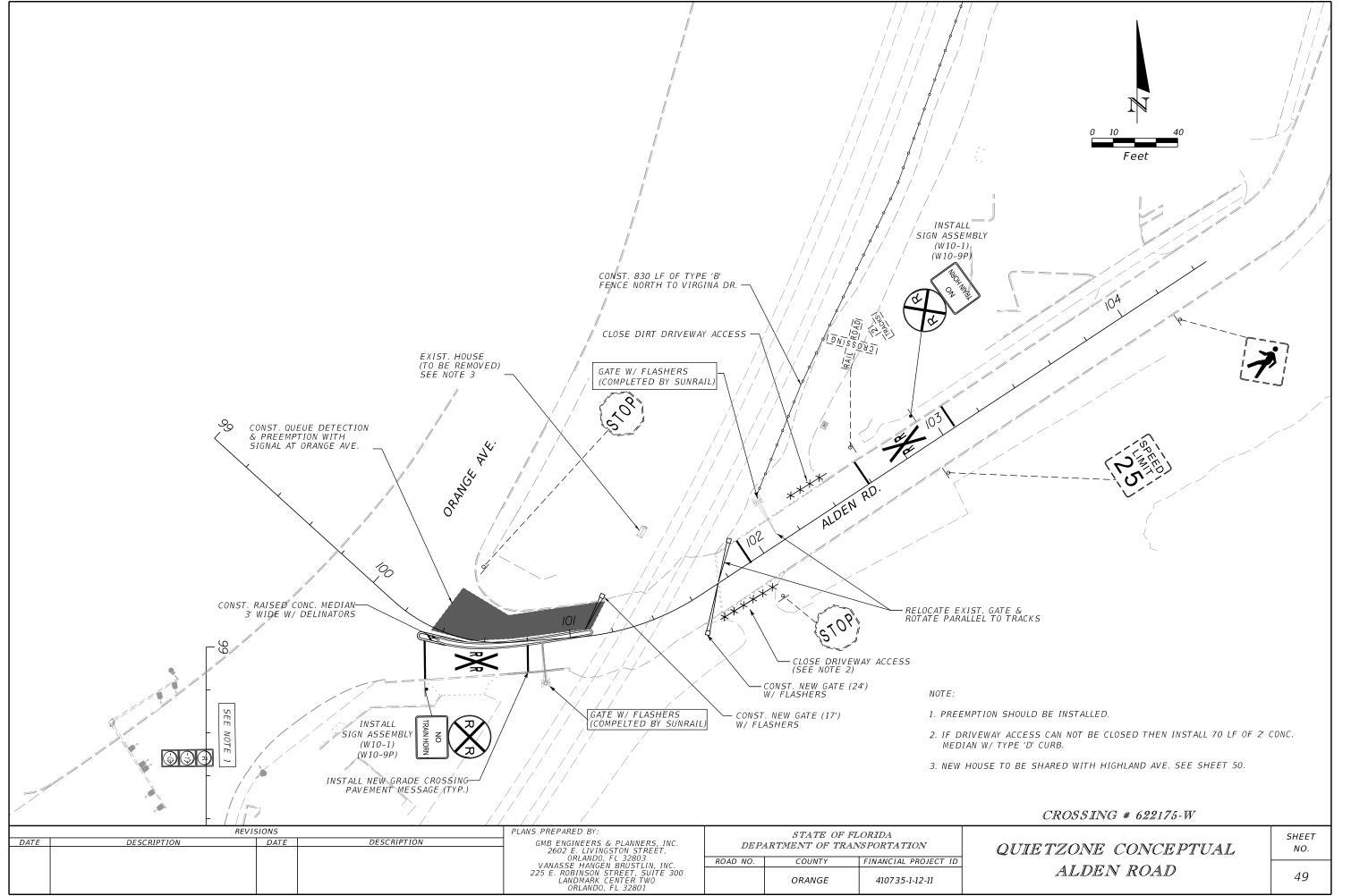


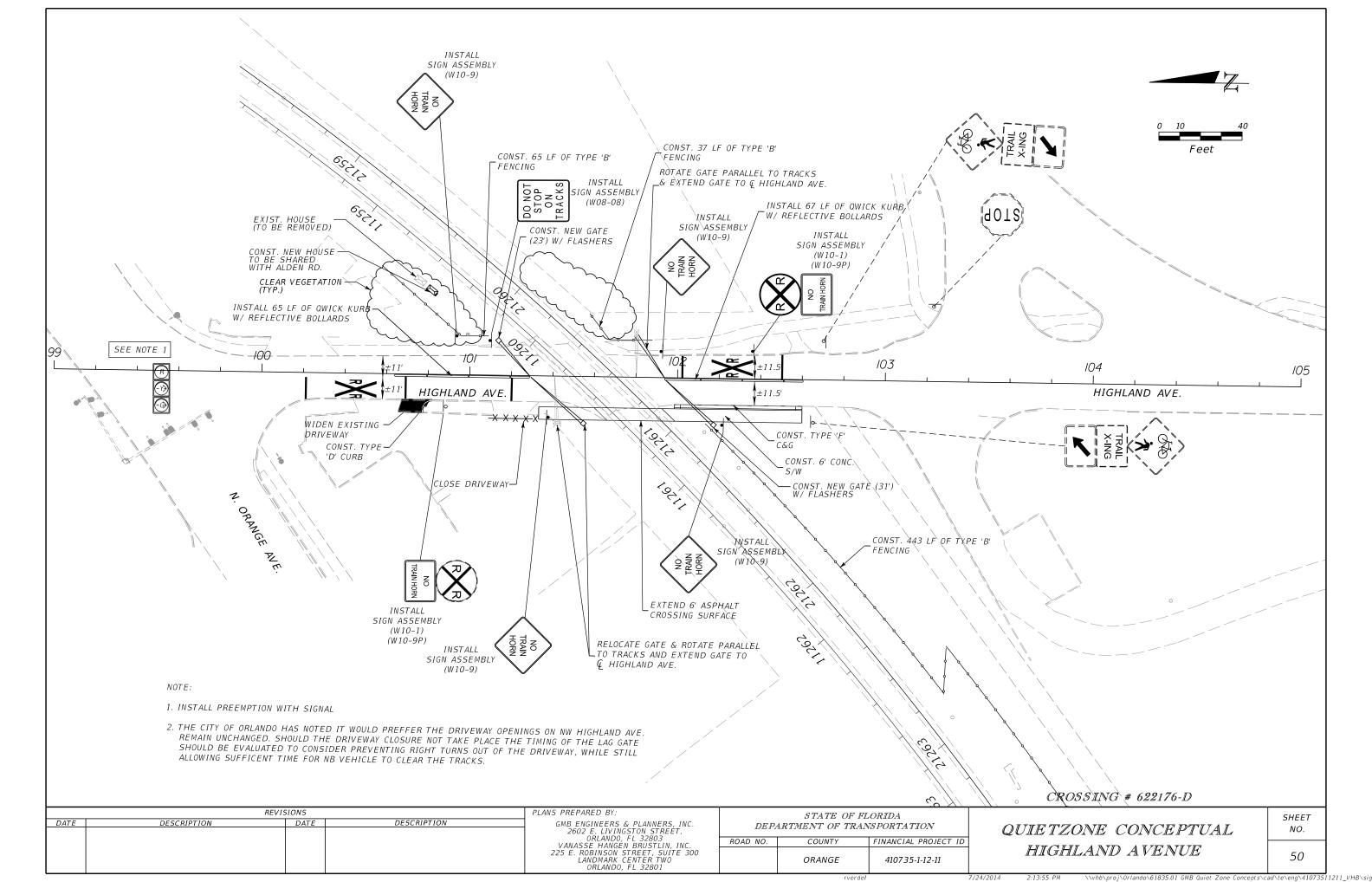


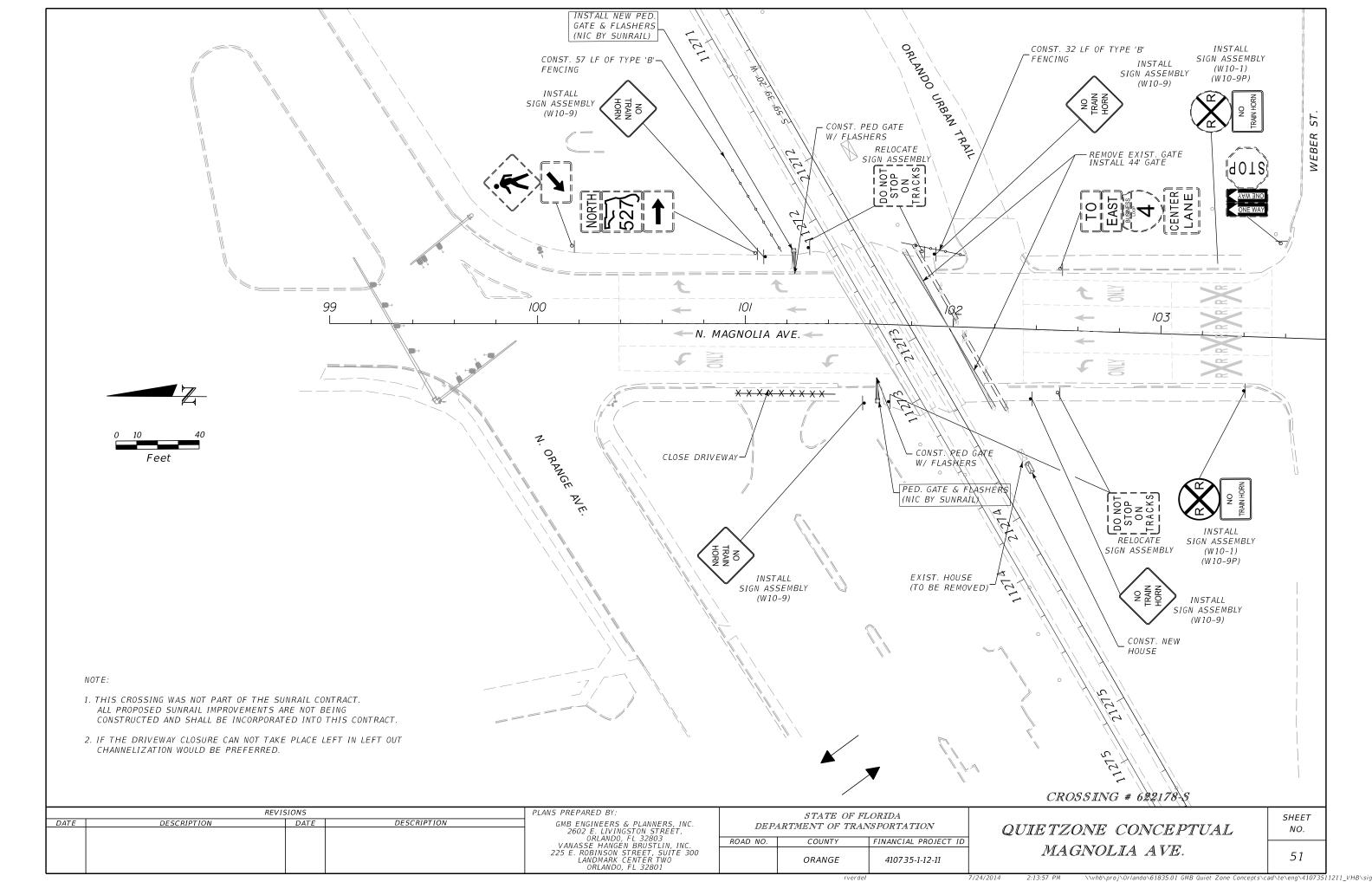


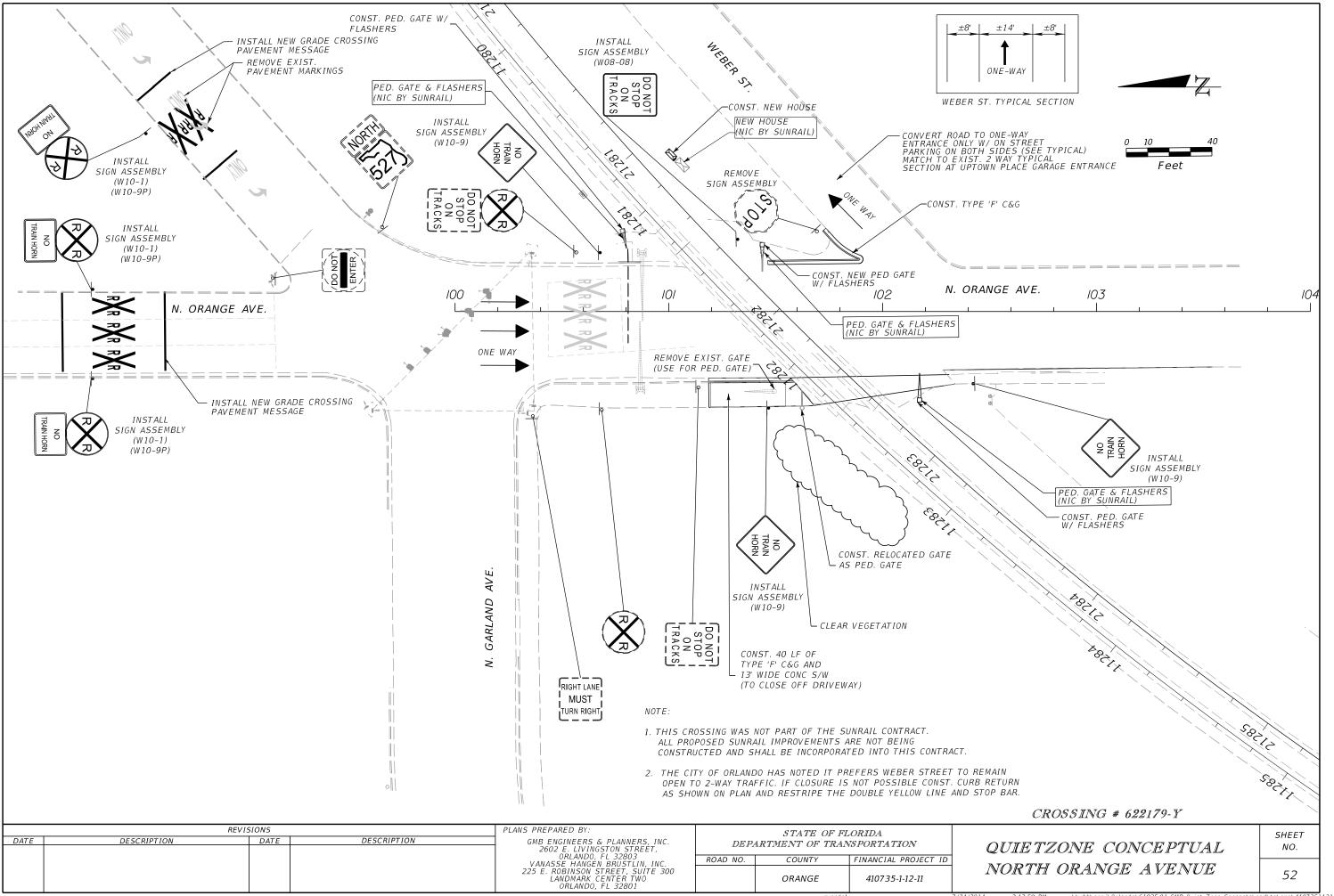


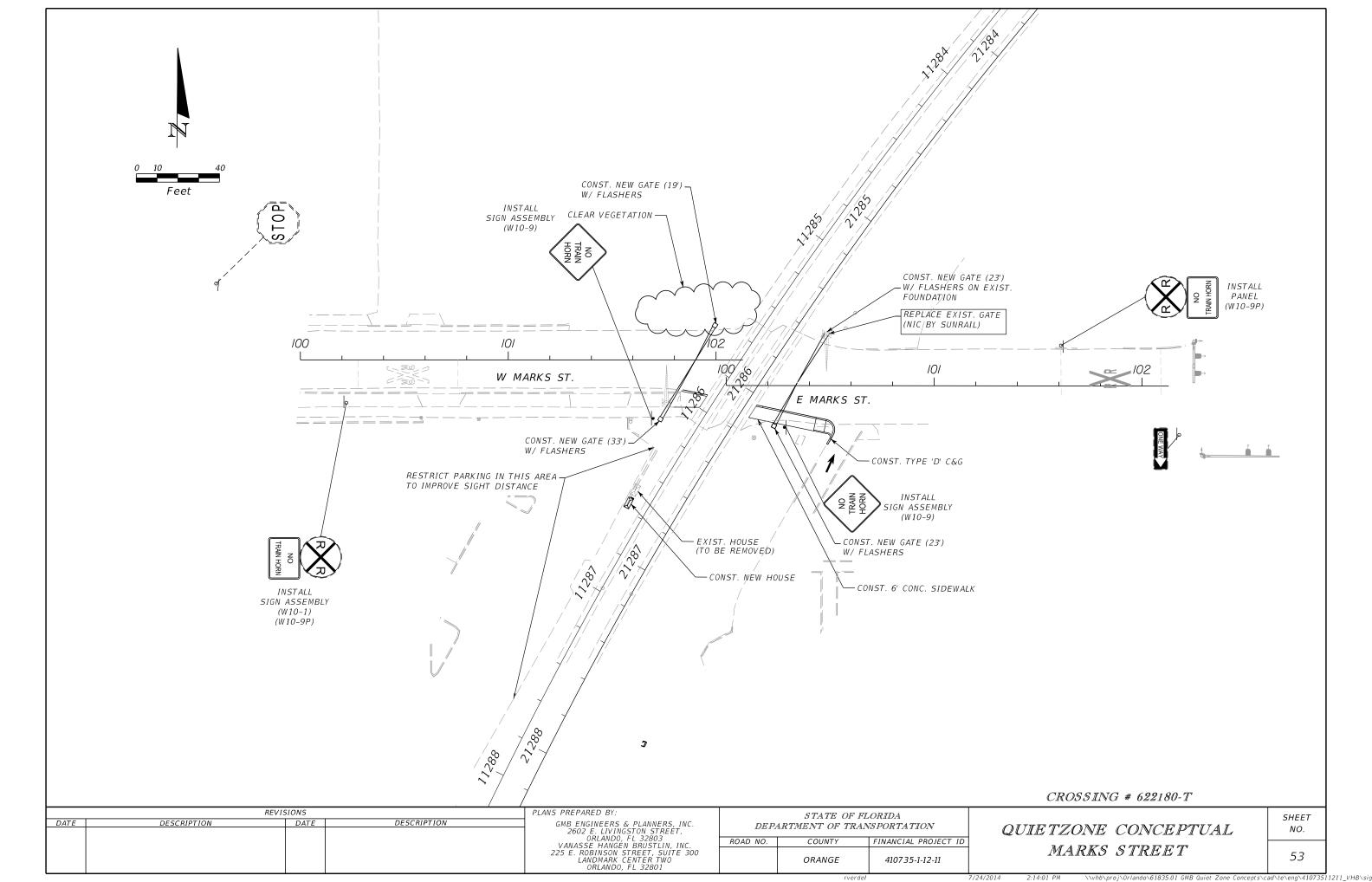


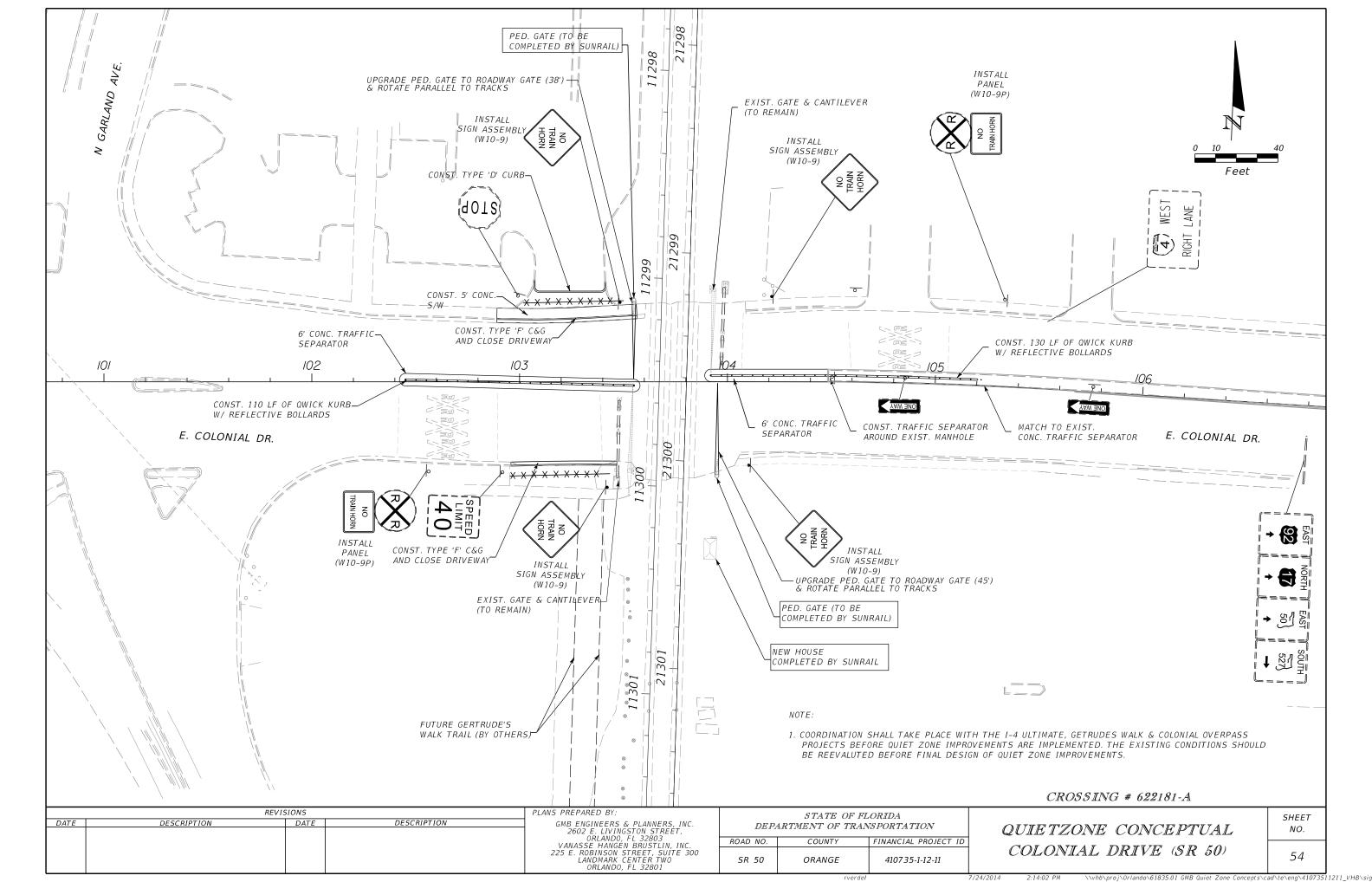


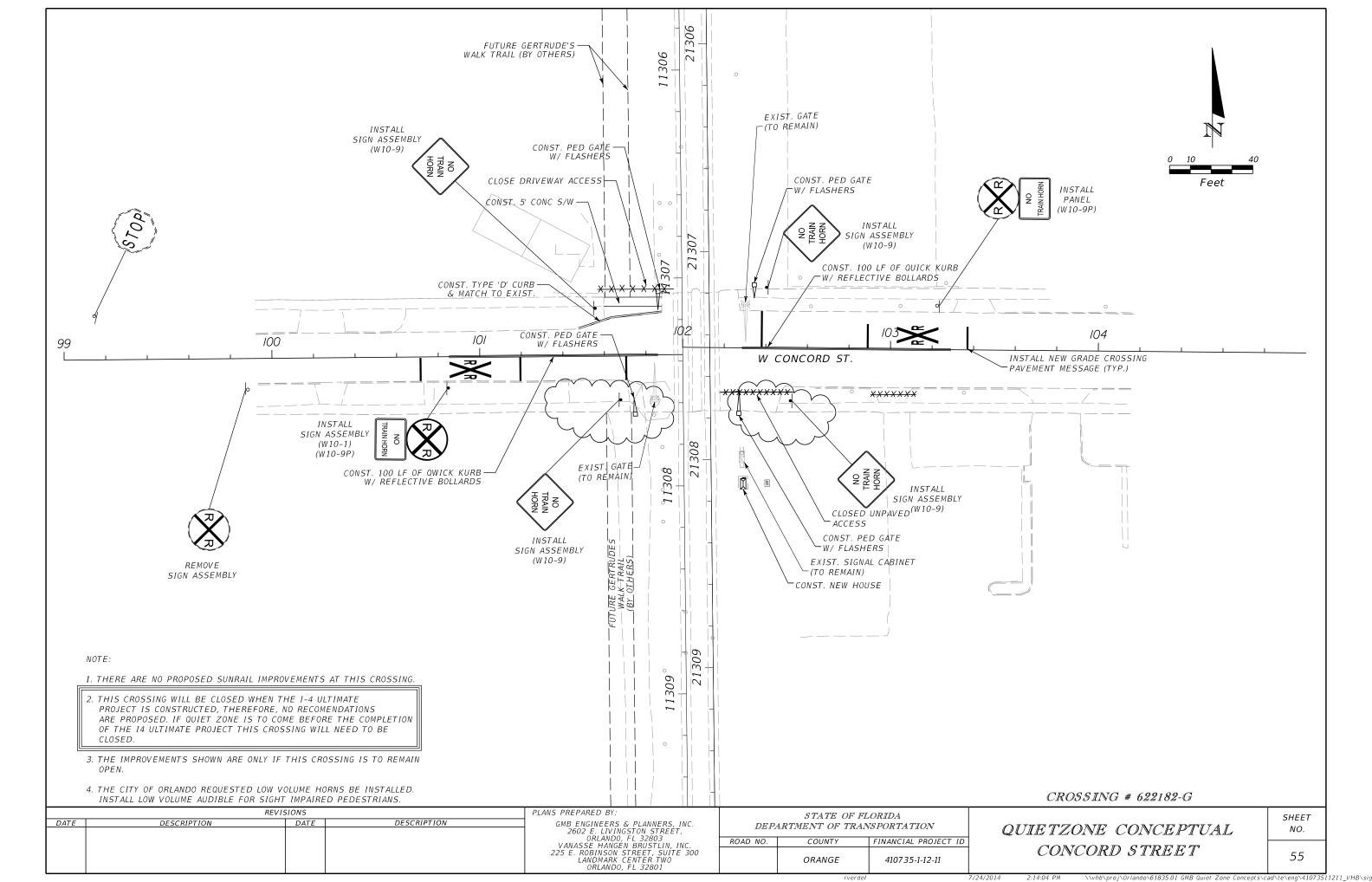


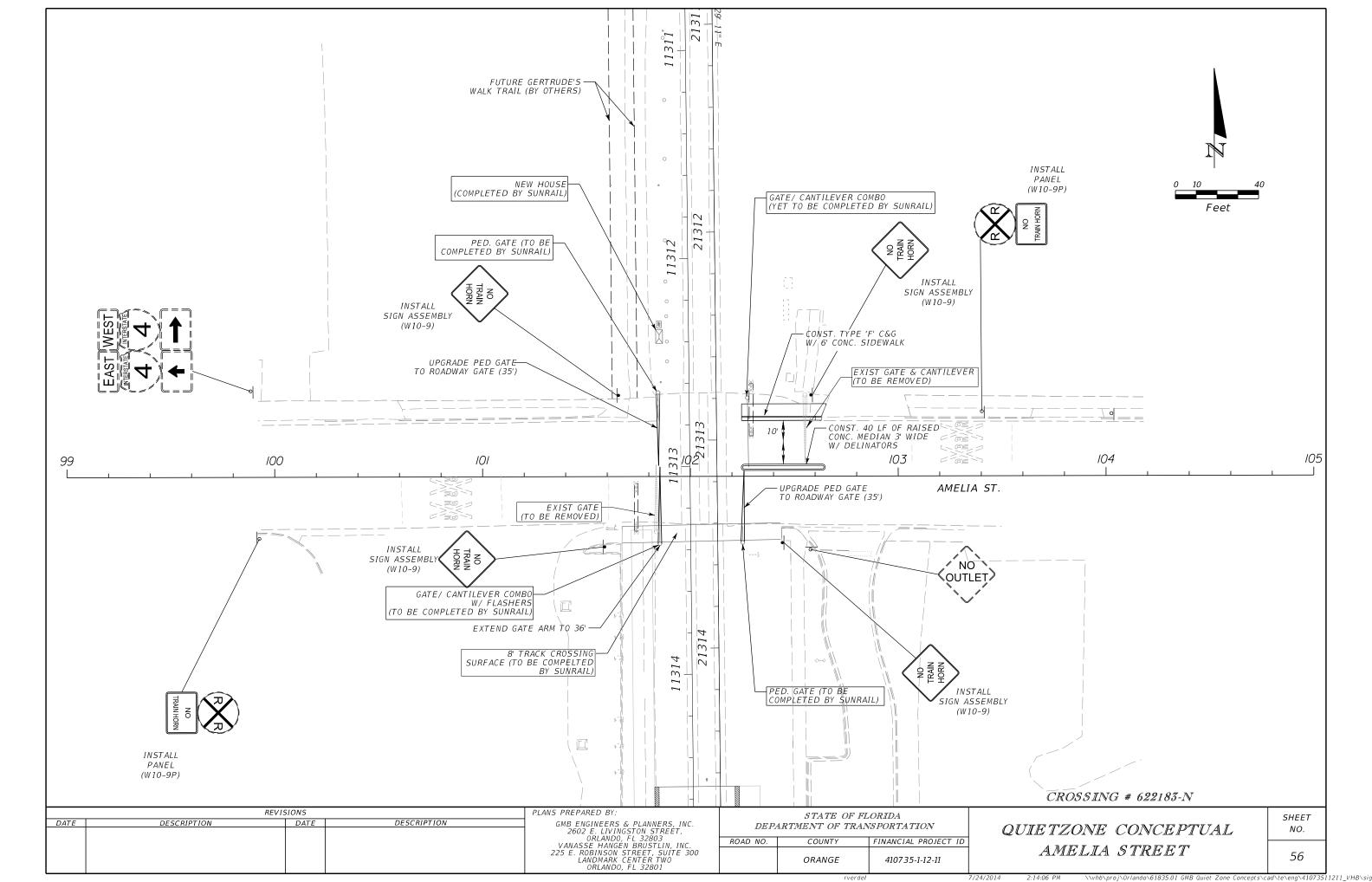


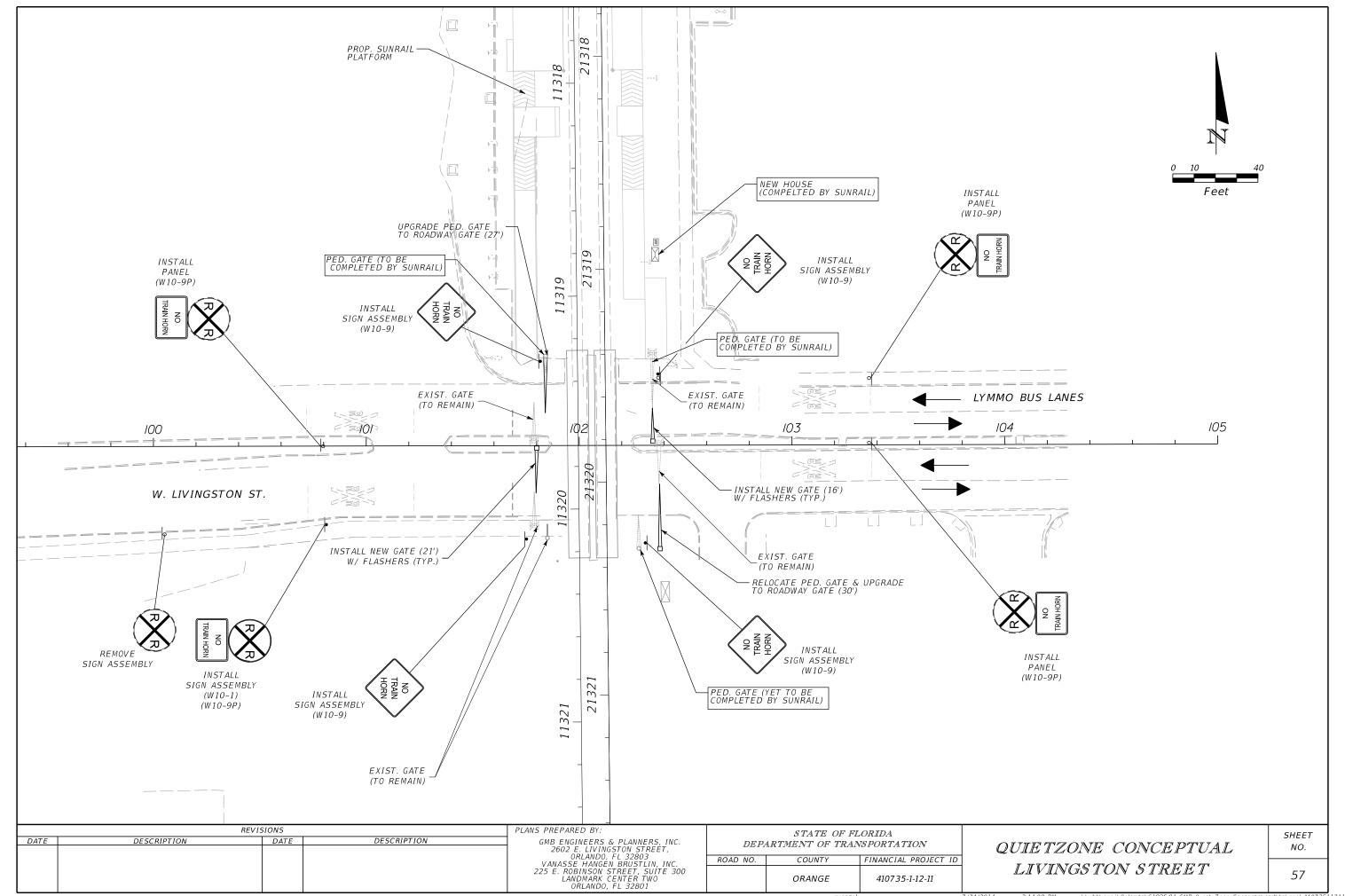


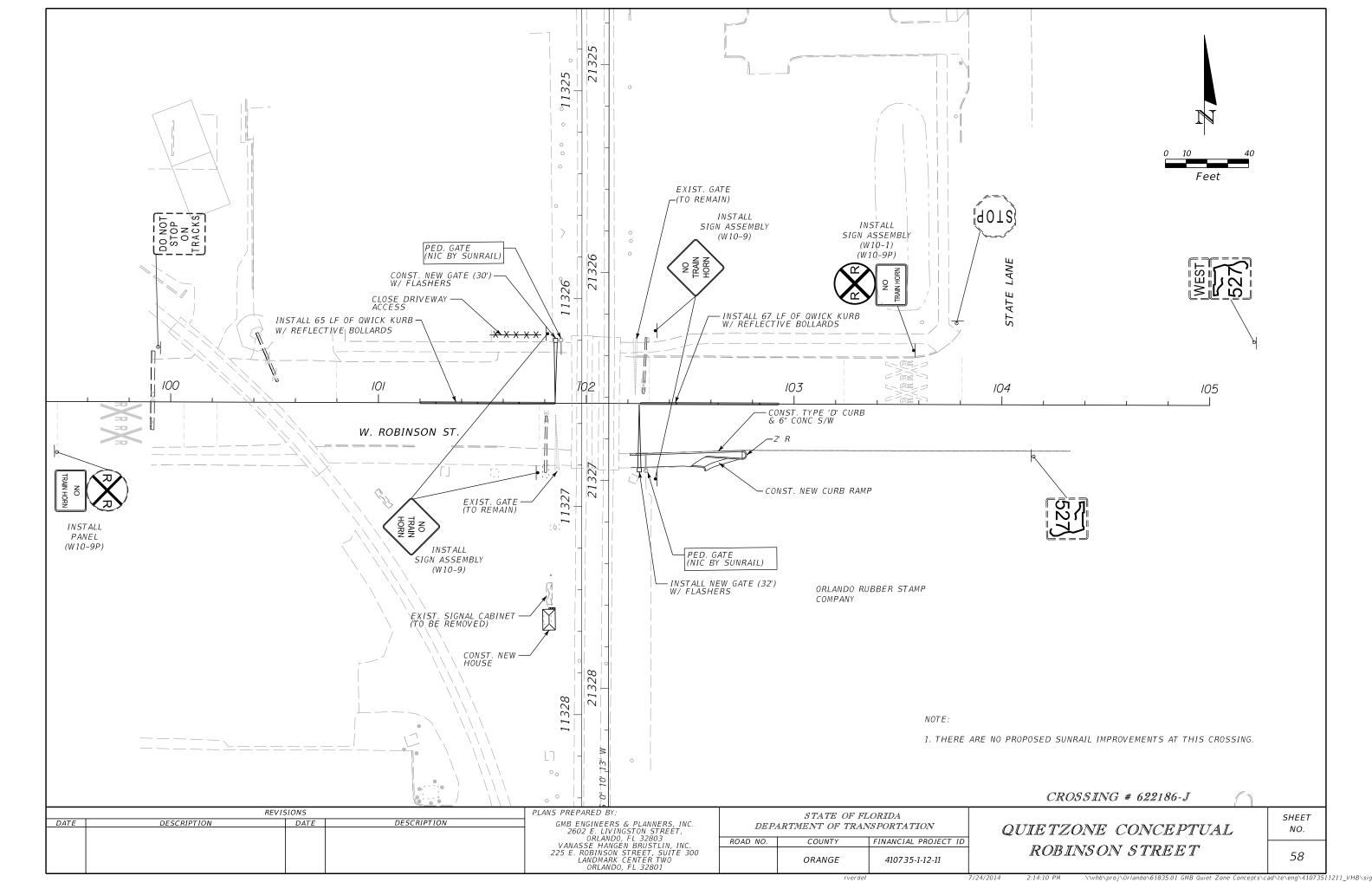


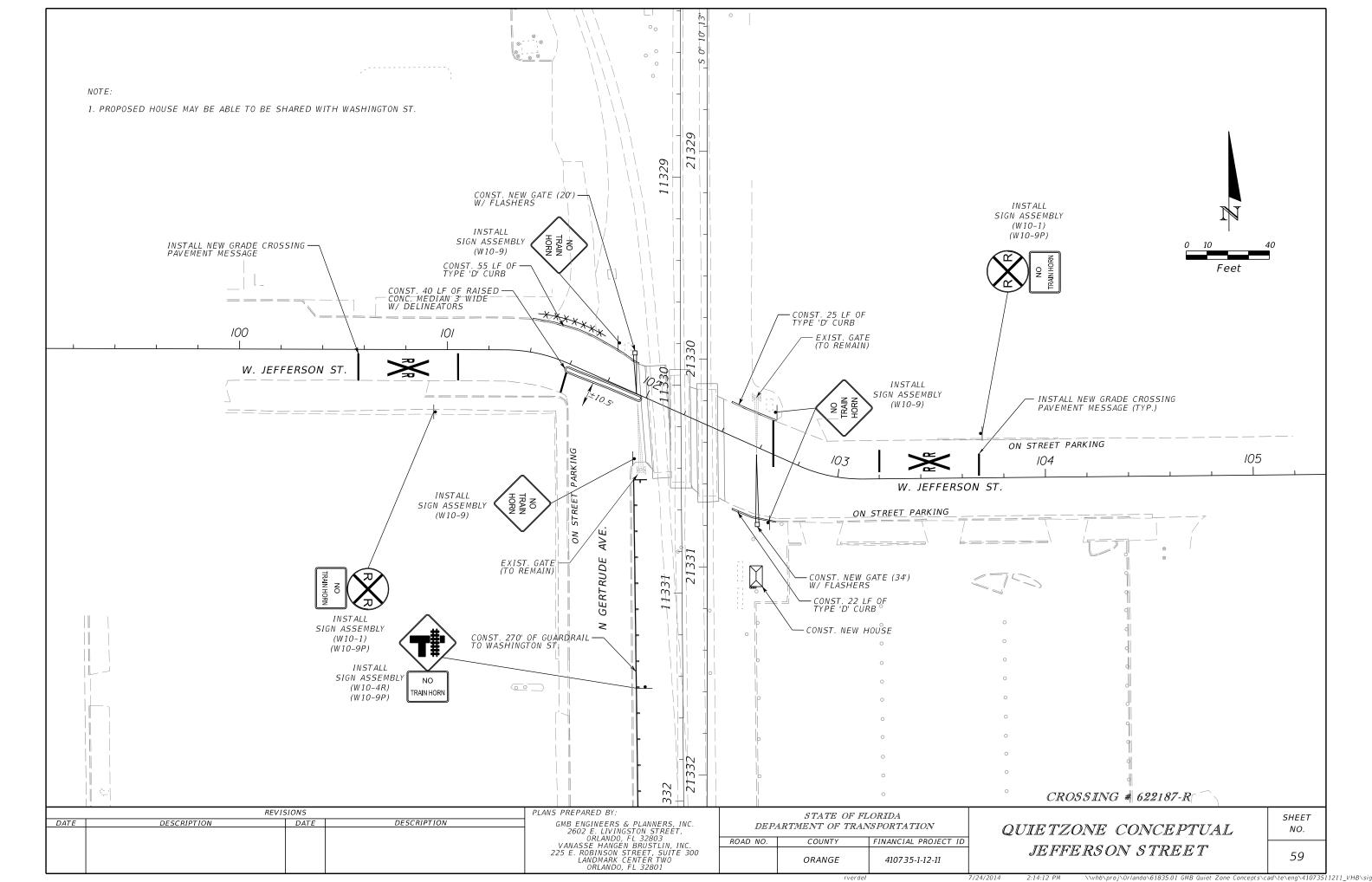


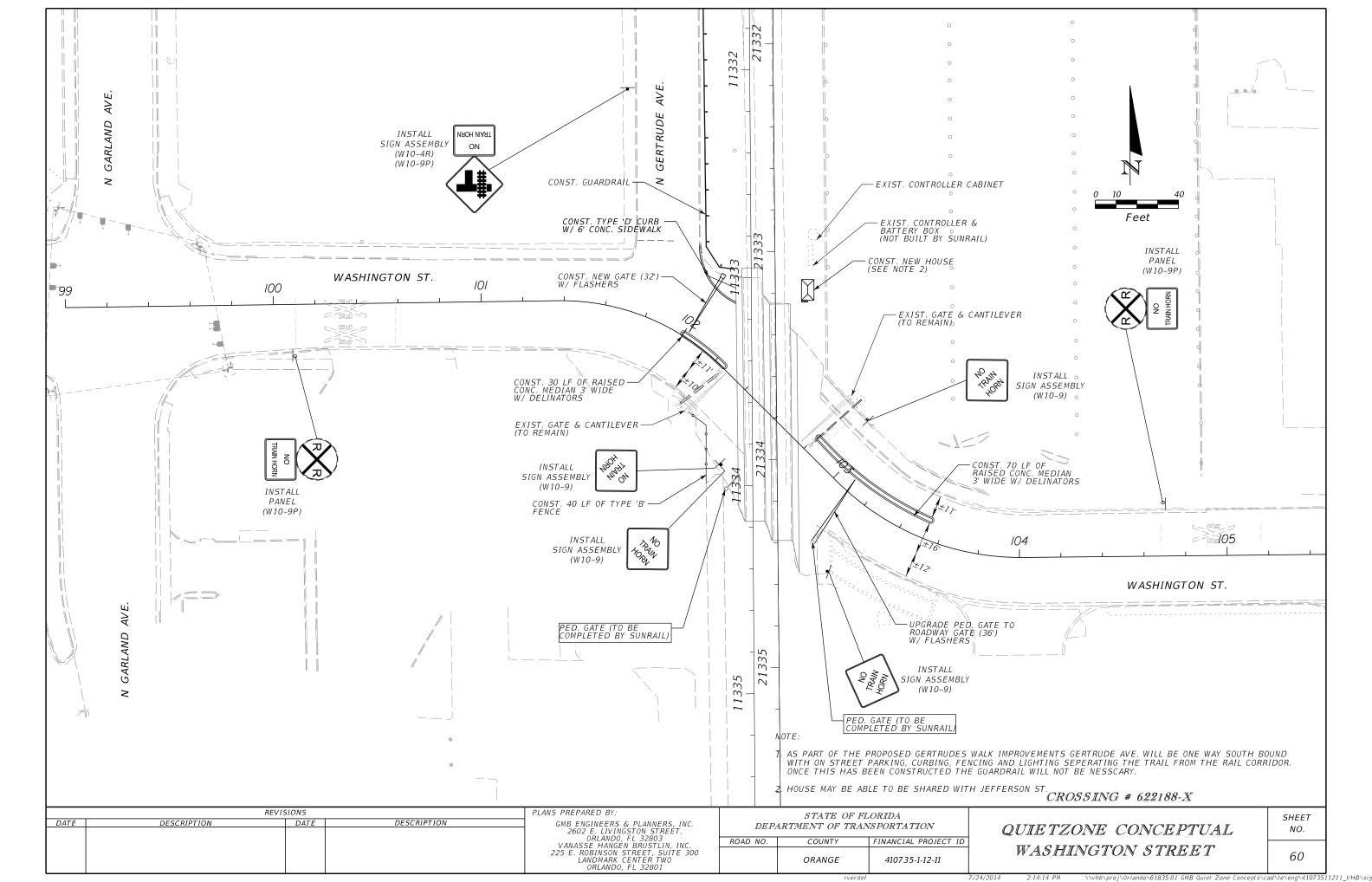


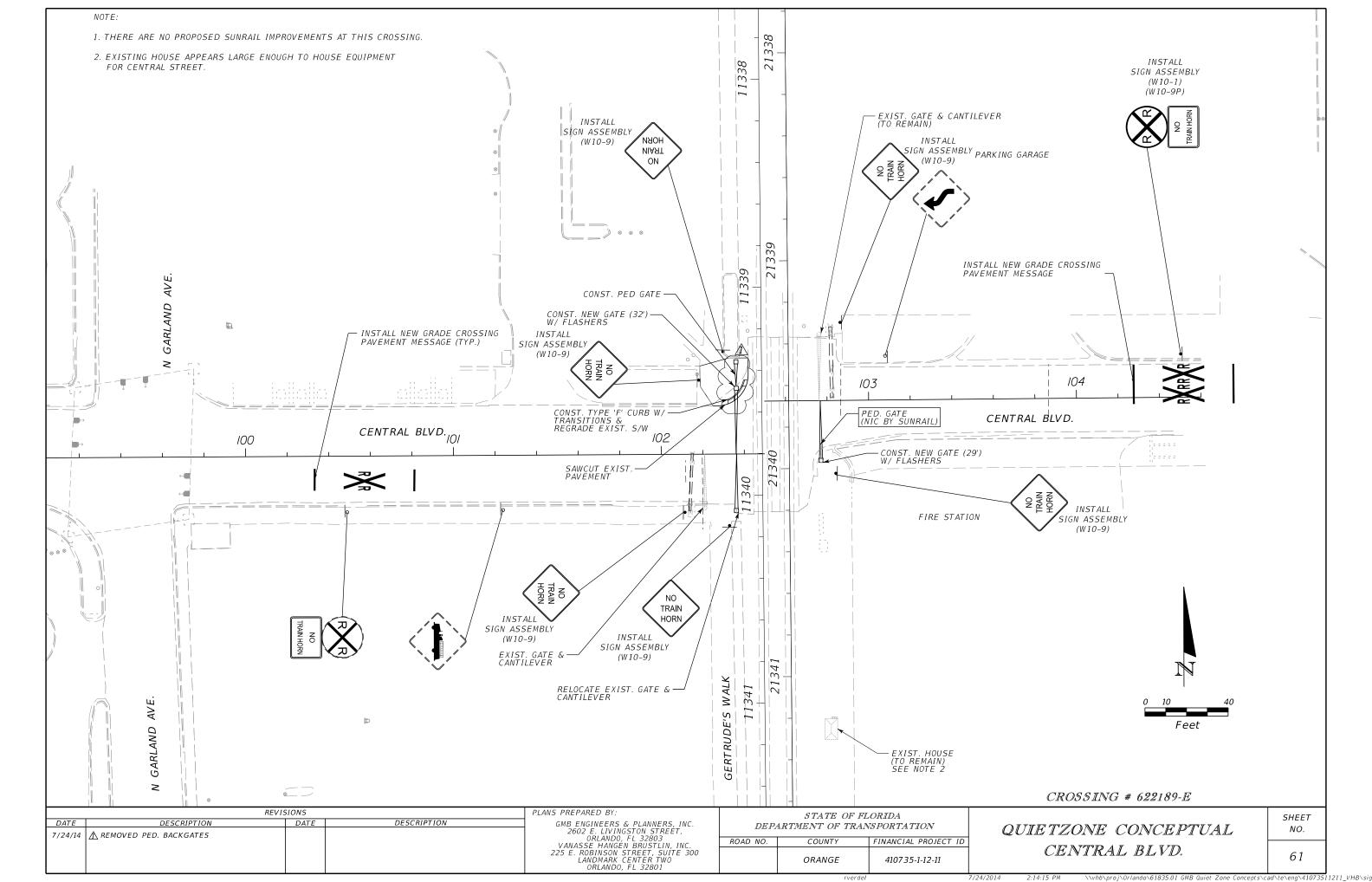


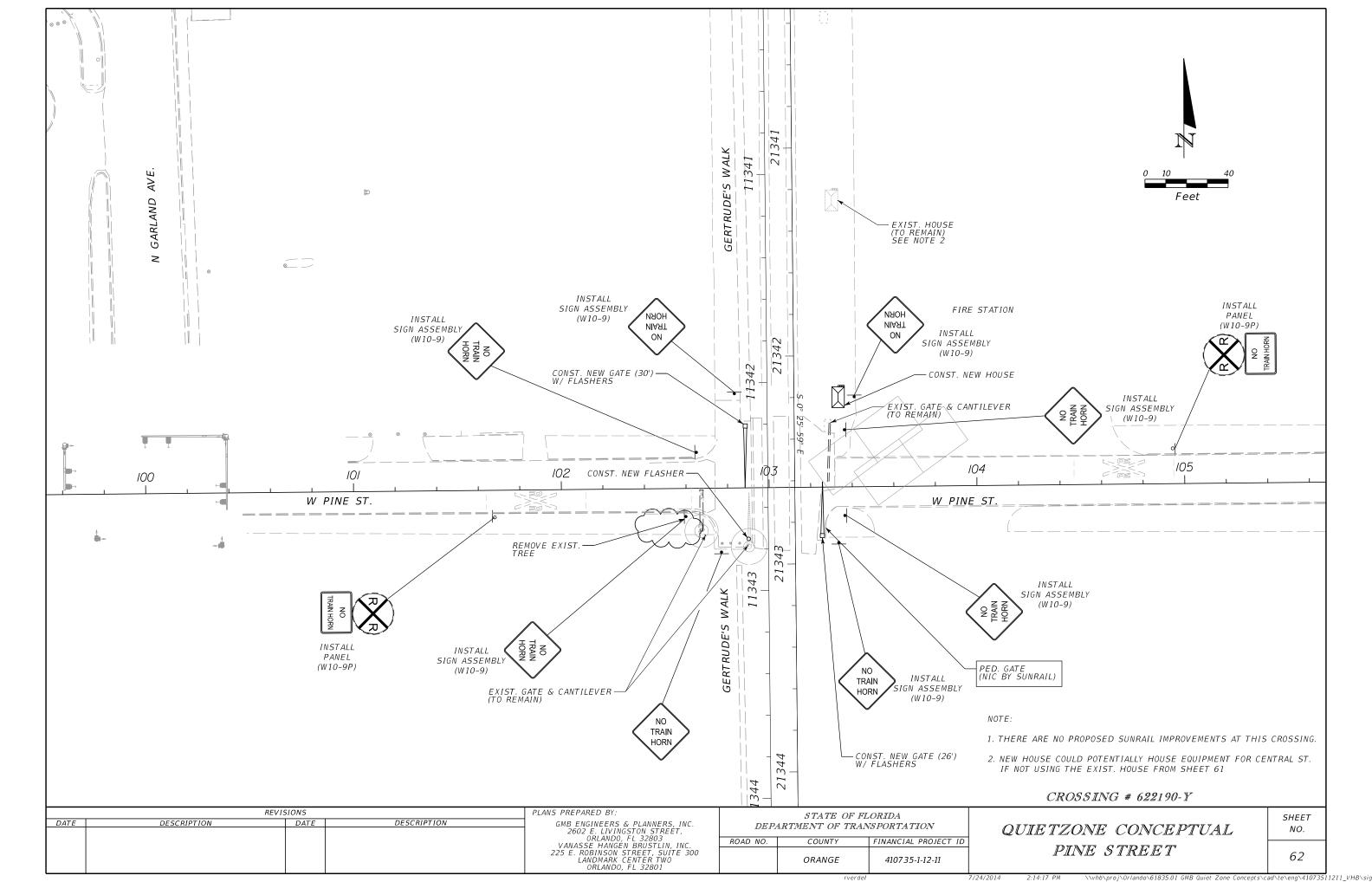


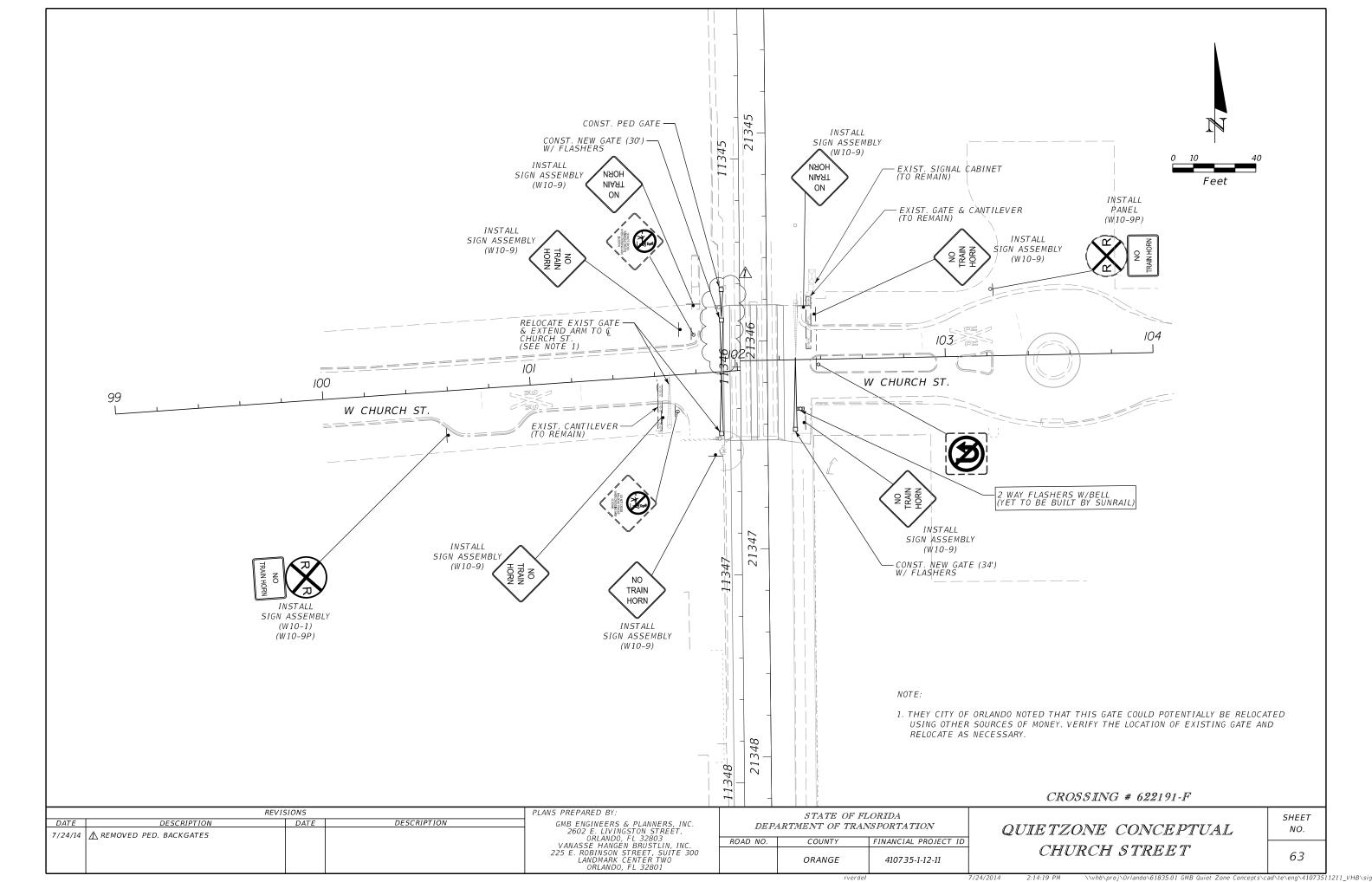


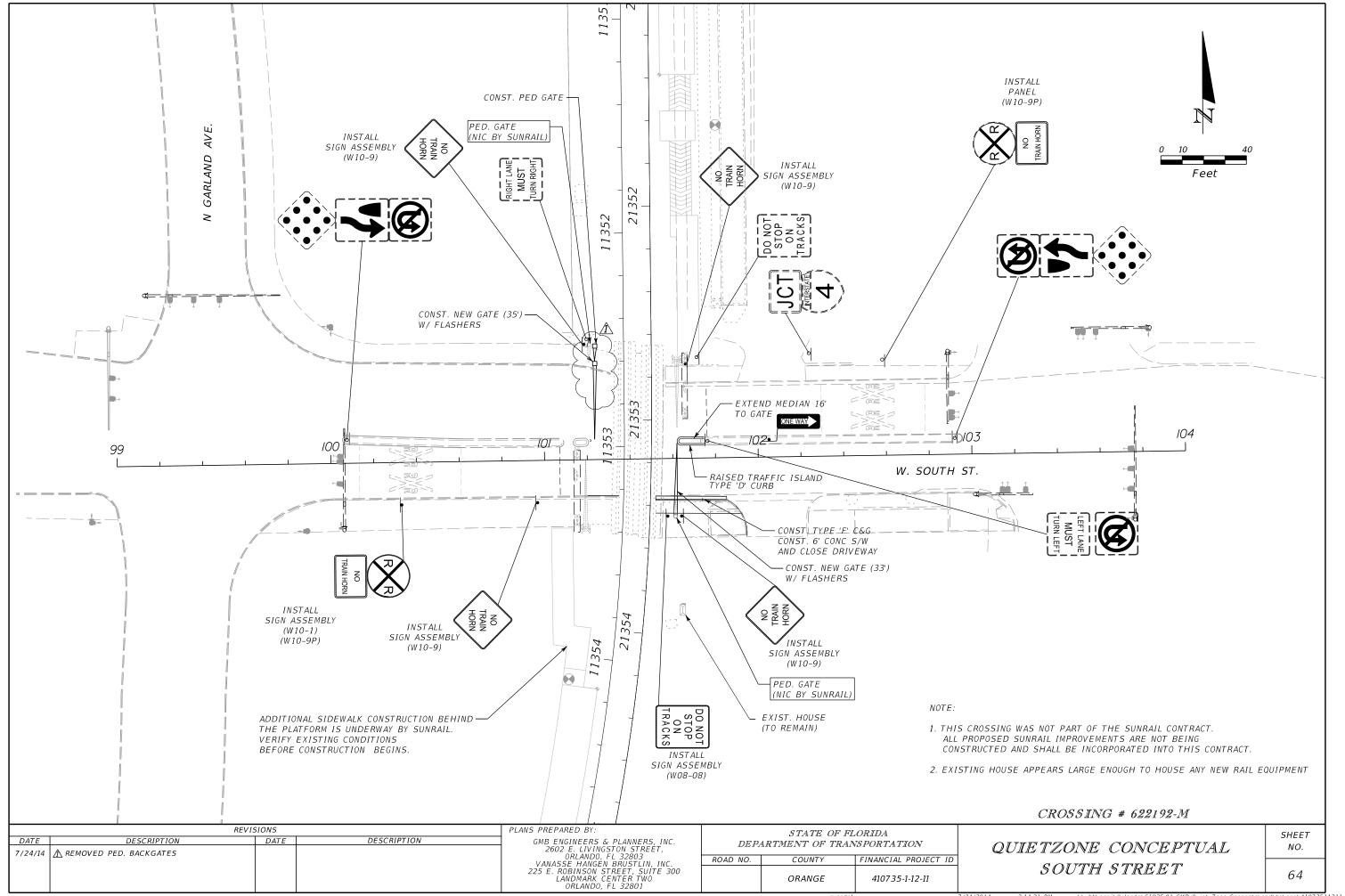


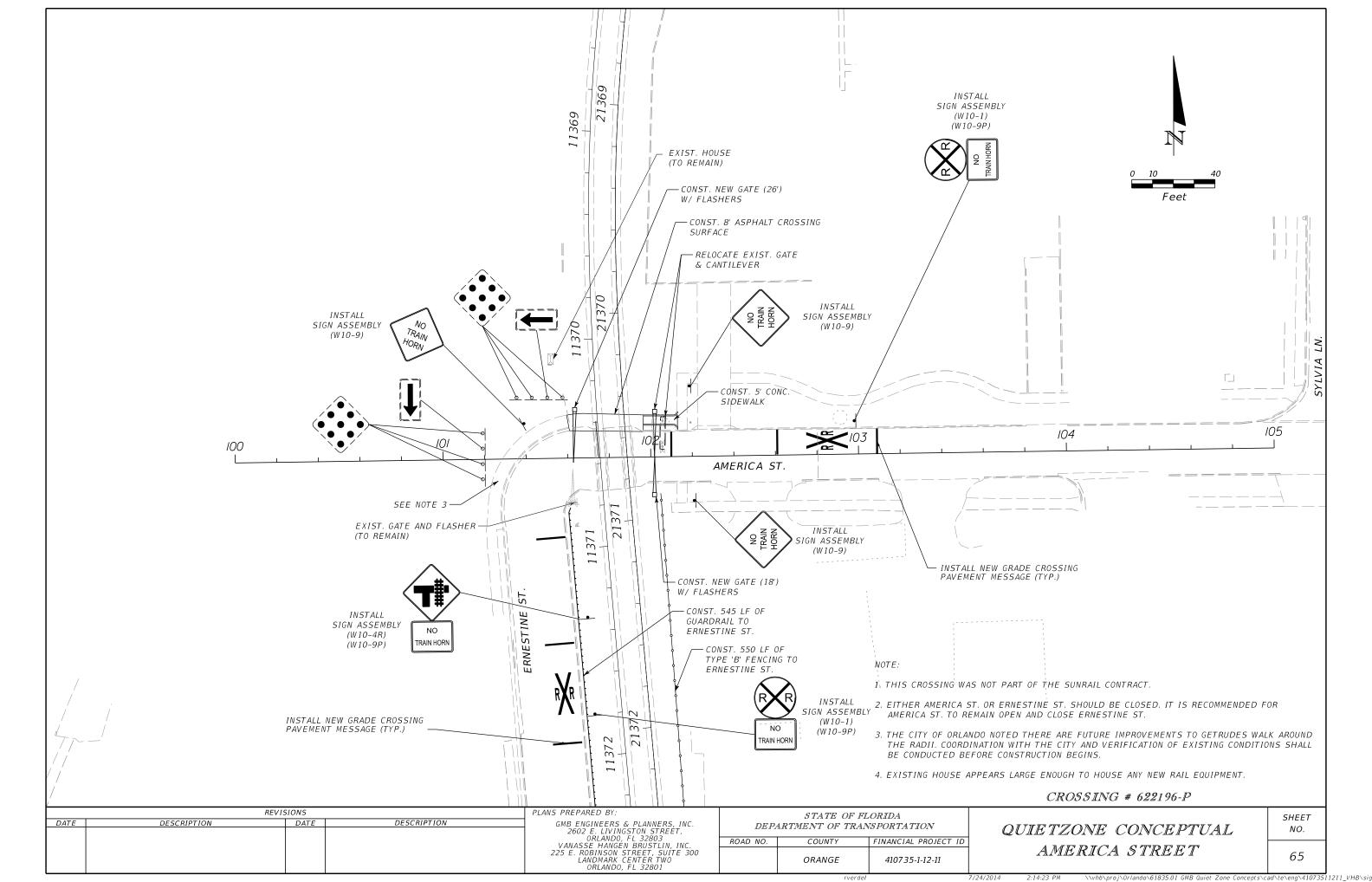


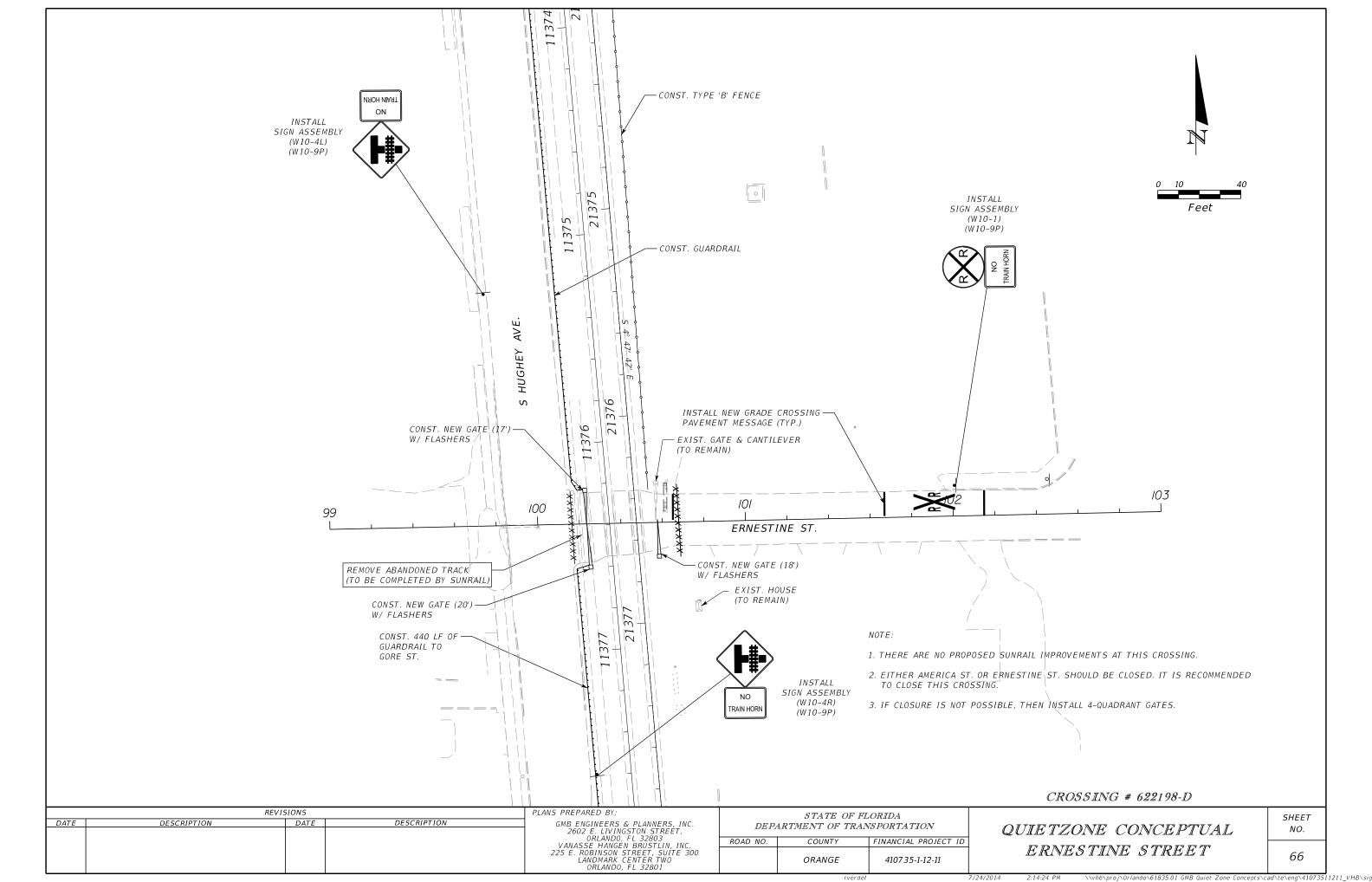


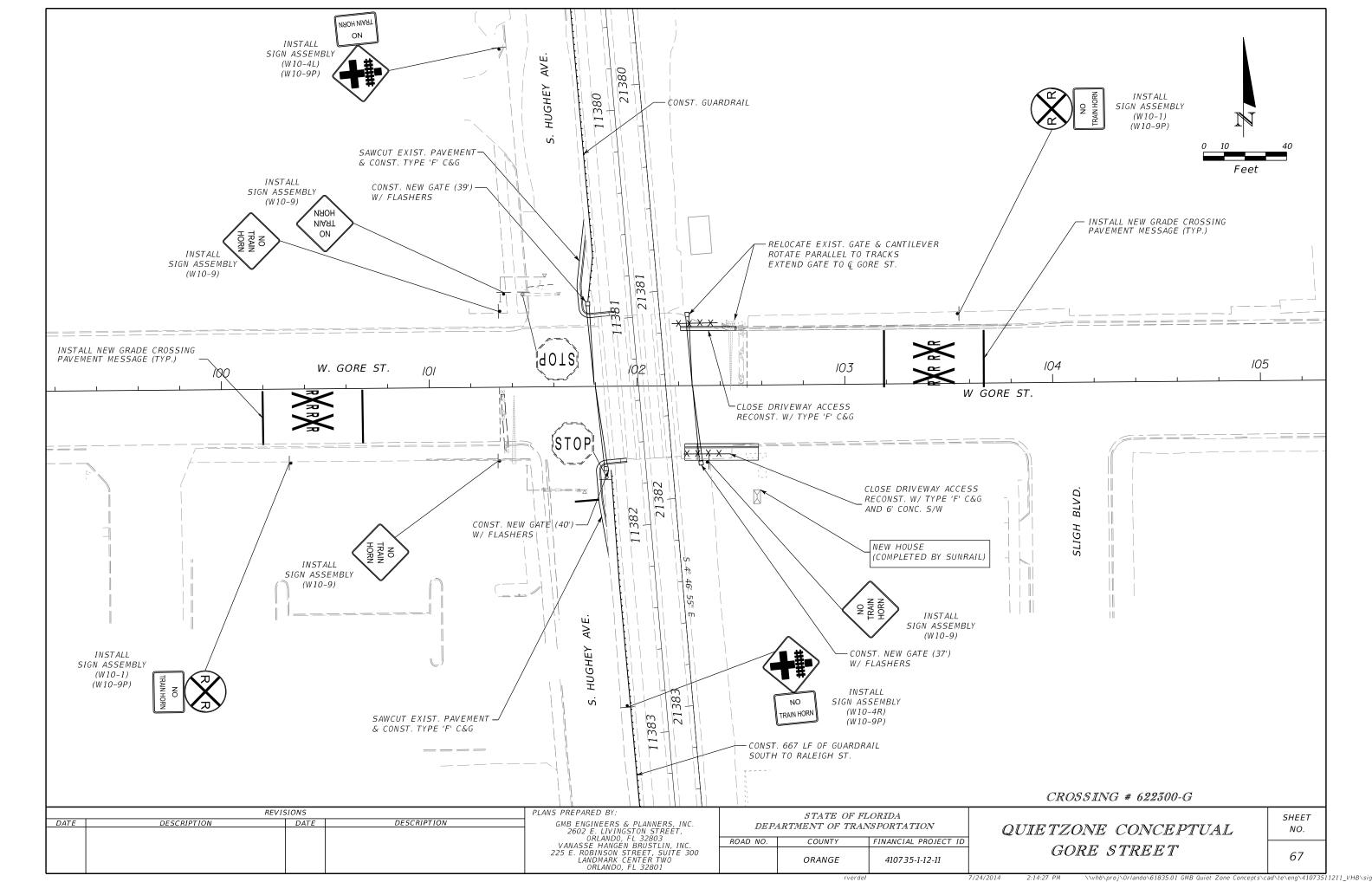


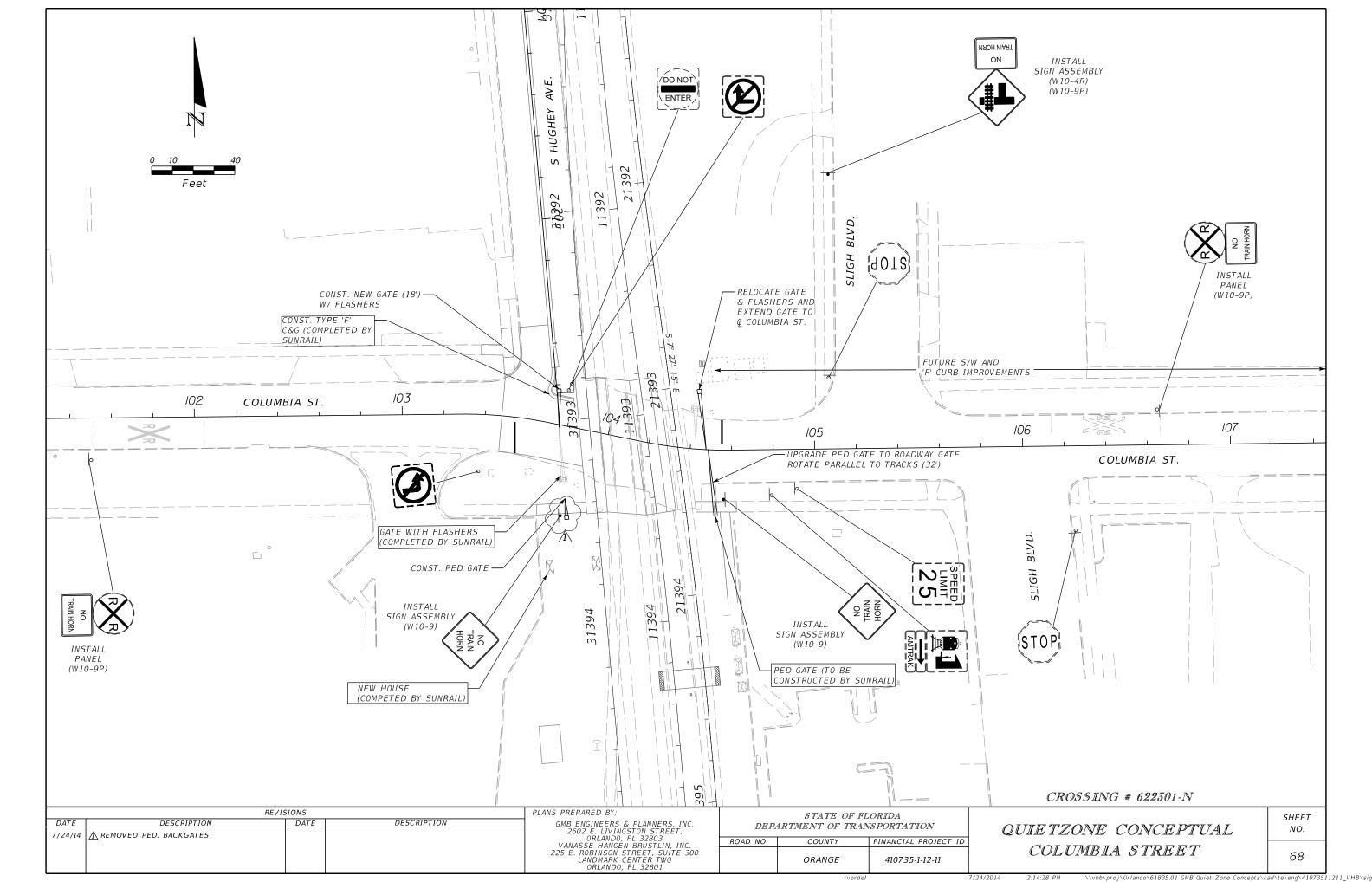


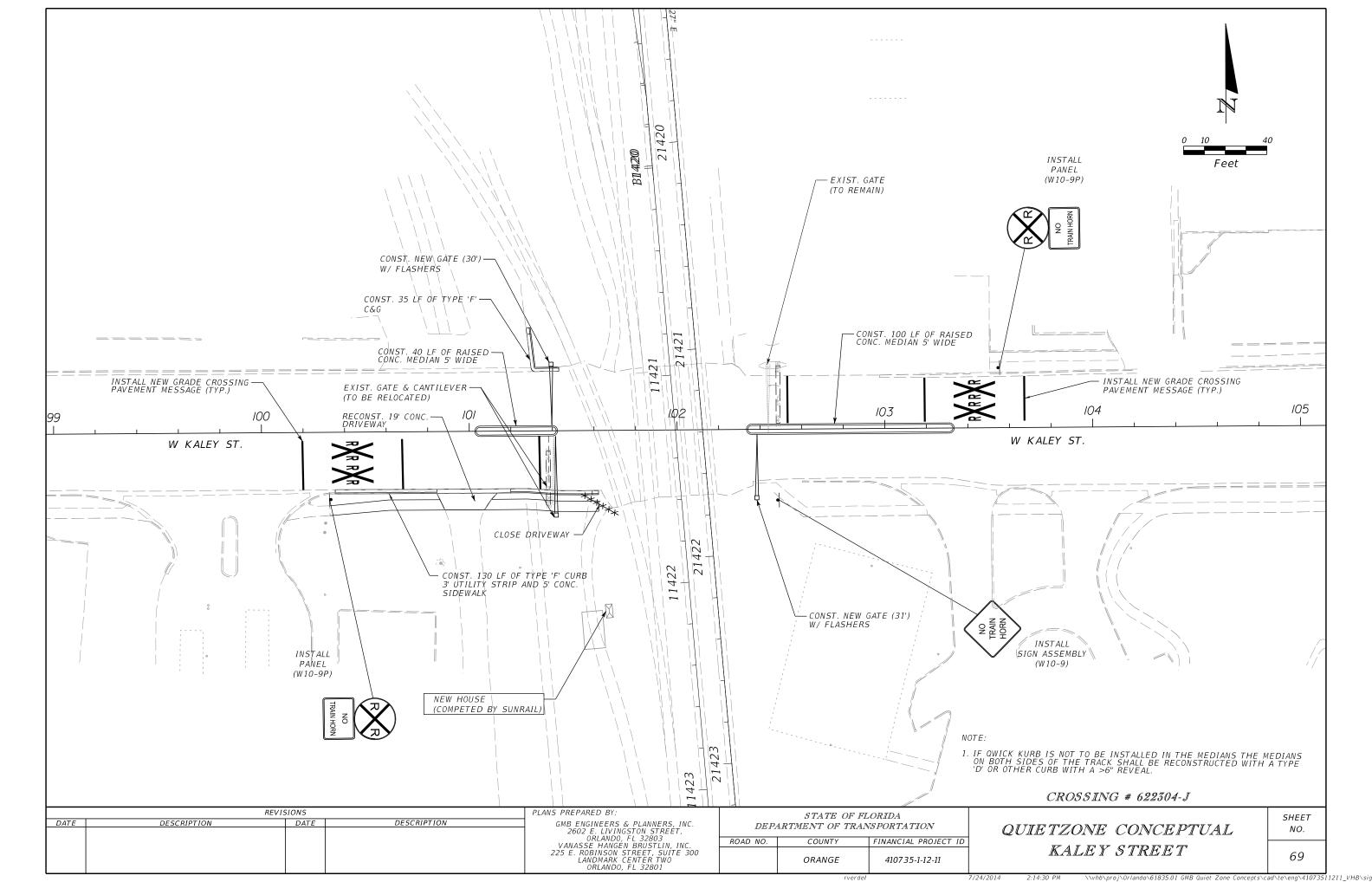


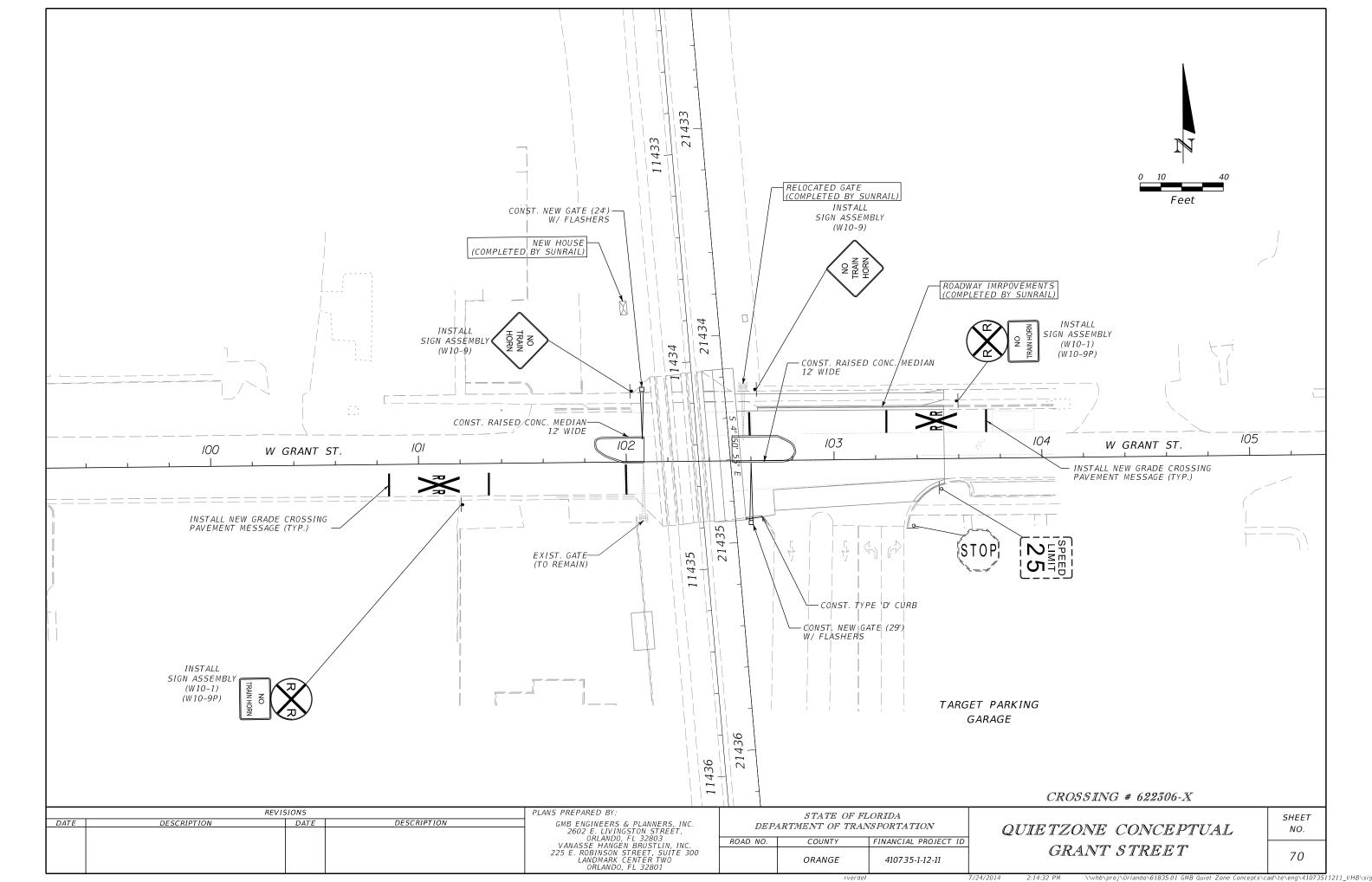


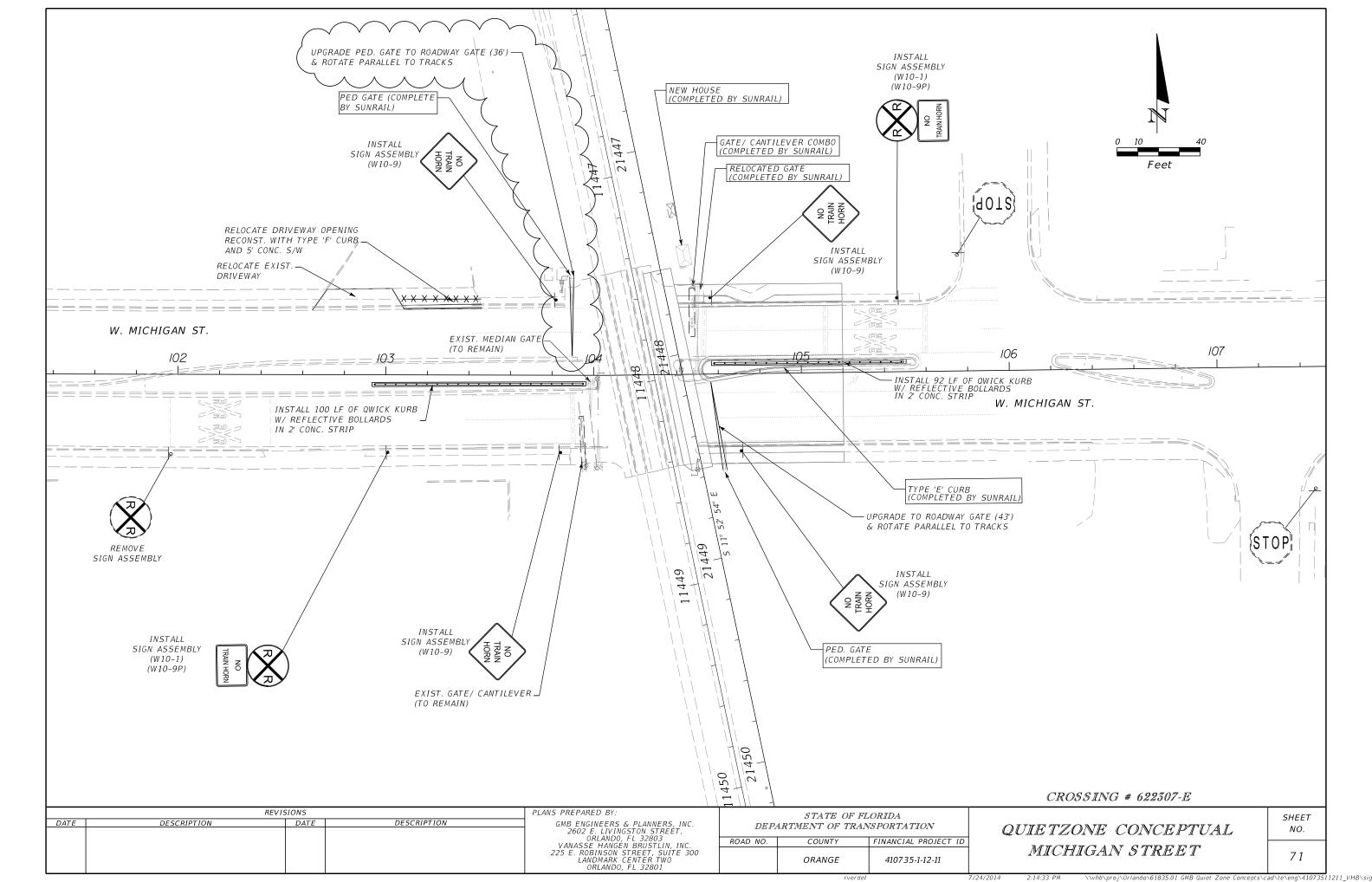


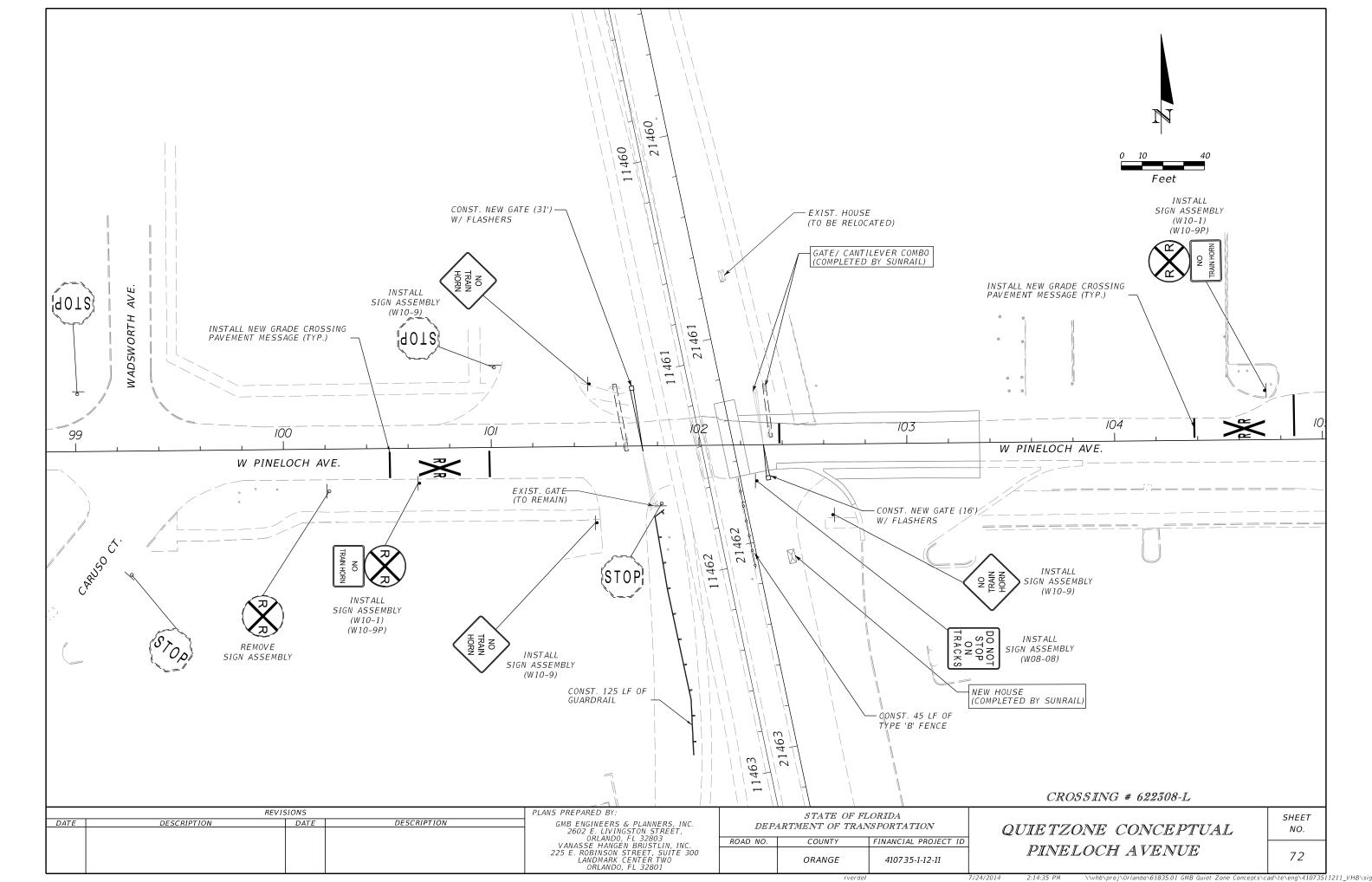


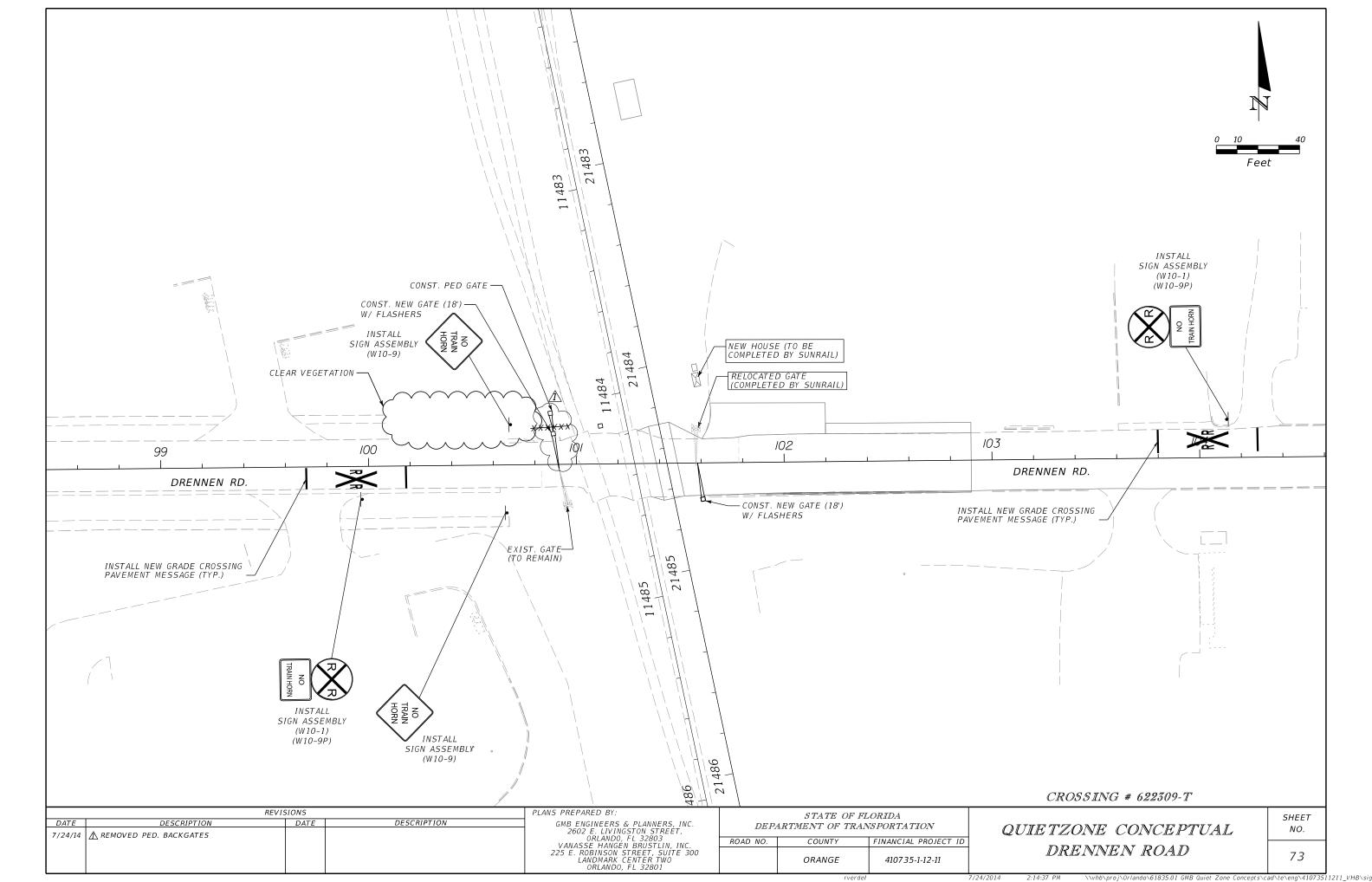


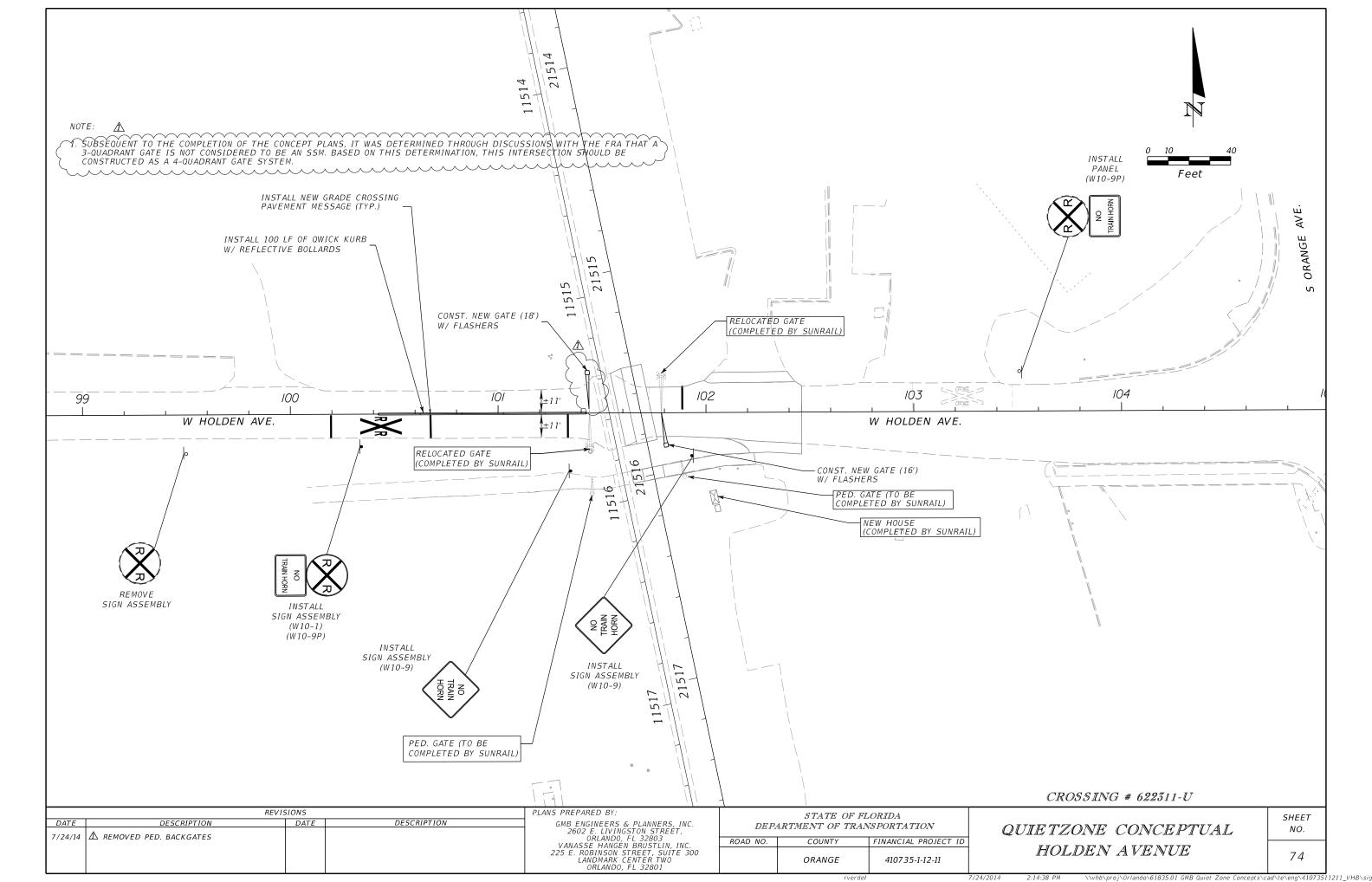


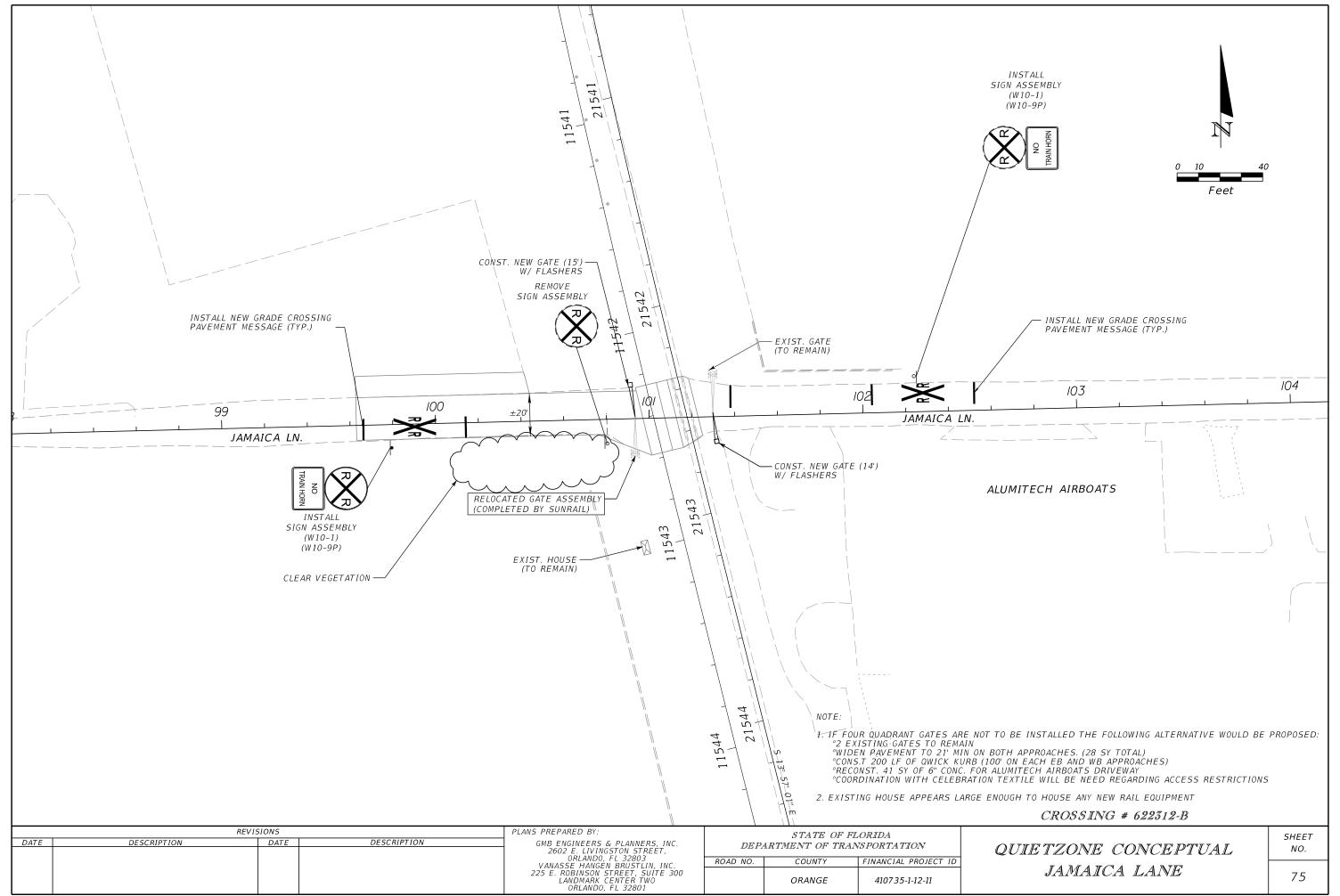


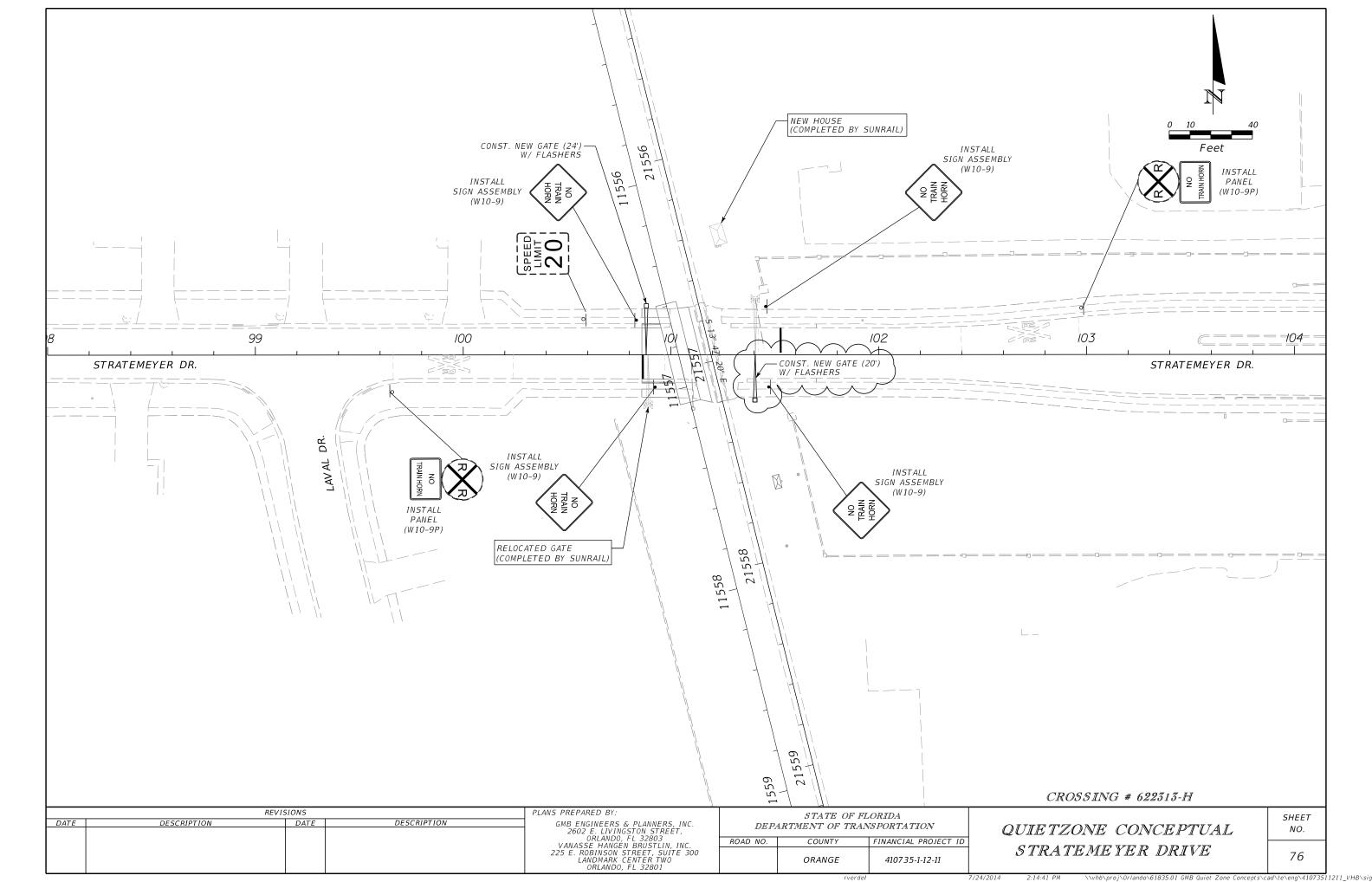


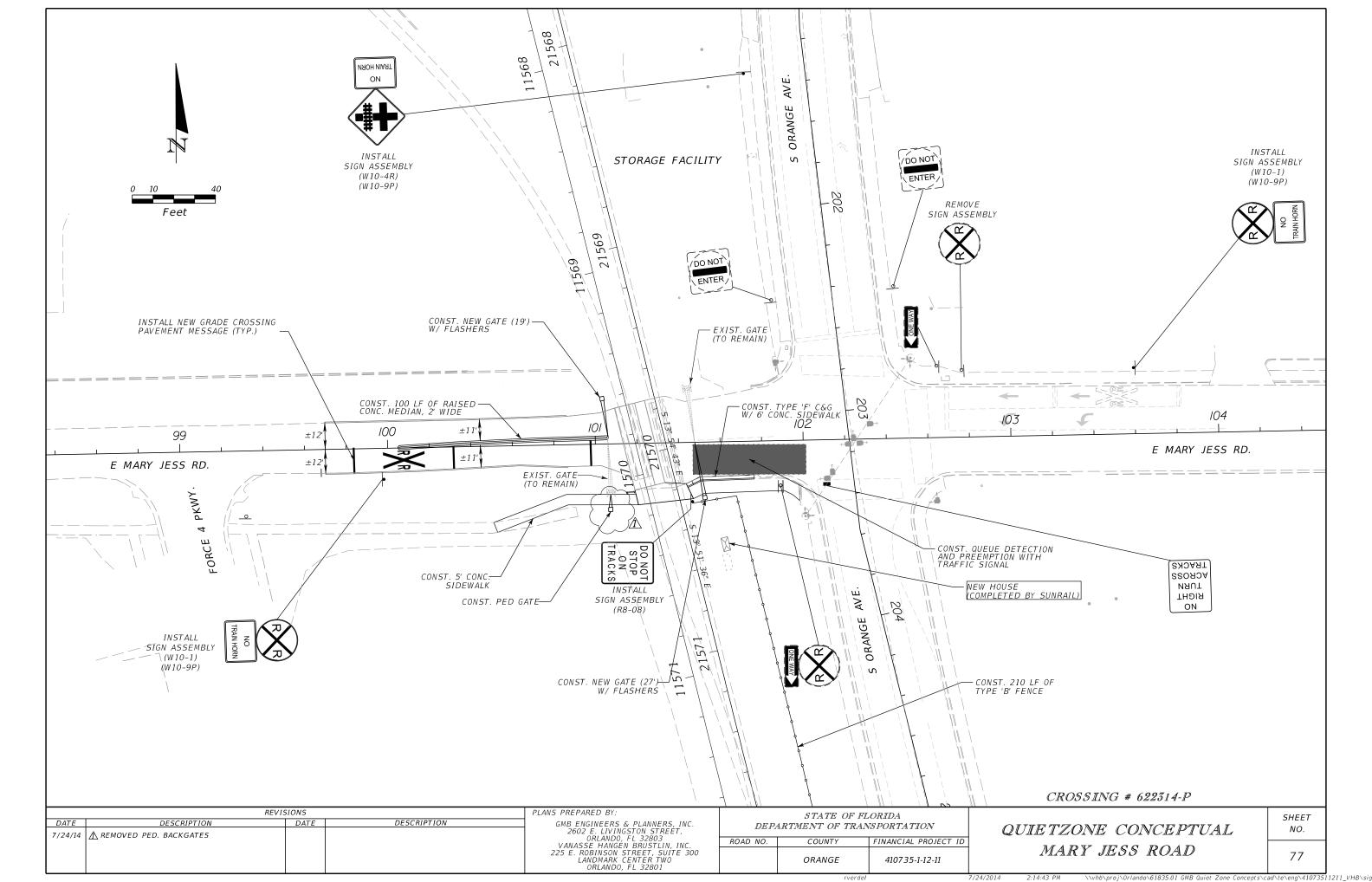


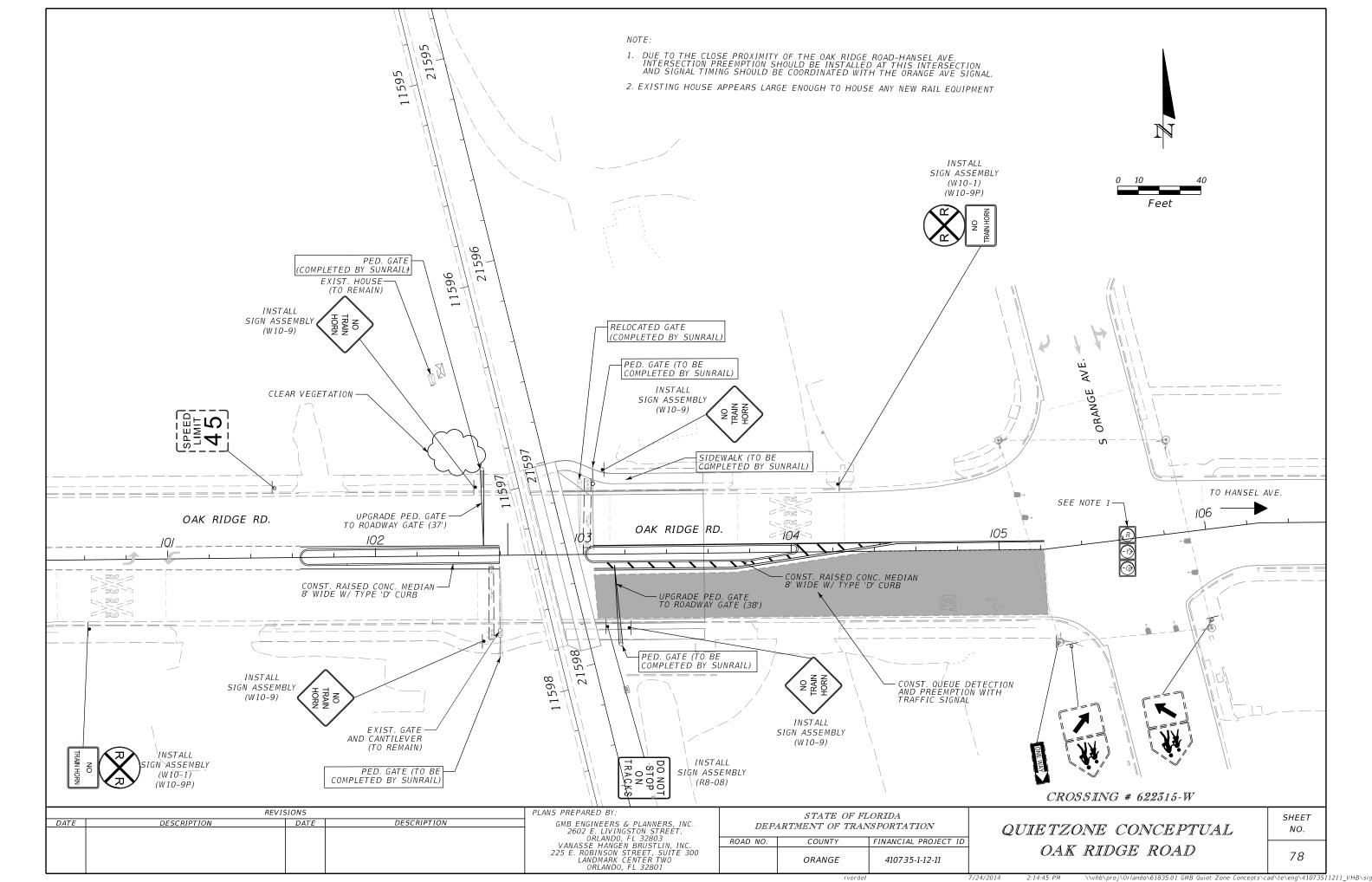


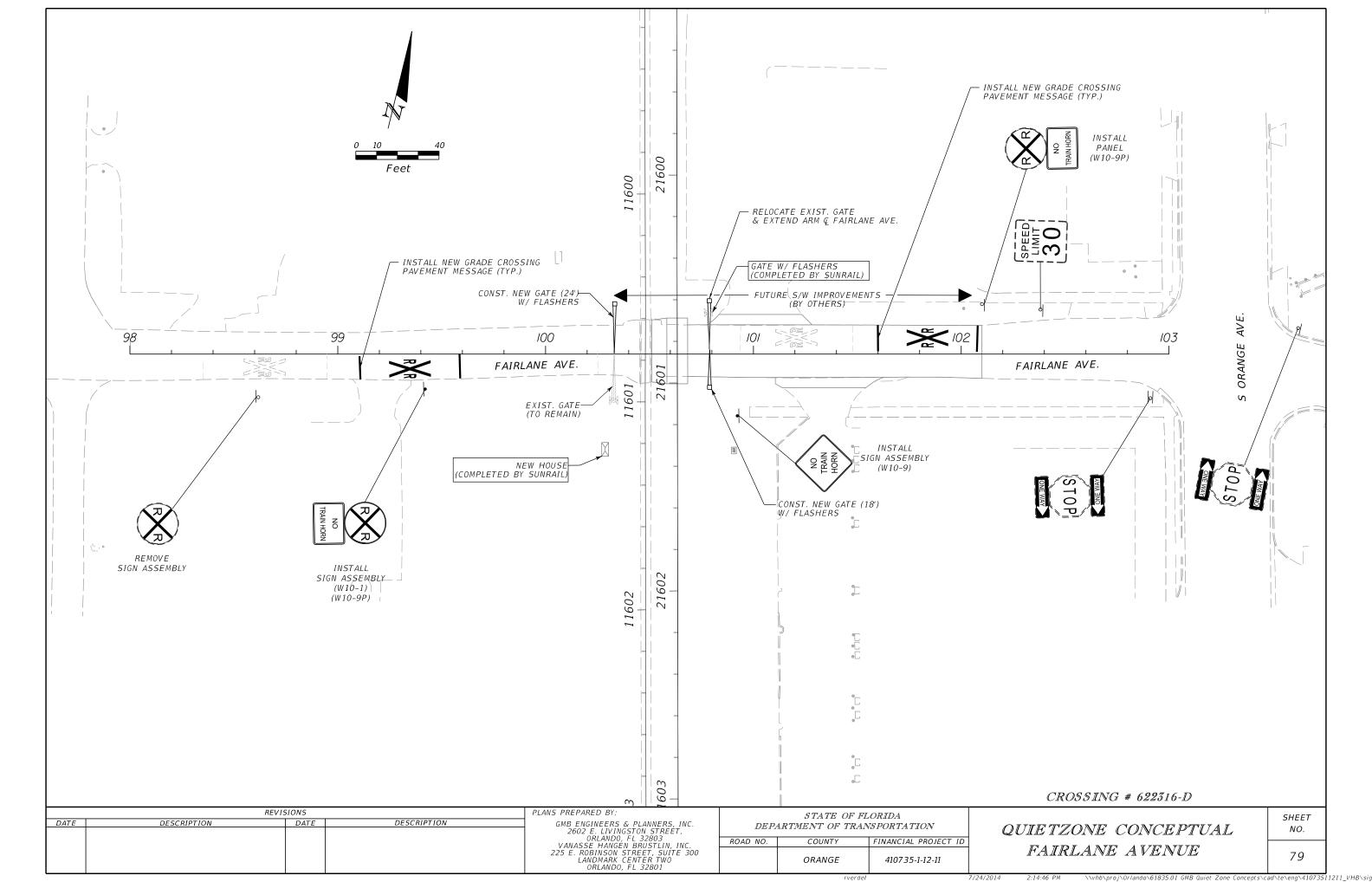


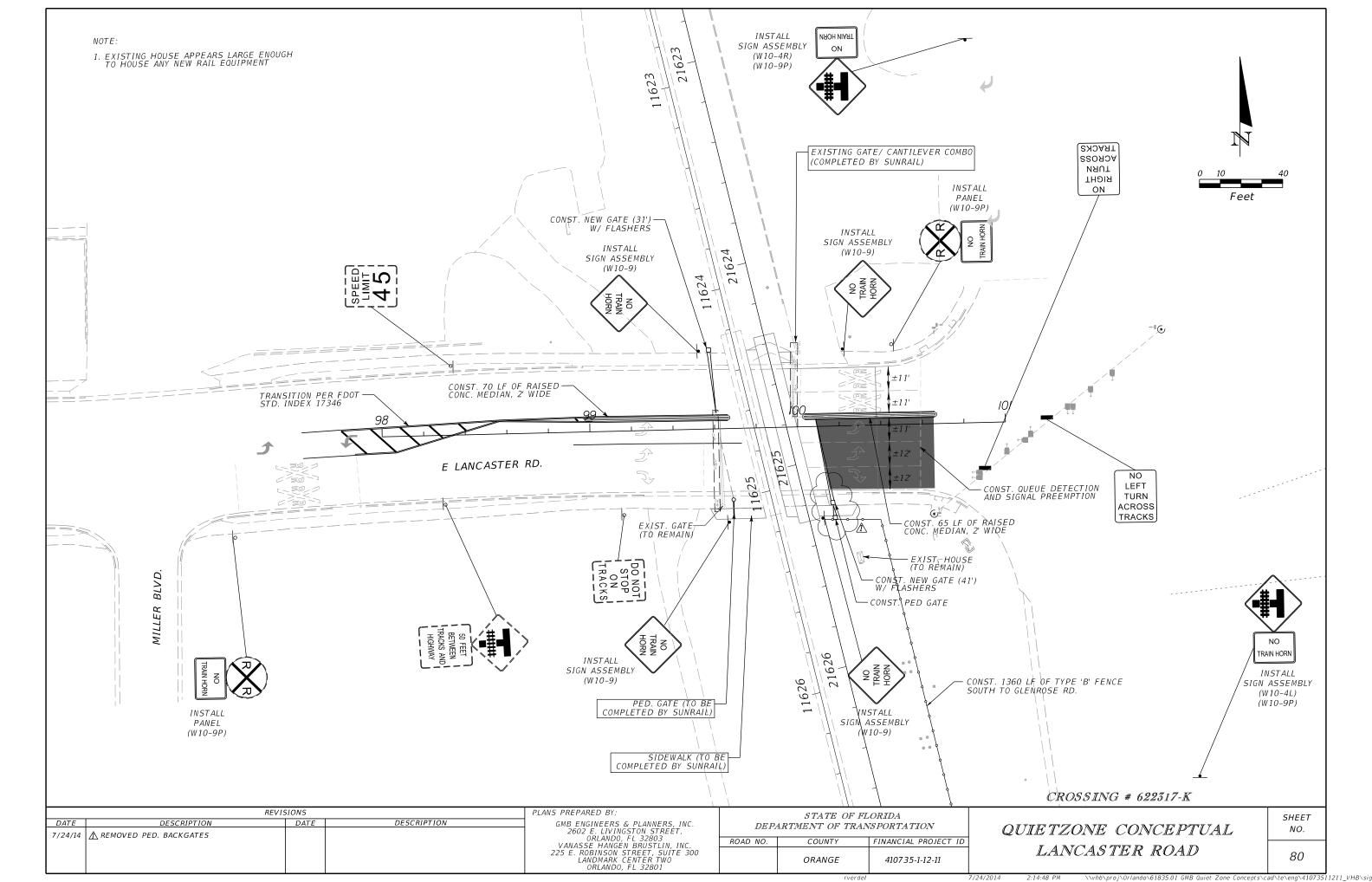


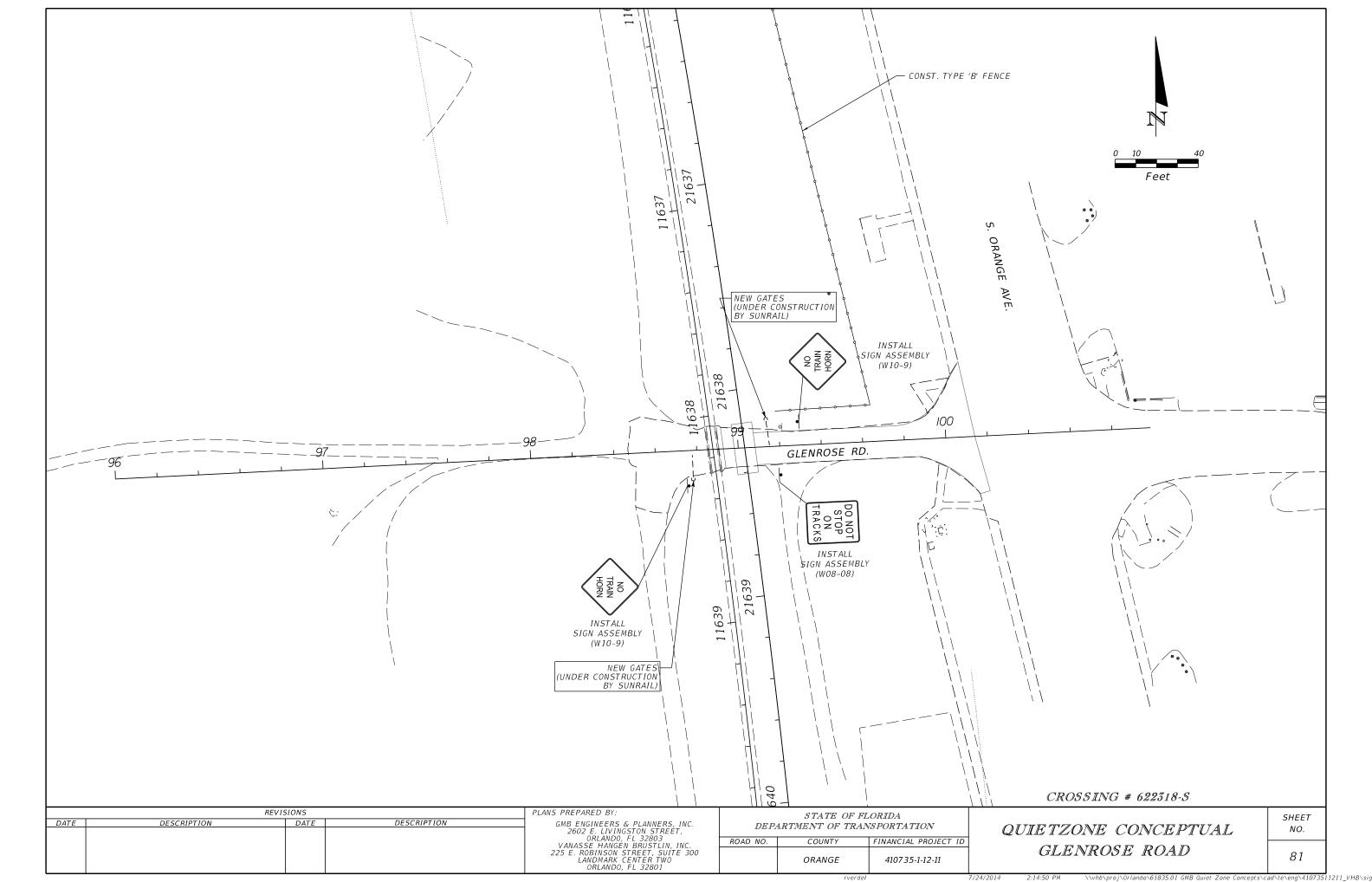












APPENDIX C – ESTIMATE OF PROBABLE CONSTRUCTION COSTS

Municipality	Estimate of Probable Design and Construction Costs ¹	Amended Cost Difference ^{2,3}
Sanford	\$439,539	\$0
Lake Mary	\$633,431	\$0
Longwood	\$571,920	\$0
Casselberry	\$0	\$0
Altamonte Springs	\$418,729	\$0
Maitland ³	\$1,856,655	\$210,250
Winter Park ²	\$3,153,425	\$89,175
Orlando ²	\$5,046,325	\$65,250
Edgewood ³	\$321,843	\$43,500
Uninc. Seminole County ^{2,3}	\$1,880,677	\$34,800
Uninc. Orange County ²	\$1,125,339	<u>\$43,500</u>
Subtotals	\$15,447,883	\$486,475
Total	\$15,93	4, 358

¹Includes a 25% contingency and 20% design fee.

- CR 427, Seminole County, Crossing No. 622075-S
- Maitland Ave, City of Maitland, Crossing No. 622145-E
- Holden Avenue, City of Edgewood, Crossing No. 622311-U

The approximate cost due to this change is \$304,500.

