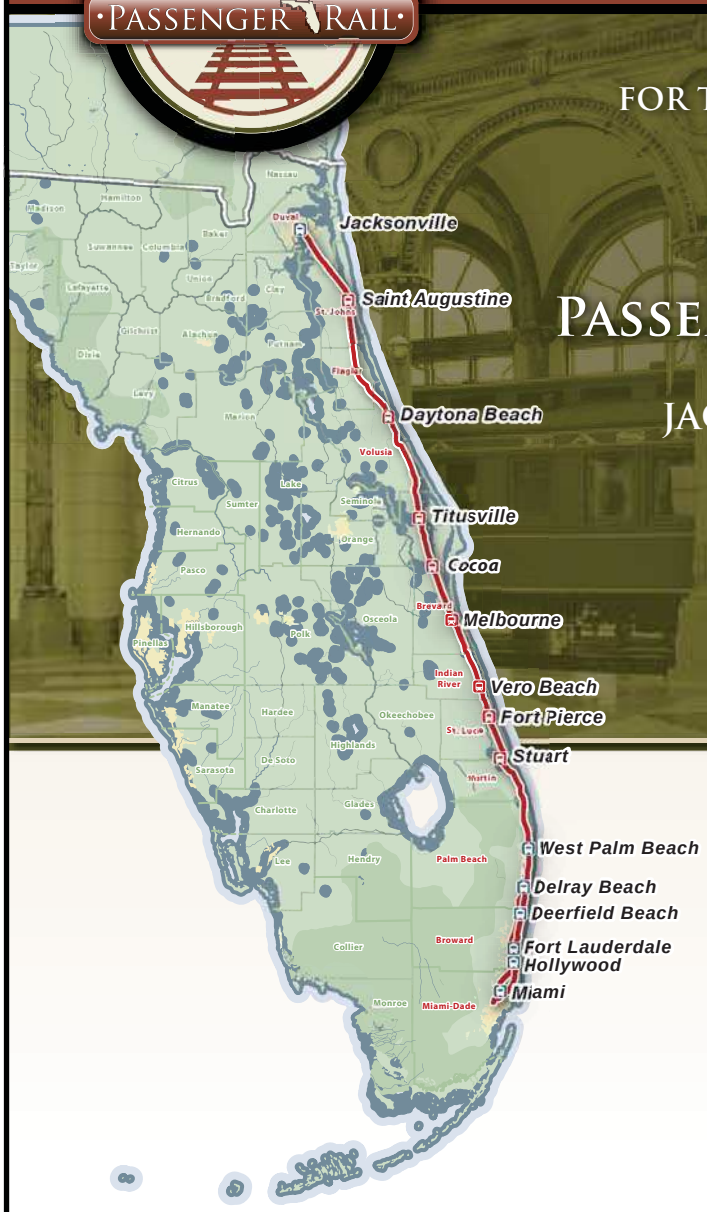
Preliminary Engineering Materials

FEC AMTRAK® Passenger Rail

for the Florida East Coast (FEC) Corridor Amtrak Service High Speed Intercity Passenger Rail (HSIPR) Program

Jacksonville (Duval County) to Miami (Miami-Dade County), Florida



August 2010

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Chapter 1

Introduction

The purpose of the Preliminary Engineering (PE) Materials is to provide supporting documentation for the NEPA assessment performed to provide the approach for ensuring successful implementation of intercity passenger rail services along the east coast of Florida. It fulfills the requirements of the Federal Railroad Administration (FRA) for funding under the American Recovery and Reinvestment Act of 2009 (ARRA) High Speed Intercity Passenger Rail Program (HSIPR) and the Passenger Rail Investment and Improvement Act of 2008 (PRIIA). The interim guidance for the HSIPR/PRIIA was published in the Federal Register on July 1, 2010 (Vol. 75, No. 126, page 38344). The requirements for Preliminary Engineering are described in Appendix 2, Section 8 and Appendix 2.3 of the Federal Register notification. The Florida East Coast Corridor - Amtrak Service Program is a project NEPA document and included herein are the PE Materials for the Phase 1 Project of the program. In addition to environmental documentation, these PE Materials provide the information needed to develop the cost estimates for infrastructure, and equipment; estimate of land acquisition (parcel areas); project management plan; service development plan, and financial plan.

Chapter 2

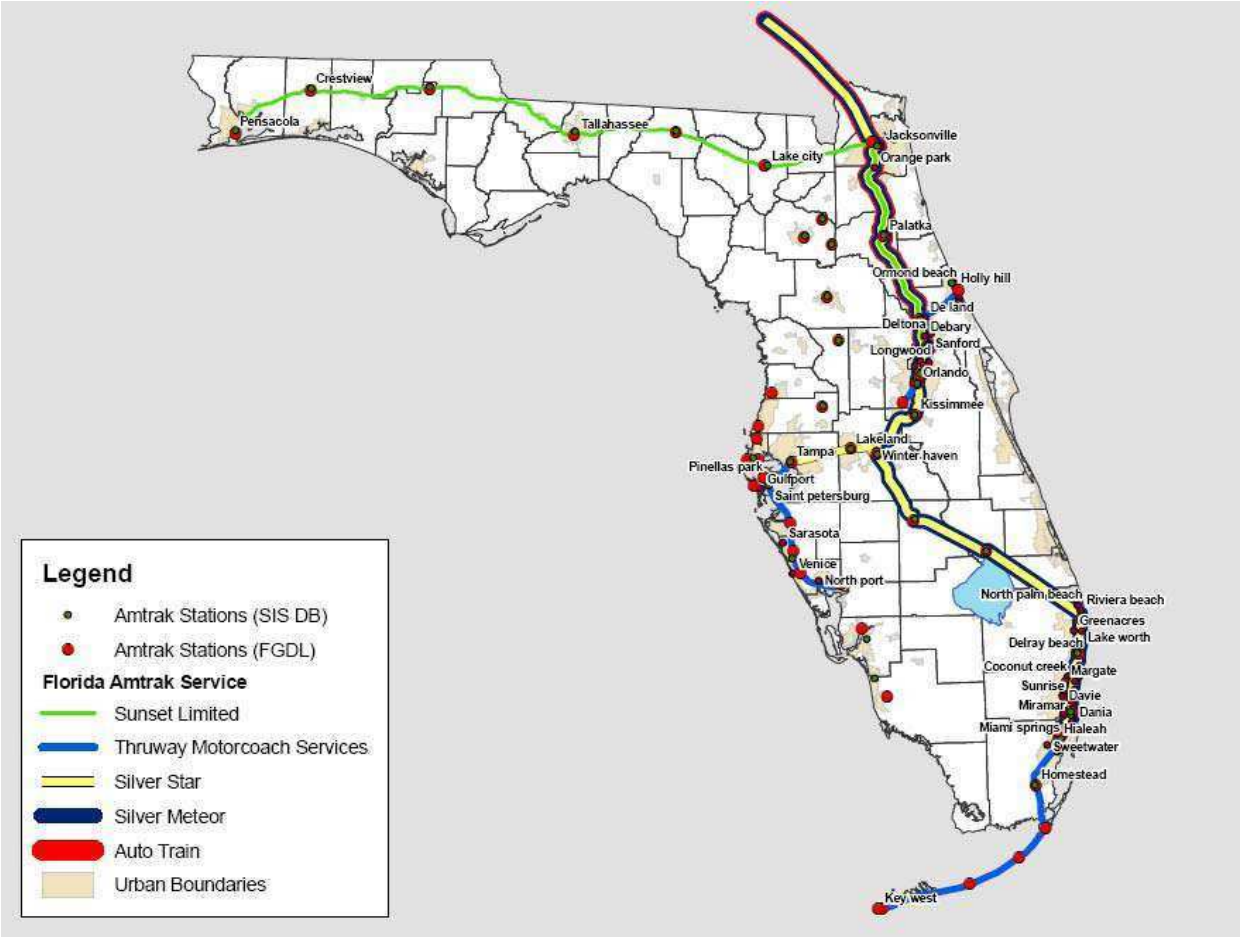
Project Description

The Florida Department of Transportation (FDOT) is proposing to restore intercity passenger rail service along 350 miles of Florida's east coast between Jacksonville and Miami via the existing Florida East Coast Railway (FEC) line by expanding Amtrak's long distance passenger rail service from Jacksonville to West Palm Beach with continuation to Miami (see Exhibit 2-1). Built by Henry Flagler, passenger rail service on the FEC Corridor was available between Jacksonville and Miami from the early 1900's until it was discontinued in 1968. The project extends along the FEC Corridor from Bowden Yard (south of the St. Johns River Bridge) in Jacksonville south to the West Palm Beach cross-over track at Northwood, and continues south to Miami along the South Florida Rail Corridor (SFRC). The southern terminus is at Miami Central Station (MCS), which is a part of the Miami Intermodal Center (MIC) project at Miami International Airport, under construction and scheduled for completion by 2012. The Florida East Coast Corridor - Amtrak Service Project includes adding Amtrak station facilities at the MCS.

Based on a service development plan that was jointly developed by FDOT, Amtrak, FEC and South Florida Regional Transportation Authority (SFRTA/Tri-Rail), the project will utilize the existing rail lines and right of-way, to the maximum extent possible, and provide several improvements needed to operate the passenger service trains at 90 mph and continue FEC's freight service on the Corridor. The proposed improvements include:

- Eight new passenger stations constructed between Jacksonville and West Palm Beach: St. Augustine, Daytona Beach, Titusville, Cocoa, Melbourne, Vero Beach, Fort Pierce, and Stuart
- New track sidings (2500-ft) at the new stations
- Track Signal Control
- 29 curve miles of surface track work of existing rail line for increased speed (90 mph)
- Upgrades at existing highway and pedestrian crossings
- Rebuilt railroad crossings at sidings only
- Northwood Crossover track realignment
- Amtrak station facilities at the Miami Central Station and closing of the existing "end-of-the-line" station at Hialeah

EXHIBIT 2-1
Amtrak Routes and Stations in Florida



Sources: 2006 Florida Freight & Passenger Rail Plan (February 2007), Amtrak, Florida Geographic Data Library (FGDL), and Strategic Intermodal System (SIS) Database (DB) [refers to Amtrak stations that are designated to SIS].

Note: The Sunset Limited service has not been in service since August 2005 because of Hurricane Katrina. As of June 2010, Amtrak has not determined if or when service will be resumed. Amtrak provides accessible thruway motorcoach (i.e., bus) service on some routes.

Chapter 3

Preliminary Engineering and Design Criteria

In developing the PE Material for this Florida East Coast Corridor – Amtrak Service, some preliminary designs and conceptual plans were developed for the proposed new stations and track improvements along the mainline and crossover connections. The following criteria were followed for these conceptual plans and will be referenced when further developing the PE for the Project level NEPA and then Final Design:

- Environmental commitments made for the Florida East Coast Amtrak Service are to be considered primary design guidance;
- The design must be safe and efficient;
- The design must be aesthetically pleasing and avoid disruption of the visual or physical integrity of the Project vicinity;
- Station concepts must be tailored to the concepts in the FDOT Design Criteria and must be integrated with surrounding neighborhoods;
- Stations are typically of the "side platform" type. However, stations may utilize center platforms where it is feasible and economically justified;
- Passenger access to platforms cannot be across railroad tracks, except at established cross-streets stations should be located as close as possible to provide direct access;
- Track and signal designs must conform to AAR, AREMA, or FEC standards, whichever is most strict;
- Affected grade crossings will be improved, and will be provided with gate monitoring and detection systems;
- Station designs must maximize parking per city code requirements;
- Stations will typically have bus drop-off locations, kiss-and-ride locations, taxi stands, and disabled parking;
- Station design must comply with the Americans with Disabilities Act (ADA). Disabled parking shall be located closest to the station platform;
- Signage must clearly indicate the location of the station;
- Trailblazer signs, station signage and pavement marking must clearly indicate circulation through the station site;
- Stations are to be similar in design and layout, to promote patron familiarity;
- Stations must have adequate lighting and separate standards will be provided for stations, platforms, and parking areas;

- Stations must have adequate protection from lightning;
- Landscaping and hardscaping must follow the Design Criteria and must result in an aesthetically pleasing effect while performing the requirements of noise abatement and visual buffering;
- Landscaping and hardscaping elements must be compatible with the overall environment, and must comply with local practices and ordinances and with primary regard to maintenance requirements;
- Coordination with State, County and City jurisdictions is required.
- All designs for the Florida East Coast Amtrak Service project must be approved by FEC and be compliant with FEC engineering standards.

Chapter 4

Elements of Design

4.1 Main Line Track Improvements

The existing FEC along this 350 mile Corridor consists mostly of a single track line within the 100-ft right of way. This track, which is maintained to Class IV standards (per CFR 49.213), runs on 132 lb. continuously-welded rails (CWR) on concrete ties. Along this corridor, the tracks traverse over 400 roadway crossings and four major water crossings (bridges), including St. Johns River, Sebastian River, St. Lucie River, and Jupiter River. In addition to this single track, there are 26 passing sidings, areas with double tracks for industrial commercial use, and several maintenance yards at strategic locations along the Corridor (Bowden, Wilson, Fort Pierce, and West Palm Beach Yards). The FEC currently services freight traffic only with a maximum operating speed of 60 mph.

Phase 1 of this Florida East Coast Corridor – Amtrak Service Program includes several mainline track improvements to allow for Amtrak passenger trains to operate along the Corridor with continued FEC freight service. The existing Class IV track will be upgraded to Class V and includes over 29 miles of track work at the existing horizontal curves to lengthen the spiral in the curve and increase superelevation to allow for trains to operate at the higher speeds; 90 mph for passenger trains. However, it should be noted that there are several areas along the Corridor, including other track curves that do not allow the higher speeds of operation without rebuilding bridges and incurring much higher costs. The FEC Track Charts included herein provide locations of the mainline track improvements proposed, existing FEC operating speed, and proposed Amtrak operating speed. Final Design Plans for construction of these improvements will be subsequently developed.

As previously noted, the crossover between FEC Railway and South Florida Rail Corridor (SFRC) is proposed at West Palm Beach (Northwood). The Preferred Alternative for the Northwood Connection has been developed and is included in this document. The proposed track work at Northwood includes constructing double tracks adjacent to the existing single track in an east-west direction. Wyes are proposed at the tie-in points with FEC Railway and SFRC line for full movement and connectivity between both mainlines. However, double tracks are proposed for the north to west and west to south track connections to provide for higher rail traffic for exiting FEC freight service, proposed Amtrak service, and new extension of Tri-Rail service to Jupiter. Some right-of-way acquisition will be required for this connection.

4.2 Station Improvements

In addition to the mainline track work for upgrading the track class, the project also includes work at the proposed eight new stations sites at the following cities: St. Augustine, Daytona Beach, Titusville, Cocoa, Melbourne, Vero Beach, Fort Pierce, and Stuart. As Amtrak service continues south to Miami along the SFRC corridor, it will end at MCS. Work at the MCS “end-of-line” station will consist of two new platforms with canopies, head house, new platform track; vertical circulation to integrate the station with Metrorail, rental car, local bus, and international airport services is included under this project (Phase 1 of program). Reference exhibits and plans

are provided herein of the MIC, MCS, and the proposed platform, track, and station work. To the north of St. Augustine Station, the intercity passenger Amtrak service runs from the existing Jacksonville station. However, that city's station will be moved to the Jacksonville Regional Transportation Center (JRTC), to be constructed under a separate project. Amtrak's connection to JRTC will be part of the subsequent phases of this program.

Under this Florida East Coast Amtrak Service Program construction at the eight new stations will include construction of the station site infrastructure track work. At the station sites this includes possibly refurbishing former train stations used in the past or constructing new station buildings/shelters. In addition, canopies, roadway access, parking, storm water facilities (drainage), utilities; and low level ADA compliant platforms will be constructed to local, state, federal, and Amtrak standards. Conceptual Plans at the alternate station sites being considered at the eight cities have been developed for the Preliminary Engineering to provide initial cost estimates and assessments of potential impacts at these sites.

A preferred alternative has been identified in each of the eight communities. Interagency meetings have been conducted with local officials at these cities. Two station types are proposed: "small" and "medium". The small stations would be unstaffed and consist of a platform, canopy, signage, lighting, and a semi-enclosed shelter. The medium stations would likely be staffed by one person and include a platform, canopy, signage, lighting and a small building with a waiting room, ticket office, and restrooms. It is anticipated that most of the stations will be the smaller unstaffed (care taker) station. In addition, parking will be provided at some of the stations where needed; however, at stations proposed at downtown, highly urbanized areas, existing parking may be available. The station layouts in the Conceptual Plans were based on Amtrak Small Shelter/Unstaffed Station Construction Documents used as standards for design. In addition, FDOT, FEC and Amtrak coordinated on the general guidelines for developing these stations. Based on this coordination, the following criteria were applied at the stations: 700-ft long by 25-ft wide low-level platforms, 2500-foot long track sidings (minimum), and No. 24 Turnouts at the junction points of these sidings with the mainline track. Also, at these track sidings that cross roadways, the existing signals warning and protection system and grade crossings will be modified accordingly. Depending on the location of the station at St. Augustine, possible bridge work (replacement) at a small creek crossing may be required to accommodate the siding north of St. Johns River.

Preliminary and alternate station locations along the FEC Railway, and their type (small or medium), were developed by the FDOT in consultation with local government agencies, regional planning councils, metropolitan planning organizations, Amtrak, and FEC. Final design and construction of these stations will be coordinated with these stakeholders to ensure compliance with local ordinances, standards, and preference as to amenities, and architecture. Included in the PE Materials are Amtrak's Station Design Statement of Criteria and several Renderings of Small and Medium Amtrak Stations, including possible examples of Replicas of Historic Train Stations that could be alternatives to consider.

Chapter 5

Cost Estimate

Cost estimates have been prepared to reflect the cost of implementation of Phase 1 of the proposed Florida East Coast Corridor - Amtrak Service using the standardized cost categories (SCC). The estimated cost of infrastructure improvements for Phases 1 through 3 is $109.1 million. Rolling stock capital costs for Phase 1 are estimated at $110.3 million. Soft costs are estimated at $30.7 million, making the estimated overall cost $250 million, and leaving the capital costs to implement Phases 2 and 3 to consist of essentially only additional rolling stock.

This infrastructure cost estimate includes construction costs organized by standard cost categories, real estate acquisition for ancillary property such as station sites, railroad force account work, rolling stock, professional services including survey, design and construction support, construction contingency of five percent, and interest charges during construction. For the eight new stations at the east coast communities, preferred alternatives have been identified in the Project NEPA documentation and will be carried forward in Final Design. The preferred alternative at the station sites were used within the cost estimate. The infrastructure estimate was developed using the bottom-up method, by which site-specific quantities were estimated and unit costs applied. Unit costs were taken from recent, relevant areas in various parts of the U.S., including Florida. Adjustments to unit costs were made, where necessary, to reflect regional differences in costs.

Cost estimate for Track Structure and Track (Category 10) included work at Bowden Yard, the eight new stations, Northwood Connection, and MCS/MIC for bridge, site preparation, new track, ballast and surfacing, crossovers, and 26 turnouts. A 5% contingency was applied to most of these items with exception of track and site preparation, which had 25% and 10% respectively. Based on order of magnitude estimating about 1,310 tons of new rails (CWR), 40,000 CY of ballast, 50,000 CY of subballast, and over 14,450 ties are needed for new track for the project.

The Station, Terminal, and Intermodal Category (Category 20), includes costs for the eight new stations plus the completion of the MCS at MIC to accommodate High Speed Rail (Amtrak). For estimating the new station buildings costs it was assumed that most of them would be the small unstaffed type with only two medium or staffed stations for Melbourne and St. Augustine. Amtrak's standard Detail Documents and coordination with them provided the basis for these costs. Site costs at the stations for parking, drainage; lighting, landscaping, and other improvement are based on standard station area layout. An allocated contingency of 10% was applied to these items. For the station work at MCS of the MIC, the project has completed Final

Design details of the Headhouse Building, platforms, canopy, and elevators and escalators were provided along with their costs by FDOT District 6 and their MIC/MCS contractor.

For Sitework, Right of Way, Land, Existing Improvements Category (Category 40), site demolition and preparation work costs for Bowden Yard and Northwood connection were included as were utility, mobilization, and temporary facility costs for the stations. Though the project follows the existing FEC Corridor and traverses several municipal sites, right of way costs are considerable and have been considered for the eight new stations and the Northwood Connection. The right of way acquisition includes FEC land (lease), private properties, and municipal (local government) properties, with the last option potentially being considered as matching funds for project. The right of way cost estimates were developed by FEC Railway and FDOT's District 2, 4, and 5 Right of Way Offices and included land costs (market value) and other impact and administrative costs to acquire the property needed.

Communications and Signaling Category (Category 50) costs include wayside signaling equipment and grade crossing protection for Bowden Yard, the eight new stations, and at the Northwood Connection. A 10% allocated contingency was applied to these costs.

Vehicles Category (Category 70) costs were derived on the rolling stock requirements analyzed by Amtrak and based on the preliminary timetables, including anticipated reliable equipment rotations and the need for spare vehicles. Rolling stock requirements consist of 2 locomotives, 2 cab cars, 11 coaches, 1 food car, 4 sleeping cars, and 4 baggage cars for long distance service in Phase 1. For Phase 2, an additional 12 cars plus 3 locomotives would be needed. Phase 3 would require a further additional 4 cars and 1 locomotive.

Professional Services Category (Category 80) costs included all of the soft costs usually associated with any major capital improvement project for a Design Bid Build project. For this project, Phase 1 of the Service Program, the Professional Services Costs were based on a percentage of the total construction costs from categories 10-60 and excluding the right of way costs in subcategory 40.07. Herein the cost estimate for the different subcategories of Professional Services, including Preliminary Engineering and Environmental, Final Design, Construction Administration and Management and Liability, etc., were 2 to 10% of the Construction Costs and amounted to over $21 Million.

The remaining costs categories of Unallocated Contingency (Category 90) and Financial Charges (Category 100) resulted in 10% and 2% of the total construction costs, respectively for an additional amount of approximately $10 Million.

Chapter 6

Safety and Security Management Plan

Among the improvements proposed to re-introduce passenger rail service along the FEC Corridor, several safety upgrades that are included, either with phase 1 of the service development program or in subsequent phases, such as Positive Train Control.

The existing wayside signal system on the FEC Corridor is primarily Automatic Train Control (ATC) which is defined as cab signal with speed control. It is expected that ATC will likely meet the FRA requirements on this Corridor. ATC is in service on FEC from Sunbeam, Mile Post (MP) 9.8 just south of Bowden Yard, to North Miami, MP 359. Therefore, almost the entire FEC Corridor will offer improved levels of safety for passenger trains than those presently operating on the CSXT Corridor and SFRC from Jacksonville to Miami. This system was placed into service in 1993 and is one of the safest signal systems operated in the country today. It is very similar to the signal system employed by Amtrak on the Northeast Corridor. Passengers on board trains on the FEC Corridor will enjoy this increased level of safety since neither the present CSXT nor SFRC have the same safety features. ATC will ensure that train to train collisions will be prevented and that locomotive engineers will operate within the specified speed parameters as designed. Amtrak will be required to equip its fleet of locomotives with the on-board ATC equipment making their trains interoperable with the FEC wayside equipment. This will be accomplished prior to system start up.

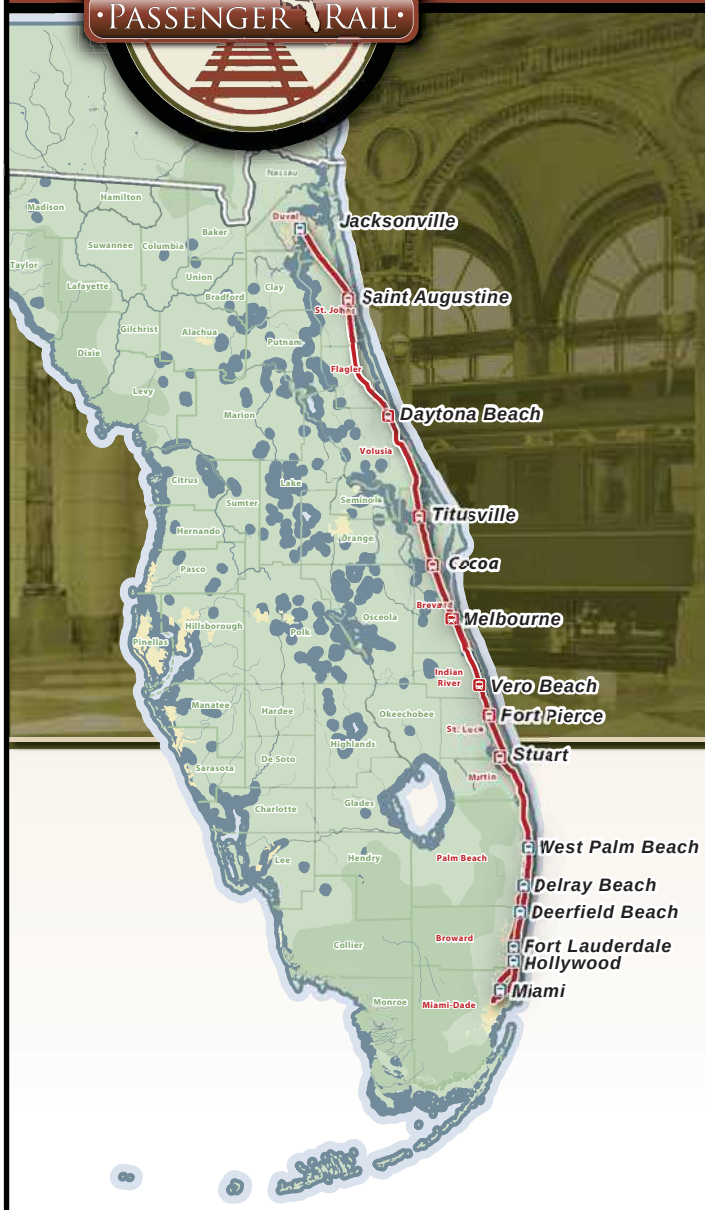
There are in excess of 300 highway-rail grade crossings within the FEC corridor from Jacksonville to West Palm Beach. All grade crossings are currently FRA compliant. FEC has historically taken steps to insure that 100% of its Public Highway Grade Crossings are equipped with Gates and Flashers. As part of this project FEC will install additional Constant Warning Time devices where passenger train speed upgrades will cause a differential between freight and passenger train speeds. This will insure that the public can expect Grade Crossing Warning devices to give the same warning time to both freight and passenger trains irrespective of train speed. Grade crossing work will include the relocation/reuse of existing equipment, where possible, in lieu of total replacement. Upgrades to the crossing warning systems include new houses and crossing warning devices, as well as relocating existing warning devices and wiring new equipment into existing houses.

Pre-emption circuits for traffic signals will be added or maintained. This will ensure that highway traffic signals and highway grade crossing warning devices are communicating and giving adequate warning to the motoring public.

In addition, the Florida East Coast Amtrak Service Project Safety and Security Management Plan (SSMP) will serve as the guiding document for the integration of safety and security activities throughout all phases of the project life cycle. The intent of the Plan is to establish roles, responsibilities, and communication channels of all organizations working within the corridor so that day to day implementation of key safety processes and procedures are effectively used to eliminate unsafe behaviors and practices that could lead to accidents and injuries.

ATTACHMENT A

TRACK CHARTS



Federal Funding Opportunity Number: FR-HSR-10-004

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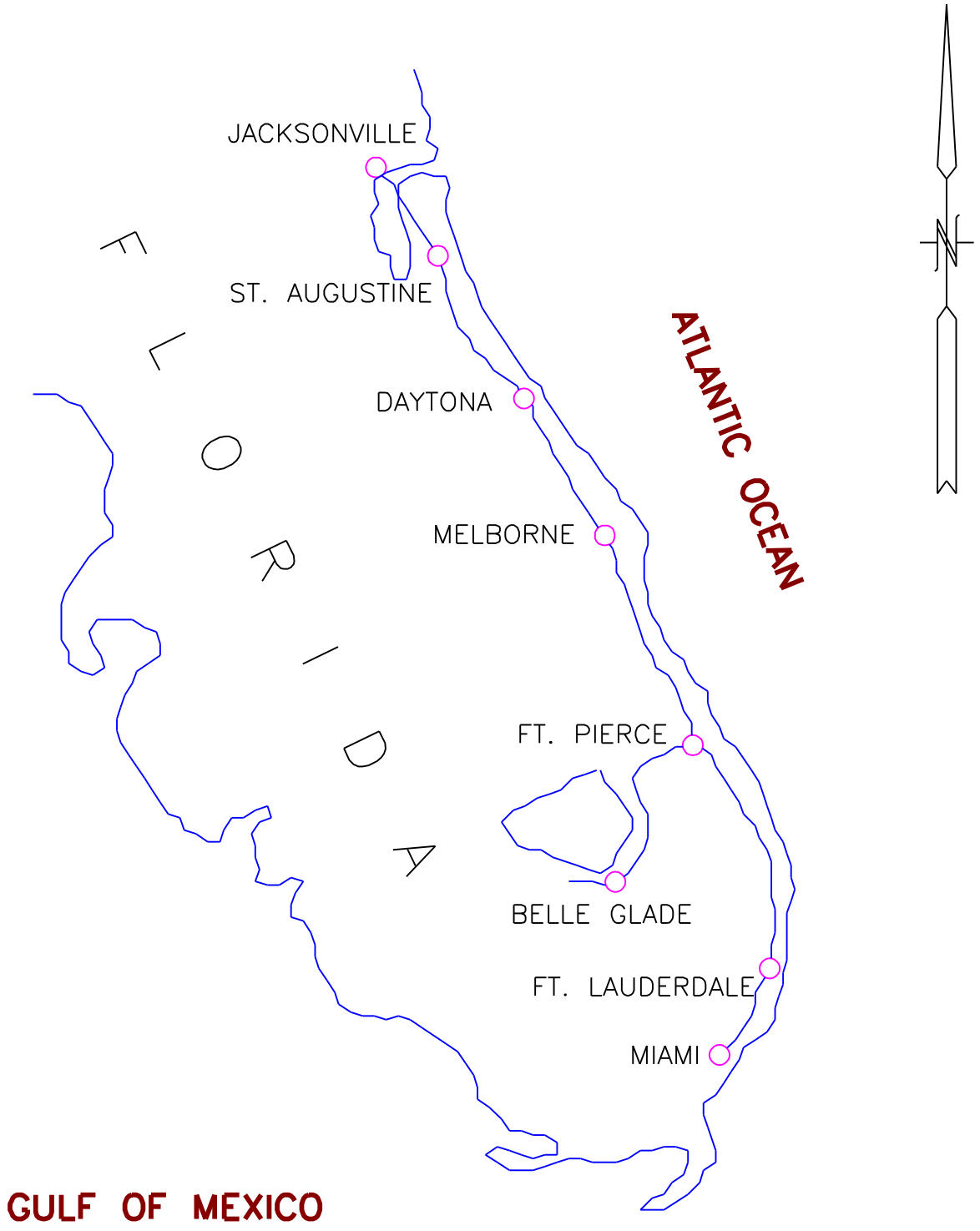
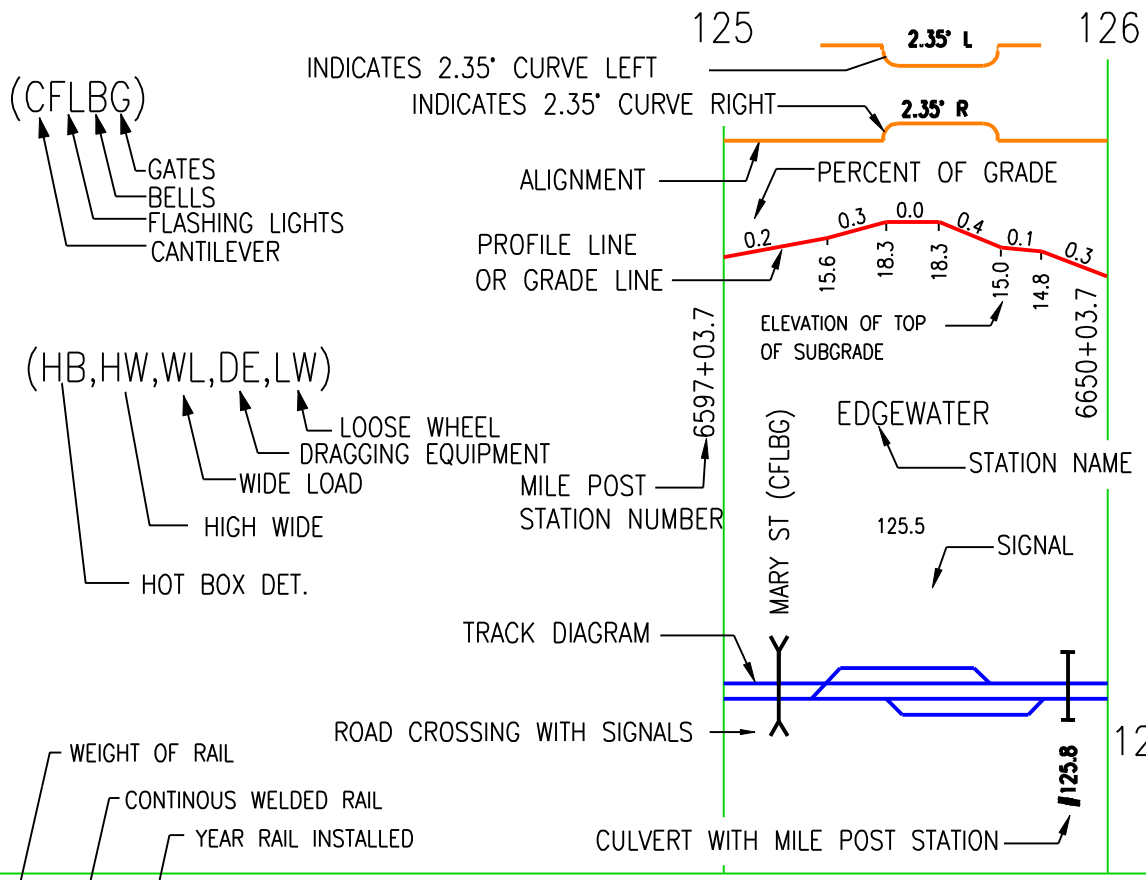
FLORIDA EAST COAST RAILWAY
TRACK CHART

OFFICE OF DIRECTOR - ENGINEERING
JACKSONVILLE, FLORIDA


JACKSONVILLE
ST. AUGUSTINE
DAYTONA
MELBORNE
FT. PIERCE
BELLE GLADE
FT. LAUDERDALE
MIAMI
FLORIDA
ATLANTIC OCEAN
GULF OF MEXICO
N

EXPLANATIONS



SYMBOLS

- ROAD CROSSING
- CULVERT (SINGLE)
- CULVERT (DOUBLE)
- RAIL LUBRICATOR
- BOX CULVERT OR SMALL BRIDGE
- BRIDGE
- HOT BOX DETECTOR
- SIGNALS
- SLIP SWITCH

NOTES

1. ELEVATIONS REFER TO NGV DATUM
2. ALL CURVE INFORMATION IS SHOWN IN DEGREE AND DECIMAL OF DEGREE.

125 FOR CHECKING OF LOCOMOTIVE SPEED INDICATORS 126

WEIGHT OF RAIL
CONTINOUS WELDED RAIL
YEAR RAIL INSTALLED

132# CWR (90)

JOINTED RAIL

115# JR (75)

CONCRETE TIES
YEAR TIES INSTALLED

C. T. (90)

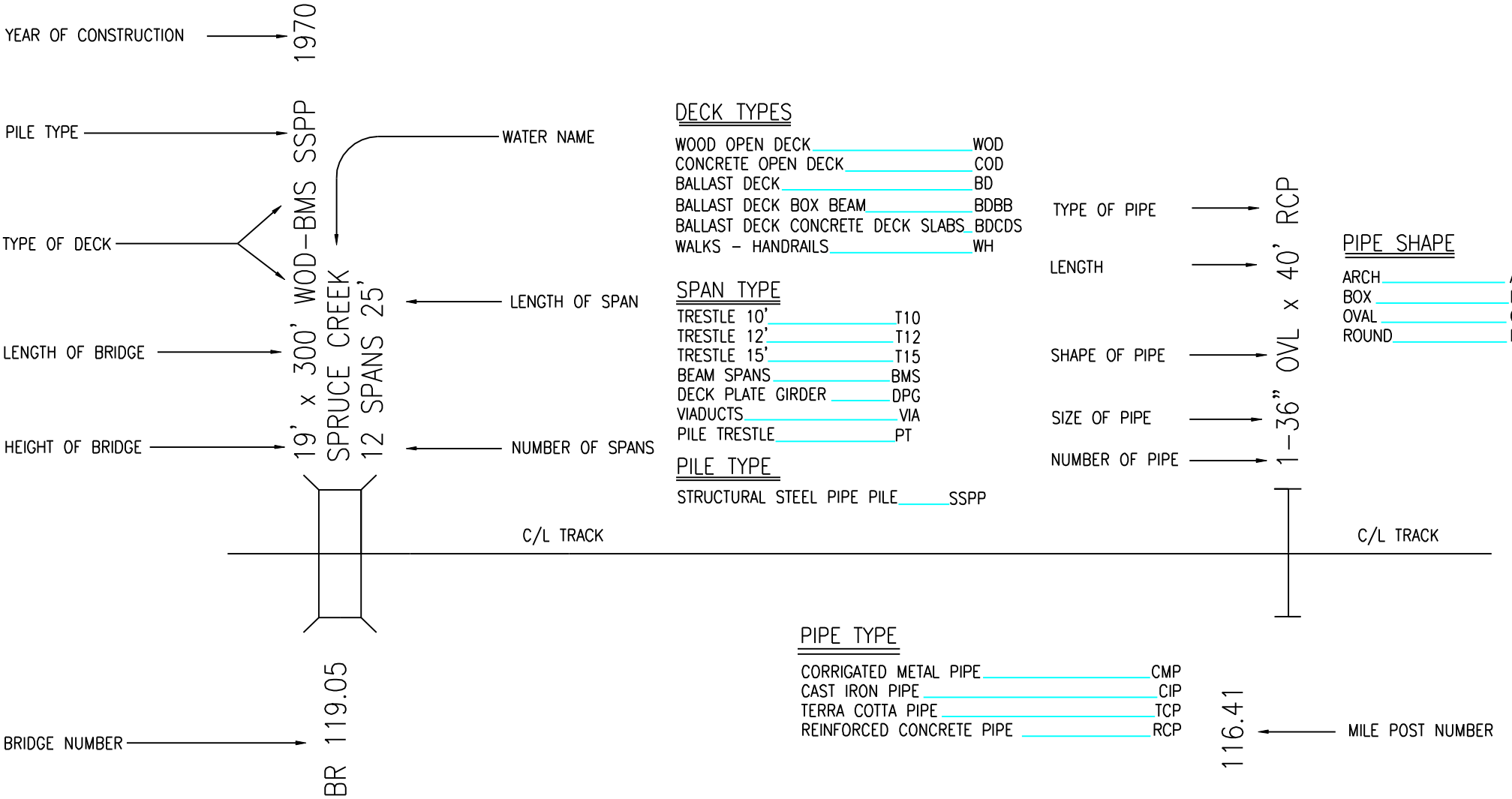
WOOD TIES
YEAR TIES INSTALLED

W. T. (75)

UNDER CUT
YEAR UNDER CUT

U. C. (90)

BRIDGE AND CULVERT PIPE EXPLANATIONS



DECK TYPES

WOOD OPEN DECK	WOD
CONCRETE OPEN DECK	COD
BALLAST DECK	BD
BALLAST DECK BOX BEAM	BDBB
BALLAST DECK CONCRETE DECK SLABS	BDCDS
WALKS – HANDRAILS	WH

SPAN TYPE

TRESTLE 10'	T10
TRESTLE 12'	T12
TRESTLE 15'	T15
BEAM SPANS	BMS
DECK PLATE GIRDER	DPG
VIADUCTS	VIA
PILE TRESTLE	PT

PILE TYPE

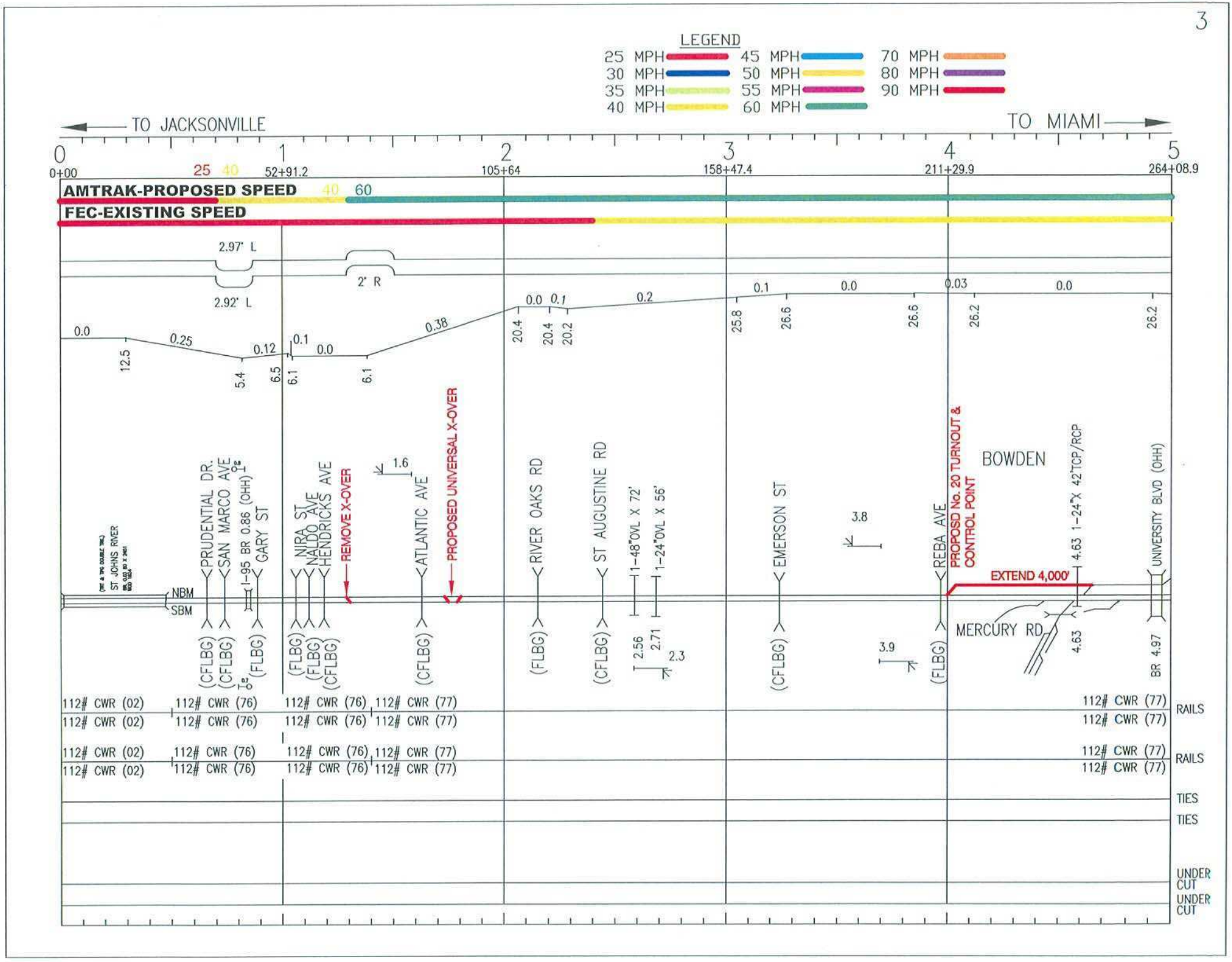
STRUCTURAL STEEL PIPE PILE	SSPP

PIPE SHAPE

ARCH	ARH
BOX	BOX
OVAL	OVL
ROUND	RND

PIPE TYPE

CORRIGATED METAL PIPE	CMP
CAST IRON PIPE	CIP
TERRA COTTA PIPE	TCP
REINFORCED CONCRETE PIPE	RCP


LEGEND
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TO JACKSONVILLE
TO MIAMI
0
1
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3
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0+00
52+91.2
105+64
158+47.4
211+29.9
264+08.9
AMTRAK-PROPOSED SPEED
FEC-EXISTING SPEED
25 40
40 60
2.97° L
2.92° L
2° R
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0.12
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6.5
6.1
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20.4
20.4
20.2
25.8
26.6
26.6
26.2
26.2
ST JOHNS RIVER
NBM
SBM
PRUDENTIAL DR.
SAN MARCO AVE
I-95 BR 0.86 (OHH)
GARY ST
NIRA ST
NALDO AVE
HENDRICKS AVE
REMOVE X-OVER
1.6
ATLANTIC AVE
PROPOSED UNIVERSAL X-OVER
RIVER OAKS RD
ST AUGUSTINE RD
1-48"OVL X 72'
1-24"OVL X 56'
EMERSON ST
3.8
REBA AVE
PROPOSD No. 20 TURNOUT &
CONTROL POINT
BOWDEN
4.63 1-24"X 42"TCP/RCP
UNIVERSITY BLVD (OHH)
EXTEND 4,000'
MERCURY RD
4.63
BR 4.97
(CFLBG)
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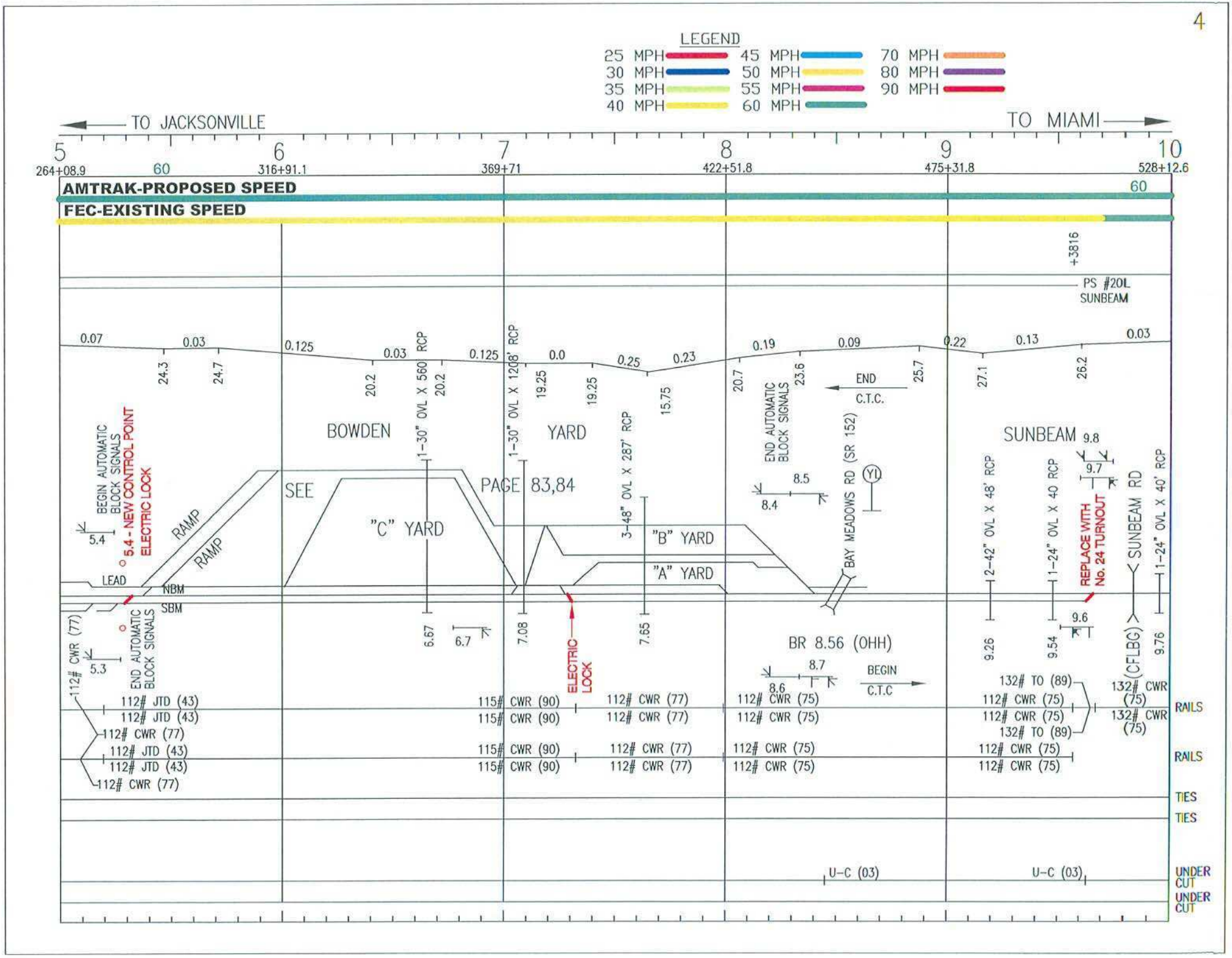
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316+91.1
369+71
422+51.8
475+31.8
528+12.6
AMTRAK-PROPOSED SPEED
FEC-EXISTING SPEED
60
+3816
PS #20L
SUNBEAM
BEGIN AUTOMATIC BLOCK SIGNALS
5.4 - NEW CONTROL POINT
ELECTRIC LOCK
RAMP
RAMP
LEAD
NBM
SBM
END AUTOMATIC BLOCK SIGNALS
BOWDEN
YARD
SEE
PAGE 83,84
"C" YARD
"B" YARD
"A" YARD
1-30" OVL X 560' RCP
1-30" OVL X 1208' RCP
3-48" OVL X 287' RCP
END AUTOMATIC BLOCK SIGNALS
BAY MEADOWS RD (SR 152)
END
C.T.C.
SUNBEAM
2-42" OVL X 48' RCP
1-24" OVL X 40 RCP
REPLACE WITH No. 24 TURNOUT
SUNBEAM RD
1-24" OVL X 40' RCP
(CFLBG)
BR 8.56 (OHH)
BEGIN
C.T.C
ELECTRIC LOCK
112# CWR (77)
112# JTD (43)
112# JTD (43)
112# CWR (77)
112# JTD (43)
112# JTD (43)
112# CWR (77)
115# CWR (90)
115# CWR (90)
115# CWR (90)
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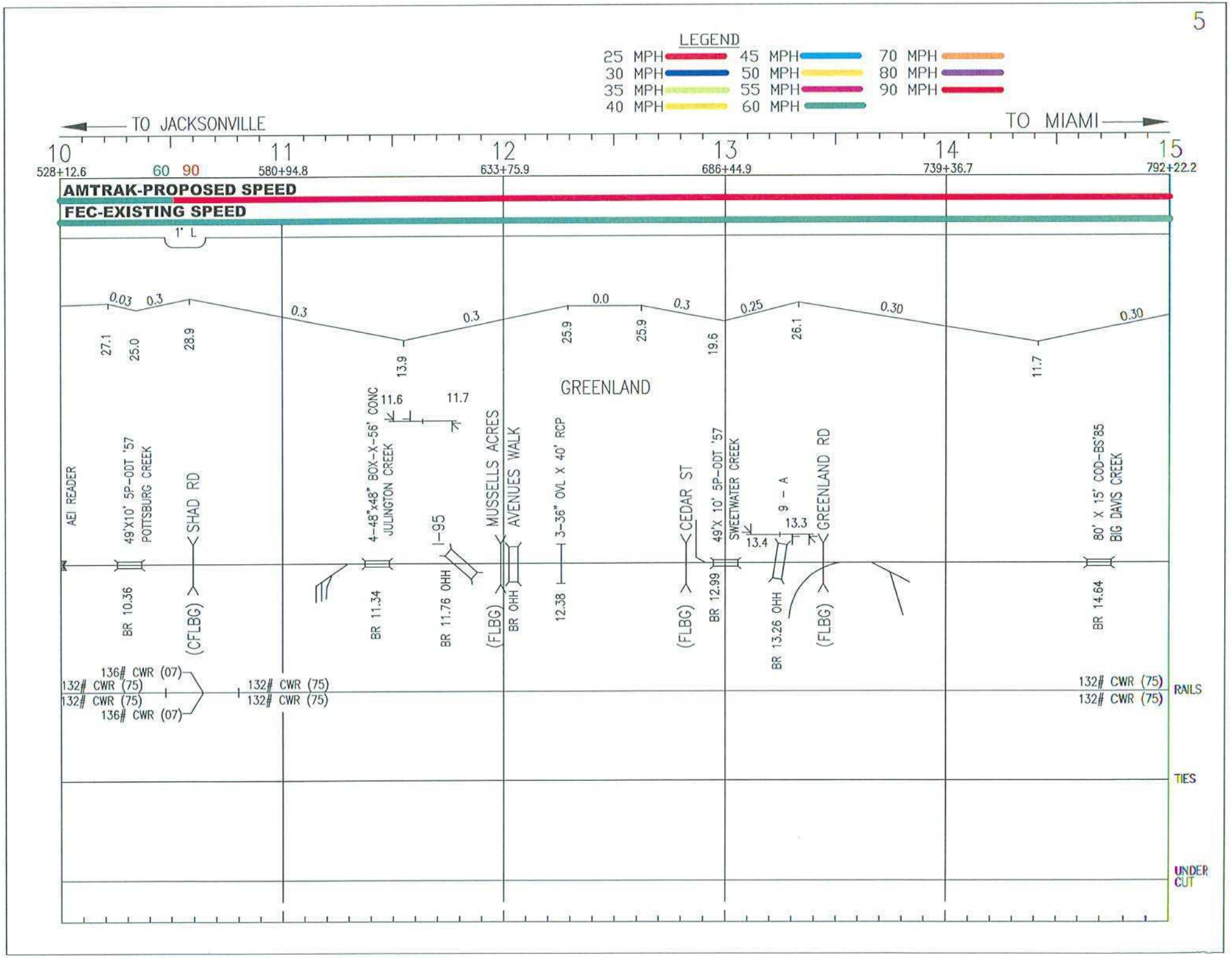
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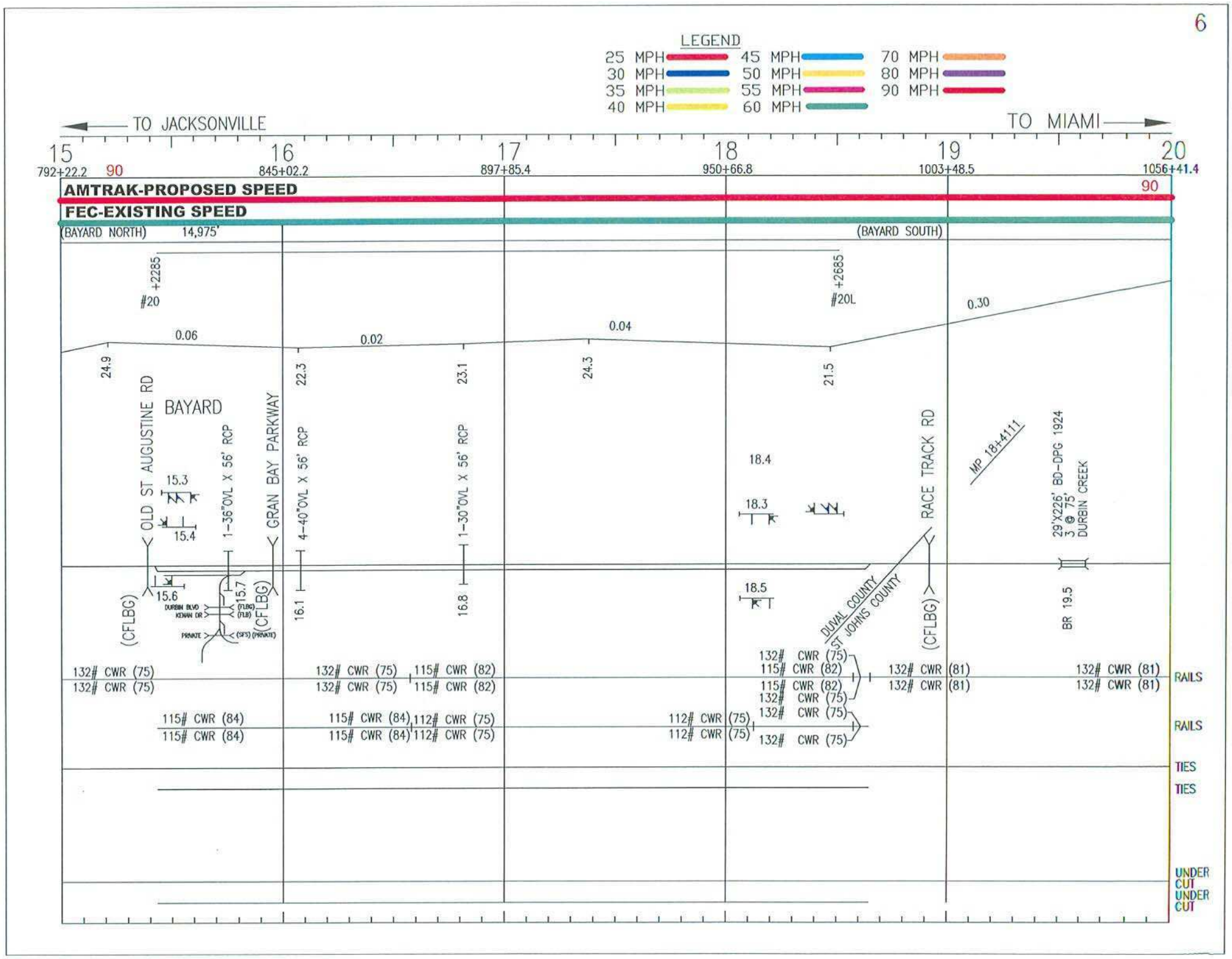
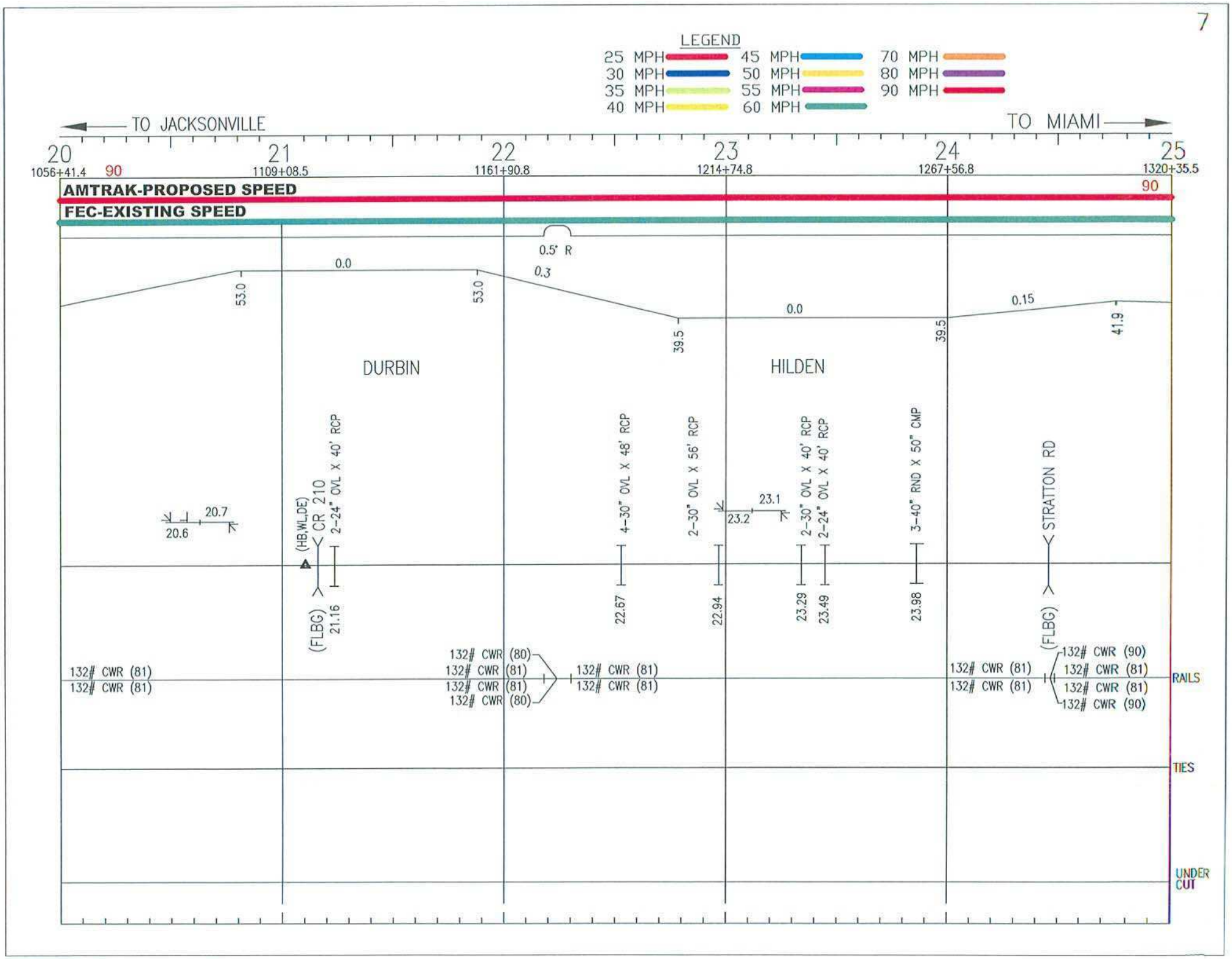
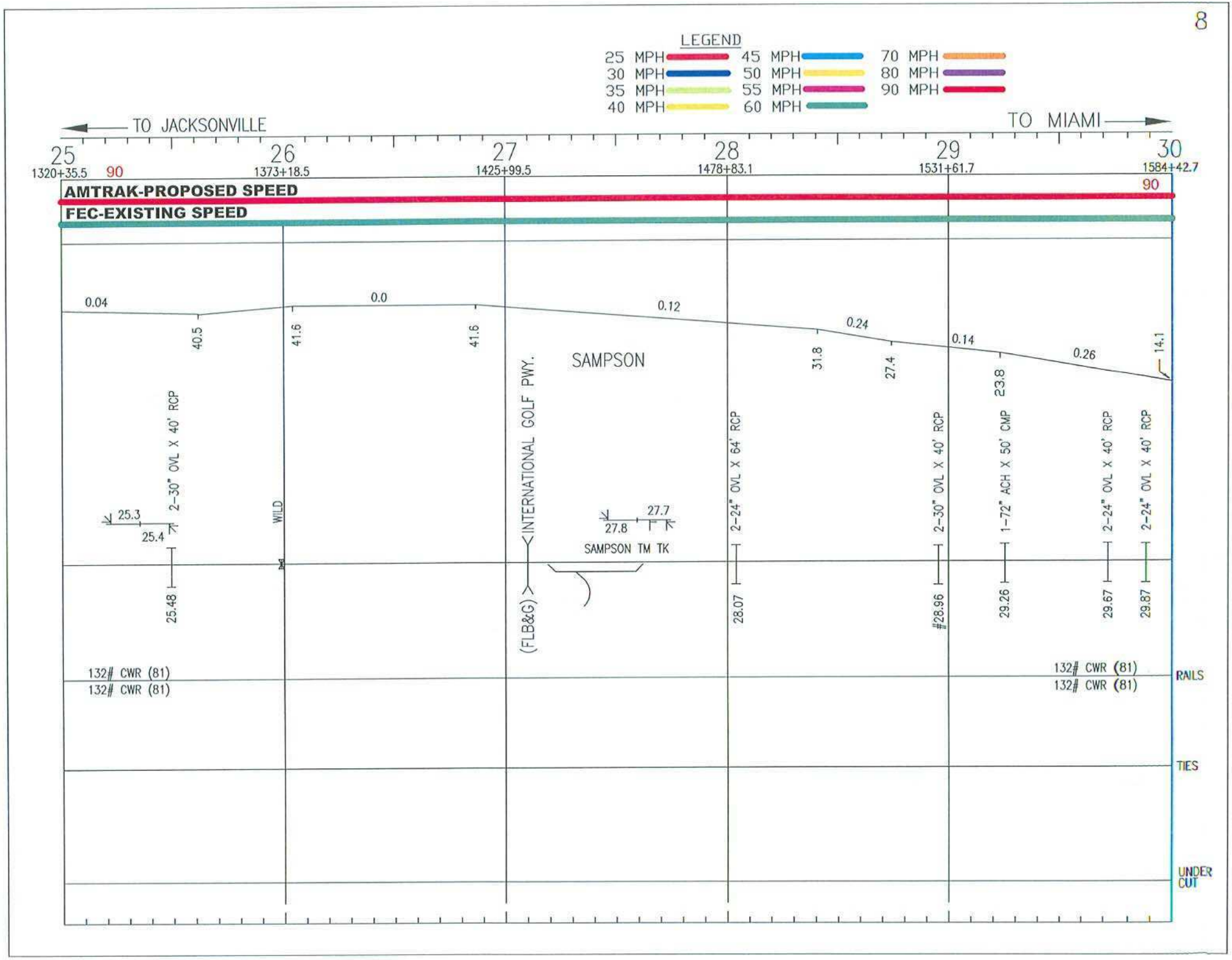
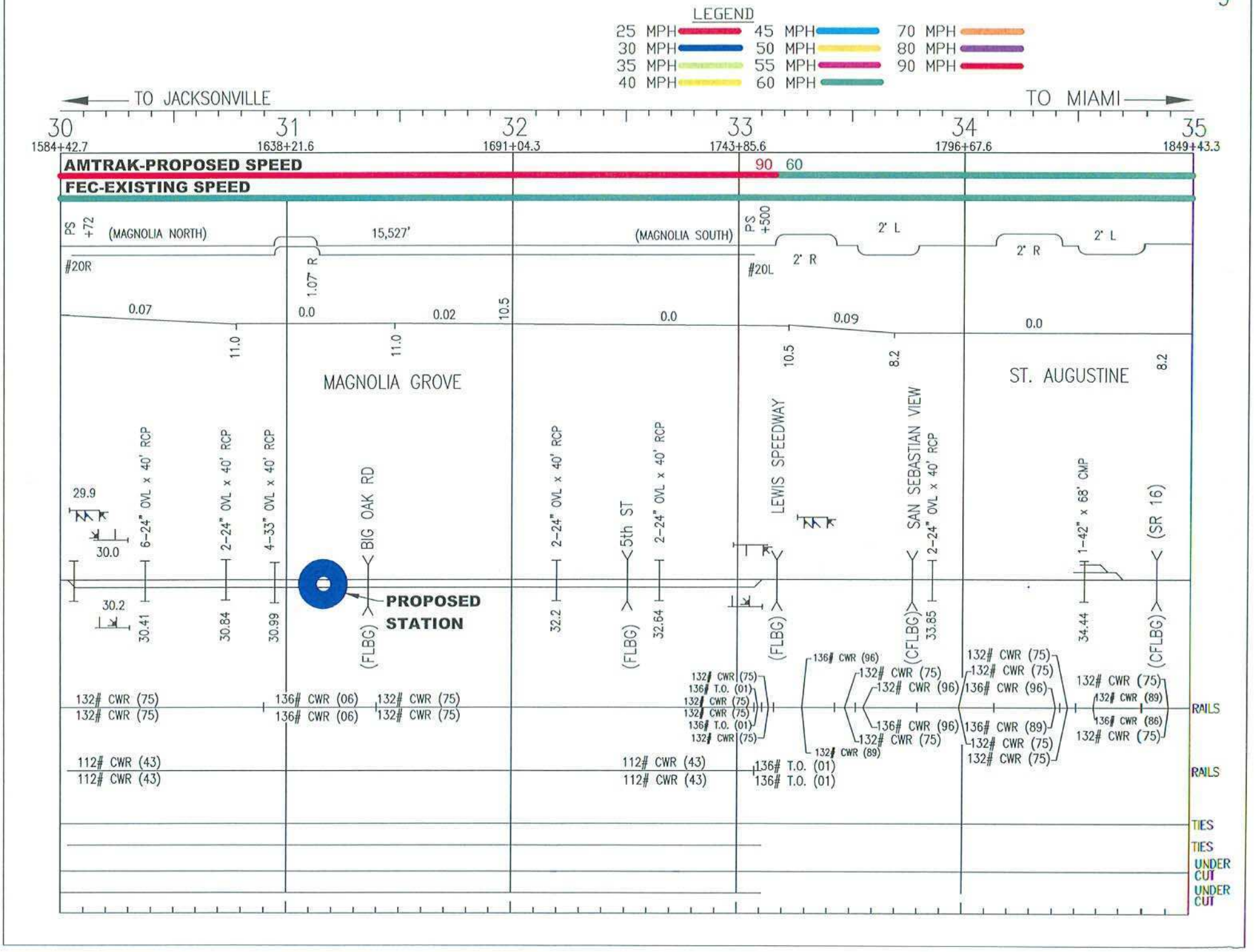
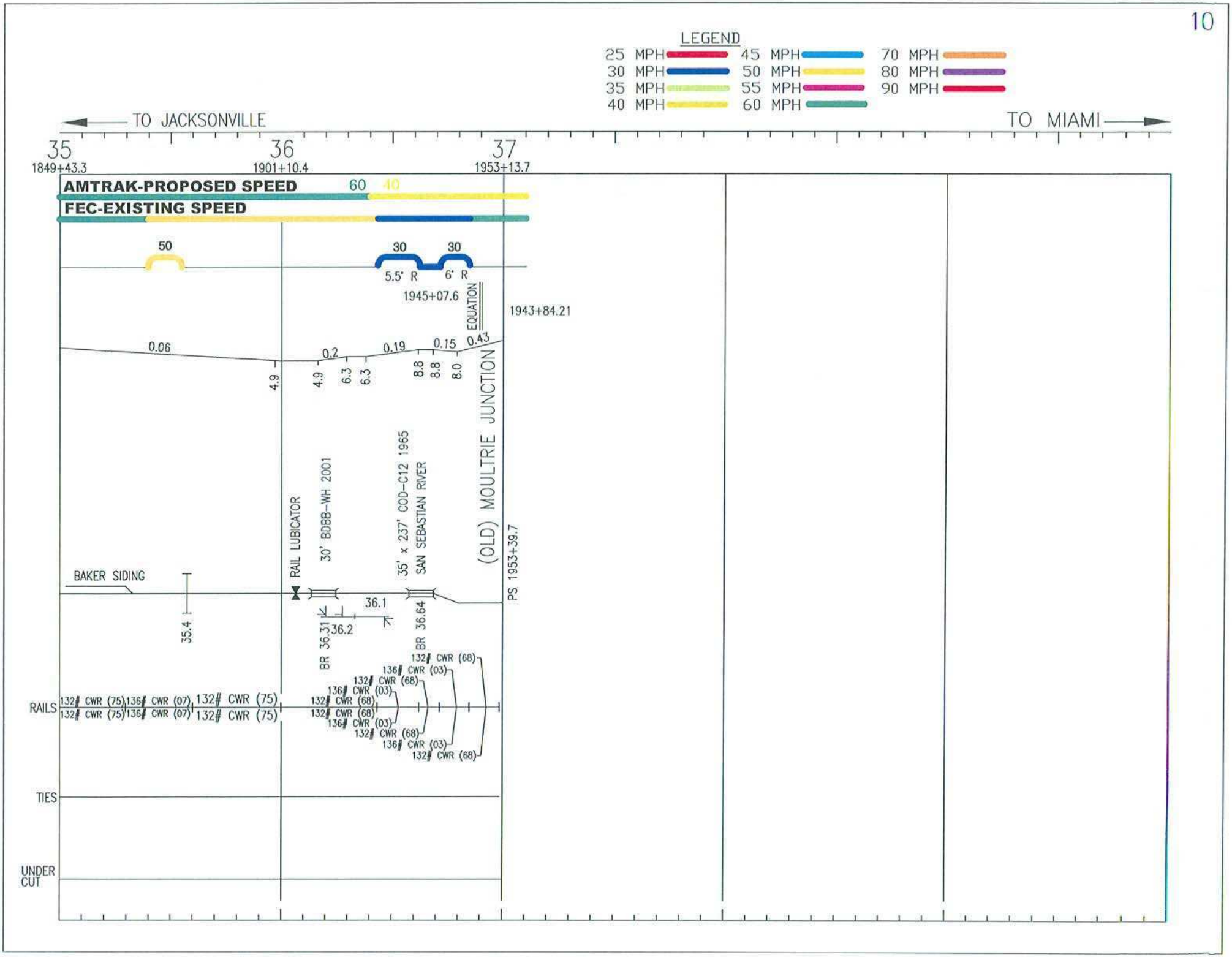
90 MPH
TO JACKSONVILLE
TO MIAMI
10
11
12
13
14
15
528+12.6
60 90
580+94.8
633+75.9
686+44.9
739+36.7
792+22.2
AMTRAK-PROPOSED SPEED
FEC-EXISTING SPEED
1° L
0.03
0.3
0.3
0.3
0.0
0.3
0.25
0.30
0.30
27.1
25.0
28.9
13.9
25.9
25.9
19.6
26.1
11.7
GREENLAND
AEI READER
49'X10' 5P-ODT '57
POTTSBURG CREEK
SHAD RD
4-48"x48" BOX-X-56' CONC
JULINGTON CREEK
11.6
11.7
I-95
MUSSELLS ACRES
AVENUES WALK
3-36" OVL X 40' RCP
CEDAR ST
49'X 10' 5P-ODT '57
SWEETWATER CREEK
9 - A
13.4
13.3
GREENLAND RD
80' X 15' COD-BS'85
BIG DAVIS CREEK
BR 10.36
(CFLBG)
BR 11.34
BR 11.76 OHH
(FLBG)
BR OHH
12.38
(FLBG)
BR 12.99
BR 13.26 OHH
(FLBG)
BR 14.64
136# CWR (07)
132# CWR (75)
132# CWR (75)
136# CWR (07)
132# CWR (75)
132# CWR (75)
132# CWR (75)
132# CWR (75)
RAILS
TIES
UNDER CUT