²Subsequent to the completion of the review process, FDOT confirmed that combination pedestrian/road gates cannot be used. The proposed combination pedestrian/road gates were deleted and individual pedestrian and roadway gates were shown. The overall cost due to this change is an estimated \$181,975.

³Subsequent to the completion of the review process, it was determined through discussions with the FRA that a 3-quadrant gate is not considered to be an SSM. Based on this determination, the following intersections will require a 4-quadrant gate system:

	Quiet 2	Zone Preliminary Estimate of Cost b	y Crossing	
	Crossing	Municipality	Cost	<u>Subtotal</u>
1	I-4 Ramp / Monroe Ave.	Sanford	\$43,710	
2	McCracken Rd.	Sanford	\$303,669	
3	18th St.	Sanford*	\$55,037	
4	Southwest Rd.	Sanford*	\$102,887	
5	Country Club Rd.	Sanford	\$92,160	
6	C.R. 46A / 25th. St.	Sanford*	\$124,275	Subtotal: \$721,738
7	Airport Blvd.	Lake Mary*	\$130,569	, ,
8	Bellair Grove (Egrets Landing)	Lake Mary	\$32,666	
9	Pedigo Pt.	Lake Mary	\$471,084	
10	Palmetto St.	Lake Mary	\$129,681	
11	Lake Mary Blvd.	Lake Mary*	\$216,981	
12	Country Club Rd.	Lake Mary*	\$453,031	Subtotal: \$1,434,013
13	C.R. 427	Longwood*	\$31,099	, , , , , ,
14	Georgia Ave.	Longwood	\$165,962	
15	E. Orange Ave.	Longwood	\$135,431	
16	Palmetto Ave.	Longwood	\$95,637	
17	Church St.	Longwood	\$68,553	
18	C.R. 427	Longwood*	\$151,702	
19	S.R. 434	Longwood	\$106,337	
20	North St.	Longwood*	\$59,112	
21	C.R. 427 / Dixie Hwy.	Longwood*	\$183,745	Subtotal: \$997,578
22	Plumosa Ave.	Casselberry*	\$99,602	Subtotal: \$99,602
23	North St. (Merrit St.)	Altamonte Springs*	\$122,056	3ubtotal. \$33,002
24	Leonard St.	Altamonte Springs*	\$122,030	
25	S.R. 436 / Altamonte Dr.	Altamonte Springs	\$128,276	
26	Prairie Lake Cove / Magnolia Dr.	Altamonte Springs	\$198,525	
27	Ballard St.	Altamonte Springs	\$91,928	
28	O'Brien Rd.	Altamonte Springs*	\$62,476	Subtotal: \$726,164
29	Greenwood Rd.	Maitland	\$192,353	3ubtotal. \$720,104
30	Sybelia Ave.	Maitland	\$100,857	
31	George Ave.	Maitland	\$382,969	
32	Horatio Ave.	Maitland	\$408,455	
33	Packwood Ave.	Maitland	\$200,037	
34	Maitland Ave.	Maitland	\$359,784	
35	Ventris Ave.	Maitland	\$420,306	
36	Palmetto St.	Maitland	\$2,144	
37	Lake Ave.	Maitland**	\$462,937	Subtotal: \$2,529,842
38	N. Denning Dr.	Winter Park	\$213,260	345total. 92,323,042
39/40	Webster/Penn. Ave	Winter Park Winter Park	\$509,871	
41	N. New York St.	Winter Park	\$94,392	
42	Canton Ave.	Winter Park Winter Park	\$44,887	
43	Ped. Crossing	Winter Park Winter Park	\$74,644	
44	Ped. Crossing	Winter Park Winter Park	\$74,644	
45	Morse Blvd.	Winter Park Winter Park	\$25,079	
46	Ped. Crossing	Eliminated	\$25,079	
47	Ped. Crossing	Eliminated	\$0	
48	New England Ave.	Winter Park	\$128,219	
49/50	New York/Lyman Ave.	Winter Park Winter Park	\$231,427	
49/50	' '			
52/53	Fairbanks Ave.	Winter Park	\$121,159	
	Pennsylvania/Holt Ave.	Winter Park	\$360,396	
54	Minnesota Ave.	Winter Park	\$390,217	
55	Denning Dr.	Winter Park	\$392,005	
56	Orlando Ave.	Winter Park	\$107,160	Cubtotal
57	Westchester Ave.	Winter Park	\$475,242	Subtotal: \$3,242,600

	Quiet 2	Zone Preliminary Estimate of Cost b	y Crossing	
	Crossing	Municipality	Cost	<u>Subtotal</u>
58	Virginia Dr.	Orlando	\$59,335	
59	Alden Rd.	Orlando	\$165,771	
60	Highland Ave.	Orlando	\$470,499	
61	Magnolia Dr.	Orlando	\$376,075	
62	N. Orange Ave.	Orlando	\$435,533	
63	Marks St.	Orlando	\$474,022	
64	Colonial Dr.	Orlando	\$74,447	
65	Concord St.	Orlando	\$34,919	
66	Amelia St.	Orlando	\$26,494	
67	Livingston St.	Orlando	\$128,348	
68	Robinson St.	Orlando	\$404,472	
69	Jefferson St.	Orlando	\$410,968	
70	Washington St.	Orlando	\$362,094	
71	Central Blvd.	Orlando	\$151,165	
72	Pine St.	Orlando	\$382,070	
73	Church St.	Orlando	\$151,462	
74	South St.	Orlando	\$130,865	
75	America St.	Orlando	\$179,767	
76	Hughey	Eliminated	\$0	
77	Ernestine St.	Orlando	\$59,523	
78	Gore St.	Orlando	\$228,532	
79	Columbia St.	Orlando	\$115,212	
80	Kaley Ave.	Orlando	\$138,435	
81	Grant St.	Orlando	\$97,417	
82	Michigan St.	Orlando	\$54,150	
83	Pineloch Rd.	Orlando**	\$102,054	
84	Drennen Ave.	Orlando**	\$132,322	Subtotal: \$5,345,951
85	Holden Ave.	Edgewood	\$102,887	
86	Jamaica Ln.	Edgewood**	\$94,086	
87	Stratemeyer Dr.	Edgewood	\$91,287	
88	E. Mary Jess Rd.	Edgewood	\$171,168	
89	Oakridge Ave.	Edgewood**	\$64,823	
90	Fairlane Ave.	Edgewood**	\$115,212	
91	Lancaster Rd.	Edgewood**	\$195,230	
92	Glenrose Rd.	Edgewood**	\$2,175	Subtotal: \$836,870

\$15,934,358

Notes:

1) All 92 grade crossings will be included in a regional quiet zone. If the improvements are built separately, unit prices may increase based on economies of scale.