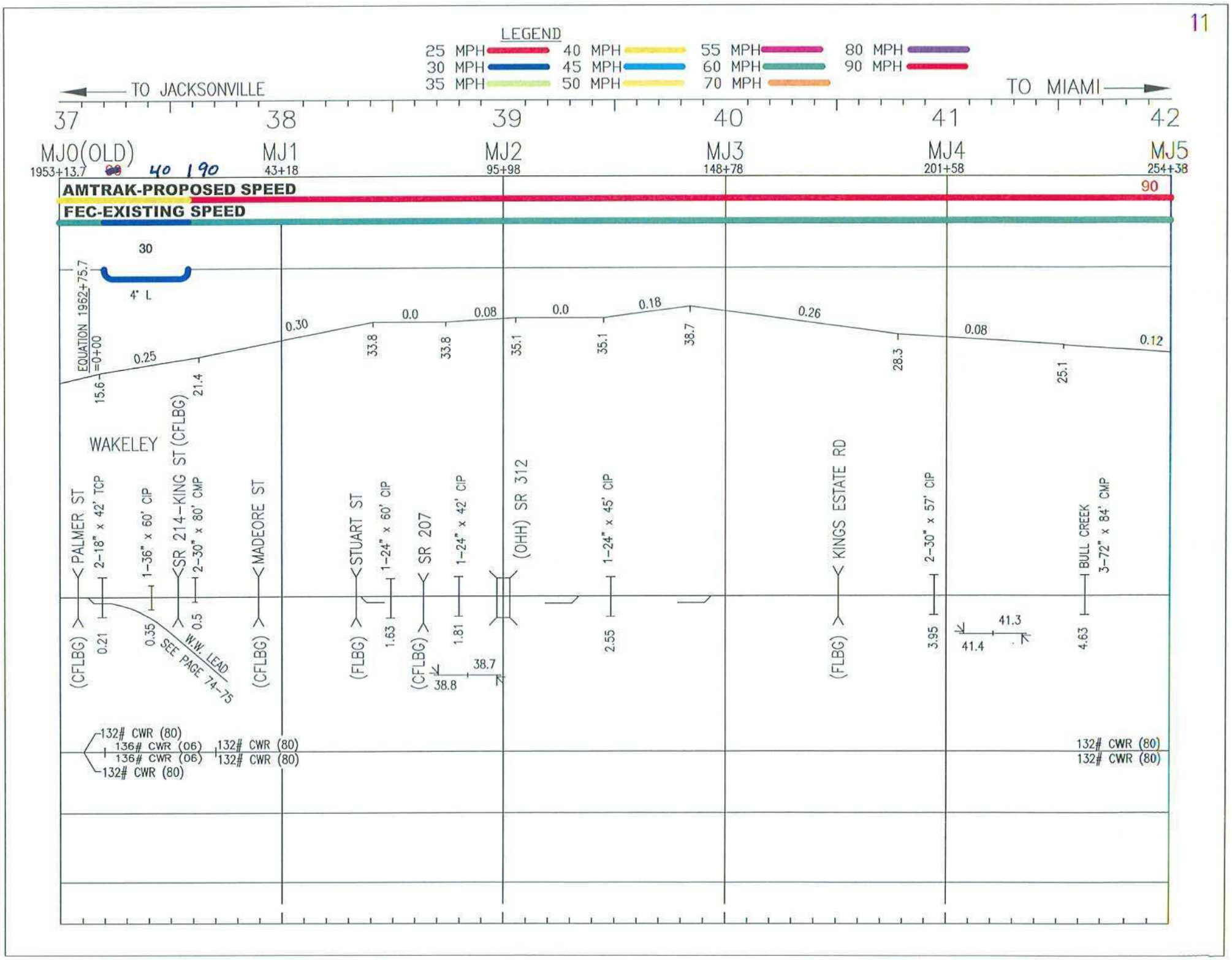

LEGEND
25 MPH
30 MPH
35 MPH
40 MPH
45 MPH
50 MPH
55 MPH
60 MPH
70 MPH
80 MPH
90 MPH
TO JACKSONVILLE
TO MIAMI
15
16
17
18
19
20
792+22.2
845+02.2
897+85.4
950+66.8
1003+48.5
1056+41.4
90
AMTRAK-PROPOSED SPEED
FEC-EXISTING SPEED
(BAYARD NORTH)
14,975'
(BAYARD SOUTH)
+2285
#20
+2685
#20L
0.06
0.02
0.04
0.30
24.9
22.3
23.1
24.3
21.5
BAYARD
OLD ST AUGUSTINE RD
GRAN BAY PARKWAY
RACE TRACK RD
1-36"OVL X 56' RCP
4-40"OVL X 56' RCP
1-30"OVL X 56' RCP
MP 18+4111
29'X226' BD-DPG 1924
3 @ 75'
DURBIN CREEK
15.3
15.4
15.6
15.7
16.1
16.8
18.4
18.3
18.5
BR 19.5
DURBIN BLVD
KENAN DR
PRIVATE
(FLBG)
(FLB)
(SFS) (PRIVATE)
(CFLBG)
DUVAL COUNTY
ST JOHNS COUNTY
132# CWR (75)
132# CWR (75)
132# CWR (75)
132# CWR (75)
115# CWR (82)
115# CWR (82)
115# CWR (82)
115# CWR (82)
132# CWR (75)
132# CWR (75)
132# CWR (81)
132# CWR (81)
132# CWR (81)
132# CWR (81)
115# CWR (84)
115# CWR (84)
115# CWR (84)
115# CWR (84)
112# CWR (75)
112# CWR (75)
112# CWR (75)
112# CWR (75)
112# CWR (75)
112# CWR (75)
RAILS
RAILS
TIES
TIES
UNDER CUT
UNDER CUT

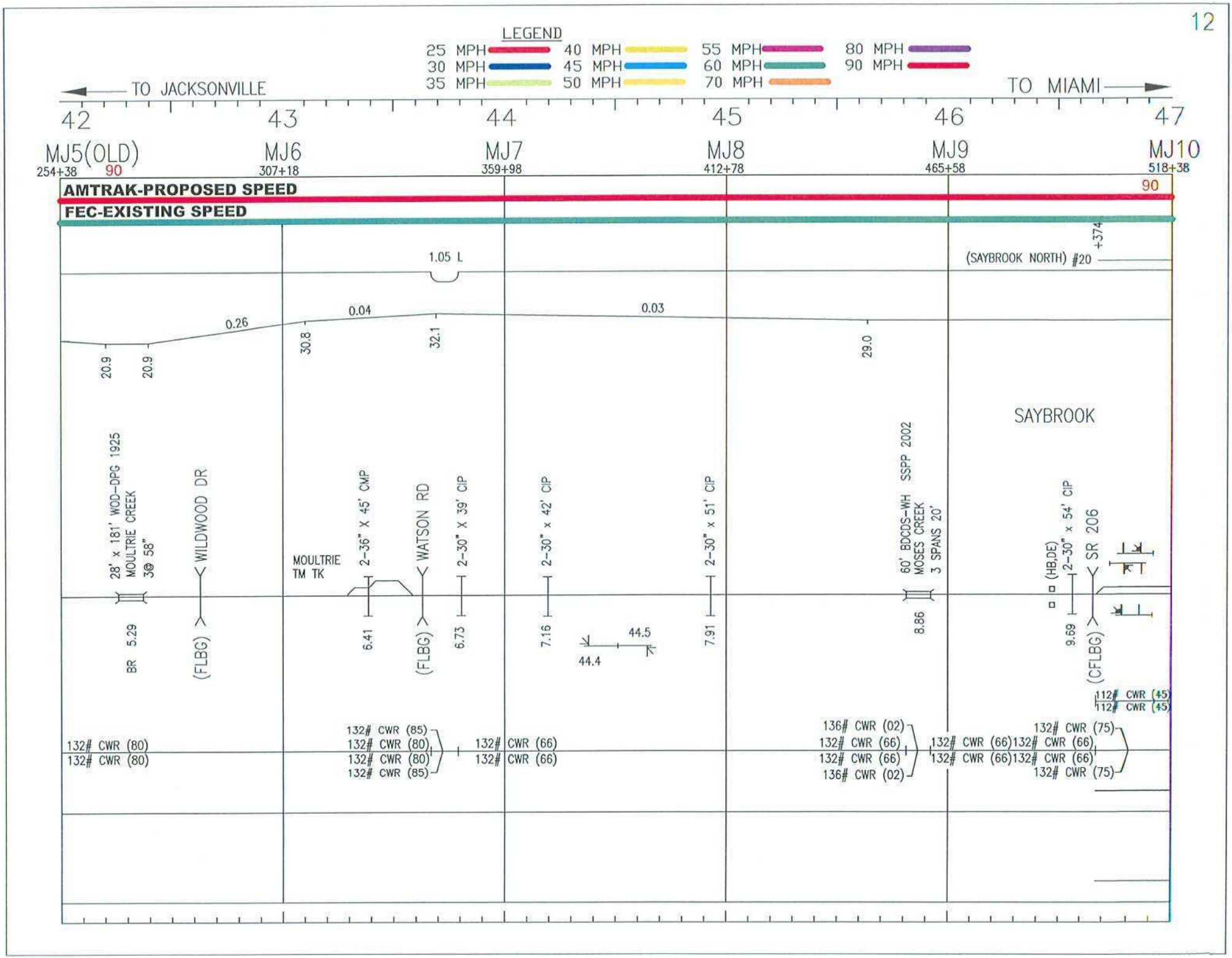

LEGEND
25 MPH
30 MPH
35 MPH
40 MPH
45 MPH
50 MPH
55 MPH
60 MPH
70 MPH
80 MPH
90 MPH
TO JACKSONVILLE
TO MIAMI
20
21
22
23
24
25
1056+41.4
1109+08.5
1161+90.8
1214+74.8
1267+56.8
1320+35.5
90
90
AMTRAK-PROPOSED SPEED
FEC-EXISTING SPEED
0.5° R
0.0
0.3
0.0
0.15
53.0
53.0
39.5
39.5
41.9
DURBIN
HILDEN
20.7
20.6
(HB,WL,DE)
CR 210
2-24" OVL X 40' RCP
(FLBG)
21.16
4-30" OVL X 48' RCP
22.67
2-30" OVL X 56' RCP
22.94
23.1
23.2
2-30" OVL X 40' RCP
2-24" OVL X 40' RCP
23.29
23.49
3-40" RND X 50" CMP
23.98
STRATTON RD
(FLBG)
132# CWR (81)
132# CWR (81)
132# CWR (80)
132# CWR (81)
132# CWR (81)
132# CWR (80)
132# CWR (81)
132# CWR (81)
132# CWR (81)
132# CWR (81)
132# CWR (90)
132# CWR (81)
132# CWR (81)
132# CWR (90)
RAILS
TIES
UNDER CUT

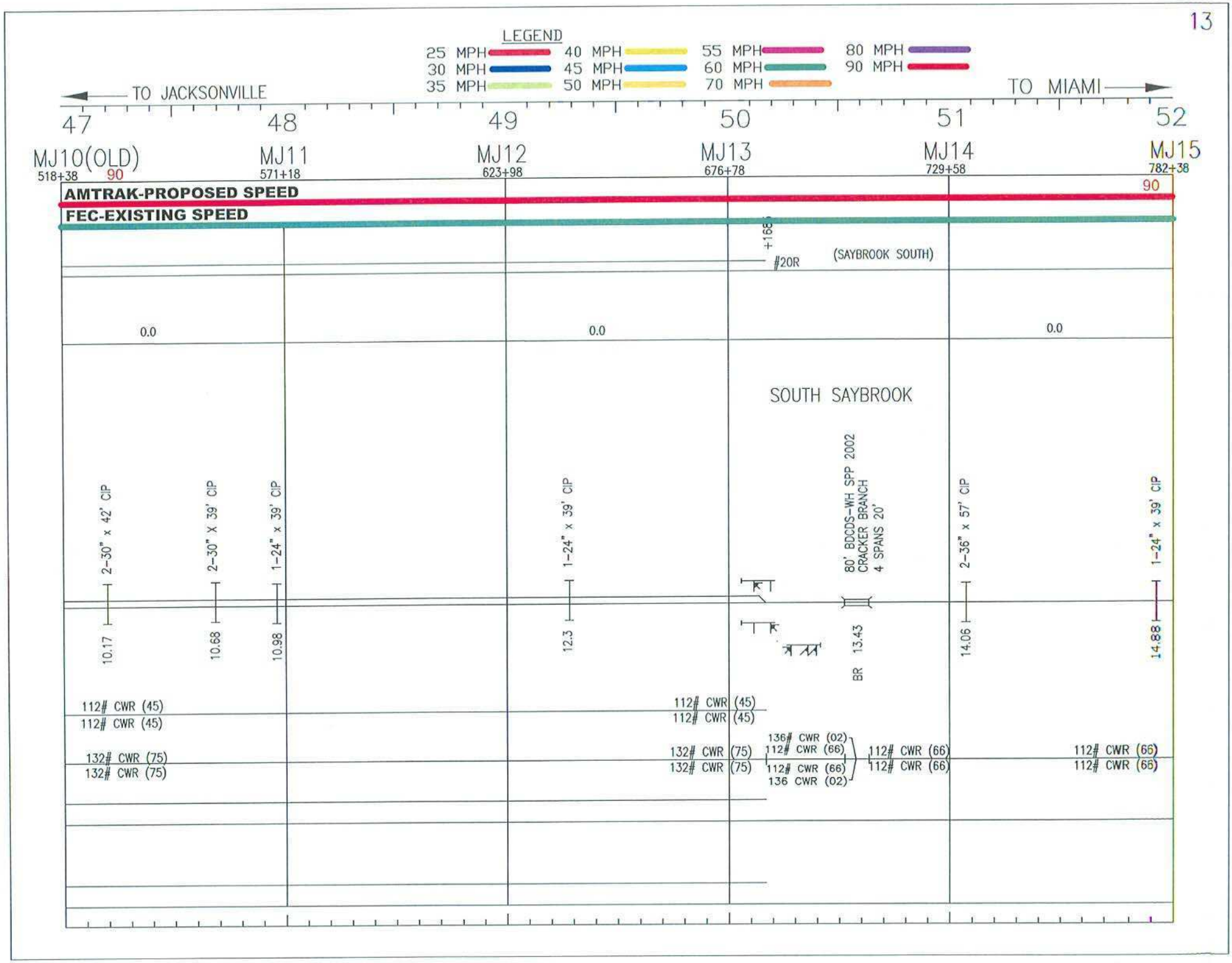

LEGEND
25 MPH
30 MPH
35 MPH
40 MPH
45 MPH
50 MPH
55 MPH
60 MPH
70 MPH
80 MPH
90 MPH
TO JACKSONVILLE
TO MIAMI
25
1320+35.5
26
1373+18.5
27
1425+99.5
28
1478+83.1
29
1531+61.7
30
1584+42.7
90
AMTRAK-PROPOSED SPEED
FEC-EXISTING SPEED
0.04
0.0
0.12
0.24
0.14
0.26
40.5
41.6
41.6
31.8
27.4
23.8
14.1
2-30" OVL X 40' RCP
WILD
INTERNATIONAL GOLF PWY.
(FLB&G)
SAMPSON
SAMPSON TM TK
2-24" OVL X 64' RCP
2-30" OVL X 40' RCP
1-72" ACH X 50' CMP
2-24" OVL X 40' RCP
2-24" OVL X 40' RCP
25.3
25.4
27.8
27.7
25.48
28.07
#28.96
29.26
29.67
29.87
132# CWR (81)
132# CWR (81)
132# CWR (81)
132# CWR (81)
RAILS
TIES
UNDER CUT

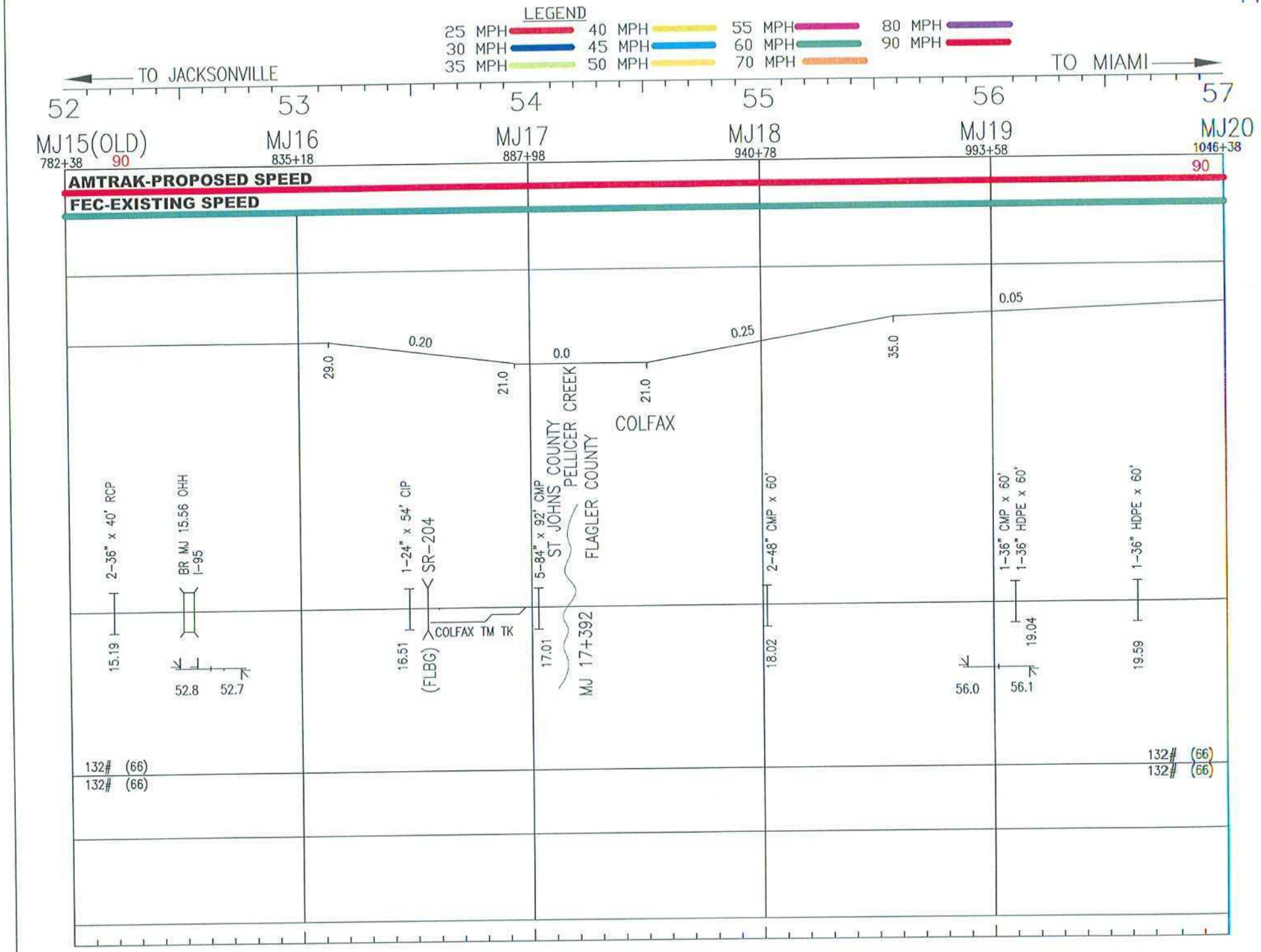

LEGEND
25 MPH
30 MPH
35 MPH
40 MPH
45 MPH
50 MPH
55 MPH
60 MPH
70 MPH
80 MPH
90 MPH
TO JACKSONVILLE
TO MIAMI
30
31
32
33
34
35
1584+42.7
1638+21.6
1691+04.3
1743+85.6
1796+67.6
1849+43.3
AMTRAK-PROPOSED SPEED
90
60
FEC-EXISTING SPEED
PS +72
(MAGNOLIA NORTH)
15,527'
(MAGNOLIA SOUTH)
PS +500
2° L
2° R
2° R
2° L
#20R
1.07 R
#20L
0.07
0.0
0.02
10.5
0.0
0.09
0.0
11.0
11.0
10.5
8.2
8.2
MAGNOLIA GROVE
ST. AUGUSTINE
LEWIS SPEEDWAY
SAN SEBASTIAN VIEW
29.9
30.0
30.2
6-24" OVL x 40' RCP
2-24" OVL x 40' RCP
4-33" OVL x 40' RCP
BIG OAK RD
2-24" OVL x 40' RCP
5th ST
2-24" OVL x 40' RCP
2-24" OVL x 40' RCP
1-42" x 68' CMP
(SR 16)
PROPOSED STATION
30.41
30.84
30.99
(FLBG)
32.2
(FLBG)
32.64
(FLBG)
(CFLBG)
33.85
34.44
(CFLBG)
132# CWR (75)
132# CWR (75)
136# CWR (06)
136# CWR (06)
132# CWR (75)
132# CWR (75)
132# CWR (75)
136# T.O. (01)
132# CWR (75)
132# CWR (75)
136# T.O. (01)
132# CWR (75)
136# CWR (96)
132# CWR (75)
132# CWR (96)
136# CWR (96)
132# CWR (75)
132# CWR (89)
132# CWR (75)
132# CWR (75)
136# CWR (96)
136# CWR (89)
132# CWR (75)
132# CWR (75)
132# CWR (75)
132# CWR (89)
136# CWR (86)
132# CWR (75)
RAILS
112# CWR (43)
112# CWR (43)
112# CWR (43)
112# CWR (43)
136# T.O. (01)
136# T.O. (01)
RAILS
TIES
TIES
UNDER CUT
UNDER CUT

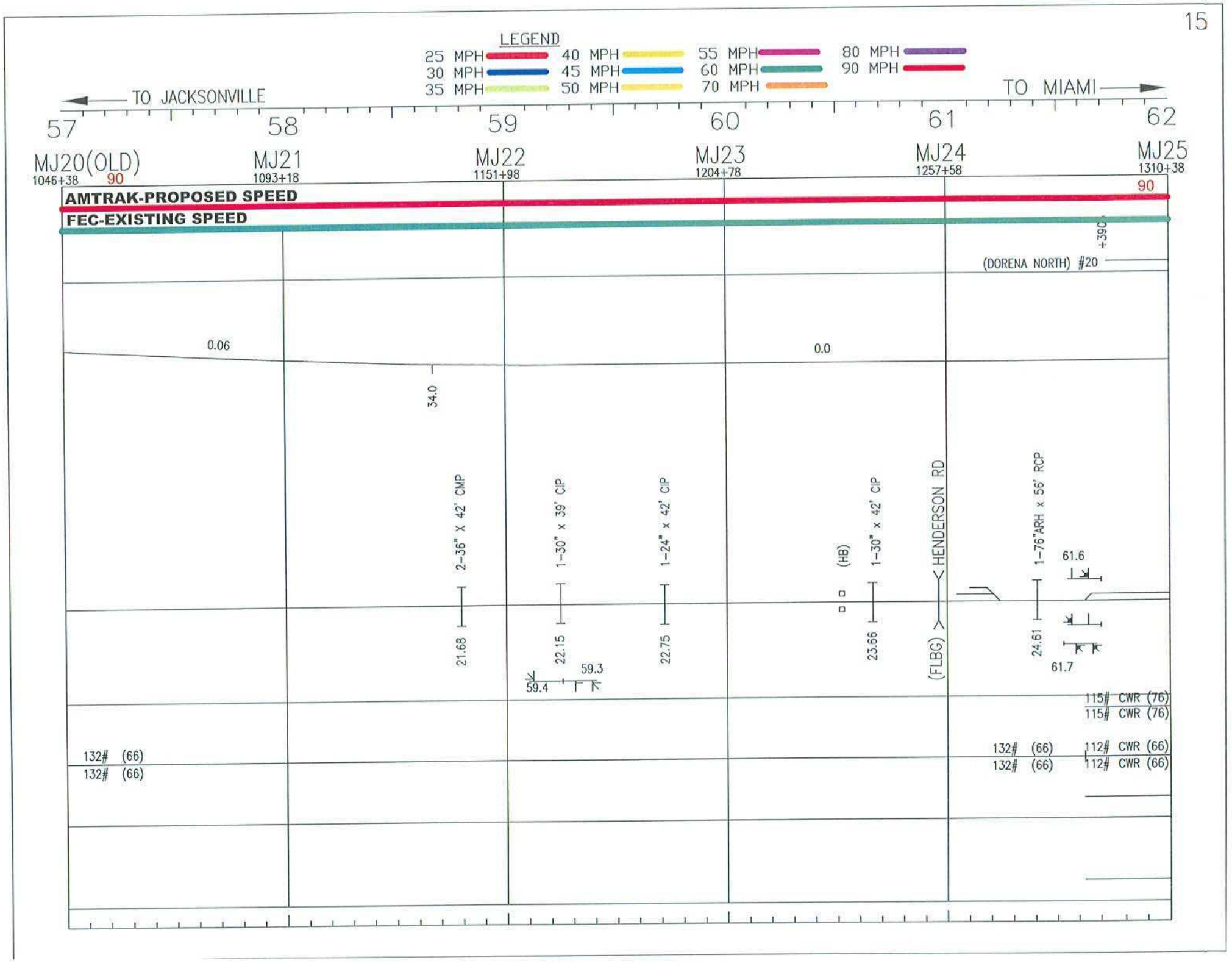

LEGEND
25 MPH
30 MPH
35 MPH
40 MPH
45 MPH
50 MPH
55 MPH
60 MPH
70 MPH
80 MPH
90 MPH
TO JACKSONVILLE
TO MIAMI
35
1849+43.3
36
1901+10.4
37
1953+13.7
AMTRAK-PROPOSED SPEED
60
40
FEC-EXISTING SPEED
50
30
30
5.5° R
6° R
1945+07.6
EQUATION
1943+84.21
0.06
0.2
0.19
0.15
0.43
4.9
4.9
6.3
6.3
8.8
8.8
8.0
(OLD) MOULTRIE JUNCTION
PS 1953+39.7
RAIL LUBICATOR
30' BDBB-WH 2001
35' x 237' COD-C12 1965
SAN SEBASTIAN RIVER
BAKER SIDING
35.4
36.1
36.2
BR 36.31
BR 36.64
RAILS
132# CWR (75)
136# CWR (07)
132# CWR (75)
132# CWR (68)
136# CWR (03)
TIES
UNDER CUT

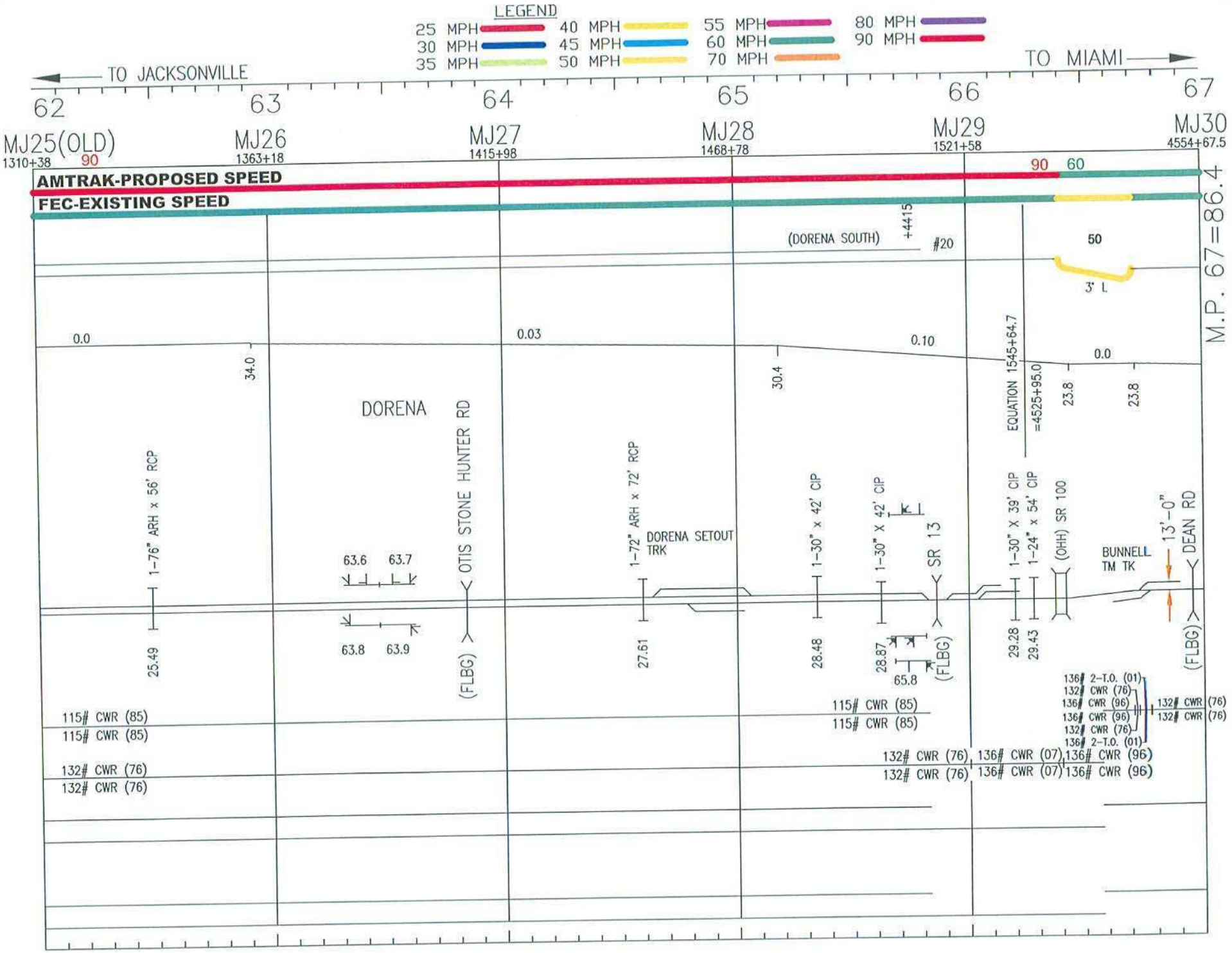

LEGEND
25 MPH
30 MPH
35 MPH
40 MPH
45 MPH
50 MPH
55 MPH
60 MPH
70 MPH
80 MPH
90 MPH
TO JACKSONVILLE
TO MIAMI
37
38
39
40
41
42
MJ0(OLD)
1953+13.7
40 190
MJ1
43+18
MJ2
95+98
MJ3
148+78
MJ4
201+58
MJ5
254+38
AMTRAK-PROPOSED SPEED
90
FEC-EXISTING SPEED
30
4° L
EQUATION 1962+75.7 =0+00
0.25
0.30
0.0
0.08
0.0
0.18
0.26
0.08
0.12
15.6
21.4
33.8
33.8
35.1
35.1
38.7
28.3
25.1
WAKELEY
PALMER ST
2-18" x 42' TCP
1-36" x 60' CIP
SR 214-KING ST (CFLBG)
2-30" x 80' CMP
MADEORE ST
STUART ST
1-24" x 60' CIP
SR 207
1-24" x 42' CIP
(OHH) SR 312
1-24" x 45' CIP
KINGS ESTATE RD
2-30" x 57' CIP
BULL CREEK
3-72" x 84' CMP
(CFLBG)
0.21
0.35
0.5
W.W. LEAD
SEE PAGE 74-75
(CFLBG)
(FLBG)
1.63
(CFLBG)
1.81
38.8
38.7
2.55
(FLBG)
3.95
41.4
41.3
4.63
132# CWR (80)
136# CWR (06)
136# CWR (06)
132# CWR (80)
132# CWR (80)
132# CWR (80)
132# CWR (80)
132# CWR (80)

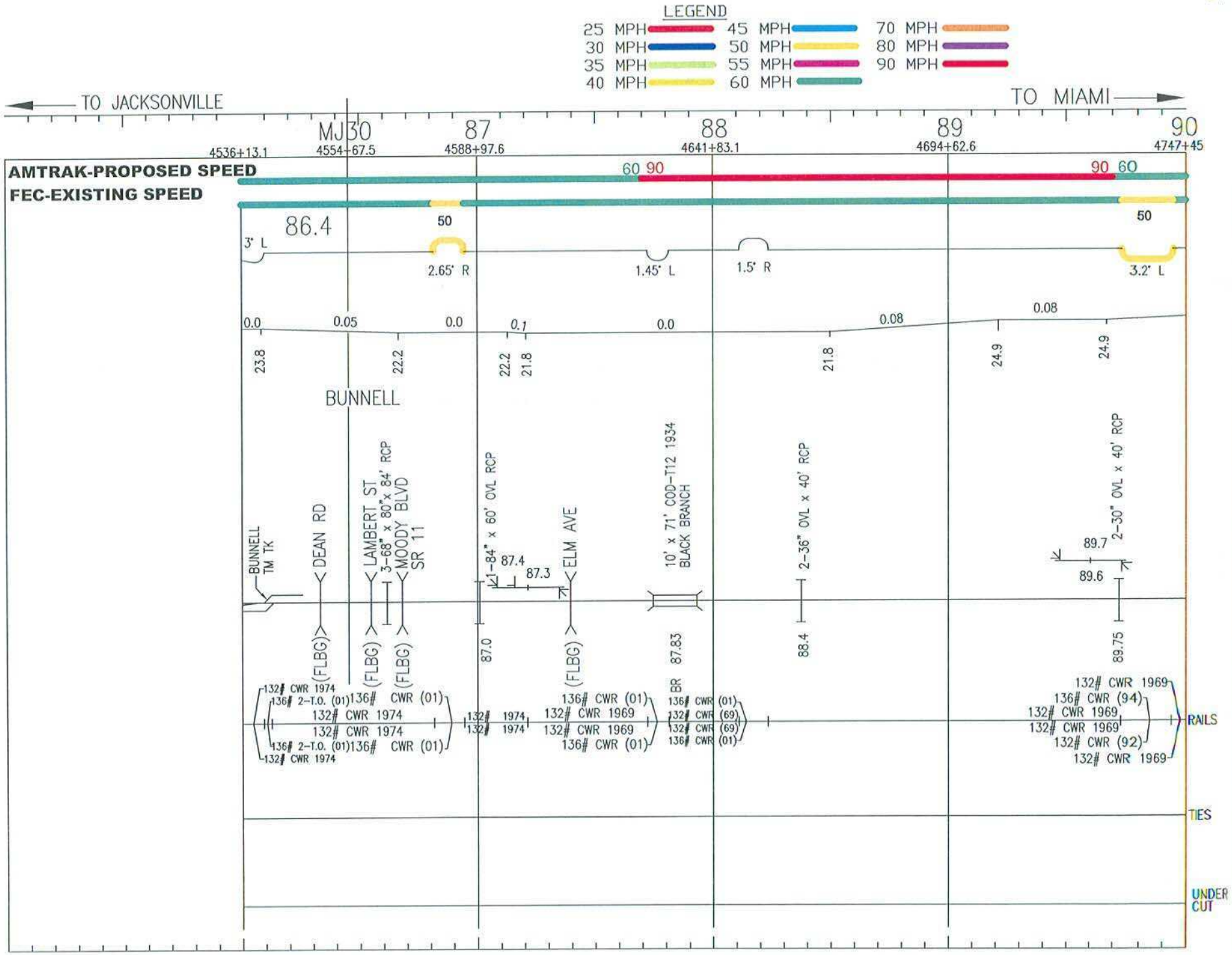

LEGEND
25 MPH
30 MPH
35 MPH
40 MPH
45 MPH
50 MPH
55 MPH
60 MPH
70 MPH
80 MPH
90 MPH
TO JACKSONVILLE
TO MIAMI
42
43
44
45
46
47
MJ5(OLD)
254+38
90
MJ6
307+18
MJ7
359+98
MJ8
412+78
MJ9
465+58
MJ10
518+38
AMTRAK-PROPOSED SPEED
90
FEC-EXISTING SPEED
1.05 L
0.26
0.04
0.03
20.9
20.9
30.8
32.1
29.0
(SAYBROOK NORTH) #20
+374
SAYBROOK
28' x 181' WOD-DPG 1925
MOULTRIE CREEK
3@ 58"
BR 5.29
WILDWOOD DR
(FLBG)
MOULTRIE
TM TK
2-36" X 45' CMP
6.41
WATSON RD
(FLBG)
2-30" X 39' CIP
6.73
2-30" x 42' CIP
7.16
44.4
44.5
2-30" x 51' CIP
7.91
60' BDCDS-WH SSPP 2002
MOSES CREEK
3 SPANS 20'
8.86
(HB,DE)
2-30" x 54' CIP
9.69
SR 206
(CFLBG)
112# CWR (45)
112# CWR (45)
132# CWR (80)
132# CWR (80)
132# CWR (85)
132# CWR (80)
132# CWR (80)
132# CWR (85)
132# CWR (66)
132# CWR (66)
136# CWR (02)
132# CWR (66)
132# CWR (66)
136# CWR (02)
132# CWR (66)
132# CWR (66)
132# CWR (66)
132# CWR (66)
132# CWR (75)
132# CWR (75)

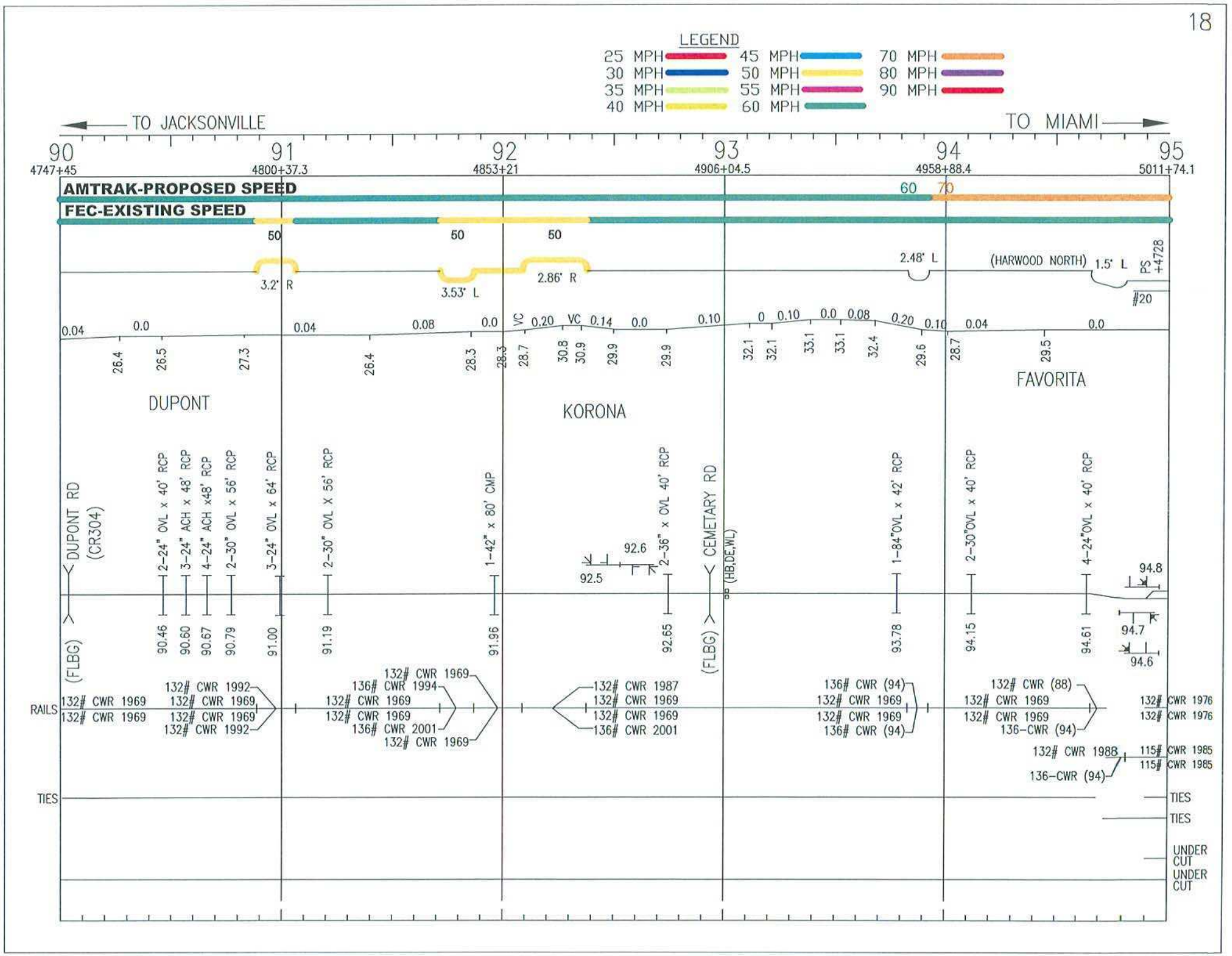

LEGEND
25 MPH
30 MPH
35 MPH
40 MPH
45 MPH
50 MPH
55 MPH
60 MPH
70 MPH
80 MPH
90 MPH
TO JACKSONVILLE
TO MIAMI
47
48
49
50
51
52
MJ10(OLD)
518+38
90
MJ11
571+18
MJ12
623+98
MJ13
676+78
MJ14
729+58
MJ15
782+38
90
AMTRAK-PROPOSED SPEED
FEC-EXISTING SPEED
+168
#20R
(SAYBROOK SOUTH)
0.0
0.0
0.0
SOUTH SAYBROOK
2-30" x 42' CIP
2-30" X 39' CIP
1-24" x 39' CIP
1-24" x 39' CIP
80' BDCDS-WH SPP 2002
CRACKER BRANCH
4 SPANS 20'
2-36" x 57' CIP
1-24" x 39' CIP
10.17
10.68
10.98
12.3
BR 13.43
14.06
14.88
112# CWR (45)
112# CWR (45)
112# CWR (45)
112# CWR (45)
132# CWR (75)
132# CWR (75)
132# CWR (75)
132# CWR (75)
136# CWR (02)
112# CWR (66)
112# CWR (66)
136 CWR (02)
112# CWR (66)
112# CWR (66)
112# CWR (66)
112# CWR (66)

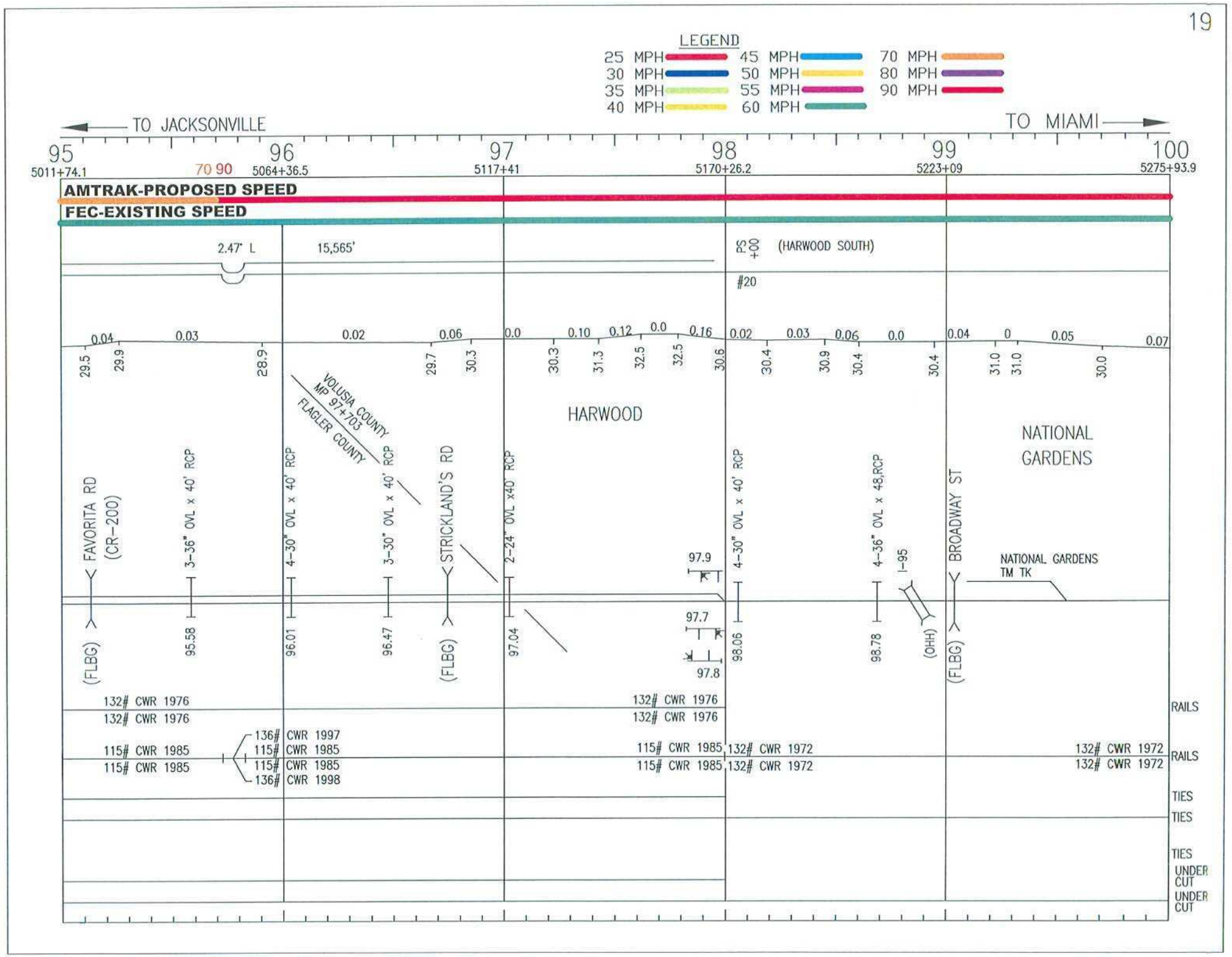

LEGEND
25 MPH
30 MPH
35 MPH
40 MPH
45 MPH
50 MPH
55 MPH
60 MPH
70 MPH
80 MPH
90 MPH
TO JACKSONVILLE
TO MIAMI
52
53
54
55
56
57
MJ15(OLD)
782+38
90
MJ16
835+18
MJ17
887+98
MJ18
940+78
MJ19
993+58
MJ20
1046+38
90
AMTRAK-PROPOSED SPEED
FEC-EXISTING SPEED
0.20
0.0
0.25
0.05
29.0
21.0
21.0
35.0
COLFAX
ST JOHNS COUNTY
PELLICER CREEK
FLAGLER COUNTY
2-36" x 40' RCP
BR MJ 15.56 OHH
I-95
1-24" x 54' CIP
SR-204
COLFAX TM TK
(FLBG)
5-84" x 92' CMP
MJ 17+392
2-48" CMP x 60'
1-36" CMP x 60'
1-36" HDPE x 60'
1-36" HDPE x 60'
15.19
52.8
52.7
16.51
17.01
18.02
56.0
56.1
19.04
19.59
132# (66)
132# (66)
132# (66)
132# (66)

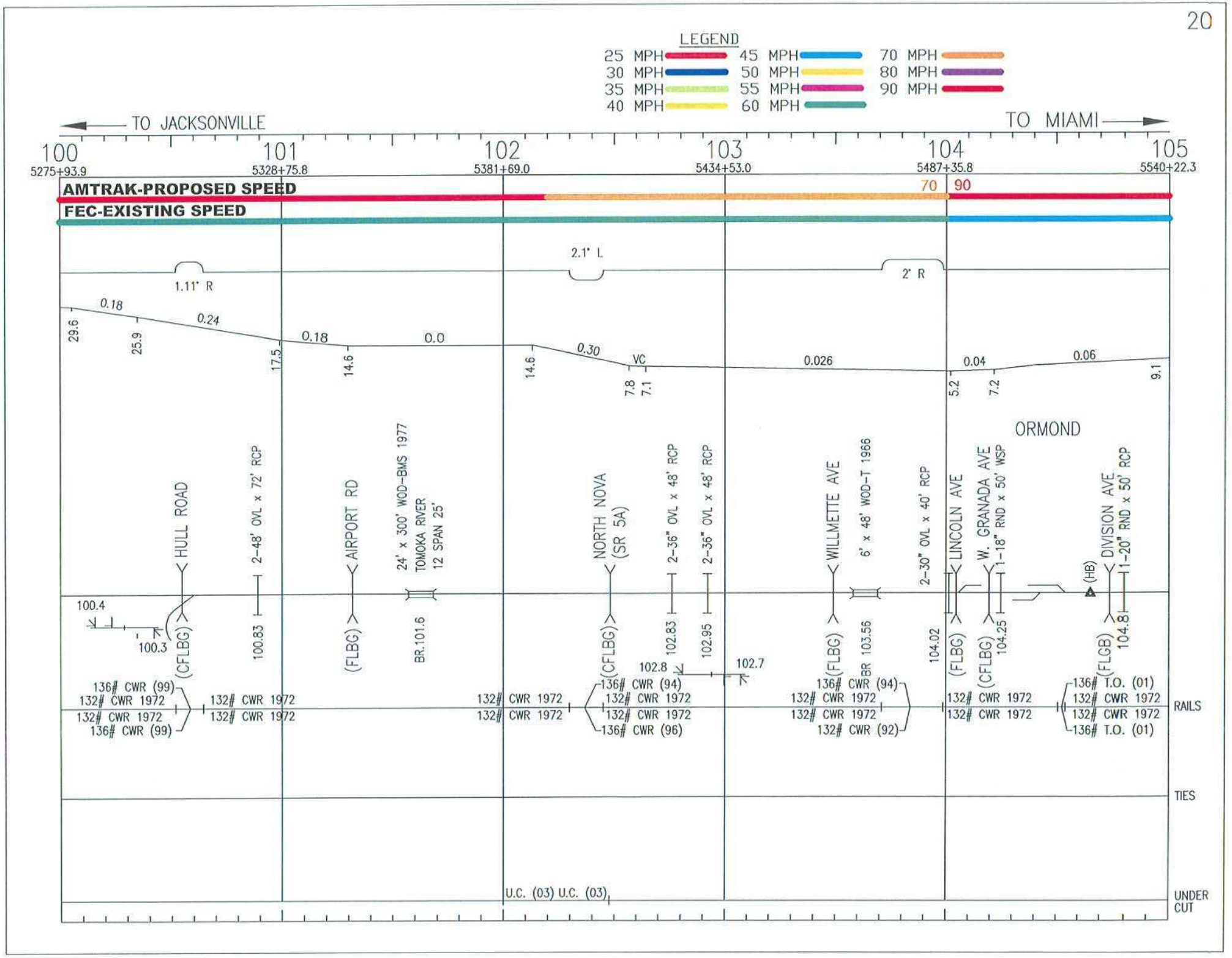

LEGEND
25 MPH
30 MPH
35 MPH
40 MPH
45 MPH
50 MPH
55 MPH
60 MPH
70 MPH
80 MPH
90 MPH
TO JACKSONVILLE
TO MIAMI
57
58
59
60
61
62
MJ20(OLD)
1046+38
90
MJ21
1093+18
MJ22
1151+98
MJ23
1204+78
MJ24
1257+58
MJ25
1310+38
90
AMTRAK-PROPOSED SPEED
FEC-EXISTING SPEED
+3900
(DORENA NORTH) #20
0.06
0.0
34.0
2-36" X 42' CMP
1-30" x 39' CIP
1-24" x 42' CIP
(HB)
1-30" x 42' CIP
HENDERSON RD
1-76"ARH x 56' RCP
61.6
21.68
22.15
59.3
59.4
22.75
23.66
(FLBG)
24.61
61.7
115# CWR (76)
115# CWR (76)
132# (66)
132# (66)
132# (66)
132# (66)
112# CWR (66)
112# CWR (66)

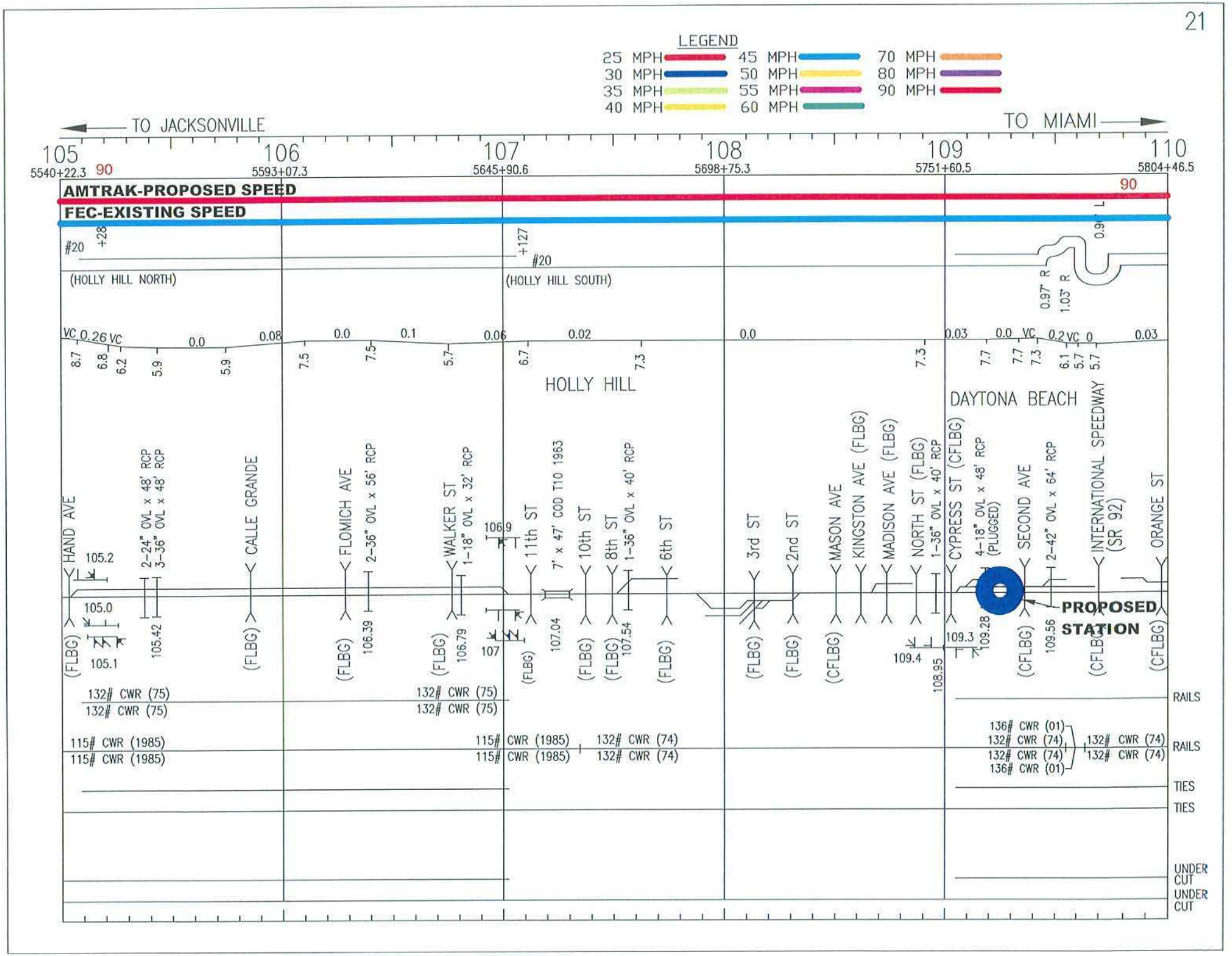

LEGEND
25 MPH
30 MPH
35 MPH
40 MPH
45 MPH
50 MPH
55 MPH
60 MPH
70 MPH
80 MPH
90 MPH
TO JACKSONVILLE
TO MIAMI
62
63
64
65
66
67
MJ25(OLD)
1310+38
MJ26
1363+18
MJ27
1415+98
MJ28
1468+78
MJ29
1521+58
MJ30
4554+67.5
AMTRAK-PROPOSED SPEED
FEC-EXISTING SPEED
90
60
50
3' L
M.P. 67=86.4
(DORENA SOUTH)
+4415
#20
0.0
0.03
0.10
0.0
34.0
30.4
EQUATION 1545+64.7
=4525+95.0
23.8
23.8
DORENA
OTIS STONE HUNTER RD
1-76" ARH x 56' RCP
1-72" ARH x 72' RCP
DORENA SETOUT TRK
1-30" x 42' CIP
1-30" X 42' CIP
SR 13
1-30" X 39' CIP
1-24" x 54' CIP
(OHH) SR 100
BUNNELL TM TK
13'-0"
DEAN RD
63.6
63.7
63.8
63.9
25.49
27.61
28.48
28.87
65.8
29.28
29.43
(FLBG)
(FLBG)
(FLBG)
115# CWR (85)
115# CWR (85)
115# CWR (85)
115# CWR (85)
132# CWR (76)
132# CWR (76)
132# CWR (76)
132# CWR (76)
136# CWR (07)
136# CWR (07)
136# CWR (96)
136# CWR (96)
136# 2-T.O. (01)
132# CWR (76)
136# CWR (96)
136# CWR (96)
132# CWR (76)
136# 2-T.O. (01)
132# CWR (76)
132# CWR (76)

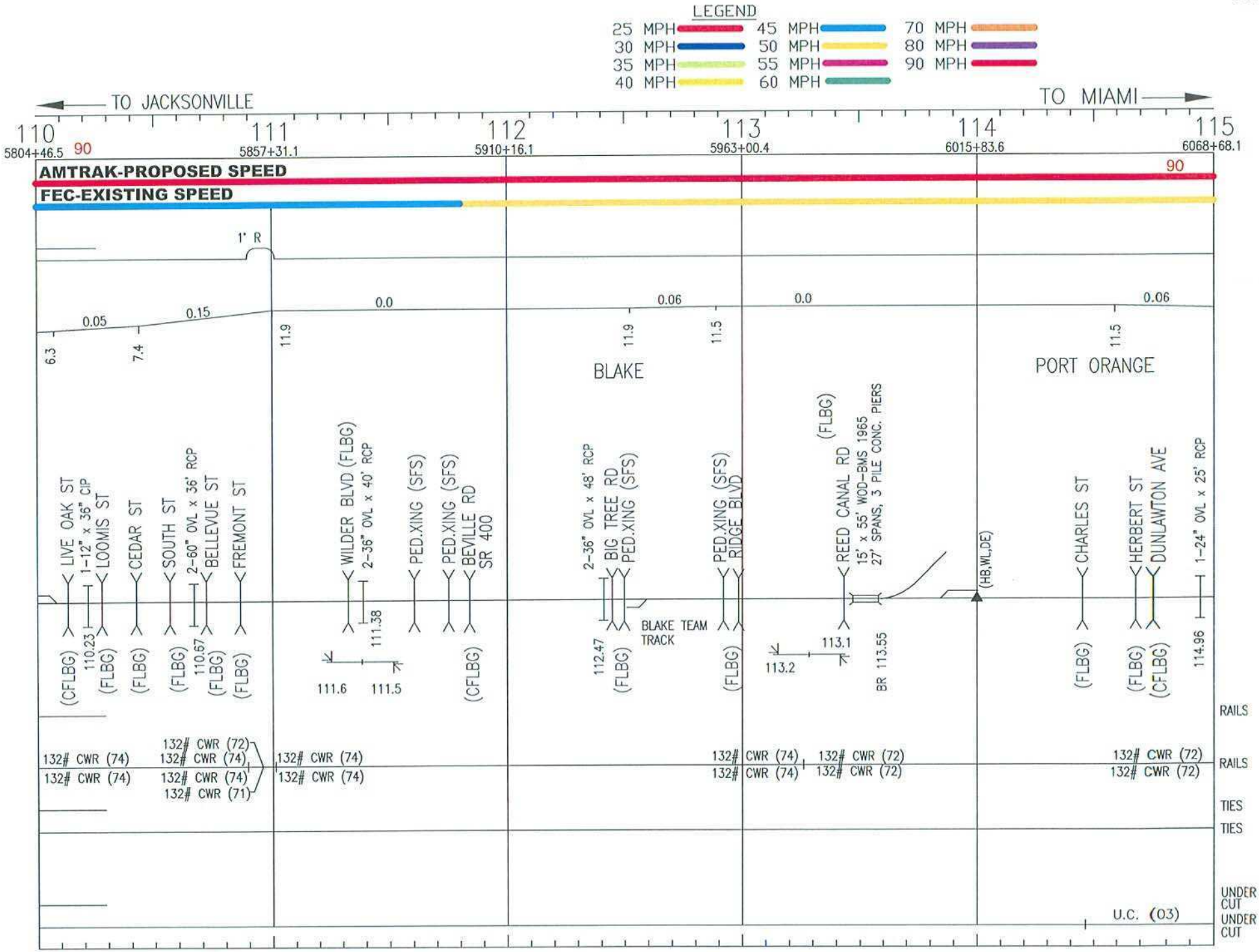

LEGEND
25 MPH
30 MPH
35 MPH
40 MPH
45 MPH
50 MPH
55 MPH
60 MPH
70 MPH
80 MPH
90 MPH
TO JACKSONVILLE
TO MIAMI
MJ30
87
88
89
90
4536+13.1
4554+67.5
4588+97.6
4641+83.1
4694+62.6
4747+45
AMTRAK-PROPOSED SPEED
FEC-EXISTING SPEED
60 90
90 60
50
50
86.4
3° L
2.65° R
1.45° L
1.5° R
3.2° L
0.0
0.05
0.0
0.1
0.0
0.08
0.08
23.8
22.2
22.2
21.8
21.8
24.9
24.9
BUNNELL
BUNNELL TM TK
DEAN RD
LAMBERT ST
3-68" x 80" x 84' RCP
MOODY BLVD
SR 11
1-84" x 60' OVL RCP
87.4
87.3
ELM AVE
10' x 71' COD-T12 1934
BLACK BRANCH
2-36" OVL x 40' RCP
2-30" OVL x 40' RCP
89.7
89.6
(FLBG)
(FLBG)
(FLBG)
(FLBG)
87.0
87.83
88.4
89.75
132# CWR 1974
136# 2-T.O. (01)
136# CWR (01)
132# CWR 1974
132# CWR 1974
136# 2-T.O. (01)
136# CWR (01)
132# CWR 1974
132# 1974
132# 1974
136# CWR (01)
132# CWR 1969
132# CWR 1969
136# CWR (01)
BR
136# CWR (01)
132# CWR (69)
132# CWR (69)
136# CWR (01)
132# CWR 1969
136# CWR (94)
132# CWR 1969
132# CWR 1969
132# CWR (92)
132# CWR 1969
RAILS
TIES
UNDER CUT

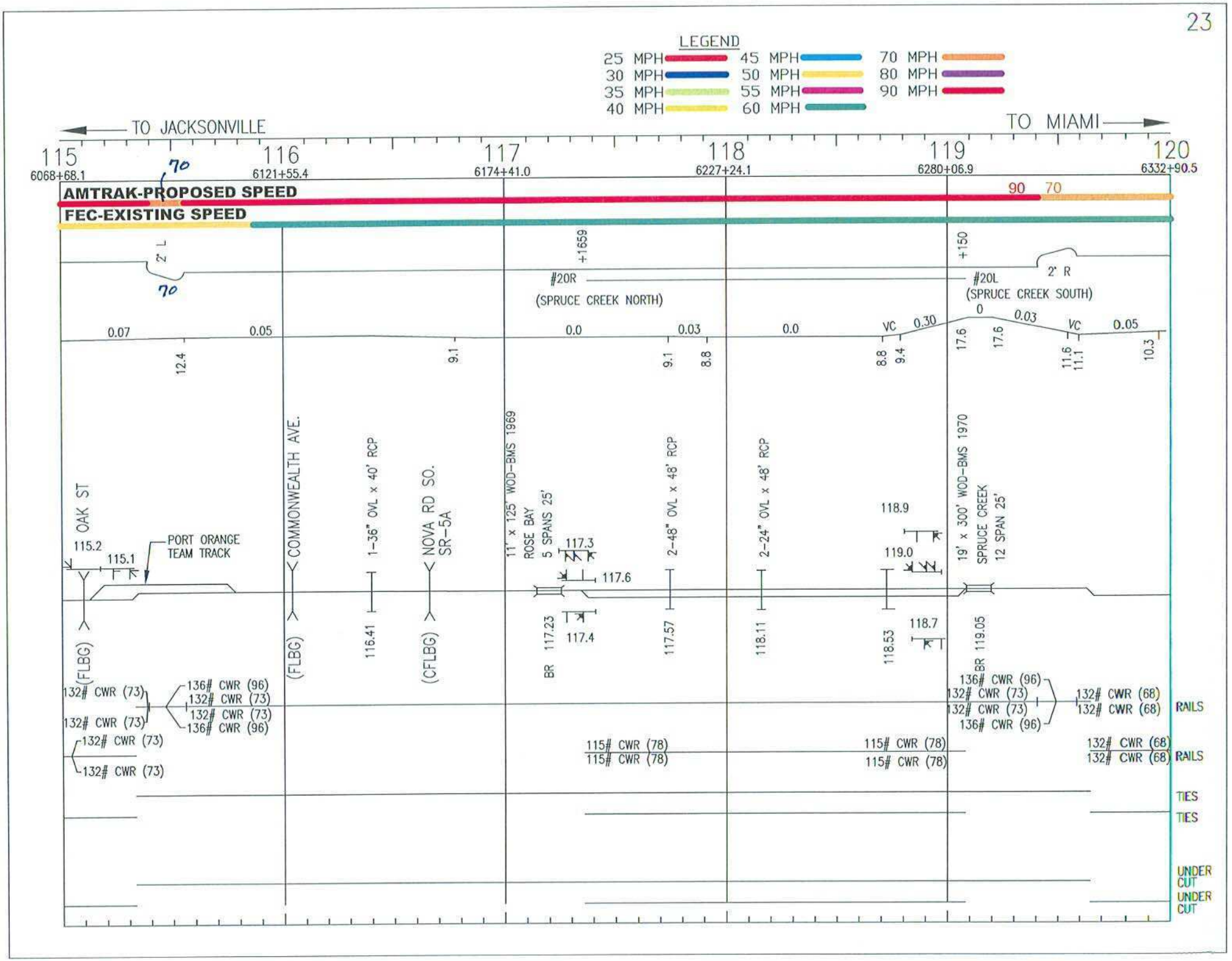

LEGEND
25 MPH
30 MPH
35 MPH
40 MPH
45 MPH
50 MPH
55 MPH
60 MPH
70 MPH
80 MPH
90 MPH
TO JACKSONVILLE
TO MIAMI
90
91
92
93
94
95
4747+45
4800+37.3
4853+21
4906+04.5
4958+88.4
5011+74.1
AMTRAK-PROPOSED SPEED
FEC-EXISTING SPEED
60
70
50
50
50
3.2° R
3.53° L
2.86° R
2.48° L
(HARWOOD NORTH)
1.5° L
PS +4728
#20
DUPONT
KORONA
FAVORITA
DUPONT RD (CR304)
(FLBG)
2-24" OVL x 40' RCP
3-24" ACH x 48' RCP
4-24" ACH x48' RCP
2-30" OVL x 56' RCP
3-24" OVL x 64' RCP
2-30" OVL X 56' RCP
1-42" x 80' CMP
2-36" x OVL 40' RCP
CEMETARY RD
(HB,DE,WL)
1-84"OVL x 42' RCP
2-30"OVL x 40' RCP
4-24"OVL x 40' RCP
92.6
92.5
94.8
94.7
94.6
90.46
90.60
90.67
90.79
91.00
91.19
91.96
92.65
93.78
94.15
94.61
RAILS
132# CWR 1969
132# CWR 1969
132# CWR 1992
132# CWR 1969
132# CWR 1969
132# CWR 1992
132# CWR 1969
136# CWR 1994
132# CWR 1969
132# CWR 1969
136# CWR 2001
132# CWR 1969
132# CWR 1987
132# CWR 1969
132# CWR 1969
136# CWR 2001
136# CWR (94)
132# CWR 1969
132# CWR 1969
136# CWR (94)
132# CWR (88)
132# CWR 1969
132# CWR 1969
136-CWR (94)
132# CWR 1976
132# CWR 1976
132# CWR 1988
136-CWR (94)
115# CWR 1985
115# CWR 1985
TIES
TIES
TIES
UNDER CUT
UNDER CUT

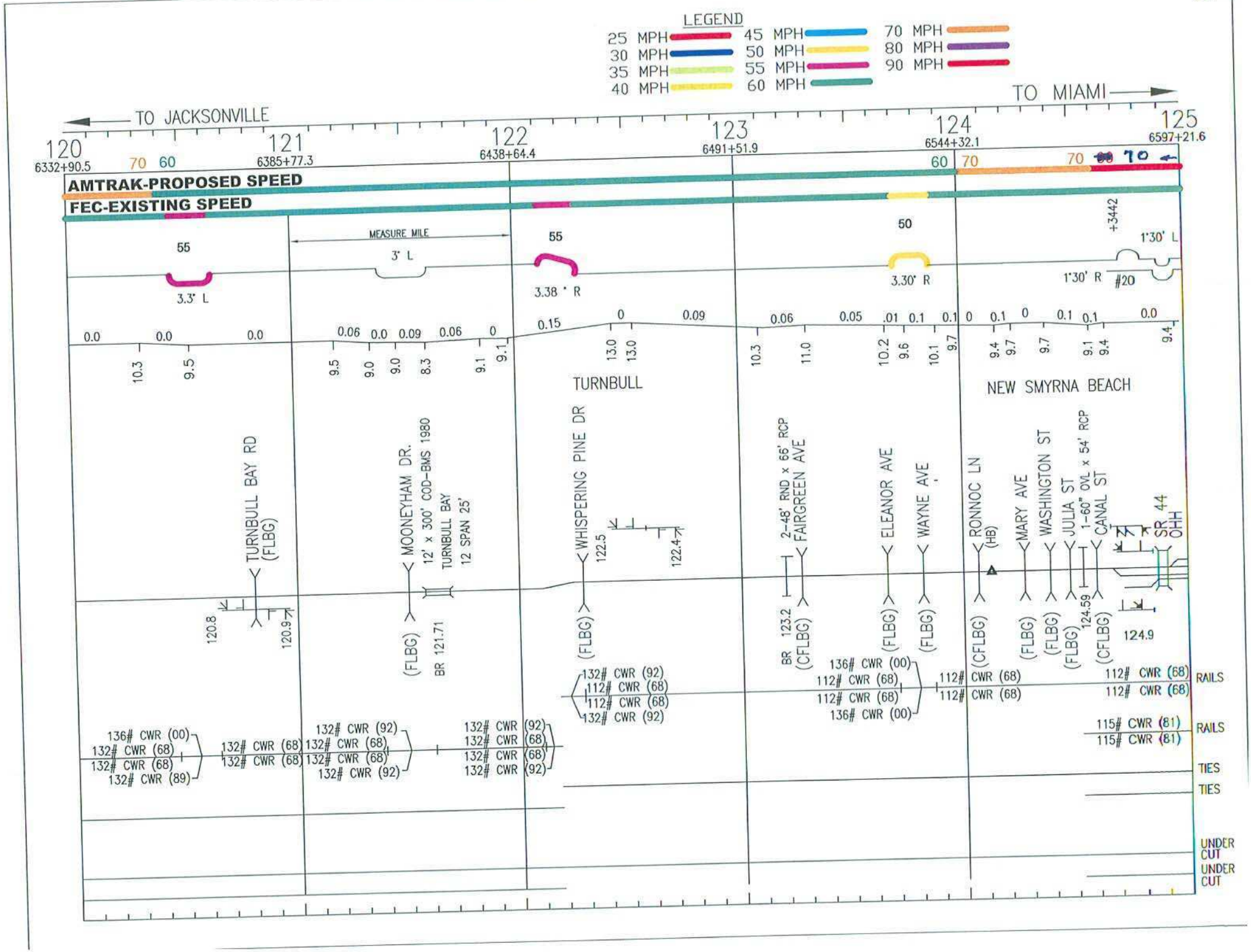

LEGEND
25 MPH
30 MPH
35 MPH
40 MPH
45 MPH
50 MPH
55 MPH
60 MPH
70 MPH
80 MPH
90 MPH
TO JACKSONVILLE
TO MIAMI
95
96
97
98
99
100
5011+74.1
70 90
5064+36.5
5117+41
5170+26.2
5223+09
5275+93.9
AMTRAK-PROPOSED SPEED
FEC-EXISTING SPEED
2.47' L
15,565'
PS +00 (HARWOOD SOUTH)
#20
0.04
0.03
0.02
0.06
0.0
0.10
0.12
0.0
0.16
0.02
0.03
0.06
0.0
0.04
0
0.05
0.07
29.5
29.9
28.9
29.7
30.3
30.3
31.3
32.5
32.5
30.6
30.4
30.9
30.4
30.4
31.0
31.0
30.0
VOLUSIA COUNTY
MP 97+703
FLAGLER COUNTY
HARWOOD
NATIONAL GARDENS
FAVORITA RD (CR-200)
3-36" OVL x 40' RCP
4-30" OVL x 40' RCP
3-30" OVL x 40' RCP
STRICKLAND'S RD
2-24" OVL x40' RCP
4-30" OVL x 40' RCP
4-36" OVL x 48,RCP
I-95
BROADWAY ST
NATIONAL GARDENS TM TK
97.9
97.7
97.8
(FLBG)
95.58
96.01
96.47
(FLBG)
97.04
98.06
98.78
(OHH)
(FLBG)
132# CWR 1976
132# CWR 1976
115# CWR 1985
115# CWR 1985
136# CWR 1997
115# CWR 1985
115# CWR 1985
136# CWR 1998
132# CWR 1976
132# CWR 1976
115# CWR 1985
115# CWR 1985
132# CWR 1972
132# CWR 1972
132# CWR 1972
132# CWR 1972
RAILS
RAILS
TIES
TIES
TIES
UNDER CUT
UNDER CUT

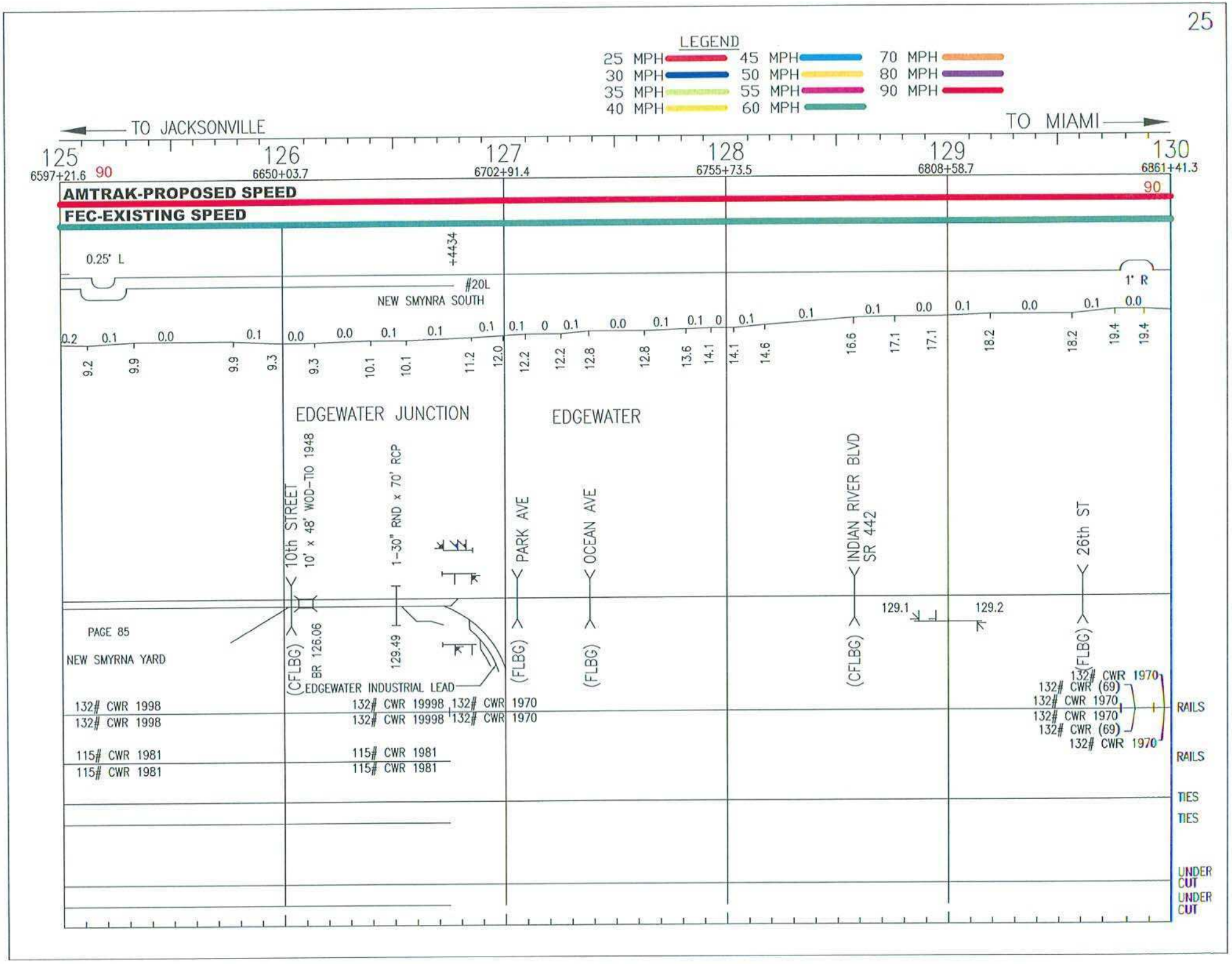

LEGEND
25 MPH
30 MPH
35 MPH
40 MPH
45 MPH
50 MPH
55 MPH
60 MPH
70 MPH
80 MPH
90 MPH
TO JACKSONVILLE
TO MIAMI
100
5275+93.9
101
5328+75.8
102
5381+69.0
103
5434+53.0
104
5487+35.8
105
5540+22.3
AMTRAK-PROPOSED SPEED
FEC-EXISTING SPEED
70
90
1.11° R
2.1° L
2° R
0.18
0.24
0.18
0.0
0.30
VC
0.026
0.04
0.06
29.6
25.9
17.5
14.6
14.6
7.8
7.1
5.2
7.2
9.1
HULL ROAD
2-48' OVL x 72' RCP
AIRPORT RD
24' x 300' WOD-BMS 1977
TOMOKA RIVER
12 SPAN 25'
NORTH NOVA
(SR 5A)
2-36" OVL x 48' RCP
2-36" OVL x 48' RCP
WILLMETTE AVE
6' x 48' WOD-T 1966
2-30" OVL x 40' RCP
LINCOLN AVE
W. GRANADA AVE
1-18" RND x 50' WSP
ORMOND
(HB)
DIVISION AVE
1-20" RND x 50' RCP
100.4
100.3
(CFLBG)
100.83
(FLBG)
BR.101.6
(CFLBG)
102.83
102.95
102.8
102.7
(FLBG)
BR 103.56
104.02
(FLBG)
(CFLBG)
104.25
(FLGB)
104.8
136# CWR (99)
132# CWR 1972
132# CWR 1972
136# CWR (99)
132# CWR 1972
132# CWR 1972
132# CWR 1972
132# CWR 1972
136# CWR (94)
132# CWR 1972
132# CWR 1972
136# CWR (96)
136# CWR (94)
132# CWR 1972
132# CWR 1972
132# CWR (92)
132# CWR 1972
132# CWR 1972
136# T.O. (01)
132# CWR 1972
132# CWR 1972
136# T.O. (01)
RAILS
TIES
U.C. (03) U.C. (03)
UNDER CUT

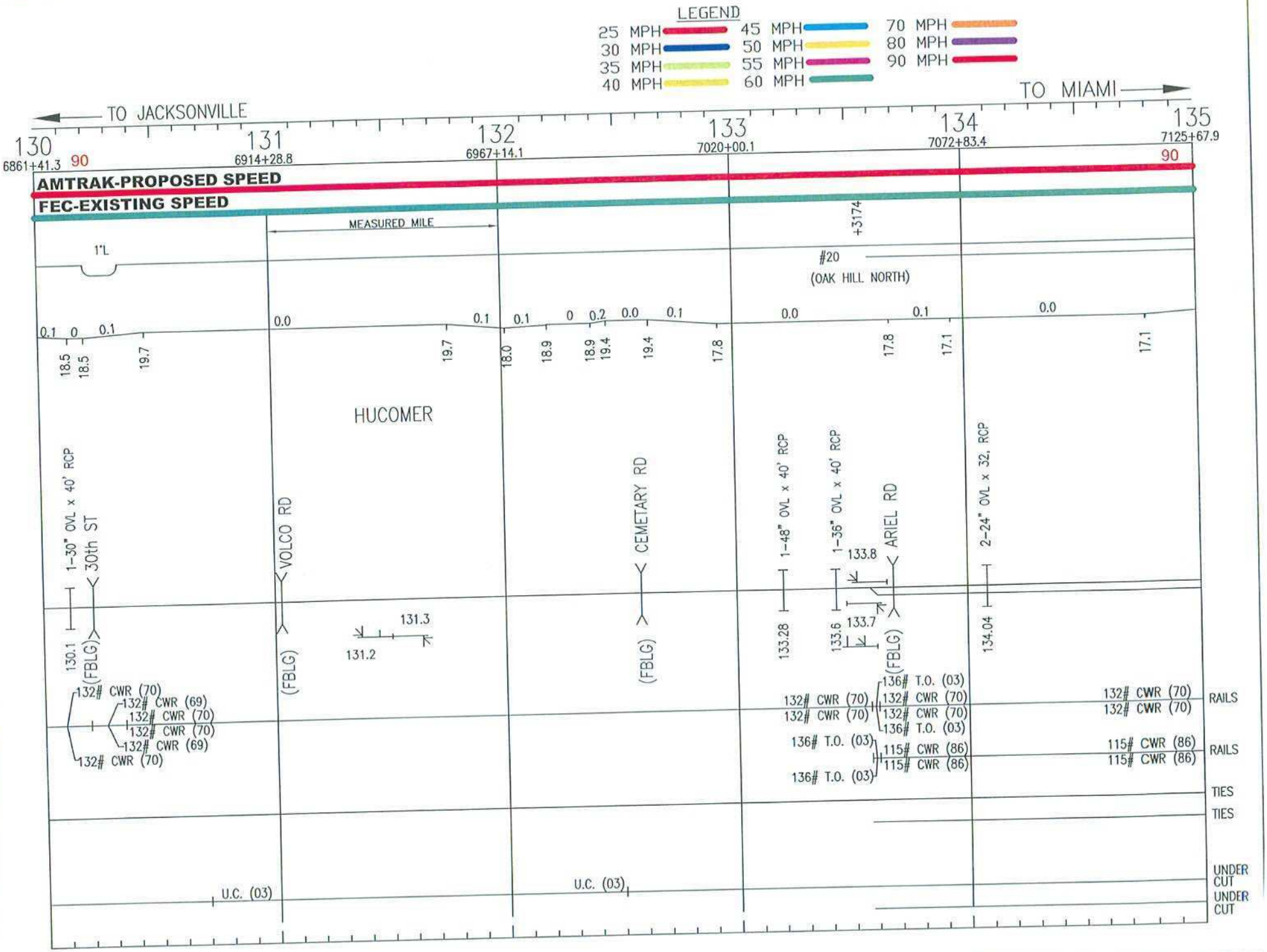

LEGEND
25 MPH
30 MPH
35 MPH
40 MPH
45 MPH
50 MPH
55 MPH
60 MPH
70 MPH
80 MPH
90 MPH
TO JACKSONVILLE
TO MIAMI
105
106
107
108
109
110
5540+22.3
5593+07.3
5645+90.6
5698+75.3
5751+60.5
5804+46.5
AMTRAK-PROPOSED SPEED
FEC-EXISTING SPEED
(HOLLY HILL NORTH)
(HOLLY HILL SOUTH)
HOLLY HILL
DAYTONA BEACH
HAND AVE
2-24" OVL x 48' RCP
3-36" OVL x 48' RCP
CALLE GRANDE
FLOMICH AVE
2-36" OVL x 56' RCP
WALKER ST
1-18" OVL x 32' RCP
11th ST
7' x 47' COD T10 1963
10th ST
8th ST
1-36" OVL x 40' RCP
6th ST
3rd ST
2nd ST
MASON AVE
KINGSTON AVE (FLBG)
MADISON AVE (FLBG)
NORTH ST (FLBG)
1-36" OVL x 40' RCP
CYPRESS ST (CFLBG)
4-18" OVL x 48' RCP (PLUGGED)
SECOND AVE
2-42" OVL x 64' RCP
INTERNATIONAL SPEEDWAY (SR 92)
ORANGE ST
PROPOSED STATION
132# CWR (75)
115# CWR (1985)
132# CWR (74)
136# CWR (01)
RAILS
TIES
UNDER CUT

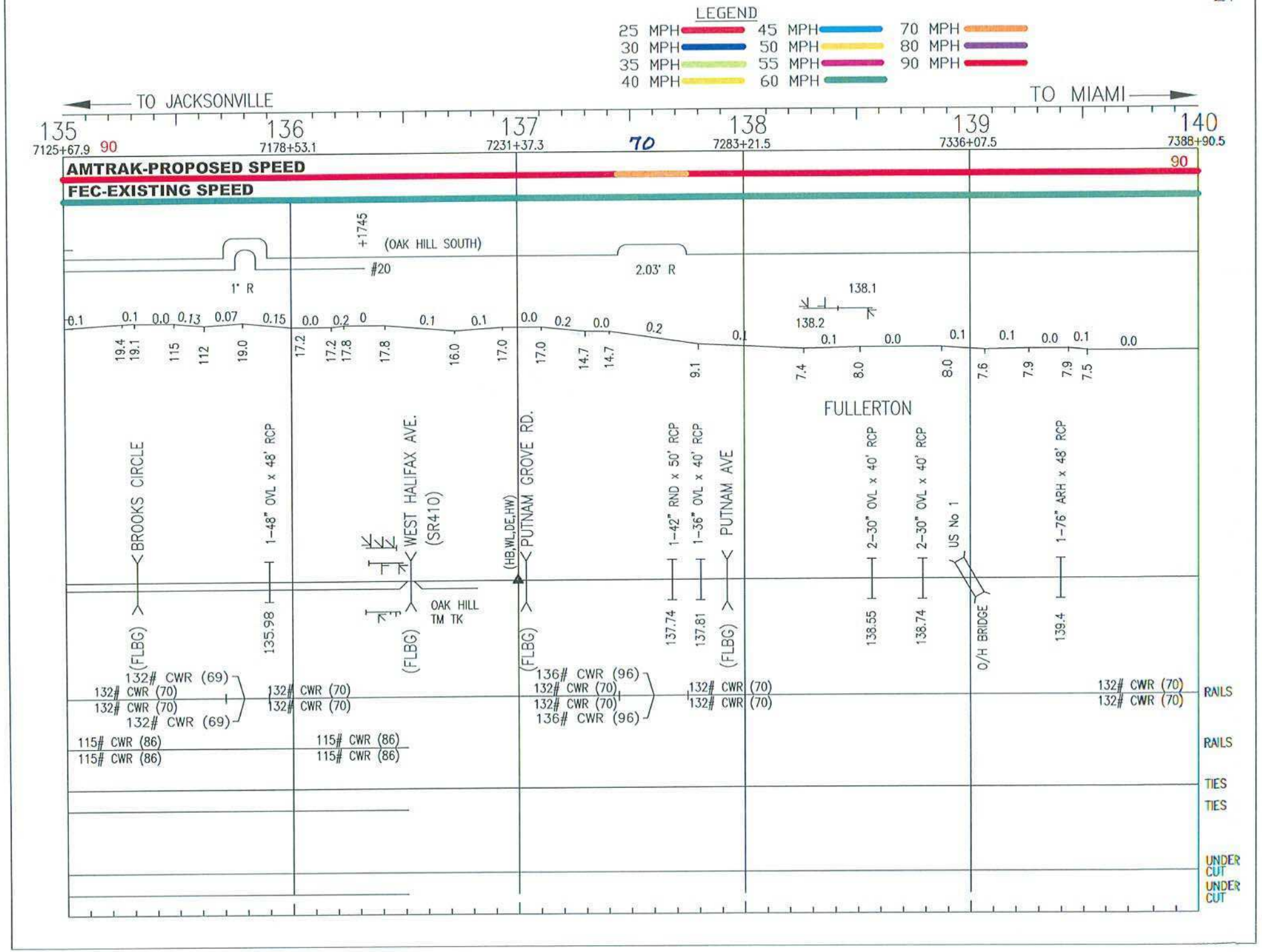

LEGEND
25 MPH
30 MPH
35 MPH
40 MPH
45 MPH
50 MPH
55 MPH
60 MPH
70 MPH
80 MPH
90 MPH
TO JACKSONVILLE
TO MIAMI
110
5804+46.5
111
5857+31.1
112
5910+16.1
113
5963+00.4
114
6015+83.6
115
6068+68.1
AMTRAK-PROPOSED SPEED
FEC-EXISTING SPEED
90
1' R
0.05
0.15
0.0
0.06
0.0
0.06
6.3
7.4
11.9
11.9
11.5
11.5
BLAKE
PORT ORANGE
LIVE OAK ST
1-12" x 36" CIP
LOOMIS ST
CEDAR ST
SOUTH ST
2-60" OVL x 36' RCP
BELLEVUE ST
FREMONT ST
WILDER BLVD (FLBG)
2-36" OVL x 40' RCP
PED.XING (SFS)
PED.XING (SFS)
BEVILLE RD
SR 400
2-36" OVL x 48' RCP
BIG TREE RD
PED.XING (SFS)
PED.XING (SFS)
RIDGE BLVD
REED CANAL RD
(FLBG)
15' x 55' WOD-BMS 1965
27' SPANS, 3 PILE CONC. PIERS
(HB,WL,DE)
CHARLES ST
HERBERT ST
DUNLAWTON AVE
1-24" OVL x 25' RCP
(CFLBG)
110.23
(FLBG)
(FLBG)
(FLBG)
110.67
(FLBG)
(FLBG)
111.38
111.6
111.5
(CFLBG)
112.47
(FLBG)
BLAKE TEAM TRACK
(FLBG)
113.2
113.1
BR 113.55
(FLBG)
(FLBG)
(CFLBG)
114.96
132# CWR (74)
132# CWR (74)
132# CWR (72)
132# CWR (74)
132# CWR (74)
132# CWR (71)
132# CWR (74)
132# CWR (74)
132# CWR (74)
132# CWR (74)
132# CWR (72)
132# CWR (72)
132# CWR (72)
132# CWR (72)
RAILS
RAILS
TIES
TIES
UNDER CUT
UNDER CUT
U.C. (03)

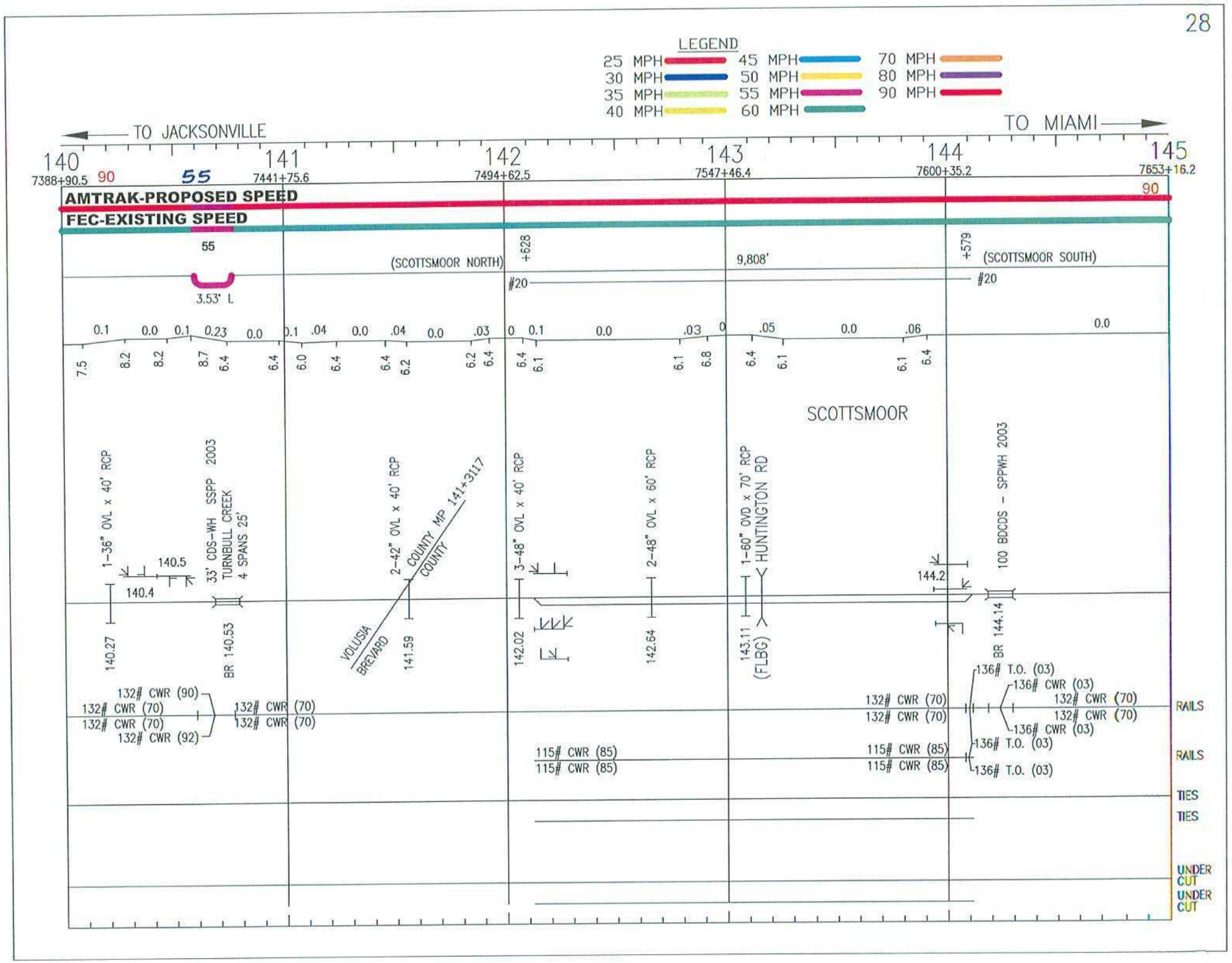

LEGEND
25 MPH
30 MPH
35 MPH
40 MPH
45 MPH
50 MPH
55 MPH
60 MPH
70 MPH
80 MPH
90 MPH
TO JACKSONVILLE
TO MIAMI
115
6068+68.1
116
6121+55.4
117
6174+41.0
118
6227+24.1
119
6280+06.9
120
6332+90.5
AMTRAK-PROPOSED SPEED
FEC-EXISTING SPEED
70
90
70
2° L
70
+1659
#20R
(SPRUCE CREEK NORTH)
+150
2° R
#20L
(SPRUCE CREEK SOUTH)
0.07
0.05
0.0
0.03
0.0
VC
0.30
0
0.03
VC
0.05
12.4
9.1
9.1
8.8
8.8
9.4
17.6
17.6
11.6
11.1
10.3
OAK ST
115.2
115.1
PORT ORANGE
TEAM TRACK
(FLBG)
COMMONWEALTH AVE.
(FLBG)
1-36" OVL x 40' RCP
116.41
NOVA RD SO.
SR-5A
(CFLBG)
11' x 125' WOD-BMS 1969
ROSE BAY
5 SPANS 25'
117.3
117.6
117.23
117.4
BR
2-48" OVL x 48' RCP
117.57
2-24" OVL x 48' RCP
118.11
118.9
119.0
118.53
118.7
19' x 300' WOD-BMS 1970
SPRUCE CREEK
12 SPAN 25'
BR 119.05
132# CWR (73)
132# CWR (73)
132# CWR (73)
132# CWR (73)
136# CWR (96)
132# CWR (73)
132# CWR (73)
136# CWR (96)
115# CWR (78)
115# CWR (78)
115# CWR (78)
115# CWR (78)
136# CWR (96)
132# CWR (73)
132# CWR (73)
136# CWR (96)
132# CWR (68)
132# CWR (68)
132# CWR (68)
132# CWR (68)
RAILS
RAILS
TIES
TIES
UNDER CUT
UNDER CUT

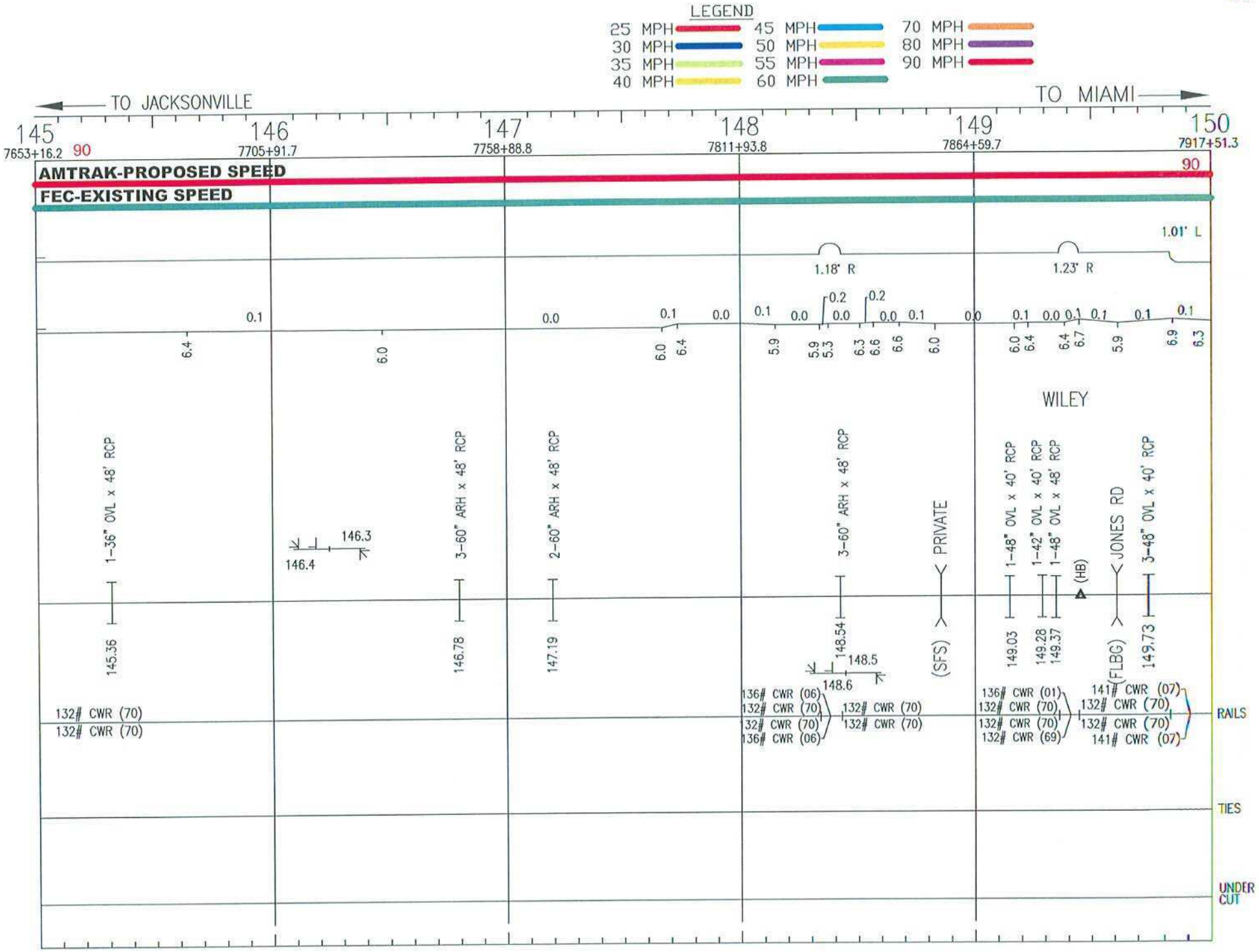

LEGEND
25 MPH
30 MPH
35 MPH
40 MPH
45 MPH
50 MPH
55 MPH
60 MPH
70 MPH
80 MPH
90 MPH
TO JACKSONVILLE
TO MIAMI
120
6332+90.5
121
6385+77.3
122
6438+64.4
123
6491+51.9
124
6544+32.1
125
6597+21.6
AMTRAK-PROPOSED SPEED
FEC-EXISTING SPEED
MEASURE MILE
3.3° L
3° L
3.38 ° R
3.30° R
1°30' R
1°30' L
#20
+3442
TURNBULL
NEW SMYRNA BEACH
TURNBULL BAY RD (FLBG)
MOONEYHAM DR.
12' x 300' COD-BMS 1980
TURNBULL BAY
12 SPAN 25'
WHISPERING PINE DR
2-48' RND x 66' RCP
FAIRGREEN AVE
ELEANOR AVE
WAYNE AVE
RONNOC LN (HB)
MARY AVE
WASHINGTON ST
JULIA ST
1-60" OVL x 54' RCP
CANAL ST
SR 44 OHH
BR 121.71
BR 123.2
124.59
124.9
RAILS
RAILS
TIES
TIES
UNDER CUT
UNDER CUT