- 2) The estimate was produced assuming present day construction costs. Adjustments must be made to account for construction activities if construction takes place beyond 2014.
- 3) The cost includes 25% Contingency and 20% for final design fees.
- 4) *-Seminole County Owned
- **-Orange County Owned

Part	SunRail Work Items			I-4 Ramp / I	Monroe Ave.	McCrac	ken Rd.	18th S	St.	Southwe	est Rd.	Country C	Club Rd.	C.R. 46A	25th. St.	Airport	Blvd.	Bellair Grove (Egrets Landing	Pedi	igo Pt.	Palmetto St	<u>.</u> .	_ake Mary Blvd.	Count	ry Club Rd.	<u>C.</u> R	. 427	Georgia	a Ave.
See Conference of Conference o	Sunkan Work items			San	ford	San	ford	Sanfor	rd*	Sanfo	rd*	Sanfo	ord	Sanf	ord*	Lake N	lary*	Lake	Mary	Lake	e Mary	Lake Mary		Lake Mary*	Lal	ke Mary*	Long	wood*	Longw	/ood
See Conference of Conference o	Item	<u>Unit</u>	Unit	Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost Qua	ntity Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost
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Perf	Conc. Traffic Island w/ 'D' Curb 2' Wide	LF	\$38	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	0 0	\$0	0	\$0	0	\$0
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Conc. Trans Distance	Conc. Traffic Island w/ 'D' Curb 4' Wide			0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	0 0	\$0	0	\$0	0	
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Description Fig. Story Fig.				0	\$0	0		0	\$0	0	\$0	0		0	* -			0		30		0		-	-		0	\$0	0	
Spring Prevented Markings LS S50 1 S5.270 1 S2.957 S3.359 S3.2597 S3			ΨÜ	0	\$0	0	**	0	\$0	0	\$0	23		0	4.0			61		0	\$0	0		.0		**	0	\$0	0	
Configuration Configuratio				172		0		0	ψŏ	0		0	* -	0	4.0	100		0		0	\$0	0					200		0	
Subtorial Civil Subtorial				1	\$5,273	1	\$2,957	1	\$2,957	1	\$2,957	1	\$1,478	1	\$3,516	1	\$3,516	1	\$3,516	1	\$4,435	1 :	\$4,435	1 \$3,5	6 1	\$4,435	1	\$4,074	1	\$2,957
Rell & Signal Information Plant Signal Information Signal Signal Information Signal Signal Information	Lighting Pedestrian Walkways	LS	\$25,000	0		0		0		0		0		0		0		0		0		0		0	0		0		0	
Relia Silmal Improvements Upgrade Ped Gate Post Shood 0 0 50 1 \$5,000 1 \$5,000 1 \$5,000 1 \$5,000 1 \$5,000 1 \$5,000 1 \$5,000 1 \$5,000 0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$																														
Upgrade Fed Glaide for Road Glaide EA \$5,000 0 \$0 1 \$5,000 1 \$5,000 1 \$5,000 1 \$5,000 1 \$5,000 1 \$5,000 1 \$5,000 1 \$5,000 2 \$6,0000 2 \$6,0000 2 \$6,0000 1 \$6,000 1 \$					\$22,145		\$4,427		\$2,957		\$2,957		\$3,559		\$9,207		\$50,048		\$12,529		\$4,885	,	54,435	\$21,6	2	\$4,435		\$21,448		\$2,957
New Flasher/Signal/Gate							*****					_	-	_				_		_									_	-
New Flasher/Signal Gate we' Fed Gate EA \$45,000 0 0 \$0 0 \$0 0 \$0 0 \$0 0 \$0 0 \$0 0				0	ΨÜ	1		1		1	4 - 7	0	**	0	4.0	0	ΨΟ	2		0							0	\$0	0	\$0
Reforce Existing Gate				0	• •	0		1	\$30,000	1	\$30,000	2	\$60,000	2	\$60,000	1	\$40,000	0		4	\$120,000	1 \$					0	\$0	2	
Remove Existing Gate EA \$1,000 0 \$0 0 \$0 0 \$0 0 \$0 0				0	ΨÜ	0		0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	ΨΟ	0	\$0	0	ΨÜ	Ü		ΨΟ	0	\$0	0	
Replace/serial Cate Arm EA \$1,500 0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0				0	• •	0		0	\$0	2	\$30,000	0		1		0	\$0	0		0	\$0	0					0		0	
New House EA \$200,000 0 \$0 1 \$200,000 0 \$0 1 \$200,000 0 \$0 0 \$0 0 \$0 0 \$0 0 \$0 0 \$0				0	\$0 \$0	0		0	\$0	2	\$0	0	\$0 \$0	0	ΨΟ	0	\$0 \$0	0	**	0	\$0 \$0	0	4.	· ·	,0		0	ψo	0	
Signal Preemption				0	\$0	0		0	20	2	\$3,000 CC	0	20		. ,	0	φU	0		0	\$200.000	0					0		1	
Vehicle Detection				0	Ψο	1		U	20	U	20	0	\$ 0	0	ΨΟ	0	Ф О	0	**	1	\$200,000	U	ΨÜ	ŭ			0	\$0	U	**
Queue Detection EA \$8,000 0 \$0	-			0		0		0	\$0	0	\$0	0	\$0	0	-	0	\$0	0		0	\$0	0		-			0	\$0	0	
Low Volume Horn EA \$5,000 0 \$0 0 \$0 0 \$0 0 \$0 0 \$0 0 \$0 0				0	\$0	0		0	\$0	0	\$0 \$0	0	\$0	0	Ψΰ	0	\$0 60	0	7.	0	\$0	1 \$		Ü			0	\$0	1	
Add Ped Gate EA \$25,000 0 \$0 0 \$0 0 \$0 0 \$0 0 \$0 0 \$0 0 \$0				0	\$0	0		0	\$0	0	\$0	0	\$0	0	4.0	0	\$0	0		0	\$0	0		-			0	\$0	0	
Extend Track Crossing Surface LF of Rail \$1,000 8 \$8,000 0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0				0	\$0	0	**	0	\$0	0	\$0 \$0	0	\$0 \$0	0	\$0 \$0	0	\$0	0	ΨΟ	0	\$0	0	ΨÜ	Ü		**	0	\$0 \$0	0	**
Subtotal Signal \$8,00 \$205,000 \$35,000 \$68,000 \$60,000 \$76,500 \$40,000 \$10,000 \$320,000 \$85,000 \$128,000 \$308,000 \$0 \$111,500 Subtotals \$30,145 \$209,427 \$37,957 \$70,957 \$63,559 \$85,707 \$90,048 \$22,529 \$324,885 \$89,435 \$149,642 \$312,435 \$21,448 \$114,457 Contingencies al 25% \$7,536 \$52,357 \$9,489 \$17,739 \$15,890 \$21,427 \$22,512 \$5,632 \$81,221 \$22,359 \$37,411 \$78,109 \$5,362 \$28,614 Final Design 20% \$6,029 \$41,885 \$7,591 \$14,191 \$12,712 \$17,141 \$18,010 \$4,506 \$64,977 \$17,887 \$29,928 \$62,487 \$4,290 \$22,891				0	\$0	0		0	\$0	0	\$0	0	\$0	0	\$0	0	\$0 ©0	0		0	\$0	0		-	-		0	\$0	0	
Subtotals \$30,145 \$209,427 \$37,957 \$70,957 \$63,559 \$85,707 \$90,048 \$22,529 \$324,885 \$89,435 \$149,642 \$312,435 \$21,448 \$114,457 Contingencies al 25% \$7,536 \$52,357 \$9,489 \$17,739 \$15,890 \$21,427 \$22,512 \$5,632 \$81,221 \$22,359 \$37,411 \$78,109 \$5,362 \$28,614 Final Design 20% \$6,029 \$41,885 \$7,591 \$14,191 \$12,712 \$17,141 \$18,010 \$4,506 \$64,977 \$17,887 \$29,928 \$62,487 \$4,290 \$22,891	Extend Hack Crossing Surface	LF OF KAII	\$1,000	8	\$8,000	0	\$0	U	⊅ ∪	U	2 0	U	\$ 0	U	\$ U	U U	Φ0	0	Φ0	U	Φ0	U	\$ 0	U	0	\$0	0	\$0	U	φu
Contingencies al 25% \$7,536 \$52,357 \$9,489 \$17,739 \$15,890 \$21,427 \$22,512 \$5,632 \$81,221 \$22,359 \$37,411 \$78,109 \$5,362 \$28,614 Final Design 20% \$6,029 \$41,885 \$7,591 \$14,191 \$12,712 \$17,141 \$46,010 \$4,506 \$64,977 \$17,887 \$29,928 \$62,487 \$4,290 \$22,891	Subtotal Signal	1			\$8,000		\$205,000		\$35,000		\$68,000		\$60,000		\$76,500		\$40,000		\$10,000		\$320,000	\$	35,000	\$128,0	00	\$308,000		\$0		\$111,500
Contingencies al 25% \$7,536 \$52,357 \$9,489 \$17,739 \$15,890 \$21,427 \$22,512 \$5,632 \$81,221 \$22,359 \$37,411 \$78,109 \$5,362 \$28,614 Final Design 20% \$6,029 \$41,885 \$7,591 \$14,191 \$12,712 \$17,141 \$4,506 \$64,977 \$17,887 \$29,928 \$62,487 \$4,290 \$22,891																														
Final Design 20% \$6,029 \$41,885 \$7,591 \$14,191 \$12,712 \$17,141 \$18,010 \$4,506 \$64,977 \$17,887 \$29,928 \$62,487 \$4,290 \$22,891																1														
																1														
Subtotals (Rounded) \$43,710 \$303,669 \$55,037 \$102,887 \$92,160 \$124,275 \$130,569 \$32,666 \$471,084 \$129,681 \$216,981 \$453,031 \$31,099 \$165,962	i iliai Desigi	. 2070		-	ψ0,029	· -	ψ-1,003	_	ψ1,031	-	ψ17,131	_	Ψ12,112	-	Ψ17,141	-	ψ10,010		ψ-1,300	_	ψο-1,511		ψ,σσι	Ψ29	<u></u>	Ψ02,407	-	ψ-,2-90	-	
	Subtotals (Rounded))			\$43,710		\$303,669		\$55,037		\$102,887		\$92,160		\$124,275		\$130,569		\$32,666		\$471,084	\$	129,681	\$216	981	\$453,031		\$31,099		\$165,962

Total For Crossings in Sanford \$721,738 Total For Crossings in Lake Mary \$1,434,013

Stylimprovements Stylimprove	Altamonte Springs*
Clear & Grub SY \$10 0 \$0 \$0 \$0 \$0 \$0 \$0	\$810 0 \$0 \$0 135 \$5,130 \$0 0 \$0 \$0 0 \$0 \$0 0 \$0 \$0 0 \$0 \$0 0 \$0 \$0 0 \$0
Clear & Grub SY \$10 0 \$0 \$0 \$0 \$0 \$0 \$0	\$810 0 \$0 \$0 135 \$5,130 \$0 0 \$0 \$0 0 \$0 \$0 0 \$0 \$0 0 \$0 \$0 0 \$0 \$0 0 \$0
Clear & Grub SY \$10 0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0
Conc. Traffic Island w/ 'D' Curb 3' Wide	\$0 0 \$0 \$0 0 \$0 \$0 0 \$0 \$0 0 \$0 \$0 0 \$0
Conc. Traffic Island w/ 'D' Curb 4' Wide	\$0 0 \$0 \$0 0 \$0 \$0 0 \$0 \$0 0 \$0
Conc. Traffic Island w/ 'D' Curb 5' Wide	\$0 0 \$0 \$0 0 \$0 \$0 0 \$0
Conc. Traffic Island w/ 'D' Curb 9' Wide	\$0 0 \$0 \$0 0 \$0
Conc. Traffic Island w/ 'D' Curb 10' Wide LF \$67 0 \$0 0 \$0 0 \$0 0 \$0 0 \$0 0 \$0 0 \$0	\$0 0 \$0
Conc. Traffic Island w/ 'D' Curb 12' Wide LF \$71 0 \$0 0 \$0 0 \$0 0 \$0 0 \$0 0 \$0 0 \$0	
Conc. Traffic Island w/ 'D' Curb 13' Wide LF \$77 0 \$0 0 \$0 0 \$0 0 \$0 0 \$0 0 \$0 0 \$0	\$0 0 \$0
	\$0 0 \$0
Widen Exist. Pavement SY \$135 0 \$0 0 \$0 0 \$0 0 \$0 0 \$0 0 \$0 0 \$0 0	\$0 0 \$0
Driveway Closure/Relocation SY \$65 0 \$0 0 \$0 0 \$0 0 \$0 0 \$0 0 \$0 0 \$0	\$0 0 \$0
Conc. Curb & Gutter, Type E	\$0 0 \$0
Conc. Curb & Gutter, Type F LF \$22 52 \$1,144 0 \$0 359 \$7,898 0 \$0 0 \$0 0 \$0 0 \$0 0 \$0 0 \$0 0 \$0 0	\$0 0 \$0
Conc. Curb, Type A LF \$30 0 \$0 0 \$0 0 \$0 0 \$0 0 \$0 0 \$0 0 \$0	\$0 0 \$0
	\$0 0 \$0
Conc. Traffic Separator 6' LF \$45 0 \$0 0 \$0 0 \$0 0 \$0 0 \$0 0 \$0 0 \$0	\$0 0 \$0
4 Cutoffee sidewark 31 350 41 31,240 0 30 13 3450 0 50 0 50 0 50 0 50 0 50 0 50 0 5	\$0 0 \$0
Final tutalian	\$0 0 \$0
	\$21,675 0 \$0
Turf Sod SY S5 13 560 0 50 0 50 0 50 0 50 0 50 0 50 0 50	\$0 0 \$0
Owick Kurb LF \$80 0 \$0 \$0 0 \$0 0 \$0 0 \$0 0 \$0 0 \$0 0	\$0 0 \$0
Signing & Pavement Markings LS \$80 1 \$2,957 1 \$2,957 1 \$3,516 1 \$3,516 1 \$2,957 1 \$3,516 1 \$2,957 1 \$3,516 1 \$3	\$5,914 1 \$2,957
Lighting Pedestrian Walkways LS \$25,000 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0
	\$28,399 \$8,087
Rail & Signal Improvements	
Upgrade Ped Gate to Road Gate	\$5,000 1 \$5,000
	\$30,000 1 \$30,000
New Flasher/Signal/Gate w/ Ped Gate EA \$40,000 0 \$0 0 \$0 0 \$0 0 \$0 0 \$0 0 \$0 0	\$0 0 \$0
Relocate Existing Gate EA \$15,000 1 \$15,000 0 \$0 0 \$0 0 \$0 0 \$0 0 \$0 0 \$0 0 \$0	\$0 0 \$0
Remove Existing Gate EA \$1,000 0 \$0 0 \$0 0 \$0 0 \$0 0 \$0 0 \$0 0	\$0 0 \$0 \$0 0 \$0
Replace/extend Gate Arm	\$0 0 \$0 \$0 0 \$0
	7
Signal Preemption EA \$10,000 0 \$0 \$0 \$0	\$0 0 \$0
Vehicle Detection EA \$50,000 0 \$0 \$0<	\$0 0 \$0 \$0 0 \$0
Under Detection	\$0 0 \$0
Low Volume From EA \$5,000 0 \$0 0 \$0 0 \$0 0 \$0 0 \$0 0 \$0 0	\$0 0 \$0
Extend Track Crossing Surface LEA fail \$1,000 0 \$0 0 \$0 0 \$0 0 \$0 0 \$0 0 \$0 0	\$0 0 \$0
	\$0 0 \$0
Subtotal Signal \$88,000 \$63,000 \$35,000 \$53,000 \$35,000 \$35,000 \$53,000 \$63,000 \$70,000 \$110,000	\$35,000 \$35,000
Subtotals \$93,401 \$65,957 \$47,278 \$104,622 \$73,336 \$40,767 \$126,721 \$68,691 \$84,177 \$84,761 \$88,466 \$136,914	\$63,399 \$43,087
Contingencies at 25% \$23,350 \$16,489 \$11,819 \$26,156 \$18,334 \$10,192 \$31,680 \$17,173 \$21,044 \$21,190 \$22,116 \$34,228	\$15,850 \$10,772
Final Design 20% \$18,680 \$13,191 \$9,456 \$20,924 \$14,667 \$8,153 \$25,344 \$13,738 \$16,835 \$16,952 \$17,693 \$27,383	\$12,680 \$8,617
Subtotals (Rounded) \$135,431 \$95,637 \$68,553 \$151,702 \$106,337 \$59,112 \$183,745 \$99,602 \$122,056 \$122,04 \$128,276 \$198,525	\$91,928 \$62,476

Total For Crossings in Longwood \$997,578 Total Casselberry \$99,602

Total For Crossings in Altamonte Springs \$726,164

SunRail Work Items			Greenwo	ood Rd.	Sybel	ia Ave.	Georg	e Ave.	Horatio	Ave.	Packwoo	od Ave.	Maitlan	d Ave.	Ventr	is Ave.	Palme	etto St.	Lake	e Ave.	N. Denn	ing Dr.	Webster/P	enn. Ave	N. New Yo	ork St.	Cantor	n Ave.	Ped. Cross	ing	Ped. Cros	sing
			Maitl	land	Mai	tland	Maitl	and	Maitla	and	Maitla	and	Maitl	and	Mai	tland	Mait	tland	Mait	tland**	Winter	Park	Winter	Park	Winter F	Park_	Winter	Park	Winter Pa	r <u>k</u>	Winter P	ark
ltem	<u>Unit</u>	<u>Unit</u> Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost
	Measure	Cost																														
Civil Improvements Clear & Grub	CV	\$10	25	êoro.	202	\$2,020	440	\$1,160	157	\$1,573	0	\$0	0	\$0	0.47	\$2,470	0	\$0	420	\$4,200	0	\$0	218	\$2,180	0	\$0	٥	\$0		\$0	0	60
Conc. Traffic Island w/ 'D' Curb 2' Wide	SY LF	\$10	25	\$250	202	\$2,020	116	\$1,160	157	\$1,573	0	\$0	100	\$3,800	247	\$2,470	0	\$0	420	\$4,200	99	\$3,762	218	\$2,180	0	\$0 \$0	0	\$0 \$0	0	\$0 \$0	0	\$0
Conc. Traffic Island w/ D' Curb 3' Wide	LF	\$30 \$41	0	\$0	0	\$0 \$0	0	\$0 \$0	0	\$0	0	\$0	100	\$3,000 \$0	0	\$0 \$0	0	\$0	0	\$0 \$0	99	\$3,762	328	\$13.448	101	\$4.141	0	\$0	0	\$0	0	\$0 \$0
Conc. Traffic Island w/ 'D' Curb 4' Wide	LF	\$45	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
Conc. Traffic Island w/ 'D' Curb 5' Wide	LF	\$48	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
Conc. Traffic Island w/ 'D' Curb 9' Wide	LF	\$61	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
Conc. Traffic Island w/ 'D' Curb 10' Wide	LF	\$67	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
Conc. Traffic Island w/ 'D' Curb 12' Wide	LF	\$71	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
Conc. Traffic Island w/ 'D' Curb 13' Wide	LF	\$77	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
Widen Exist. Pavement	SY	\$135	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	11	\$1,440	0	\$0	0	\$0	0	\$0	16	\$2,160	0	\$0	0	\$0	0	\$0	0	\$0
Driveway Closure/Relocation	SY	\$65	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	33	\$2,167	0	\$0	0	\$0	0	\$0	94	\$6,110	0	\$0	0	\$0	0	\$0	0	\$0
Conc. Curb & Gutter, Type E	LF	\$20	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
Conc. Curb & Gutter, Type F	LF	\$22	84	\$1,848	0	\$0	0	\$0	99	\$2,178	0	\$0	0	\$0	0	\$0	0	\$0	15	\$330	0	\$0	84	\$1,848	0	\$0	0	\$0	0	\$0	0	\$0
Conc. Curb, Type A	LF	\$30	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	49	\$1,470	0	\$0	0	\$0	0	\$0	0	\$0
Conc. Curb, Type D	LF	\$20	114	\$2,280	0	\$0	0	\$0	0	\$0	0	\$0	274	\$5,480	20	\$400	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
Conc. Traffic Separator 6'	LF	\$45	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
4" Concrete Sidewalk	SY	\$30	72	\$2,160	0	\$0	0	\$0	61	\$1,830	0	\$0	30	\$890	73	\$2,190	0	\$0	9	\$270	38	\$1,140	21	\$630	0	\$0	0	\$0	0	\$0	0	\$0
Handrail	LF	\$45	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0		0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
Guardrail w/ End Treatment	LF	\$54	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
Fencing, Type B, 5'-6'	LF	\$15	0	\$0	302	\$4,530	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	80	\$1,200	0	\$0	0	\$0	0	\$0	0	\$0
Turf Sod	SY	\$5	72	\$324	11	\$50	0	\$0	44	\$198	0	\$0	0	\$0	54	\$243	0	\$0	7	\$32	53	\$239	39	\$176	0	\$0	0	\$0	0	\$0	0	\$0
Qwick Kurb	LF	\$80	42	\$3,360	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
Signing & Pavement Markings	LS	\$80	1	\$4,435	1	\$2,957	1	\$2,957	1	\$5,914	1	\$2,957	1	\$2,957	1	\$2,957	1	\$1,478	1	\$4,435	1	\$4,435	1	\$5,914	1	\$2,957	1	\$2,957	1	\$1,478	1	\$1,478
Lighting Pedestrian Walkways	LS	\$25,000	0		0		0		0		0		0		0		0		0		0		0		0		0		0		0	
Subtotal Civil				\$14,657		\$9,556		\$4,117		\$11,693		\$2.957		\$13,127		\$11,866		\$1,478		\$9,267		\$9,576		\$35,135		\$7.098		\$2,957		\$1,478		\$1,478
Rail & Signal Improvements				71,001		70,000		, .,		7 1,000		<i>p</i> =,001		<i>γ</i> .ο,		71.,000		7 1,110		70,201		40,010		7 00,100		4 1,000		72,001		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		Ç., I. C
Upgrade Ped Gate to Road Gate	EA	\$5,000	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	1	\$5,000	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	2	\$10,000	2	\$10,000	0	\$0	0	\$0
New Flasher/Signal/Gate	EA	\$30,000	2	\$60,000	2	\$60,000	2	\$60,000	2	\$60,000	2	\$60,000	1	\$30,000	2	\$60,000	0	\$0	2	\$60,000	2	\$60,000	3	\$90,000	0	\$0	0	\$0	0	\$0	0	\$0
New Flasher/Signal/Gate w/ Ped Gate	EA	\$40,000	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
Relocate Existing Gate	EA	\$15,000	2	\$30,000	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	1	\$15,000	0	\$0	0	\$0	1	\$15,000	0	\$0	3	\$45,000	1	\$15,000	0	\$0	0	\$0
Remove Existing Gate	EA	\$1,000	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
Replace/extend Gate Arm	EA	\$1,500	2	\$3,000	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	2	\$3,000	0	\$0	0	\$0	1	\$1,500	1	\$1,500	2	\$3,000	2	\$3,000	0	\$0	0	\$0
New House	EA	\$200,000	0	\$0	0	\$0	1	\$200,000	1	\$200,000	0	\$0	0	\$0	1	\$200,000	0	\$0	1	\$200,000	0	\$0	1	\$200,000	0	\$0	0	\$0	0	\$0	0	\$0
Signal Preemption	EA	\$10,000	0	\$0	0	\$0	0	\$0	1	\$10,000	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
Vehicle Detection	EA	\$50,000	0	\$0	0	\$0	0	\$0	0	\$0	1	\$50,000	4	\$200,000	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
Queue Detection	EA	\$8,000	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
Low Volume Horn	EA	\$5,000	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
Add Ped Gate	EA	\$25,000	1	\$25,000	0	\$0	0	\$0	0	\$0	1	\$25,000	0	\$0	0	\$0	0	<u>\$0</u>	2	\$50,000	2	\$50,000	1	\$25,000	0	\$0	0	<u>\$0</u>	2	\$50,000	2	\$50,000
Extend Track Crossing Surface	LF of Rail	\$1,000	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	5	\$5,000	0	<u>\$0</u>	0	\$0	11	\$11,000	0	\$0	0	\$0	0	<u>\$0</u>	0	\$0	0	\$0
Subtotal Signal				\$118,000		\$60,000		\$260,000		\$270,000		\$135,000		\$235,000		\$278,000		\$0		\$310,000		\$137,500		\$316,500		\$58,000		\$28,000		\$50,000		\$50,000
									<u> </u>									<u> </u>														
Subtotals				\$132,657		\$69,556		\$264,117		\$281,693		\$137,957		\$248,127		\$289,866		\$1,478		\$319,267	1	\$147,076		\$351,635		\$65,098		\$30,957		\$51,478		\$51,478
Contingencies at Final Design				\$33,164 \$26,531		\$17,389 \$13,911		\$66,029 \$52,823		\$70,423 \$56,339		\$34,489 \$27,591		\$62,032 \$49,625		\$72,467 \$57,973		\$370 \$296		\$79,817 \$63,853	1	\$36,769 \$29,415		\$87,909 \$70,327		\$16,274 \$13,020		\$7,739 \$6,191		\$12,870 \$10,296		\$12,870 \$10,296
-			_		- '		-				_		_		-				•		-		_		-		_				_	
Subtotals (Rounded)				\$192,353	3	\$100,857		\$382,969		\$408,455		\$200,037		\$359,784		\$420,306		\$2,144		\$462,937		\$213,260		\$509,871		\$94,392	!	\$44,887		\$74,644		\$74,644

Total For Crossings in Maitland \$2,529,842

SunRail Work Items			Morse	e Blvd.	New Eng	land Ave.	New York	/Lyman Ave.	Fairba	nks Ave.	<u>Pennsylvani</u>	a/Holt Ave.	Minnes	ota Ave.	<u>Dennir</u>	ng Dr.	Orlando	o Ave.	Westche	ester Ave.	Virgi	nia Dr.	Alder	n Rd.	Highland	l Ave.	Magno	ia Dr.	N. Orang	ge Ave.
			Winte	r Park	Winte	r Park	Wint	er Park	Winte	er Park	Winter	Park	Winte	r Park	Winter	Park	Winter	Park	Winte	er Park	Orla	ando	Orla	ndo	Orland	do	Orlai	ndo	Orlai	ndo_
<u>Item</u> M	<u>Unit</u> Measure	Unit Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost
Civil Improvements																														
Clear & Grub	SY	\$10	50	\$500	247	\$2,470	246	\$2,460	169	\$1,690	0	\$0	75	\$750	225	\$2,250	0	\$0	0	\$0	136	\$1,360	0	\$0	307	\$3,070	0	\$0	177	\$1,770
Conc. Traffic Island w/ 'D' Curb 2' Wide	LF	\$38	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
Conc. Traffic Island w/ 'D' Curb 3' Wide	LF	\$41	0	\$0	0	\$0	0	\$0	306	\$12,546	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	60	\$2,460	73	\$2,993	0	\$0	0	\$0	0	\$0
Conc. Traffic Island w/ 'D' Curb 4' Wide	LF	\$45	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	54	\$2,430	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
Conc. Traffic Island w/ 'D' Curb 5' Wide	LF	\$48	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
Conc. Traffic Island w/ 'D' Curb 9' Wide	LF	\$61	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
Conc. Traffic Island w/ 'D' Curb 10' Wide	LF	\$67	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
Conc. Traffic Island w/ 'D' Curb 12' Wide	LF	\$71	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
Conc. Traffic Island w/ 'D' Curb 13' Wide	LF	\$77	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	109	\$8,393	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
Widen Exist. Pavement	SY	\$135	0	\$0	0	\$0	93	\$12,555	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	8	\$1,080	0	\$0	0	\$0
Driveway Closure/Relocation	SY	\$65	130	\$8,450	0	\$0	0	\$0	43	\$2,795	0	\$0	0	\$0	21	\$1,365	0	\$0	0	\$0	45	\$2,925	45	\$2,925	17	\$1,105	46	\$2,990	0	\$0
Conc. Curb & Gutter, Type E	LF	\$20	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
Conc. Curb & Gutter, Type F	LF	\$22	0	\$0	0	\$0	302	\$6.644	0	\$0	0	\$0	0	\$0	35	\$770	0	\$0	19	\$418	41	\$902	0	\$0	62	\$1,364	0	\$0	118	\$2,596
Conc. Curb, Type A	LF	\$30	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
Conc. Curb, Type D	LF	\$20	218	\$4,360	0	\$0	252	\$5,040	70	\$1,400	200	\$4,000	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	8	\$160	0	\$0	0	\$0
Conc. Traffic Separator 6'	LF	\$45	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
4" Concrete Sidewalk	SY	\$30	19	\$570	0	\$0	226	\$6,780	48	\$1,440	35	\$1,050	0	\$0	0	\$0	7	\$210	80	\$2,400	23	\$690	0	\$0	66	\$1,980	0	\$0	56	\$1,680
Handrail	LF	\$45	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
Guardrail w/ End Treatment	LF	\$54	0	\$0	0	\$0	0	\$0	0	\$0	75	\$4.050	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
Fencing, Type B, 5'-6'	LF	\$15	0	\$0	0	\$0 \$0	0	\$0	0	\$0	75	\$0.	0	\$0	0	\$0 \$0	0	\$0 \$0	0	\$0 \$0	0	\$0	830	\$12,450	545	\$8,175	89	\$1,335	0	\$0
Turf Sod	SY	\$5	102	\$459	0	\$0	163	\$734	38	\$171	119	\$536	0	\$0	11	\$50	6	\$27	0	\$0	33	\$149	000	\$0	7	\$32	05	\$0	55	\$248
Qwick Kurb	LF	\$80	102	\$439	0	\$0	103	\$754	0	\$0	119	\$0.00	0	\$0	0	\$30 \$0	0	\$0	0	\$0	0	\$0	0	\$0	132	\$10,560	0	\$0	0	\$0
Signing & Pavement Markings	LS	\$80	1	\$2,957	1	\$2,957	1	\$7.392	1	\$3.516	1	\$5.914	1	\$4,435	1	\$5,914	1	\$5,273	1	\$4.435	1	\$4,435	1	\$2,957	132	\$2,957	1	\$2,037	1	\$4,074
Lighting Pedestrian Walkways	LS	\$25,000	0	\$2,937	0	Ψ2,957	0	\$7,352	0	φ3,310	0	φ5,514	0	ψ4,433	0	ψ3,514	0	φ3,273	0	ψ4,433	0	φ4,433	Ò	φ2,557	0	Ψ2,537	0	φ2,037	0	φ4,074
Lighting Fedestrian Walkways	LO	\$23,000 II	0		0		0		U		0		U		0		U		0		U		0		0		0		0	
Subtotal Civil				\$17,296		\$5,427		\$41,605		\$23.558		\$15,549		\$7,615		\$10,348		\$13,903		\$7,253		\$12,921		\$21,325		\$30,482		\$6,362		\$10,368
Rail & Signal Improvements				<i>\$11,</i> 200		40,121		<i>\$11,000</i>		\$20,000		\$10,010		\$7,010		\$10,010		\$10,000		\$7,200		Ų12,021		\$21,020		400, 102		\$0,002		\$10,000
	EA	\$5,000	0	\$0	0	\$0	3	\$15,000	0	\$0	1	\$5,000	0	\$0	0	\$0	0	\$0	0	\$0	2	\$10,000	0	\$0	0	\$0	0	\$0	0	\$0
	EA	\$30,000	0	\$0	0	\$0	1	\$30,000	2	\$60,000	3	\$90,000	2	\$60,000	2	\$60,000	2	\$60,000	3	\$90,000	0	\$0	2	\$60,000	2	\$60,000	0	\$0	0	\$0
	EA	\$40,000	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
Relocate Existing Gate	EA	\$15,000	0	\$0	2	\$30,000	3	\$45,000	0	\$0	4	\$60,000	0	\$0	0	\$0	0	\$0	1	\$15,000	0	\$0	1	\$15,000	1	\$15,000	0	\$0	1	\$15,000
-	EA	\$1,000	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0		\$0	0	\$0		\$0		\$0	0	\$0		\$0
Replace/extend Gate Arm	EA	\$1,500	0	\$0	2	\$3,000	2	\$3.000	0	\$0 \$0	2	\$3,000	1	\$1,500	0	\$0 \$0	0	\$0 \$0	1	\$1,500	0	\$0	0	\$0	2	\$3,000	2	\$3,000	0	\$0
•	EA	\$200,000	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	1	\$200,000	1	\$200,000	0	\$0	1	\$200,000	0	\$0	0	\$0	1	\$200,000	1	\$200,000	1	\$200,000
Signal Preemption	EA	\$10,000	0	ФО ФО	0	ФО ФО	0	ФФ ФО	0	\$0	0	ф0 Ф0		\$0		φ200,000	0	\$0		\$0	0	\$0	4	\$10,000		\$10,000		\$0	0	\$0
-			0	\$0	0	\$0	0	\$0	-	**	0	\$0	0	• •	0	\$0	0	* -	0		0	* -	1		1		0		0	
	EA	\$50,000 \$8,000	0	\$0 \$0	0	\$0 \$0	0	\$0 \$0	0	\$0 \$0	0	\$0	0	\$0 \$0	U	\$0 \$0	0	\$0 \$0	0	\$0 \$0	0	\$0 \$8,000	0	\$0	0	\$0 \$0	0	\$0 \$0	0	\$0 \$0
	EA EA		0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	U	\$0	U	\$0	0	\$0	0	\$0	1		1	\$8,000	0	\$0	0		0	\$0
		\$5,000	0	\$0	0	\$0	0	\$0	0	\$0	U	\$0	0	\$0 \$0	0	\$0	0	\$0	0	\$0	2	\$10,000	U	\$0 #C	0	\$0 \$0	U	\$0	0	\$0
	EA	\$25,000	0	\$0	2	\$50,000	1	\$25,000	0	\$0	3	\$75,000	0		0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	* -	2	\$50,000	3	\$75,000
Extend Track Crossing Surface	LF of Rail	\$1,000	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	14	\$14,000	0	\$0	0	\$0	6	\$6,000	0	\$0	0	\$0
Subtotal Signal				\$0		\$83,000		\$118,000		\$60,000		\$233,000		\$261,500		\$260,000		\$60,000		\$320,500		\$28,000		\$93,000		\$294,000		\$253,000		\$290,000
Subtotals				\$17,296		\$88,427		\$159,605		\$83,558		\$248,549		\$269,115		\$270,348		¢72.000		\$327,753		\$40,921		\$114,325		\$324,482		\$259,362		\$200.260
Contingencies at 25%	5%			\$17,296		\$88,427 \$22,107		\$39,905		\$83,558 \$20.889		\$248,549 \$62.137		\$67,279		\$270,348 \$67.587		\$73,903 \$18,476		\$327,753 \$81.938		\$40,921		\$114,325		\$324,482 \$81.121		\$259,362 \$64.841		\$300,368 \$75,092
Final Design 209				\$3,459		\$17,685		\$31,921		\$16,712		\$49,710		\$53,823		\$54,070		\$14,781		\$65,551		\$8,184		\$22,865		\$64,896		\$51,872		\$60,074
			-				•		-		_		-		_		_		-		-		_		-		_		_	
Subtotals (Rounded)		-		\$25,079		\$128,219		\$231,427		\$121,159		\$360,396		\$390,217		\$392,005		\$107,160		\$475,242		\$59,335		\$165,771		\$470,499		\$376,075		\$435,533

Total for Crossings in Winter Park \$3,242,600

SunRail Work Items			Marks St.	<u>c</u>	Colonial Dr.	Conc	cord St.	Amelia	ı St.	Livingstor	on St.	Robinso	on St.	Jefferson	n St.	Washin	gton St.	Central E	Blvd.	Pine S	St.	Churc	h St.	South	ı St.	Americ	a St.	Ernest	ine St.	Gore	St.
Sunkali Work items			<u>Orlando</u>		<u>Orlando</u>	Orl	lando	Orlan	do	Orlando	<u>io</u>	Orlan	ıdo	Orland	do	Orla	<u>indo</u>	Orland	do	Orland	do	Orlar	<u>ido</u>	<u>Orlai</u>	ndo	Orlan	ndo	Orla	ndo	<u>Orlan</u>	ido
ltem Unit		t Quan	ntity Cost	Quantit	y <u>Cost</u>	Quantity	Cost	Quantity	Cost C	Quantity	Cost Qu	uantity	Cost	Quantity	Cost	Quantity	Cost Qu	uantity	Cost C	Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost
Civil Improvements	ire cos	<u>u</u>																													
Clear & Grub SY		\$10	132 \$1,32	.0	0 \$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	54	\$540	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
Conc. Traffic Island w/ 'D' Curb 2' Wide LF	:	38	0 \$	0	0 \$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
Conc. Traffic Island w/ 'D' Curb 3' Wide LF		§41	0 \$		0 \$0	0	\$0	40	\$1,640	0	\$0	0	\$0	40	\$1,640	100	\$4,100	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
Conc. Traffic Island w/ 'D' Curb 4' Wide LF		\$45	0 \$	60	0 \$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
Conc. Traffic Island w/ 'D' Curb 5' Wide LF		548	0 \$	0	0 \$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
Conc. Traffic Island w/ 'D' Curb 9' Wide LF		61	0 \$	60	0 \$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
Conc. Traffic Island w/ 'D' Curb 10' Wide LF		67	0 \$	0	0 \$0	0	\$0	0	\$0	0	\$0 \$0	0	\$0	0	\$0	0	\$0 ©0	0	\$0	0	\$0	0	\$0	0	\$0 \$0	0	\$0 \$0	0	\$0	0	\$0
Conc. Traffic Island w/ 'D' Curb 12' Wide LF Conc. Traffic Island w/ 'D' Curb 13' Wide LF		\$71 \$77	0 \$		0 \$0	0	\$0 \$0	0	\$0 \$0	0	\$0	0	\$0 \$0	0	\$0 \$0	0	\$0	0	\$0 \$0	0	\$0 ©0	0	\$0	0	\$0	0	\$0	0	\$0 \$0	0	\$0
Widen Exist. Pavement SY		135	0 \$		0 \$0	0	\$0	0	\$0	0	\$0 \$0	0	\$0	0	\$0 \$0	23	\$3,105	0	\$0	0	\$0	0	20	0	\$0	0	\$0 \$0	0	\$0	0	\$0
Driveway Closure/Relocation SY		135	0 \$	0	30 \$5,200	325	\$21,125	0	\$0 \$0	0	\$0	30	\$1,950	10	\$650	23	\$3,105	0	\$0 \$0	0	\$0	0	\$0	0	\$0	0	\$0	266	\$17,290	48	\$3,120
Conc. Curb & Gutter, Type E LF		\$20	0 \$	in 1	0 \$5,200	0	\$21,125	0	\$0	0	\$0	0	\$1,950	0	\$0	0	\$0	0	\$0 \$0	0	\$0 \$0	0	\$0	0	\$0 \$0	0	\$0	0	\$0	0	\$0,120
Conc. Curb & Gutter, Type F LF		\$22	0 \$		Ψ0	0	\$0	38	\$836	0	\$0	0	\$0	0	\$0	0	\$0	13	\$286	0	\$0 \$0	0	\$0	33	\$726	0	\$0	0	\$0	184	\$4,048
Conc. Curb, Type A LF		30	0 \$	-	0 \$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
Conc. Curb, Type D			71 \$1,42			0	\$0	0	\$0	0	\$0	87	\$1,740	102	\$2,040	34	\$680	0	\$0	0	\$0	0	\$0	13	\$260	0	\$0	0	\$0	0	\$0
Conc. Traffic Separator 6' LF		\$45	0 \$		75 \$7,875	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
4" Concrete Sidewalk SY			36 \$1,08			0	\$0	26	\$780	0	\$0	35	\$1,050	0	\$0	10	\$300	15	\$450	0	\$0	0	\$0	25	\$750	10	\$300	0	\$0	24	\$720
Handrail LF	:	\$45	0 \$	0	0 \$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
Guardrail w/ End Treatment LF		\$54	0 \$	60	0 \$0	0	\$0	0	\$0	0	\$0	0	\$0	270	\$14,580	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	545	\$29,430	440	\$23,760	667	\$36,018
Fencing, Type B, 5'-6'	:	\$15	0 \$	0	0 \$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	40	\$600	0	\$0	0	\$0	0	\$0	0	\$0	550	\$8,250	0	\$0	0	\$0
Turf Sod SY		\$5	30 \$13		υ ψυυυ	0	\$0	0	\$0	0	\$0	29	\$131	18	\$81	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	9	\$41	0	\$0	38	\$171
Qwick Kurb LF		80	0 \$			0	\$0	0	\$0	0	\$0	132	\$10,560	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
Signing & Pavement Markings LS		\$80	1 \$2,95	57	1 \$4,074	1	\$2,957	1	\$3,516	1	\$3,516	1	\$3,516	1	\$4,435	1	\$4,435	1	\$3,516	1	\$2,957	1	\$2,957	1	\$3,516	1	\$2,957	1	\$0	1	\$7,031
Lighting Pedestrian Walkways LS	\$25,	000 II	0		0	0		0		0		0		0		0		0		0		0		0		0		0		0	
Subtotal Civil			\$6.91	2	\$41.343		\$24.082		\$6.772		\$3.516		\$18.946		\$23,426		\$13,220		\$4.252		\$3.497		\$2.957		\$5.252		\$40.977		\$41.050		\$51.108
Rail & Signal Improvements			, ,,				, ,,		,.,		, , ,		, ,,		, ,				, , .		7,		, , , ,		, ,		, ,,		, ,,,,,		
Upgrade Ped Gate to Road Gate EA	\$5,	000	0 \$	0	2 \$10,000	0	\$0	2	\$10,000	2	\$10,000	0	\$0	0	\$0	1	\$5,000	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
New Flasher/Signal/Gate EA	\$30,	000	4 \$120,00	00	0 \$0	0	\$0	0	\$0	2	\$60,000	2	\$60,000	2	\$60,000	1	\$30,000	2	\$60,000	2	\$60,000	2	\$60,000	2	\$60,000	2	\$60,000	0	\$0	3	\$90,000
New Flasher/Signal/Gate w/ Ped Gate EA		000	0 \$	60	0 \$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
Relocate Existing Gate EA	\$15,	000	0 \$	0	0 \$0	0	\$0	0	\$0	1	\$15,000	0	\$0	0	\$0	0	\$0	1	\$15,000	0	\$0	1	\$15,000	0	\$0	1	\$15,000	0	\$0	1	\$15,000
Remove Existing Gate EA			0 \$		0 \$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
Replace/extend Gate Arm EA			0 \$.0	0 \$0	0	\$0	1	\$1,500	0	\$0	0	\$0	0	\$0	1	\$1,500	0	\$0	0	\$0	1	\$1,500	0	\$0	0	\$0	0	\$0	1	\$1,500
New House EA			1 \$200,00		0 \$0	0	\$0	0	\$0	0	\$0	1	\$200,000	1	\$200,000	1	\$200,000	0	\$0	1	\$200,000	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
Signal Preemption EA			0 \$	60	0 \$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
Vehicle Detection EA			0 \$	0	0 \$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
Queue Detection EA			0 \$	0	0 \$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
Low Volume Horn EA Add Ped Gate EA			0 \$	iO	0 \$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0 \$0	0	\$0	0	\$0
Extend Track Crossing Surface LF of Ra			0 \$	-	0 \$0	0	\$0 \$0	0	\$0 \$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$25,000 \$0	0	\$0	1	\$25,000 \$0	1	\$25,000	0	\$8,000	0	\$0 \$0	0	\$0
Extend Hack Clossing Surface	tali \$1,	500	9		50	0	\$0	٥	ΦΟ	0	Φ0	0	\$0	0	Φ0	U	\$0	0	\$0	٥	\$0	0	\$0	U	Φ0	٥	\$6,000	U	\$0	U	φ0
Subtotal Signal			\$320,00	10	\$10,000		\$0		\$11,500		\$85,000		\$260,000		\$260,000		\$236,500		\$100,000		\$260,000		\$101,500		\$85,000		\$83,000		\$0		\$106,500
Subtotals			\$326,9		\$51,343		\$24,082		\$18,272		\$88,516		\$278,946		\$283,426		\$249,720		\$104,252		\$263,497		\$104,457		\$90,252		\$123,977		\$41,050		\$157,608
Contingencies at 25% Final Design 20%			\$81,7 \$65,3		\$12,836 \$10,269		\$6,020 \$4,816	_	\$4,568 \$3,654		\$22,129 \$17,703	_	\$69,737 \$55,789	_	\$70,857 \$56,685	_	\$62,430 \$49,944	_	\$26,063 \$20,850	_	\$65,874 \$52,699	_	\$26,114 \$20,891		\$22,563 \$18,050	_	\$30,994 \$24,795	_	\$10,263 \$8,210		\$39,402 \$31,522
Subtotals (Rounded)			\$474,0		\$74,447	-	\$34,919		\$26,494	'	\$128,348		\$404,472		\$410,968		\$362,094		\$151,165		\$382,070	' -	\$151,462		\$130,865		\$179,767		\$59,523		\$228,532