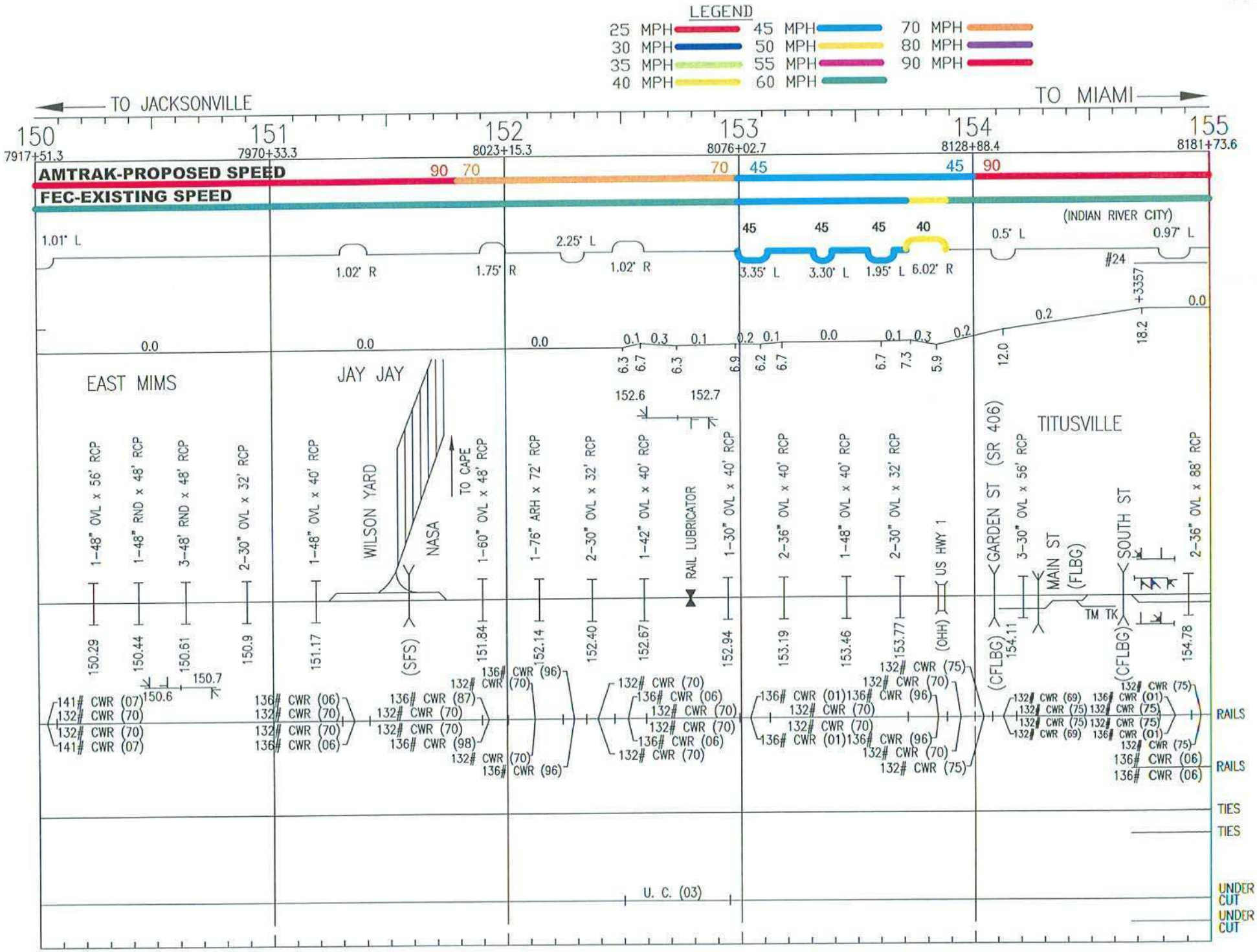

LEGEND
25 MPH
30 MPH
35 MPH
40 MPH
45 MPH
50 MPH
55 MPH
60 MPH
70 MPH
80 MPH
90 MPH
TO JACKSONVILLE
TO MIAMI
125
6597+21.6
126
6650+03.7
127
6702+91.4
128
6755+73.5
129
6808+58.7
130
6861+41.3
AMTRAK-PROPOSED SPEED
FEC-EXISTING SPEED
90
0.25° L
+4434
#20L
NEW SMYNRA SOUTH
1° R
EDGEWATER JUNCTION
EDGEWATER
10th STREET
10' x 48' WOD-TIO 1948
1-30" RND x 70' RCP
PARK AVE
OCEAN AVE
INDIAN RIVER BLVD
SR 442
26th ST
PAGE 85
NEW SMYRNA YARD
(CFLBG)
BR 126.06
129.49
(FLBG)
129.1
129.2
EDGEWATER INDUSTRIAL LEAD
132# CWR 1998
132# CWR 1998
132# CWR 19998
132# CWR 19998
132# CWR 1970
132# CWR 1970
132# CWR 1970
132# CWR (69)
132# CWR 1970
132# CWR 1970
132# CWR (69)
132# CWR 1970
115# CWR 1981
115# CWR 1981
115# CWR 1981
115# CWR 1981
RAILS
RAILS
TIES
TIES
UNDER CUT
UNDER CUT

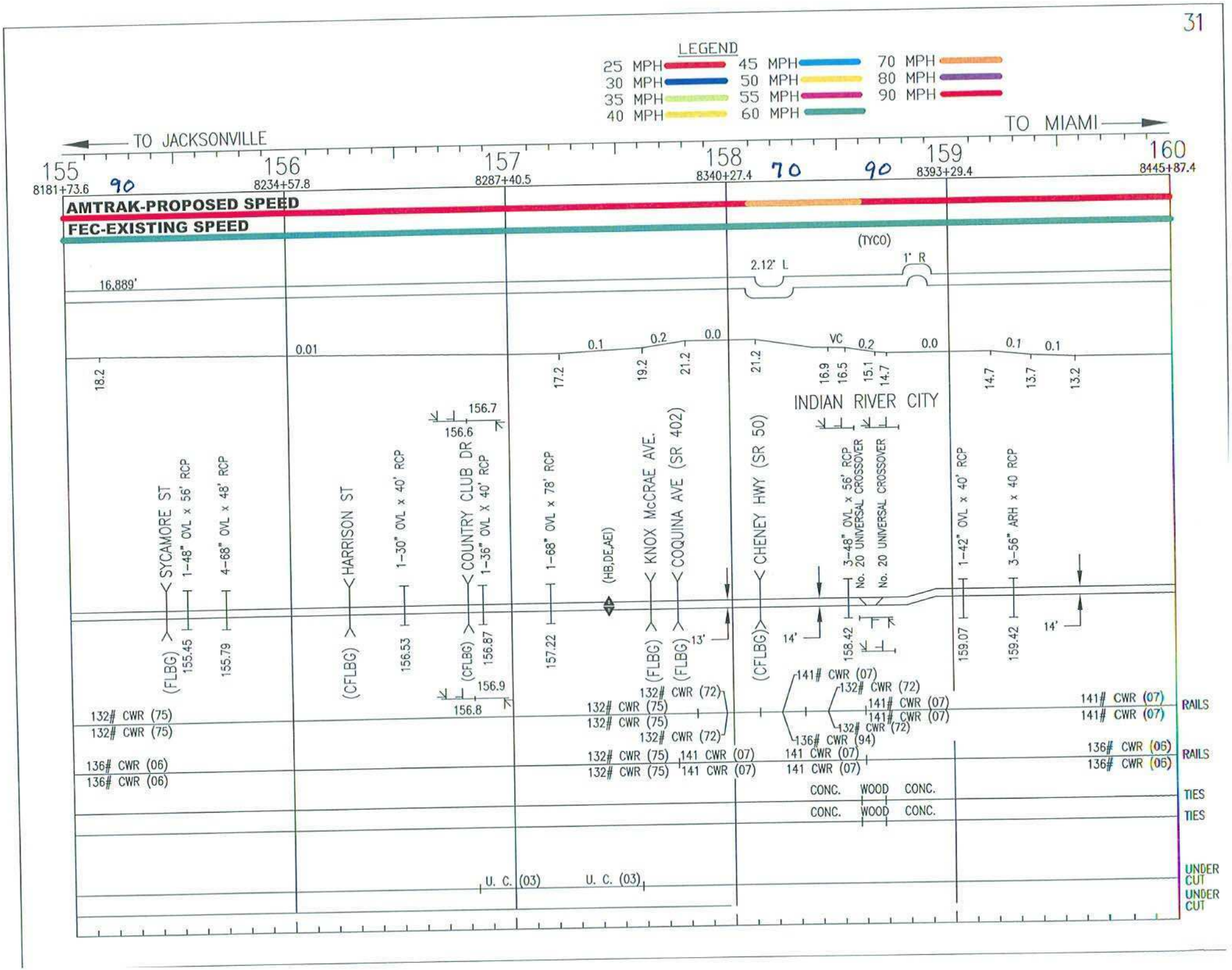

LEGEND
25 MPH
30 MPH
35 MPH
40 MPH
45 MPH
50 MPH
55 MPH
60 MPH
70 MPH
80 MPH
90 MPH
TO JACKSONVILLE
TO MIAMI
130
6861+41.3
131
6914+28.8
132
6967+14.1
133
7020+00.1
134
7072+83.4
135
7125+67.9
90
90
AMTRAK-PROPOSED SPEED
FEC-EXISTING SPEED
MEASURED MILE
1"L
+3174
#20
(OAK HILL NORTH)
HUCOMER
1-30" OVL x 40' RCP
30th ST
VOLCO RD
CEMETARY RD
1-48" OVL x 40' RCP
1-36" OVL x 40' RCP
ARIEL RD
2-24" OVL x 32, RCP
(FBLG)
130.1
131.2
131.3
133.28
133.6
133.7
133.8
134.04
132# CWR (70)
132# CWR (69)
136# T.O. (03)
115# CWR (86)
U.C. (03)
RAILS
TIES
UNDER CUT

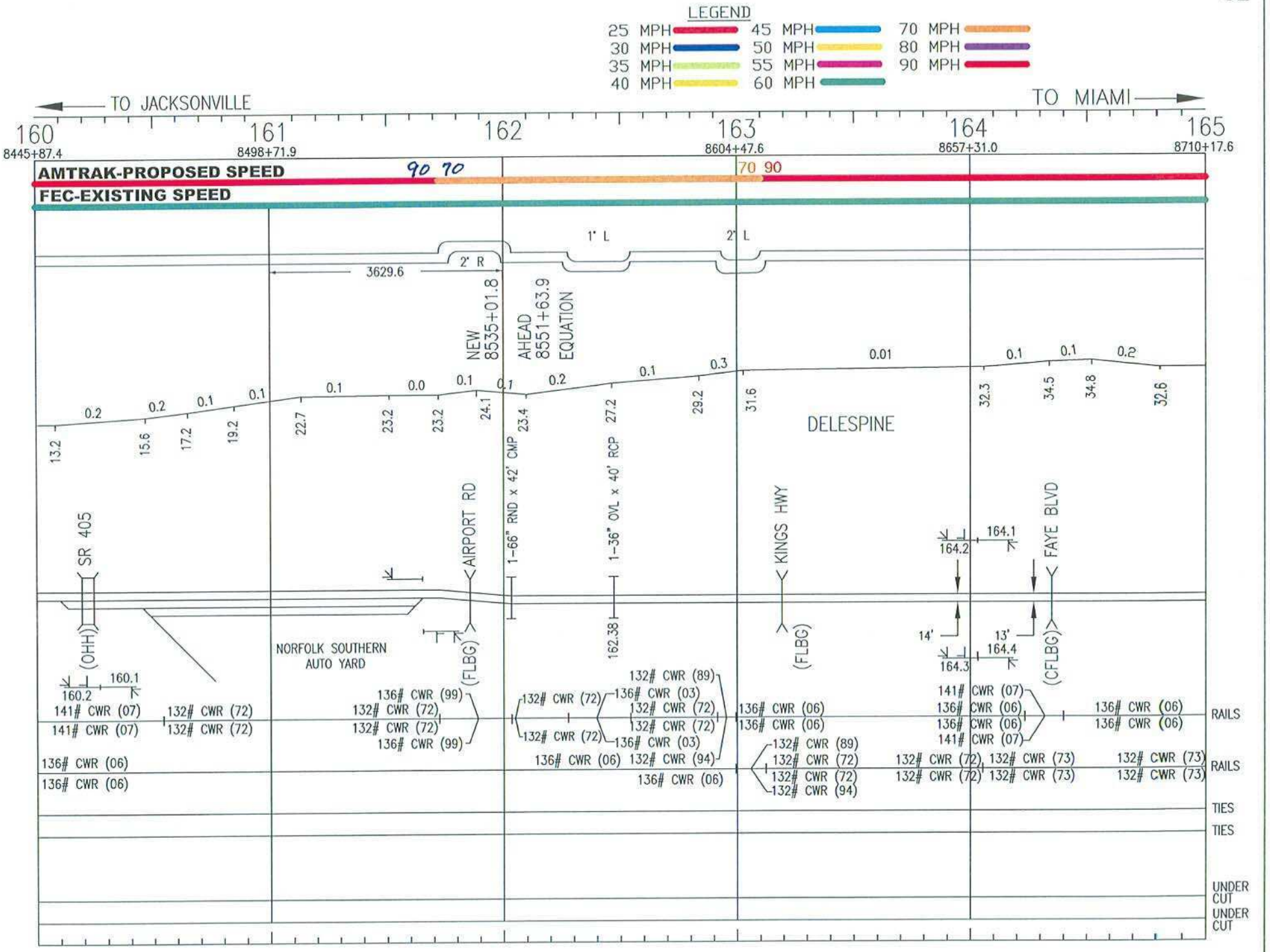

LEGEND
25 MPH
30 MPH
35 MPH
40 MPH
45 MPH
50 MPH
55 MPH
60 MPH
70 MPH
80 MPH
90 MPH
TO JACKSONVILLE
TO MIAMI
135
7125+67.9
136
7178+53.1
137
7231+37.3
138
7283+21.5
139
7336+07.5
140
7388+90.5
AMTRAK-PROPOSED SPEED
FEC-EXISTING SPEED
(OAK HILL SOUTH)
#20
1° R
2.03° R
FULLERTON
BROOKS CIRCLE
1-48" OVL x 48' RCP
WEST HALIFAX AVE. (SR410)
OAK HILL TM TK
(HB,WL,DE,HW)
PUTNAM GROVE RD.
1-42" RND x 50' RCP
1-36" OVL x 40' RCP
PUTNAM AVE
2-30" OVL x 40' RCP
2-30" OVL x 40' RCP
US No 1
O/H BRIDGE
1-76" ARH x 48' RCP
(FLBG)
135.98
137.74
137.81
138.55
138.74
139.4
132# CWR (69)
132# CWR (70)
132# CWR (70)
132# CWR (69)
132# CWR (70)
132# CWR (70)
136# CWR (96)
132# CWR (70)
132# CWR (70)
136# CWR (96)
132# CWR (70)
132# CWR (70)
132# CWR (70)
132# CWR (70)
115# CWR (86)
115# CWR (86)
115# CWR (86)
115# CWR (86)
RAILS
RAILS
TIES
TIES
UNDER CUT
UNDER CUT

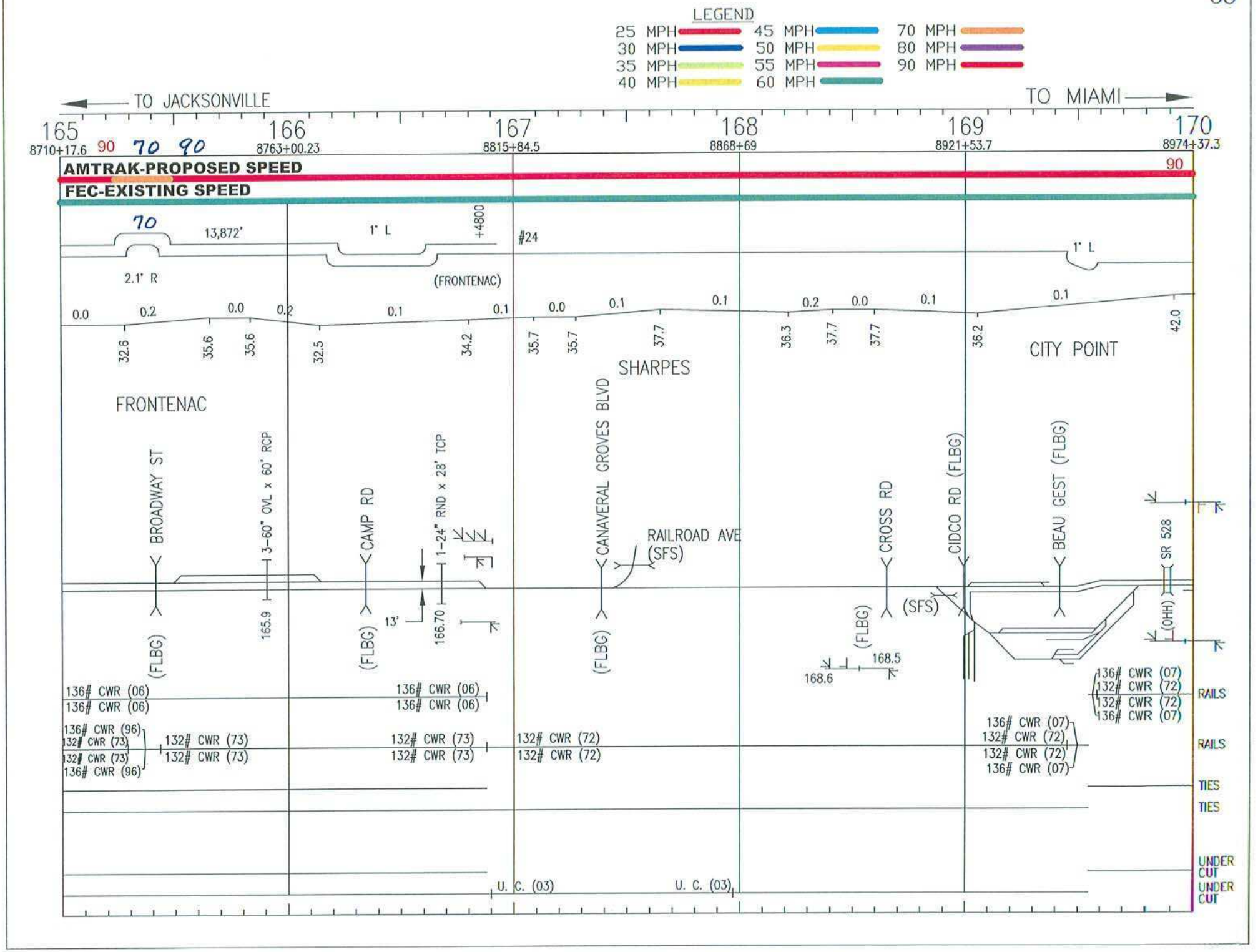

LEGEND
25 MPH
30 MPH
35 MPH
40 MPH
45 MPH
50 MPH
55 MPH
60 MPH
70 MPH
80 MPH
90 MPH
TO JACKSONVILLE
TO MIAMI
140
7388+90.5
141
7441+75.6
142
7494+62.5
143
7547+46.4
144
7600+35.2
145
7653+16.2
AMTRAK-PROPOSED SPEED
FEC-EXISTING SPEED
90
55
3.53' L
(SCOTTSMOOR NORTH)
+628
9,808'
+579
(SCOTTSMOOR SOUTH)
#20
SCOTTSMOOR
1-36" OVL x 40' RCP
140.5
140.4
140.27
33' CDS-WH SSPP 2003
TURNBULL CREEK
4 SPANS 25'
BR 140.53
2-42" OVL x 40' RCP
COUNTY MP 141+3117
VOLUSIA
BREVARD
COUNTY
141.59
3-48" OVL x 40' RCP
142.02
2-48" OVL x 60' RCP
142.64
1-60" OVD x 70' RCP
HUNTINGTON RD
143.11
(FLBG)
144.2
100 BDCDS - SPPWH 2003
BR 144.14
132# CWR (90)
132# CWR (70)
132# CWR (70)
132# CWR (92)
132# CWR (70)
132# CWR (70)
115# CWR (85)
115# CWR (85)
136# T.O. (03)
136# CWR (03)
RAILS
RAILS
TIES
TIES
UNDER CUT
UNDER CUT

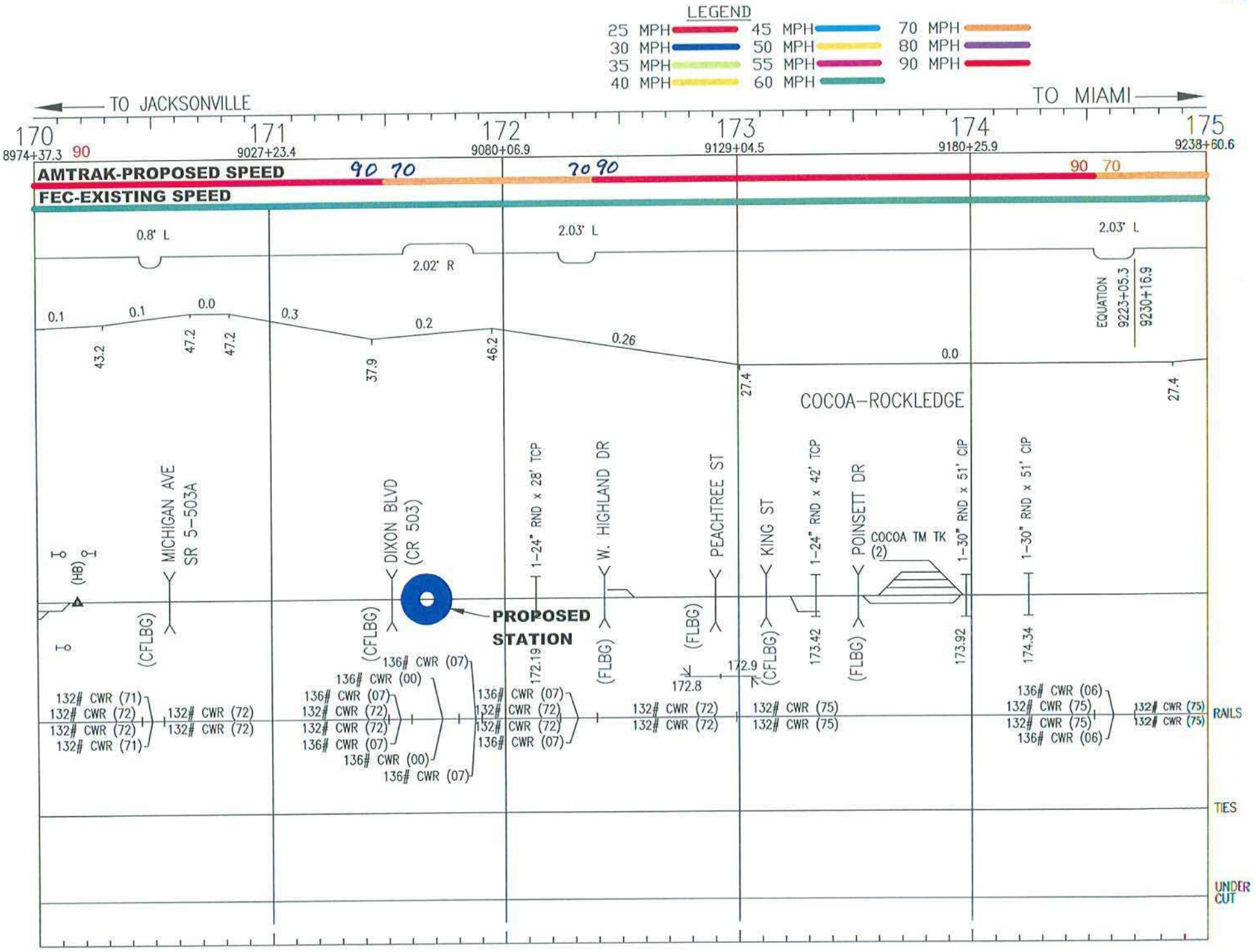

LEGEND
25 MPH
30 MPH
35 MPH
40 MPH
45 MPH
50 MPH
55 MPH
60 MPH
70 MPH
80 MPH
90 MPH
TO JACKSONVILLE
TO MIAMI
145
7653+16.2
146
7705+91.7
147
7758+88.8
148
7811+93.8
149
7864+59.7
150
7917+51.3
90
AMTRAK-PROPOSED SPEED
FEC-EXISTING SPEED
1.01° L
1.18° R
1.23° R
WILEY
1-36" OVL x 48' RCP
3-60" ARH x 48' RCP
2-60" ARH x 48' RCP
3-60" ARH x 48' RCP
PRIVATE
(SFS)
1-48" OVL x 40' RCP
1-42" OVL x 40' RCP
1-48" OVL x 48' RCP
(HB)
JONES RD
(FLBG)
3-48" OVL x 40' RCP
145.36
146.4
146.3
146.78
147.19
148.54
148.5
148.6
149.03
149.28
149.37
149.73
132# CWR (70)
132# CWR (70)
136# CWR (06)
132# CWR (70)
132# CWR (70)
136# CWR (06)
132# CWR (70)
132# CWR (70)
136# CWR (01)
132# CWR (70)
132# CWR (70)
132# CWR (69)
141# CWR (07)
132# CWR (70)
132# CWR (70)
141# CWR (07)
RAILS
TIES
UNDER CUT

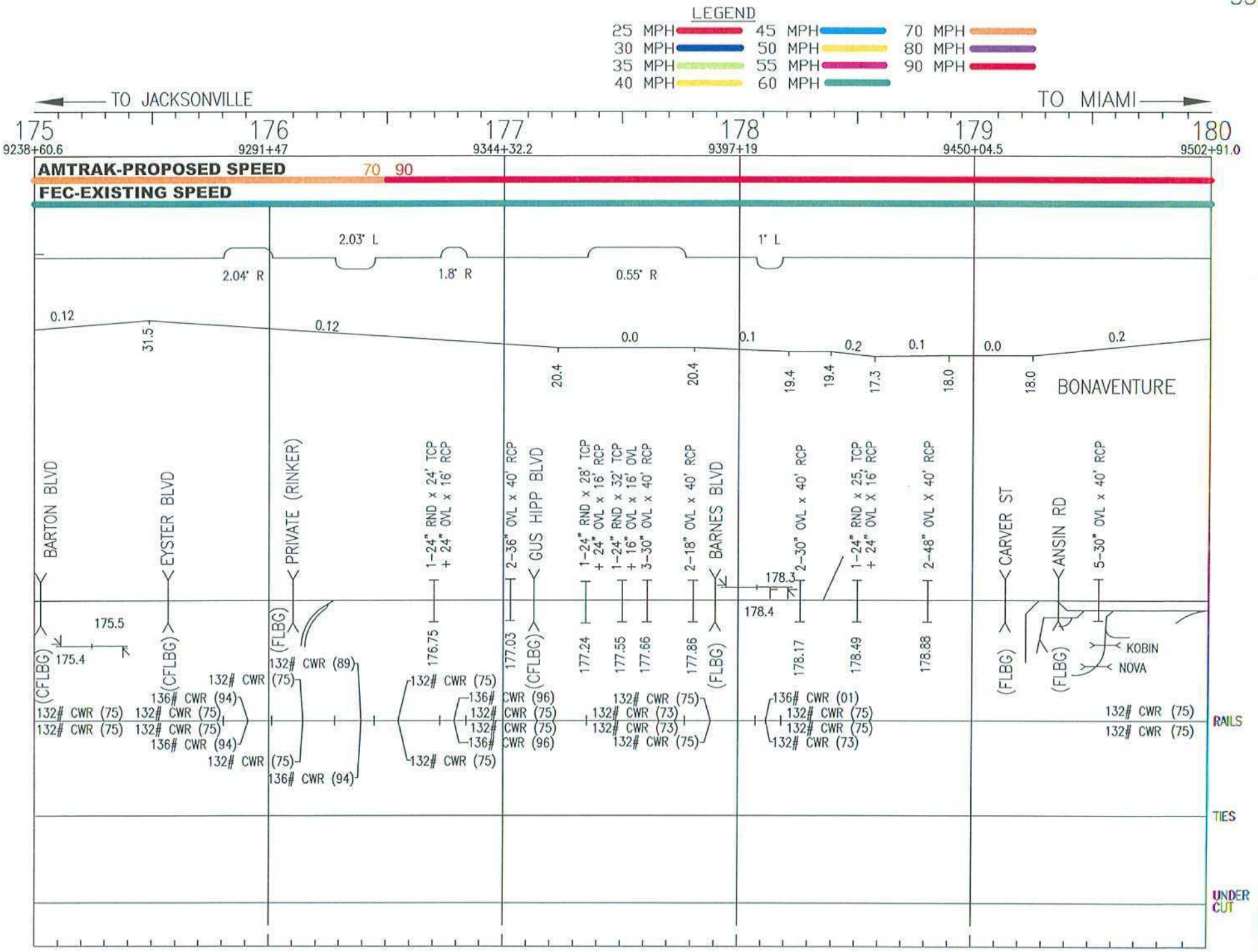

LEGEND
25 MPH
30 MPH
35 MPH
40 MPH
45 MPH
50 MPH
55 MPH
60 MPH
70 MPH
80 MPH
90 MPH
TO JACKSONVILLE
TO MIAMI
150
7917+51.3
151
7970+33.3
152
8023+15.3
153
8076+02.7
154
8128+88.4
155
8181+73.6
AMTRAK-PROPOSED SPEED
FEC-EXISTING SPEED
(INDIAN RIVER CITY)
EAST MIMS
JAY JAY
WILSON YARD
NASA
TO CAPE
RAIL LUBRICATOR
TITUSVILLE
GARDEN ST (SR 406)
MAIN ST (FLBG)
SOUTH ST
US HWY 1
TM TK
U. C. (03)
RAILS
RAILS
TIES
TIES
UNDER CUT
UNDER CUT

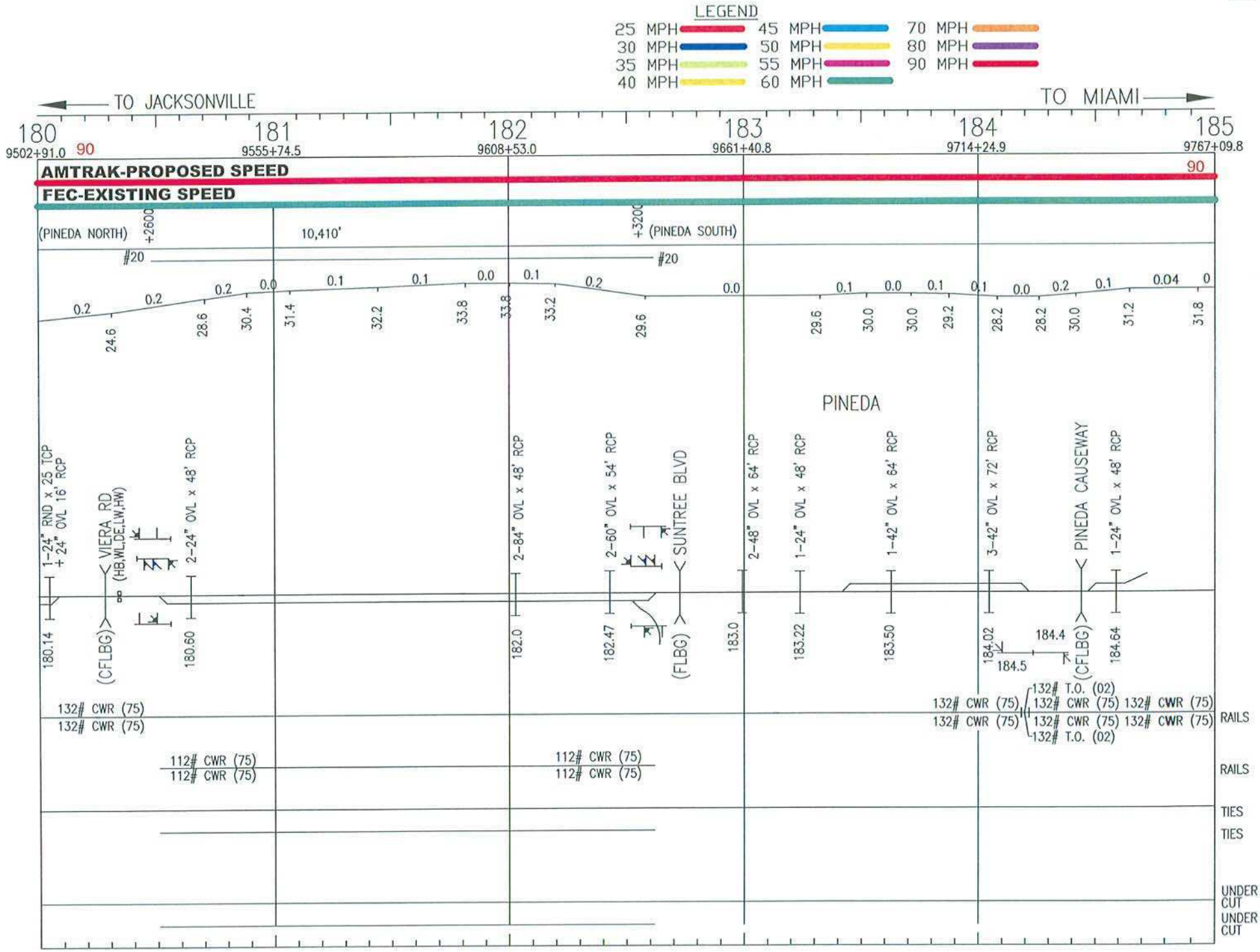

LEGEND
25 MPH
30 MPH
35 MPH
40 MPH
45 MPH
50 MPH
55 MPH
60 MPH
70 MPH
80 MPH
90 MPH
TO JACKSONVILLE
TO MIAMI
155
8181+73.6
156
8234+57.8
157
8287+40.5
158
8340+27.4
159
8393+29.4
160
8445+87.4
90
70
90
AMTRAK-PROPOSED SPEED
FEC-EXISTING SPEED
(TYCO)
2.12° L
1° R
16,889'
0.01
0.1
0.2
0.0
VC
0.2
0.0
0.1
0.1
18.2
17.2
19.2
21.2
21.2
16.9
16.5
15.1
14.7
14.7
13.7
13.2
INDIAN RIVER CITY
SYCAMORE ST
1-48" OVL x 56' RCP
4-68" OVL x 48' RCP
HARRISON ST
1-30" OVL x 40' RCP
COUNTRY CLUB DR
1-36" OVL X 40' RCP
1-68" OVL x 78' RCP
(HB,DE,AEI)
KNOX McCRAE AVE.
COQUINA AVE (SR 402)
CHENEY HWY (SR 50)
3-48" OVL x 56' RCP
No. 20 UNIVERSAL CROSSOVER
No. 20 UNIVERSAL CROSSOVER
1-42" OVL x 40' RCP
3-56" ARH x 40 RCP
(FLBG)
155.45
155.79
(CFLBG)
156.53
156.7
156.6
(CFLBG)
156.87
156.9
156.8
157.22
(FLBG)
(FLBG)
13'
(CFLBG)
14'
158.42
159.07
159.42
14'
132# CWR (75)
132# CWR (75)
136# CWR (06)
136# CWR (06)
132# CWR (72)
132# CWR (75)
132# CWR (75)
132# CWR (72)
132# CWR (75)
132# CWR (75)
141 CWR (07)
141 CWR (07)
141# CWR (07)
132# CWR (72)
141# CWR (07)
141# CWR (07)
132# CWR (72)
136# CWR (94)
141 CWR (07)
141 CWR (07)
141# CWR (07)
141# CWR (07)
136# CWR (06)
136# CWR (06)
CONC.
WOOD
CONC.
CONC.
WOOD
CONC.
U. C. (03)
U. C. (03)
RAILS
RAILS
TIES
TIES
UNDER CUT
UNDER CUT

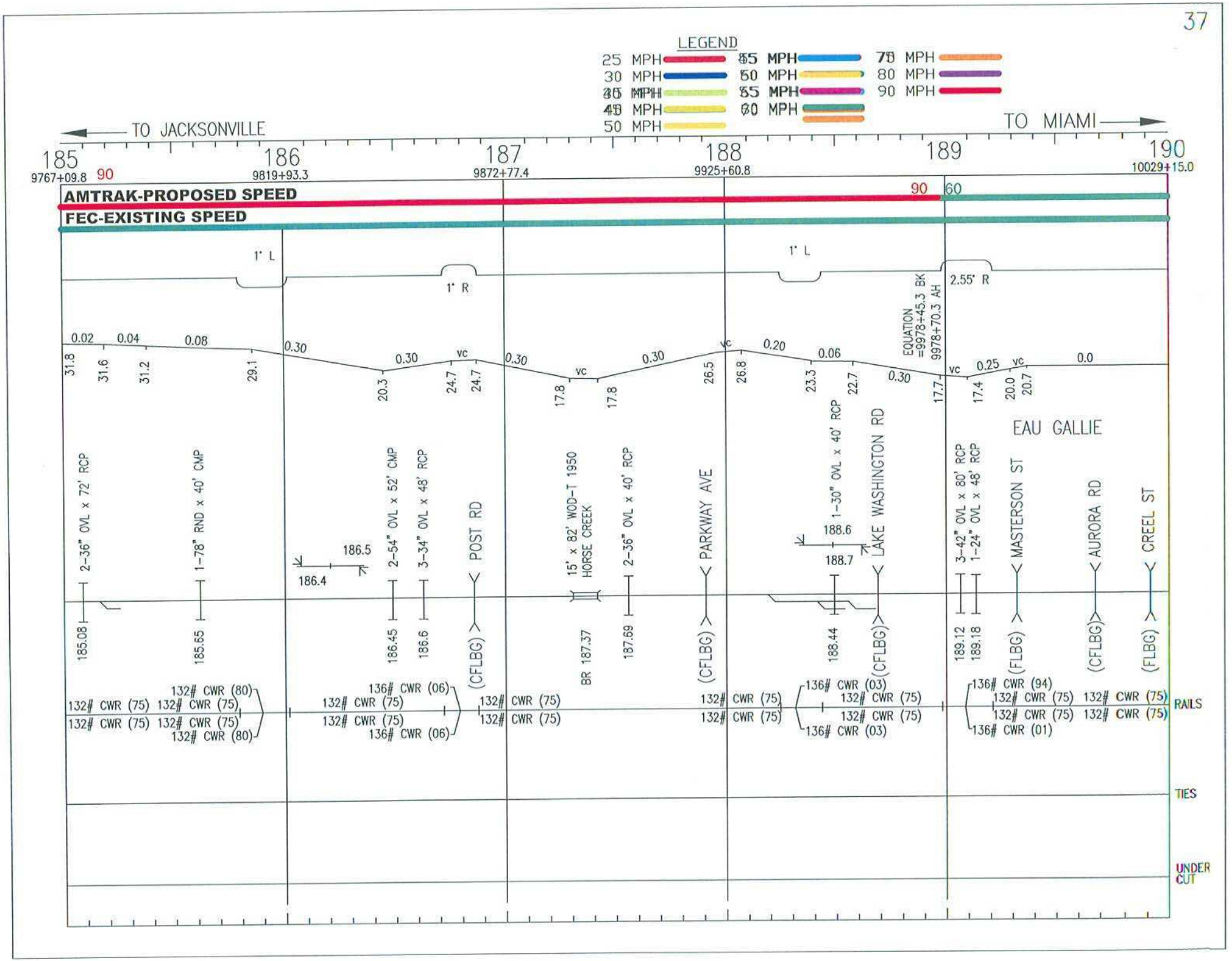

LEGEND
25 MPH
30 MPH
35 MPH
40 MPH
45 MPH
50 MPH
55 MPH
60 MPH
70 MPH
80 MPH
90 MPH
TO JACKSONVILLE
TO MIAMI
160
8445+87.4
161
8498+71.9
162
163
8604+47.6
164
8657+31.0
165
8710+17.6
AMTRAK-PROPOSED SPEED
90 70
70 90
FEC-EXISTING SPEED
1° L
2° L
2° R
3629.6
NEW 8535+01.8
AHEAD 8551+63.9 EQUATION
DELESPINE
SR 405
(OHH)
AIRPORT RD
(FLBG)
1-66" RND x 42' CMP
1-36" OVL x 40' RCP
KINGS HWY
(FLBG)
FAYE BLVD
(CFLBG)
NORFOLK SOUTHERN AUTO YARD
162.38
160.2
160.1
164.2
164.1
164.3
164.4
14'
13'
141# CWR (07)
132# CWR (72)
136# CWR (99)
132# CWR (89)
136# CWR (03)
136# CWR (06)
132# CWR (94)
132# CWR (73)
RAILS
RAILS
TIES
TIES
UNDER CUT
UNDER CUT

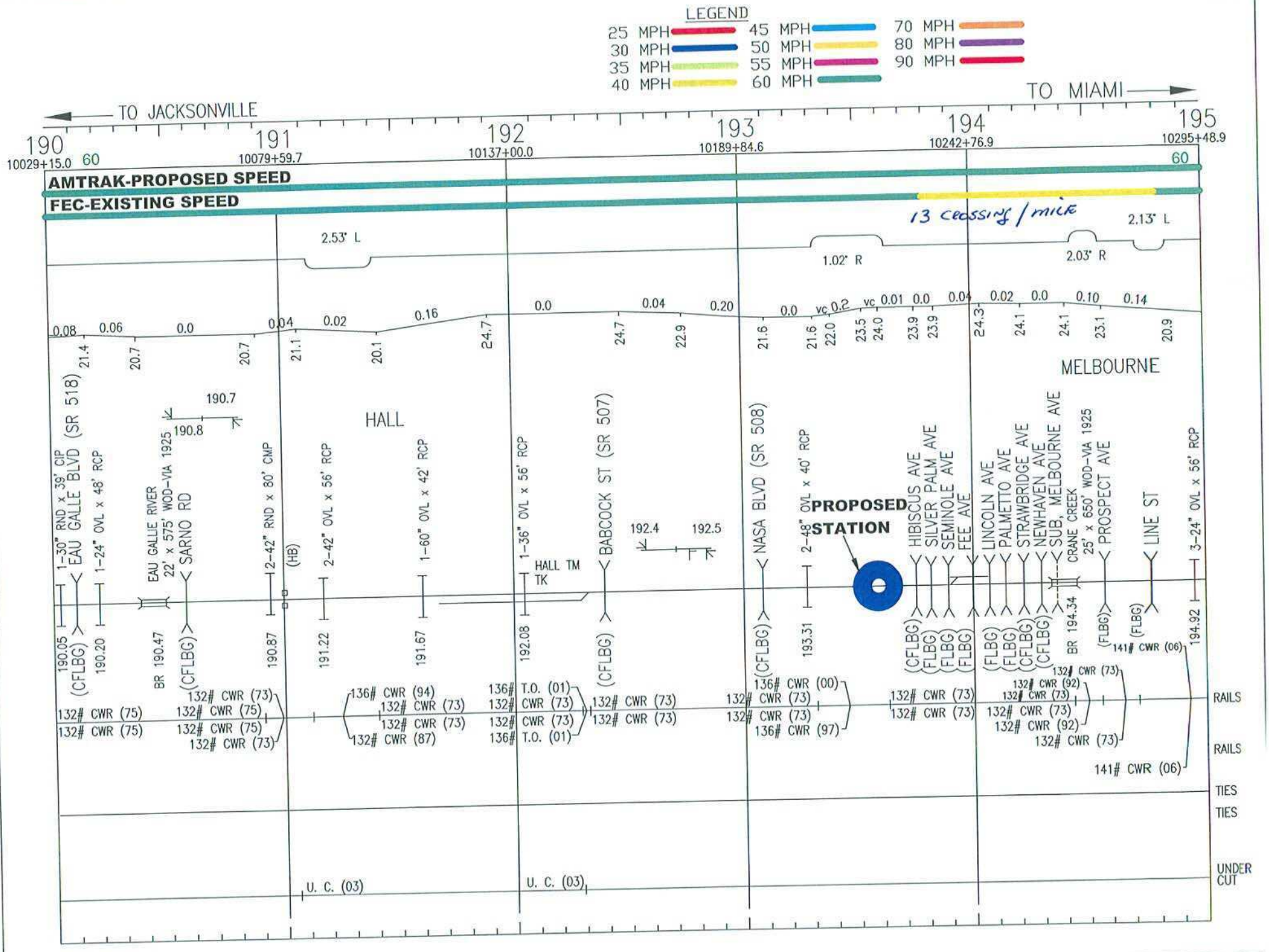

LEGEND
25 MPH
30 MPH
35 MPH
40 MPH
45 MPH
50 MPH
55 MPH
60 MPH
70 MPH
80 MPH
90 MPH
TO JACKSONVILLE
TO MIAMI
165
8710+17.6
166
8763+00.23
167
8815+84.5
168
8868+69
169
8921+53.7
170
8974+37.3
AMTRAK-PROPOSED SPEED
FEC-EXISTING SPEED
90
70
90
70
13,872'
1° L
+4800
#24
2.1° R
(FRONTENAC)
1° L
FRONTENAC
SHARPES
CITY POINT
BROADWAY ST
3-60" OVL x 60' RCP
CAMP RD
1-24" RND x 28' TCP
CANAVERAL GROVES BLVD
RAILROAD AVE
(SFS)
CROSS RD
CIDCO RD (FLBG)
BEAU GEST (FLBG)
SR 528
(OHH)
(FLBG)
13'
166.70
165.9
168.5
168.6
136# CWR (06)
136# CWR (06)
136# CWR (96)
132# CWR (73)
132# CWR (73)
136# CWR (96)
132# CWR (73)
132# CWR (73)
132# CWR (72)
132# CWR (72)
136# CWR (07)
132# CWR (72)
132# CWR (72)
136# CWR (07)
RAILS
RAILS
TIES
TIES
UNDER CUT
UNDER CUT
U. C. (03)
U. C. (03)

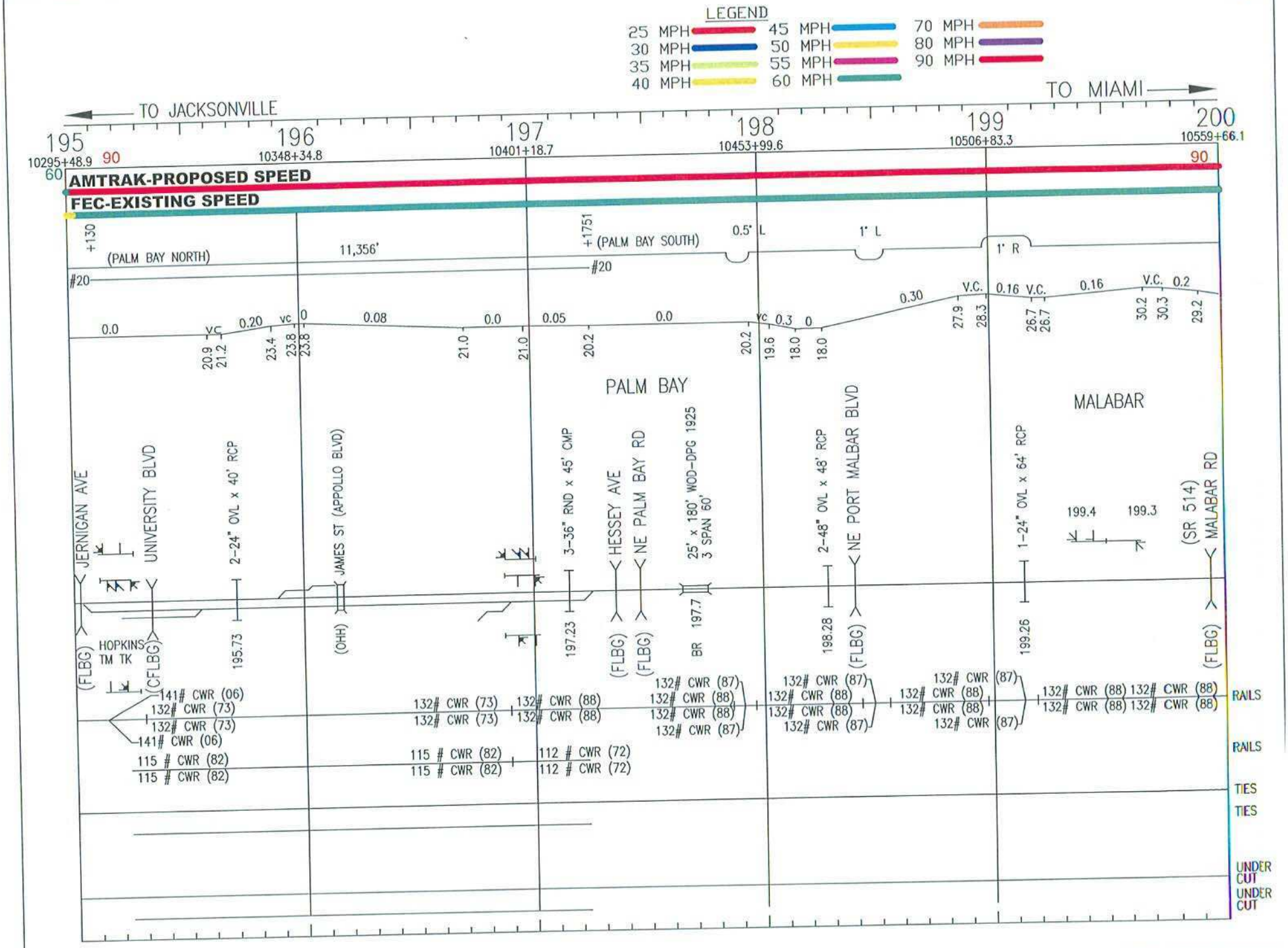

LEGEND
25 MPH
30 MPH
35 MPH
40 MPH
45 MPH
50 MPH
55 MPH
60 MPH
70 MPH
80 MPH
90 MPH
TO JACKSONVILLE
TO MIAMI
170
8974+37.3
171
9027+23.4
172
9080+06.9
173
9129+04.5
174
9180+25.9
175
9238+60.6
AMTRAK-PROPOSED SPEED
FEC-EXISTING SPEED
90 70
70 90
90 70
0.8° L
2.02° R
2.03° L
2.03° L
EQUATION
9223+05.3
9230+16.9
0.1
0.1
0.0
0.3
0.2
0.26
0.0
43.2
47.2
47.2
37.9
46.2
27.4
27.4
COCOA-ROCKLEDGE
MICHIGAN AVE
SR 5-503A
DIXON BLVD
(CR 503)
1-24" RND x 28' TCP
W. HIGHLAND DR
PEACHTREE ST
KING ST
1-24" RND x 42' TCP
POINSETT DR
COCOA TM TK
(2)
1-30" RND x 51' CIP
1-30" RND x 51' CIP
(HB)
(CFLBG)
(CFLBG)
PROPOSED
STATION
(FLBG)
(FLBG)
(CFLBG)
(FLBG)
172.19
172.8
172.9
173.42
173.92
174.34
132# CWR (71)
132# CWR (72)
132# CWR (72)
132# CWR (71)
132# CWR (72)
132# CWR (72)
136# CWR (07)
136# CWR (00)
136# CWR (07)
132# CWR (72)
132# CWR (72)
136# CWR (07)
136# CWR (00)
136# CWR (07)
136# CWR (07)
132# CWR (72)
132# CWR (72)
136# CWR (07)
132# CWR (72)
132# CWR (72)
132# CWR (75)
132# CWR (75)
136# CWR (06)
132# CWR (75)
132# CWR (75)
136# CWR (06)
132# CWR (75)
132# CWR (75)
RAILS
TIES
UNDER CUT

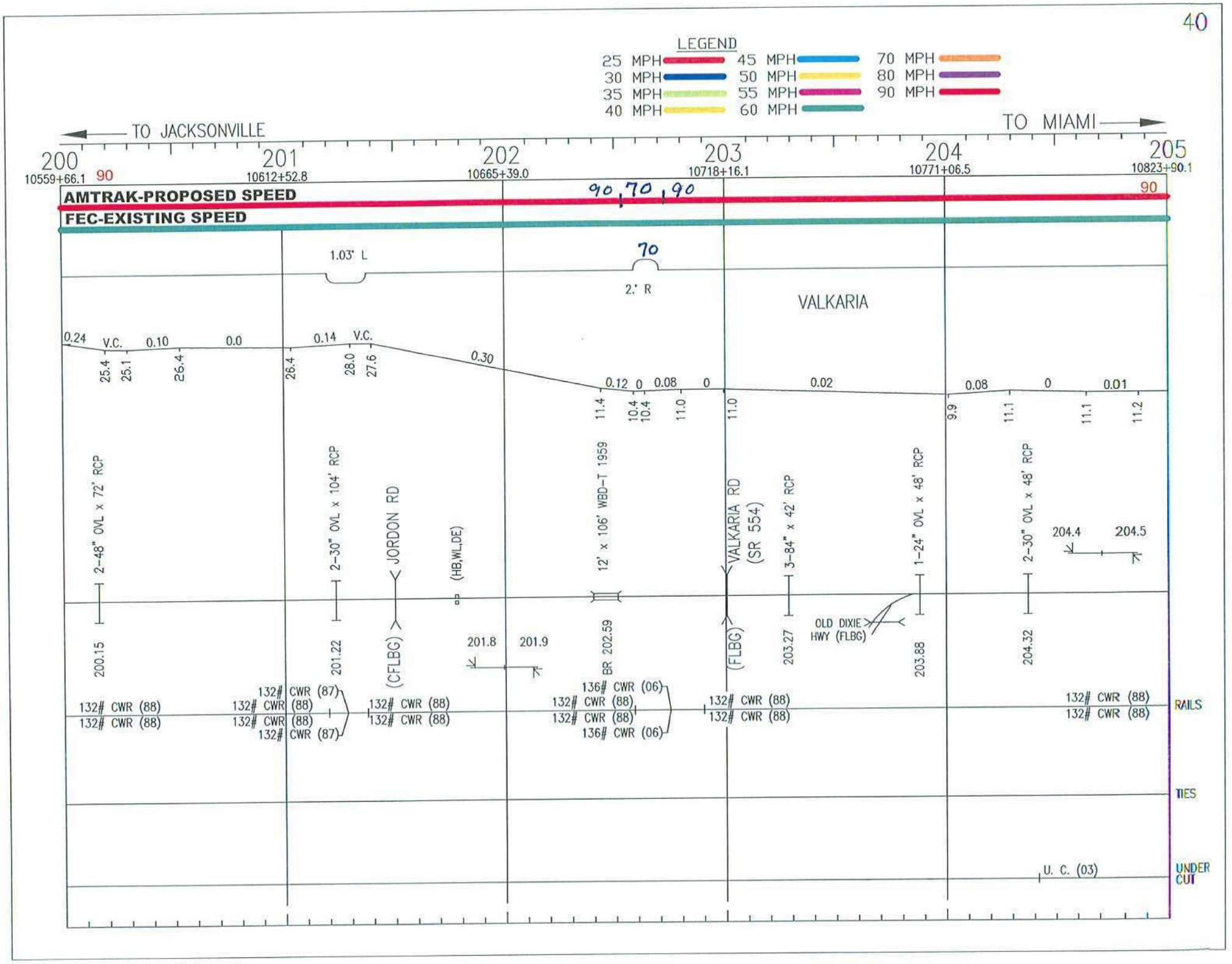

LEGEND
25 MPH
30 MPH
35 MPH
40 MPH
45 MPH
50 MPH
55 MPH
60 MPH
70 MPH
80 MPH
90 MPH
TO JACKSONVILLE
TO MIAMI
175
9238+60.6
176
9291+47
177
9344+32.2
178
9397+19
179
9450+04.5
180
9502+91.0
AMTRAK-PROPOSED SPEED
70
90
FEC-EXISTING SPEED
2.03° L
2.04° R
1.8° R
0.55° R
1° L
0.12
31.5
0.12
0.0
0.1
0.2
0.1
0.0
0.2
20.4
20.4
19.4
19.4
17.3
18.0
18.0
BONAVENTURE
BARTON BLVD
EYSTER BLVD
PRIVATE (RINKER)
1-24" RND x 24' TCP + 24" OVL x 16' RCP
2-36" OVL x 40' RCP
GUS HIPP BLVD
1-24" RND x 28' TCP + 24" OVL x 16' RCP
1-24" RND x 32' TCP + 16' OVL x 16' OVL
3-30" OVL x 40' RCP
2-18" OVL x 40' RCP
BARNES BLVD
2-30" OVL x 40' RCP
1-24" RND x 25' TCP + 24" OVL x 16' RCP
2-48" OVL x 40' RCP
CARVER ST
ANSIN RD
5-30" OVL x 40' RCP
178.3
178.4
175.5
175.4
(CFLBG)
(CFLBG)
(FLBG)
176.75
177.03
(CFLBG)
177.24
177.55
177.66
177.86
(FLBG)
178.17
178.49
178.88
(FLBG)
(FLBG)
KOBIN
NOVA
132# CWR (75)
132# CWR (75)
136# CWR (94)
132# CWR (75)
132# CWR (75)
136# CWR (94)
132# CWR (75)
132# CWR (89)
132# CWR (75)
136# CWR (94)
132# CWR (75)
132# CWR (75)
136# CWR (96)
132# CWR (75)
132# CWR (75)
136# CWR (96)
132# CWR (75)
132# CWR (73)
132# CWR (73)
132# CWR (75)
136# CWR (01)
132# CWR (75)
132# CWR (75)
132# CWR (73)
132# CWR (75)
132# CWR (75)
RAILS
TIES
UNDER CUT

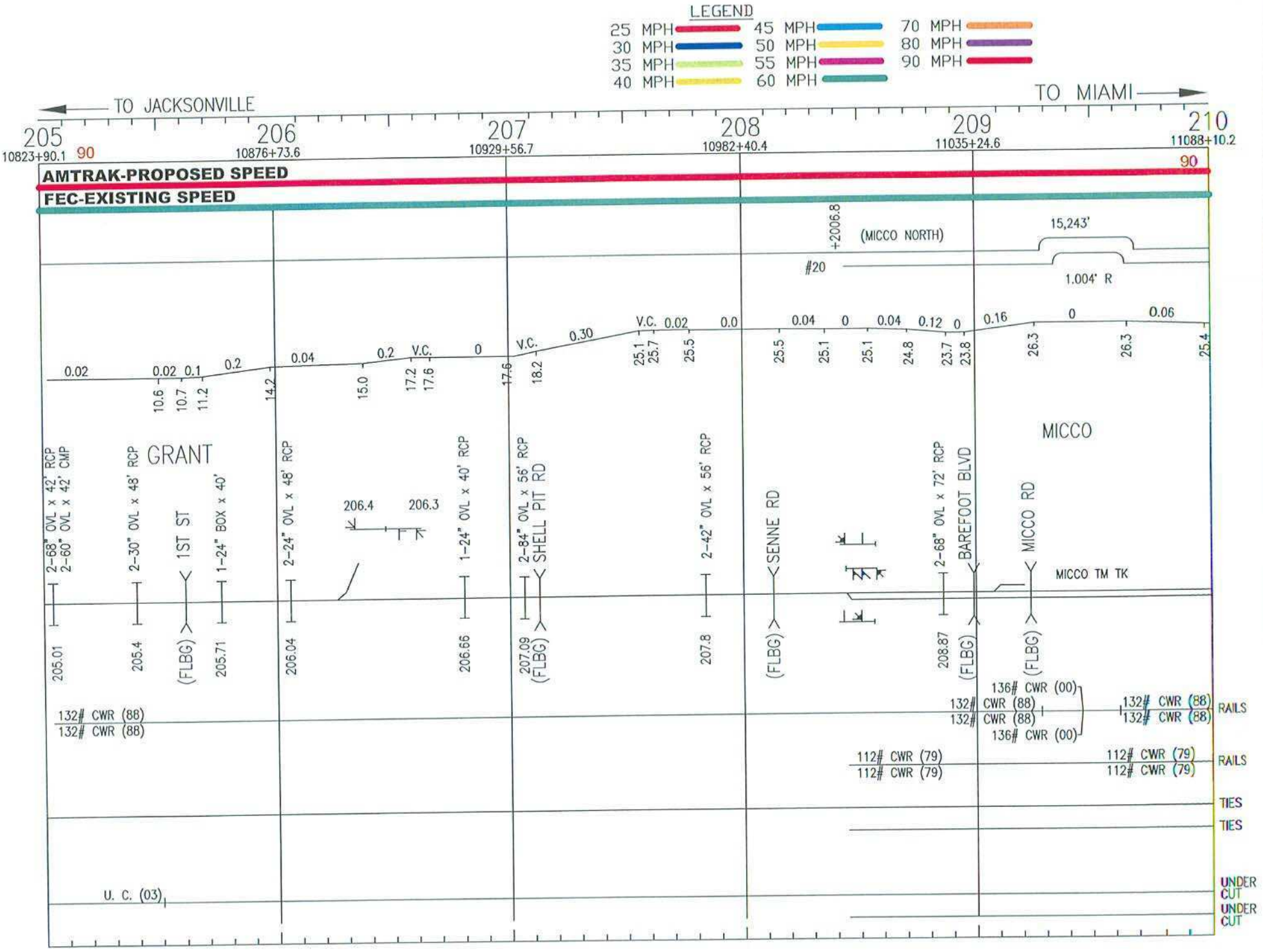

LEGEND
25 MPH
30 MPH
35 MPH
40 MPH
45 MPH
50 MPH
55 MPH
60 MPH
70 MPH
80 MPH
90 MPH
TO JACKSONVILLE
TO MIAMI
180
9502+91.0
181
9555+74.5
182
9608+53.0
183
9661+40.8
184
9714+24.9
185
9767+09.8
90
AMTRAK-PROPOSED SPEED
FEC-EXISTING SPEED
(PINEDA NORTH)
+2600
10,410'
+3200
(PINEDA SOUTH)
#20
#20
0.2
0.2
0.2
0.0
0.1
0.1
0.0
0.1
0.2
0.0
0.1
0.0
0.1
0.1
0.0
0.2
0.1
0.04
0
24.6
28.6
30.4
31.4
32.2
33.8
33.8
33.2
29.6
29.6
30.0
30.0
29.2
28.2
28.2
30.0
31.2
31.8
PINEDA
1-24" RND x 25 TCP
+ 24" OVL 16' RCP
VIERA RD
(HB,WL,DE,LW,HW)
2-24" OVL x 48' RCP
2-84" OVL x 48' RCP
2-60" OVL x 54' RCP
SUNTREE BLVD
2-48" OVL x 64' RCP
1-24" OVL x 48' RCP
1-42" OVL x 64' RCP
3-42" OVL x 72' RCP
PINEDA CAUSEWAY
1-24" OVL x 48' RCP
180.14
(CFLBG)
180.60
182.0
182.47
(FLBG)
183.0
183.22
183.50
184.02
184.5
184.4
(CFLBG)
184.64
132# CWR (75)
132# CWR (75)
112# CWR (75)
112# CWR (75)
112# CWR (75)
112# CWR (75)
132# T.O. (02)
132# CWR (75)
132# CWR (75)
132# CWR (75)
132# CWR (75)
132# CWR (75)
132# CWR (75)
132# T.O. (02)
RAILS
RAILS
TIES
TIES
UNDER CUT
UNDER CUT