SunRail Work Items			Columb		Kaley		Gran		Michig		Pinelo		Drenne			en Ave.	Jamaio			eyer Dr.	E. Mary J			dge Ave.	<u>Fairlane</u>			aster Rd.	Glenrose	
			Orlan	<u>do</u>	Orla	ndo	Orlan	ndo	Orla	ndo	Orlar	ndo**	Orlan	do**	Edge	ewood	Edgew	rood**	Edge	wood	Edgev	wood	Edge	ewood**	Edgewo	od**	Edge	ewood**	Edgewo	ood
<u>ltem</u>	<u>Unit</u> Measure	<u>Unit</u> Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost
Civil Improvements																														
Clear & Grub	SY	\$10	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	200	\$2,000	0	\$0	193	\$1,930	0	\$0	0	\$0	49	\$490	0	\$0	0	\$0	0	\$0
Conc. Traffic Island w/ 'D' Curb 2' Wide	LF	\$38	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	101	\$3,838	0	\$0	0	\$0	135	\$5,130	0	\$0
Conc. Traffic Island w/ 'D' Curb 3' Wide	LF	\$41	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
Conc. Traffic Island w/ 'D' Curb 4' Wide	LF	\$45	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
Conc. Traffic Island w/ 'D' Curb 5' Wide	LF	\$48	0	\$0	140	\$6,720	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
Conc. Traffic Island w/ 'D' Curb 9' Wide	LF	\$61	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
Conc. Traffic Island w/ 'D' Curb 10' Wide	LF	\$67 \$71	0	\$0 \$0	0	\$0	0	\$0	0	\$0 \$0	0	\$0	0	\$0 \$0	0	\$0	0	\$0 \$0	0	\$0 \$0	0	\$0	0	\$0	0	\$0 \$0	0	\$0 \$0	0	\$0 \$0
Conc. Traffic Island w/ 'D' Curb 12' Wide Conc. Traffic Island w/ 'D' Curb 13' Wide	LF LF	\$71 \$77	0	\$0 \$0	0	\$0 \$0	55	\$3,905 \$0	0	\$0 \$0	-	\$0 \$0	0	\$0 \$0	0	\$0 \$0	0	\$0	0	\$0 \$0	0	\$0 \$0	0	\$0 \$0	0	\$0 \$0	0	\$0 \$0	0	\$0 \$0
Widen Exist. Pavement	SY		0	\$0 \$0	0	\$0 \$0	0	\$0 \$0	0	\$0 \$0	0	\$0	0	\$0 \$0	0	\$0 \$0	0	\$0	0	\$0 \$0	0	\$0	0	\$0	0	\$0	0	\$0 \$0		\$0
Driveway Closure/Relocation	SY	\$135 \$65	0	\$0 \$0	40	\$2,600	0	\$0 \$0	96	\$5,590	0	\$0	20	\$1,300	0	\$0 \$0	0	\$0	0	\$0 \$0	0	\$0 \$0	0	\$0	0	\$0	0	\$0 \$0	0	\$0 \$0
Conc. Curb & Gutter, Type E	LF	\$20	0	\$0 \$0	0	\$2,600	0	\$0 \$0	0	\$5,590 \$0	0	\$0	20	\$1,300	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0 \$0		\$0
Conc. Curb & Gutter, Type F	LF	\$20	0	\$0 \$0	165	\$3.630	0	\$0	38	\$836	0	\$0 \$0	0	\$0 \$0	0	\$0	0	\$0 \$0	0	\$0 \$0	45	\$990	0	\$0	0	\$0	0	\$0 \$0	0	\$0
Conc. Curb & Guiter, Type I	LF	\$30	0	\$0	103	\$3,030	0	\$0	0	\$030	0	\$0 \$0	0	\$0	0	\$0	0	\$0 \$0	0	\$0	40	ψ390 \$0	0	\$0	0	\$0	0	\$0		\$0
Conc. Curb, Type D	LF	\$20	0	\$0	0	\$0	15	\$300	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	410	\$8,200	0	\$0	0	\$0	0	\$0
Conc. Traffic Separator 6'	LF	\$45	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	ı öl	\$0
4" Concrete Sidewalk	SY	\$30	0	\$0	72	\$2,160	0	\$0	66	\$1,980	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	74	\$2,220	150	\$4,500	0	\$0	0	\$0	0	\$0
Handrail	LF	\$45	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0 /	\$0
Guardrail w/ End Treatment	LF	\$54	0	\$0	0	\$0	0	\$0	0	\$0	125	\$6,750	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
Fencing, Type B, 5'-6'	LF	\$15	0	\$0	0	\$0	0	\$0	0	\$0	45	\$675	0	\$0	0	\$0	0	\$0	0	\$0	210	\$3,150	0	\$0	0	\$0	1360	\$20,400	0 /	\$0
Turf Sod	SY	\$5	0	\$0	77	\$347	5	\$23	14	\$63	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	92	\$414	0	\$0	0	\$0	0	\$0	0	\$0
Qwick Kurb	LF	\$80	0	\$0	0	\$0	0	\$0	192	\$15,360	0	\$0	0	\$0	100	\$8,000	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0 /	\$0
Signing & Pavement Markings	LS	\$80	1	\$2,957	1	\$3,516	1	\$2,957	1	\$3,516	1	\$2,957	1	\$2,957	1	\$2,957	1	\$2,957	1	\$2,957	1	\$4,435	1	\$3,516	1	\$2,957	1	\$6,112	1	\$1,500
Lighting Pedestrian Walkways	LS	\$25,000	0		0		0		0		0		0		0		0		0		0		0		0		0		0 /	
Subtotal Civil				\$2,957		\$18,972		\$7,184		\$27,345		\$10,382		\$6,257		\$10,957		\$4,887		\$2,957		\$15,047		\$16,706		\$2,957		\$31,642		\$1,500
Rail & Signal Improvements		_		_				_		_						_			1			_	11	_						
Upgrade Ped Gate to Road Gate	EA	\$5,000	1	\$5,000	0	\$0	0	\$0	2	\$10,000 \$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	2	\$10,000	0	\$0	0	\$0	0	\$0
New Flasher/Signal/Gate New Flasher/Signal/Gate w/ Ped Gate	EA EA	\$30,000	1	\$30,000 \$0	2	\$60,000 \$0	2	\$60,000 \$0	0	\$0 \$0	2	\$60,000	2	\$60,000 \$0	2	\$60,000 \$0	2	\$60,000	2	\$60,000 \$0	2	\$60,000 \$0	0	\$0	2	\$60,000	2	\$60,000 \$0	0	\$0 \$0
Relocate Existing Gate	EA	\$40,000 \$15,000	0	\$15,000	1	\$15,000	0	\$0 \$0	0	\$0 \$0	0	\$0 \$0	0	\$0 \$0	0	\$0	0	\$0	0	\$0 \$0	0	\$0 \$0	0	\$0	1	\$15,000	0	\$0 \$0		\$0
Remove Existing Gate	EA	\$1,000		\$15,000	0	\$15,000	0	\$0	0	\$0 \$0	0	\$0	0	\$0 \$0	0	\$0	0	φ0	0	\$0 \$0	0	20	0	\$0	1	\$15,000	0	\$0 \$0	0	\$0
Replace/extend Gate Arm	EA	\$1,000	1	\$1,500	1	\$1,500	0	\$0 \$0	0	\$0 \$0	0	φ0 \$0	0	\$0 \$0	0	\$0	0	φ0 \$0	0	\$0 \$0	0	\$0	0	\$0	1	\$1,500	0	\$0 \$0	0	\$0
New House	EA	\$200,000	0	\$1,300	0	\$1,500	0	\$0	0	\$0 \$0	0	\$0	0	\$0 \$0	0	\$0	0	\$0 \$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
Signal Preemption	EA	\$10,000	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	Φ0	0	\$0	1	\$10,000	1	\$10,000	0	\$0	1	\$10,000	ı öl	\$0
Vehicle Detection	EA	\$50,000	0	\$0 \$0	0	\$0	0	\$0	0	\$0 \$0	0	\$0 \$0	0	\$0 \$0	0	\$0 \$0	0	φ0 \$n	0	\$0 \$0	0	\$10,000	0	\$10,000	0	\$0	0	\$10,000	0	\$0
Queue Detection	EA	\$8,000	0	\$0 \$0	0	\$0	0	\$0	0	\$0 \$0	0	\$0 \$0	0	\$0 \$0	0	\$0	0	φ0 \$0	0	\$0	1	\$8,000	1	\$8,000	0	\$0	1	\$8,000	0	\$0
Low Volume Horn	EA	\$5,000	0	\$0	0	\$0	0	\$0 \$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0 \$0	0	\$0 \$0		\$0,000		\$0,000	0	\$0		\$0,000	0	\$0
Add Ped Gate	EA	\$25,000	1	\$25,000	0	\$0	0	\$0	0	\$0	0	\$0	1	\$25,000	0	\$0	0	\$0	0	\$0	1	\$25,000	0	\$0	0	\$0	1	\$25,000	ı öl	\$0
Extend Track Crossing Surface	LF of Rail	\$1,000	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	. 0	\$0	0	\$0
and the grant of		*.,		**	_	**		**		**	-	**	-	**		4.5		**			-	4-		**	1	**	_		ı İ	4.5
Subtotal Signal				\$76,500		\$76,500		\$60,000		\$10,000		\$60,000		\$85,000		\$60,000		\$60,000		\$60,000		\$103,000		\$28,000		\$76,500		\$103,000		\$0
Subtotals				\$79,457		\$95,472		\$67,184		\$37,345		\$70,382		\$91,257		\$70,957		\$64,887		\$62,957		\$118,047		\$44,706		\$79,457		\$134,642		\$1,500
Contingencies at				\$19,864		\$23,868		\$16,796		\$9,336		\$17,595		\$22,814		\$17,739		\$16,222		\$15,739		\$29,512		\$11,176		\$19,864		\$33,660		\$375
Final Design	20%		-	\$15,891	_	\$19,094	-	\$13,437	_	\$7,469	_	\$14,076	_	\$18,251		\$14,191		\$12,977		\$12,591		\$23,609	-	\$8,941		\$15,891		\$26,928	_	\$300
Subtotals (Rounded)				\$115,212		\$138,435		\$97,417		\$54,150		\$102,054		\$132,322		\$102,887		\$94,086		\$91,287		\$171,168		\$64,823		\$115,212		\$195,230		\$2,175

Total For Crossings In Orlando \$5,345,951

Total Estimated Costs for Quiet Zone Improvements

\$15,934,358

Total For Crossings in Edgewood \$836,870

APPENDIX D – REPORT OF QUIET ZONE DIAGNOSTIC REVIEWS (Separate Cover)



Report of Quiet Zone Diagnostic Reviews November 2011



November 30, 2011

TO: MAC Quiet Zone Subcommittee

FROM: Virginia L. Whittington, Director of Regional Partnerships

SUBJECT: Report of Quiet Zone Diagnostic Reviews

BACKGROUND

At the March 4, 2010 meeting of MetroPlan Orlando's Municipal Advisory Committee an overview of the rules and regulations associated with railroad crossings, locomotive horns and the associated safety issues was presented. During the meeting, concerns were raised regarding the affects train horn noise may have on communities located along the commuter rail line once SunRail is operational. Public safety was also addressed as consideration was given additional train traffic that would result from commuter rail service operating along the SunRail corridor. As a result of these discussions an Ad Hoc Quiet Zone Subcommittee (Quiet Zone Subcommittee) was established to explore the possibility of implementing quiet zones along the corridor with a focus on maintaining public safety and ensuring quality of life is not negatively impacted with the integration of SunRail into Central Florida's transportation system. Recognizing public safety and quality of life as being of critical importance to the region, the Quiet Zone Subcommittee established the following two-fold objective:

OBJECTIVE

To have quiet zones established along the corridor by the time SunRail begins operations in 2014¹ and

To encourage the Central Florida Commuter Rail Commission to adopt a quiet-zone ready policy which would address and assess the need for quiet zones to be established concurrently as future phases the project are developed.

Preliminary information gathered by staff and presented to the Quiet Zone Subcommittee was provided to the MetroPlan Orlando Board (Exhibit A). Based on a request made by the Quiet Zone Subcommittee, approval was granted for staff to move forward with conducting an analysis of the corridor to ascertain the requirements necessary to meet Federal Railroad Administration (FRA) safety standards for quiet zone readiness. Step one in the process involved a regional workshop hosted by MetroPlan Orlando in October 2010 where FRA staff

¹ Year adjusted from 2012 due to project approval delay.

Report of Quiet Zone Diagnostic Reviews November 30, 2011 Page 2 of 6

presented an overview of the federal quiet zone implementation process. Exhibit B contains Information provided at the workshop, which included (1) a map of the corridor, (2) SunRail Corridor Highway/Rail Grade Crossings list, and (3) FRA information outlining the steps needed to obtain a quiet zone designation. FDOT staff and members of the Central Florida Commuter Rail Commission called attention to the importance of the quiet zone process not delaying the overall construction of the SunRail project or causing increases to construction costs. It was also stressed that since funding for quiet zones is not part of the SunRail project, any costs borne from implementation of quiet zones would be the responsibility of the city or county where implemented.

Following the workshop, diagnostic reviews were scheduled for February 2011, but postponed due to an action by the Governor which halted the SunRail project for several months. Once approval to move forward with the project was received in July 2011, the diagnostic reviews were again scheduled and held in September 2011.

PROCEDURE/FINDINGS

FRA Train Horn Rule²

Following is the Federal Railroad Administration Train Horn Rule used as a guideline for this process:

Establishing a New Quiet Zone: A new quiet zone must be at least ½ mile in length and have at least one public highway-rail grade crossing. Every public grade crossing in a new quiet zone must be equipped at minimum with the standard or conventional flashing light and gate automatic warning system. A quiet zone may be established to cover a full 24-hour period or only during the overnight period from 10:00 p.m. to 7:00 a.m.

Local governments must work in cooperation with the railroad that owns the track, and the appropriate state transportation authority to form a diagnostic team to assess the risk of collision at each grade crossing where they wish to silence the horn. An objective determination is made about where and what type of additional safety engineering improvements are necessary to effectively reduce the risk associated with silencing the horns based on localized conditions such as highway traffic volumes, train traffic volumes, the accident history and physical characteristics of the crossing, including existing safety measures.

Examples of additional safety engineering improvements that may be necessary to reduce the risk of collisions include: medians on one or both sides of the tracks to prevent a motorist from driving around a lowered gate; a four-quadrant gate system to block all lanes of highway traffic; converting a two-way street into a one-way street; permanent closure of the crossing to highway traffic; or use of wayside horns posted at the crossing directed at highway traffic only.

Once all necessary safety engineering improvements are made, the local community must certify to FRA that the required level of risk reduction has been achieved. A quiet zone becomes effective and train horns go silent only when all necessary additional safety measures are installed and operational.

² Federal Railroad Administration Train Horn Rule from www.fra.gov

In accordance with the FRA recommended guidelines, MetroPlan Orlando established diagnostic review teams which consisted of city and county traffic engineers, city and county public safety officials, Florida Department of Transportation, and Federal Railroad Administration staff. Exhibit C includes a copy of the roster of the diagnostic review teams and the schedule used to conduct the diagnostic reviews. Federal Railroad Administration staff, along with Florida Department of Transportation staff worked with jurisdictions to identify safety measures that could be implemented to meet FRA safety standards. A comprehensive list of the results of the inventories is included at Exhibit D.

Subsequent to the diagnostic reviews conducted and in consideration of the options provided during the diagnostic reviews, each respective jurisdiction was asked to respond to the following questions:

- 1. Does your city/county plan to implement quiet zones? (If yes, provide responses to questions 2-4. If not, only respond to question 1.)
- 2. If so, which crossings would be included in the quiet zone?
- 3. Which of the options (recommended improvement(s)) your city/county plan to make in order to bring the crossings to quiet zone-readiness?
- 4. Finally, provide an estimated cost of those improvements (at each crossing).

Responses to these questions are non-binding and will be used only to make recommendations as to whether the implementation of quiet zones along the SunRail corridor is viable as a regional project or whether cities/counties that wish to proceed would do better to proceed on their own. Table 1 depicts the summary results of the diagnostic reviews based on responses received from the diagnostic review participants. Complete responses are also provided at Exhibit D.

Table 1 - Diagnostic Review Responses

County/City	Comments	Estimated Cost*
Volusia County		N/A
City of DeBary	City of DeBary does not plan to implement quiet zones at this time. Plans to revisit the issue during Phase II construction.	N/A
Seminole County	See memo at Exhibit D	\$2,000,000
City of Sanford	City of Sanford does not plan to implement quiet zones at this time, but may be interested if funding is identified for a regional project.	
City of Lake Mary	The City of Lake Mary is supportive of quiet zones, but has neither taken formal action nor	

	provided cost estimates.	
City of Longwood	City of Longwood is interested in establishing a quiet zone and would also be in participating regionally should funding become available.	
City of Casselberry	City of Casselberry does not plan to implement quiet zones at this time, but may be interested if funding is identified for a regional project.	
City of Altamonte Springs	City of Altamonte Springs does not plan to implement quiet zones at this time, but may be interested if funding is identified for a regional project.	
Orange County	Not yet determined	N/A
City of Maitland	City of Maitland currently plans to implement a quiet zone which will include all crossings in the city. The city is also interested in participating in a regional project should potential funding be identified.	\$1,300,000
City of Winter Park	City of Winter Park currently plans to implement a quiet zone that would include all crossings in the city. The city is interested in participating in a regional project should funding be identified.	\$4,000,000
City of Orlando	City of Orlando currently plans to implement a quiet zone from the Winter Park/Orlando city limit south to Princeton Street. Expansion of the quiet zone beyond Princeton Street is desirable, but contingent upon funding being identified for a regional project.	\$750,000
City of Edgewood	Not yet responded.	
TOTAL		\$8,050,000

*All costs are estimates based on safety measures presented. FRA calculations may not have been applied.

While each respective jurisdiction is ultimately responsible for implementation of quiet zones in their municipality, county staff participated in the diagnostics where county/city overlap exists. Seminole County Government for instance has submitted estimated calculations for all crossings (including municipalities) in Seminole County and has used the FRA safety risk calculator. Additional municipal input is advised to ensure city and county assumptions are the complementary. Individual city responses are also provided where available.

Report of Quiet Zone Diagnostic Reviews November 30, 2011 Page 5 of 6

Volusia County and the City of DeBary have opted out at this time, but do plan to revisit the issue during Phase II of the SunRail project construction at which time all crossings in Volusia County may be considered at the same time. To date responses have not been received from Orange County Government and the City of Edgewood, therefore participation is undetermined at this time.

RECOMMENDATIONS

The majority of the jurisdictions have expressed interest in moving forward with implementing quiet zones, however due to fiscal constraints many are unable to do so unless funding is identified through an alternative source. Three options emerged based on the findings of the diagnostic reviews and input from the jurisdictions:

Option 1

A contiguous quiet zone could be established from Sanford, in Seminole County, south to Princeton Street in the City of Orlando. The estimated cost is approximately \$8,000,000. This would require a regional cooperative effort between Seminole County, Sanford, Lake Mary, Longwood, Casselberry, Altamonte Springs, Orange County, Maitland, Winter Park, and Orlando.

Option 2

A contiguous quiet zone could be established from Mayo Avenue in Maitland, south to Princeton Street in the City of Orlando. The estimated cost for this scenario is approximately \$6,000,000. Again, this would require a cooperative effort between Orange County, and the cities of Maitland, Winter Park, and Orlando.

Option 3

Each municipality could move forward with implementing a quiet zone on its own. Estimated costs are noted in Table 1, where available.

Each of the three options take into account improvements that are already planned as part of Phase I construction of SunRail. However, the mutual benefit of multiple jurisdictions pooling crossings into a single, larger quiet zone has not been entirely vetted. Multiplicity, in this instance, could potentially provide further reductions to the overall risk factors and thus further reduce the cost of improvements needed in adjoining jurisdictions. Finally, for those cities that may be in a position to move forward with implementation on their own, any local funding available could potentially be leveraged against either a legislative apportionment or a competitive federal grant.

To date, a competitive federal grant opportunity has not been identified, however we are encouraged to know that a precedence has been set for awarding federal dollars to implement quiet zones. In south Florida, as part of the TIGER II award to the Port of Miami, quiet zones were included along the Florida East Coast (FEC) rail line to minimize noise impacts along the train route.

Report of Quiet Zone Diagnostic Reviews November 30, 2011 Page 6 of 6

It is understood that some municipalities may be ahead of others in terms of moving forward with implementing quiet zones. Based on the results of these diagnostic reviews staff recommends Seminole County, the cities of Sanford, Lake Mary, Longwood, Casselberry, Altamonte Springs, as well as the cities of Maitland, Winter Park and Orlando form a regional coalition to pursue implementation of a contiguous quiet zone in the region from Sanford to Orlando.

Whether a coalition is formed or whether the municipalities pursue quiet zones on their own, the next step in the process for those seeking to implement quiet zones is to provide written notice to the appropriate parties (i.e., All railroads operating over the public highway-rail grade crossings within the quiet zone, the state agency responsible for highway and road safety, and the state agency responsible for grade crossing safety.). Quiet Zone Creation and Establishment procedures, as outlined in the Federal Railroad Administration Quiet Zone Implementation process, are provided at Exhibit E. A Sample Submission packet is also provided for use and information.

A report of these findings will be made at the December 8, 2011 Municipal Advisory Committee meeting and a copy provided to the MetroPlan Orlando Board.

MetroPlan Orlando Board
 Transportation Technical Committee
 Mr. Harold W. Barley, Executive Director
 Mr. Gary Huttmann, Deputy Executive Director

Exhibits

Exhibit A - Quiet Zone Subcommittee Information

Exhibit B - Quiet Zone Workshop Information

Exhibit C - Diagnostic Review Team Roster and Schedule

Exhibit D - Diagnostic Review Results

Exhibit E - FRA Notice of Intent to Create a Quiet Zone and Notice of Establishment

Exhibit A





Quiet Zone Subcommittee Fact Sheet

Quiet Zone Subcommittee Members

Mayor Doug Kinson, City of Maitland (Chairman)
Mayor Ken Bradley, City of Winter Park (Vice-Chairman)
Mayor Michael Teague, City of Edgewood
Commissioner Shirley Gray, City of Lake Mary
Commissioner Joe Durso, City of Longwood
Commissioner Joe Keller, City of Ocoee

Project Manager: Virginia L. Whittington

BACKGROUND

On March 4, 2010, Municipal Advisory Committee meeting, Mr. David Grovdahl, METROPLAN ORLANDO staff, presented an overview of the rules and regulations associated with railroad crossings, locomotive horns and the associated safety issues. During the meeting, concerns were expressed regarding the affects of train horn noise may have on communities located along the commuter rail line once SunRail is operational. As a result of the discussions an Ad Hoc Quiet Zone Subcommittee (Quiet Zone Subcommittee) was established to explore the possibility of implementing quiet zones along the corridor in order to improve safety and to ensure quality of life is not negatively impacted. The Quiet Zone Subcommittee subsequently met in April and July 2010. At the April meeting, members requested additional background information be provided in order to aid with their continued discussions. Additionally, FDOT and the City of Orlando staff were invited to attend the next meeting. A copy of the background information provided following the April meeting is attached.

OBJECTIVE

To have quiet zones established along the corridor by the time SunRail begins operations in 2012.

To encourage the Commuter Rail Commission to adopt a quiet-zone ready policy which addresses and assesses the need for quiet zones to be established as construction plans are developed.



April 30, 2010

TO: MAC Quiet Zone Subcommittee

FROM: Virginia L. Whittington Director of Regional Fartnerships

SUBJECT: Information Requested at April 8th Quiet Zone Meeting

At the April 8th meeting of the Quiet Zone Subcommittee members requested staff to provide the following information for consideration:

How many rail crossings are along the 61-mile SunRail corridor?

According to representatives at FDOT, there are 126 crossings along the entire 61-mile SunRail corridor, 82 of which are between the Volusia/Seminole County line and Osceola County. A map showing all of the crossings is attached.

Additionally, maps are also provided which shows the total number of residential parcels within "x" distance of at-grade rail crossings in Phase-1 of the project within Seminole and Orange Counties (Sanford Station to Sand Lake Station).

Total Number of Residential parcels within 'x' distance of at-grade rail crossings in Phase-I:

Distance of at-grade rail crossing	Orange	Seminole	Total
Quarter mile	3,140	1,456	4,596
Half mile	9,351	5,267	14,618
One mile	23,155	13,689	36,844

How many accidents/fatalities have occurred at each crossing?

The total number of crashes that have occurred at various crossings along the corridor in Seminole and Orange Counties between 2001 and 2009 is 49. Twenty-six resulted in injuries and there are 14 reported fatalities. Each of these crashes involved a train and automobile. A detailed spreadsheet is provided which includes specific location, town, time of day/night, etc.

What is included in the "FDOT Study?"

Mr. Todd Hammerle, SunRail Project Manager, FDOT stated that beyond what has already been identified to occur during construction there are no FDOT studies currently underway with regard to at-grade crossing improvements. A listing of those Highway Grade Crossing Improvement Requirements and those improvements already identified can be reviewed by clicking the following link – http://sunrail.com/Documents/461.pdf (charts begin on page 67). Mr. Hammerle has also agreed to attend the next Subcommittee meeting to respond to any further questions you may have.

What is the position of the City of Orlando?

Safety along the SunRail line is of utmost importance to the City of Orlando. Ms. Christine Kefauver, Transportation Policy Advisor to Mayor Buddy Dyer, has stated she is also willing to attend a future meeting of the Quiet Zone Subcommittee.

During the meeting, the Quiet Zone Subcommittee briefly discussed identifying other potential members who may not currently be at the table. Commissioner Shirley Gray, City of Lake Mary, has expressed interest in participating as a member of the Quiet Zone Subcommittee. Therefore, a copy of the follow up information has been provided. Although Osceola County is not included in the segment identified in Phase I, staff also recommends that at a future date, an invitation be extended to include a representative from Osceola County (Kissimmee) who would also benefit from the work of the group in the future.

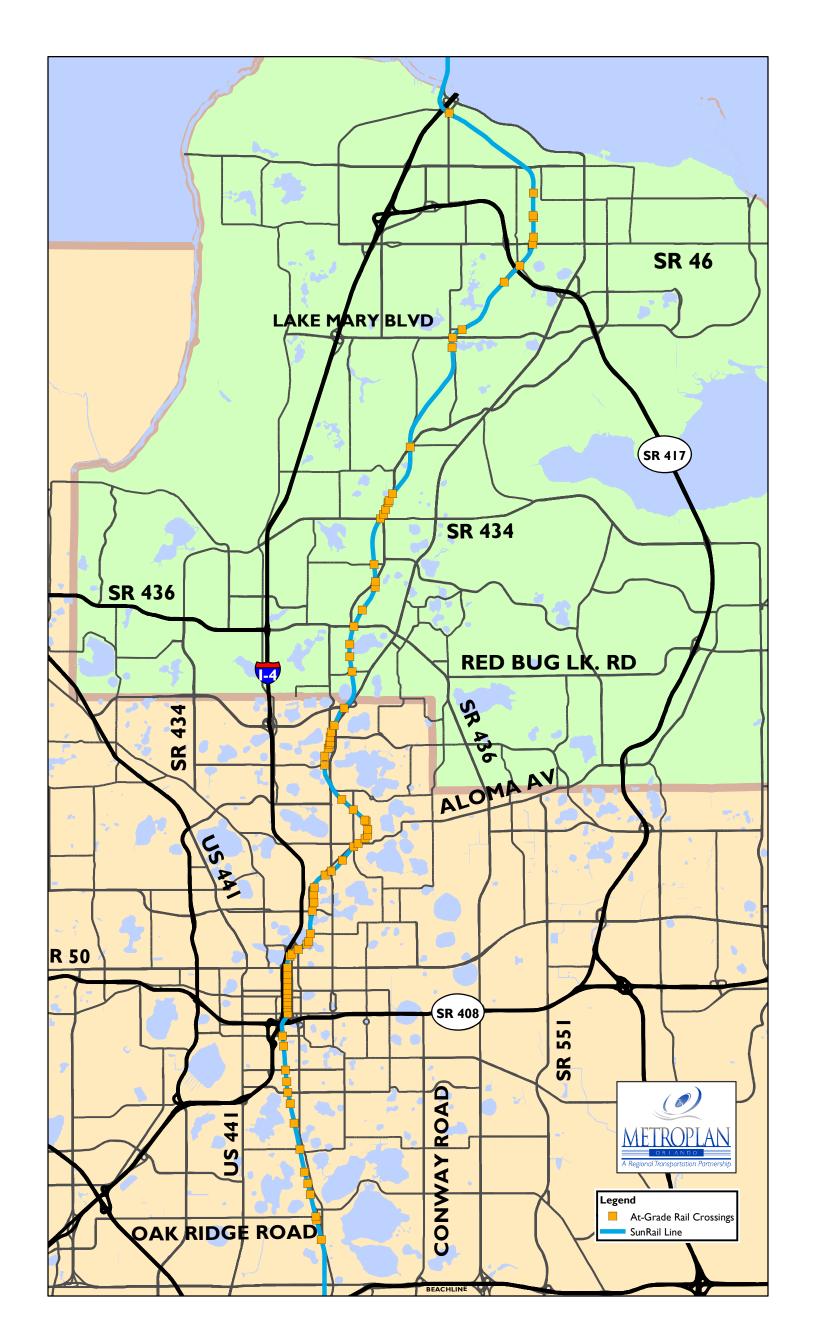
Finally, as you will recall, the May Municipal Advisory Committee meeting was cancelled due to the lack of significant items to bring forward. The next meeting of the MAC is Thursday, June 3, 2010 at 9:00 a.m. With this in mind, and to allow ample time for Quiet Zone Subcommittee members to review the information provided, staff recommends the next meeting of the Quiet Zone Subcommittee be scheduled for June 3rd at 8:00a.m.

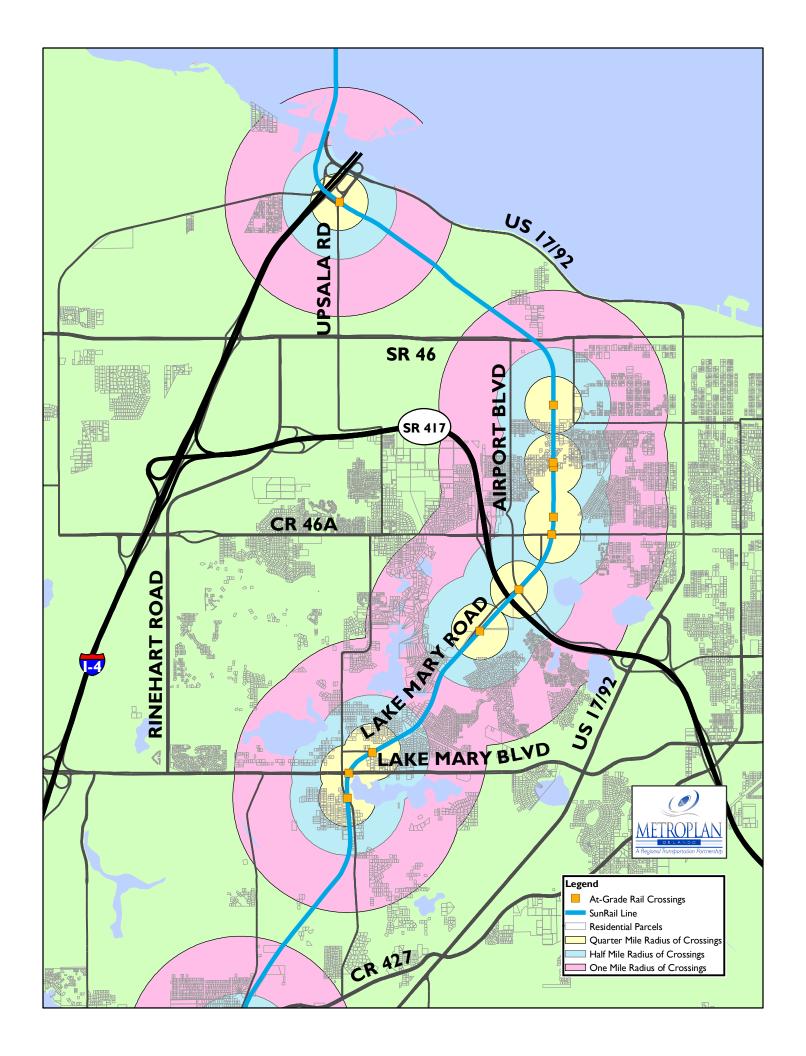
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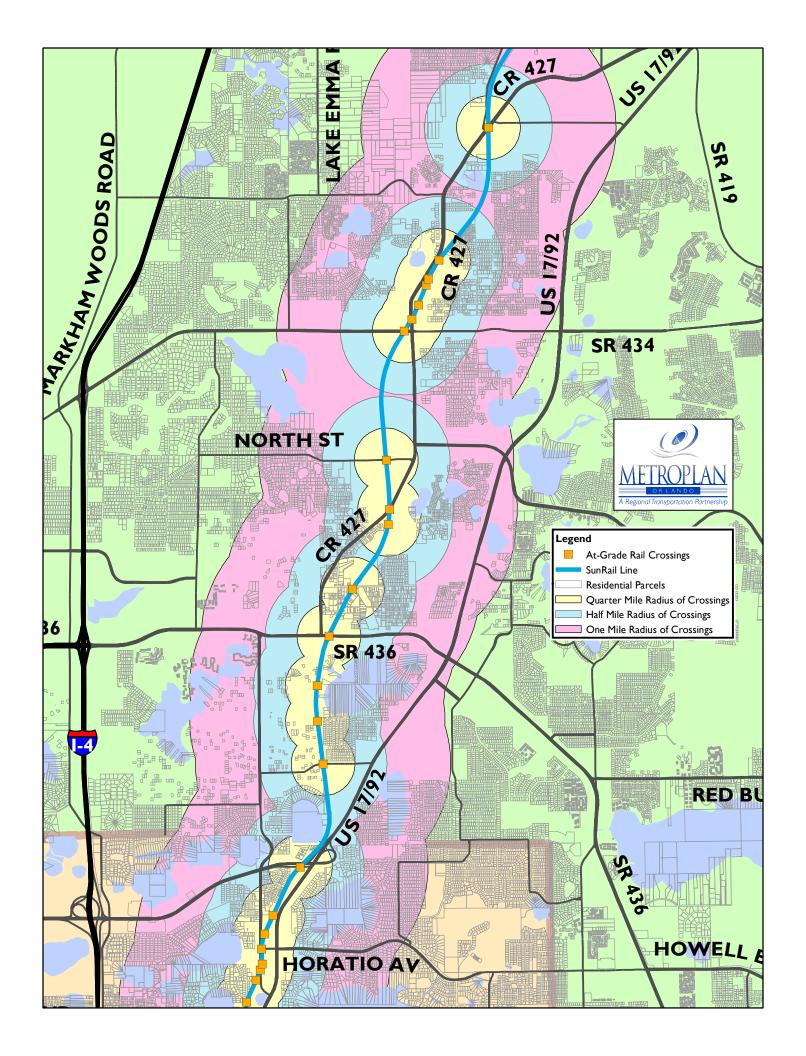
Attachments

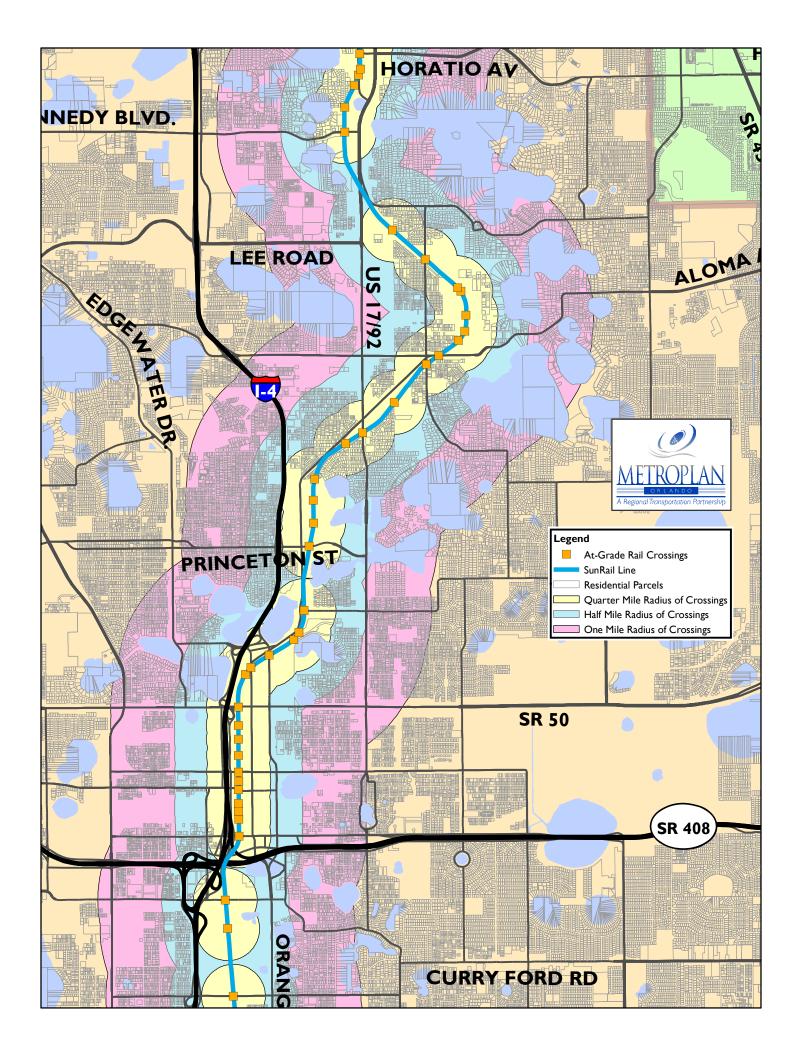
- Rail Crossing Map
- Residential Parcels Impacted (Maps 1-4)
- Train vs. Automobile Crash Report Years 2001-09

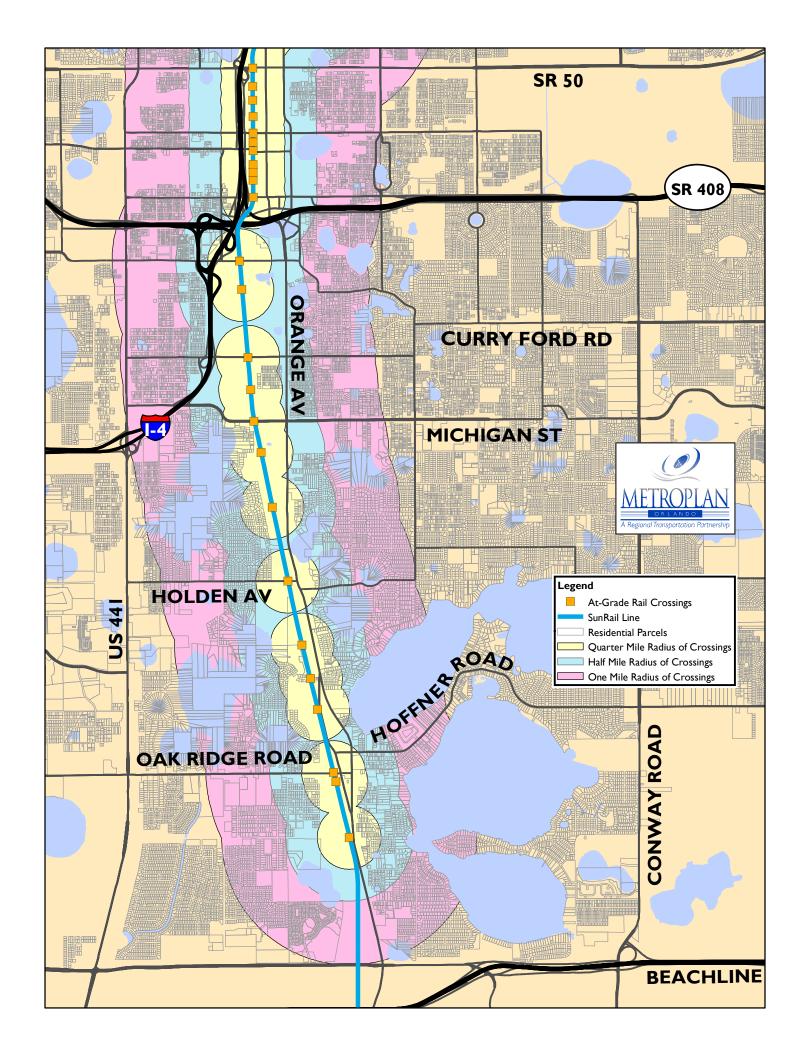














Train vs. Automobile Crash Report

(Years 2001-2009)