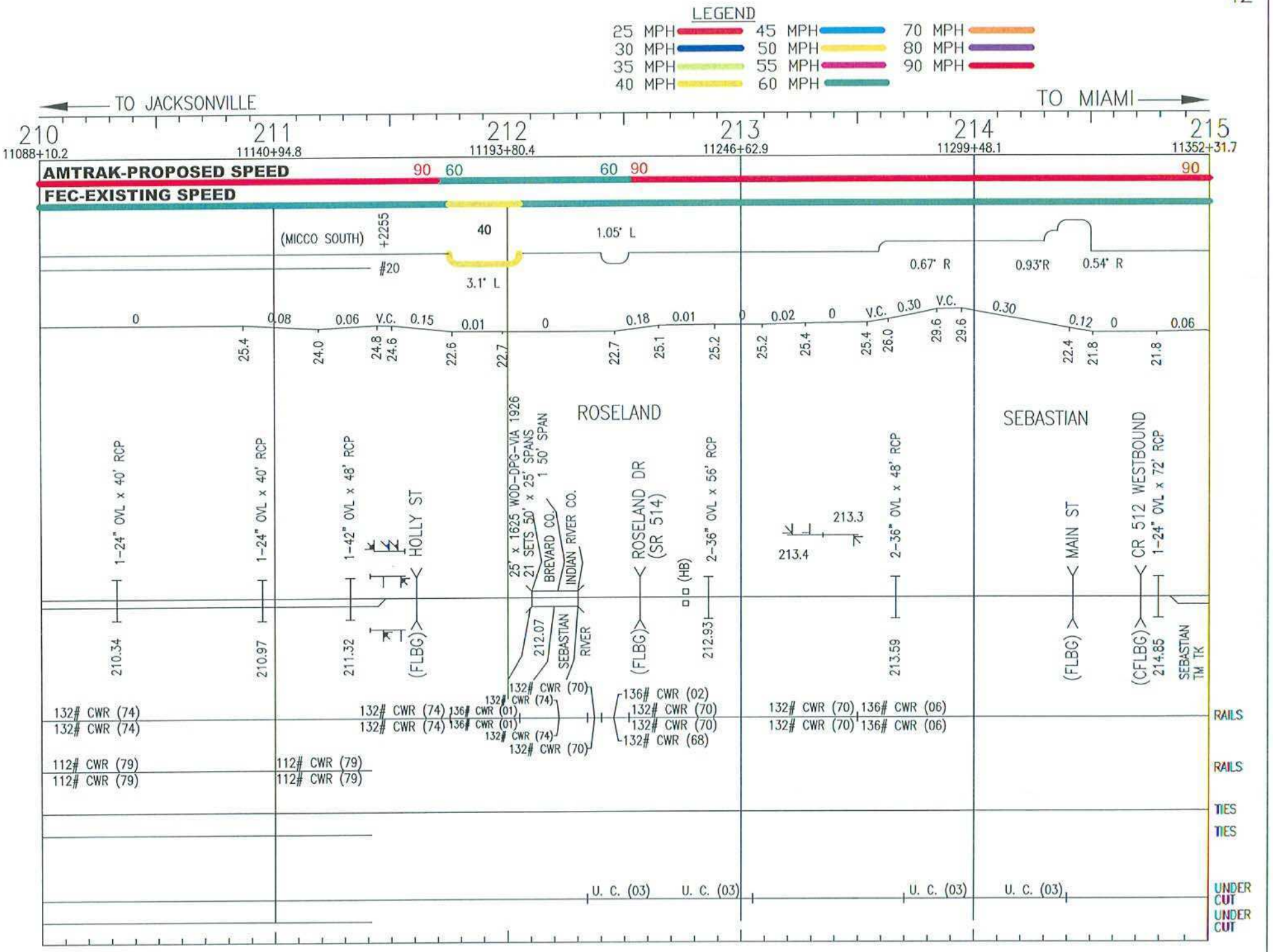

LEGEND
25 MPH
30 MPH
35 MPH
40 MPH
50 MPH
55 MPH
60 MPH
65 MPH
70 MPH
75 MPH
80 MPH
90 MPH
TO JACKSONVILLE
TO MIAMI
185
9767+09.8
186
9819+93.3
187
9872+77.4
188
9925+60.8
189
190
10029+15.0
AMTRAK-PROPOSED SPEED
FEC-EXISTING SPEED
90
60
1° L
1° R
1° L
2.55° R
EQUATION
=9978+45.3 BK
9978+70.3 AH
0.02
0.04
0.08
0.30
0.30
0.30
0.30
0.20
0.06
0.30
0.25
0.0
vc
31.8
31.6
31.2
29.1
20.3
24.7
24.7
17.8
17.8
26.5
26.8
23.3
22.7
17.7
17.4
20.0
20.7
2-36" OVL x 72' RCP
1-78" RND x 40' CMP
186.5
186.4
2-54" OVL x 52' CMP
3-34" OVL x 48' RCP
POST RD
15' x 82' WOD-T 1950
HORSE CREEK
2-36" OVL x 40' RCP
PARKWAY AVE
1-30" OVL x 40' RCP
188.6
188.7
LAKE WASHINGTON RD
3-42" OVL x 80' RCP
1-24" OVL x 48' RCP
EAU GALLIE
MASTERSON ST
AURORA RD
CREEL ST
185.08
185.65
186.45
186.6
(CFLBG)
BR 187.37
187.69
(CFLBG)
188.44
(CFLBG)
189.12
189.18
(FLBG)
(CFLBG)
(FLBG)
132# CWR (75)
132# CWR (80)
132# CWR (75)
132# CWR (75)
132# CWR (75)
132# CWR (80)
136# CWR (06)
132# CWR (75)
132# CWR (75)
136# CWR (06)
132# CWR (75)
132# CWR (75)
132# CWR (75)
132# CWR (75)
136# CWR (03)
132# CWR (75)
132# CWR (75)
136# CWR (03)
136# CWR (94)
132# CWR (75)
132# CWR (75)
136# CWR (01)
132# CWR (75)
132# CWR (75)
RAILS
TIES
UNDER CUT

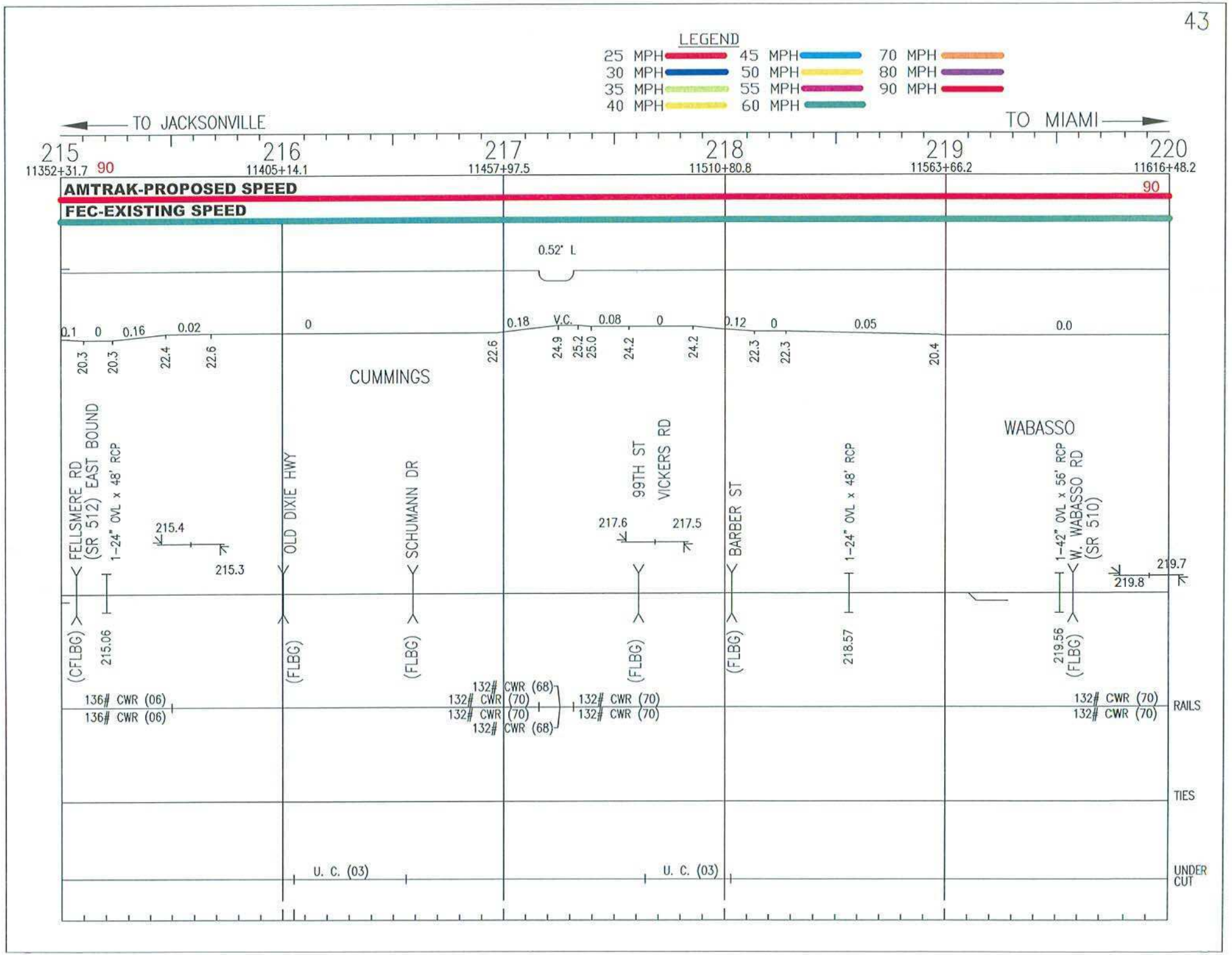

LEGEND
25 MPH
30 MPH
35 MPH
40 MPH
45 MPH
50 MPH
55 MPH
60 MPH
70 MPH
80 MPH
90 MPH
TO JACKSONVILLE
TO MIAMI
190
191
192
193
194
195
10029+15.0
10079+59.7
10137+00.0
10189+84.6
10242+76.9
10295+48.9
AMTRAK-PROPOSED SPEED
FEC-EXISTING SPEED
13 crossing / mile
2.53° L
1.02° R
2.03° R
2.13° L
HALL
MELBOURNE
EAU GALLE BLVD (SR 518)
SARNO RD
BABCOCK ST (SR 507)
NASA BLVD (SR 508)
PROPOSED STATION
HIBISCUS AVE
SILVER PALM AVE
SEMINOLE AVE
FEE AVE
LINCOLN AVE
PALMETTO AVE
STRAWBRIDGE AVE
NEWHAVEN AVE
MELBOURNE AVE
PROSPECT AVE
LINE ST
EAU GALLIE RIVER 22' x 575' WOD-VIA 1925
CRANE CREEK 25' x 650' WOD-VIA 1925
HALL TM TK
RAILS
RAILS
TIES
TIES
UNDER CUT

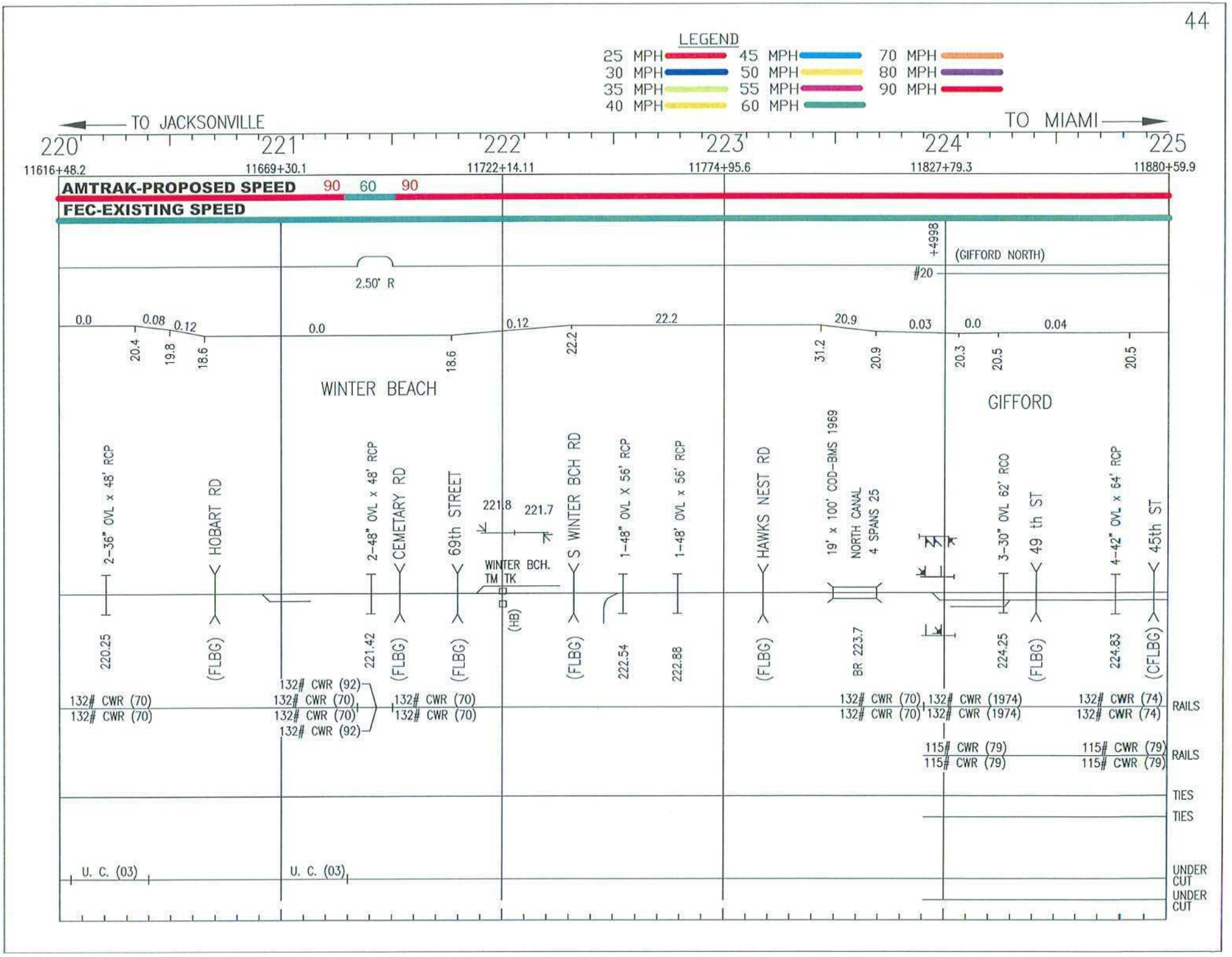

LEGEND
25 MPH
30 MPH
35 MPH
40 MPH
45 MPH
50 MPH
55 MPH
60 MPH
70 MPH
80 MPH
90 MPH
TO JACKSONVILLE
TO MIAMI
195
196
197
198
199
200
10295+48.9
10348+34.8
10401+18.7
10453+99.6
10506+83.3
10559+66.1
90
60
AMTRAK-PROPOSED SPEED
FEC-EXISTING SPEED
+130
(PALM BAY NORTH)
11,356'
+1751
(PALM BAY SOUTH)
0.5° L
1° L
1° R
#20
0.0
0.20
0.08
0.0
0.05
0.0
0.3
0
0.30
0.16
0.16
0.2
V.C.
20.9
21.2
23.4
23.8
21.0
21.0
20.2
20.2
19.6
18.0
18.0
27.9
28.3
26.7
26.7
30.2
30.3
29.2
PALM BAY
MALABAR
JERNIGAN AVE
UNIVERSITY BLVD
2-24" OVL x 40' RCP
JAMES ST (APPOLLO BLVD)
3-36" RND x 45' CMP
HESSEY AVE
NE PALM BAY RD
25' x 180' WOD-DPG 1925
3 SPAN 60'
2-48" OVL x 48' RCP
NE PORT MALBAR BLVD
1-24" OVL x 64' RCP
199.4
199.3
(SR 514)
MALABAR RD
(FLBG)
HOPKINS
TM TK
(CFLBG)
195.73
(OHH)
197.23
(FLBG)
(FLBG)
BR 197.7
198.28
(FLBG)
199.26
(FLBG)
141# CWR (06)
132# CWR (73)
132# CWR (73)
141# CWR (06)
115 # CWR (82)
115 # CWR (82)
132# CWR (73)
132# CWR (73)
132# CWR (88)
132# CWR (88)
115 # CWR (82)
115 # CWR (82)
112 # CWR (72)
112 # CWR (72)
132# CWR (87)
132# CWR (88)
132# CWR (88)
132# CWR (87)
132# CWR (87)
132# CWR (88)
132# CWR (88)
132# CWR (87)
132# CWR (87)
132# CWR (88)
132# CWR (88)
132# CWR (87)
132# CWR (88)
132# CWR (88)
132# CWR (88)
132# CWR (88)
RAILS
RAILS
TIES
TIES
UNDER CUT
UNDER CUT

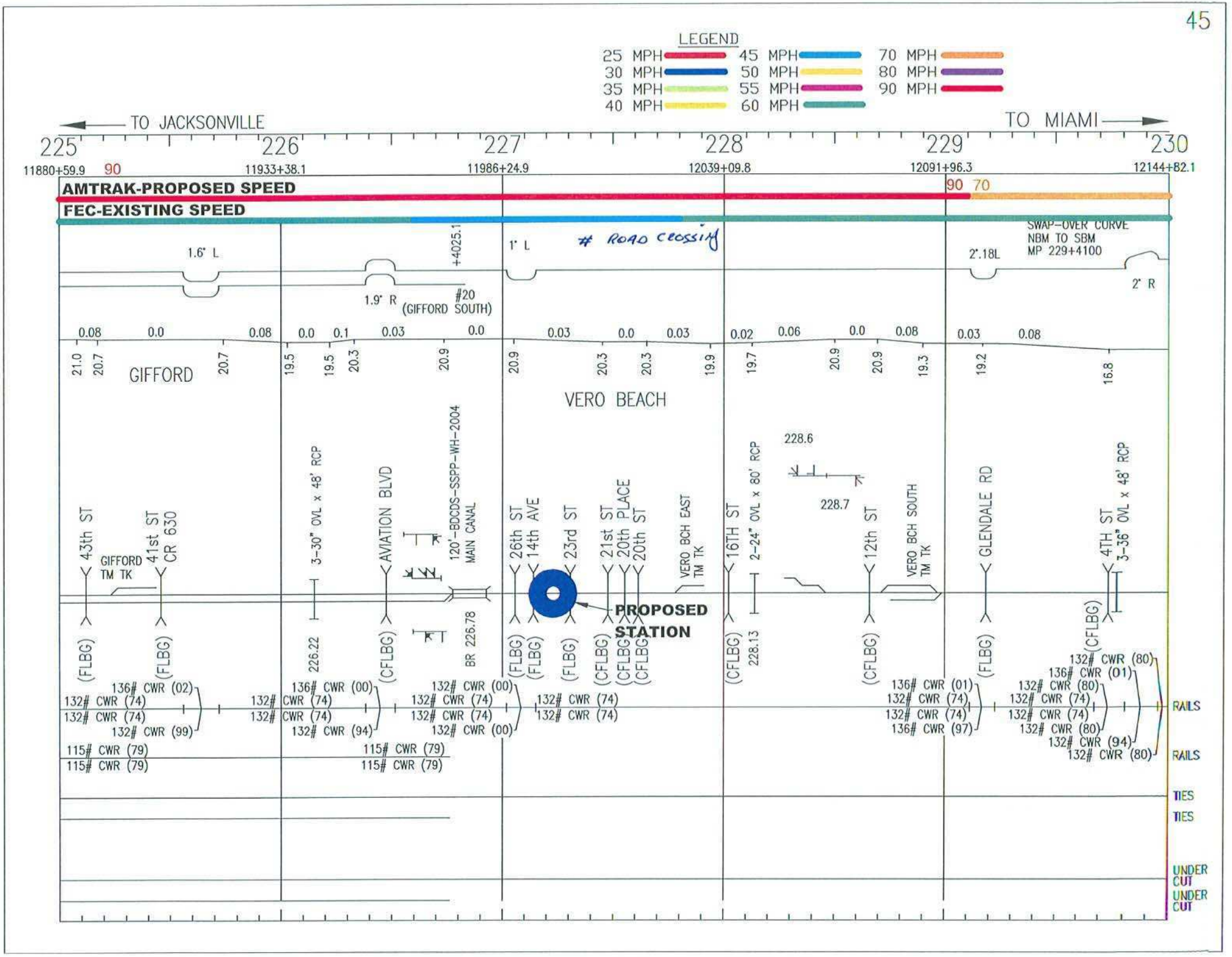

LEGEND
25 MPH
30 MPH
35 MPH
40 MPH
45 MPH
50 MPH
55 MPH
60 MPH
70 MPH
80 MPH
90 MPH
TO JACKSONVILLE
TO MIAMI
200
10559+66.1
201
10612+52.8
202
10665+39.0
203
10718+16.1
204
10771+06.5
205
10823+90.1
AMTRAK-PROPOSED SPEED
90
90, 70, 90
90
FEC-EXISTING SPEED
1.03° L
70
2.° R
VALKARIA
0.24
V.C.
0.10
0.0
0.14
V.C.
0.30
0.12
0
0.08
0
0.02
0.08
0
0.01
25.4
25.1
26.4
26.4
28.0
27.6
11.4
10.4
10.4
11.0
11.0
9.9
11.1
11.1
11.2
2-48" OVL x 72' RCP
2-30" OVL x 104' RCP
JORDON RD
(HB,WL,DE)
12' x 106' WBD-T 1959
VALKARIA RD
(SR 554)
3-84" x 42' RCP
1-24" OVL x 48' RCP
2-30" OVL x 48' RCP
204.4
204.5
200.15
201.22
(CFLBG)
201.8
201.9
BR 202.59
(FLBG)
203.27
OLD DIXIE
HWY (FLBG)
203.88
204.32
132# CWR (88)
132# CWR (88)
132# CWR (87)
132# CWR (88)
132# CWR (88)
132# CWR (87)
132# CWR (88)
132# CWR (88)
136# CWR (06)
132# CWR (88)
132# CWR (88)
136# CWR (06)
132# CWR (88)
132# CWR (88)
132# CWR (88)
132# CWR (88)
RAILS
TIES
U. C. (03)
UNDER CUT

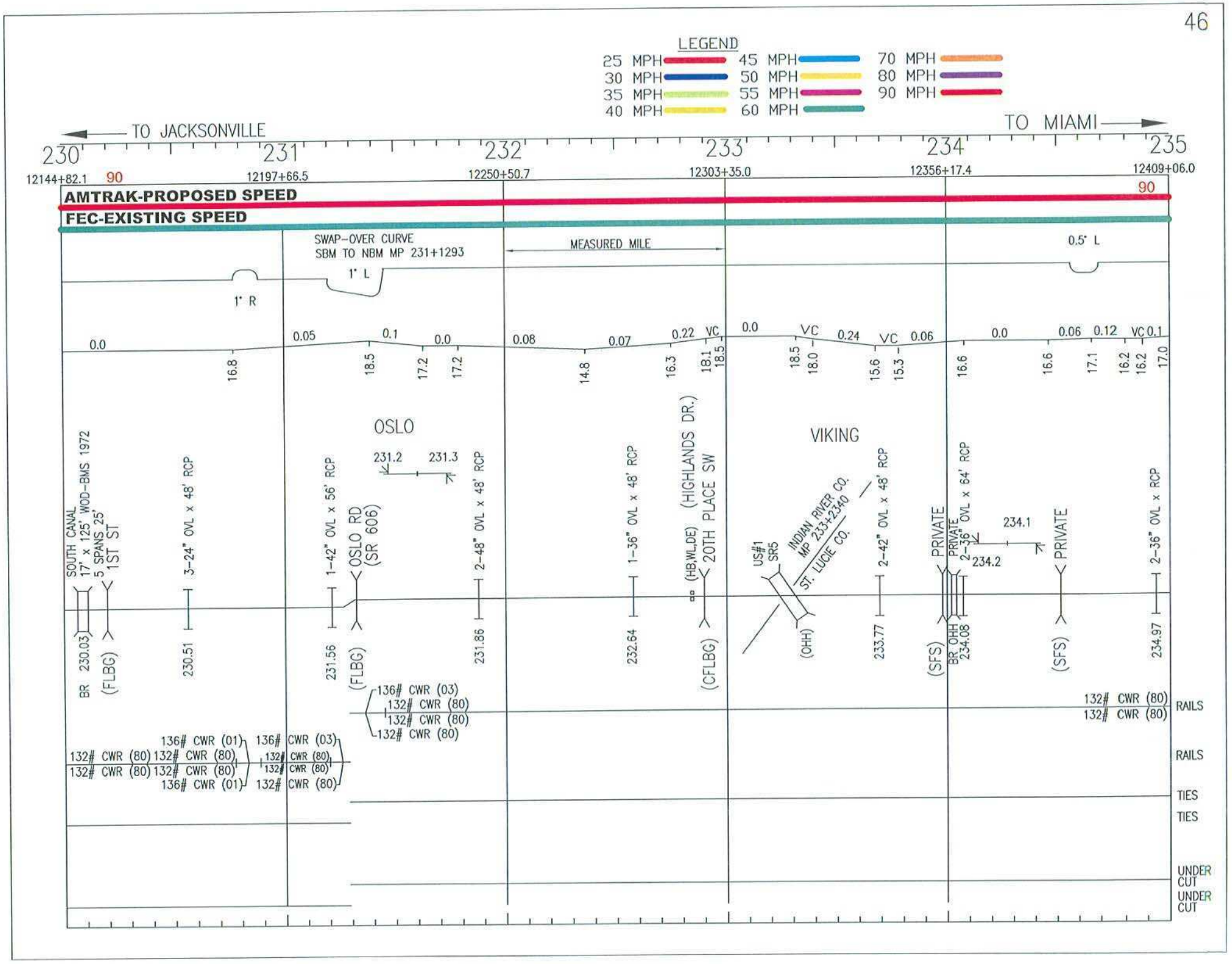

LEGEND
25 MPH
30 MPH
35 MPH
40 MPH
45 MPH
50 MPH
55 MPH
60 MPH
70 MPH
80 MPH
90 MPH
TO JACKSONVILLE
TO MIAMI
205
10823+90.1
206
10876+73.6
207
10929+56.7
208
10982+40.4
209
11035+24.6
210
11088+10.2
90
AMTRAK-PROPOSED SPEED
FEC-EXISTING SPEED
+2006.8
(MICCO NORTH)
15,243'
#20
1.004' R
GRANT
MICCO
2-68" OVL x 42' RCP
2-60" OVL x 42' CMP
2-30" OVL x 48' RCP
1ST ST
1-24" BOX x 40'
2-24" OVL x 48' RCP
1-24" OVL x 40' RCP
2-84" OVL x 56' RCP
SHELL PIT RD
2-42" OVL x 56' RCP
SENNE RD
2-68" OVL x 72' RCP
BAREFOOT BLVD
MICCO RD
MICCO TM TK
205.01
205.4
(FLBG)
205.71
206.04
206.66
207.09
(FLBG)
207.8
(FLBG)
208.87
(FLBG)
(FLBG)
132# CWR (88)
132# CWR (88)
136# CWR (00)
132# CWR (88)
132# CWR (88)
136# CWR (00)
132# CWR (88)
132# CWR (88)
112# CWR (79)
112# CWR (79)
112# CWR (79)
112# CWR (79)
RAILS
RAILS
TIES
TIES
UNDER CUT
UNDER CUT
U. C. (03)

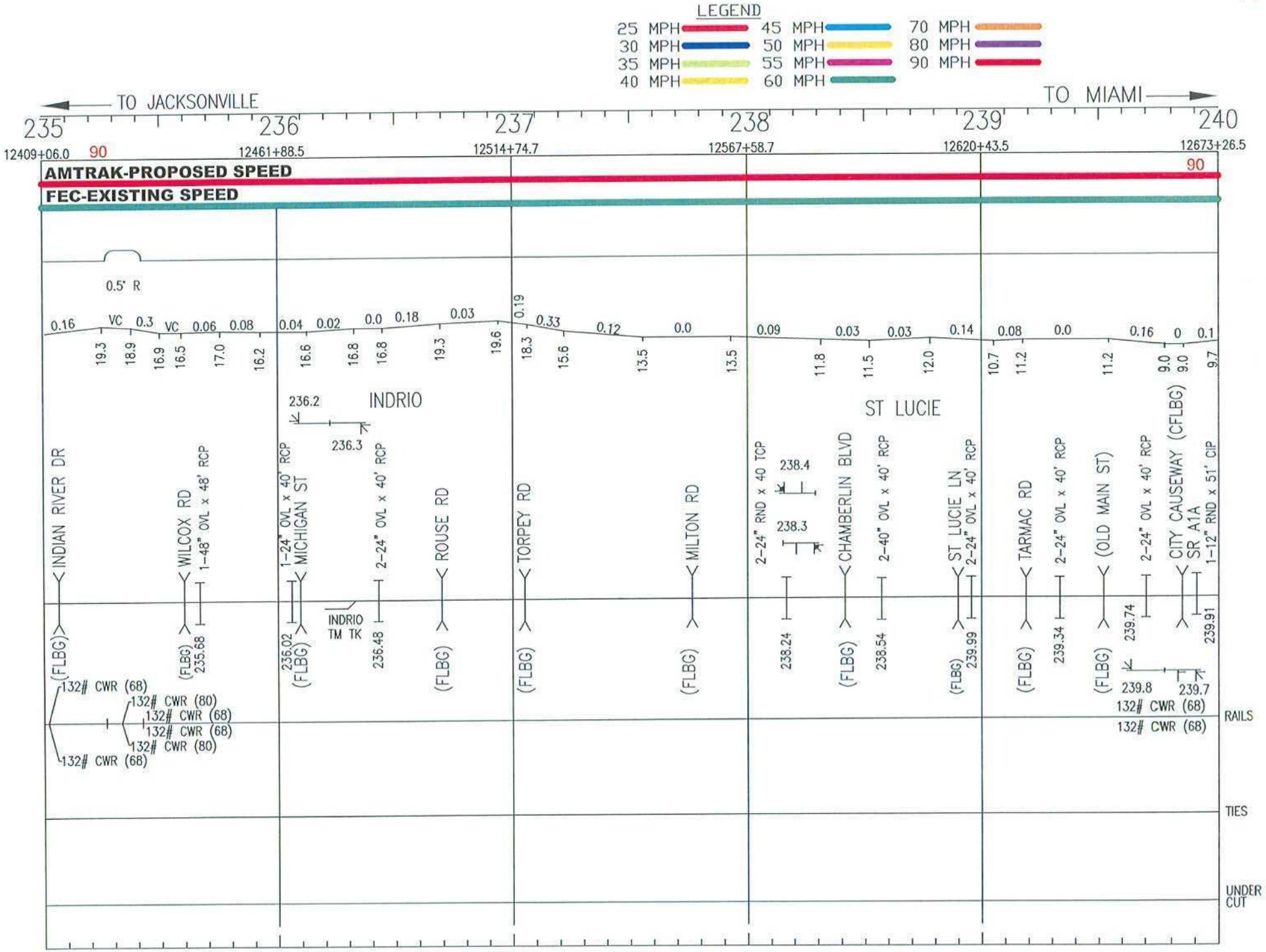

LEGEND
25 MPH
30 MPH
35 MPH
40 MPH
45 MPH
50 MPH
55 MPH
60 MPH
70 MPH
80 MPH
90 MPH
TO JACKSONVILLE
TO MIAMI
210
11088+10.2
211
11140+94.8
212
11193+80.4
213
11246+62.9
214
11299+48.1
215
11352+31.7
AMTRAK-PROPOSED SPEED
FEC-EXISTING SPEED
(MICCO SOUTH)
+2255
#20
40
3.1° L
1.05° L
0.67° R
0.93°R
0.54° R
ROSELAND
SEBASTIAN
1-24" OVL x 40' RCP
1-42" OVL x 48' RCP
HOLLY ST
25' x 1625 WOD-DPG-VIA 1926
21 SETS 50' x 25' SPANS
1 50' SPAN
BREVARD CO.
INDIAN RIVER CO.
SEBASTIAN RIVER
ROSELAND DR (SR 514)
2-36" OVL x 56' RCP
2-36" OVL x 48' RCP
MAIN ST
CR 512 WESTBOUND
1-24" OVL x 72' RCP
SEBASTIAN TM TK
(FLBG)
(HB)
(CFLBG)
210.34
210.97
211.32
212.07
212.93
213.59
214.85
213.3
213.4
132# CWR (74)
132# CWR (70)
136# CWR (01)
136# CWR (02)
136# CWR (06)
132# CWR (68)
112# CWR (79)
U. C. (03)
RAILS
RAILS
TIES
TIES
UNDER CUT
UNDER CUT

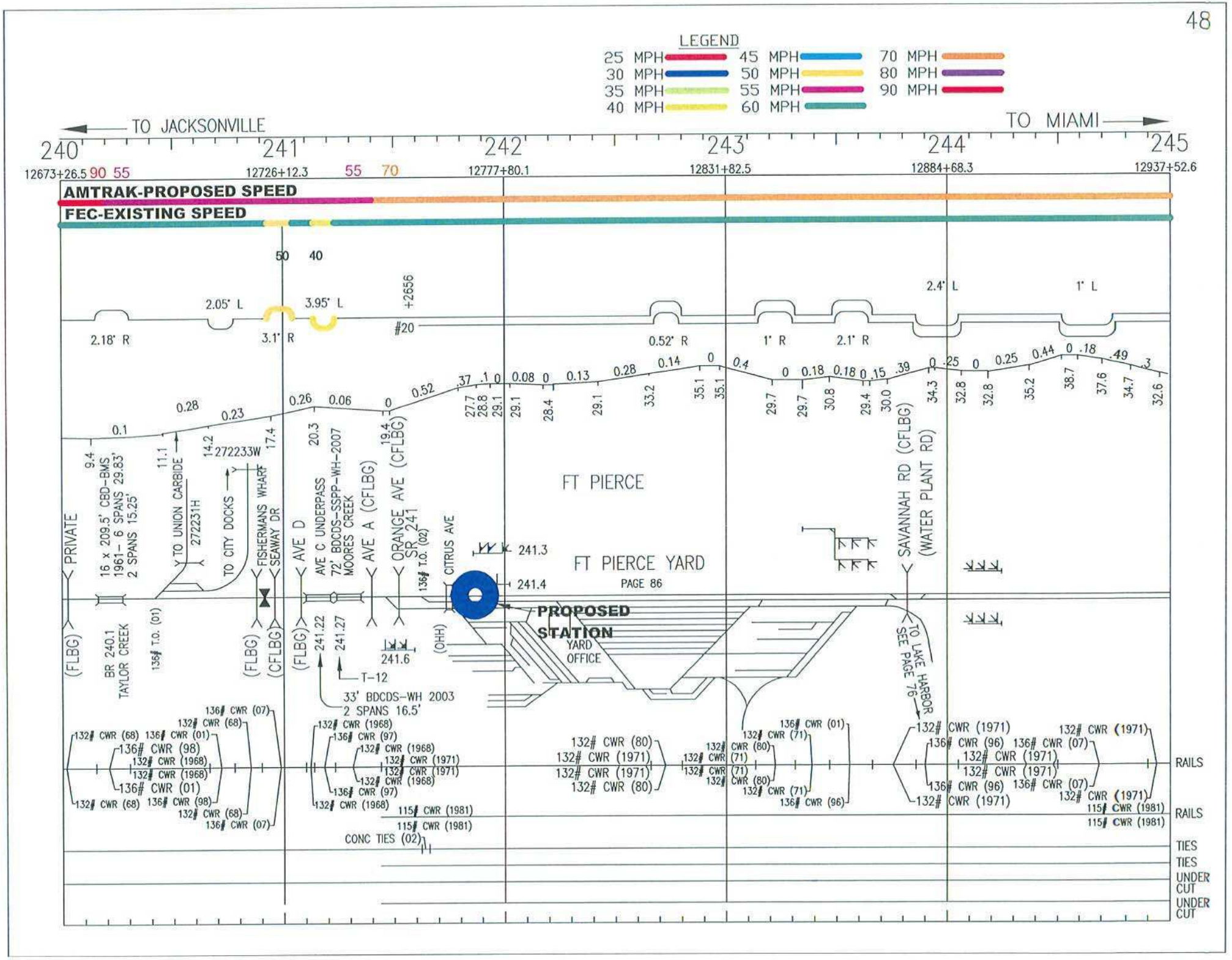

LEGEND
25 MPH
30 MPH
35 MPH
40 MPH
45 MPH
50 MPH
55 MPH
60 MPH
70 MPH
80 MPH
90 MPH
TO JACKSONVILLE
TO MIAMI
215
11352+31.7
90
216
11405+14.1
217
11457+97.5
218
11510+80.8
219
11563+66.2
220
11616+48.2
AMTRAK-PROPOSED SPEED
90
FEC-EXISTING SPEED
0.52° L
0.1
0
0.16
0.02
0
0.18
V.C.
0.08
0
0.12
0
0.05
0.0
20.3
20.3
22.4
22.6
22.6
24.9
25.2
25.0
24.2
24.2
22.3
22.3
20.4
CUMMINGS
WABASSO
FELLSMERE RD
(SR 512) EAST BOUND
1-24" OVL x 48' RCP
215.4
215.3
OLD DIXIE HWY
SCHUMANN DR
99TH ST
VICKERS RD
217.6
217.5
BARBER ST
1-24" OVL x 48' RCP
1-42" OVL x 56' RCP
W. WABASSO RD
(SR 510)
219.7
219.8
(CFLBG)
215.06
(FLBG)
(FLBG)
(FLBG)
(FLBG)
218.57
219.56
(FLBG)
136# CWR (06)
136# CWR (06)
132# CWR (68)
132# CWR (70)
132# CWR (70)
132# CWR (68)
132# CWR (70)
132# CWR (70)
132# CWR (70)
132# CWR (70)
RAILS
TIES
U. C. (03)
U. C. (03)
UNDER CUT

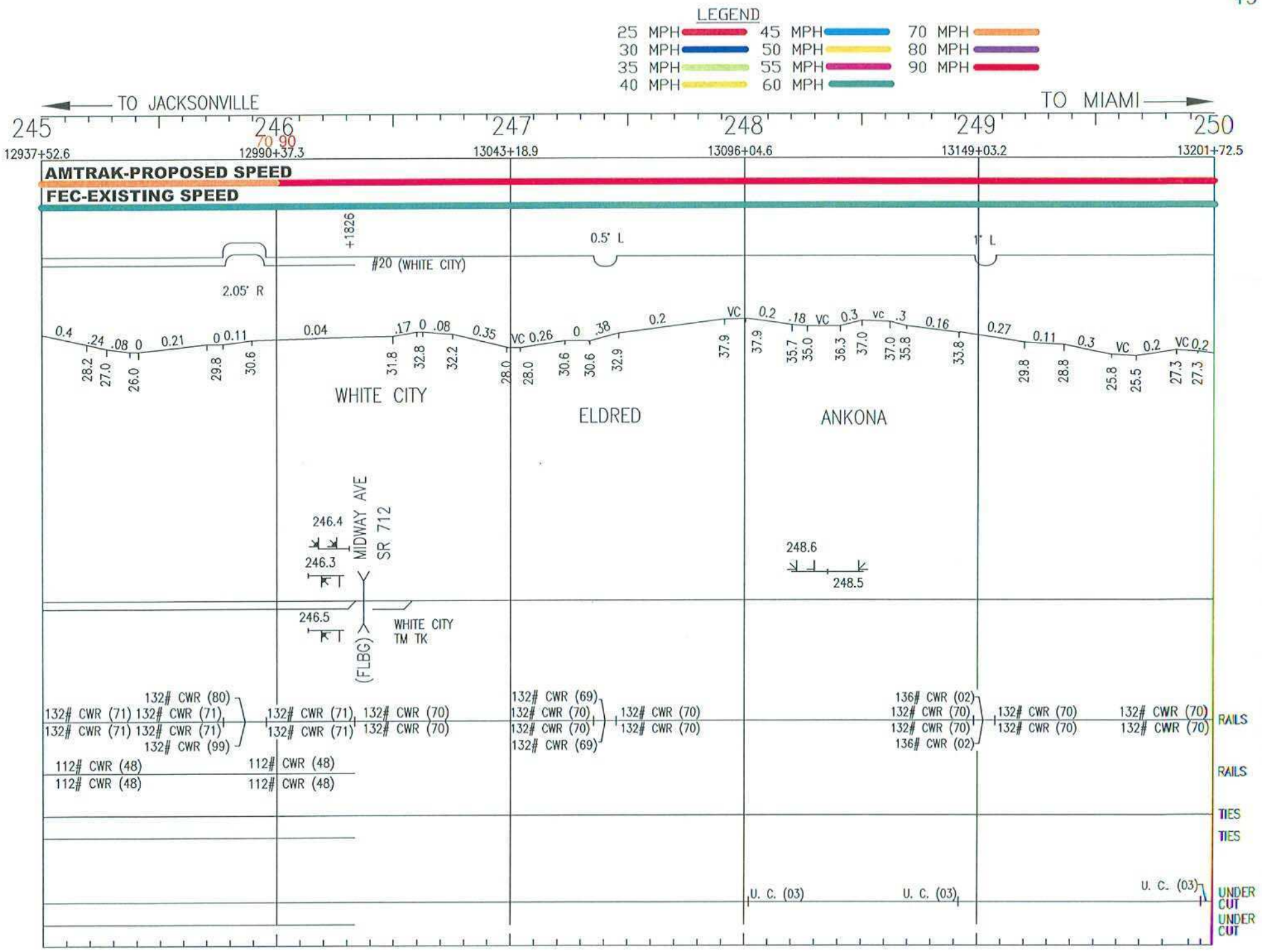

LEGEND
25 MPH
30 MPH
35 MPH
40 MPH
45 MPH
50 MPH
55 MPH
60 MPH
70 MPH
80 MPH
90 MPH
TO JACKSONVILLE
TO MIAMI
220
221
222
223
224
225
11616+48.2
11669+30.1
11722+14.11
11774+95.6
11827+79.3
11880+59.9
AMTRAK-PROPOSED SPEED
90
60
90
FEC-EXISTING SPEED
+4998
(GIFFORD NORTH)
#20
2.50° R
0.0
0.08
0.12
0.0
0.12
22.2
20.9
0.03
0.0
0.04
20.4
19.8
18.6
18.6
22.2
31.2
20.9
20.3
20.5
20.5
WINTER BEACH
GIFFORD
2-36" OVL x 48' RCP
HOBART RD
2-48" OVL x 48' RCP
CEMETARY RD
69th STREET
221.8
221.7
WINTER BCH.
TM TK
(HB)
S WINTER BCH RD
1-48" OVL X 56' RCP
1-48' OVL x 56' RCP
HAWKS NEST RD
19' x 100' COD-BMS 1969
NORTH CANAL
4 SPANS 25
3-30" OVL 62' RCO
49 th ST
4-42" OVL x 64' RCP
45th ST
220.25
(FLBG)
221.42
(FLBG)
(FLBG)
(FLBG)
222.54
222.88
(FLBG)
BR 223.7
224.25
(FLBG)
224.83
(CFLBG)
132# CWR (92)
132# CWR (70)
132# CWR (70)
132# CWR (92)
132# CWR (70)
132# CWR (70)
132# CWR (70)
132# CWR (70)
132# CWR (70)
132# CWR (70)
132# CWR (1974)
132# CWR (1974)
132# CWR (74)
132# CWR (74)
RAILS
115# CWR (79)
115# CWR (79)
115# CWR (79)
115# CWR (79)
RAILS
TIES
TIES
U. C. (03)
U. C. (03)
UNDER CUT
UNDER CUT

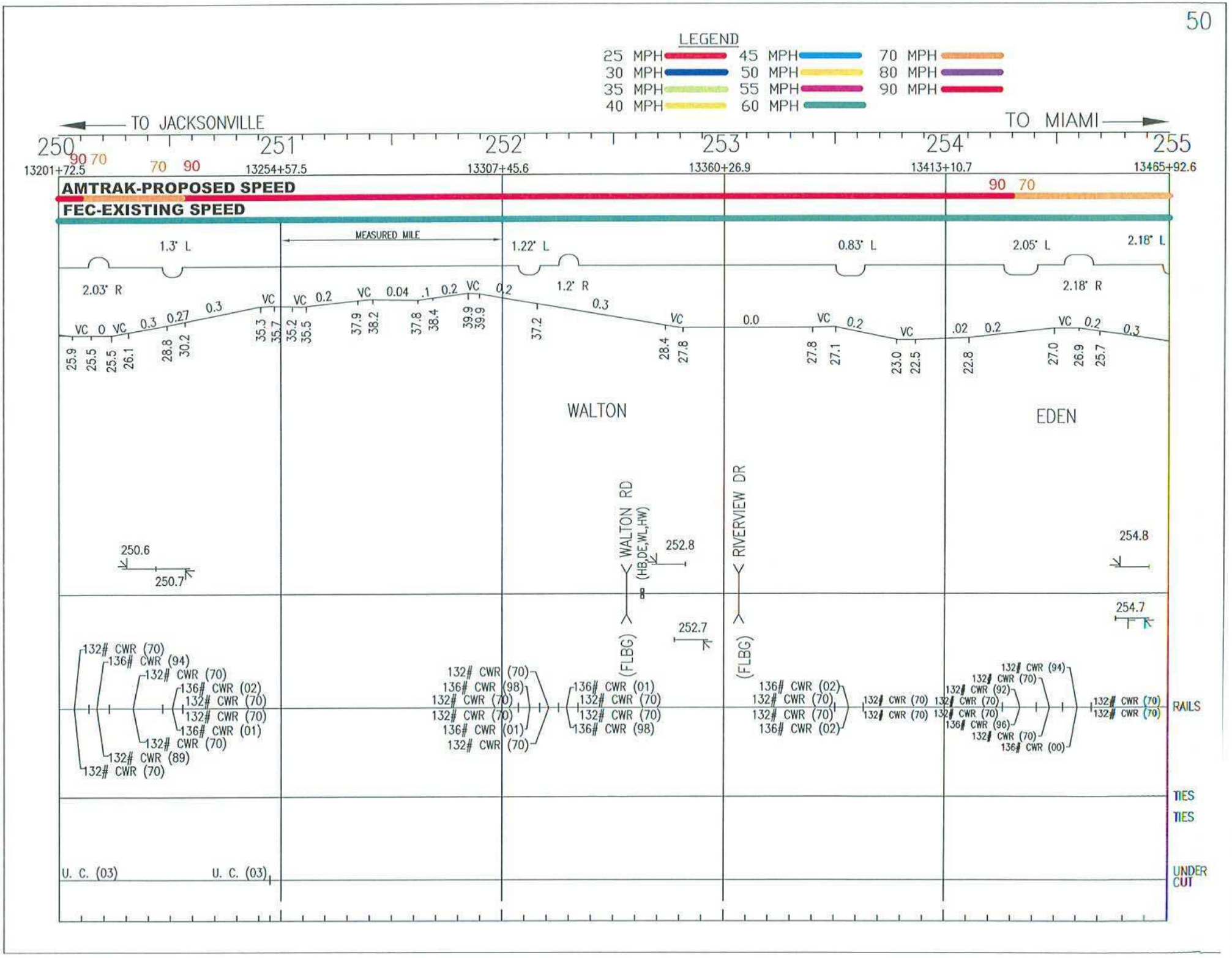

LEGEND
25 MPH
30 MPH
35 MPH
40 MPH
45 MPH
50 MPH
55 MPH
60 MPH
70 MPH
80 MPH
90 MPH
TO JACKSONVILLE
TO MIAMI
225
226
227
228
229
230
11880+59.9
11933+38.1
11986+24.9
12039+09.8
12091+96.3
12144+82.1
AMTRAK-PROPOSED SPEED
FEC-EXISTING SPEED
90
90 70
1.6° L
1.9° R
+4025.1
#20 (GIFFORD SOUTH)
1° L
ROAD CROSSING
2°.18L
SWAP-OVER CURVE NBM TO SBM MP 229+4100
2° R
GIFFORD
VERO BEACH
43th ST
GIFFORD TM TK
41st ST CR 630
3-30" OVL x 48' RCP
AVIATION BLVD
120'-BDCDS-SSPP-WH-2004 MAIN CANAL
26th ST 14th AVE
23rd ST
21st ST 20th PLACE 20th ST
VERO BCH EAST TM TK
16TH ST
2-24" OVL x 80' RCP
228.6
228.7
12th ST
VERO BCH SOUTH TM TK
GLENDALE RD
4TH ST 3-36" OVL x 48' RCP
PROPOSED STATION
226.22
BR 226.78
228.13
(FLBG)
(CFLBG)
136# CWR (02)
132# CWR (74)
132# CWR (74)
132# CWR (99)
115# CWR (79)
115# CWR (79)
136# CWR (00)
132# CWR (74)
132# CWR (74)
132# CWR (94)
132# CWR (00)
132# CWR (74)
132# CWR (74)
132# CWR (00)
136# CWR (01)
132# CWR (74)
132# CWR (74)
136# CWR (97)
132# CWR (80)
136# CWR (01)
132# CWR (80)
132# CWR (74)
132# CWR (74)
132# CWR (80)
132# CWR (94)
132# CWR (80)
RAILS
RAILS
TIES
TIES
UNDER CUT
UNDER CUT

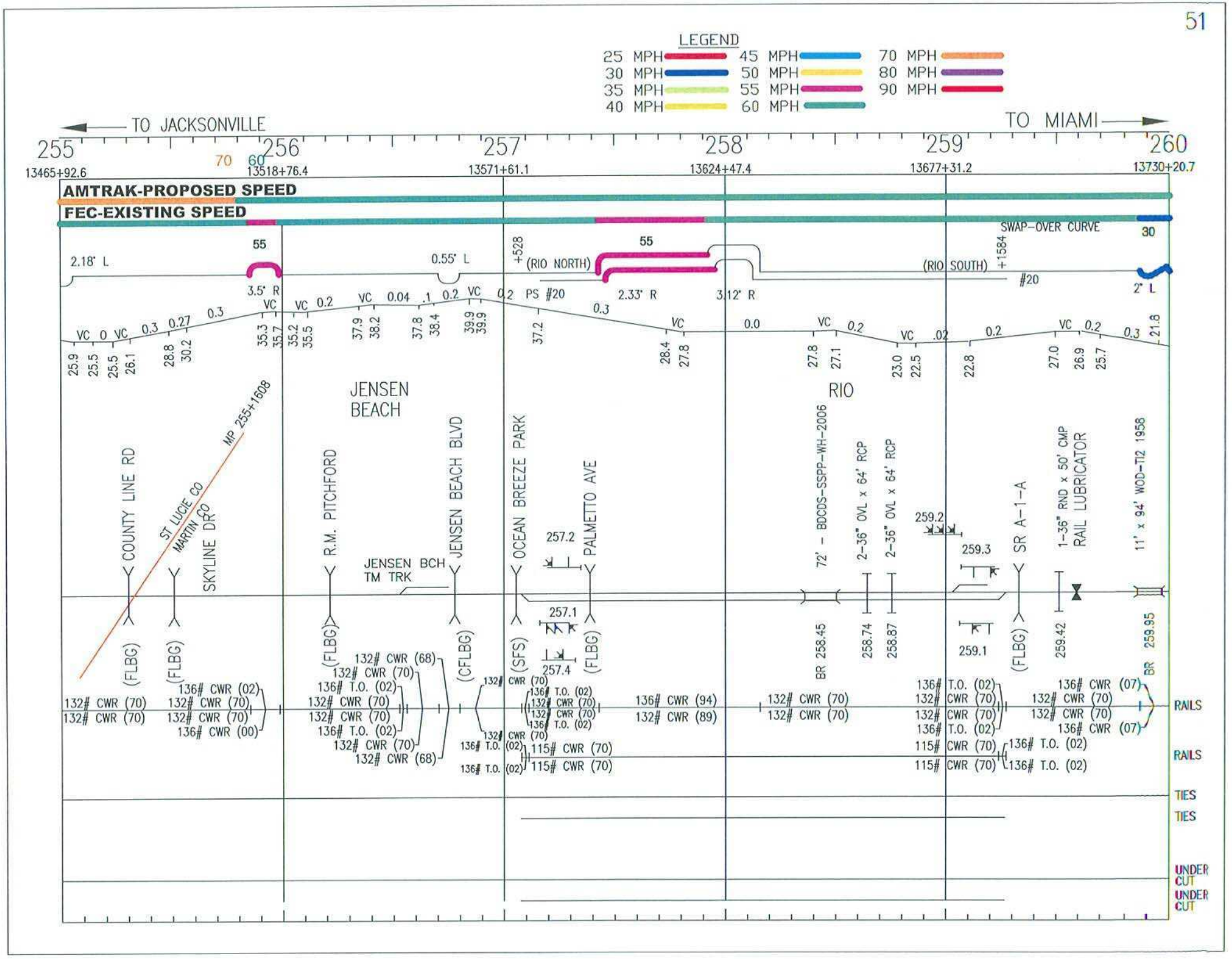

LEGEND
25 MPH
30 MPH
35 MPH
40 MPH
45 MPH
50 MPH
55 MPH
60 MPH
70 MPH
80 MPH
90 MPH
TO JACKSONVILLE
TO MIAMI
230
231
232
233
234
235
12144+82.1
12197+66.5
12250+50.7
12303+35.0
12356+17.4
12409+06.0
90
AMTRAK-PROPOSED SPEED
FEC-EXISTING SPEED
SWAP-OVER CURVE
SBM TO NBM MP 231+1293
MEASURED MILE
1° L
1° R
0.5° L
OSLO
VIKING
SOUTH CANAL
17' x 125' WOD-BMS 1972
5 SPANS 25'
1ST ST
BR 230.03
(FLBG)
3-24" OVL x 48' RCP
230.51
1-42" OVL x 56' RCP
OSLO RD
(SR 606)
231.56
(FLBG)
231.2
231.3
2-48" OVL x 48' RCP
231.86
1-36" OVL x 48' RCP
232.64
(HB,WL,DE)
(HIGHLANDS DR.)
20TH PLACE SW
(CFLBG)
US#1
SR5
INDIAN RIVER CO.
MP 233+2340
ST. LUCIE CO.
(OHH)
2-42" OVL x 48' RCP
233.77
PRIVATE
(SFS)
BR OHH
234.08
PRIVATE
2-36" OVL x 64' RCP
234.1
234.2
PRIVATE
(SFS)
2-36" OVL x RCP
234.97
136# CWR (03)
132# CWR (80)
132# CWR (80)
132# CWR (80)
136# CWR (01)
132# CWR (80)
132# CWR (80)
132# CWR (80)
136# CWR (01)
136# CWR (03)
132# CWR (80)
132# CWR (80)
132# CWR (80)
132# CWR (80)
132# CWR (80)
132# CWR (80)
RAILS
RAILS
TIES
TIES
UNDER CUT
UNDER CUT