Report No.	Date of crash	Time of crash	FDOT County	Total vehicles	Total injuries	Total fatalities	City/Town	ONROAD	INTERSECTION
582741100	1/6/2001	15:02:00	ORANGE	2	1	0		DRENNEN ST	SR 527
598754540	1/12/2001	7:00:00	ORANGE	2	0	1		PINE ST	ORANGE AVE
575277880	1/19/2001	22:45:00	ORANGE	2	0	0		9 ST	
607647050	10/15/2001	23:34:00	ORANGE	2	0	0		COZY COVE CIR	SR 600
607200010	6/30/2001	1:48:00	SEMINOLE	2	1	0		MCCRACKIN RD	PERSIMMON AVE
598257420	7/26/2001	11:10:00	SEMINOLE	2	1	0			
607465720	12/11/2001	20:14:00	SEMINOLE	2	0	0			
736657410	7/1/2002	12:36:00	ORANGE	2	0	2	BELLE ISLE	GLENROSE AV	ORANGE AVE
714015980	10/12/2002	11:38:00	ORANGE	2	2	0	АРОРКА	CENTRAL AVE	STATION STREET
727856060	12/2/2002	22:17:00	ORANGE	2	1	0	ORLANDO	AMELIA ST	GARLAND
708180500	6/1/2002	2:50:00	SEMINOLE	2	3	0	SANFORD	W 19 ST	SOUTHWEST ST
720895050	4/1/2002	8:13:00	SEMINOLE	4	2	0	LONGWOOD	SR 434	CR 427
707797820	1/30/2003	21:05:00	ORANGE	2	1	0	BELLE ISLE	LANCASTER RD	SR 527
707801990	2/25/2003	12:37:00	ORANGE	2	0	0	EDGEWOOD	JAMAICA LN	ORANGE AVE
736345440	5/28/2003	16:10:00	ORANGE	2	0	1	ORLANDO	NELA AVE	SR 527
714071590	9/10/2003		ORANGE	2	0	0	ORLANDO	SR 482	CURRENCY DR
708880780	12/5/2003	9:03:00	SEMINOLE	2	0	0	LAKE MARY	W LAKE MARY BLVD	COUNTRY CLUB RD
736308750	3/24/2004	8:02:00	ORANGE	3	0	0	ORLANDO	APOPKA- VINELAND RD	CLARACONA- OCOEE RD
736569630	7/29/2004	7:24:00	ORANGE	2	0	1	PINE CASTLE	GLENROSE AV	ORANGE AVE S



Train vs. Automobile Crash Report

(Years 2001-2009)

Crash No.	Date of crash	Time of crash	FDOT County	Total of vehicles	Total injuries	Total fatalities	City/Town	ONROAD	INTERSECTION
736160620	8/15/2004	10:30:00	ORANGE	2	0	0	ORLANDO	1200 BLK S HIAWASSEE RD	FAIRWAY COVE DR
746676330	5/11/2004	22:40:00	SEMINOLE	2	0	0	SANFORD	MONROE RD	ORANGE BLVD
758889820	8/10/2004	7:40:00	SEMINOLE	2	0	0	SANFORD	WYLLY AVE	DEPOT AVE
714029930	4/17/2005	16:30:00	ORANGE	2	2	0	АРОРКА	LAKE DOE BLVD	DUNN COVE
736235020	1/18/2005	18:00:00	OSCEOLA	1	0	0	KISSIMMEE	POINCIANA BLVD	OLD TAMPA HWY
753125070	1/19/2005	7:29:00	OSCEOLA	2	1	0	ST CLOUD	MICHIGAN AVE	15TH ST
753255290	4/5/2005	23:40:00	SEMINOLE	2	1	0	SANFORD	COUNTRY CLUB RD	OLD LAKE MARY RD
739858870	12/18/2005	1:35:00	SEMINOLE	2	0	0	ALTAMONTE SPRINGS	RR TRACKS	UK
757936810	12/19/2005	5:25:00	SEMINOLE	2	0	0	ALTAMONTE SPRINGS	RAILROAD TRACKS	WILLIAMS ST
707102500	1/18/2006	13:21:00	ORANGE	2	0	0	WINTER PARK	PENNSYLVANIA AVE	CSX RR CROSSING
714236050	1/19/2006	18:49:00	ORANGE	2	0	0	ORLANDO	GLENROSE AV	SR 527
93176040	3/10/2006	17:24:00	ORANGE	2	0	0	ORLANDO	JEFFERSON ST	RAILROAD TRACKS
769124630	5/6/2006	20:15:00	ORANGE	2	0	0	EDGEWOOD	CSX RAIL LINE	HARROW AVE
707869840	9/4/2006	17:12:00	ORANGE	2	1	0	MAITLAND	LAKE AV	RR CROSSING
769021800	5/31/2006	17:38:00	OSCEOLA	2	1	0	KISSIMMEE	PONTCIANA BLVD	OLD TAMPA HWY
765313500	5/13/2006	0:48:00	SEMINOLE	2	0	0	SANFORD	25TH ST	OLD LAKE MARY RD

Source: Florida Department of Transportation



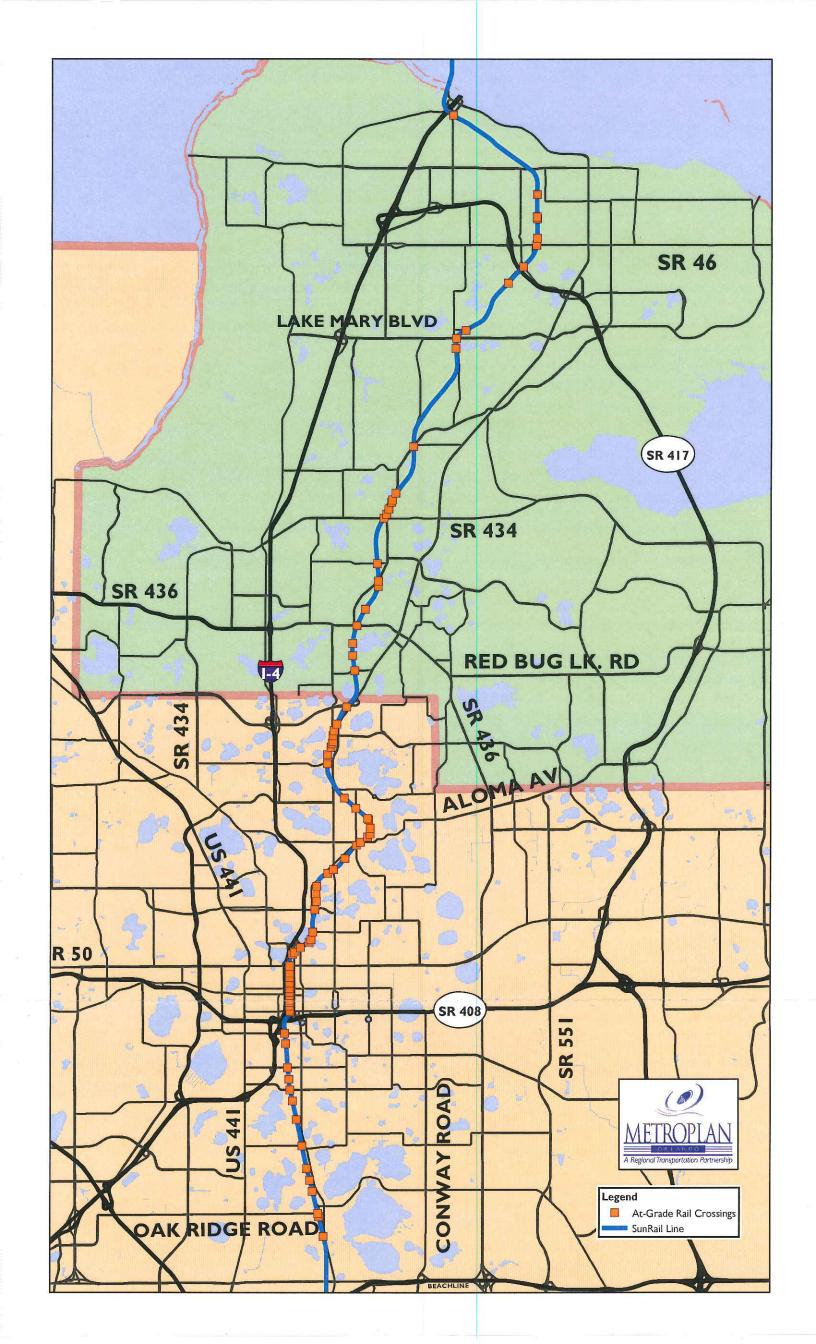
Train vs. Automobile Crash Report

(Years 2001-2009)

Crash No.	Date of crash	Time of crash	FDOT County	Total of vehicles	Total injuries	Total fatalities	City/Town	ONROAD	INTERSECTION
771804960	6/11/2007	19:24:00	ORANGE	1	0	0	ORLANDO	AQUATIC DR	US 441
728182850	10/15/2007	3:38:00	ORANGE	2	0	0	ORLANDO	ROBINSON ST	GARLAND AVE
762146900	12/6/2007	12:48:00	SEMINOLE	2	2	0	LONGWOOD	SR 434	WILMA ST R
915529280	5/16/2008	23:31:00	ORANGE	2	0	0	ORLANDO	ROBINSON ST	ORANGE AVE
707862810	11/11/2008	0:25:00	ORANGE	2	2	0	MAITLAND	HORATO AVE	MAITLAND AVE
774368500	11/28/2008	19:02:00	ORANGE	3	1	3	EDGEWOOD	LANCASTER ROAD	SR 527 ORANGE AVE
774409120	12/3/2008	17:21:00	ORANGE	2	0	0	ORLANDO	OAK RIDGE RD	ORANGE AVE
771953870	5/7/2008	14:42:00	SEMINOLE	2	0	0	SANFORD	AIRPORT BLVD	OLD LAKE MARY RD
771983440	6/10/2008	22:59:00	SEMINOLE	2	0	5	SANFORD	18TH ST WEST	ROAD SW
719305910	1/22/2009	14:31:00	ORANGE	2	0	1	EDGEWOOD	JAMICA LANE	ORANGE AVE
914730580	1/6/2009	20:58:00	ORANGE	1	0	0	ORLANDO	542 S CONWAY RD	PARK LOT
908160650	11/8/2009	20:46:00	ORANGE	2	3	0	ORLANDO	TURKEY LAKE RD	WALLACE RD
776785360	8/29/2009	3:04:00	OSCEOLA	2	0	0	KISSIMMEE	CR 532	OLD TAMPA HWY
					26	14			

Exhibit B





		CFCRT Corrido	or Highway/Ra	il Grade Cı	rossin	gs		
Dot #	Milepost	Street	City	County	State	Division	Type	Position
621294C	750.07	Old New York Ave.	DeLand	Volusia	FL	Jacksonville	Public	At Grade
621316A	751.11	Olson Corp Dr.	DeLand	Volusia	FL	Jacksonville	Private	At Grade
621317G	751.32	Alexander Dr.	DeLand	Volusia	FL	Jacksonville	Private	At Grade
621321W	755.36	W. Blue Springs Rd.	DeLand	Volusia	FL	Jacksonville	Private	At Grade
621323K	759.15	Highbanks Rd.	DeBary	Volusia	FL	Jacksonville	Public	At Grade
621324S	761.81	Ft. Florida Rd.	DeBary	Volusia	FL	Jacksonville	Public	At Grade
621325Y	762.60	Barwick Rd.	DeBary	Volusia	FL	Jacksonville	Public	At Grade
621328U	763.90	I4 Ramp / Monroe Ave.	Sanford	Seminole	FL	Jacksonville	Public	At Grade
622055F	766.52	McCracken Rd.	Sanford	Seminole	FL	Jacksonville	Public	At Grade
622056M	767.03	18th St.	Sanford	Seminole	FL	Jacksonville	Public	At Grade
622057U	767.07	Southwest Rd.	Sanford	Seminole	FL	Jacksonville	Public	At Grade
622059H	767.51	Country Club Rd.	Sanford	Seminole	FL	Jacksonville	Public	At Grade
622060C	767.67	CR 46A \ 25th St.	Sanford	Seminole	FL	Jacksonville	Public	At Grade
622061J	771.15	Airport Blvd.	Lake Mary	Seminole	FL	Jacksonville	Public	At Grade
915133W	771.59	Bellair Grove (Egrets Landing)	Lake Mary	Seminole	FL	Jacksonville	Public	At Grade
622063X	772.33	Pedigo Pt.	Lake Mary	Seminole	FL	Jacksonville	Public	At Grade
622064E	773.08	Palmetto St.	Lake Mary	Seminole	FL	Jacksonville	Public	At Grade
622065L	773.35	Lake Mary Blvd.	Lake Mary	Seminole	FL	Jacksonville	Public	At Grade
622066T	773.58	Country Club Rd.	Lake Mary	Seminole	FL	Jacksonville	Public	At Grade
622067A	776.12	CR 427	Longwood	Seminole	FL	Jacksonville	Public	At Grade
622068G	777.29	Georgia Ave.	Longwood	Seminole	FL	Jacksonville	Public	At Grade
622069N	777.46	E. Orange Ave.	Longwood	Seminole	FL	Jacksonville	Public	At Grade
622070H	777.52	Palmetto Ave.	Longwood	Seminole	FL	Jacksonville	Public	At Grade
622071P	777.68	Church St.	Longwood	Seminole	FL	Jacksonville	Public	At Grade
622072W	777.81	CR 427	Longwood	Seminole	FL	Jacksonville	Public	At Grade
622073D	777.91	SR 434	Longwood	Seminole	FL	Jacksonville	Public	At Grade
622074K	779.01	North St.	Longwood	Seminole	FL	Jacksonville	Public	At Grade
622075S	779.39	CR 427 / Dixie Hwy.	Longwood	Seminole	FL	Jacksonville	Public	At Grade
622076Y	779.52	Plumosa Ave.	Casselberry	Seminole	FL	Jacksonville	Public	At Grade
622077F	780.14	North St. (Merritt)	Altamonte Springs	Seminole	FL	Jacksonville	Public	At Grade
622078M	780.36	Leonard St.	Altamonte Springs	Seminole	FL	Jacksonville	Public	At Grade
622080N	780.55	SR 436 Altamonte Dr.	Altamonte Springs	Seminole	FL	Jacksonville	Public	At Grade
643806D	780.96	Prairie Lake \ Magnolia	Altamonte Springs	Seminole	FL	Jacksonville	Public	At Grade
622081V	781.24	Ballard St.	Altamonte Springs	Seminole	FL	Jacksonville	Public	At Grade
622082C	781.58	O'Brien Rd.	Altamonte Springs	Seminole	FL	Jacksonville	Public	At Grade
621581P	782.48	Mayo Ave. (Greenwood)	Maitland	Orange	FL	Jacksonville	Public	At Grade
622084R	782.93	Sybelia Ave.	Maitland	Orange	FL	Jacksonville	Public	At Grade
622085X	783.09	George Ave.	Maitland	Orange	FL	Jacksonville	Public	At Grade
622086E	783.21	Horatio Ave.	Maitland	Orange	FL	Jacksonville	Public	At Grade
622144X	783.32	Packwood Ave.	Maitland	Orange	FL	Jacksonville	Public	At Grade
622145E	783.37	Maitland Ave.	Maitland	Orange	FL	Jacksonville	Public	At Grade
622146L	783.46	Ventris Ave.	Maitland	Orange	FL	Jacksonville	Public	At Grade
622147T	783.66	Palmetto St.	Maitland	Orange	FL	Jacksonville	Public	At Grade
622148A	783.84	Lake Ave.	Maitland	Orange	FL	Jacksonville	Public	At Grade
622150B	784.73	N. Denning Dr.	Winter Park	Orange	FL	Jacksonville	Public	At Grade
622151H	785.08	W. Webster Ave.	Winter Park	Orange	FL	Jacksonville	Public	At Grade
622151F1	785.08	N. Pennsylvania Ave.	Winter Park	Orange	FL	Jacksonville	Public	At Grade
622153W	785.41	N. New York St.	Winter Park	Orange	FL	Jacksonville	Public	At Grade
622154D	785.45	Canton Ave.	Winter Park	Orange	FL	Jacksonville	Public	At Grade
622154D 622157Y	785.64	Morse Blvd.	Winter Park	_	FL	Jacksonville	Public	At Grade
				Orange				
622161N	785.77	New England Ave.	Winter Park	Orange	FL	Jacksonville	Public	At Grade

62216(32) 765.86 New York Ave. Winter Park Orange FL Jackstonville Public At Grade 62216(24) 765.06 Francisco Winter Park Orange FL Jackstonville Public At Grade 62216(37) 765.06 Ferrissylvaria Ave. Winter Park Orange FL Jackstonville Public At Grade 62216(37) 766.17 Holk Ave. Winter Park Orange FL Jackstonville Public At Grade 62216(37) 766.42 Minnesoria Ave. Winter Park Orange FL Jackstonville Public At Grade 62216(31) 766.56 Denning Dr. Winter Park Orange FL Jackstonville Public At Grade 62217(30) 767.07 Westbasseter Ave. Winter Park Orange FL Jackstonville Public At Grade 62217(31) 767.45 Winter Park Orange FL Jackstonville Public At Grade 62217(37) <th>Dot #</th> <th>Milepost</th> <th>Street</th> <th>City</th> <th>County</th> <th>State</th> <th>Division</th> <th>Type</th> <th>Position</th>	Dot #	Milepost	Street	City	County	State	Division	Type	Position
62216EV 765.86 Lyman Ave. Winter Park Orange FL Jacksonville Public At Grade 62216SR 7786.0F Feithans Ave. Winter Park Orange FL Jacksonville Public At Grade 62216SR 7786.17 Poln Ave. Winter Park Orange FL Jacksonville Public At Grade 62216SE 786.50 Denning Dr. Winter Park Orange FL Jacksonville Public At Grade 62216BT 786.50 Denning Dr. Winter Park Orange FL Jacksonville Public At Grade 62217DM 787.07 Westchaester Ave. Winter Park Orange FL Jacksonville Public At Grade 62217LD 787.60 Kinnos St. Orlando Orange FL Jacksonville Public At Grade 62217LD 787.60 Kinnos St. Orlando Orange FL Jacksonville Public At Grade		•		•					
622158R. 786.17 Pennsylvania Ave. Winter Park Orange FL. Jacksonville Public At Grade 622168L. 786.12 Nilmer Park Orange FL. Jacksonville Public At Grade 622168L. 786.52 Denning Dr. Winter Park Orange FL. Jacksonville Public At Grade 62216ST 786.50 Denning Dr. Winter Park Orange FL. Jacksonville Public At Grade 62217UU 787.07 Westchaester Ave. Winter Park Orange FL. Jacksonville Public At Grade 64381SC 787.62 King St. Exit Orlando Orange FL. Jacksonville Public At Grade 62217AP 788.50 Nirgina Dr. Orlando Orange FL. Jacksonville Public At Grade 62217AP 788.50 Nirgina Dr. Orlando Orange FL. Jacksonville Public At Grade 62217SW 788.60			† <i>*</i>						
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	622337W	797.94	Pine St.	Taft	Orange	FL	Jacksonville	Public	At Grade

Dot #	Milepost	Street	City	County	State	Division	Type	Position
622339K	798.24	Fourth St.	Taft	Orange	FL	Jacksonville	Public	At Grade
622340E	798.75	Taft-Vineland Rd.	Taft	Orange	FL	Jacksonville	Public	At Grade
926153N	800.77	Wetherbee Rd	Kissimmee	Orange	FL	Jacksonville	Public	At Grade
621502B	801.15	Fairway Woods Blvd.	Kissimmee	Orange	FL	Jacksonville	Public	At Grade
622407J	805.08	Garden St.	Kissimmee	Osceola	FL	Jacksonville	Public	At Grade
643810T	805.70	E. Carroll St.	Kissimmee	Osceola	FL	Jacksonville	Public	At Grade
622409X	806.22	E. Donegan Ave.	Kissimmee	Osceola	FL	Jacksonville	Public	At Grade
622410S	807.23	E. Vine St	Kissimmee	Osceola	FL	Jacksonville	Public	At Grade
622411Y	807.43	E. Magnolia Ave.	Kissimmee	Osceola	FL	Jacksonville	Public	At Grade
622412F	807.49	E. Oak St.	Kissimmee	Osceola	FL	Jacksonville	Public	At Grade
622415B	807.70	E. Park St.	Kissimmee	Osceola	FL	Jacksonville	Public	At Grade
622416H	807.94	E. Drury Ln.	Kissimmee	Osceola	FL	Jacksonville	Public	At Grade
622432S	808.07	Dakin Ave.	Kissimmee	Osceola	FL	Jacksonville	Public	At Grade
622434F	808.15	E. Monument St.	Kissimmee	Osceola	FL	Jacksonville	Public	At Grade
643802B	808.22	Memorial Walkway	Kissimmee	Osceola	FL	Jacksonville	Public	At Grade
622435M	808.28	Ruby Ave.	Kissimmee	Osceola	FL	Jacksonville	Public	At Grade
622437B	808.61	Vernon Rd.	Kissimmee	Osceola	FL	Jacksonville	Private	At Grade
622438H	808.76	Penfield Ave.	Kissimmee	Osceola	FL	Jacksonville	Public	At Grade
622944J	808.77	Clyde Ave.	Kissimmee	Osceola	FL	Jacksonville	Public	At Grade
622946X	810.45	Pleasant Hil Rd.	Kissimmee	Osceola	FL	Jacksonville	Public	At Grade
622948L	812.16	Crestridge Dr.	Kissimmee	Osceola	FL	Jacksonville	Public	At Grade
626405J	813.77	Poincianna Blvd.	Kissimmee	Osceola	FL	Jacksonville	Public	At Grade
Private Cross	0	cheduled to be installed						
110 Orosoning	Training - O	choduled to be included						



Federal Railroad Administration Train Horn Rule Fact Sheet

Purpose:

The goal of the Federal Railroad Administration (FRA) in developing the train horn rule is to ensure safety for motorists at highway-rail grade crossings while allowing communities the opportunity to preserve or enhance quality of life for their residents by establishing areas/times in which train horns are silenced.

Historical Background:

Since their inception, railroads have sounded locomotive horns or whistles in advance of grade crossings and under other circumstances as a universal safety precaution. During the 20th century, nearly every state in the nation enacted laws requiring railroads to do so. Some states allowed local communities to create whistle bans where the train horn was not routinely sounded.

In the early 1990's, the FRA observed a significant increase in train-vehicle collisions at certain gated grade crossings in Florida which coincided with a statewide whistle ban on the Florida East Coast Railroad (FECR). In 1993, FRA issued Emergency Order #15 requiring trains on the FECR to sound their horns again, pre-empting the 1984 Florida statute that created the ban. The number and rate of collisions at affected crossings returned to pre-whistle ban levels.

In 1994, Congress mandated that the FRA issue a federal regulation requiring the sounding of locomotive horns or whistles at all public highway-rail grade crossings; and to provide for exceptions to that requirement by allowing communities to establish "quiet zones." In 1996, Congress added that special consideration be given to communities with long-standing or legacy whistle bans.

Before finalizing the rule, FRA held public meetings around the country and solicited comment from scores of affected communities and stakeholders. Based upon the voluminous input received, FRA published an Interim Final Rule in December 2003, refining its original proposal and inviting additional public comment. The final federal train horn rule became effective on June 24, 2005.

The rule provides the first opportunity ever for many local communities around the country affected by train horn noise the option of silencing horns by establishing quiet zones.

Sounding the Locomotive Horn:

Under the Train Horn Rule, locomotive engineers must sound train horns for a minimum of 15 seconds, and a maximum of 20 seconds, in advance of all public grade crossings, except:

- If a train is traveling faster than 45mph, engineers will not sound the horn until it is within ¼ mile of the crossing, even if the advance warning is less than 15 seconds.
- If a train stops in close proximity to a crossing, the horn does not have to be sounded when the train begins to move again.
- There is a "good faith" exception for locations where engineers can't precisely estimate their arrival at a crossing.

Wherever feasible, train horns must be sounded in a standardized pattern of 2 long, 1 short and 1 long. The horn must continue to sound until the lead locomotive or train car occupies the grade crossing.

For the first time, a maximum volume level for the train horn has been established at 110 decibels. The minimum sound level remains 96 decibels. Railroads have until 2010 to fully comply with the maximum volume level requirement.

Establishing a New Quiet Zone:

A new quiet zone must be at least ½ mile in length and have at least one public highway-rail grade crossing. Every public grade crossing in a new quiet zone must be equipped at minimum with the standard or conventional flashing light and gate automatic warning system. A quiet zone may be established to cover a full 24-hour period or only during the overnight period from 10:00 P.M. to 7:00 A.M.

Local governments must work in cooperation with the railroad that owns the track, and the appropriate state transportation authority to form a diagnostic team to assess the risk of collision at each grade crossing where they wish to silence the horn. An objective determination is made about where and what type of additional safety engineering improvements are necessary to effectively reduce the risk associated with silencing the horns based on localized conditions such as highway traffic volumes, train traffic volumes, the accident history and physical characteristics of the crossing, including existing safety measures.

Examples of additional safety engineering improvements that may be necessary to reduce the risk of collisions include: medians on one or both sides of the tracks to prevent a motorist from driving around a lowered gate; a four-quadrant gate system to block all lanes of highway traffic; converting a two-way street into a one-way street; permanent closure of the crossing to highway traffic; or use of wayside horns posted at the crossing directed at highway traffic only.

Once all necessary safety engineering improvements are made, the local community must certify to FRA that the required level of risk reduction has been achieved. A quiet zone becomes effective and train horns go silent only when all necessary additional safety measures are installed and operational.

Quiet Zone Exceptions:

In a quiet zone, engineers have no legal duty to sound the horn, but do have discretion to do so during emergency situations (i.e. the presence of a vehicle or a person on the track).

Under federal regulations, engineers must sound the horn to warn railroad maintenance employees or contractors working on the tracks.

Monitoring Quiet Zones:

If a railroad or particular engineer is observed failing to sound horns as required or is repeatedly and unnecessarily sounding the horn in an established quiet zone, FRA will seek to remedy the situation or take enforcement action.

Effect of the Rule on Pre-Existing Whistle Bans:

Legacy whistle bans were established by local ordinance or through agreements with specific railroads in accordance with existing state law, or through informal agreements honored or abided by a railroad. The new rule required communities with whistle bans to affirmatively state their intention to preserve it by submitting specific paperwork converting the ban to a "prerule quiet zone." Those that failed to do so by a specified deadline lost their special status and railroads resumed routine sounding of horns.

Pre-rule quiet zone communities that completed the required paperwork have been granted an extended grace period (from 5 to 8 years) to achieve compliance with certain rule requirements. During the grace period, local communities must periodically file paperwork to demonstrate their progress toward compliance or the horns will start sounding again.

The Chicago area's numerous pre-existing whistle bans are temporarily excepted from compliance with the rule because of their unique experience with this issue. After an ongoing collaborative review is completed, the FRA will determine the final status of the Chicago pre-rule quiet zones.

For a list of key terms and definitions click here
To view the Federal Register posting of the Train Horn Rule click here
For more detailed information about the Train Horn Rule click here

For additional information, please contact FRA Public Affairs (202) 493-6024 or www.fra.dot.gov. December 2006

Exhibit C





Quiet Zone Diagnostic Review Teams As of September 19, 2011

Seminole County (Unincorporated areas)

Name	E-Mail Address Mailing Address		
Jerry McCollum, P.E., County Engineer	jmccollum@seminolecountyfl.gov	520 W. Lake Mary Boulevard, Suite 200, Sanford, FL 32773	407-665-5651
Charlie Wetzel, P.E., County Traffic Engineer	cwetzel@seminolecountyfl.gov	140 Bush Loop, Sanford, FL 32773	407-665- 5678
Principal Engineer	inniackadar <i>ia</i> icominolocolintuti dov	520 W. Lake Mary Boulevard, Suite 200, Sanford, FL 32773	407-665-5702
Tad Stone, Director Public Safety Department	<u>Tstone@seminolecountyfl.gov</u>	150 Bush Boulevard, Sanford, FL 32773	407-665-5001

City of Sanford (6)

Name	E-Mail Address	IIV/Iailina /\ddracc	Phone Number
Supervisor	SCOTT. Drooke@sanfordfl.gov 407-637-6341 cell	City of Sanford 800 North Fulton St. Sanford, FL 32771	407-688-5080
Bilal Iftikha,City Engineer	Bilal.iftikha@sanfordfl.gov	City of Sanford 800 North Fulton St. Sanford, FL 32771	

City of Lake Mary (6, incl. 1pvt)

	1 /		
Name	E-Mail Address	IN/ALLINA Addrocc	Phone Number
	idschindler@lakemarvti.com	City of Lake Mary 911 Wallace	407-585-1442
Planner	386-717-1789 cell	Court, Lake Mary Fl	407-363-1442

Lt. Mike Biles	mbiles@lakemaryfl.com	Lake Mary PD 165 E. Crystal Lake Avenue, Lake Mary, FL 32746	407-585-1310

City of Longwood (9)

Name	E-Mail Address	Mailing Address	Phone Number
John Peters, PE, City Engineer	jpeters@Longwoodfl.org 407-427-9786 cell	City of Longwood 180 E Warren Ave Longwood, FL 32750	407-263-2335
Kelly Morrow, Crime Analyst	kmorrow@longwoodfl.org	Longwood Police Department 235 W. Church Ave Longwood, FL 32750	407-260-3424

Casselberry (1)

, , (,			
Name	E-Mail Address	Mailing Address	Phone Number
Assistant Public Works	kbrock@casselberry.org	•	(407) 262- 7725 ext 1235

City of Altamonte Springs (6)

Name	E-Mail Address	Mailing Address	Phone Number
Bruce Doag Director of Transportation	bdoag@altamonte.org 407-461-2845 cell	City of Altamonte Springs 225 Newburyport Avenue Altamonte Springs, FL 32701	
Jamie Coker, Senior Planner, Growth Management	jcoker@altamonte.org	City of Altamonte Springs 225 Newburyport Avenue Altamonte Springs, FL 32701	407-571-8146

Ed Torres, M.S., P.E., LEED AP, Public Works Director	etorres@altamonte.org	City of Altamonte Springs 225 Newburyport Avenue Altamonte Springs, FL 32701	407-571-8334
Commander Dan Smutz Altamonte Springs Police Department	dlsmutz@altamonte.org	City of Altamonte Springs 225 Newburyport Avenue Altamonte Springs, FL 32701	407-571-8309

Orange County (Unincorporated areas) (4)

Name	E-Mail Address	Mailing Address	Phone Number
John Klimovitch		4200 S. John Young Parkway, Orlando 32839	
Gary Rodgers		4200 S. John Young Parkway, Orlando 32839	407-836-7890

City of Maitland (9)

Name	E-Mail Address	Mailing Address	Phone
			Number
Charlie Wallace,	<u>cwallace@itsmymaitland.c</u>	1776	407-539-
Transportation	<u>om</u>	Independence	6217
Engineer		Lane	
	407-448-3262 cell	Maitland, FL	
Dave Manuel	dmanuel@itsmymaitland.co	1776	407-539-
Deputy Chief,	<u>m</u>	Independence	6234
Maitland PD		Lane	
		Maitland, FL	

City of Winter Park (16)

Name	E-Mail Address	IIVIailina Address	Phone Number
Butch Margrai	wmargraf@cityofwinterpark.org	401 Park Av., South Winter Park, FL 32789	407-599-3411
Don Marcotte	dmarcotte@cityofwinterpark.org 321-303-5192 cell		

City of Orlando (33)

Name	E-Mail Address	IIVIAIIINA AAATESS	Phone Number
Claudia Korobkoff Transportation Planning	<u>claudia.korobkoff@cityoforlando.net</u>	City of Orlando 400 South Orange Avenue Orlando, Florida 32801	
Charles Ramdatt, P.E. Traffic Engineering	Charles.ramdatt@cityoforlando.net	City of Orlando 400 South Orange Avenue Orlando, Florida 32801	(407) 246- 3325

City of Edgewood (9)

Name	E-Mail Address	Mailing Address	Phone Number
Mayor Ray Bagshaw	rbagshaw@edgewood-fl.gov	405 Larue Avenue, Edgewood, FI, 32809-3406	407-492-0833
Councilman Neil Powell		405 Larue Avenue, Edgewood, FI, 32809-3406	407-851-2920
Art Miller City Engineer	art@armengr.com 321-689-7519 cell	1516 Hillcrest Street, Suite 212, Orlando, FL 32803	407-841-4084 x201

Volusia County

Name	E-Mail Address	Mailing Address	Phone Number
Mark D. Tobin, P.E. Civil Engineer, III	mtobin@co.volusia.fl.us	Volusia County Traffic Engineering Division 123 W. Indiana Avenue, Room 400	DeLand (386) 736-5968 ext. 2574 Daytona (386) 257-6000 ext. 2574 New Smyrna Beach (386) 423-3300 ext. 2574

City of DeBary (3)

Name	E-Mail Address	Mailing Address	Phone Number
Alan Williamson Safety Coordinator	awilliamson@debary.org	•	386-668-2040 ext 323
Bob Keeth	RKeeth@volusiatpo.org 386-689-0043	Volusia TPO 2570 W. International Speedway Blvd., Suite 100 Daytona Beach, FL 32114	(386) 226- 0422

Florida Department of Transportation

Tiorida Dopartinont o			
Name	E-Mail Address	IIVIAIIINA MAALOCC	Phone Number
Todd Hammerle	Todd.hammerle@dot.state.fl.us	FDOT 712 S. Woodland Blvd Deland, FL 32720	(386) 943- 5707
Annette Lapkowski, CO Rail Office	Annette.Lapkowski@dot.state.fl.us		850-294-1766 cell

Scott Allbritton, CO Rail Office	Scott.Allbritton@dot.state.fl.us	
Jim Ganey, D5	<u>Jim.Ganey@dot.state.fl.us</u>	(386) 943- 5331
Rick Tonet, Consultant to FDOT	Rick.Tonet@aecom.com	

Federal Railroad Administration

Name	E-Mail Address	Mailing Address	Phone Number
Tom Drake, Grade Crossing Manager	Thomas arako e do tigo v	INnarnshiird (3A	(707) 251- 6186

MetroPlan Orlando

Name	E-Mail Address	IIV/Iailina /\ddracc	Phone Number
Virginia Whittington	vlewis@metroplanorlando.com (407) 497-1536 cell	315 E. Robinson St. Orlando 32801	(407) 481- 5672
Tung-Lung Cheng	tcheng@metroplanorlando.com	315 E. Robinson St. Orlando 32801	(407) 481- 5672

Dot#	Day	Start Time	Milepost	Street	City	County	State	Division	Туре	Position
621325Y	9/20/2011	7:15 AM	762.6	Barwick Rd.	DeBary	Volusia	FL	Jacksonville	Public	At Grade
621328U	9/20/2011	7:40 AM	763.9	I-4 Ramp / Monroe Ave.	Sanford	Seminole	FL	Jacksonville	Public	At Grade
622055F	9/20/2011	8:10 AM	766.52	McCracken Rd.	Sanford	Seminole	FL	Jacksonville	Public	At Grade
622056M	9/20/2011	8:33 AM	767.03	18th St.	Sanford	Seminole	FL	Jacksonville	Public	At Grade
622057U	9/20/2011	8:53 AM	767.07	Southwest Rd.	Sanford	Seminole	FL	Jacksonville	Public	At Grade
622059H	9/20/2011	9:15 AM	767.51	Country Club Rd.	Sanford	Seminole	FL	Jacksonville	Public	At Grade
622060C	9/20/2011	9:37 AM	767.67	CR 46A / 25th St.	Sanford	Seminole	FL	Jacksonville	Public	At Grade
622061J	9/20/2011	10:00 AM	771.15	Airport Blvd.	Lake Mary	Seminole	FL	Jacksonville	Public	At Grade
915133W	9/20/2011	10:22 AM	771.59	Bellair Grove (Egrets Landing)	Lake Mary	Seminole	FL	Jacksonville	Public	At Grade
622063X	9/20/2011	10:44 AM	772.33	Pedigo Pt.	Lake Mary	Seminole	FL	Jacksonville	Private	At Grade
622064E	9/20/2011	11:05 AM	773.08	Palmetto St.	Lake Mary	Seminole	FL	Jacksonville	Public	At Grade
622065L	9/20/2011	11:27 AM	773.35	Lake Mary Blvd.	Lake Mary	Seminole	FL	Jacksonville	Public	At Grade
622066T	9/20/2011	11:49 AM	773.58	Country Club Rd.	Lake Mary	Seminole	FL	Jacksonville	Public	At Grade
	9/20/2011	12:04 PM		Lunch start						
	9/20/2011	12:44 PM		Lunch end						
622067A	9/20/2011	12:57 PM	776.12	CR 427	Longwood	Seminole	FL	Jacksonville	Public	At Grade
622068G	9/20/2011	1:21 PM	777.29	Georgia Ave.	Longwood	Seminole	FL	Jacksonville	Public	At Grade
622069N	9/20/2011	1:42 PM	777.46	E. Orange Ave.	Longwood	Seminole	FL	Jacksonville	Public	At Grade
622070H	9/20/2011	2:03 PM	777.52	Palmetto Ave.	Longwood	Seminole	FL	Jacksonville	Public	At Grade
622071P	9/20/2011	2:24 PM	777.68	Church St.	Longwood	Seminole	FL	Jacksonville	Public	At Grade
622072W	9/20/2011	2:45 PM	777.81	CR 427	Longwood	Seminole	FL	Jacksonville	Public	At Grade
622073D	9/20/2011	3:07 PM	777.91	SR 434	Longwood	Seminole	FL	Jacksonville	Public	At Grade
622074K	9/20/2011	3:32 PM	779.01	North St.	Longwood	Seminole	FL	Jacksonville	Public	At Grade
622075S	9/20/2011	3:54 PM	779.39	CR 427 / Dixie Hwy.	Longwood	Seminole	FL	Jacksonville	Public	At Grade
622076Y	9/20/2011	4:15 PM	779.52	Plumosa Ave.	Casselberry	Seminole	FL	Jacksonville	Public	At Grade
622077F	9/20/2011	4:37 PM	780.14	North St. (Merritt)	Altamonte Springs	Seminole	FL	Jacksonville	Public	At Grade
622078M	9/20/2011	4:58 PM	780.36	Leonard St.	Altamonte Springs	Seminole	FL	Jacksonville	Public	At Grade
622080N	9/20/2011	5:19 PM	780.55	SR 436 Altamonte Dr.	Altamonte Springs	Seminole	FL	Jacksonville	Public	At Grade
643806D	9/20/2011	5:41 PM	780.96	Prairie Lake / Magnolia	Altamonte Springs	Seminole	FL	Jacksonville	Public	At Grade
622081V	9/20/2011	6:02 PM	781.24	Ballard St.	Altamonte Springs	Seminole	FL	Jacksonville	Public	At Grade
622082C	9/20/2011	6:24 PM	781.58	O'Brien Rd.	Altamonte Springs	Seminole	FL	Jacksonville	Public	At Grade

Blue = Private

Green = Pedestrian

Orange = Previously reviewed

Reviewer: _	
Date: _	

Dot #	Day	Start Time	Milepost	Street	City	County	State	Division	Туре	Position
621581P	9/21/2011	7:15 AM	782.48	Mayo Ave. (Greenwood)	Maitland	Orange	FL	Jacksonville	Public	At Grade
622084R	9/21/2011	7:37 AM	782.93	Sybelia Ave.	Maitland	Orange	FL	Jacksonville	Public	At Grade
622085X	9/21/2011	7:58 AM	783.09	George Ave.	Maitland	Orange	FL	Jacksonville	Public	At Grade
622086E	9/21/2011	8:19 AM	783.21	Horatio Ave.	Maitland	Orange	FL	Jacksonville	Public	At Grade
622144X	9/21/2011	8:40 AM	783.32	Packwood Ave.	Maitland	Orange	FL	Jacksonville	Public	At Grade
622145E	9/21/2011	9:01 AM	783.37	Maitland Ave.	Maitland	Orange	FL	Jacksonville	Public	At Grade
622146L	9/21/2011	9:22 AM	783.46	Ventris Ave.	Maitland	Orange	FL	Jacksonville	Public	At Grade
622147T	9/21/2011	9:43 AM	783.66	Palmetto St.	Maitland	Orange	FL	Jacksonville	Public	At Grade
622148A	9/21/2011	10:06 AM	783.84	Lake Ave.	Maitland	Orange	FL	Jacksonville	Public	At Grade
622150B	9/21/2011	10:31 AM	784.73	N. Denning Dr.	Winter Park	Orange	FL	Jacksonville	Public	At Grade
622151H	9/21/2011	10:53 AM	785.08	W. Webster Ave.	Winter Park	Orange	FL	Jacksonville	Public	At Grade
622152P	9/21/2011	11:14 AM	785.08	N. Pennsylvania Ave.	Winter Park	Orange	FL	Jacksonville	Public	At Grade
622153W	9/21/2011	11:36 AM	785.41	N. New York St.	Winter Park	Orange	FL	Jacksonville	Public	At Grade
	9/21/2011	11:51 AM		Lunch start						
	9/21/2011	12:31 PM		Lunch end						
622154D	9/21/2011	12:37 PM	785.45	Canton Ave.	Winter Park	Orange	FL	Jacksonville	Public	At Grade
622155K	9/21/2011	1:02 PM	785.52	Pedestrian Crossing	Winter Park	Orange				
622156S	9/21/2011	1:27 PM	785.59	Pedestrian Crossing	Winter Park	Orange				
622157Y	9/21/2011	1:48 PM	785.64	Morse Blvd.	Winter Park	Orange	FL	Jacksonville	Public	At Grade
622159M	9/21/2011	2:13 PM	785.69	Pedestrian Crossing	Winter Park	Orange				
622160G	9/21/2011	2:38 PM	785.71	Pedestrian Crossing	Winter Park	Orange				
622161N	9/21/2011	2:59 PM	785.77	New England Ave.	Winter Park	Orange	FL	Jacksonville	Public	At Grade
622163C	9/21/2011	3:20 PM	785.86	New York Ave.	Winter Park	Orange	FL	Jacksonville	Public	At Grade
622162V	9/21/2011	3:41 PM	785.86	Lyman Ave.	Winter Park	Orange	FL	Jacksonville	Public	At Grade
622164J	9/21/2011	4:02 PM	786.06	Fairbanks Ave.	Winter Park	Orange	FL	Jacksonville	Public	At Grade
622165R	9/21/2011	4:25 PM	786.17	Pennsylvania Ave.	Winter Park	Orange	FL	Jacksonville	Public	At Grade
622166X	9/21/2011	4:46 PM	786.17	Holt Ave.	Winter Park	Orange	FL	Jacksonville	Public	At Grade
622167E	9/21/2011	5:07 PM	786.42	Minnesota Ave.	Winter Park	Orange	FL	Jacksonville	Public	At Grade
622168L	9/21/2011	5:28 PM	786.56	Denning Dr.	Winter Park	Orange	FL	Jacksonville	Public	At Grade
622169T	9/21/2011	5:50 PM	786.9	Orlando Ave.	Winter Park	Orange	FL	Jacksonville	Public	At Grade
622170M	9/21/2011	6:11 PM	787.07	Westchester Ave.	Winter Park	Orange	FL	Jacksonville	Public	At Grade

Blue = Private

Green = Pedestrian

Orange = Previously reviewed

Reviewer: _	
Date: _	

Dot#	Day	Start Time	Milepost	Street	City	County	State	Division	Туре	Position
622171U			787.45	Wilkinson St.	Orlando	Orange	FL	Jacksonville	Public	At Grade
643815C			787.62	King St. E	Orlando	Orange	FL	Jacksonville	Public	At Grade
622172B			787.8	E. Rollins St.	Orlando	Orange	FL	Jacksonville	Public	At Grade
622173H			787.99	E. Princeton St.	Orlando	Orange	FL	Jacksonville	Public	At Grade
622174P	9/22/2011	7:15 AM	788.5	Virginia Dr.	Orlando	Orange	FL	Jacksonville	Public	At Grade
622175W	9/22/2011	7:36 AM	788.68	Alden Rd.	Orlando	Orange	FL	Jacksonville	Public	At Grade
622176D	9/22/2011	7:58 AM	788.74	Highland Ave.	Orlando	Orange	FL	Jacksonville	Public	At Grade
622178S	9/22/2011	8:20 AM	788.97	Magnolia St.	Orlando	Orange	FL	Jacksonville	Public	At Grade
622179Y	9/22/2011	8:42 AM	789.14	Orange Ave.	Orlando	Orange	FL	Jacksonville	Public	At Grade
622180T	9/22/2011	9:03 AM	789.22	Marks St.	Orlando	Orange	FL	Jacksonville	Public	At Grade
622181A	9/22/2011	9:29 AM	789.48	Colonial Dr. (US-17/92)	Orlando	Orange	FL	Jacksonville	Public	At Grade
622182G	9/22/2011	9:51 AM	789.62	Concord St.	Orlando	Orange	FL	Jacksonville	Public	At Grade
622183N	9/22/2011	10:12 AM	789.73	Amelia St.	Orlando	Orange	FL	Jacksonville	Public	At Grade
622185C	9/22/2011	10:33 AM	789.86	Livingston Ave.	Orlando	Orange	FL	Jacksonville	Public	At Grade
622186J	9/22/2011	10:39 AM	789.99	Robinson St.	Orlando	Orange	FL	Jacksonville	Public	At Grade
622187R	9/22/2011	11:01 AM	790.06	Jefferson St.	Orlando	Orange	FL	Jacksonville	Public	At Grade
622188X	9/22/2011	11:22 AM	790.12	Washington St.	Orlando	Orange	FL	Jacksonville	Public	At Grade
	9/22/2011	11:37 AM		Lunch start						
	9/22/2011	12:17 PM		Lunch end						
622189E	9/22/2011	12:39 PM	790.23	Central Blvd.	Orlando	Orange	FL	Jacksonville	Public	At Grade
622190Y	9/22/2011	1:01 PM	790.29	Pine St.	Orlando	Orange	FL	Jacksonville	Public	At Grade
622191F	9/22/2011	1:22 PM	790.35	Church St.	Orlando	Orange	FL	Jacksonville	Public	At Grade
622192M	9/22/2011	1:44 PM	790.49	South St.	Orlando	Orange	FL	Jacksonville	Public	At Grade
622196P	9/22/2011	2:07 PM	790.82	America St.	Orlando	Orange	FL	Jacksonville	Public	At Grade
622198D	9/22/2011	2:28 PM	790.93	Ernestine St.	Orlando	Orange	FL	Jacksonville	Public	At Grade
622300G	9/22/2011	2:49 PM	791.02	Gore St.	Orlando	Orange	FL	Jacksonville	Public	At Grade
622301N	9/22/2011	3:10 PM	791.24	Columbia St.	Orlando	Orange	FL	Jacksonville	Public	At Grade
622304J	9/22/2011	3:32 PM	791.77	Kaley Ave.	Orlando	Orange	FL	Jacksonville	Public	At Grade
622306X	9/22/2011	3:54 PM	792.03	Grant St.	Orlando	Orange	FL	Jacksonville	Public	At Grade
622307E	9/22/2011	4:17 PM	792.29	Michigan St.	Orlando	Orange	FL	Jacksonville	Public	At Grade
622308L	9/22/2011	4:39 PM	792.54	Pineloch Rd.	Orlando	Orange	FL	Jacksonville	Public	At Grade

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Green = Pedestrian

Orange = Previously reviewed

Reviewer: _	
Date: _	

Dot#	Day	Start Time	Milepost	Street	City	County	State	Division	Type	Position
622309T	9/23/2011	7:15 AM	792.98	Drennen Ave.	Edgewood	Orange	FL	Jacksonville	Public	At Grade
622311U	9/23/2011	7:37 AM	793.57	Holden Ave.	Edgewood	Orange	FL	Jacksonville	Public	At Grade
622312B	9/23/2011	7:59 AM	794.07	Jamaica Ln.	Edgewood	Orange	FL	Jacksonville	Public	At Grade
622313H	9/23/2011	8:22 AM	794.31	Stratemeyer Dr.	Edgewood	Orange	FL	Jacksonville	Public	At Grade
622314P	9/23/2011	8:43 AM	794.53	Mary Jess Rd.	Edgewood	Orange	FL	Jacksonville	Public	At Grade
622315W	9/23/2011	9:07 AM	794.98	Oakridge Ave.	Orlando	Orange	FL	Jacksonville	Public	At Grade
622316D	9/23/2011	9:28 AM	795.05	Fairlane Ave.	Edgewood	Orange	FL	Jacksonville	Public	At Grade
622317K	9/23/2011	9:51 AM	795.57	Lancaster Rd.	Edgewood	Orange	FL	Jacksonville	Public	At Grade
622318S	9/23/2011	10:12 AM	795.87	Glenrose Ave.	Edgewood	Orange	FL	Jacksonville	Private	At Grade

Blue = Private

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Reviewer: _______
Date: _____

Exhibit D





Exhibit D - Responses received for Diagnostic Review Participants

Volusia County/DeBary Received October 28, 2011

The City of DeBary is not going to implement the quiet zone recommendation for Barwick Road at this time. With Ft. Florida Rd in the next phase of the project we are going to wait and see what recommendations are made with that intersection and possible combine work at that time. If we move forward with both crossings at the same time we may get better pricing on supplies and labor versus working on each crossing separately.

Alan Williamson, City of DeBary Safety Coordinator, (386) 668-2040

Seminole County

Received November 15, 2011

Although each municipality in Seminole County has provided separate responses, as indicated in the memorandum from Mr. Blackadar, all of Seminole County is included in the response. (Memo attached.)

City of Sanford

Received October 19, 2011

Location 622059H, Country Club Rd, Re-striped, trimmed R/W \$1042.00. Completed. Location 622055F, McCracken Rd, Re-striped, Install bollards, separators, trimmed R/W \$4600.00. Completed.

Please reference the attachment above for the separator detail. This is the extent of improvements the city is able to provide due to financial restrictions. Please feel free to contact me if more information is needed.

Brooke, Scott [Scott.Brooke@Sanfordfl.gov]

City of Longwood

Received November 28, 2011

It should be noted that the City of Longwood would prefer to avoid any roadway closing with regard to rail crossings within the City of Longwood.

In order of the chart provided;

- 1. CR 427: We concur with the status quo
- 2. Georgia Avenue: Prefer Option 1 Four-Quadrant Gates
- 3. E. Orange Avenue: Prefer Option 2 Four-Quadrant Gates

- 4. Palmetto Avenue: Four-Quadrant Gates
- 5. Church Avenue: Four-Quadrant Gates (due to station location, gates for pedestrians are needed)
- 6. CR 427: Defer to County
- 7. SR 434: Defer to County and FDOT
- 8. North Street: Four-Quadrant Gates
- 9. CR 427/Dixie Highway: Four-Quadrant Gates

John A. Peters, III, PE Director of Public Works / City Engineer

City of Lake Mary

Received November 30, 2011

Response 1. Due to financial considerations, the City Commission has taken no official action regarding the implementation of quiet zones; however, historically, they have strongly supported their creation.

Response 2. Historically, the City Commission has expressed an interest in creating a quiet zone for the crossings at Palmetto Street, Lake Mary Boulevard and Country Club Road. Palmetto Street is a City street while Lake Mary Boulevard and Country Club Road are owned and maintained by Seminole County. The City's primary focus is to establish a quiet zone for Palmetto Street, Lake Mary Boulevard and Country Club Road.

Although the crossing at Pedigo Point is within the City, it is privately owned. The City cannot expend monies for improvements on private property. If the necessary costs were funded by an entity, the City would not oppose the creation of a quiet zone at Pedigo point.

Responses 3 & 4. Questions 3 and 4 are premature. At this point, it is not known if all the improvement listed under the Comments section of your email attachment will be required for the creation of one or more a quiet zones. Until such time as the City knows exactly what improvements will be necessary and the cost of such improvements, the City cannot formally commit to making any improvements. Additionally, the City has not prepared any cost estimates for these improvements.

Gary Schindler

City of Casselberry

Received November 29, 2011

The City's answer to question #1: Does your city/county plan to implement quiet zones? is "No" for the City of Casselberry, which makes the other questions moot. We do not have any local funding in place to put toward such an effort.

However, I should point out that should significant grant funding be identified that would minimize local burden to the City, we may be more amenable to pursuing quiet zones in cooperation with the County and the region in the future.

Kelly H. Brock, Ph.D., P.E., CFM, LEED AP Assistant Public Works Director/City Engineer

City of Altamonte Springs

Received November 9, 2011

The City of Altamonte Springs has three crossings within the City limits. At these three intersections, four quadrant gates are required. At this time the City of Altamonte Springs does not plan to implement quiet zones. The City may be interested in implementing these in the future. However, there is no financial plan to do so at this time.

Bruce Doig M.S., P.E., LEED AP Division Director of Transportation and Stormwater Public Works

City of Maitland

Received October 19, 2011 w/follow-up November 15, 2011

1. Does your city/county plan to implement quiet zones? (If yes, provide responses to questions 2-4. If not, only respond to question 1.)

The City of Maitland plans to implement a Quiet Zone at the Maitland crossings. To this end, the City already has a Quiet Zone Ordinance.

2. If so, which crossings would be included in the quiet zone.

All 9 crossings in Maitland would be included in the Quiet Zone.

3. Which of the options (recommended improvement(s)) your city/county plan to make in order to bring the crossings to quiet zone-readiness.

The following options from the diagnostic review are likely to be utilized:

- Greenwood Road: Quad Gates
- Sybelia Ave: Option 1, channelization
- George Ave: Option 1, 1-way street
- Horatio Ave: Option 1, 1-way street
- Packwood Ave: Option 1, 1-way street
- Maitland Ave; Option 1, channelization
- Ventris Ave: Quad Gates
- Palmetto Ave: Add 2 signs to SunRail project
- Lake Ave: Quad Gates
- 4. Finally, provide an estimated cost of those improvements (at each crossing).

Cost per crossing based upon the options chosen:

Greenwood Road: \$275,000

Sybelia Ave: \$24,650
George Ave: \$36,730
Horatio Ave: \$41,640
Packwood Ave: \$39,450

Maitland Ave: \$32,530Ventris Ave: \$275,000

ν επιτίδ Ανε. *γ275,000*

Palmetto Ave: \$500 added to SunRail project for signs

Lake Ave: \$275,000Sub-Total: \$1,000,000

• Design Fee @ 15%: \$150,000

• CEI Fee @ 15%: \$150,000

• Total: \$1,300,000

At their meeting on November 14, 2011, City Council provided positive guidance and continued support for a Quiet Zone in Maitland. We wish to thank you for the time extension to allow for this item to be brought before the Council.

The cost estimates provided reflect the City's desire to keep costs down and still stay within the framework for the measures needed to institute a Quiet Zone. Should Metroplan Orlando find a viable grant source, we would be glad to review these costs to reflect any changes in the City that would reflect upon the options currently chosen.

City of Winter Park

Received November 22, 2011

- 1. Does your city/county plan to implement quiet zones? (If yes, provide responses to questions 2-4. If not, only respond to question 1.) *Yes*
- 2. If so, which crossings would be included in the quiet zone. *All crossings within Winter Park's City Limits.*
- 3. Which of the options (recommended improvement(s)) your city/county plan to make in order to bring the crossings to quiet zone-readiness. Quad gates at most crossings and a median traffic separator at the Fairbanks Ave crossing.
- 4. Finally, provide an estimated cost of those improvements (at each crossing). \$200,000 \$300,000

City of Orlando

Received November 15, 2011 with follow-up November 29, 2011

The City of Orlando does plan on implementing Quiet Zones. The initial QZ we are committed to, extends from the northern City Limits to Princeton Av and includes 4 crossings at Wilkinson St, King St, Rollins St, and Princeton St. All 4 locations will receive Supplemental Safety Measures (SSM's). The City is interested in extending a QZ to include all intersections along the SunRail corridor from Virginia Dr to Drennen Av. However, we are in the process of determining whether or not we will be able to secure funding to provide SSM's at all 26 of these crossings. It may be in our best interest to establish a QZ by installing SSM's at the most risk intensive crossings and using the residual corridor risk reduction methodology to meet the FRA qualifications for a QZ. Preliminary scenarios using the FRA QZ on-line calculator indicate that we can qualify for a Citywide QZ by treating less than 1/3 of all of the City intersections.

We also are considering a strategy of treating the least number of crossings with SSM's to coincide with the opening of SunRail and then adding SSM's to additional crossings in future funding years as money becomes available. Therefore, at this time I cannot give you the level of detail asked for in questions 3 and 4. The City is also interested in working with the other jurisdictions within MetroPlan to establish as extensive a QZ as possible. If it is mutually

beneficial for multiple jurisdictions to "pool" crossings into a single larger QZ, the City would be happy to work together toward that end.

The estimated cost for the improvements needed at the four intersections near FI Hospital is \$750k. This has not been finalized with a contractor and is still considered a rough estimate.



SEMINOLE COUNTY

Engineering Division 520 W. Lake Mary Boulevard, Suite 200 Sanford, Florida 32773

> Phone: (407) 665-5674 FAX: (407) 665-5789

November 10, 2011

MEMORANDUM

TO: Commissioner Brenda Carey, District 5, Chairman

Commissioner Carlton Henley, District 4, Vice Chairman

Commissioner Bob Dallari, District 1
Commissioner John Horan, District 2

Commissioner Dick Van Der Weide, District 3

Jim Hartmann, County Manager

Joseph Forte, Deputy County Manager

FROM: Brett W. Blackadar, P.E., Acting County Engineer Bus

SUBJECT: Potential Quiet Zones for the SunRail Corridor

MetroPlan Orlando has been leading a regional effort to study the potential implementation of quiet zones at railroad grade crossings within the 61 mile SunRail Corridor throughout Volusia, Seminole, Orange and Osceola Counties. On Tuesday, September 20th, Seminole County participated in a Quiet Zone Diagnostic review of the 27 at grade crossings within Seminole County along with representatives from the Federal Railroad Administration (FRA), FDOT, MetroPlan and the affected Cities within the County (see attached map). MetroPlan is pursuing possible grant funding for the quiet zones and it has been requested that the County respond back to them by November 18th as to whether or not Seminole County would be interested in implementing quiet zones in our jurisdiction. Therefore, we are providing the following background information regarding the quiet zones for your review.

A quiet zone is a section of rail line at least one-half mile in length where locomotive horns are not routinely sounded at the public crossings. Train engineers may still sound the train horns within the quiet zone at their discretion if they detect any hazards. Only public authorities can apply for quiet zones and if more than one jurisdiction is involved, they all must agree regarding the implementation of the quiet zone. The cost of the quiet zone implementation is not being funded by FDOT as part of the SunRail project and local governments would be responsible for the needed funding (which may be reduced by potential grant funding).

In order for the quiet zone to be approved by FRA, additional supplemental safety measures (SSM's) must be implemented at multiple public crossings within the proposed corridor. Possible SSM's include the addition of four quad crossing gates and installing non-traversable median barriers on the roadway adjacent to the crossings. The FRA provides a quiet zone calculator on their website that helps determine the type of improvements and related costs that must be implemented in a proposed quiet zone to meet the required thresholds. We did a preliminary analysis using the this calculator and determined that it would cost about \$2 million to implement the required supplemental safety measures for a quiet zone that would cover all of Seminole County. Since many of the crossings in the County are either on City roadways or within the jurisdiction of a City, this effort would need to be closely coordinated with each of the affected jurisdictions.

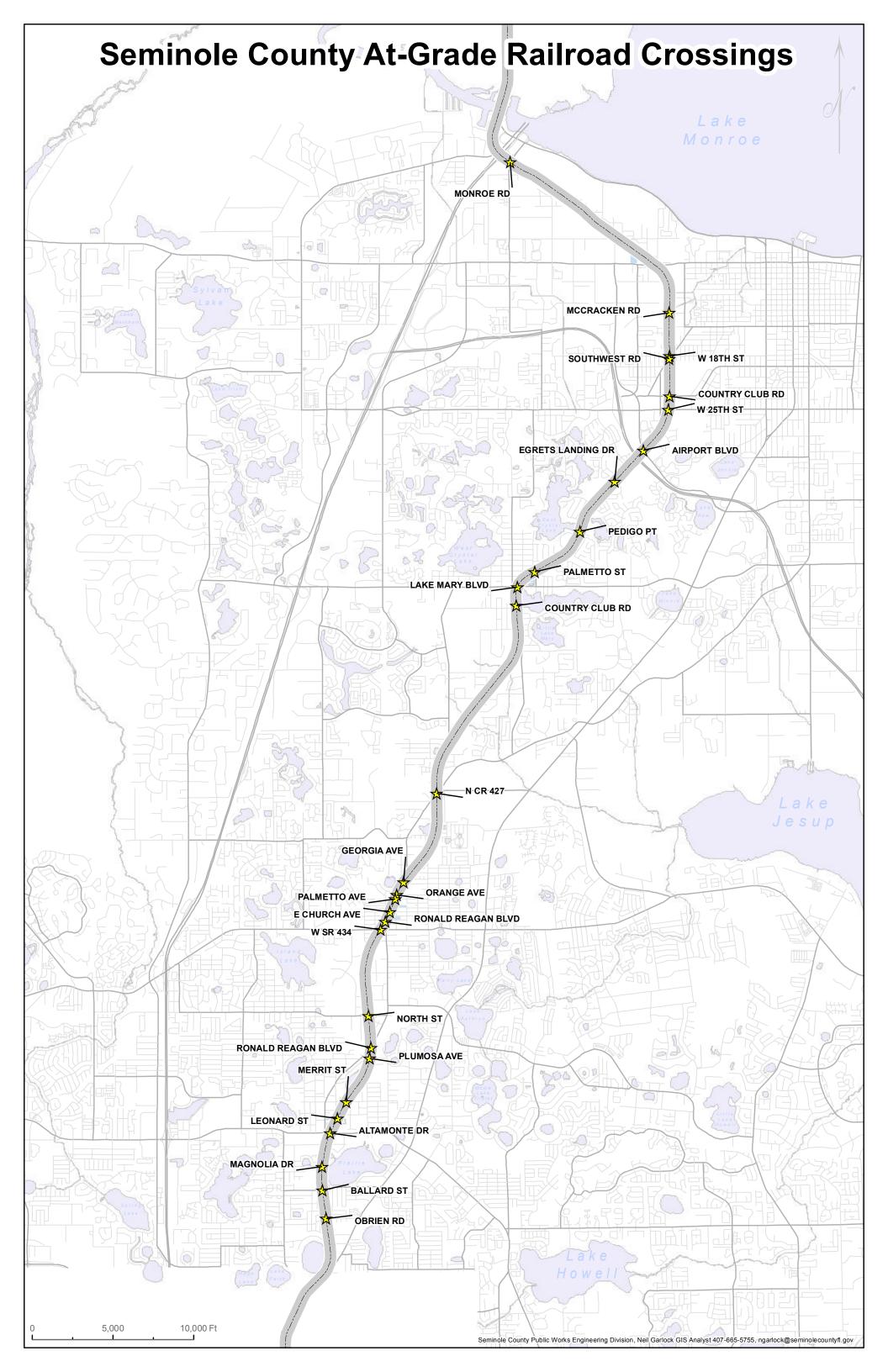
Based on environmental studies performed by FDOT, it is anticipated that there will not be an increase in train noise due to the implementation of SunRail in early 2014. Since improvements are being made to the "S" line, it is estimated that approximately 9 daily freight trains that currently travel through Seminole County will be re-routed to the "S" line in the future. Even though there will be additional SunRail commuter trains, horn shrouds will be installed on the new trains which will help to reduce noise impacts in the corridor.

Based on this information, we recommend that Seminole County should participate in MetroPlan's regional effort regarding quiet zones. However, we should make it clear that we do not have any funding in place at this time and that we would implement quiet zones only if sufficient grant funding became available.

If you have any questions or would like to discuss this item in detail, please feel free to contact me at Ext. 5651.

BWB/dr Attachment (1)

c: Antoine Khoury, P.E., Acting Public Works Director Steve Douglas, P.E., Deputy County Traffic Engineer Tad Stone, Public Safety Director



						CFCRI	Corriac	or mig	nwa	y/Rail Grade (crossing	s - Quie	Zone	Keviev	V		
Dot#	MP	Street	City	County	Train Speed	Direction	SunRail C F			SunRail Improvements	OFFSET Curb?	MARKIN GS Good?	STOP BAR Good?	W10-1 Good?	QZ New Median	QZ New 4 Quad	COMMENTS
621325Y	762.6	Barwick Rd.	DeBary	Volusia	60	EB WB] X] X	0	Replace FL&G in SW&NE. Pavement markings NE.	Y	Y	Y	Y	Y	N N	Median Separators - 100' both sides from gate line
621328U	763.9	I-4 Ramp / Monroe Ave.	Sanford	Seminole	60	NB SB] 🗵	00	FL&G in NW quadrant EOT.	Y	Y	Y	Y	N N	N N	No Recommendation (Existing SSM) Good as is. Can add guardrail if not 6" curb. Looks like 6" curb. OK.
622055F	766.52	McCracken Rd.	Sanford	Seminole	20	EB WB	_ <u> </u>] 🗵		Remove brush in SW. Pavement markings improvements.	Y	Y	Y	Y	Y		Median Separators - 100' both sides from gate line. Trim Brush in SW. Note: School (NE quad.)

Blue = Private Green = Pedestrian Orange = Previously reviewed

						CFCKI	Comitac	n iligi	iwa	y/Rail Grade (LI USSIIIE	s - Quiei	LZUITE	reviev	v		
Dot#	MP	Street	City	County	Train Speed	Direction	SunRail C F	Installa		SunRail Improvements	OFFSET Curb?	MARKIN GS Good?	STOP BAR Good?	W10-1 Good?	QZ New Median	QZ New 4 Quad	COMMENTS
622056M	767.03	18th St.	Sanford	Seminole	60	EB WB] 🗵		Ped gate in NW. Trim tree in WB and improve pavement markings. Replace FL&G in NE and SW.	Y	Y	Y	Y	Y	N N	Option 1) Partial closure, or Option 2) Median Separators (100?) with right in/out access for 2 driveways. WB (70') EB (Driveways) Can fit 100'.
622057U	767.07	Southwest Rd.	Sanford	Seminole	60	EB WB] 🗵	00	Install ped gates in NW. Relocate FL&G in SW to EOT.	Y	Y	Y	Y	Y	N N	Median Separators EB (60') WB (100' or less based on 18th St).
622059Н	767.51	Country Club Rd.	Sanford	Seminole	60	EB WB	□] -		Install pavement markings & align EB W10-1. Replace FL&G in SW quad, 11-2" EOT. Relocate cant in SW quad @ 11-2" EOT.	Y Y	Y	N N	N Y	N N	Y Y	Four-Quadrant Gates - add exit gates/Stop bars/Trim trees (WB)

Blue = Private Green = Pedestrian Orange = Previously reviewed

						CFCKT	COIII	uUi	ıııgı	iwa	y/Rail Grade	CIUSSIIIE	3 - Quie	LZUITE	IVEAIGA	v		
Dot#	MP	Street	City	County	Train Speed	Direction	SunR C		stalla G		SunRail Improvements	OFFSET Curb?	MARKIN GS Good?	STOP BAR Good?	W10-1 Good?	QZ New Median	QZ New 4 Quad	COMMENTS
622060C	767.67	CR 46A / 25th St.	Sanford	Seminole	60	EB WB	X X	X	X X		Replace 8" lenses in NE. Install CFL&G in SW quad. (8" in SW also.)		Y Y	Y	Y	Y	N N	Median Separators 100' both sides.
622061J	771.15	Airport Blvd.	Lake Mary	Seminole	60	EB WB	X X	X X	X		Re-design.	Y	Y	Y	Y	Y		Four-Quadrant Gates - relocate pedestrian crosswalk to east of tracks - review redesign.
915133W		Bellair Grove (Egrets Landing)	Lake Mary	Seminole	60	EB WB	□⊠				Relocate CFL&G in SW quad. Install ped gates in NW&SE. County to install W10-1 signs and pavement markings.							Private? Find agreement. Possibility to extend medians to gate.

Blue = Private Green = Pedestrian Orange = Previously reviewed

						CFCKI	COITIGOI	nigiiwa	y/Rail Grade (USSIIIE	s - Quie	LZONE	neviev	<u> </u>		
Dot#	MP	Street	City	County	Train Speed	Direction	SunRail In C FL		SunRail Improvements	OFFSET Curb?	MARKIN GS Good?	STOP BAR Good?	W10-1 Good?	QZ New Median	QZ New 4 Quad	COMMENTS
622063X	772.33	Pedigo Pt.	Lake Mary	Seminole	50	EB WB										"No Train Horn" sign. Has stop signs and crossbucks. Close opening in fence to City Park in SE quadrant. (City of Sanford.) Ask Scott Brooke.
622064E	773.08	Palmetto St.	Lake Mary	Seminole	50	EB WB		X	Install ped gates in SE quad and FL&G's in NE&SW. Improve pavement markings and install W10- 1&W10-3. Add sidelights.	v	N N	N N	YN	N N		Four-Quadrant Gates. W10-1 advance warning sign (WB). Pavement markings/stop bars.
622065L	773.35	Lake Mary Blvd.	Lake Mary	Seminole	45	NB SB	X X X X	X	Install ped gates in SW&SE quads. Install 2 median gates, remove 2 cants & relocate FL&G in NE&SW quads.	Y	Y	Y	Y			ASM - Option 1) Channelization of driveway/Median Separators right turn in/out access on west side, Option 2) Four-Quadrant Gates

Blue = Private Green = Pedestrian Orange = Previously reviewed

						CFCIXI	Corridor Highwa	y/ Kall Graue (CIUSSIIIE	3 - Quiei	LZONE	reviev	v		
Dot#	MP	Street	City	County	Train Speed	Direction	SunRail Installation C FL G XB	SunRail Improvements	OFFSET Curb?	MARKIN GS Good?	STOP BAR Good?	W10-1 Good?	QZ New Median	QZ New 4 Quad	COMMENTS
622066T	773.58	Country Club Rd.	Lake Mary	Seminole	79	NB SB		Relocate FL&G in SW quad (EOT). Relocate ped gate in NW quad to 2"off sidewalk.	Y	Y	Y	Y	Y	N N	Extend median separator from gate line to Old Park Way (NB), close or relocate driveway (SB)
622067A	776.12	CR 427	Longwood	Seminole	79	EB WB		Relocate CFL&G in SW quad and median gate. Install ped gates in NW&SE quads.Relocate FL power pole.	Y	Y	Y	Y	N N	N N	Good as is. SSM in place. Extend median separator to gate line. Check southside median to see if 60'.
622068G	777.29	Georgia Ave.	Longwood	Seminole	50	EB WB		W10-1 in WB, W10- 2 NB&SB, W10-11A % do not stop on tracks sign in WB. Refresh pavement markings. Replace FL&G's in NE&SW quads. Add sidelights to mast in SW.		Y	Y	Y			Option 1) Four-Quadrant Gates, or Option 2) ASM - short median on both sides.

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						CFCKI	Comitac	ווו ול	iiwa	y/Rail Grade (LIUSSIIIE	s - Quiei	LZONE	reviev	v		
Dot#	MP	Street	City	County	Train Speed	Direction	SunRail C F	Installa L G		SunRail Improvements	OFFSET Curb?	MARKIN GS Good?	STOP BAR Good?	W10-1 Good?	QZ New Median	QZ New 4 Quad	COMMENTS
622069N	777.46	E. Orange Ave.	Longwood	Seminole	50	EB WB		3 X 3 X		Replace FL&G's in NE&SW quads. W10-1 in EB. Add sidelights in NE.	Y	Y	Y	N Y	N N	Y	Option 1) Possible Closure (Median opening on CR 427 is planned to be closed, may be replaced with directional opening), or Option 2) Four-quadrant gates
622070Н	777.52	Palmetto Ave.	Longwood	Seminole	50	NB SB				W10-1 EB. Pavement markings in WB. Replace FL&G in NE&SW.	Y	Z Z	N N	N N	N N	Y Y	Four-quadrant gates (County indicated that there may be plans to extend Palmetto to full median opening on Ronald Reagan Blvd. / CR 427)
622071P	777.68	Church St.	Longwood	Seminole	50	NB SB	X X	I X X		Remove 2 cants & replace FL&G's in NE&SW quads. Install ped gates in NW Quad. W10-1 EB. Sidelights in NE aim towards Longwood ave	Y	Y	N Y	N Y	N N	Y	Four-Quadrant Gates

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Dot#	MP	Street	City	County	Train Speed	Direction			stallatior G XB	SunRail Improvements	OFFSET Curb?	MARKIN GS Good?	STOP BAR Good?	W10-1 Good?	QZ New Median	QZ New COMMENTS 4 Quad
622072W	777.81	CR 427	Longwood	Seminole	50	NB SB	X X	X X	X 0 X 0	Install ped gates in NW&SE quads.	Y	Y	Y	Y		Four-Quadrant Gates or ASM
622073D	777.91	SR 434	Longwood	Seminole	60	EB WB	X X	× ×	X 🗆	Install ped gates in SE,SW,&NW quads.	Y	Y	Y	Y		Four-Quadrant Gates or ASM(The ACE driveway is an issue)
622074K	779.01	North St.	Longwood	Seminole	60	EB WB	X X	X	X 0 X 0	Replace old FL&G's in both quads. Do not replace cants.	Y	Y Y	Y	Y		Option 1) ASM - Median Separator and close driveway, or Option 2) If driveway is not closed, Four-Quadrant Gates

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						CFCRT	Corri	uoi	nig	iiwa	y/Rail Grade	crossing	s - Quie	LZone	Reviev	V		
Dot#	MP	Street	City	County	Train Speed	Direction			nstall G	ation XB	SunRail Improvements	OFFSET Curb?	MARKIN GS Good?	STOP BAR Good?	W10-1 Good?	QZ New Median	QZ New 4 Quad	COMMENTS
622075S		CR 427 / Dixie Hwy.	Longwood	Seminole	60	NB SB	X X	X			Install ped gates in NW& SE quads. Relocate CFL&G in NE quad.	Y	Y Y	Y	Y	N N		Four-Quadrant Gates (in median only) for both directions. Trim palm tree (NW quad.)
622076Y	779.52	Plumosa Ave.	Casselberry	Seminole	60	EB WB	X X	X	X X		Remove cant in NE quad. Replace FL&G's in SW quad. Replace FL&G's in NE quad.	Y	Y	Y	Y	N N	Y	Four-Quadrant Gates
622077F	780.14	North St. (Merritt)	ltamonte Sprin	Seminole	60	EB WB	X X	X	X X		Trim trees in EB. Install ped gates in NW, Replace FL&G in NE&SW. Relocate existing cant.	Y	Y	Y	Y			Median Separator - relocate gate at 1096 Rosenwald School - Williams Street to be closed (Seminole County to research Williams Street). Option 1) Close driveway (NE quad.), median separators on both sides, or Option 2) If no closue, Four- Quadrant Gates

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Dot#	MP	Street	City	County	Train Speed	Direction			allation i XB	SunRail Improvements	OFFSET Curb?	MARKIN GS Good?	STOP BAR Good?	W10-1 Good?	QZ New Median	QZ New 4 Quad	COMMENTS
622078M	780.36	Leonard St.	ltamonte Sprin	Seminole	: 50	EB WB	<u> </u>	X X X X	3 -	install stop bar on WB and align W10- 1. W10-11 on both approaches. Replace NE&SW FL&G. Install stop signs in NB&SB. Remove stop sign/bar EB. Add sidelights to FL&G NE.	Y	Y N	N N	Y N			Convert to one-way (WB) street or pedestrian crossing only
622080N	/XU 55	SR 436 Altamonte Dr.	ltamonte Sprin	Seminole	50	EB WB	X	X D	I □	Install W10-11 sign on WB. Relocate CFL&G in SW. Relocate W median gate. Relocate ped gates in NW quad.	Y	Y	Y	Y Y	N N	Y	Four-Quadrant Gates
643806D	780.96	Prairie Lake / Magnolia	ltamonte Sprin	Seminole	45	EB WB		X X X X	3 D	Install W10-1 sign and pavement markings on WB. RR stop bar and W10-2 sign on NB&SB. Replace FL&G in NE&SW. Install "do not stop" sign and stop bar.	Y	2 2	N N	N N	N N	Y	Four-Quadrant Gates

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Dot#	MP	Street	City	County	Train Speed	Direction	SunRail C FI			SunRail Improvements	OFFSET Curb?	MARKIN GS Good?	STOP BAR Good?	W10-1 Good?	QZ New Median	QZ New 4 Quad	COMMENTS
622081V	781.24	Ballard St.	ltamonte Sprin	Seminole	50	EB WB] X		Upgrade 8"lenses to 12". Relocate FL&G to EOT. Install W10-2 on SB&NB. Add sidelights in NE&SW quads.	Y	Y	Y	Y	N N	Y	Four-Quadrant Gates
622082C	781.58	O'Brien Rd.	ltamonte Sprin	Seminole	50	EB WB] 🗵		Improve Pavement markings EB. Install ped gate SE quad. Relocate FL&G in NE quad from EOT. Replace 8" lenses.		N Y	N Y	Y			Option 1) Median Separators (if driveway in the NE quad is closed, or Option 2) Four-Quadrant Gates (Access to substation next RR tracks on business property.)

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						CFCRI	Corrid	ior	Highv	way	/Rail Grade (rossing	s - Quiei	Zone	Keviev	<u>/</u>		
Dot#	MP	Street	City	County	Train Speed	Direction	SunRa C		stallatio		SunRail Improvements	OFFSET Curb?	MARKIN GS Good?	STOP BAR Good?	W10-1 Good?	QZ New Median	QZ New 4 Quad	COMMENTS
621581P		Mayo Ave. (Greenwood)	Maitland	Orange	40	NB SB		☒		_	Replace CFL&G in NE quad to EOT.W10-4 SB.	Y	Y	Y Y	Y Y	N N	Y Y	Four-Quadrant Gates
622084R	782.93	Sybelia Ave.	Maitland	Orange	40	EB WB			⊠ □	1	Add pavement markings in EB. Replace 8" lenses. Install preemption for EB.	Y	Y	Y Y	Y Y			Option 1) Median Separators close driveway on east side, or Option 2) four-quadrant gates
622085X	783.09	George Ave.	Maitland	Orange	40	EB WB		X 🗆	× -]	Upgrade all 8" lenses to 12" lenses. Improve W10-1 signs and pavement markings.	Y	Y	Y Y	Y Y			Option 1) One-way street, or Option 2) four-quadrant gates (Trim tree EB)

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						CFCRT	Corr	iuu	<u> </u>	gnw	ay/Rail Grade	Crossing	s - Quie	LZone	Keviev	v		
Dot#	MP	Street	City	County	Train Speed	Direction				llation XB	SunRail Improvements	OFFSET Curb?	MARKIN GS Good?	STOP BAR Good?	W10-1 Good?	QZ New Median	QZ New 4 Quad	COMMENTS
622086E	783.21	Horatio Ave.	Maitland	Orange	40	EB WB	X	X X] [<u>×</u>] [Install W10-1 on WB. Install ped gate in NW and SE.	Y	Y Y	N N	N N	N N	Y	Four-Quadrant Gates
622144X	783.32	Packwood Ave.	Maitland	Orange	40	EB WB	⊠□] ⊠ I □] _	Improve W10-1 sign and pavement markings. Install ped gate in NW. Install new FL&G in NE. Relocate cantilever in NE. Convert existing FL&G in NE to a pec gate.	Y Y	2 2	N N	N Y	N N	Y	Four-Quadrant Gates
622145E	783.37	Maitland Ave.	Maitland	Orange	40	NB SB	X] <u>×</u>] _	Install ped gates in SE quad. Install W10-2 and W10-1 NB&SB. Clear brush in NW quad.	Y	Y	Y	N N			Option 1) Median Separators relocate driveway, or Option 2) Four-Quadrant Gates

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Dot#	MP	Street	City	County	Train Speed	Direction	SunRail C F	Installa L G	ation XB	SunRail Improvements	OFFSET Curb?	MARKIN GS Good?	STOP BAR Good?	W10-1 Good?	QZ New Median	QZ New 4 Quad	COMMENTS
622146L	783.46	Ventris Ave.	Maitland	Orange	40	EB WB	⊠ ⊡ [S X		Install W10-1 in EB&WB. Replace 8" lenses.	Y	Y	Y	Y N	N N	Y Y	Four-Quadrant Gates
622147T	783.66	Palmetto St.	Maitland	Orange	40	EB WB		3 X	00	None.							"No Train Horn" sign
622148A	783.84 (.90)	Lake Ave.	Maitland	Orange	40	EB WB	X (X X	00	Conduct diagnostic review with new design.	Y	Y	Y	Y	N N	Y Y	Four-Quadrant Gates (Trim brush.)