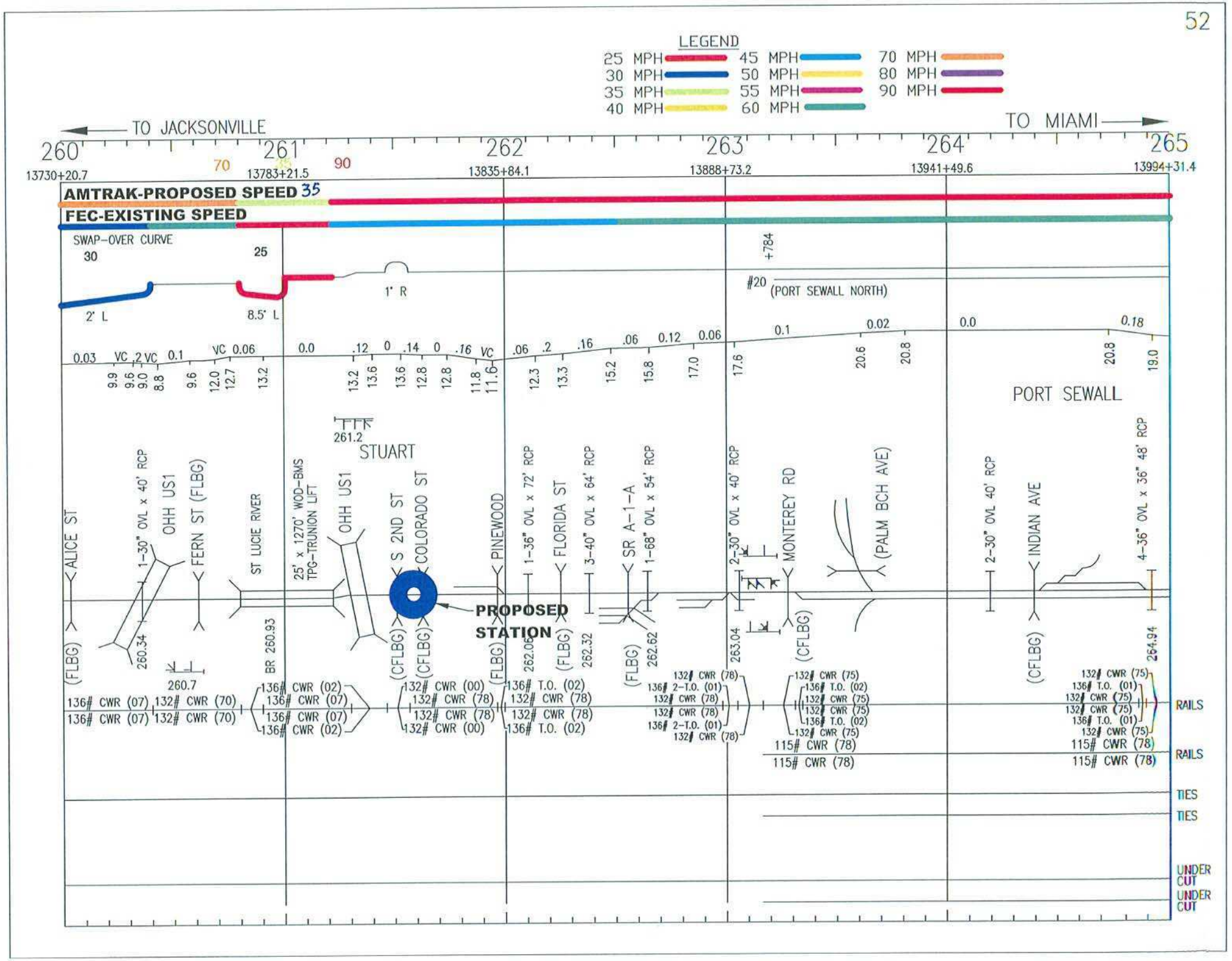

LEGEND
25 MPH
30 MPH
35 MPH
40 MPH
45 MPH
50 MPH
55 MPH
60 MPH
70 MPH
80 MPH
90 MPH
TO JACKSONVILLE
TO MIAMI
235
236
237
238
239
240
12409+06.0
12461+88.5
12514+74.7
12567+58.7
12620+43.5
12673+26.5
90
AMTRAK-PROPOSED SPEED
FEC-EXISTING SPEED
0.5' R
INDRIO
ST LUCIE
INDIAN RIVER DR
WILCOX RD
1-48" OVL x 48' RCP
1-24" OVL x 40' RCP
MICHIGAN ST
2-24" OVL x 40' RCP
ROUSE RD
TORPEY RD
MILTON RD
2-24" RND x 40 TCP
CHAMBERLIN BLVD
2-40" OVL x 40' RCP
ST LUCIE LN
2-24" OVL x 40' RCP
TARMAC RD
2-24" OVL x 40' RCP
(OLD MAIN ST)
2-24" OVL x 40' RCP
CITY CAUSEWAY (CFLBG)
SR A1A
1-12" RND x 51' CIP
INDRIO TM TK
(FLBG)
132# CWR (68)
132# CWR (80)
RAILS
TIES
UNDER CUT

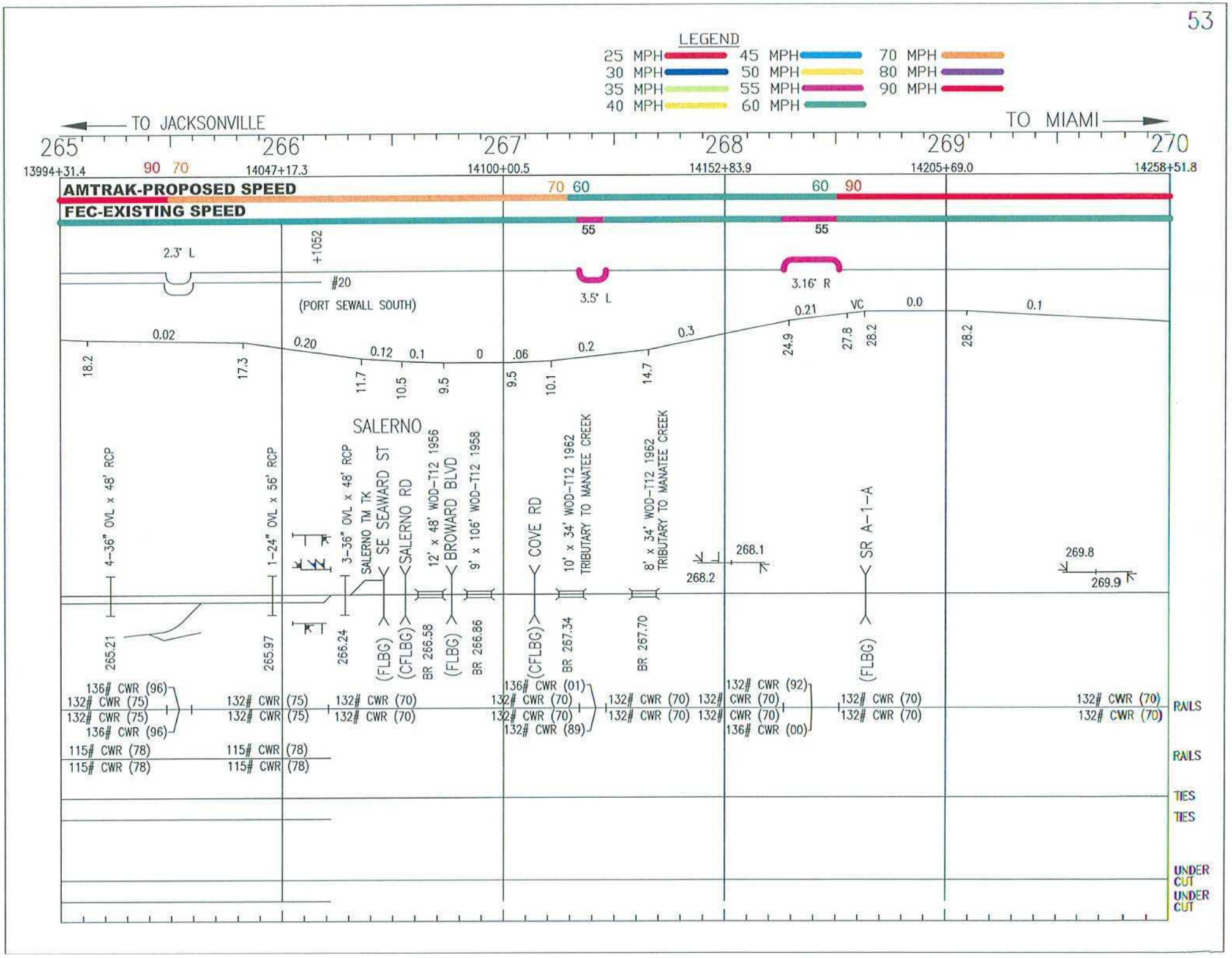

LEGEND
25 MPH
30 MPH
35 MPH
40 MPH
45 MPH
50 MPH
55 MPH
60 MPH
70 MPH
80 MPH
90 MPH
TO JACKSONVILLE
TO MIAMI
240
241
242
243
244
245
12673+26.5
12726+12.3
12777+80.1
12831+82.5
12884+68.3
12937+52.6
AMTRAK-PROPOSED SPEED
FEC-EXISTING SPEED
FT PIERCE
FT PIERCE YARD
PAGE 86
PROPOSED STATION
YARD OFFICE
PRIVATE
16 x 209.5' CBD-BMS 1961- 6 SPANS 29.83' 2 SPANS 15.25'
TO UNION CARBIDE
272231H
TO CITY DOCKS
272233W
FISHERMANS WHARF
SEAWAY DR
AVE D
AVE C UNDERPASS
72' BDCDS-SSPP-WH-2007
MOORES CREEK
AVE A (CFLBG)
ORANGE AVE (CFLBG)
SR 241
CITRUS AVE
SAVANNAH RD (CFLBG)
(WATER PLANT RD)
BR 240.1
TAYLOR CREEK
T-12
33' BDCDS-WH 2003
2 SPANS 16.5'
TO LAKE HARBOR
SEE PAGE 76
RAILS
RAILS
TIES
TIES
UNDER CUT
UNDER CUT
CONC TIES (02)

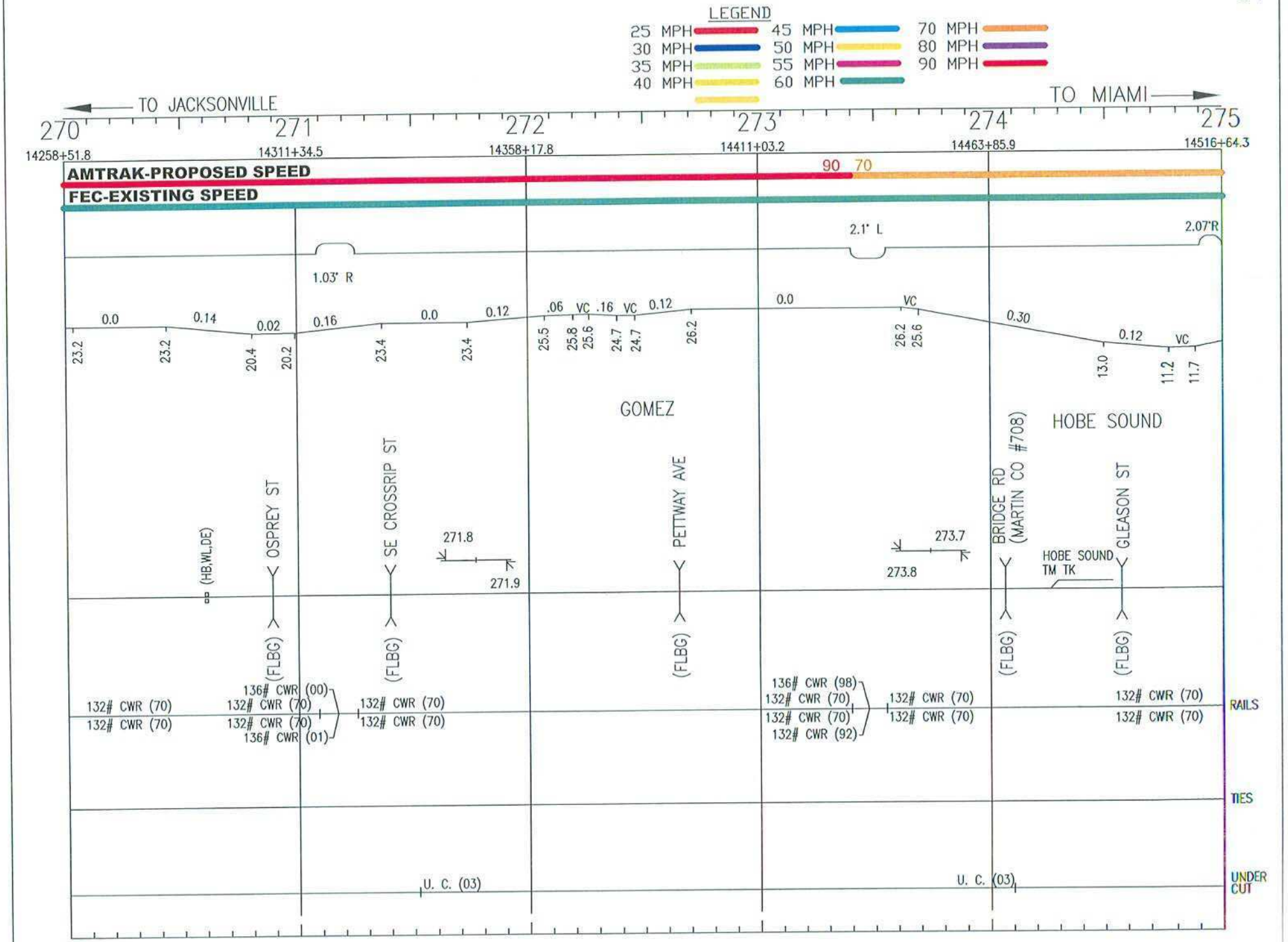

LEGEND
25 MPH
30 MPH
35 MPH
40 MPH
45 MPH
50 MPH
55 MPH
60 MPH
70 MPH
80 MPH
90 MPH
TO JACKSONVILLE
TO MIAMI
245
246
247
248
249
250
70 90
12937+52.6
12990+37.3
13043+18.9
13096+04.6
13149+03.2
13201+72.5
AMTRAK-PROPOSED SPEED
FEC-EXISTING SPEED
+1826
#20 (WHITE CITY)
2.05° R
0.5° L
1° L
WHITE CITY
ELDRED
ANKONA
MIDWAY AVE
SR 712
(FLBG)
WHITE CITY
TM TK
246.4
246.3
246.5
248.6
248.5
132# CWR (80)
132# CWR (71) 132# CWR (71)
132# CWR (71) 132# CWR (71)
132# CWR (99)
132# CWR (71)
132# CWR (71)
132# CWR (70)
132# CWR (70)
132# CWR (69)
132# CWR (70)
132# CWR (70)
132# CWR (69)
132# CWR (70)
132# CWR (70)
136# CWR (02)
132# CWR (70)
132# CWR (70)
136# CWR (02)
132# CWR (70)
132# CWR (70)
132# CWR (70)
132# CWR (70)
112# CWR (48)
112# CWR (48)
112# CWR (48)
112# CWR (48)
U. C. (03)
U. C. (03)
U. C. (03)
RAILS
RAILS
TIES
TIES
UNDER CUT
UNDER CUT

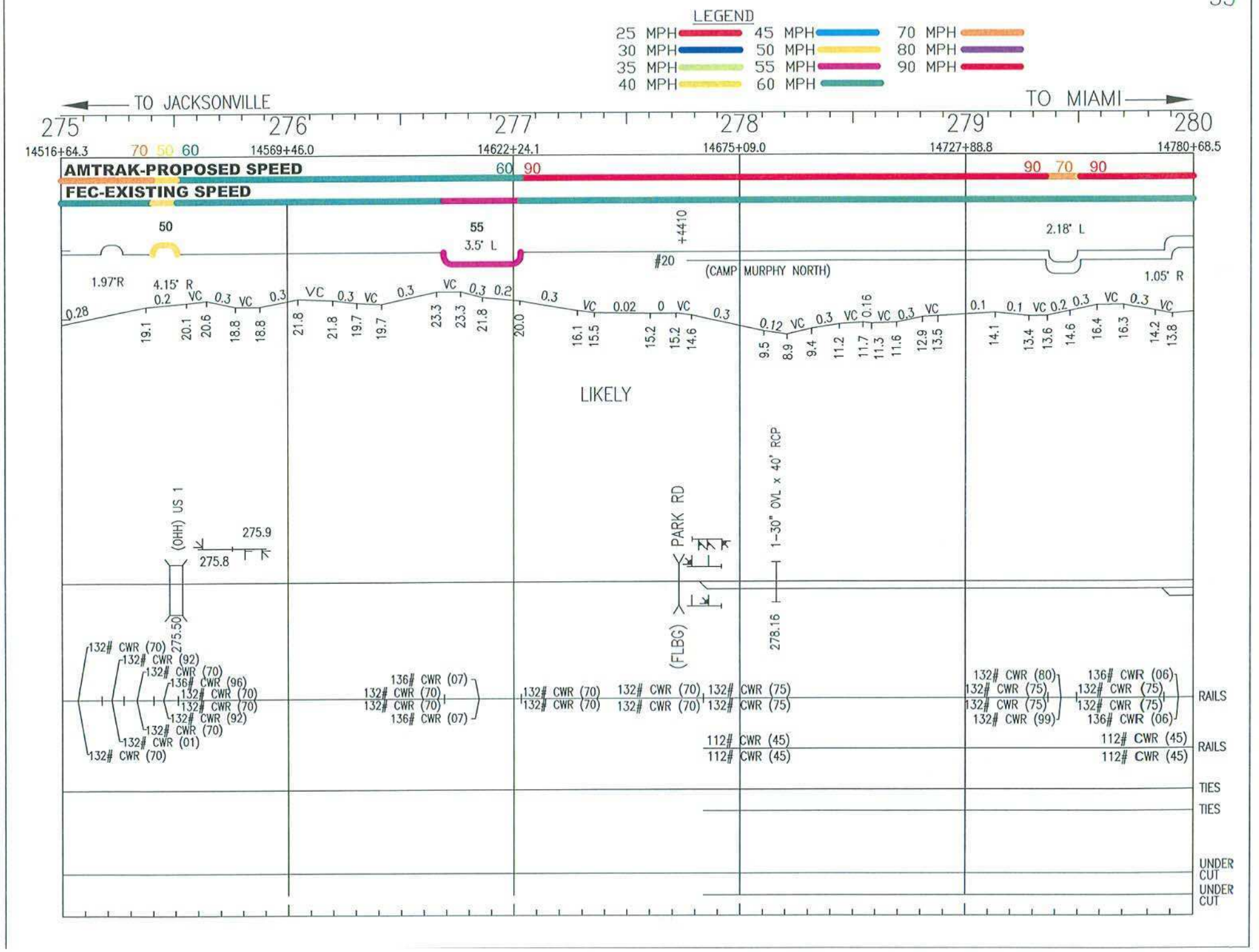

LEGEND
25 MPH
30 MPH
35 MPH
40 MPH
45 MPH
50 MPH
55 MPH
60 MPH
70 MPH
80 MPH
90 MPH
TO JACKSONVILLE
TO MIAMI
250
251
252
253
254
255
13201+72.5
13254+57.5
13307+45.6
13360+26.9
13413+10.7
13465+92.6
AMTRAK-PROPOSED SPEED
FEC-EXISTING SPEED
MEASURED MILE
WALTON
EDEN
WALTON RD
(HB,DE,WL,HW)
(FLBG)
RIVERVIEW DR
(FLBG)
250.6
250.7
252.8
252.7
254.8
254.7
RAILS
TIES
TIES
UNDER CUT
U. C. (03)
U. C. (03)

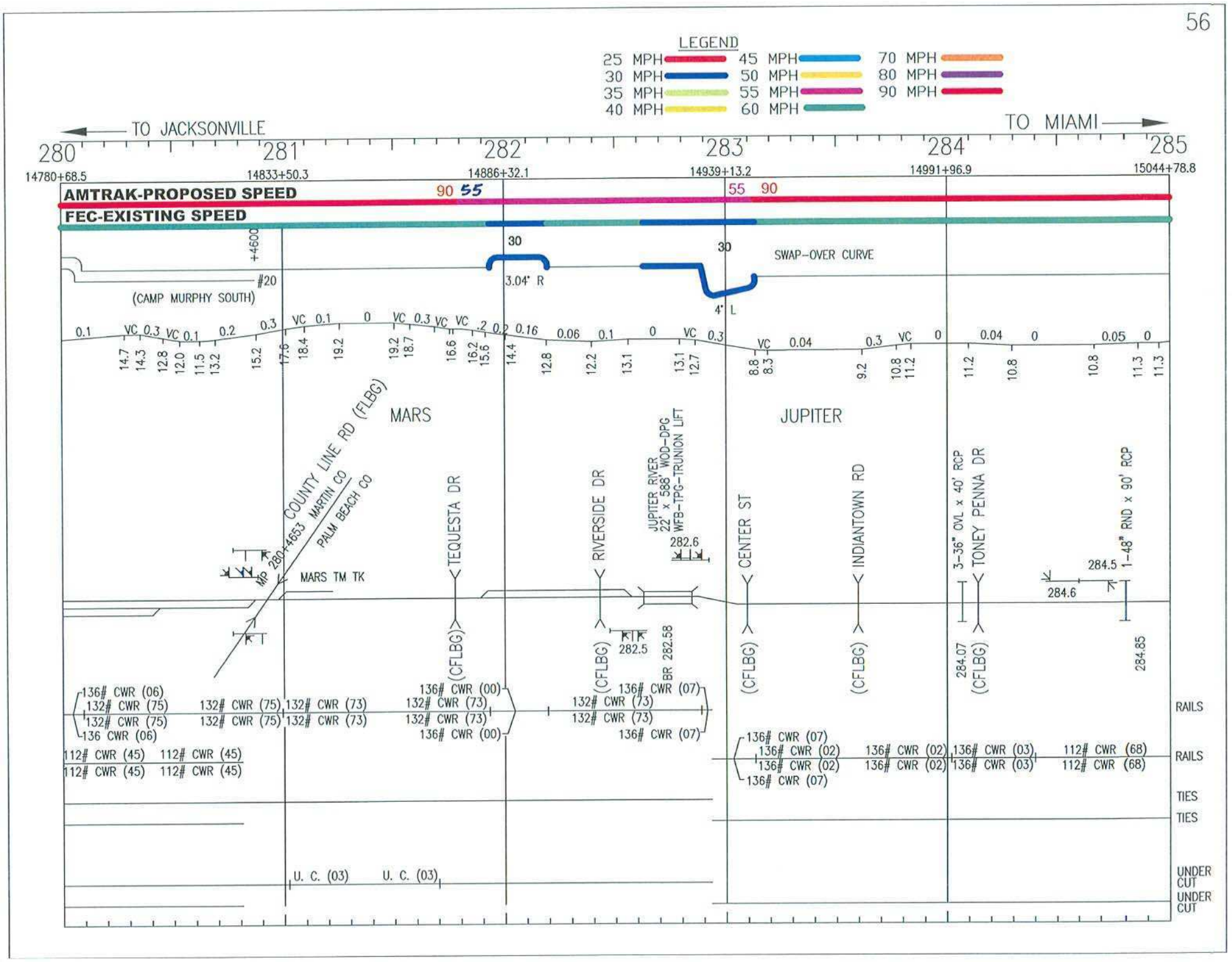

LEGEND
25 MPH
30 MPH
35 MPH
40 MPH
45 MPH
50 MPH
55 MPH
60 MPH
70 MPH
80 MPH
90 MPH
TO JACKSONVILLE
TO MIAMI
255
256
257
258
259
260
13465+92.6
13518+76.4
13571+61.1
13624+47.4
13677+31.2
13730+20.7
AMTRAK-PROPOSED SPEED
FEC-EXISTING SPEED
SWAP-OVER CURVE
(RIO NORTH)
(RIO SOUTH)
JENSEN BEACH
RIO
COUNTY LINE RD
SKYLINE DR
ST LUCIE CO
MARTIN CO
MP 255+1608
R.M. PITCHFORD
JENSEN BCH TM TRK
JENSEN BEACH BLVD
OCEAN BREEZE PARK
PALMETTO AVE
72' - BDCDS-SSPP-WH-2006
2-36" OVL x 64' RCP
SR A-1-A
1-36" RND x 50' CMP
RAIL LUBRICATOR
11' x 94' WOD-TI2 1958
RAILS
RAILS
TIES
TIES
UNDER CUT
UNDER CUT

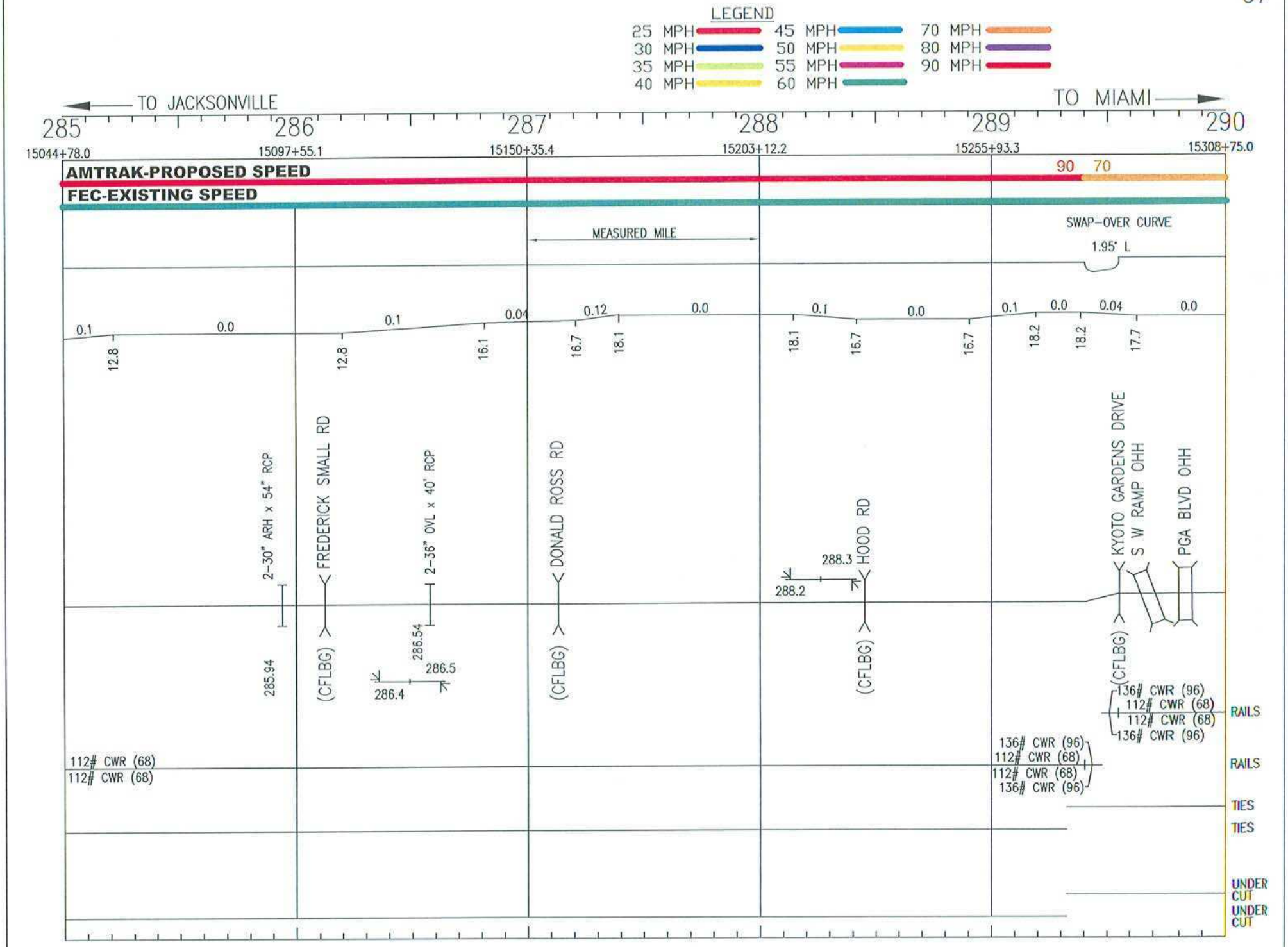

LEGEND
25 MPH
30 MPH
35 MPH
40 MPH
45 MPH
50 MPH
55 MPH
60 MPH
70 MPH
80 MPH
90 MPH
TO JACKSONVILLE
TO MIAMI
260
261
262
263
264
265
13730+20.7
13783+21.5
13835+84.1
13888+73.2
13941+49.6
13994+31.4
AMTRAK-PROPOSED SPEED 35
FEC-EXISTING SPEED
SWAP-OVER CURVE
30
25
2° L
8.5° L
1° R
#20 (PORT SEWALL NORTH)
PORT SEWALL
STUART
261.2
ALICE ST
1-30" OVL x 40' RCP
OHH US1
FERN ST (FLBG)
ST LUCIE RIVER
25' x 1270' WOD-BMS TPG-TRUNION LIFT
OHH US1
S 2ND ST
COLORADO ST
PINEWOOD
1-36" OVL x 72' RCP
FLORIDA ST
3-40" OVL x 64' RCP
SR A-1-A
1-68" OVL x 54' RCP
2-30" OVL x 40' RCP
MONTEREY RD
(PALM BCH AVE)
2-30" OVL 40' RCP
INDIAN AVE
4-36" OVL x 36" 48' RCP
PROPOSED STATION
260.34
260.7
BR 260.93
262.06
262.32
262.62
263.04
264.94
136# CWR (07)
132# CWR (70)
136# CWR (02)
132# CWR (00)
132# CWR (78)
136# T.O. (02)
136# 2-T.O. (01)
132# CWR (75)
115# CWR (78)
RAILS
RAILS
TIES
TIES
UNDER CUT
UNDER CUT

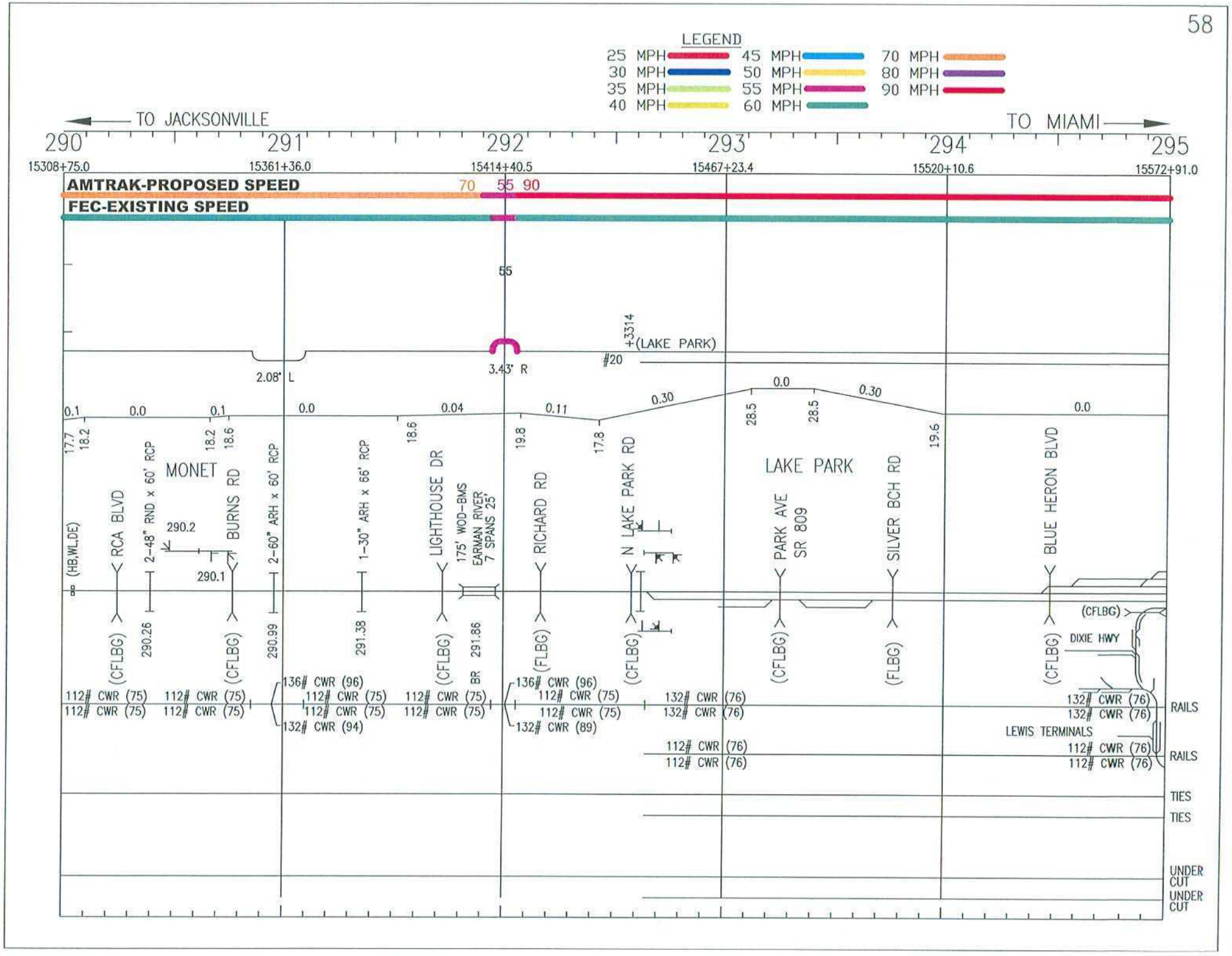

LEGEND
25 MPH
30 MPH
35 MPH
40 MPH
45 MPH
50 MPH
55 MPH
60 MPH
70 MPH
80 MPH
90 MPH
TO JACKSONVILLE
TO MIAMI
265
266
267
268
269
270
13994+31.4
14047+17.3
14100+00.5
14152+83.9
14205+69.0
14258+51.8
AMTRAK-PROPOSED SPEED
FEC-EXISTING SPEED
90 70
70 60
60 90
55
55
2.3° L
+1052
#20
(PORT SEWALL SOUTH)
3.5° L
3.16° R
0.02
0.20
0.12
0.1
0
.06
0.2
0.3
0.21
VC
0.0
0.1
18.2
17.3
11.7
10.5
9.5
9.5
10.1
14.7
24.9
27.8
28.2
28.2
SALERNO
4-36" OVL x 48' RCP
1-24" OVL x 56' RCP
3-36" OVL x 48' RCP
SALERNO TM TK
SE SEAWARD ST
SALERNO RD
12' x 48' WOD-T12 1956
BROWARD BLVD
9' x 106' WOD-T12 1958
COVE RD
10' x 34' WOD-T12 1962
TRIBUTARY TO MANATEE CREEK
8' x 34' WOD-T12 1962
TRIBUTARY TO MANATEE CREEK
268.2
268.1
SR A-1-A
269.8
269.9
265.21
265.97
266.24
(FLBG)
(CFLBG)
BR 266.58
(FLBG)
BR 266.86
(CFLBG)
BR 267.34
BR 267.70
(FLBG)
136# CWR (96)
132# CWR (75)
132# CWR (75)
136# CWR (96)
132# CWR (75)
132# CWR (75)
132# CWR (70)
132# CWR (70)
136# CWR (01)
132# CWR (70)
132# CWR (70)
132# CWR (89)
132# CWR (70)
132# CWR (70)
132# CWR (70)
132# CWR (70)
132# CWR (92)
132# CWR (70)
132# CWR (70)
136# CWR (00)
132# CWR (70)
132# CWR (70)
132# CWR (70)
132# CWR (70)
115# CWR (78)
115# CWR (78)
115# CWR (78)
115# CWR (78)
RAILS
RAILS
TIES
TIES
UNDER CUT
UNDER CUT

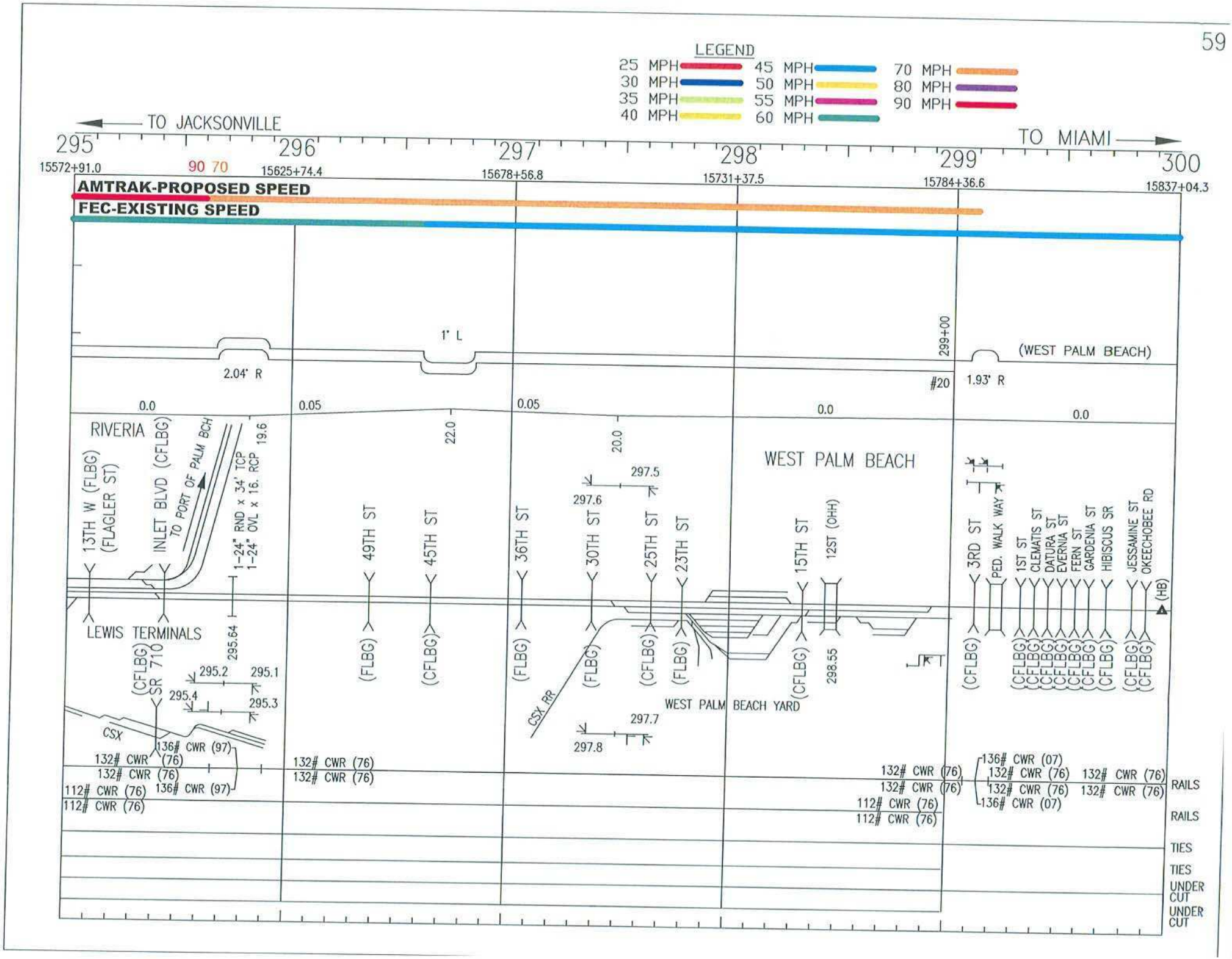

LEGEND
25 MPH
30 MPH
35 MPH
40 MPH
45 MPH
50 MPH
55 MPH
60 MPH
70 MPH
80 MPH
90 MPH
TO JACKSONVILLE
TO MIAMI
270
271
272
273
274
275
14258+51.8
14311+34.5
14358+17.8
14411+03.2
14463+85.9
14516+64.3
AMTRAK-PROPOSED SPEED
FEC-EXISTING SPEED
90
70
1.03° R
2.1° L
2.07°R
0.0
0.14
0.02
0.16
0.0
0.12
.06
VC
.16
VC
0.12
0.0
VC
0.30
0.12
VC
23.2
23.2
20.4
20.2
23.4
23.4
25.5
25.8
25.6
24.7
24.7
26.2
26.2
25.6
13.0
11.2
11.7
GOMEZ
HOBE SOUND
(HB,WL,DE)
OSPREY ST
SE CROSSRIP ST
PETTWAY AVE
BRIDGE RD (MARTIN CO #708)
GLEASON ST
271.8
271.9
273.7
273.8
HOBE SOUND TM TK
(FLBG)
(FLBG)
(FLBG)
(FLBG)
(FLBG)
132# CWR (70)
132# CWR (70)
136# CWR (00)
132# CWR (70)
132# CWR (70)
136# CWR (01)
132# CWR (70)
132# CWR (70)
136# CWR (98)
132# CWR (70)
132# CWR (70)
132# CWR (92)
132# CWR (70)
132# CWR (70)
132# CWR (70)
132# CWR (70)
RAILS
TIES
U. C. (03)
U. C. (03)
UNDER CUT


LEGEND
25 MPH
30 MPH
35 MPH
40 MPH
45 MPH
50 MPH
55 MPH
60 MPH
70 MPH
80 MPH
90 MPH
TO JACKSONVILLE
TO MIAMI
275
276
277
278
279
280
14516+64.3
14569+46.0
14622+24.1
14675+09.0
14727+88.8
14780+68.5
AMTRAK-PROPOSED SPEED
FEC-EXISTING SPEED
70 50 60
60 90
90 70 90
50
55
3.5° L
+4410
#20
(CAMP MURPHY NORTH)
2.18° L
1.05° R
1.97°R
4.15° R
LIKELY
(OHH) US 1
275.9
275.8
275.50
PARK RD
(FLBG)
1-30" OVL x 40' RCP
278.16
132# CWR (70)
132# CWR (92)
132# CWR (70)
136# CWR (96)
132# CWR (70)
132# CWR (70)
132# CWR (92)
132# CWR (70)
132# CWR (01)
132# CWR (70)
136# CWR (07)
132# CWR (70)
132# CWR (70)
136# CWR (07)
132# CWR (70)
132# CWR (70)
132# CWR (70)
132# CWR (70)
132# CWR (75)
132# CWR (75)
132# CWR (80)
132# CWR (75)
132# CWR (75)
132# CWR (99)
136# CWR (06)
132# CWR (75)
132# CWR (75)
136# CWR (06)
112# CWR (45)
112# CWR (45)
112# CWR (45)
112# CWR (45)
RAILS
RAILS
TIES
TIES
UNDER CUT
UNDER CUT


LEGEND
25 MPH
30 MPH
35 MPH
40 MPH
45 MPH
50 MPH
55 MPH
60 MPH
70 MPH
80 MPH
90 MPH
TO JACKSONVILLE
TO MIAMI
280
281
282
283
284
285
14780+68.5
14833+50.3
14886+32.1
14939+13.2
14991+96.9
15044+78.8
AMTRAK-PROPOSED SPEED
90 55
55 90
FEC-EXISTING SPEED
30
30
SWAP-OVER CURVE
3.04° R
4° L
#20
(CAMP MURPHY SOUTH)
MARS
JUPITER
COUNTY LINE RD (FLBG)
MARTIN CO
PALM BEACH CO
MP 280+4653
MARS TM TK
TEQUESTA DR
RIVERSIDE DR
JUPITER RIVER 22' x 588' WOD-DPG WFB-TPG-TRUNION LIFT
CENTER ST
INDIANTOWN RD
3-36" OVL x 40' RCP
TONEY PENNA DR
1-48" RND x 90' RCP
282.6
282.5
BR 282.58
284.5
284.6
284.07
284.85
(CFLBG)
136# CWR (06)
132# CWR (75)
132# CWR (75)
136 CWR (06)
132# CWR (75)
132# CWR (75)
132# CWR (73)
132# CWR (73)
136# CWR (00)
132# CWR (73)
132# CWR (73)
136# CWR (00)
132# CWR (73)
132# CWR (73)
136# CWR (07)
136# CWR (07)
136# CWR (02)
136# CWR (02)
136# CWR (07)
136# CWR (02)
136# CWR (02)
136# CWR (03)
136# CWR (03)
112# CWR (68)
112# CWR (68)
112# CWR (45)
112# CWR (45)
112# CWR (45)
112# CWR (45)
U. C. (03)
U. C. (03)
RAILS
RAILS
TIES
TIES
UNDER CUT
UNDER CUT


LEGEND
25 MPH
30 MPH
35 MPH
40 MPH
45 MPH
50 MPH
55 MPH
60 MPH
70 MPH
80 MPH
90 MPH
TO JACKSONVILLE
TO MIAMI
285
286
287
288
289
290
15044+78.0
15097+55.1
15150+35.4
15203+12.2
15255+93.3
15308+75.0
AMTRAK-PROPOSED SPEED
FEC-EXISTING SPEED
90
70
MEASURED MILE
SWAP-OVER CURVE
1.95° L
0.1
0.0
0.1
0.04
0.12
0.0
0.1
0.0
0.1
0.0
0.04
0.0
12.8
12.8
16.1
16.7
18.1
18.1
16.7
16.7
18.2
18.2
17.7
2-30" ARH x 54" RCP
FREDERICK SMALL RD
2-36" OVL x 40' RCP
DONALD ROSS RD
HOOD RD
KYOTO GARDENS DRIVE
S W RAMP OHH
PGA BLVD OHH
288.3
288.2
285.94
(CFLBG)
286.54
286.5
286.4
(CFLBG)
(CFLBG)
(CFLBG)
136# CWR (96)
112# CWR (68)
112# CWR (68)
136# CWR (96)
RAILS
112# CWR (68)
112# CWR (68)
136# CWR (96)
112# CWR (68)
112# CWR (68)
136# CWR (96)
RAILS
TIES
TIES
UNDER CUT
UNDER CUT

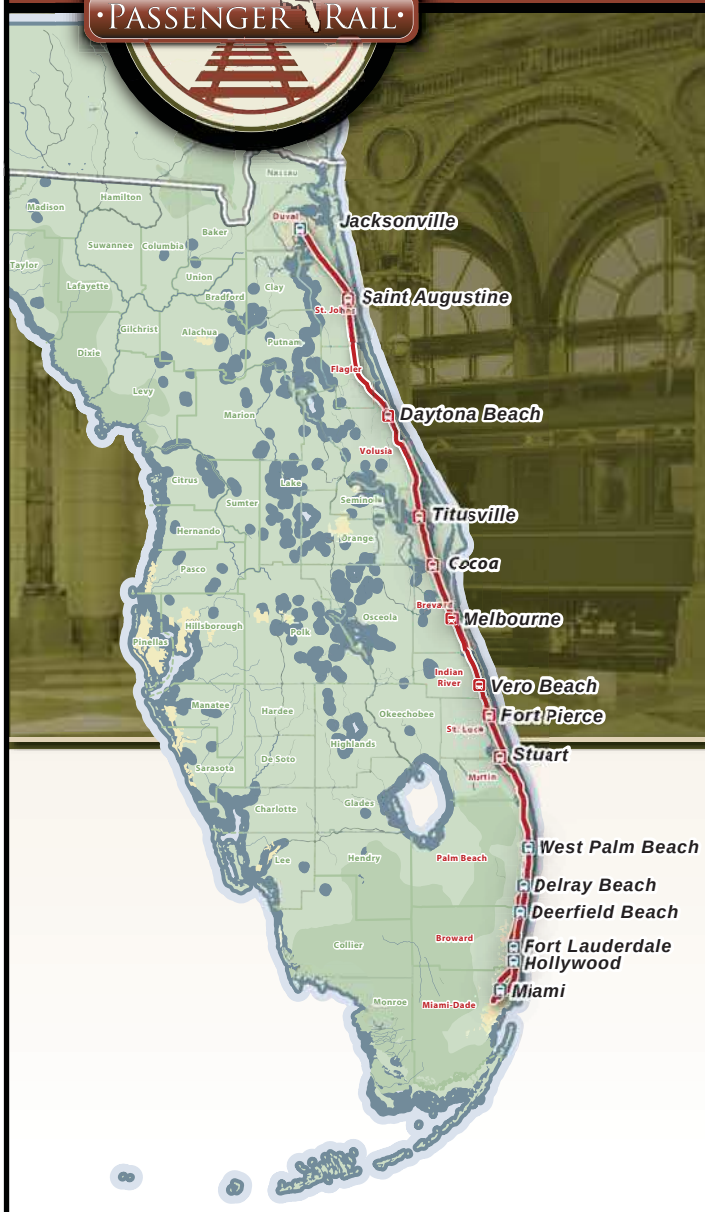

LEGEND
25 MPH
30 MPH
35 MPH
40 MPH
45 MPH
50 MPH
55 MPH
60 MPH
70 MPH
80 MPH
90 MPH
TO JACKSONVILLE
TO MIAMI
290
291
292
293
294
295
15308+75.0
15361+36.0
15414+40.5
15467+23.4
15520+10.6
15572+91.0
AMTRAK-PROPOSED SPEED
70 55 90
FEC-EXISTING SPEED
55
+3314
(LAKE PARK)
#20
2.08' L
3.43' R
0.1
0.0
0.1
0.0
0.04
0.11
0.30
0.0
0.30
0.0
17.7
18.2
18.2
18.6
18.6
19.8
17.8
28.5
28.5
19.6
(HB,WL,DE)
RCA BLVD
2-48" RND x 60' RCP
MONET
BURNS RD
2-60" ARH x 60' RCP
1-30" ARH x 66' RCP
LIGHTHOUSE DR
175' WOD-BMS
EARMAN RIVER
7 SPANS 25'
RICHARD RD
N LAKE PARK RD
LAKE PARK
PARK AVE
SR 809
SILVER BCH RD
BLUE HERON BLVD
290.2
290.1
(CFLBG)
290.26
(CFLBG)
290.99
291.38
(CFLBG)
291.86
BR
(FLBG)
(CFLBG)
(CFLBG)
(FLBG)
(CFLBG)
(CFLBG)
DIXIE HWY
112# CWR (75)
112# CWR (75)
112# CWR (75)
112# CWR (75)
136# CWR (96)
112# CWR (75)
112# CWR (75)
132# CWR (94)
112# CWR (75)
112# CWR (75)
136# CWR (96)
112# CWR (75)
112# CWR (75)
132# CWR (89)
132# CWR (76)
132# CWR (76)
112# CWR (76)
112# CWR (76)
132# CWR (76)
132# CWR (76)
LEWIS TERMINALS
112# CWR (76)
112# CWR (76)
RAILS
RAILS
TIES
TIES
UNDER CUT
UNDER CUT


LEGEND
25 MPH
30 MPH
35 MPH
40 MPH
45 MPH
50 MPH
55 MPH
60 MPH
70 MPH
80 MPH
90 MPH
TO JACKSONVILLE
TO MIAMI
295
296
297
298
299
300
15572+91.0
15625+74.4
15678+56.8
15731+37.5
15784+36.6
15837+04.3
90 70
AMTRAK-PROPOSED SPEED
FEC-EXISTING SPEED
1° L
2.04° R
1.93° R
299+00
#20
(WEST PALM BEACH)
0.0
0.05
0.05
0.0
0.0
RIVERIA
13TH W (FLBG)
(FLAGLER ST)
INLET BLVD (CFLBG)
TO PORT OF PALM BCH
1-24" RND x 34' TCP
1-24" OVL x 16. RCP
19.6
22.0
20.0
WEST PALM BEACH
49TH ST
45TH ST
36TH ST
30TH ST
25TH ST
23TH ST
15TH ST
12ST (OHH)
3RD ST
PED. WALK WAY
1ST ST
CLEMATIS ST
DATURA ST
EVERNIA ST
FERN ST
GARDENIA ST
HIBISCUS SR
JESSAMINE ST
OKEECHOBEE RD
(HB)
LEWIS TERMINALS
(CFLBG)
SR 710
295.64
295.2
295.1
295.4
295.3
CSX
CSX RR
297.5
297.6
297.7
297.8
298.55
WEST PALM BEACH YARD
136# CWR (97)
132# CWR (76)
132# CWR (76)
112# CWR (76)
112# CWR (76)
136# CWR (97)
132# CWR (76)
132# CWR (76)
132# CWR (76)
132# CWR (76)
112# CWR (76)
112# CWR (76)
136# CWR (07)
132# CWR (76)
132# CWR (76)
136# CWR (07)
132# CWR (76)
132# CWR (76)
RAILS
RAILS
TIES
TIES
UNDER CUT
UNDER CUT

ATTACHMENT B

CONCEPTUAL PLANS FOR PROPOSED AMTRAK STATIONS

FEC AMTRAK® PASSENGER RAIL

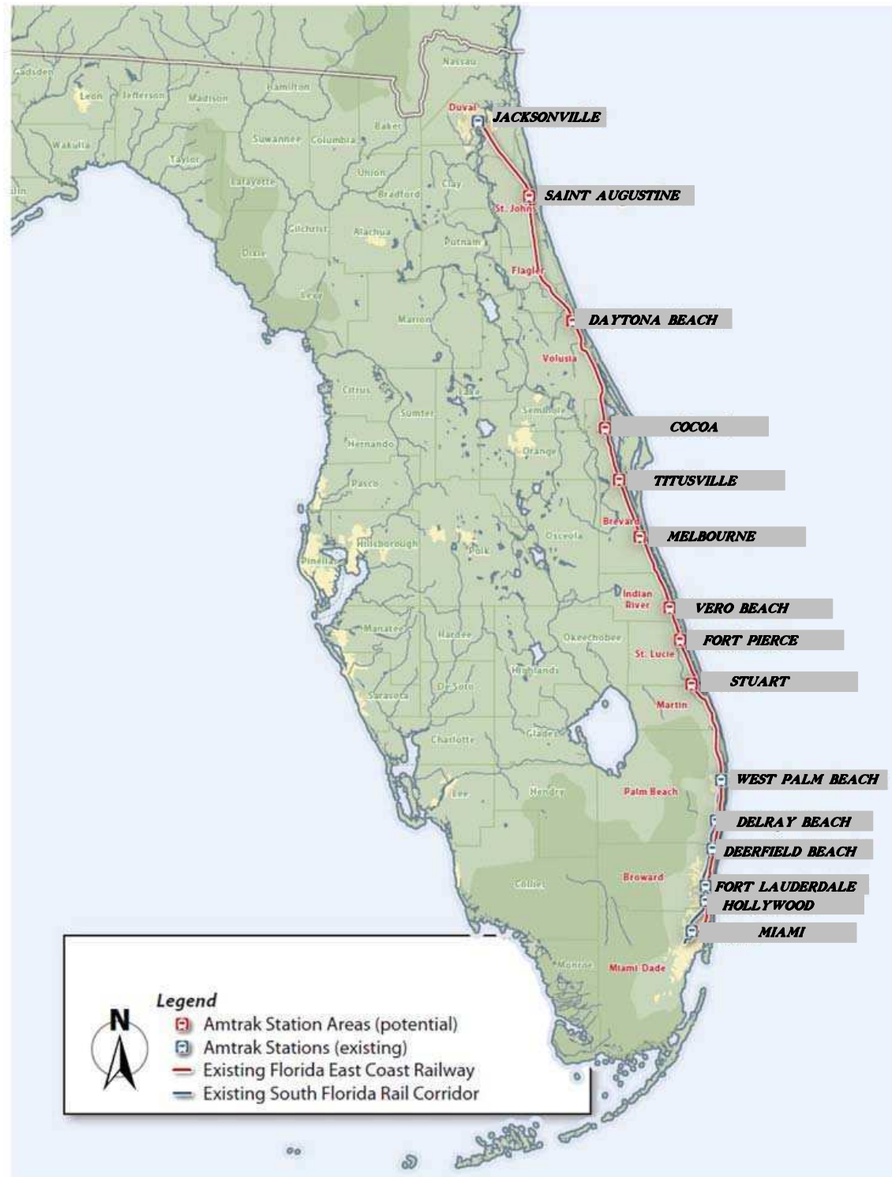


Federal Funding Opportunity Number: FR-HSR-10-004

TBG0614102323390RL

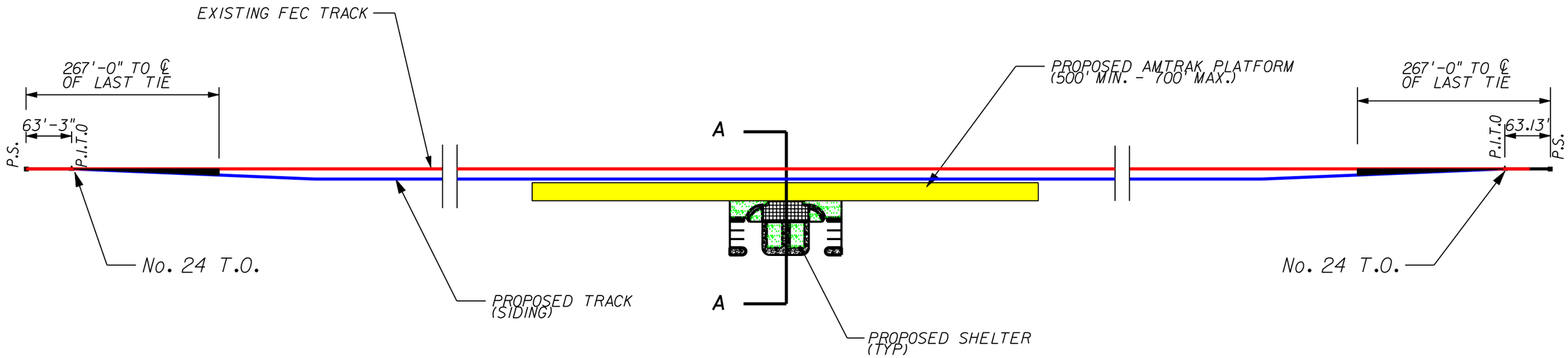
COMPONENTS OF CONTRACT PLANS SET

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION
CONCEPTUAL PLANS
FLORIDA EAST COAST AMTRAK STATIONS

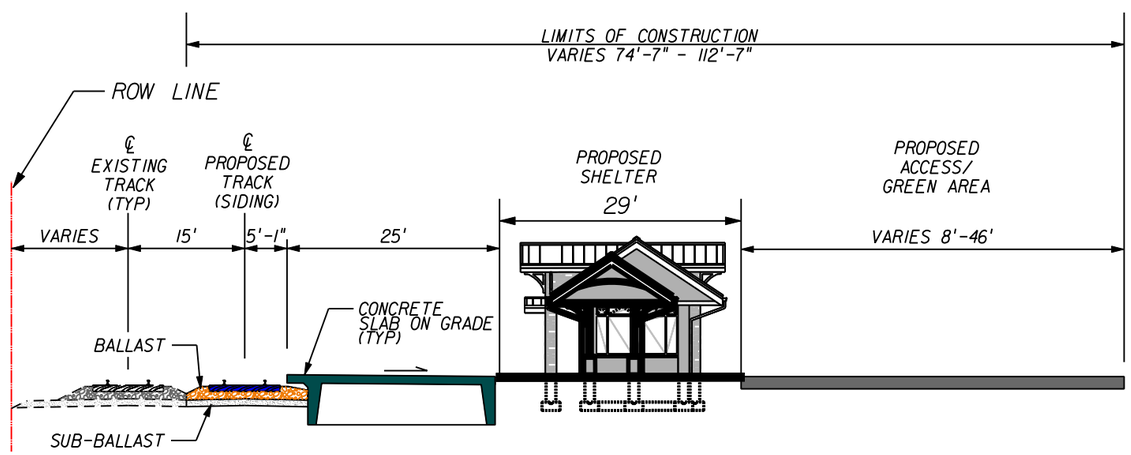


FISCAL YEAR	SHEET NO.
09	_1.

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



NEW SIDING LAYOUT
(L=2,500' MIN.)



SECTION A-A
NEW PLATFORM/SHELTER SECTION

N.T.S.

REVISIONS			
	DESCRIPTION	DATE	DESCRIPTION

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
		- - -

TYPICAL SECTION
SMALL SHELTER

SHEET NO.

St. Augustine Concept Plan – Alternative 2

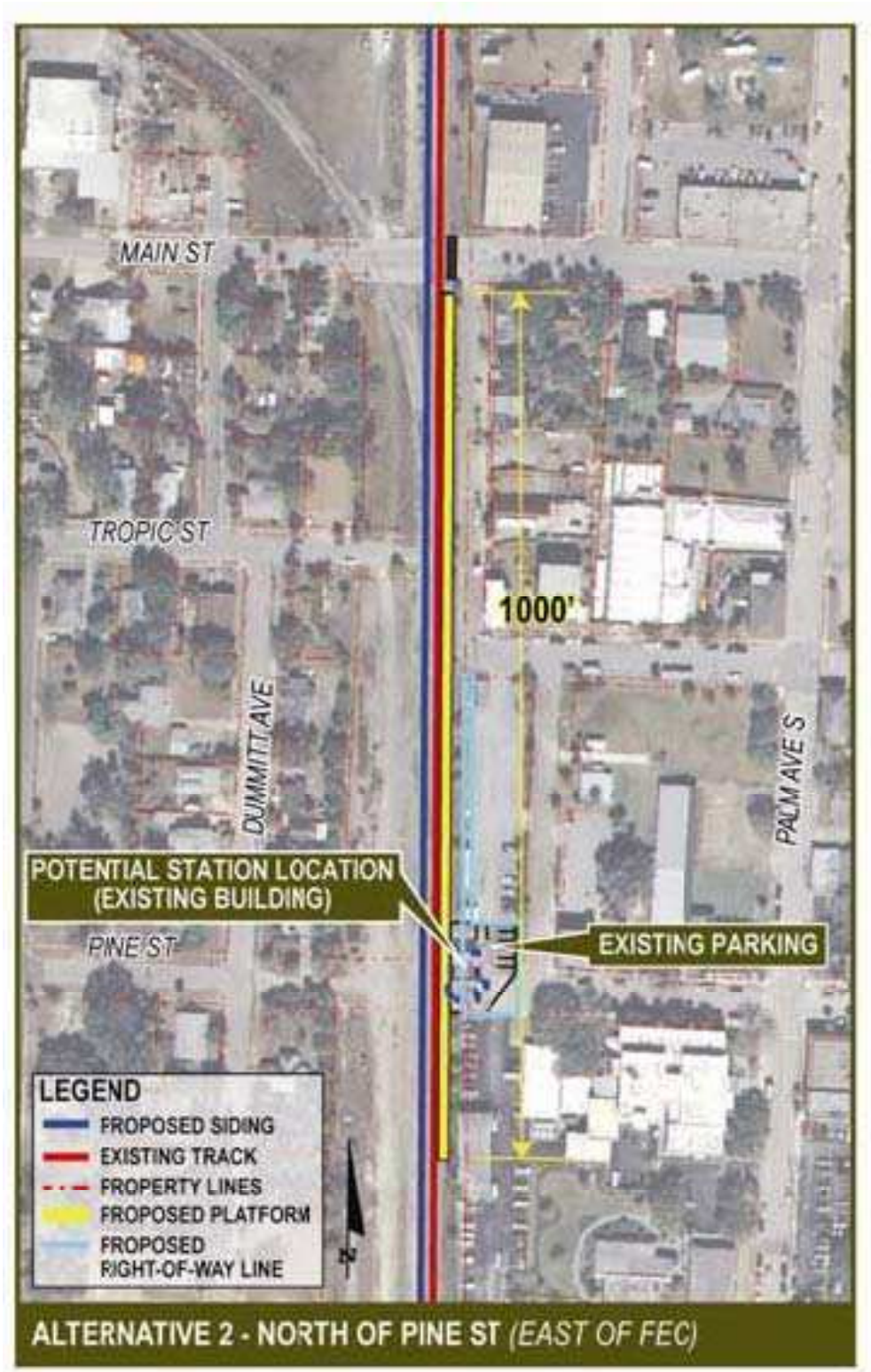
Preferred Alternative

Daytona Beach Concept Plan – Alternative 1

Preferred Alternative

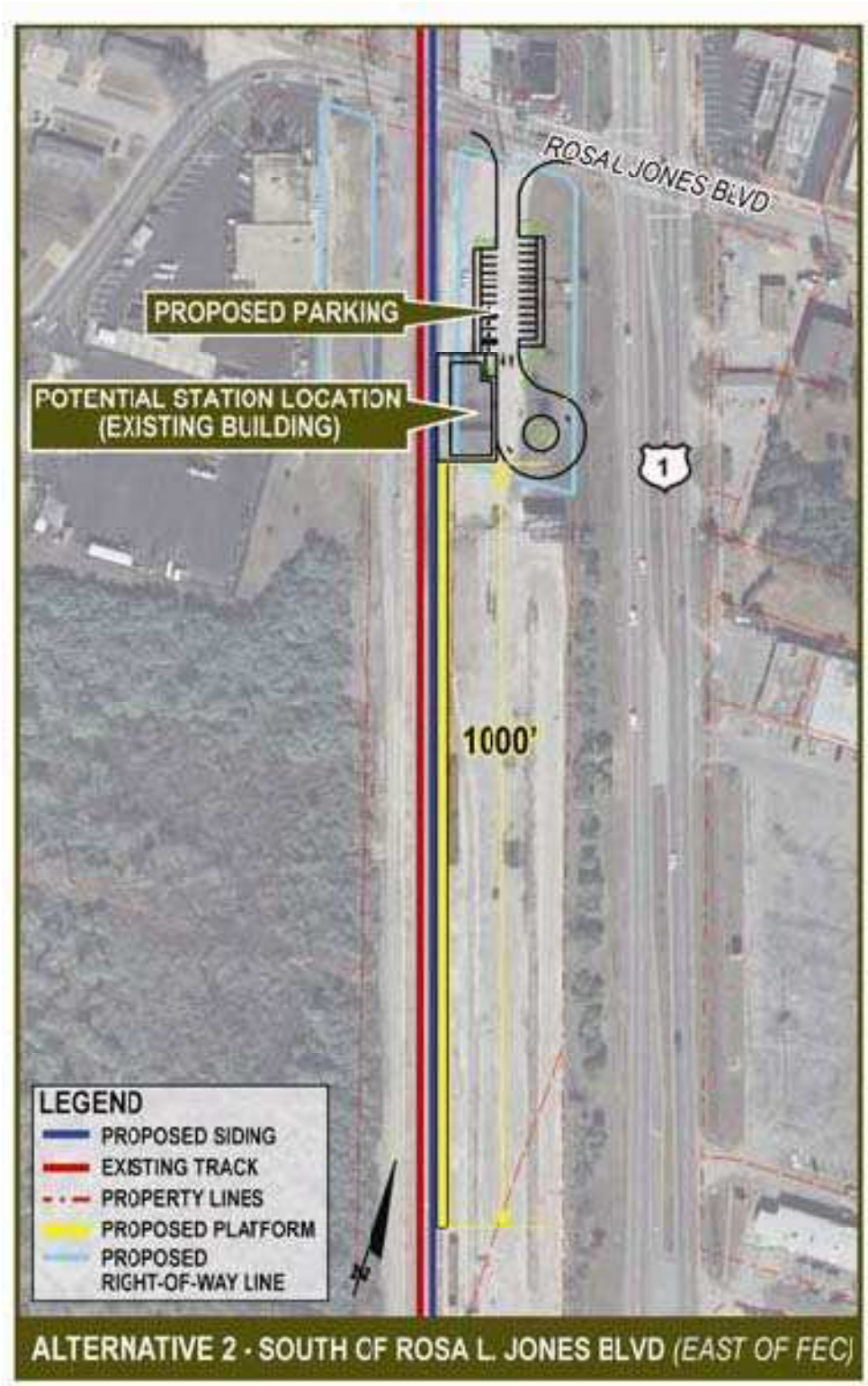
Titusville Concept Plan – Alternative 2

Preferred Alternative



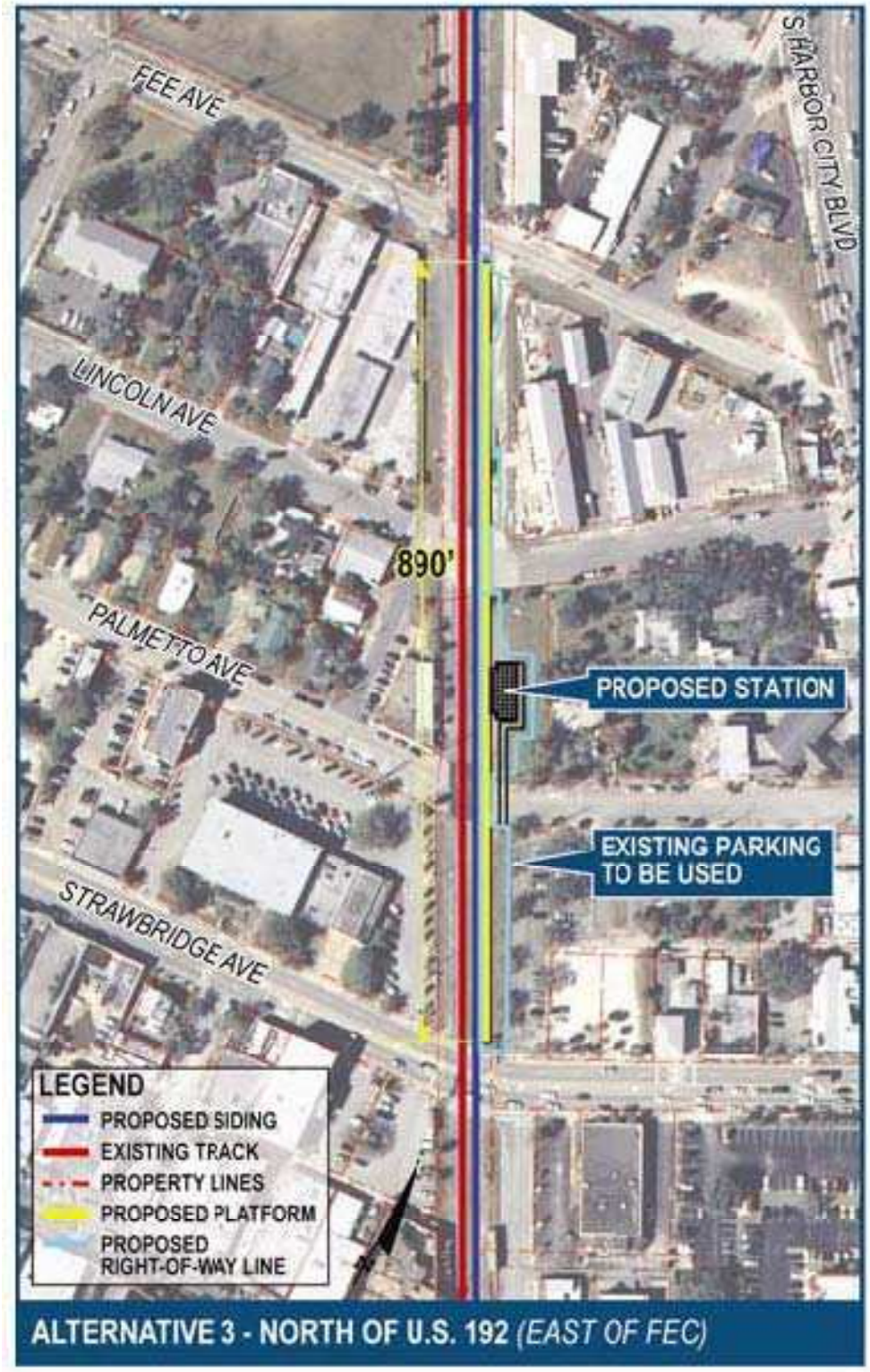
Cocoa Concept Plan – Alternative 2

Preferred Alternative



Melbourne Concept Plan – Alternative 3

Preferred Alternative

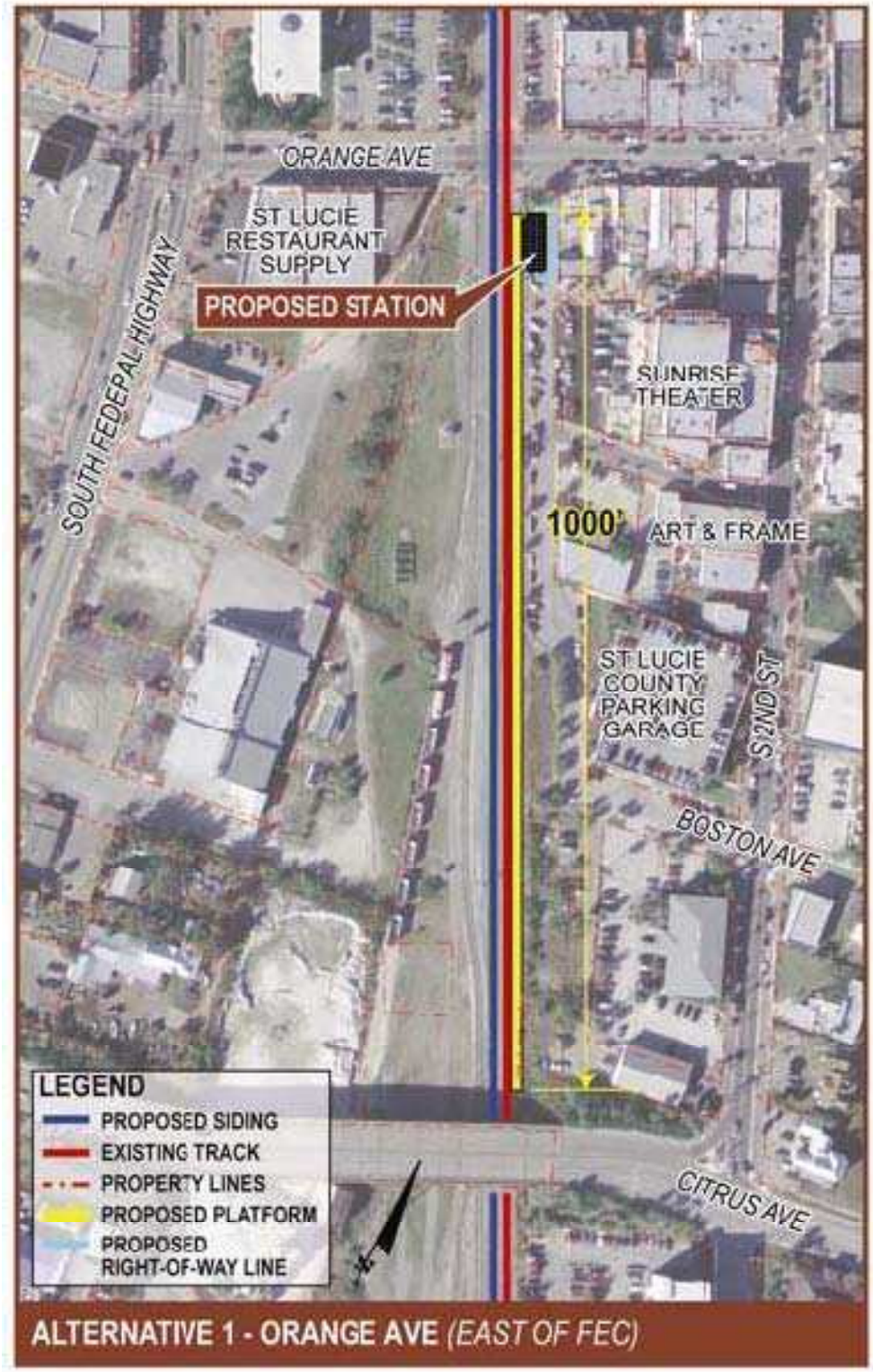


Vero Beach Concept Plan – Alternative 3

Preferred Alternative

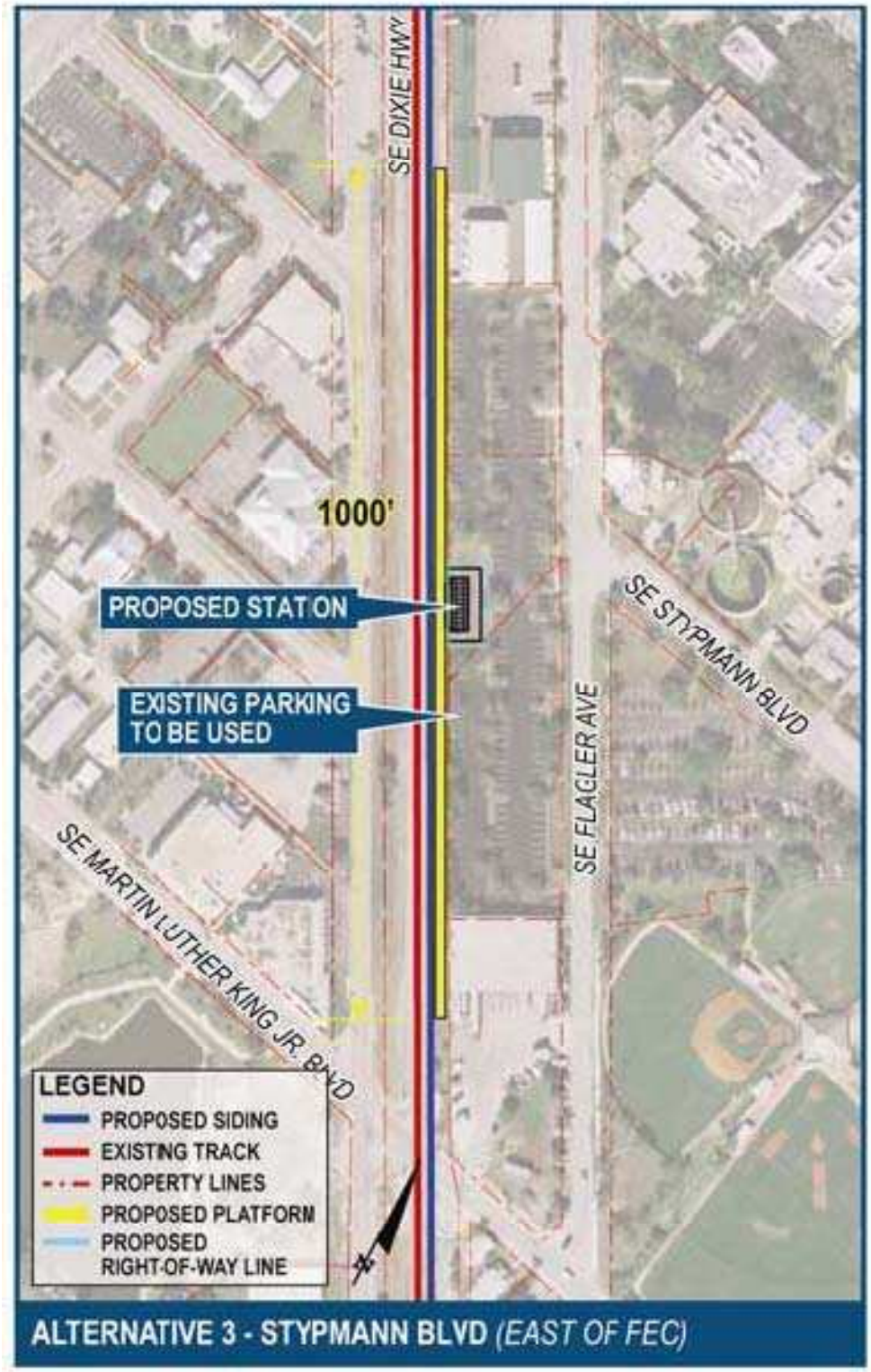
Fort Pierce Concept Plan – Alternative 1

Preferred Alternative



Stuart Concept Plan – Alternative 3

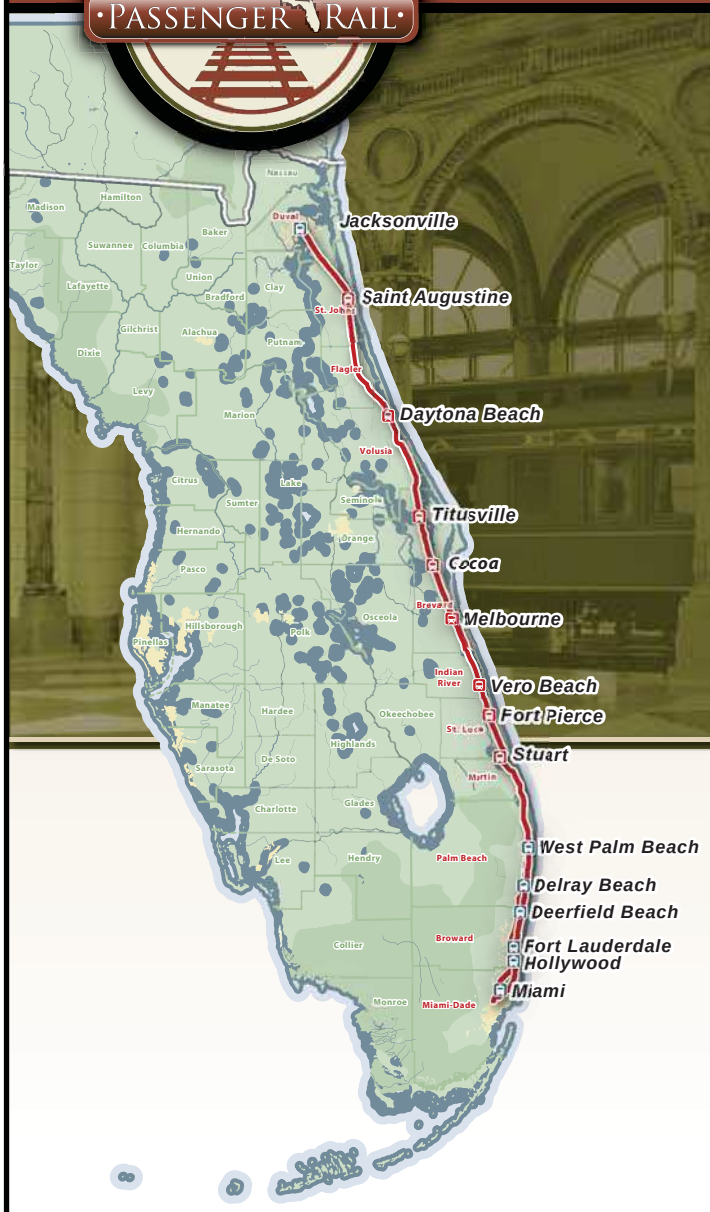
Preferred Alternative



ATTACHMENT C

CONCEPTUAL PLANS FOR NORTHWOOD CROSSOVER CONNECTION

FEC AMTRAK® PASSENGER RAIL



Federal Funding Opportunity Number: FR-HSR-10-004

TBG0614102323 3QRL

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
		- - -

CONCEPTUAL PLAN
NORTHWOOD CONECTION

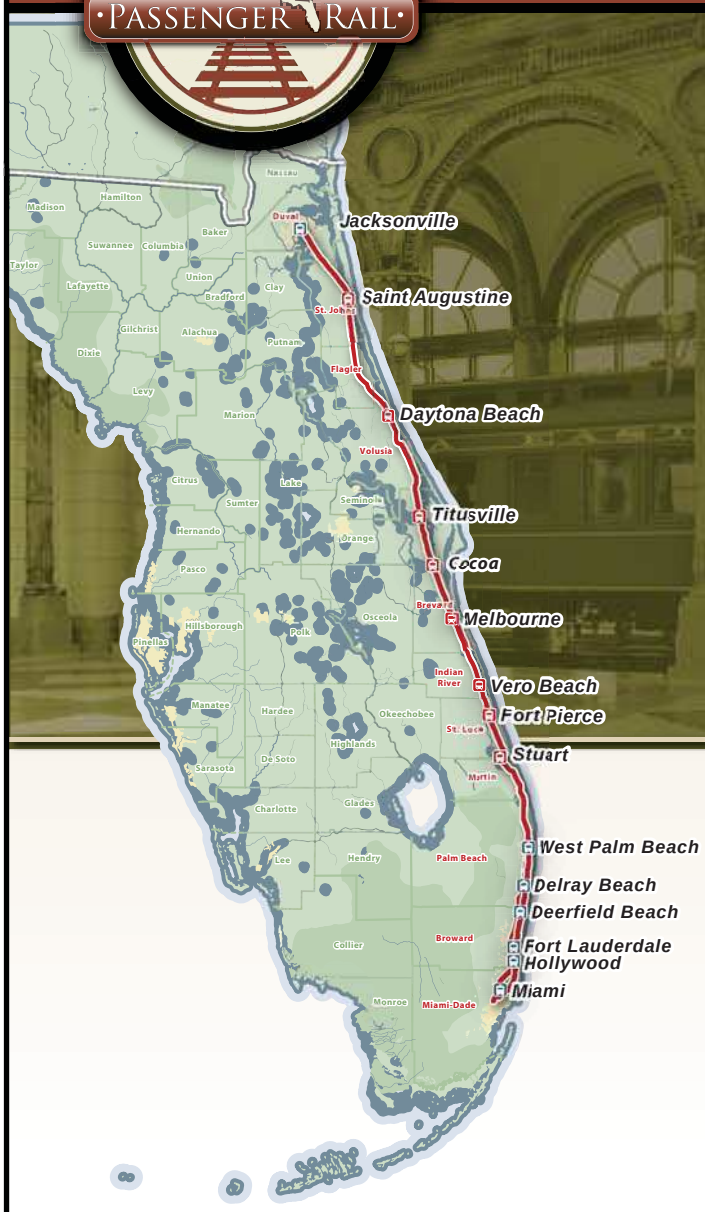
SHEET NO.

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

ATTACHMENT D

AMTRAK STANDARDS FOR SMALL UNSTAFFED STATION

FEC AMTRAK® PASSENGER RAIL



TBG0614102323390RL

Federal Funding Opportunity Number: FR-HSR-10-004

Amtrak®

SMALL SHELTER / UNSTAFFED STATION CONSTRUCTION DOCUMENTS

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NEWTOWN, PA 18940
(P) 215-497-8360
(F) 215-497-8362

STRUCTURAL ENGINEERING:
HARRISON-HAMNETT, P.C.
40 KNOWLES STREET
PENNINGTON, NJ 08534
(P) 609-818-1808
(F) 609-818-1809

ESTIMATOR:
STRUCTURETONE, INC
200 AMERICAN METRO BLVD.
SUITE 116
HAMILTON, NJ 08619
(P) 609-588-0362

LIST OF DRAWINGS

Architectural:

CS	COVER SHEET / BUILDING CODE ANALYSIS
A-0.1	SYMBOLS, ABBREVIATIONS, LEGENDS & MOUNTING HEIGHTS
GN-1	GENERAL NOTES
SP	SITE PLAN (REFERENCE), NOTES, & DETAILS
A-1.0	FLOOR PLAN, LEGENDS, AND NOTES
A-1.1	REFLECTED CEILING PLAN, LEGENDS & NOTES
A-2.0	ROOF PLAN, DETAILS, LEGENDS, & NOTES
A-3.0	EXTERIOR ELEVATIONS
A-3.1	BUILDING & WALL SECTIONS
A-3.2	WALL SECTIONS
A-4.0	MISCELLANEOUS DETAILS

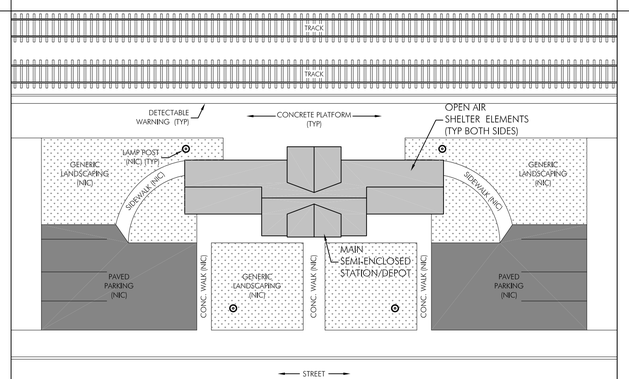
Structural Engineering:

S-1.0	FOUNDATION PLAN
S-2.0	CEILING FRAMING PLAN
S-2.1	ROOF FRAMING PLANS
S-3.1	BUILDING SECTIONS
S-4.0	TYPICAL DETAILS & GENERAL NOTES
S-4.1	TYPICAL DETAILS

Electrical Engineering:

ME-0.1	ELEC. ENGINEERING SYMBOL LIST, ABBREVIATIONS
ME-1.0	LIGHTING AND POWER PLANS
ME-2.0	SINGLE LINE DIAGRAM AND SCHEDULES

KEY PLAN (NTS)



CODE SYMBOL LEGEND

000 B	TOTAL OCCUPANTS PER SPACE / USE GROUP
000 / 000	ANTICIPATED LOAD AT EGRESS ELEMENT / EGRESS CAPACITY
75'	LENGTH OF EGRESS TRAVEL
	PATH OF EGRESS
	1 HR FIRE RESISTANCE RATED CONSTRUCTION (N/A - THIS PROJECT)
	2 HR FIRE RESISTANCE RATED CONSTRUCTION (N/A - THIS PROJECT)

BUILDING CODE ANALYSIS

Applicable Design Codes:

2006 IBC (International Building Code)
2003 IFC (International Fire Code)
2006 IMC (International Mechanical Code)
2003 IPC (International Plumbing Code)

Latest Edition NFPA (National Fire Protection Assoc. Specifically NFPA 130: Standard For Fixed Guideway Transit And Passenger Rail Systems)

Code of Federal Regulations Title 49, Part 37 (Transportation Services for Individuals w/ Disabilities - Subpart C Transportation Facilities)

Code of Federal Regulations Title 49, Part 38 (Accessibility Specifications for Transportation Vehicles - Subpart F Intercity Rail Cars & Systems)

Code of Federal Regulations Section 28 CFR, Part 36 (ADA ADAAG & Advisories Dealing w/ Buildings & Facilities)

2004 Edition of American with Disabilities Act Accessibility Guidelines (ADAAG) - (Specifically Section 810: Transportation Facilities)

Building Occupancy Classification:-------- "U" Utility

Construction Type:---"II B"

Building Area:------- 315 Gross SF (217 Net SF) @ Semi-Enclosed Shelter Structure

Building Height:------ 1-Story (16'-4"@ High Point)

Project Actual Area:--1,277 Sq. Ft. Actual Sheltered Scope Area

Fire Suppression System:---------- NFPA 13 sprinkler system - (Not Provided)

IBC Table 503:
Allowable Height:---2 Stories
Allowable Area:---- 9,500 SF

Occupant Load:--- 44 Occupants Max. Anticipated at Semi-Enclosed Shelter Station if Standing Space Used (@ 5 Net SF/ Occupant)

Exits:---------- (1 Exit Provided & Req'd per IBC 1019.2)

Codes Notes:

1. ALL NEW CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL CODES, ORDINANCES, AND REGULATIONS OF ALL AGENCIES HAVING JURSIDICTION FOR THE PROJECT LOCATION.
2. MATERIALS SHALL BE CLASSIFIED IN ACCORDANCE WITH THE SURFACE FLAME-SPREAD RATING OBTAINED AS PRESCRIBED IN ASTM E-84-1961 "STANDARD METHOD OF TEST FOR SURFACE BURNING CHARACTERISTICS OF BUILDING MATERIALS" OR AS PRESCRIBED BY THE PREVAILING BUILDING CODE FOR THE PROJECT LOCATION.

FILE NAME: X
PLOT SCALE: XXX
STANDARD PEN TABLE: YES

No.	Revisions	Date	By
	60% "PROGESS" SUBMISSION	06-30-08	
	90% "PROGESS" SUBMISSION	08-15-08	
	100% "FINAL" SUBMISSION	11-07-08	
	100% "FINAL" RESUBMISSION	02-20-09	

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Office of Chief Engineer
STRUCTURES
National Railroad Passenger Corporation
30th Street Station, Philadelphia, Pennsylvania 19104

Approved	Date
DCE SCTRUCTURES	
DIRECTOR FACILITIES	

dna design & Architecture LLC
201 South State Street
Newtown, PA 18940
Tel. 215.497.8360
Fax. 215.497.8362

Architecture
Interiors
Adaptive Reuse
Design Build
Project Management
Inspections

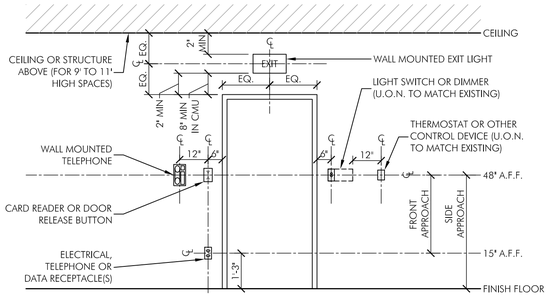
Project Number 08001

SMALL SHELTER / UNSTAFFED STATION

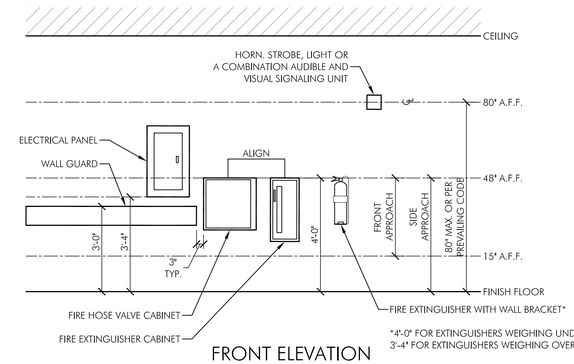
COVER SHEET – BUILDING CODE ANALYSIS

Designed	Drawn	Checked	Date
rn	jm	rn	06/20/2008

Function No:	------
Work Elem. No:	-----
Sheet No.	1 OF 20
Dwg. No.	CS



FRONT ELEVATION



FRONT ELEVATION

MISCELLANEOUS MOUNTING HEIGHTS

(* NOTE: NOT ALL ELEMENTS APPLY TO THIS PROJECT)

MATERIALS SYMBOLS

NTS

CONCRETE	BATT & BLANKET INSULATION
BRICK	CONCRETE MASONRY UNIT
RIGID INSULATION	EARTH
METAL (LARGE SCALE)	WATERPROOFING SHEET MEMBRANE ROOFING
PLYWOOD (LARGE SCALE)	GLASS (ELEVATION)
PLYWOOD (SMALL SCALE)	STONE VENEER WALL PANEL (ELEVATION)
WOOD (ROUGH)	NEW FILL (ELEVATION)

GENERAL DIMENSIONING

0'–0"

NOTE:
DIMENSIONS ARE TAKEN FROM COLUMN LINE CENTER TO FINISH SURFACES, UNLESS OTHERWISE NOTED.

±0'–0"

NOTE:
THE ± INDICATES A DIMENSION THAT CAN VARY DUE TO DISCREPANCIES IN THE EXISTING CONDITIONS. (NOTIFY PROJECT ENGINEER OF ANY CHANGES TO THAT DIMENSION).

[0'–0"]
VIF

NOTE:
EXISTING DIMENSIONS INDICATED AS [0'-0"] OR WITH VIF ARE SUPPLIED BY OWNER AND SHALL BE FIELD VERIFIED.

ABBREVIATIONS

A/C	AIR CONDITIONER
ACOUS	ACOUSTICAL
ACT	ACOUSTICAL CEILING TILE
AD	ACCESS DOOR
ADJ	ADJUSTABLE, ADJACENT
A/E	ARCHITECT/ENGINEER
AFF	ABOVE FINISH FLOOR
AHU	AIR HANDLING UNIT
ALUM	ALUMINUM
ARCH	ARCHITECT, ARCHITECTURAL
ASPH	ASPHALT
BD	BOARD
BITUM	BITUMINOUS
BLDG	BUILDING
BLK	BLOCK
BLKG	BLOCKING
BM	BEAM
BOT	BOTTOM
BRK	BRICK
BTU	BRITISH THERMAL UNIT
BUR	BUILT-UP ROOFING
C	CENTER
CAB	CABINET
CCTV	CLOSED CIRCUIT TELEVISION
CEM	CEMENT, CEMENTITIOUS
CJ	CONTROL JOINT
CL	CLOSET
CLG	CEILING
CLR	CLEAR
CM	CONSTRUCTION MANAGER
CMU	CONCRETE MASONRY UNIT
CO	CLEANOUT
COL	COLUMN
CONC	CONCRETE
CONN	CONNECTION
CONSTR	CONSTRUCTION
CONT	CONTINUOUS
CONTR	CONTRACTOR
CORR	CORRIDOR
CPT	CARPET
CSMT	CASEMENT
CT	CERAMIC TILE
CU	CUBIC
C.U.	CONDENSING UNIT
CUH	CABINET UNIT HEATER
D	DEEP, DEPTH
DBL	DOUBLE
DEPT	DEPARTMENT
DET	DETAIL
DF	DRINKING FOUNTAIN
DH	DOUBLE HUNG
DIA	DIAMETER
DIM	DIMENSION
DL	DEAD LOAD
DMPF	DAMP PROOFING
DN	DOWN
DS	DOWNSPOUT
DWG	DRAWING
EA	EACH
EF	EXHAUST FAN
EIFS	EXT. INSUL. & FINISH SYSTEM
EJ	EXPANSION JOINT
EL	ELEVATION
ELEC	ELECTRICAL
ELEV	ELEVATOR
EMER	EMERGENCY
ENCL	ENCLOSURE
ENGR	ENGINEERING
ENTR	ENTRANCE
EQ	EQUAL
EQUIP	EQUIPMENT
EWC	ELECTRIC WATER COOLER
EXP	EXPOSED, EXPANSION
EXST	EXISTING
EXT	EXTERIOR
FE	FIRE EXTINGUISHER
FEC	FIRE EXTINGUISHER CABINET
FEHC	FIRE EXTINGUISHER AND HOSE CABINET
FHC	FIRE HOSE CABINET
FIN	FINISH, FINISHED
FIXT	FIXTURE
FJ	FIELD JOINT
FLASHG	FLASHING
FLOUR	FLOURESCENT
FLR	FLOOR, FLOORING
FP	FIREPROOF
FRT	FIRE RETARDANT TREATED
FT	FOOT, FEET
FTG	FOOTING
FTR	FIN TUBE RADIATION
FURR	FURRING
GA	GUAGE
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GL	GLASS
GND	GROUND
GR	GRADE
GYP	GYPSUM
H	HIGH
HC	HANDICAPPED
HM	HOLLOW METAL
HORIZ	HORIZONTAL
HP	HIGH POINT
HR	HOUR
HT	HEIGHT
HVAC	HEATING, VENTILATION & AIR CONDITIONING
ID	INSIDE DIAMETER, INSIDE DIMENSION
IND	INDICATED
INSUL	INSULATION
INT	INTERIOR
JAN	JANITOR
JC	JANITOR'S CLOSET
JCT	JUNCTION
JST	JOIST
JT	JOINT
KIT	KITCHEN
L	LONG, LENGTH
LAB	LABORATORY
LAM	LAMINATE
LAV	LAVATORY
LIN	LINEAR
LKR	LOCKER
LL	LIVE LOAD
LP	LOW POINT
LT	LIGHT
LVR	LOUVER
MFR	MANUFACTURER
MAS	MASONRY
MAX	MAXIMUM
MC	MEDICINE CABINET
MECH	MECHANICAL
MEMB	MEMBRANE
MEP	MECHANICAL, ELECTRICAL & PLUMBING
MFG	MANUFACTURER
MIN	MINIMUM
MISC	MISCELLANEOUS
MO	MASONRY OPENING
MTD	MOUNTED
MTG	MOUNTING
MTL	METAL
MULL	MULLION
NA	NOT APPLICABLE
NIC	NOT IN CONTRACT
NO	NUMBER
NOM	NOMINAL
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER, OUTSIDE DIMENSION
OFF	OFFICE
OH	OVERHEAD
OPNG, OPENG	OPENING
OPP	OPPOSITE
PERF	PERFORATED
PL	PLATE
PLAM	PLASTIC LAMINATE
PLAS	PLASTER
PLBG	PLUMBING
PLWD	PLYWOOD
PR	PAIR
PREFAB	PREFABRICATED
PREFIN	PREFINISHED
PSF	PER SQUARE FOOT
PSI	PER SQUARE INCH
PTD	PAINTED
PTN	PARTITION
R	RISER
RAD	RADIUS
RD	ROOF DRAIN
REF	REFERENCE
REFR	REFRIGERATOR
REINF	REINFORCE(D)(ING)(MENT)
REQD	REQUIRED
RO	ROUGH OPENING
SAT	SUSPENDED ACOUS TILE
SPEC	SPECIFICATIONS
SQ	SQUARE
SS	STAINLESS STEEL
STC	SOUND TRANSMISSION CLASS
STD	STANDARD
STL	STEEL
STOR	STORAGE
SUSP CLG	SUSPENDED CEILING
T	TREAD
THK	THICK
TMPD	TEMPERED
TOM	TOP OF MASONRY
TOS	TOP OF STEEL
TREATD	TREATED
TYP	TYPICAL
UL	UNDERWRITERS LABORATORIES
UNFIN	UNFINISHED
UON	UNLESS OTHERWISE NOTED
VCT	VINYL COMPOSITION TILE
VERT	VERTICAL
VIF	VERIFY IN FIELD
VTR	VENT THROUGH ROOF
W/	WITH
WD	WOOD
W/O	WITHOUT
WP	WORKING POINT

SYMBOLS

&	AND
∠	ANGLE
@	AT
℄	CENTER LINE
∅	DIAMETER, ROUND
#	POUND, NUMBER
/	OF

REFERENCE SYMBOL KEY

KITCHEN / 12 / 200 SF / 9'-6" — ROOM NAME, ROOM #, CEILING HEIGHT, SQUARE FEET	ROOM DESIGNATION
2 / A-1.0 — DIRECTION, SECTION NO., DRAWING NO.	WALL SECTION
2 / A-1.0 — DIRECTION, SECTION NO., DRAWING NO.	BUILDING SECTION
2 / A-1.0 — DIRECTION, ELEVATION NO., DRAWING NO.	EXTERIOR ELEVATION
2 / A-1.0 — DIRECTION, ELEVATION NO., DRAWING NO.	INTERIOR ELEVATION
2 / A-1.0 — DETAIL NO., DRAWING NO.	DETAIL
12 — DOOR NO.	DOOR TAG
12 — WINDOW NO.	WINDOW TAG
2 — NOTE NO.	CONSTRUCTION / DEMOLITION NOTE
M-1 / A-1 — MILLWORK NO., DRAWING NO.	MILLWORK DESIGNATION
1 / A-1 / 2 — ELEVATION NO., DIRECTION, ELEVATION NO., DRAWING NO.	MULTIPLE ELEVATION REFERENCES
	MATCH LINE
14'-6" TOP OF STEEL	WORKING POINT AND/OR DATUM LINE
1	REVISION #
A / 1	COLUMN LINES

No.	Revisions	Date	By
	60% "PROGESS" SUBMISSION	06–30–08	
	90% "PROGESS" SUBMISSION	08–15–08	
	100% "FINAL" SUBMISSION	11–07–08	
	100% "FINAL" RESUBMISSION	02–20–09	

FILE NAME: X
PLOT SCALE: XXX
STANDARD PEN TABLE: YES

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Office of Chief Engineer
STRUCTURES
National Railroad Passenger Corporation
30th Street Station, Philadelphia, Pennsylvania 19104

Approved	Date
DCE SCTRUCTURES	
DIRECTOR FACILITIES	

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201 South State Street
Newtown, PA 18940
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Fax. 215.497.8362

Architecture
Interiors
Adaptive Reuse
Design Build
Project Management
Inspections

Project Number 08001

SMALL SHELTER / UNSTAFFED STATION

SYMBOLS, ABBREVIATIONS, LEGENDS & HEIGHTS

Designed	Drawn	Checked	Date
rn	jm	rn	06/20/2008

Function No: ––––––
Work Elem. No: –––––
Sheet No. 2 OF 20
Dwg. No. A–0.1

GENERAL NOTES

(REVIEW GENERAL NOTES BEFORE COMMENCING BID & CONSTRUCTION WORK - GENERAL NOTES APPLY TO ALL DRAWINGS)

* WHEREVER THE TERM "ARCHITECT" OR "ENGINEER" IS USED IN THE DRAWINGS & SPECIFICATIONS, IS SHALL MEAN "PROJECT ENGINEER". WHEREVER THE WORD "CONTRACTOR" IS USED THROUGHOUT THE DRAWINGS & SPECIFICATIONS, IT SHALL MEAN "GENERAL CONTRACTOR" FOR A SINGLE PRIME CONSTRUCTION CONTRACT, INCLUSIVE OF SUBCONTRACTORS. DRAWINGS AND SPECIFICATIONS WERE PRODUCED FOR A SINGLE PRIME CONTRACTOR TO BID. (GENERAL CONTRACTOR SHALL COORDINATE ALL TRADES AND SUB-CONTRACTORS).

1. BEFORE PREPARING HIS PROPOSAL, THE CONTRACTOR SHALL INSPECT THE PROJECT SPECIFIC SITE AND VERIFY ALL AREAS/CONDITIONS TO DETERMINE THE EXACT SCOPE AND QUANTITIES REQUIRED TO COMPLETE THE WORK DESCRIBED IN THE CONTRACT DOCUMENTS (DRAWINGS & SPECIFICATIONS). CONTRACTOR SHALL BE RESPONSIBLE TO HAVE COMPARED THE PROJECT SPECIFIC PREMISES, EXISTING CONSTRUCTION AND ANY OTHER CONDITIONS AFFECTING THE PERFORMANCE OF THE WORK. ANY CONFLICTS/OMISSIONS OR DISCREPANCIES SHALL BE REPORTED IN WRITING TO THE PROJECT ENGINEER.

2. THE ARCHITECT OF RECORD HAS NOT BEEN RETAINED FOR TYPICAL SPECIFIC SITE ADAPTED CONSTRUCTION DOCUMENTS AND CONSTRUCTION ADMINISTRATION PHASE PROFESSIONAL SERVICES & RESPONSIBILITIES. THE PROJECT ENGINEER IS RESPONSIBLE FOR ANY CONSTRUCTION ADMINISTRATION & FIELD INSPECTION SERVICES U.O.N.; RESPONSIBILITY PERTAINS TO THE SCOPE OF WORK OUTLINED & PRESCRIBED IN THE CONSTRUCTION DOCUMENTS & SPECIFICATIONS. ARCHITECT OF RECORD MAY OR MAY NOT BE RETAINED FOR FUTURE SITE SPECIFIC CONSTRUCTION DOCUMENTATION AND CONSTRUCTION ADMININISTRATION SERVICES.

3. ALL EXISTING ELEMENTS SHALL BE PROTECTED DURING THE COURSE OF FUTURE WORK AS DIRECTED BY OWNER.

4. BID PRICING TO INCLUDE REPAIR ALL OF EXISTING CONSTRUCTION TO REMAIN WHICH IS DAMAGED AS A RESULT OF DEMOLITION AND/OR NEW CONSTRUCTION. REPAIRS SHALL EXACTLY MATCH ADJACENT MATERIALS, FINISH, COLORS, & APPEARANCE U.O.N.

5. IF DOCUMENTS ARE IN CONFLICT WITH ONE ANOTHER ON A PARTICULAR ITEM OR ITEMS, CONTRACTOR / ESTIMATOR SHALL BASE HIS PRICING ON THE BETTER QUALITY OR MORE EXPENSIVE OF THE ITEMS OR CONDITIONS.

6. BID PRICING SHALL INCLUDE ADEQUATELY BRACING AND PROTECTING ANY EXISTING ELEMENTS/ WORK TO REMAIN DURING FUTURE CONSTRUCTION AGAINST DAMAGE, BREAKAGE, COLLAPSE, DISTORTION AND/OR MISALIGNMENT IN ACCORDANCE WITH APPLICABLE CODES, STANDARDS, AND OSHA REQ'TS.

7. THE CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES.

8. COORDINATE PROJECT SITE WORK WITH PROJECT ENGINEER INCLUDING, BUT NOT LIMITED TO, SCHEDULING TIME, LOCATION AND METHODS FOR DELIVERIES, BUILDING FACILITIES, AND USE OF ON SITE MATERIAL STAGING & STORAGE AREAS.

9. BID PRICING SHALL INCLUDE PATCHING SURFACES TO EXACTLY MATCH ADJACENT IN A MANNER SUITABLE TO PROJECT ENGINEER & FINISH MFR. TO RECEIVE NEW FINISHES.

10. BID PRICING SHALL INCLUDE PROCUREMENT, PAYMENT, & POSTING OF ALL CONSTRUCTION PERMITS & INSPECTIONS REQUIRED FOR THE EXECUTION OF THE PROJECT. COORDINATE WITH PROJECT ENGINEER.

11. ALL EXISTING ABOVE AND BELOW GROUND UTILITIES, INCLUDING BUT NOT LIMITED TO, CONDUIT, WIRING, ELEC. PANELS, WATER PIPING, DRAINAGE PIPING, SANITARY PIPING, REFRIGERANT PIPING, ETC., ARE TO BE EXAMINED AND TESTED BY THE CONTRACTOR'S LICENSED SUB-CONTRACTOR, PRIOR TO START OF ANY FUTURE WORK. THE EXAMINATION & TESTING MUST BE PERFORMED IN THE PRESENCE OF PROJECT ENGINEER. THE CONTRACTOR MUST SUBMIT WRITTEN NOTIFICATION PRIOR TO START OF WORK, INDENTIFYING ALL DAMAGED OR IMPROPERLY FUNCTIONING ITEMS ENCOUNTERED. ANY DAMAGED OR IMPROPERLY FUNCTIONING ITEMS, WHICH WERE NOT IDENTIFIED IN WRITING PRIOR TO THE START OF WORK, ARE TO BE REPAIRED OR REPLACED AS REQUIRED, NON-PRORATED AT THE CONTRACTOR'S EXPENSE.

12. NEW CONSTRUCTION ADJOINING EXISTING CONSTRUCTION IN THE SAME PLANE SHALL BE FLUSH WITH NO VISIBLE JOINTS UNLESS OTHERWISE NOTED.

13. FOR ALL NEW GLAZING, PROVIDE SETTING BLOCKS, SPACERS AND SHIMS AS REQUIRED. PROVIDE HEAT TEMPERED GLASS OR LAMINATED GLASS AT ALL NEW GLAZED CONSTRUCTION ELEMENTS U.O.N. AND WHERE REQUIRED BY BUILDING CODE (TYP.)

14. PROVIDE WALL AND CEILING ACCESS PANELS FOR UTILITIES, AS REQUIRED FOR EQUIPMENT SERVICING, CONCEALED CONTROL ACCESS, CLEAN OUT LOCATIONS AND BY APPLICABLE CODES. LOCATION AND TYPE TO BE AS APPROVED BY PROJECT ENGINEER.

15. CONTRACTOR TO VERIFY COMPATIBILITY OF NEW ELECTRICAL PRODUCTS WITH ELECTRICAL SYSTEM. CONTRACTOR TO VERIFY CAPACITY OF EXISTING OR DESIGNED ELECTRICAL SYSTEM.

16. PROVIDE PRICING FOR ITEMS REFERRED TO IN THE CONTRACT DOCUMENTS IN PROPER QUANTITIES REQUIRED TO COMPLETE WORK.

17. ALL MATERIALS OR ASSEMBLIES REQUIRED TO HAVE A FIRE RESISTANCE RATING SHALL COMPLY WITH THE U.L. DIRECTORY & PREVAILING BUILDING CODE REQUIREMENTS.

18. "ALIGN", WHEN USED, INDICATES THAT THE FINISHED ADJACENT SURFACES MUST BE IN THE SAME PLANE. ALIGN TAKES PRECEDENCE OVER DIMENSIONS.

19. DIMENSIONS SHOWN AS V.I.F. SHALL BE VERIFIED IN THE FIELD.

20. DO NOT SCALE DRAWINGS, WRITTEN DIMENSIONS GOVERN, LOCATION DIMENSIONS SHALL BE AS SHOWN ON DRAWINGS.

21. THE PLUS/MINUS (+/-) SYMBOL INDICATES A DIMENSION THAT CAN VARY DUE TO DISCREPANCIES IN THE EXISTING CONDITIONS. NOTIFY PROJECT ENGINEER OF ANY CHANGES TO THAT DIMENSION, UNLESS OTHERWISE NOTED.

22. WALLS ARE DIMENSIONED FROM FINISHED FACE OF WALL SYSTEM, UNLESS OTHERWISE NOTED. DIMENSIONS MARKED "CLEAR" OR "HOLD" SHALL BE MAINTAINED AND SHALL ALLOW FOR THICKNESS OF FINISHES. CONTRACTOR SHALL NOT ADJUST DIMENSIONS WITHOUT WRITTEN INSTRUCTION OR APPROVAL FROM THE PROJECT ENGINEER.

23. CONTRACTOR SHALL LAYOUT PARTITIONS FOR PROJECT ENGINEER TO REVIEW FOR DESIGN INTENT. DO NOT PROCEED WITH INSTALLATION OF WALL SYSTEM WITHOUT THIS REVIEW APPROVAL. CONTRACTOR SHALL COORDINATE AND VERIFY CONDITIONS TO ENSURE PROPER FIT. REVIEW FOR DESIGN INTENT DOES NOT RELEASE CONTRACTOR FROM THE RESPONSIBILITY TO MAINTAIN CRITICAL DIMENSIONS AND CLEARANCES.

24. ALL CONSTRUCTION, DIMENSIONS, INSTALLATION AND DETAILS SHALL MEET OR EXCEED IBC 2006 REQUIREMENTS & BE DETERMINED FROM THE CONSTR. DOCUMENTS ONLY.

25. ALL MATERIALS AND CONSTRUCTION TO BE INCORPORATED IN THE WORK SHALL BE IN STRICT ACCORDANCE WITH THE LATEST EDITION OF THE A.S.T.M. SPECIFICATIONS APPLICABLE, AND TO CONFORM WITH THE STANDARDS AND RECOMMENDATIONS OF THE VARIOUS TRADE INSTITUTES (A.C.I., A.I.S.C., GYP. ASSOC. ETC.) WHERE APPLICABLE. ALL MATERIAL INCORPORATED INTO THE WORK SHALL BE NEW.

26. CONTRUCTION SHALL COMPLY WITH ALL FEDERAL, STATE AND LOCAL CODES, ORDINANCES, RULES AND REGULATIONS PERTAINING TO LABOR AND MATERIALS.

27. ALL NOTES HEREIN MENTIONED, ALONG WITH THOSE ON THE VARIOUS DRAWINGS, SHALL APPLY TO ALL DRAWINGS CONTRACT SPECIFICATIONS.

28. THE DRAWINGS, INCLUDING SPECIFIC INSTALLATION DETAILS SHOWN ON THE DRAWINGS, ESTABLISH THE MIN. INSTALLATION REQUIREMENTS FOR THE BID & CONSTRUCTION OF THE PROJECT.

29. THE CONTRACT DOCUMENTS, INCLUDING SPECIFIC INSTALLATION DETAILS SHOWN ON THE DRAWINGS, ESTABLISH THE MIN. INSTALLATION REQUIRMENTS FOR THE PROJECT. IF DETAILS SHOWN ARE MORE STRINGENT THAN MFR'S STANDARD DETAILS, IN THE SOLE OPINION OF PROJECT ENGINEER, THE DETAILS SHOWN WILL GOVERN THE INSTALLATION OF THAT PORTION OF THE WORK. IF MFR'S STANDARD DETAILS ARE MORE STRINGENT THAN DETAILS SHOWN, IN THE SOLE OPINION OF PROJECT ENGINEER, THE MFR. DETAILS SHOWN WILL GOVERN THE INSTALLATION OF THAT PORTION OF THE WORK. ALL MFR. REQUIRMENTS IN EXCESS OF THAT REQUIRED BY THE CONTRACT DOCUMENTS MUST BE PROVIDED AT NO ADDITIONAL COST TO AMTRAK.

30. THE CONTRACTOR / ESTIMATOR SHALL PROVIDE ALL LABOR & MATERIAL REQUIRED FOR A COMPLETE AND FINISHED INSTALLATION THAT IS FULLY WARRANTED / GUARANTEED BY MFR. ANY DETAILS OR WORK REQUIRED, BUT NOT SHOWN OR SPECIFIED, ARE TO BE PROVIDED IN ACCORDANCE WITH MFR.'S RECOMMENDATIONS AND REQUIREMENTS. AT NOT ADDITIONAL COST TO AMTRAK.

31. THE CONTRACTOR SHALL NOT PROCEED WITH WORK FOR WHICH HE EXPECTS ADDITIONAL COMPENSATION BEYOND THE CONTRACT AMOUNT WITHOUT WRITTEN AUTHORIZATION FROM THE AMTRAK CONTRACTING OFFICIAL. FAILURE TO OBTAIN SUCH AUTHORIZATION SHALL INVALIDATE A CLAIM FOR EXTRA COMPENSATION.

32. REQUEST FOR SUBSTITUTION OF SPECIFIED ITEMS SHALL BE SUBMITTED IN WRITING AS PRESCRIBED IN THE SPECIFICATION TO THE PROJECT ENGINEER AND WILL BE CONSIDERED ONLY IF THEY PROVIDE BETTER SERVICES, HAVE A MORE ADVANTAGEOUS DELIVERY DATE, OR HAVE A LOWER PRICE PROVIDING A CREDIT TO THE OWNER AND WILL NOT SACRIFICE QUALITY, APPEARANCES OR FUNCTION. UNDER NO CIRCUMSTANCES WILL THE PROJECT ENGINEER OR ARCHITECT BE REQUIRED TO PROVE THAT A PRODUCT PROPOSED FOR SUBSTITUTION IS OR IS NOT OF EQUAL QUALITY TO THE SPECIFIED PRODUCT.

33. CONTRACTOR SHALL SUBMIT CUTS, SAMPLES AND MFR. INFORMATION / DATA OF ITEMS REQUESTED IN THE CONSTRUCTION DOCUMENTS TO THE PROJECT ENGINEER & OWNER FOR APPROVAL PRIOR TO ORDERING, FABRICATION, OR COMMENCEMENT OF WORK.

34. ALL MATERIALS, PRODUCTS AND EQUIPMENT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND SPECIFICATIONS.

35. ALL NEW CONSTRUCTION MATERIALS SHALL BE NON-COMBUSTIBLE U.O.N. ANY MISC. WOOD BLOCKING REQ'D BY CONTRACTOR FOR THE PROJECT SHALL BE PRESSURE TREATED AND SHALL BE TESTED IN ACCORDANCE WITH REFERENCE STANDARDS AND PREVAILING CODES.

36. WHERE NEW FLOOR FINISHES ARE TO BE PROVIDED, FLASH PATCH EXISTING SLAB AND FINISH SUBSTRATE IF TOPPING IS BROKEN OR CRUMBLING. REPAIR AND CLEAN TO SMOOTH SURFACE BEFORE INSTALLING NEW FLOOR FINISH, PER MFR. SPECIFICATIONS.

37. ILLUMINATION OF AT LEAST 5 FOOTCANDLES MEASURED AT THE FLOOR LEVEL SHALL BE MAINTAINED CONTINUOUSLY IN EXITS AND THEIR ACCESS FACILITIES, PER IBC 2006.

38. EXIT SIGNS SHALL BE ON CIRCUITS THAT ARE SEPARATE FROM ANY OTHER CIRCUITS TAKEN OFF AHEAD OF THE MAIN SWITCH.

39. LOCATION OF BUILDING EXIT SHALL BE CLEARLY INDICATED BY AN EXIT SIGN, PLACED, IF REQUIRED AT AN ANGLE WITH THE EXIT OPENING. INSTALL DIRECTIONAL SIGNS TO SERVE AS GUIDE FROM ALL PORTIONS OF THE SEMI-ENCLOSED SHELTER, SIGNS SHALL BE ON SEPARATE CIRCUITS, TAKEN OFF AHEAD OF THE MAIN SWITCH. FINAL QUANTITY & PLACEMENT SHALL BE AS DIRECTED BY AUTHORITIES HAVING JURISDICTION.