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Dot#	MP	Street	City	County	Train Speed	Direction	SunRai C I	l Ins	tallation G XB	SunRail Improvements	OFFSET Curb?	MARKIN GS Good?	STOP BAR Good?	W10-1 Good?	QZ New Median	QZ New 4 Quad	COMMENTS
622150B	784.73	N. Denning Dr.	Winter Park	Orange	25	NB SB	[$\overline{\mathbf{x}}$	× -	Add pavement markings WB W10 4 sign NB. Add sidelights NE. Relocate FL&G in SW.	Y	Y	N N	Y N	N N	Y	Four-Quadrant Gates
622151H	785.08	W. Webster Ave.	Winter Park	Orange	25	EB WB	⊠ [×	X 0	Install W10-1 sign WB.	Y	Y	Y	N N	N N	Y Y	Four-Quadrant Gates
622152P		N. Pennsylvania Ave.	Winter Park	Orange	25	NB SB	X [× □		Install ped gates NE&NW. Install W10-1 sign NB.	Y	Y	Y	N N	Y	N N	Median Separators

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Dot#	MP	Street	City	County	Train Speed	Direction	SunRail C F	Installa L G		SunRail Improvements	OFFSET Curb?	MARKIN GS Good?	STOP BAR Good?	W10-1 Good?	QZ New Median	QZ New 4 Quad	COMMENTS
622153W	785.41	N. New York St.	Winter Park	Orange	25	NB SB	□ ∑ □ ∑	3 X 3 X		Relocate FL&G in SW&NE quad. Install Ped gate in NW&SE quad. Install Cants in NE&SW.	Y	N N	N N	N N	N N	Y	Four-Quadrant Gates (ADA issues east and west bound)
622154D	785.45	Canton Ave.	Winter Park	Orange	25	EB WB				Install pavement markings in EB&WB. Replace CFL&G in SW quad. Install ped gates in NW&SE. Replace CFL&G in NE.	N N	N N	N N	Y	N N	Y	Four-Quadrant Gates
622155K		Pedestrian Crossing	Winter Park	Orange		EB WB											FL&G "No Train Horn" sign

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Dot#	MP	Street	City	County	Train Speed	Direction		l Installation	SunRail Improvements	OFFSET Curb?	MARKIN GS Good?	STOP BAR Good?	W10-1 Good?	QZ New Median	QZ New 4 Quad	COMMENTS
622156S		Pedestrian Crossing	Winter Park	Orange		EB WB	[FL&G "No Train Horn" sign
622157Y	785.64	Morse Blvd.	Winter Park	Orange	25	EB WB	X (X X 🗆	Install pavement markings on WB. Replace FL&G's in all quads. Remove cant in SW. Remove median flasher from foundation but leave foundation. Install ped gates in NW&SE.	Y Y	N Y	N Y	N Y			Option 1) Extend medians to gate/ close driveway, or Option 2) Four Quadrant Gates
622159M		Pedestrian Crossing	Winter Park	Orange		EB WB	_ [FL&G "No Train Horn" sign

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Dot#	MP	Street	City	County	Train Speed	Direction	SunRail Installation C FL G XB	SunRail Improvements	OFFSET Curb?	MARKIN GS Good?	STOP BAR Good?	W10-1 Good?	QZ New Median	QZ New 4 Quad	COMMENTS
622160G	785.71	Pedestrian Crossing	Winter Park	Orange		EB WB									FL&G "No Train Horn" sign
622161N		New England Ave.	Winter Park	Orange	25	NB SB		Install W10-1 signs and pavement markings in EB&WB. Install CFL&G in SW&NE. Install ped gates in NW&SE.	Y Y	Y Y	Y Y	Y			Quad Gates (existing) No recommendation
622163C	785.86	New York Ave.	Winter Park	Orange	25	EB WB		Remove SE cant.Install curb&gutter. Replace FL&G in SE quad . Install ped gate in SW quad and clear brush. No right turn sign. Remove NW Cant. Replace FL&G NW& install behind sidewalk. Pavement markings.		Y	Y	Y	N N	Y	Quad Gates (See Plan 6B)

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Dot#	MP	Street	City	County	Train Speed	Direction	SunRail C F			SunRail Improvements	OFFSET Curb?	MARKIN GS Good?	STOP BAR Good?	W10-1 Good?	QZ New Median	QZ New 4 Quad	COMMENTS
622162V	785.86	Lyman Ave.	Winter Park	Orange	25	EB WB) X) X	0	Install W10-1 sign and pavement markings in EB and WB."No left turn sign" Install CFL&G in NE. Install ped gate in NW.	Y	Y	Y	Y	N N	Y Y	Quad Gates (See Plan 6B ALT 3)
622164J	786.06	Fairbanks Ave.	Winter Park	Orange	25	EB WB	X X		0	Cant lights in the WB approach. Relocate overhead sign.	Y	Y Y	Y	Y	N N	Y Y	Quad Gates (See Plan 7A)
622165R		Pennsylvania Ave.	Winter Park	Orange	25	NB SB] []] 🗵		Install WB pavement markings. Install ped gates in SE quad.	Y	Y	Y	Y	N N	Y Y	Quad Gates (See Plan 8A)

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Dot#	MP	Street	City	County	Train Speed	Direction	SunRail C F			SunRail Improvements	OFFSET Curb?	MARKIN GS Good?	STOP BAR Good?	W10-1 Good?	QZ New Median	
622166X	786.17	Holt Ave.	Winter Park	Orange	25	EB WB] X] X	0	Install W10-1 signs & pavement markings EB&WB. Extend curb and gutter in WB.	Y	Y	Y	Y	N N	Y Y Quad Gates (See Plan 8A)
622167E	786.42	Minnesota Ave.	Winter Park	Orange	25	EB WB] 🗵		Install W10-4 sign on NB. Install ped gates in NW&SE.	Y Y	Y Y	Y	Y	N N	Y Y Quad Gates (See Plan 9)
622168L	786.56	Denning Dr.	Winter Park	Orange	25	NB SB] X] X	0	Relocate FL&G in SW quad. Trim tree in SW quad. Install W10-4 SB. Install sidelight on FL&G in NE.	Y	Y	Y	Y	N N	Y Y Quad Gates (See Plan 10)

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Dot#	MP	Street	City	County	Train Speed	Direction	SunRail C FL			SunRail Improvements	OFFSET Curb?	MARKIN GS Good?	STOP BAR Good?	W10-1 Good?	QZ New Median	QZ New 4 Quad	COMMENTS
622169T	786.9	Orlando Ave.	Winter Park	Orange	25	EB WB	X X X X] 🗵		Install raised median. Remove left turn lane. Install FL&G NB. Replace FL&G in NE. Install ped gate in SE. Install FL&G in new median SB. Replace FL&G in SW. No left turn sign to install.	Y	Y	Y	Y	N N	Y	Four-Quadrant with Median Gates
622170M	787.07	Westchester Ave.	Winter Park	Orange	25	NB SB		I X		Install W10-4 WB. Replace FL&G NE. Install ped gate NW. Relocate FFL&G SW. Add sidelight NE, SW.	Y	Y	Y	Y	N N	Y	Four-Quadrant Gates

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Dot#	MP	Street	City	County	Train Speed	Direction	SunRail Insta C FL G		SunRail Improvements	OFFSET Curb?	MARKIN GS Good?	STOP BAR Good?	W10-1 Good?	QZ New Median	QZ New 4 Quad	COMMENTS
622171U	787.45	Wilkinson St.	Orlando	Orange	25			× □ × □	Install W10-1 and pavement markings EB&WB. Install ped gates in NW&SE quads. Install ped gates in NE. Extend curb and replace 8"lenses in NE&SW with 12"LED.							Redefine the grade crossing width by constructing 12' travel lanes and a 4' median separator. Realign existing sidewalk closer to the new edge of pavement. Install 4' traffic separators on the EB and WB approaches. Realign the residential driveway on the SE quadrant of the intersection outside of the right-of-way. Install a four quadrant gate system. Convert business entrance in NW corner to 1-Way in. Clear vegetation on NE and NW approaches to improve sight distance. Restripe crossing on the WB approach and pedestrian crosswalks. Install RR crossing pavement markings. Install "NO TRAIN HORN" sign with a W10-1sign in each direction. Install fencing along the western RR right-of-way. Install lighting with higher intensity bulbs (3 ft candles) so as not to interfere withthe train operator's sight lines or train signals.
643815C	787.62	King St. E	Orlando	Orange	25			X 🗆	Install W10-2 sign in NB.W10-1 sign and pavement markings for EB&WB approaches.Add one sidelight on FL&G in NE Install ped gate in SE quad.							Construct new EOP and curb/gutter "bulb out" on Sanitarium Ave. to eliminate parking near the crossing. Redefine the grade crossing width by constructing 12' travel lanes and a 4' median separator with a new edge of pavement on south side of King St. Suggest converting Clipinger Ct. to a 1-Way SB only. To be further discussed with Florida Hospital. Provide Pedestrian access across tracks on NB and SB side. Install four quadrant gate system. Page 4. Install 4' traffic separators on the EB and WB approaches with channelizing devices. Restripe Intersection approaches and Sanitarium Ave. Install "NO TRAIN HORN" sign with a W10-1sign in each direction. Install fencing along the western RR right-of-way and in the NE and SE quadrants. Install RR crossing pavement markings. Install lighting with higher intensity bulbs (3 ft candles) so as not to interfere with the train operator's sight lines or train signals.
622172B	787.8	E. Rollins St.	Orlando	Orange	25			X	Install W10-4 sign SB and W10-1 signs and pavement markings on EB&WB. Replace FL&G in SW and CANT. Install ped gates in SW&SE. Replace FL&G in NE.							Construct new EOP and curb/gutter "bulb out" on Sanitarium Ave. to eliminate parking near the crossing. Redefine the grade crossing width by constructing 12' travel lanes and a 4' median separator with a new edge of pavement on north side of E. Rollins St. Provide Pedestrian access across tracks on NB side. On the SB side add additional sidewalk to tie into SunRail station pathways. Maintain 6 foot offset from the edge of pavement to the sidewalk across the grade crossing. Install 4' traffic separators on the EB and WB approaches with channelizing devices. Install four quadrant gate system. Restripe intersection approaches, crosswalks, and Sanitarium Ave. Add RR crossing pavement markings. Install "NO TRAIN HORN" sign with a W10-1sign in each direction. Install fencing along the western RR right-of-way and in NE quadrant. Install RR crossing pavement markings. Install lighting with higher

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Dot#	MP	Street	City	County	Train Speed	Direction		nstallation G XB	SunRail Improvements	OFFSET Curb?	MARKIN GS Good?	STOP BAR Good?	W10-1 Good?	QZ New Median	QZ New 4 Quad	COMMENTS
622173H	787.99	E. Princeton St.	Orlando	Orange	25		X X X X		Install ped gates in NE,NW,& SE quads.							Conduct traffic study to evaluate the need for queue detection and coordination for the traffic signals at Alden Rd. and Orange Ave. with the train signal to prevent traffic from queuing over the tracks. Realign proposed sidewalk (by SunRail) on north side of Princeton Street to eliminate abrupt changes in the alignment. Coordinate with SunRail to relocate the proposed pedestrian gates to make it difficult to walk around when the gate is down. Relocate the commercial driveway in the SE quadrant so that it will have a 60 foot offset from the WB gate. Install channelization device like QWIK KURB to the existing traffic separators or rebuild to achieve a 6"-9" reveal. Coordinate with the City of Orlando.
622174P	788.5	Virginia Dr.	Orlando	Orange	25	EB WB	_ X		Install W10-1 and pavement marking EB&WB. Replace CFL&G NE. Install ped gaet in NW&SE.	Y	Y Y	Y	Y	N N	Y	Four-Quadrant Gates
622175W	788.68	Alden Rd.	Orlando	Orange	25	EB WB	X X	X	Install W10-1 signs and pavement markings in EB&WB. Build up existing EB&WB curb. Replace FL&G in NE. Replace FL&G in SW, remove cant.	Y	Y	Y	Y			Option 1) Median Separators, move gate to block driveway west bound, close driveway east bound (can move to 60' to fit), or Option 2) Four-Quadrant Gates

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						CFCKT	COITIC	101	ıııgı	iwa	y/Rail Grade (USSIII g	3 - Quiei	. ZUITE	IVENIEN	v		
Dot#	MP	Street	City	County	Train Speed	Direction	SunRa C		stalla G		SunRail Improvements	OFFSET Curb?	MARKIN GS Good?	STOP BAR Good?	W10-1 Good?	QZ New Median	QZ New 4 Quad	COMMENTS
622176D	788.74	Highland Ave.	Orlando	Orange	25	NB SB		X	X		Install W10-1 signs and pavement marking in EB&WB. Replace FL&G in NE&SW.	Y	Y	Y	Y			Option 1) Median Separators, close driveway on north side, or Option 2) Four-Quadrant Gates
622178S	788.97	Magnolia St.	Orlando	Orange	25	NB SB	X X	X	X X		W10-1 sign W. Install ped gate NW&SW quad.	Y	Y	Y	Y			Existing one-way north bound with gates on each side. Make sure gate tips are no more than 2' appart.
622179Y	789.14	Orange Ave. (SR- 527)	Orlando	Orange	25	NB SB	X X	X	X		W10-2 sign N Orange Ave & N Garland. Ped gates NE, SE, NW. Relocate existing gate mechanism at driveway. Extend curg and gutter.	Y	Y Y	Y	Y			Existing one-way south bound with gates on each side. Make sure gate tips are no more than 2' appart.

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Dot#	MP	Street	City	County	Train Speed	Direction			allation G XB	SunRail Improvements	OFFSET Curb?	MARKIN GS Good?	STOP BAR Good?	W10-1 Good?	QZ New Median	QZ New 4 Quad	COMMENTS
622180T	789.22	Marks St.	Orlando	Orange	25	EB WB		X [X 🗆	Install W10-1 signs and pavement markings EB&WB. Replace FL&G in NE quad. Extend existing curb & gutter.	v	Y	Y	Y			Option 1) one-way, or Option 2) four-quadrant gates
622181A	789.48	Colonial Dr.	Orlando	Orange	25	EB WB	X X	<u>x</u> (X 🗆	Install ped gates in NW,SW& SE quads. CSX to remove new KSA panels.	Y	Y	Y	Y			Median Separators
622182G	789.62	Concord St.	Orlando	Orange	25	EB WB	_ _	X [X [х п	Install W10-1 sign and pavement markings in WB and pavement markings on EB. City to extend existing curb on WB.		YN	Y N	N Y	Y	N N	Option 1) Median Separators, or Option 2) Convert to a oneway street from track north

Blue = Private Green = Pedestrian Orange = Previously reviewed

						CFCKT	-	uui	iligiiwa	y/Rail Grade (USSIII g	3 - Quie	LZUITE	IVENIEN			
Dot#	MP	Street	City	County	Train Speed	Direction			stallation G XB	SunRail Improvements	OFFSET Curb?	MARKIN GS Good?	STOP BAR Good?	W10-1 Good?	QZ New Median	QZ New 4 Quad	COMMENTS
622183N	789.73	Amelia St.	Orlando	Orange	25	EB WB	X X	X	X	Install W10-1 EB. Install ped gate in NW&SE. Replace CFL&G in NE&SW.	Y	N N	Y	Y Y	N N	Y	Four-Quadrant Gates
622185C	789.86	Livingston Ave.	Orlando	Orange	25	EB WB		X	X 0	Install ped gates in SW,SE,NE&NW. Replace crossing surface	Y Y	N N	N N	N N			Four-quadrant gate for traffic lanes, and two-quadrant gates for bus lanes
622186J	789.99	Robinson St.	Orlando	Orange	25	EB WB	X X	X	X - X -	Cracked cant in NE. Install ped gate in NW quad& SE.	Y	Y Y	Y	Y N	N N	Y Y	Four-Quadrant Gates

Blue = Private Green = Pedestrian Orange = Previously reviewed

						CFCKT	COITI	uui	пів	iiwa	y/Rail Grade	crossing	s - Quiei	LZone	Reviev	V		
Dot#	MP	Street	City	County	Train Speed	Direction	SunRa C		nstalla G		SunRail Improvements	OFFSET Curb?	MARKIN GS Good?	STOP BAR Good?	W10-1 Good?	QZ New Median	QZ New 4 Quad	COMMENTS
622187R	790.06	Jefferson St.	Orlando	Orange	25	EB WB	X X	X	X X	00	Install W10-1 signs and pavement markings in EB &WB.	Y	N N	N N	N N			Option 1) One-way East, or Option 2) Four-Quadrant Gates
622188X	790.12	Washington St.	Orlando	Orange	25	EB WB		X	X X		Install W10-1 signs and improve pavement markings in EB&WB. Install ped gates in NW, SW, & SE.		Y	Y	Y N	N N	Y Y	Four-Quadrant Gates
622189E	790.23	Central Blvd.	Orlando	Orange	25	EB WB	X X	X	X X	00	Install W10-1 signs & pavement marking EB&WB. Install ped gates in NW,SE,SW.	Y	N N	N Y	N N	N N	Y	Four-Quadrant Gates(Fire Station)

Blue = Private Green = Pedestrian Orange = Previously reviewed

						CFCKI	Comiu	ואוח וכ	iwa	y/Rail Grade (LIUSSIIIR	s - Quiei	LZONE	reviev	v		
Dot#	MP	Street	City	County	Train Speed	Direction	SunRail C F	Installa L G		SunRail Improvements	OFFSET Curb?	MARKIN GS Good?	STOP BAR Good?	W10-1 Good?	QZ New Median	QZ New 4 Quad	COMMENTS
622190Y	790.29	Pine St.	Orlando	Orange	25	EB WB	X 2 X 2	g x g x		W10-1 and pavement markings EB. Ped gates SE&NE quads. Trim EB tree. Install FL&G in NW quad.	Υ	2 2	N N	N N	N N	Y Y	Four-Quadrant Gates(Fire Station)
622191F	790.35	Church St.	Orlando	Orange	25	EB WB	X D	C X		Install W10-1 sign and pavement markings in EB. Install ped gates in SE&NE. Trim tree in EB. Install FL&G in NW quad.	Y	Z Z	N N	N N			Option 1) Median Separators, or Option 2) Four-Quadrant Gates
622192M	790.49	South St.	Orlando	Orange	25	EB WB	X 2 X 2	3 X 3 X		Install W10-1 sign & pavement markings in EB&WB. Install ped gates in NW&SE	Y	N N	N N	N N	N N	Y Y	Four-Quadrant Gates (Driveway)

Blue = Private Green = Pedestrian Orange = Previously reviewed

			-			CFCKI	Corrido	r mign	wa	y/Rail Grade (crossing	s - Quie	Zone	Keviev	v		
Dot#	MP	Street	City	County	Train Speed	Direction	SunRail I C FL	nstallat G X		SunRail Improvements	OFFSET Curb?	MARKIN GS Good?	STOP BAR Good?	W10-1 Good?	QZ New Median	QZ New 4 Quad	COMMENTS
622196P	790.82	America St.	Orlando	Orange	25	EB WB	X X	X X		Install pavement markings in WB and W10-4 sign in NB. Install stop bar for RR gate. Remove stop sign.	Y	N N	N N	N Y	Y	N N	Median Separator
622198D	790.93	Ernestine St.	Orlando	Orange	25	EB WB	X X	X X		Remove W10-1 sign. Align W10-1 sign and install pavement markings in WB. City to install W10-4 sign on NB.	Y	N N	N N	N N			Option 1) Closure, or Option 2) One-way west bound with long gate and two gate blocking Hughey
622300G	791.02	Gore St.	Orlando	Orange	25	EB WB	X X	X X		W10-1 and pavement markings EB&WB. W10-2 NB&SB. Extend NE& SW curb.	Y	N N	Y	N N	N N	Y	Four Quadrant Gates close side streets on both side to lumber yard

Blue = Private Green = Pedestrian Orange = Previously reviewed

						CFCRI	Corridor H	<u>iignwa</u>	y/Rail Grade	crossing	s - Quiei	Zone	Keviev	<u> </u>		
Dot#	MP	Street	City	County	Train Speed	Direction	SunRail Insta C FL G		SunRail Improvements	OFFSET Curb?	MARKIN GS Good?	STOP BAR Good?	W10-1 Good?	QZ New Median	QZ New 4 Quad	COMMENTS
622301N	791.24	Columbia St.	Orlando	Orange	25	EB WB		X 🗆	Install ped gate SE quad. Replace FL&G in NE& SW quad. W10-4 SB. W10-2 SB.	Y	Y	Y	Y Y	N N	Y Y	Four-Quadrant Gates
622304J	791.77	Kaley Ave.	Orlando	Orange	40	EB WB	X X C	X	Relocate CFL&G in NE. Install pavement markings on EB.	Y	Y	Y	Y Y	N N	Y	Four-Quadrant Gates with raised island
622306X	792.03	Grant St.	Orlando	Orange	40	EB WB		X 🗆	Install W10-1 sign on EB and pavement markings on WB. Relocate FL&G in NE quad.	Y	Y	Y Y	Y Y	N N	Y Y	Four-Quadrant Gates

Blue = Private Green = Pedestrian Orange = Previously reviewed

Reviewer: ______ Date: _____

Dot#	MP	Street	City	County	Train Speed	Direction		nstallation G XB	SunRail Improvements	OFFSET Curb?	MARKIN GS Good?	STOP BAR Good?	W10-1 Good?	New	New COMMENTS
622307E	792.29	Michigan St.	Orlando	Orange	40	EB WB	X X X X	X	Install W10-1 sign in WB. Replace FL&G in NE. Install median gate in E median. Remove cant in NE. Install ped gate in NW&SE.	Y	Y	Y	Y	N N	Y Y Four-Quadrant Gates
622308L	792.54	Pineloch Rd.	Orlando	Orange	79	EB WB	X X X X	X -	City to improve pavement markings in EB & WB. Relocate FL&G in NE. Remove cant in NE.	Y Y	Y	Y Y	Y	N N	Y Y Four-Quadrant Gates

Blue = Private Green = Pedestrian Orange = Previously reviewed

Reviewer: ______

	CFCRT Corridor Highway/Rail Grade Crossings - Quiet Zone Review																
Dot#	МР	Street	City	County	Train Speed	Direction	SunRail C F	Insta L G	llation XB	SunRail Improvements	OFFSET Curb?	MARKIN GS Good?	STOP BAR Good?	W10-1 Good?	QZ New Median	QZ New 4 Quad	COMMENTS
622309T	792.98	Drennen Ave.	Edgewood	Orange	79	EB WB				Relocate FL&G in NE.	Y	Y	Y	Y	N N	Y Y	Four-Quadrant Gates
622311U	793.57	Holden Ave.	Edgewood	Orange	79	EB WB				Relocate FL&G in NE&SW. Install ped gates in SE&SW quads.	Y	Y	Y	Y			Option 1) Median Separators, or Option 2) Four-Quadrant Gates
622312B	794.07	Jamaica Ln.	Edgewood	Orange	79	EB WB				FL&G in NE&SW. W10-1 and pavement markings in EB&WB. Cabinet on SW. Curb and gutter NE&SW. Relocate FL&G	Y	Y	Y	Y			"No Train Horn" signs

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Reviewer: _______

	CFCRT Corridor Highway/Rail Grade Crossings - Quiet Zone Review															
Dot#	MP	Street	City	County	Train Speed	Direction	SunRail Insta C FL G		SunRail Improvements	OFFSET Curb?	MARKIN GS Good?	STOP BAR Good?	W10-1 Good?	QZ New Median	QZ New 4 Quad	COMMENTS
622313H	794.31	Stratemeyer Dr.	Edgewood	Orange	60	EB WB		g _	Trim tree on EB. Relocate FL&G in NE quad.	Y	Y	Y	Y	Y	N N	Median Separators
622314P	794.53	Mary Jess Rd.	Edgewood	Orange	60	EB WB		☑ □	Relocate FL&G in NE quad. Combine FL&ID sign in NE quad. Install W10- 2 sign on SB. Install W10-1 sign & pavement markings in EB.	Y Y	Z Z	N N	N N			Option 1) Median Separators, or Option 2) Four-Quadrant Gates
622315W	794.98	Oakridge Ave.	Orlando	Orange	79	EB WB	X X 5 X X 5	X 🗆	Install W10-1 signs in EB&WB. Relocate CFL&G in NE quad. Install ped gates in NE,NW,SE & SW quads.	Y	Y Y	Y N	Y N	Y	N N	Median Separators

Blue = Private Green = Pedestrian Orange = Previously reviewed

Reviewer: ______

	CFCRT Corridor Highway/Rail Grade Crossings - Quiet Zone Review																
Dot#	МР	Street	City	County	Train Speed	Direction			tallation G XB	SunRail Improvements	OFFSET Curb?	MARKIN GS Good?	STOP BAR Good?	W10-1 Good?	QZ New Median	QZ New 4 Quad	COMMENTS
622316D	795.05	Fairlane Ave.	Edgewood	Orange	60	EB WB	00	X I	X	Install W10-1 sign in EB&WB. Replace FL&G in NE.	Y	Y	N N	N N	N N	Y Y	Four-Quadrant Gates
622317K	795.57	Lancaster Rd.	Edgewood	Orange	79	EB WB	0	X I		Relocate FL&G in NE. Install cants in NE&SW quads.	Y	Y	Y	N N			Option 1) Median Separators, or Option 2) Four-Quadrant Gates
622318S	795.87	Glenrose Ave.	Edgewood	Orange	79	EB WB	00										Do not include in Quit Zone. No Improvement Recommendation

Blue = Private Green = Pedestrian Orange = Previously reviewed

Reviewer: _______

Exhibit E



Notice of Intent to Create a Quiet Zone¹

Who should submit this notice

A public authority seeking to create a New Quiet Zone or a New Partial Quiet Zone should submit notice of its intent.

Parties to be notified

Before a public authority establishes a quiet zone either through public authority designation or through FRA approval, it must provide written notice to several parties. These parties include the following:

All railroads operating over the public highway-rail grade crossings
within the quiet zone,

- ☐ The State agency responsible for highway and road safety, and
- ☐ The State agency responsible for grade crossing safety.

All notices must be provided by certified mail, return receipt requested.

Deadlines

A party may submit information or comments to the public authority during the 60-day period after the date on which the Notice of Intent was mailed. This 60-day comment period may terminate early, if the public authority obtains from each party either written comments or written statements that the parties do not have any comments.

¹ The information collection submission for the final rule has been approved by the OMB. The OMB control number is 2130-0560.

Notification contents

The notice must unambiguously state which crossings will be contained within the quiet zone. Each public, pedestrian, and private crossing must be identified by both the U.S. DOT National Highway-Rail Grade Crossing Inventory number and the street or highway name.
The notice must indicate the time period during which train horn restrictions would be imposed (i.e. 24 hours or from 10 pm to 7 am)
The notice must contain a brief explanation of the tentative plans for implementing improvements within the quiet zone.
The notice must clearly indicate the name, title, and contact information for the person who will act as point of contact during the development process.
All notifications must contain list of the names and addresses of each

Notice of Quiet Zone Establishment¹

Who should submit this notice

A public authority wishing to establish a New Quiet Zone, a New Partial Quiet Zone, a Pre-Rule Quiet Zone, or a Pre-Rule Partial Quiet Zone must submit a notice of Quiet Zone Establishment.

Parties to be notified ((§222.43(a)(4))

The public authority must provide written notice to several parties. These parties include the following:

All railroads operating over the public highway-rail grade crossing within the quiet zone,
The highway or traffic control authority, or the law enforcement authority with jurisdiction over motor vehicle traffic at the quiet zone crossings,
Landowners with control over any private crossings within the quiet zone,
The State agency responsible for highway and road safety,
The State agency responsible for grade crossing safety, and
The FRA Associate Administrator.

All notices must be provided by certified mail, return receipt requested.

Deadlines

Notice of the establishment of a Quiet Zone should be mailed no later than 21 days before the date on which train horns are scheduled to cease sounding. For New Quiet Zones and New Partial Quiet Zones, the Notice of Quiet Zone Establishment can not be served earlier than 60 days after the Notice of Intent was mailed, unless the Notice of Quiet Zone Establishment contains a written statement affirming that

¹ The information collection submission for the final rule has been approved by the OMB. The OMB control number is 2130-0560.

written comments and/or 'no comment' statements have been received from each party that received the Notice of Intent. For Pre-Rule Quiet Zones that qualified for automatic approval, the Notice of Quiet Zone Establishment should be mailed out before December 24, 2005.

Notification contents (§222.43(e))

- ☐ The notice must unambiguously state which crossings are contained within the quiet zone. All public, pedestrian, and private crossings must be identified by both the U.S. DOT National Highway-Rail Grade Crossing Inventory Number, and by street or highway name.
- ☐ The notification must clearly cite the regulatory provision that provides the basis for establishing the Quiet Zone:
 - § 222.39(a)(1), implementation of SSMs at every public crossing in the New Quiet Zone or New Partial Quiet Zone;
 - §222.39(a)(2)(i), the QZRI is at or below the NSRT without installation of any SSMs at the New Quiet Zone or New Partial Quiet Zone;
 - §222.39(a)(2)(ii), SSMs were implemented at some crossings in the New Quiet Zone or New Partial Quiet Zone to bring the QZRI to a level at or below the NSRT;
 - §222.39(a)(3), SSMs were implemented at some crossings in the New Quiet Zone or New Partial Quiet Zone to bring the QZRI to a level at or below the RIWH; or
 - §222.39(b), public authority application to the FRA for a New Quiet Zone or New Partial Quiet Zone.
 - § 222.41(a)(i) Pre-Rule Quiet Zones that qualify for automatic approval because every crossing is equipped with an SSM,
 - § 222.41(a)(ii) Pre-Rule Quiet Zones that qualify for automatic approval because QZRI ≤ NSRT,
 - § 222.41(a)(iii) Pre-Rule Quiet Zones that qualify for automatic approval because NSRT < QZRI < 2* NSRT, and there have been no relevant collisions within the 5 years preceding April 27th, 2005.

- § 222.41(b)(i) Pre-Rule Partial Quiet Zones that qualify for automatic approval because every crossing is equipped with an SSM,
- § 222.41(b)(ii) Pre-Rule Partial Quiet Zones that qualify for automatic approval because QZRI ≤ NSRT,
- § 222.41(b)(iii) Pre-Rule Partial Quiet Zones that qualify for automatic approval because NSRT < QZRI < 2* NSRT, and there have been no relevant collisions within the 5 years preceding April 27th, 2005.
- § 222.41(c) Pre-Rule Quiet Zones and Pre-Rule Partial Quiet Zones that do not qualify for automatic approval
- § 222.41(d) Pre-Rule Partial Quiet Zones that will be converted to 24-hour New Ouiet Zones
- § 222.42(a) Intermediate Quiet Zones or Intermediate Partial Quiet Zones
- § 222.42(b) Intermediate Partial Quiet Zones that will be converted to 24-hour New Quiet Zones.
- ☐ If the notice contains a reference to §222.39(a)(2)(i), 222.39(a)(2)(ii), 222.39(a)(3), 222.41(a)(2), 222.41(a)(3), 222.41(b)(2), or 222.41(b)(3), that is, any time a determination of QZRI is used to justify establishment of a quiet zone, the notification must include a copy of the FRA Quiet Zone Calculator web page that contains the data on which the public authority is relying.
- ☐ If the notice contains a reference to §222.39(b), the notice must include a copy of the FRA's notification of approval.
- ☐ If a diagnostic team is required under §222.25 (private crossings) or §222.27 (pedestrian crossings), the notice must include a statement affirming that the State agency responsible for grade crossing safety and all affected railroads were provided an opportunity to participate in the diagnostic team review. The notice must also include a list of the diagnostic team's recommendations.
- ☐ The notice must contain a statement indicating the time period during which horn restrictions will be observed.

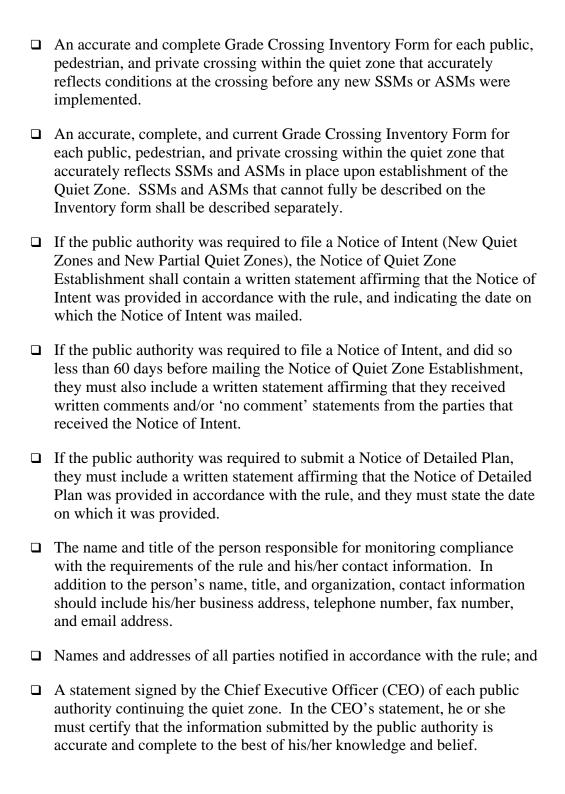


Chart 3 - Creating a New Quiet Zone or New Partial Quiet Zone using SSMs

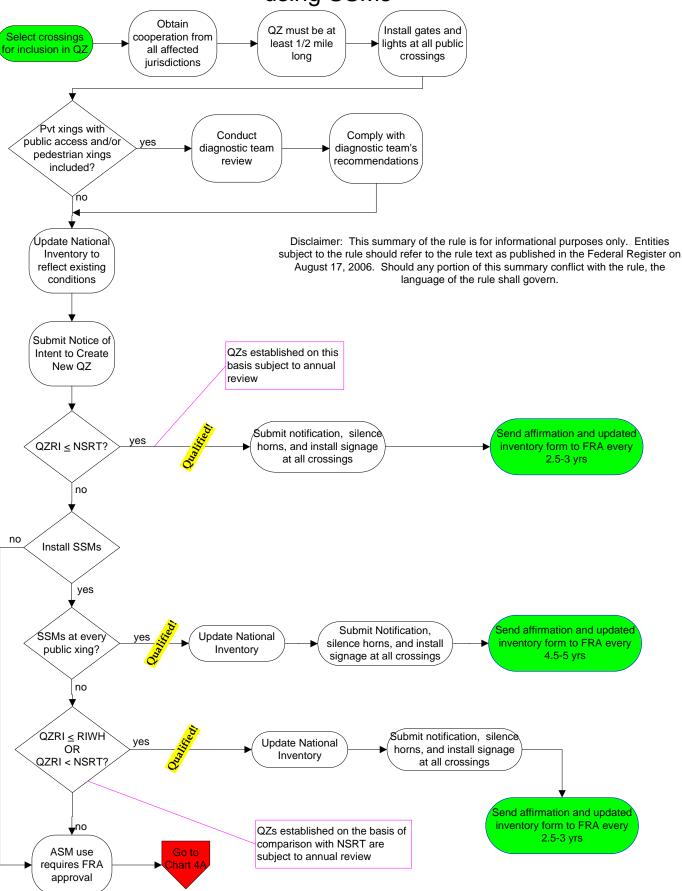
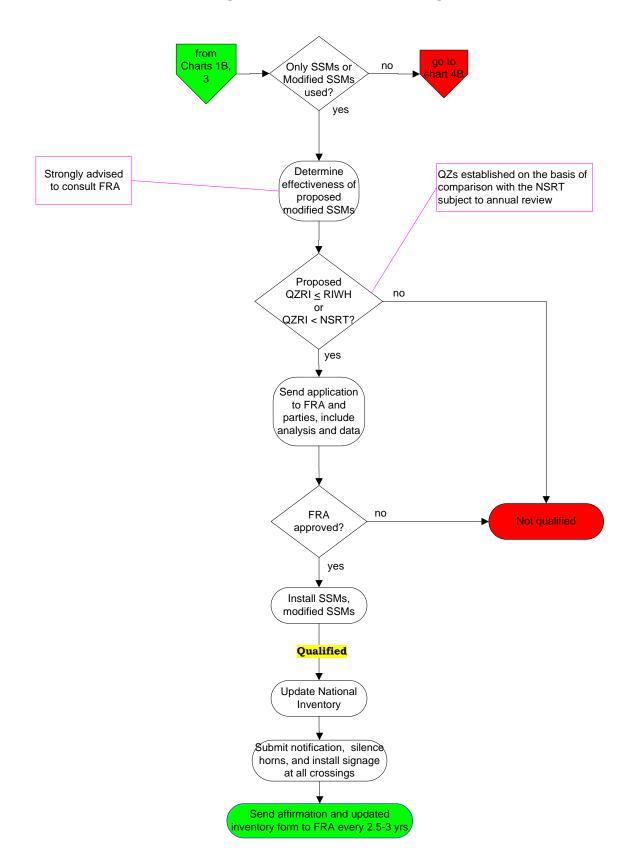


Chart 4A - Creating a Quiet Zone using Modified SSMs

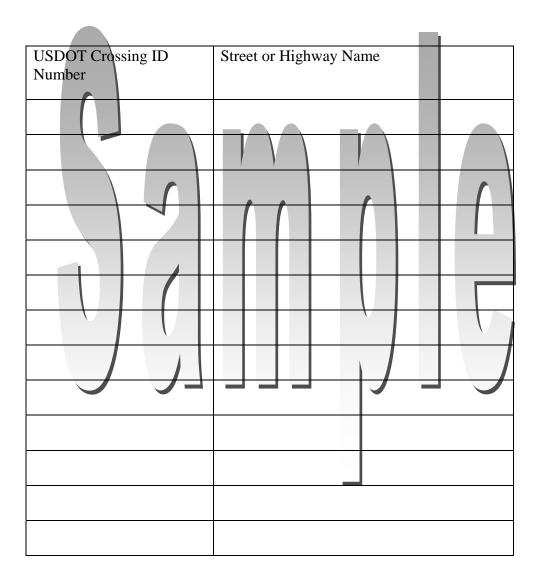


List of Crossings within Quiet Zone

Submit to all Parties

Quiet Zone Name:			

The following crossings are included in the above named Quiet Zone:



Basis for Continuation of a Pre-Rule Quiet Zone:

Submit to all Parties

Quiet Zone N	ame:
This quiet zor apply):	ne is being continued in compliance with the following (check all that
	§222.41(a) Pre-Rule Quiet Zones that qualify for automatic approval because
	□ every crossing is equipped with an SSM,
	\square QZRI \leq NSRT, or
	□ NSRT < QZRI < 2* NSRT, and there have been no relevant collisions within the 5 years preceding FINAL RULE PUBLICATION DATE
	§222.41(b) Pre-Rule Partial Quiet Zones that qualify for automatic approval because
	every crossing is equipped with an SSM,
	□ QZRI ≤ NSRT, or
	□ NSRT < QZRI < 2* NSRT, and there have been no relevant collisions within the 5 years preceding FINAL RULE PUBLICATION DATE
	§222.41(c) Pre-Rule Quiet Zones and Pre-Rule Partial Quiet Zones that do not qualify for automatic approval
	§222.41(d) Pre-Rule Partial Quiet Zones that will be converted to 24-Hour Quiet Zones.

Note: Quiet Zones established in accordance with §222.41(c) can be maintained under that provision for an interim period only. Continuation of the quiet zone beyond the interim period will require implementation of SSMs or ASMs in accordance with the section of the rule governing establishment of a New Quiet Zone (§222.39).

Copy of FRA web calculator pages

(to be included if basis for establishment cites 222.41(a)(2), 222.41(a)(3), 222.41(b)(2), or 222.41(b)(3))

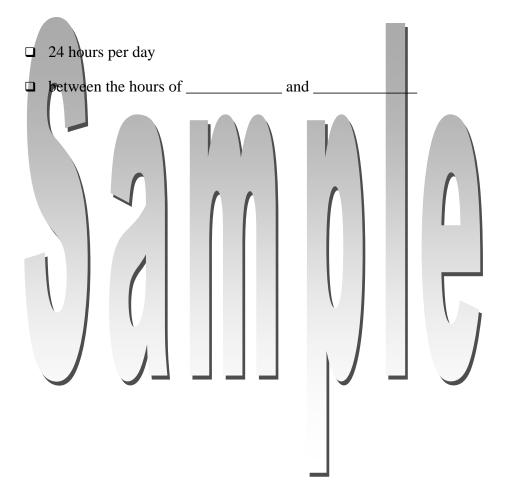


Time Period Restrictions

Submit to all Parties

Quiet Zone Name:

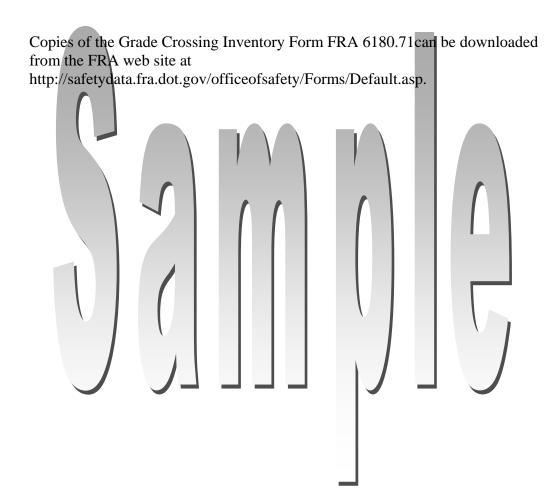
Train horns will be restricted at the above named quiet zone during the following hours (check all that apply)



Grade Crossing Inventory Form

Submit to all Parties

Submit an accurate and complete Grade Crossing Inventory Form for each public and private crossing within the quiet zone reflecting conditions prior to implementation of SSMs and ASMs.

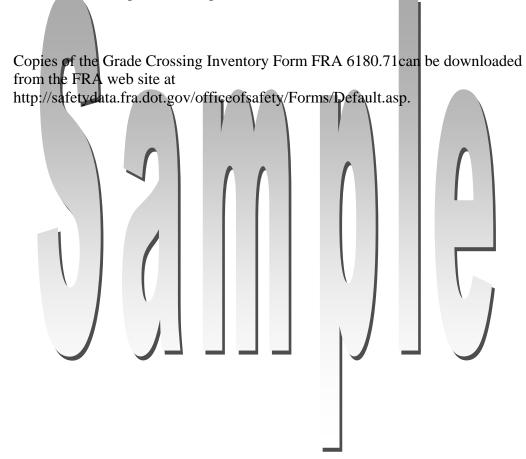


Grade Crossing Inventory Form

Submit to all Parties

Submit an accurate and complete Grade Crossing Inventory Form for each public and private crossing within the quiet zone reflecting conditions after implementation of SSMs and ASMs.

If there are any SSMs or ASM that cannot be fully described on the Inventory Form, submit a separate description.



Point of Contact Information

Submit to FRA Associate Administrator, Office of Safety

Quiet Zone Name:			
Date:			
			1
The following individual	is responsible for n	nonitoring compli	ance with §222:
Name:	1/ \		
Title:		-	+++
Organization:			
Address:			\vdash
\			
7			
Phone:		- 	
Fax:			
Email:			

Notification List

Submit to all Parties including FRA

Notice of the establishmen	nt or continuation of	this Ouiet Zone v	was provided to the
following:	int of continuation of	unis Quiet Zone	was provided to the
Name:			
		_	
Title:			
Organization:			
Address:			
Name:			
Title:			
Organization:			
Address:			
Name:		—	
Title:			
Organization:			
Address:			

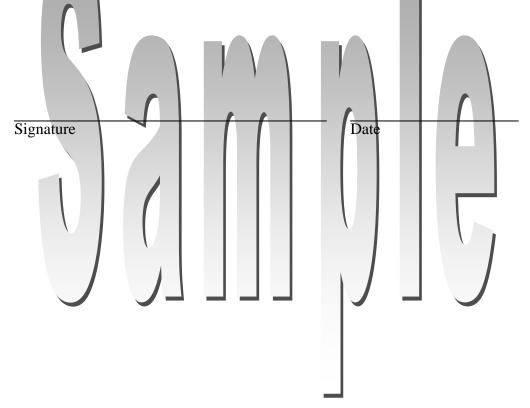
Quiet Zone Name:_____

Chief Executive Officer Statement

Submit to FRA Associate Administrator, Office of Safety

Quiet Zone	
Designation:	

I hereby certify that the information submitted herein is accurate, correct, and complete to the best of my knowledge and belief.



Notice of Quiet Zone Continuation Checklist

Be sure to include the following information when providing notification of the continuation of a pre-rule quiet zone. Notifications must be sent by certified mail, return receipt requested.

All parties, including FRA, must receive:

- □ List of Crossings within Quiet Zone
- □ Basis for Continuation of a Pre-Rule Quiet Zone
- □ Statement of Time Period Restrictions
- □ Grade Crossing Inventory Forms
- Point of Contact Information
- □ List of Names and Addresses of Parties
- Chief Executive Officer Statement

Notification should be mailed to FRA at the following address:

Associate Administrator for Safety

Federal Railroad Administration

1200 New Jersey Avenue, SE

3rd Floor West

Washington, DC 20590

THIS IS PRESENTED AS A SUGGESTION AND IS NOT OMB APPROVED

Ms Jo Strang Associate Administrator for Safety Federal Railroad Administration 1200 New Jersey Ave, S.E. Washington, DC 20590

DATE
Dear Ms. Strang:
The CITY/COUNTY of is establishing a New 24 Hour Quiet Zone
effective
This Quiet Zone is established under authority of 49CFR222 (REGULATORY PROVISION). A Notice of
Intent was sent on DATE and (no comments were received from any applicable parties) O
(comments were received and addressed) ATTACH COMMENTS IF RECEIVED
Eg; IF QZ HAS 4 CROSSINGS AND 2 HAVE SSMs, AND THE QZRI S > RIWH, THE REGULATORY
PROVISION WOULD BE 49CFR222.(a)(3)
The crossings in this Quiet Zone are:
LIST BY USDOT# and Street Name (in geographical order IE; n-s, DOT# SEQUENCE)
(Include Private and Pedestrian Crossings within the Quiet Zone)
THIS LIST CAN BE INCLUDED HERE OR AS AN ATTACHMENT, DEPENDING ON SIZE OF LIST.
Attached are Grade Crossing Inventory forms for the crossings in this Quiet Zone reflecting conditions a
the crossings before any modifications and reflecting any modifications made to establish the Quiet
Zone. (PRINT TWO(2) COPIES OF DOT INVENTORY FORMS AND HAND-CORRECT ONE TO REFLECT
BEFORE AND AFTER CONDITIONS, MAKING CORRECTIONS TO ALL FIELDS)
MAKETHIS AN ATTACHMENT, MAKING PAIRS OF THE INVENTORY FORMS AND SHOW IN SAME
ORDER AS ABOVE.
And the state of t
This notice is being mailed to: LIST ALL REQUIRED PARTIES ONLY HERE. NOTE COURTESY COPIES AS
"CC:" AND LIST AT END OF NOTICE.
The contact person for CITY/COUNTY is:
LIST INFO FOR CONTACT PERSON
EDITATION OF STREET
I certify that the information submitted herein is accurate, correct, and complete to the best of my
knowledge and belief, (this statement can be the signature block)
MAYOR, CEO, COMMISIONER, etc.

This is provided as a guide only. The Notice of Establishment does not need to be an intimidating document.

PLEASE CONTACT YOUR FRA REGIONAL GRADE CROSSING MANAGER BEFORE SUBMITTING A NOTICE OF ESTABLISHMENT. IF YOU HAVE ERRORS OR OMMISSIONS, IT WILL BE KICKED BACK AND YOUR QUIET ZONE WILL BE DELAYED.

INVOLVEMENT OF FRA STAFF IS <u>NOT MANDATORY</u>, BUT STRONGLY RECOMMENDED.

THE RAILROADS HAVE BEEN VERY HELPFUL IN REVIEWING NOTICES OF ESTABLISHMENT AND THEY WILL ALERT YOU OF PROBLEMS THAT THEY FIND. ALONG WITH THIS, THEY WILL CONTINUE TO SOUND THE HORN UNTIL ERRORS ARE CORRECTED AND A PROPER NOTICE OF ESTABLISHMENT IS PROVIDED.