40. EXIT SIGNS SHALL BE INTERNALLY LIT, HAVING AN INITIAL BRIGHTNESS OF THE LETTERS OF AT LEAST 25 FOOTLAMBERTS. LETTERS SHALL BE RED, THE BACKGROUND SHALL BE WHITE. LETTERS SHALL BE BLOCK LETTERING, AT LEAST 8" HIGH WITH STROKES. ALL EXIT SIGNS SHALL CONFORM WITH IBC 2006 & AUTHORITIES HAVING JURISDICTION.

41. SUSPENDED CEILING SOFFIT SYSTEMS SHALL COMPLY WITH THE BUILDING CODE (IBC 2006), FOR METAL SEISMIC REQ'TS, SUPPORT, HANGER'S, PURLINS AND RUNNERS AS REQUIRED.

42. EXIT PASSAGEWAYS SHALL HAVE A MIN. CLEAR HEIGHT OF 7'-6" FOR AT LEAST 75 PERCENT OF THE FLOOR AREA WITH NO POINT LESS THAN 7 FT. IN HGT. PROJECTIONS BELOW THE CEILING SHALL NOT OBSTRUCT FULL VIEW OF EXIT SIGNS AND AS REQUIRED PER IBC 2006 & AUTHORITIES HAVING JURSIDICTION.

43. FINISH FLOORING IN ALL EXITS SHALL BE OF NON-SLIP MATERIALS AND SHALL MEET OR EXCEED ACCESSIBILITY, ADA, & BUILDING CODE REQUIREMENTS (TYP.).

44. ALL NEW ROOMS, ELEMENTS, & SPACES SHALL FULLY COMPLY WITH ADA REQUIREMENTS SECTION 28 CFR PART 36, LATEST ADAAG AND ADVISORIES DEALING WITH "BUILDINGS AND FACILITIES".

45. ACCESSIBILITY NOTES :
    - A. THE PRIMARY ENTRANCE SHALL BE ACCESSIBLE.
    - B. THERE SHALL BE AN UNOBSTRUCTED ACCESSIBLE ROUTE TO ALL ROOMS & PRIMARY FUNCTION SPACES.
    - C. ALL SADDLES SHALL HAVE A SLOPE OF 2:1 MAX.
    - D. ALL NEW SPACES & EQUIPMENT SHALL BE DESIGNED AND EQUIPPED TO BE FULLY ACCESSIBLE PER ALL PREVAILING CODES.

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Architecture
Interiors
Adaptive Reuse
Design Build
Project Management
Inspections

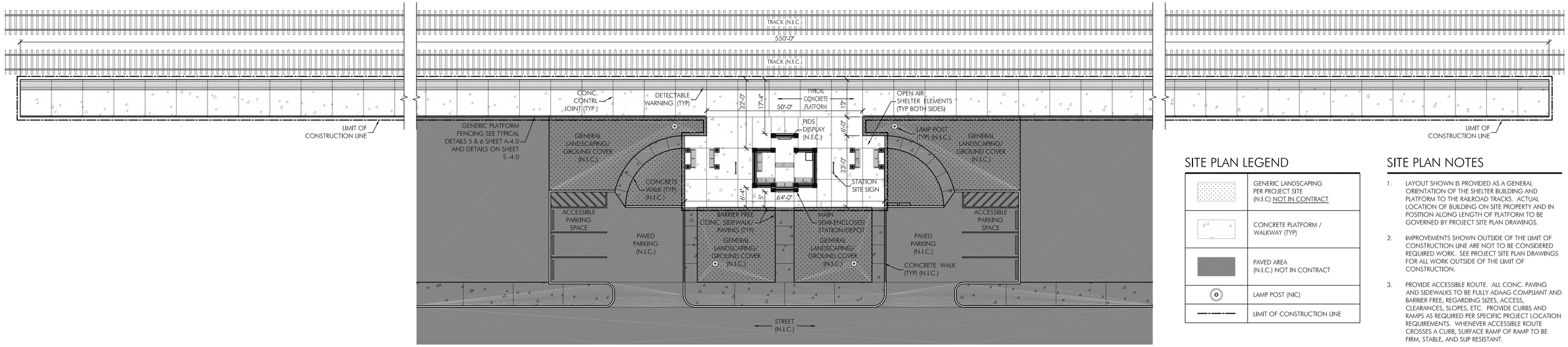
Project Number 08001

SMALL SHELTER / UNSTAFFED STATION

GENERAL NOTES

Designed rn | Drawn jm | Checked rn | Date 06/20/2008

Function No: ------
Work Elem. No: -----
Sheet No. 3 OF 20
Dwg. No. GN-1



SMALL SHELTER / UNSTAFFED STATION PLATFORM PLAN

SCALE: 1/16" = 1'-0"

GRAPHIC SCALE

8' 0 16'

SITE PLAN LEGEND

	GENERIC LANDSCAPING PER PROJECT SITE (N.I.C) NOT IN CONTRACT
	CONCRETE PLATFORM / WALKWAY (TYP)
	PAVED AREA (N.I.C.) NOT IN CONTRACT
	LAMP POST (NIC)
	LIMIT OF CONSTRUCTION LINE

SITE PLAN NOTES

1. LAYOUT SHOWN IS PROVIDED AS A GENERAL ORIENTATION OF THE SHELTER BUILDING AND PLATFORM TO THE RAILROAD TRACKS. ACTUAL LOCATION OF BUILDING ON SITE PROPERTY AND IN POSITION ALONG LENGTH OF PLATFORM TO BE GOVERNED BY PROJECT SITE PLAN DRAWINGS.
2. IMPROVEMENTS SHOWN OUTSIDE OF THE LIMIT OF CONSTRUCTION LINE ARE NOT TO BE CONSIDERED REQUIRED WORK. SEE PROJECT SITE PLAN DRAWINGS FOR ALL WORK OUTSIDE OF THE LIMIT OF CONSTRUCTION.
3. PROVIDE ACCESSIBLE ROUTE. ALL CONC. PAVING AND SIDEWALKS TO BE FULLY ADAAG COMPLIANT AND BARRIER FREE, REGARDING SIZES, ACCESS, CLEARANCES, SLOPES, ETC. PROVIDE CURBS AND RAMPS AS REQUIRED PER SPECIFIC PROJECT LOCATION REQUIREMENTS. WHENEVER ACCESSIBLE ROUTE CROSSES A CURB, SURFACE RAMP OF RAMP TO BE FIRM, STABLE, AND SLIP RESISTANT.
4. LOCAL STATE AND FEDERAL LAWS REGULATE THE NUMBER & LOCATION OF ACCESSIBLE SPACES REQUIRED. (COORDINATE AT EACH INDIVIDUAL PROJECT SITE).
5. REFER TO AMTRAK STANDARD SIGNAGE MANUAL FOR SIGNAGE TYPES, LOCATIONS, CONTENT, & GRAPHICS.

TYPICAL SITE NOTES

PRIOR TO COMMENCING WITH ANY DEMOLITION WORK:

1. THE CONTRACTOR SHALL SECURE AND PAY FOR ALL REQUIRED PERMITS.
2. INSTALL SOIL EROSION & SEDIMENT CONTROL MEASURES PRIOR TO ANY LAND DISTURBANCE. ADHERE TO ALL LOCAL SOIL DISTRICT NOTES AND PROVISIONS. SOIL EROSION & SEDIMENT CONTROL MEASURES SHALL BE INSTALLED BEFORE ANY LAND DISTURBANCE AND SHALL BE MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT
3. THE CONTRACTOR SHALL ENGAGE THE SERVICES OF AN UNDERGROUND UTILITY LOCATION COMPANY TO MARK-OUT THE LOCATION OF ALL UNDERGROUND UTILITIES IN AREAS WHERE EXCAVATION OR SUBSURFACE PENETRATIONS WILL OCCUR. ALL UTILITIES SHALL BE VERIFIED BEFORE COMMENCING WITH DEMOLITION WORK.
4. THE CONTRACTOR SHALL CONTACT ALL LOCAL UTILITY PROVIDERS IMMEDIATELY AFTER RECEIVING A "NOTICE TO PROCEED" FROM THE OWNER, TO SCHEDULE UTILITY SERVICE RELOCATIONS, SUCH AS UTILTY POLES. THIS SHOULD BE DONE TO AVOID POSSIBLE BACKLOGS IN THE UTILITY PROVIDERS SCHEDULE.

AT THE START OF WORK:

1. VERIFY UTILITY LOCATIONS AND SERVICE ACTIVITY PRIOR TO REMOVAL OR DISCONNECTION.
2. IN AREAS WHERE UTILITY DEPTHS REQUIRE VERIFICATION, THE CONTRACTOR SHALL EXCAVATE TEST PITS AFTER THE UTILITY MARK-OUT.
3. THE REMOVAL OF ALL WASTE ITEMS, EXCESS FILL, EMBANKMENT, FENCING, CONCRETE, PAVEMENT, ETC... INCLUDES HAULING TO AND DISPOSAL OF SAME, IN LICENSED LANDFILLS.
4. ALL ITEMS DISTURBED BY DEMOLITION, SAWCUTTING, EXCAVATION, ETC... THAT ARE TO REMAIN SHALL BE REPLACED, RESET, OR RECONSTRUCTED AS REQUIRED TO RESTORE STRUCTURAL INTEGRITY AND SUITABLE APPEARANCE AT NO EXTRA CHARGE.
5. A SMOOTH UNIFORM EDGE MUST BE PROVIDED ALONG THE LIMIT OF PAVEMENT REMOVAL. THE CONTRACTOR SHALL SAW-CUT THE PAVEMENT ALONG THE LIMIT OF PAVEMENT REMOVAL U.O.N.
6. REMOVE ALL OBSTRUCTIONS WITHIN THE LIMIT OF SITE CONSTRUCTION INCLUDING PAVEMENT, CURB & GUTTER, SIDEWALKS, SIGNS, FENCES, TREES, CONCRETE SLABS, WALLS, DEBRIS, AND FOLIAGE U.O.N.
7. THE VOIDS CREATED BY THE EXCAVATION OF STRUCTURES DURING SITE DEMOLITION SHALL BE BACKFILLED & COMPACTED PER STRUCTURAL DRAWINGS & SPECIFICATIONS REQUIREMENTS FOR BEARING CAPACITY.

SITE PLAN LIGHTING NOTES

1. CONTRACTOR TO FURNISH & INSTALL ALL WIRE, CONDUITS AND FIXTURES FOR ELECTRICAL CIRCUITS FROM PANEL RP 1 TO EACH FIXTURE SHOWN ON ELECTICAL DRAWINGS ME-1.0 & ME-2.0.
2. ALL WORK SHALL CONFORM TO NEC, AND PREVAILING STATE & AND LOCAL CODES.

SITE PLAN PLANTING NOTES

1. CONTRACTOR SHALL NOTIFY PROJECT ENGINEER IF ANY CONFLICTS OCCUR BETWEEN EXISTING LOCATION OF TREES OR PLANTS CALLED AND ANY UNDERGROUND UTILITIES OR SURFACE STRUCTURES.
2. CONTRACTOR SHALL MEET WITH PROJECT ENGINEER TO AGREE ON ALL AREA(S) OF THE SITE TO BE UTILIZED FOR STORAGE, STAGING, ETC. - CONTRACTOR SHALL UTILIZE ONLY THOSE AREA(S) MUTUALLY AGREED TO.
3. ANY QUESTIONS THAT ARISE ARE TO BE IMMEDIATELY BROUGHT TO THE PROJECT ENGINEER'S ATTENTION.
4. NO DIRT, DEBRIS, CONSTRUCTION MATERIALS OR OTHER FOREIGN MATERIALS SHALL BE STOCKPILED ON THE SITE UNLESS APPROVED BY THE PROJECT ENGINEER.
5. IN THE PLANTING OPERATIONS AND PLACEMENT OF TOPSOIL, EXTREME CARE SHALL BE EXERCIZED TO PREVENT DAMAGE TO THE EXISTING PAVEMENT OR WALLS. ANY DAMAGE TO WALLS OR EXISTING STRUCTURES BY THE CONTRACTOR SHALL BE REPAIRED AT NO COST TO THE OWNER.
6. CONTRACTOR SHALL CULTIVATE/LOOSEN UPPER 20" OF EXISTING SOIL BEFORE SEEDING / RE-SEEDING ANY LAWN AREAS.

SITE PLAN CONSTRUCTION NOTES

1. THE PLANS SHALL BE USED IN CONJUNCTION WITH THE SPECIFICATIONS PROVIDED TO THE CONTRACTOR.
2. THE CONTRACTOR MUST VERIFY THE LOCATION AND DEPTH OF ALL UTILITIES WITHIN THE SCOPE OF CONSTRUCTION BEFORE COMMENCING WITH ANY WORK. THE CONTRACTOR MUST MAKE WHATEVER ADJUSTMENTS NECESSARY TO INSURE THE PROPER CONNECTIONS OF NEW SERVICES.
3. AREAS ADJACENT TO CONSTRUCTION MUST BE RESTORED TO ORIGINAL OR BETTER CONDITION, IF DISTURBED, AT NO ADDITIONAL COST. MINIMUM RESTORATION IN GRADED AREAS SHALL BE 4" OF TOPSOIL & FERTILIZER. SEEDING PER SOIL EROSION & SEDIMENT CONTROL PLAN. IN ADDITION, AREAS ADJACENT TO CONSTRUCTION SHALL BE GRADED TO INSURE THE PROPER CONVEYANCE OF OVERLAND STORM WATER RUNOFF.
4. SAWCUT PAVEMENT AND WALKS WHERE A STRAIGHT UNIFORM EDGE IS REQUIRED, ESPECIALLY ADJACENT TO EXISTING CONSTRUCTION WHICH IS TO REMAIN. ALIGN ALL EDGES TO MEET FLUSH.
5. CONSTRUCTION SURVEY STAKE-OUT AND LAYOUT WORK SHALL BE PERFORMED BY A LICENSED LAND SURVEYOR OR PROFESSIONAL ENGINEER.
6. ALL OBSTRUCTIONS WHICH CONFLICT WITH NEW CONSTRUCTION SHALL BE REMOVED, ADJUSTED, OR RELOCATED IN FAVOR OF THE NEW SITE IMPROVEMENTS AT NO EXTRA COST TO THE OWNER. THIS SHALL INCLUDE, BUT ARE NOT LIMITED TO UNDERGROUND OBSTRUCTIONS, EXISTING CONSTRUCTION, FOLIAGE, FENCES, WALLS, GUIDE RAILS, TREE ROOTS, AND OTHER MISCELLANEOUS DEBRIS ENCOUNTERED WITHIN THE SCOPE OF WORK.
7. THE CONTRACTOR SHALL SECURE ALL REQUIRED CONSTRUCTION PERMITS AND SCHEDULE INSPECTIONS AT THE TIMES REQUIRED BY THE PROJECT ENGINEER & LOCAL BLDG DEPARTMENT.
8. THE CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION WITH APPROPRIATE UTILITY COMPANIES AND MUNICIPAL UTILITY AUTHORITIES.
9. IF THE CONTRACTOR BELIEVES THAT A MAJOR DISCREPANCY EXISTS BETWEEN THE INFORMATION SHOWN ON THESE DRAWINGS AND ACTUAL FIELD CONDITIONS, THEN THE CONTRACTORS LICENSED LAND SURVEYOR SHALL PERFORM WORK NECESSARY TO CLEARLY DOCUMENT THE DISCREPANCY IN MAP FORM FOR PRESENTATION TO THE PROJECT ENGINEER FOR REVIEW AND ACTION.
10. THE LIMITS OF GRADING, CONSTRUCTION, SAW-CUTTING, PAVEMENT, SIDEWALK RESTORATION, ETC. ARE APPROXIMATE. CONTRACTOR TO ADJUST TO FIELD CONDITIONS PER PROJECT ENGINEER AT NO EXTRA CHARGE.
11. ALL TRENCHES SHALL BE IN COMPLIANCE WITH OSHA REQUIREMENTS.
12. CONTRACTOR SHALL PROVIDE DE-WATERING IN ALL UTILITY TRENCHES AS NEEDED AT NO ADDITIONAL COST TO THE OWNER.
13. ALL UTILITY VALVE COVERS AND CASTINGS ARE TO BE RESET TO FINAL PAVEMENT GRADE. BROKEN OR SEVERELY WORN CASTINGS ARE TO BE REPLACED.
15. ONLY FLOOR ELEVATIONS SHOWN ON THE ARCHITECTUAL PLANS SHALL GOVERN. ALL BUILDING RELATED TRADES SHALL BASE THEIR WORK ON THE ARCHITECTUAL PLANS AND ELEVATIONS.

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	100% "FINAL" SUBMISSION	11-07-08	
	100% "FINAL" RESUBMISSION	02-20-09	

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Architecture
Interiors
Adaptive Reuse
Design Build
Project Management
Inspections

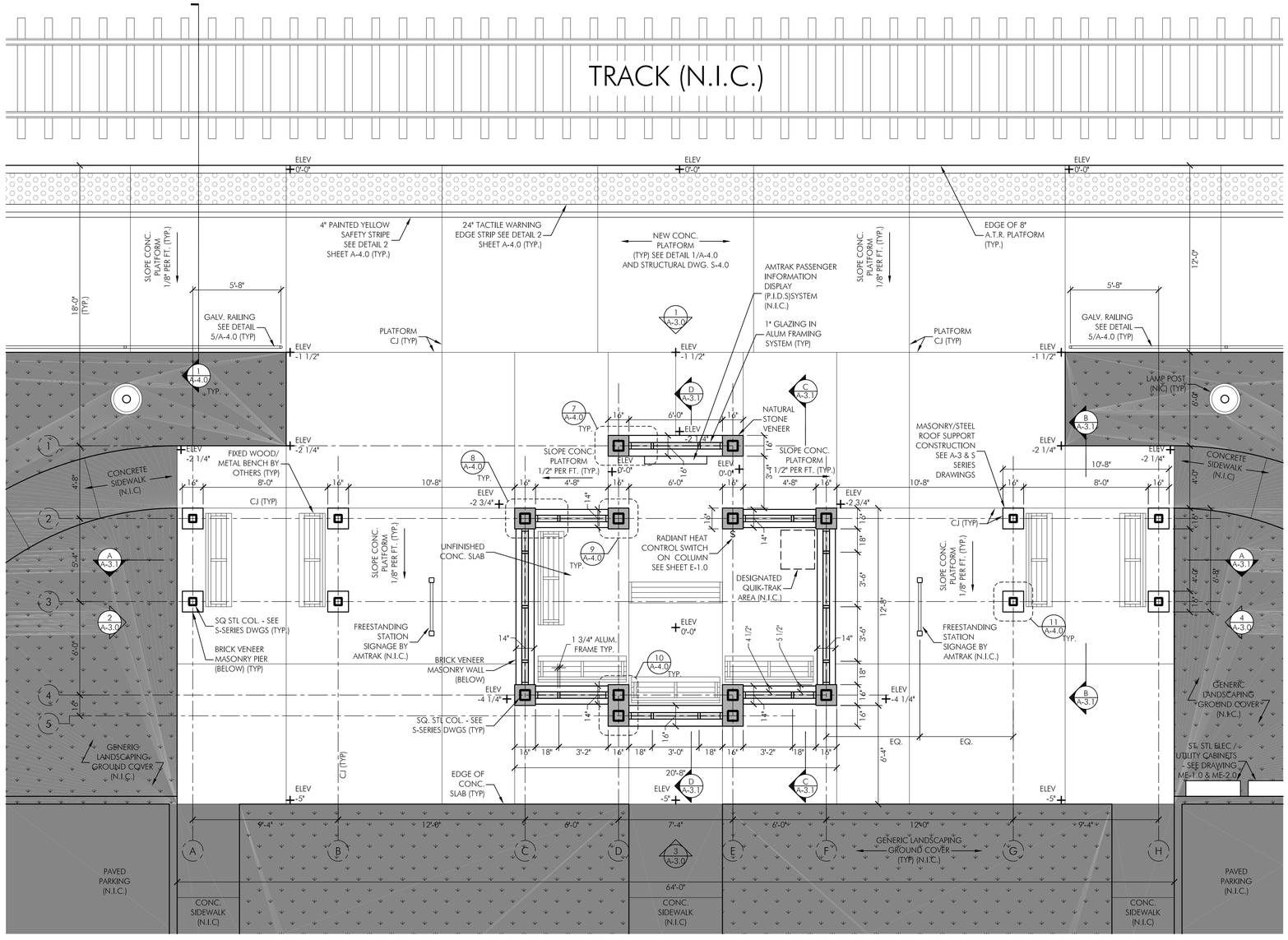
Project Number 08001

SMALL SHELTER / UNSTAFFED STATION

SITE PLAN (REFERENCE), NOTES & DETAILS

Designed rn | Drawn jm | Checked rn | Date 06/20/2008

Function No: ------
Work Elem. No: -----
Sheet No. 4 OF 20
Dwg. No. SP



FLOOR PLAN (NOTE: + ELEV. DENOTES TOP OF PLATFORM)

SCALE: 1/4" = 1'-0"

GRAPHIC SCALE

2' 0 4'

CONSTRUCTION NOTES

1. ALL BUILDING CONSTRUCTION SHOWN IS NEW U.O.N.
2. REFER TO SHEET CS FOR BUILDING CODE ANALYSIS.
3. REFER TO SHEET GN-1 FOR GENERAL PROJECT NOTES & SHEET A-0.1 FOR ABRREVIATIONS, SYMBOLS AND TYPICAL MOUNTING HEIGHTS.
4. ALL FREESTANDING & FIXED FURNITURE SHOWN ON PLANS IS NEW. LOCATION OF THE FURNITURE AS SHOWN ON THE DRAWINGS IS FINAL.
5. REFER TO ELECTRICAL ENGINEERING DRAWINGS (ME SERIES) & SPECIFICATIONS FOR ELECTRICAL, FIRE PROTECTION, ABOVE CEILING MECHANICAL & ELECTRICAL ELEMENTS.
6. REFER TO S- SERIES STRUCTURAL ENGINEERING DRAWING & SPECIFICATIONS FOR PROPOSED STRUCTURAL COMPONENTS & FOUNDATION SYSTEMS.

SCOPE OF WORK AT PLATFORM

1. INSTALL NEW CONCRETE PLATFORM TO MATCH PLATFORM SIZE, CONFIGURATION & EXTENT ON SHEET SP.
2. INSTALL 1 1/2" DIAMETER GALVANIZED PIPE GUARD RAIL SYSTEM ALONG NON-TRACK SIDE OF PLATFORM (TYP.). INSTALL PIPE GUARDRAIL SYSTEM IN THE AREAS SHOWN FOR PRELIMINARY ESTIMATING U.O.N. INSTALL VERTICAL SUPPORTS AT EQUAL SPACING FOR EACH RUN. TYPICAL SPACING OF POSTS SHALL NOT EXCEED 8'-0" O.C. ALONG TRACK PLATFORM OR RAMPS. INSTALL VERTICAL SUPPORTS IN NEW SLAB & RAISED CONC. PIERS AS SHOWN ON DETAILS ON SHEET S-4.0.
3. TACTILE WARNING EDGE STRIP TO BE AS SPECIFIED OR APPROVED EQUAL U.O.N.
4. ADA APPROVED TACTILE EDGE TO BE INSTALLED AS SHOWN. 24" WIDTH MINIMUM AND 30" WIDTH MINIMUM AT ACCESSIBLE TRACK GRADE CROSSINGS.
5. THE PROPOSED EDGE OF PLATFORM (E.O.P.) SHALL BE 8 INCHES (MIN) ABOVE THE ADJACENT TOP OF RAIL (A.T.R.) ELEVATION. (NOTE: SLOPE OF PLATFORM IN LONGITUDINAL DIRECTION OF TRACKS SHALL MATCH THE GRADE OF THE TRACKS AND REMAIN 8" A.T.R)
6. EDGE OF PLATFORM (E.O.P.) TO BE 5'-1" FROM CENTERLINE OF TRACK U.O.N. (CONFIRM W/ PROJECT ENGINEER)

GENERAL FINISH NOTES

ALL NEW FINISHES ARE TO EXACTLY MATCH AMTRAK BLDG. STANDARDS U.O.N.

1. ALL STEEL TO BE HOT DIPPED GALVANIZED WITH MINIMUM 4 MIL THICKNESS PRIOR TO PAINTING - SEE S-SERIES DRAWINGS AND PROJECT SPECIFICATIONS.
2. ALL NEW STEEL COLUMNS TO BE PAINTED WITH EXTERIOR METAL PRIMER AND TWO (2) COATS OF EXTERIOR FINISH PAINT (COLOR P-1 U.O.N).
3. ALL CONSTRUCTION ELEMENTS WHICH HAVE BEEN PAINTED AND MUST BE TOUCHED UP AS A PUNCHLIST ITEM SHALL BE REPAINTED ENTIRELY BETWEEN THE TWO (2) CLOSEST BREAK POINTS.
4. PRIOR TO PAINTING, THE CONTRACTOR SHALL REMOVE OR PROTECT ALL FINISHED SURFACES, SWITCH AND OUTLET PLATES ETC. REPLACING OR UNCOVERING SAME WHEN PAINTING HAS BEEN COMPLETED.
5. CONTRACTOR SHALL INSPECT ALL SUBSTRATES PRIOR TO COMMENCEMENT OF WORK AND NOTIFY PROJECT ENGINEER OF ANY CONDITIONS THAT WILL PREVENT HIM FROM PERFORMING SATISFACTORY FINISH WORK.
6. ALL METAL CONTRUCTION ELEMENTS SCHEDULED TO RECEIVE AN OPAQUE FINISH SHALL BE PAINTED W/ SEMI GLOSS FINISH U.O.N.
7. CONTRACTOR SHALL SUBMIT SAMPLES OF ALL NEW FINISH MATERIALS (BRICK, STONE, WINDOW FRAMING & GLAZING, ALUM. SOFFIT & TRIM, METAL ROOFING) TO PROJECT ENGINEER FOR APPROVAL, PRIOR TO INSTALLATION.
8. ALL NEW WINDOW FRAMES WITHIN SCOPE OF WORK AREA SHALL BE PRE-FINISHED ALUM, MFR. STANDARD COLOR (TYP.)

CONSTRUCTION LEGEND

	NEW CONSTRUCTION
	EXISTING CONSTRUCTION NOT IN CONTRACT
$	NEW SWITCH

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National Railroad Passenger Corporation
30th Street Station, Philadelphia, Pennsylvania 19104

Approved	Date
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DIRECTOR FACILITIES	

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Architecture
Interiors
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Design Build
Project Management
Inspections

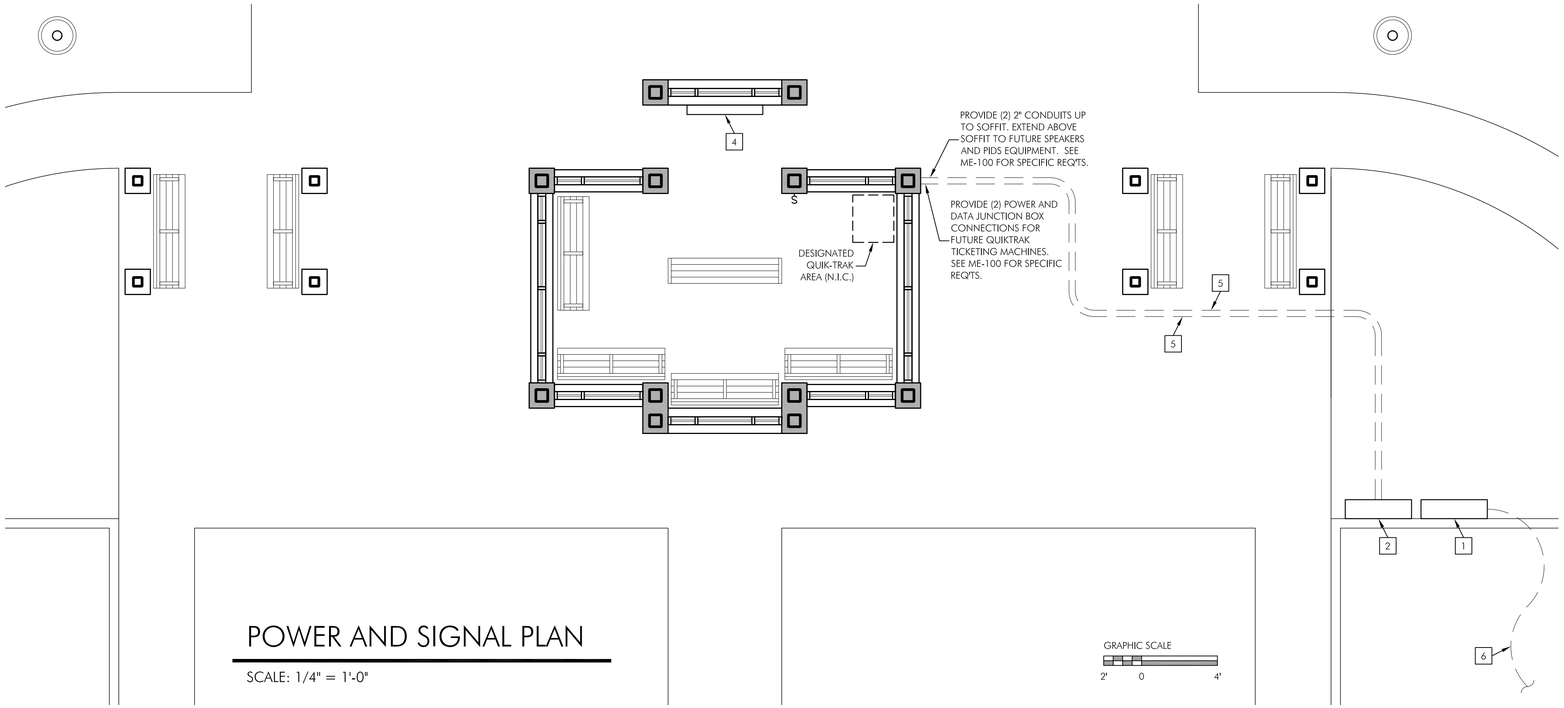
Project Number 08001

SMALL SHELTER / UNSTAFFED STATION

FLOOR PLAN, LEGENDS & NOTES

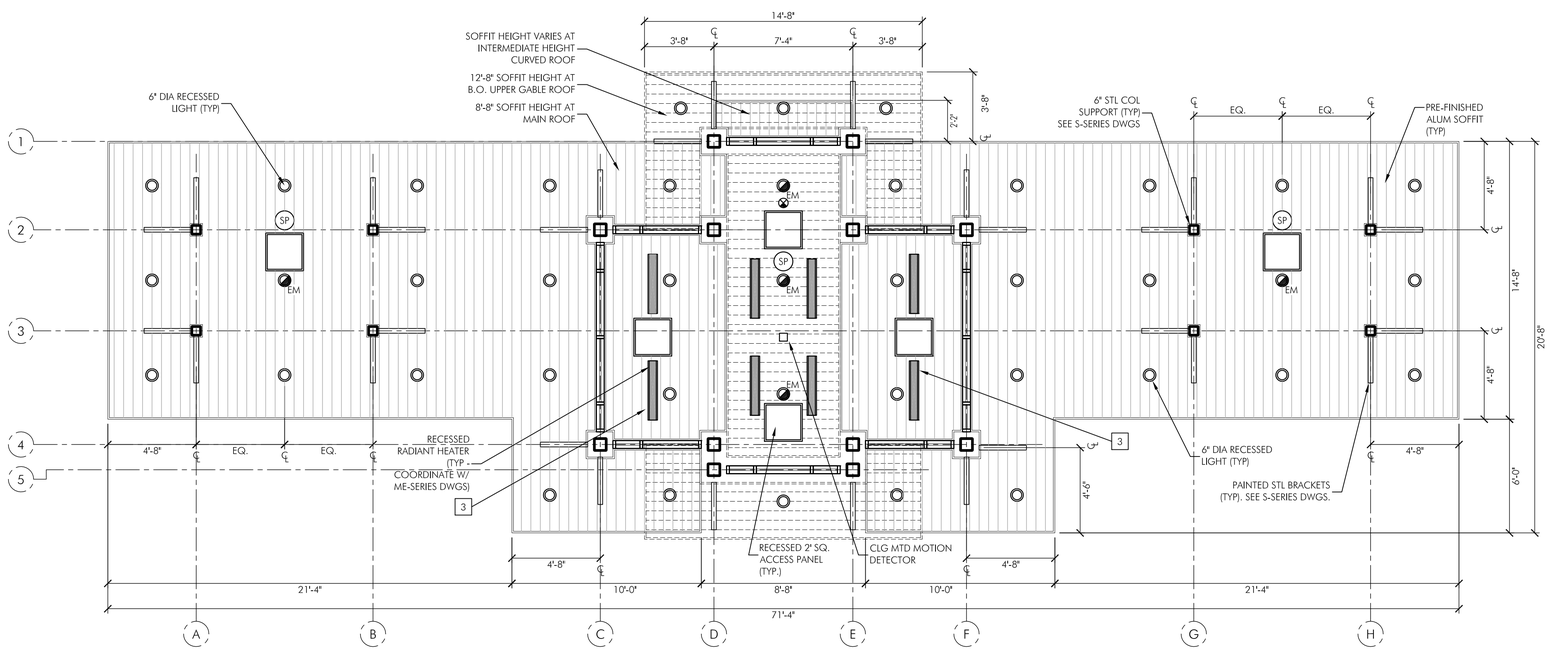
Designed rn | Drawn jm | Checked rn | Date 06/20/2008

Function No: ------
Work Elem. No: -----
Sheet No. 5 OF 20
Dwg. No. A-1.0



POWER AND SIGNAL PLAN

SCALE: 1/4" = 1'-0"



REFLECTED CEILING PLAN

SCALE: 1/4" = 1'-0"

CONSTRUCTION LEGEND

	NEW WALL / PARTITION CONSTRUCTION
	EXISTING CONSTRUCTION NOT IN CONTRACT
$	NEW SWITCH

CEILING PLAN SYMBOL LEGEND

	NEW FLUORESCENT DOWNLIGHT FIXTURE (SEE ELEC. ENGINEERING DWG. ME-1.0)
EM	NEW EMERGENCY LIGHT FIXTURE (SEE ELEC. ENGINEERING DWG. ME-1.0)
SP	SPEAKER (N.I.C.) (SEE ELEC. ENGINEERING DWG. ME-1.0)
	NEW FLUSH MOUNTED RECESSED RADIANT HEATING UNIT (SEE ELEC. ENGINEERING DWG. ME-1.0)
	NEW FLUSH MOUNTED ACCESS DOOR

POWER AND SIGNAL NOTES

SEE ME SERIES ENGINEERING DRAWINGS FOR CIRCUITING, SCHEDULES, & DIAGRAMS

1. ALL SWITCHES, DEVICES AND OUTLETS ARE TO BE CONNECTED TO DESIGNATED CIRCUITS ON ME SERIES ENGINEERING DRAWINGS.
2. SEE SHEET A-0.1 FOR TYPICAL DEVICE MOUNTING HEIGHTS/LOCATIONS.
3. ALL NEW WIRING SHALL BE RUN IN CONDUIT (TYP.)
4. NO FLOOR OR WALL MOUNTED POWER OUTLETS SHALL BE CONNECTED TO LIGHTING CIRCUITS (SEE ME SERIES DRAWINGS FOR CIRCUITING & SCHEDULES).
5. ELECTRICAL CONTRACTOR SHALL DISCONNECT, CONNECT AND PROVIDE NECESSARY ELECTRIC RUNS IN ORDER TO CONFORM WITH NEW PLAN. (CONNECT TO EXISTING LIGHTING AND POWER CIRCUITS / PANELS AT SPECIFIC PROJECT SITE OR PROVIDE NEW)
6. CENTERLINE - TO - CENTERLINE DIMENSIONS OF ANY OUTLET PAIR SHALL NOT EXCEED 6".
7. ALL BACK - TO - BACK OUTLETS TO BE STAGGERED.
8. ELECTRICAL SUB CONTRACTOR SHALL REMOVE ALL UNUSED CONDUIT, CABLE AND TELEPHONE WIRING COMPLETELY FROM AREAS IN SCOPE OF THIS CONTRACT.
9. ELECTRICAL SUB CONTRACTOR SHALL REVISE AND UPDATE LABELS FOR ALL NEW CIRCUIT BREAKERS / ELECTRICAL PANELS AND ALL CIRCUIT BREAKERS AT ALL EXISTING AND / OR NEW ELECTRICAL PANELS THAT WILL REMAIN IN SERVICE.
10. COORDINATE ALL WORK RELATED TO EQUIPMENT WITH MANUFACTURER'S RECOMMENDATIONS, SPECIFICATIONS AND INSTRUCTIONS
11. PROVIDE PULL WIRES IN ALL EMPTY CONDUIT RACEWAYS INSTALLED FOR FUTURE AMTRAK EQUIP., PA, POWER, SECURITY, TELEPHONE, DATA, & OTHER SYSTEMS (TYP.)
12. ALL OUTLETS INSTALLED SHALL BE GROUND FAULT INTERRUPTION TYPE (GFI). TYP.
13. ALL CONDUIT PENETRATIONS THROUGH EXISTING FIRE RATED CONSTRUCTION SHALL BE SEALED W/ APPROVED RATED FIRESTOPPING MATERIAL TO MATCH EXISTING FIRE RESISTANCE RATINGS PER CODE REQ'TS.
14. EXACT ELECTRICAL REQ'TS SHALL BE VERIFIED IN THE FIELD W/ EQUIP. MFR. NAMEPLATE DATA. ELECTRICAL CONTRACTOR SHALL MAKE APPROPRIATE ADJUSTMENTS TO WIRE & FUSE SIZES, MAKE CONNECTIONS TO EXISTING CIRCUITING IN ACCORDANCE WITH NAMEPLATE DATA, PREVAILING ELECTRICAL CODE, & ME-1.0 GENERAL NOTE 11.
15. ALL WALL SWITCHES ADJACENT TO ONE ANOTHER ARE TO BE GANGED WITH A CONTINUOUS PLATE U.O.N.
16. EACH NEW DATA / PHONE LOCATION SHOWN SHALL CONSIST OF A 2" X 4" MOUNTED BOX W/ 1" CONDUIT THAT EXTENDS ABOVE THE CEILING & SOFFIT SYSTEM, IF ACCESSIBLE U.O.N. IF ABOVE CEILING LOCATION IS INACCESSIBLE, EXTEND CONDUIT TO THE NEAREST ACCESSIBLE LOCATION. POWER & SIGNAL DRAWINGS ARE FOR LOCATION OF BOX & CONDUIT ONLY. CONTRACTOR TO PROVIDE ALL CONDUIT, PULL STRINGS & JUNCTION BOXES. ALL NEW TELECOMMUNICATIONS & TELEDATA DEVICES, JACKS, CABLING & WIRING ARE BY AMTRAK AND SHALL MATCH AMTRAK STANDARDS U.O.N.

POWER AND SIGNAL KEY NOTES

1. PEDESTAL MOUNTED STAINLESS STEEL UTILITY CABINET. CABINET SHALL BE SIZED TO ACCOMMODATE 200A, 24 BREAKER SINGLE PHASE DISTRIBUTION PANEL AND LIGHTING CONTROL SYSTEM. PANEL SHALL BE HEAVY DUTY, GASKETED VANDAL PROOF TYPE WITH LOCKING MECHANISM. MINIMUM SIZE 42"w. X 12"DEEP X 36" HIGH. (SEE DWG. ME-1.0)
2. PEDESTAL MOUNTED STAINLESS STEEL UTILITY CABINET. CABINET SHALL BE SIZED TO ACCOMMODATE HEAD END UNIT FOR PASSENGER INFORMATION DISPLAY SYSTEM (PIDS) AND HEAD END UNIT FOR PUBLIC ADDRESS SYSTEM. PANEL SHALL BE HEAVY DUTY, GASKETED VANDAL PROOF TYPE WITH LOCKING MECHANISM. MINIMUM SIZE 42"w. X 12"DEEP X 36" HIGH. PROVIDE TWO (2) 2" CONDUIT OPENINGS BETWEEN STAINLESS STEEL PANELS (SEE DWG. ME-1.0).
3. HEATRAY CEILING MOUNTED ELECTRIC RADIANT HEATING PANEL. CONTROL VIA TIMER LOCATED IN UTILITY CABINET (SEE DWG. ME-1.0).
4. FUTURE CEILING MOUNTED PASSENGER INFORMATION DISPLAY SYSTEM (PIDS) BY AMTRAK.
5. 2" CONDUIT BETWEEN PIDS HEAD END AND UTILITY CABINET (SEE DWG. ME-1.0).
6. 2" CONDUIT WITH WIRING BETWEEN 120V. DISTRIBUTION PANEL AND ELECTRIC UTILITY IN STREET. (ALLOW FOR 300 FEET - SEE DWG. ME-1.0).

CEILING (SOFFIT) PLAN NOTES

1. CEILING / SOFFIT SUSPENSION SYSTEM, FINISH, LIGHTS, EXIT LIGHTING ARE NEW. PROVIDE QUANTITIES OF NEW IN ORDER TO ACHIEVE NEW CEILING LAYOUT.
2. GENERAL CONTRACTOR SHALL COORDINATE WORK OF ALL TRADES INVOLVED IN CEILING / SOFFIT WORK TO INSURE CLEARANCES FOR FIXTURES, DUCTS, PIPING, CEILING SUSPENSION SYSTEM ETC. NECESSARY TO MAINTAIN THE PROPOSED FINISHED CEILING /SOFFIT HEIGHTS INDICATED ON ARCHITECTURAL DRAWINGS.
3. FURNISH AND INSTALL NEW SUSPENDED ALUM. CEILING / SOFFIT SYSTEM & SOFFIT ELEMENTS, TRIM, WIRE HANGERS, SUPPORT SPACING, AND SEISMIC BRACING/ATTACHMENTS IN STRICT ACCORDANCE WITH MANUFACTURER'S DETAILS / SPECIFICATIONS AND AS REQUIRED BY STATE & IBC 2006 REQUIREMENTS.

FILE NAME: X
PLOT SCALE: XXX
STANDARD PEN TABLE: YES

No.	Revisions	Date	By
	60% "PROGESS" SUBMISSION	06-30-08	
	90% "PROGESS" SUBMISSION	08-15-08	
	100% "FINAL" SUBMISSION	11-07-08	
	100% "FINAL" RESUBMISSION	02-20-09	

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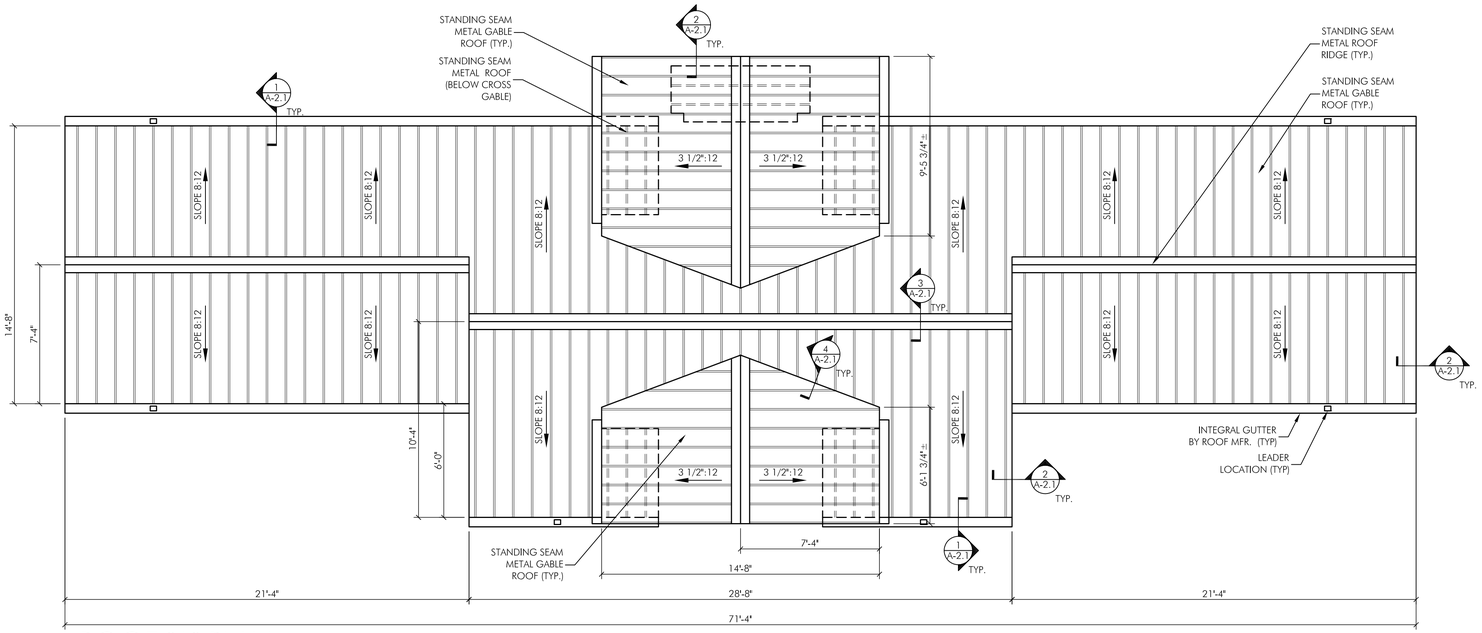
SMALL SHELTER / UNSTAFFED STATION

REFLECTED CEILING PLAN, LEGENDS & NOTES

Designed	Drawn	Checked	Date
rn	jm	rn	06/20/2008

Function No: ------
Work Elem. No: -----
Sheet No. 6 OF 20
Dwg. No. A-1.1



ROOF "A" PLAN

SCALE: 1/4" = 1'-0"

GRAPHIC SCALE

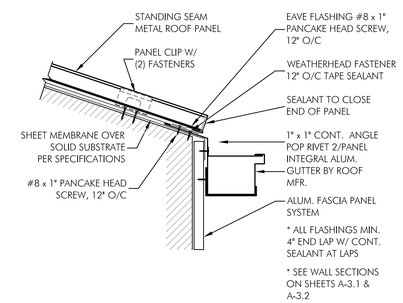
2' 0 4'

NEW ROOF ASSEMBLY CHART

ROOF DESIGNATION	ROOF HEIGHT ABOVE GRADE	ROOF AREA	STRUCTURAL DECK		BASE INSULATION	BASE INSULATION ATTACHMENT	SUBSTRATE	SHEET MEMBRANE	ROOF MATERIAL		ROOF ATTACHMENT	COMMENTS
				1 1/2" STEEL DECK	NONE	NONE	5/8" FIBERGLAS FACED EXT. GYP. BD. SHEATHING	SNOW, WATER & ICE UNDERLAYMENT SHEET MEMBRANE	STANDING SEAM METAL SYSTEM	--	MECHANICAL	WARRANTY
A	VARIES	±1,348 SF		●	●	●	●	●	●		●	20 YEAR FULL SYSTEM

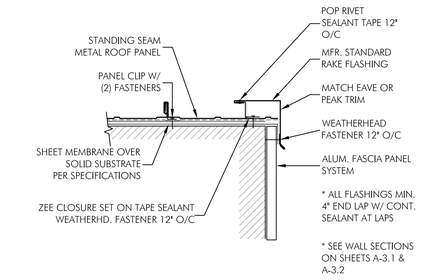
GENERAL ROOFING CONSTRUCTION NOTES:

1. ALL OUTSIDE FACES OF GRAVEL STOP AND / OR FLASHING EDGES TO BE CONSISTENT AND ALIGN AT EACH LEVEL.
2. NEW ROOFING MATERIALS & APPURTANCES SHALL BE OF NON-COMBUSTIBLE MATERIALS.
3. NEW ROOFING SYSTEM (AND RELATED COMPONENTS) TO HAVE UL "CLASS A" RATING IN ACCORDANCE WITH PREVAILING BUILDING CODE AT EACH SPECIFIC PROJECT SITE AND MEET FM WIND UPLIFT REQUIREMENTS FOR THE PROJECT SITE.
4. ALL WOOD BLOCKING USED ON THE ROOFING PROJECT SHALL BE "PRESSURE TREATED" (TYP.) U.O.N AND SHALL BE TESTED IN ACCORDANCE WITH REFERENCE STANDARDS AND PREVAILING BUILDING CODE.



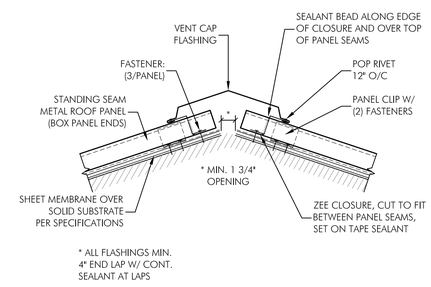
1 EAVE W/ FLUSH WALL PANEL

SCALE: 1 1/2"=1'-0"



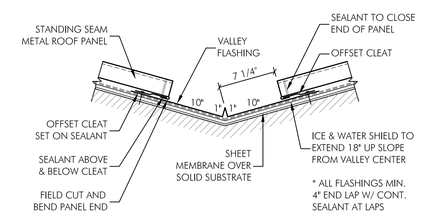
2 RAKE W/ FLUSH WALL PANEL

SCALE: 1 1/2"=1'-0"



3 VENTED RIDGE (FIXED)

SCALE: 1 1/2"=1'-0"



4 VALLEY FLASHING

SCALE: 1 1/2"=1'-0"

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SMALL SHELTER / UNSTAFFED STATION

ROOF PLAN, DETAILS, LEGENDS & NOTES

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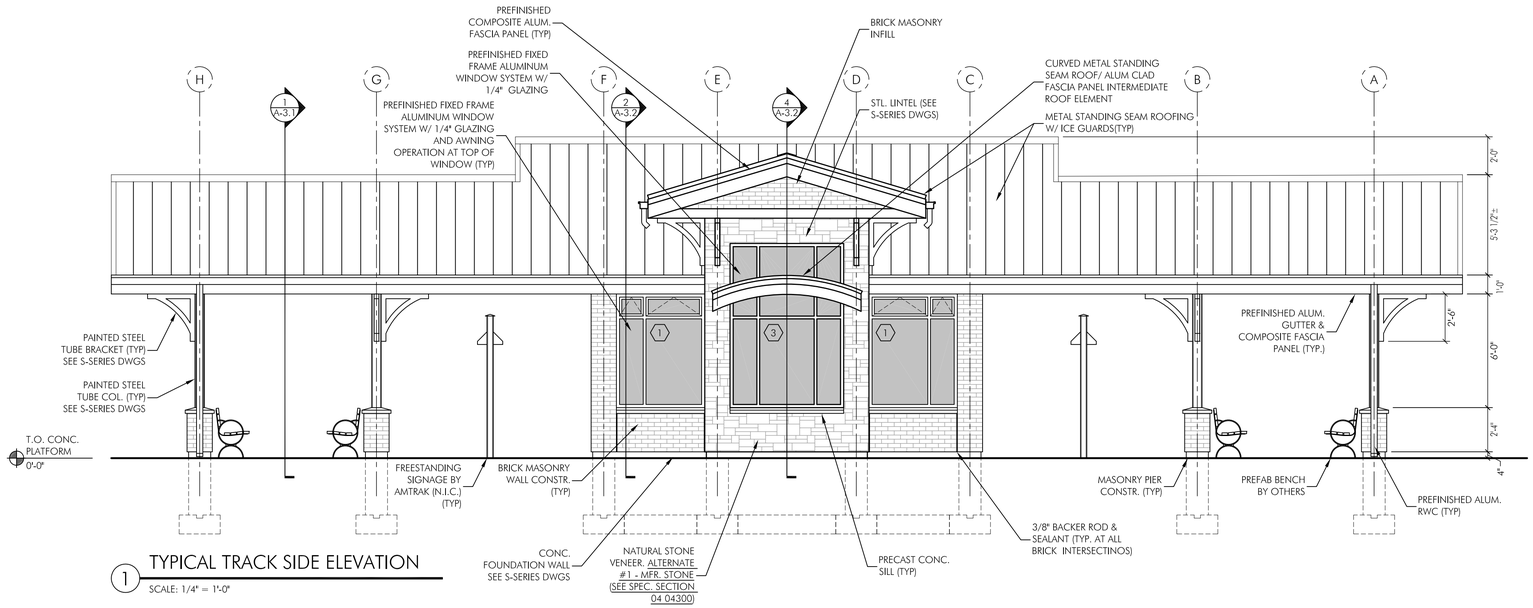
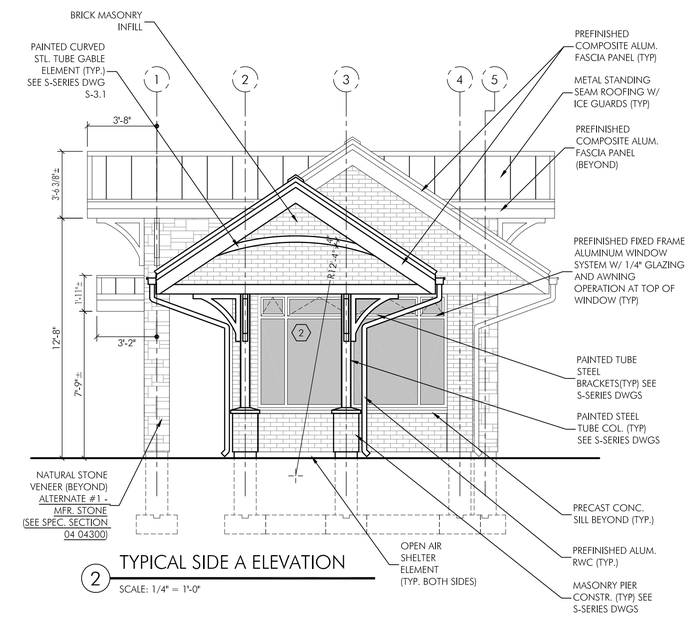
rn	jm	rn	06/20/2008

Function No:	------
Work Elem. No:	-----
Sheet No.	7 OF 20
Dwg. No.	A-2.0



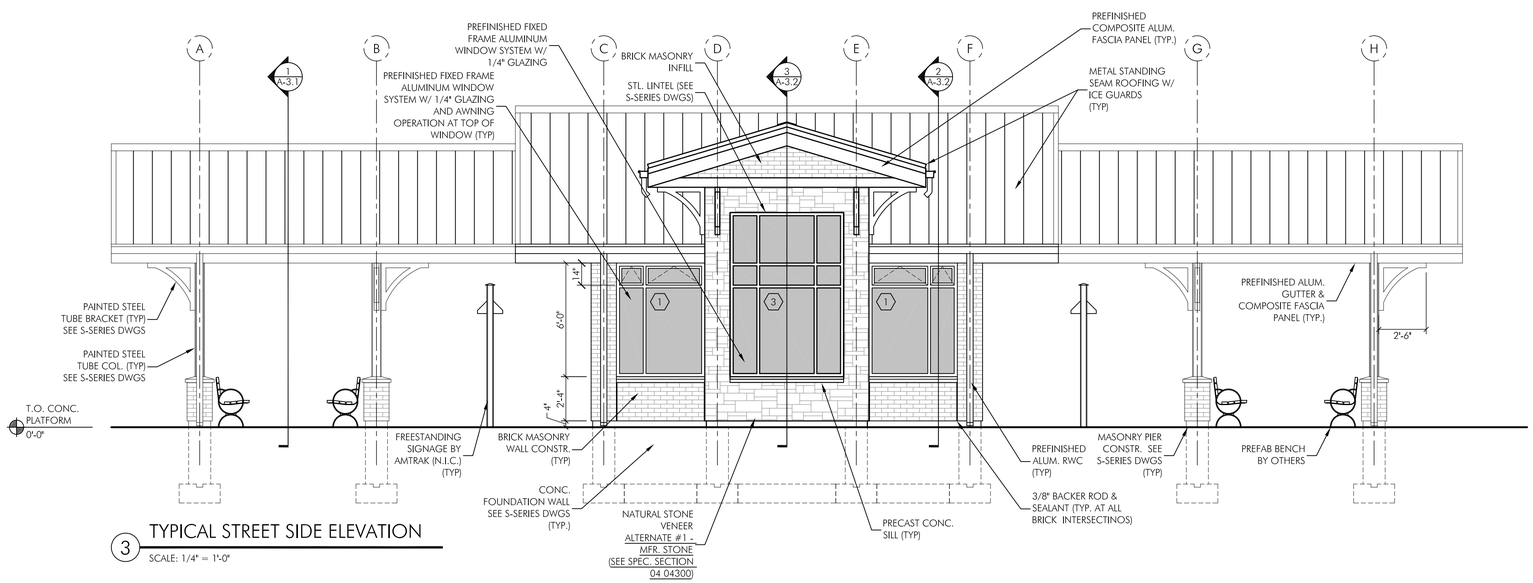
1 TYPICAL TRACK SIDE ELEVATION

SCALE: 1/4" = 1'-0"



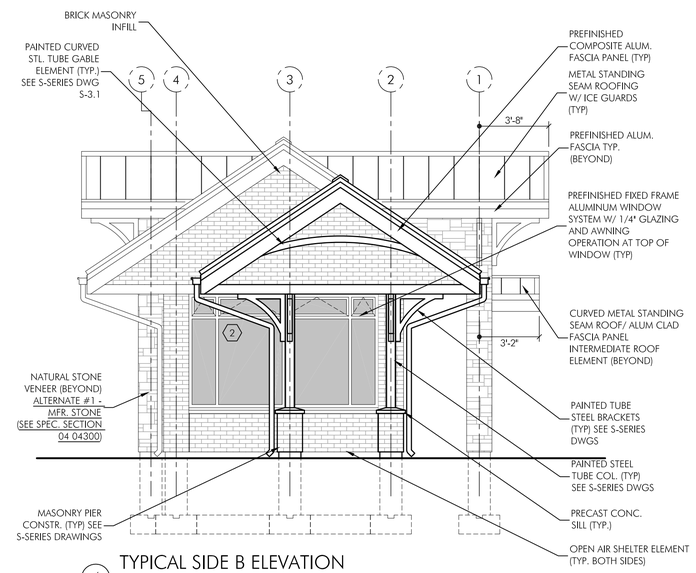
2 TYPICAL SIDE A ELEVATION

SCALE: 1/4" = 1'-0"



3 TYPICAL STREET SIDE ELEVATION

SCALE: 1/4" = 1'-0"



4 TYPICAL SIDE B ELEVATION

SCALE: 1/4" = 1'-0"

WINDOW SCHEDULE

TYPE	SIZE	QUANTITY	REMARKS
1	4'-8" x 6'-0"	4	PRE-FINISHED ALUM. WINDOW SYSTEM W/ 1/4" GRAY GLAZING
2	10'-0" x 6'-0"	2	PRE-FINISHED ALUM. WINDOW SYSTEM W/ 1/4" GRAY GLAZING
3	6'-0" x 8'-8"	2	PRE-FINISHED ALUM. WINDOW SYSTEM W/ 1/4" GRAY GLAZING

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EXTERIOR ELEVATIONS

Designed rn | Drawn jm | Checked rn | Date 06/20/2008

Function No: ------
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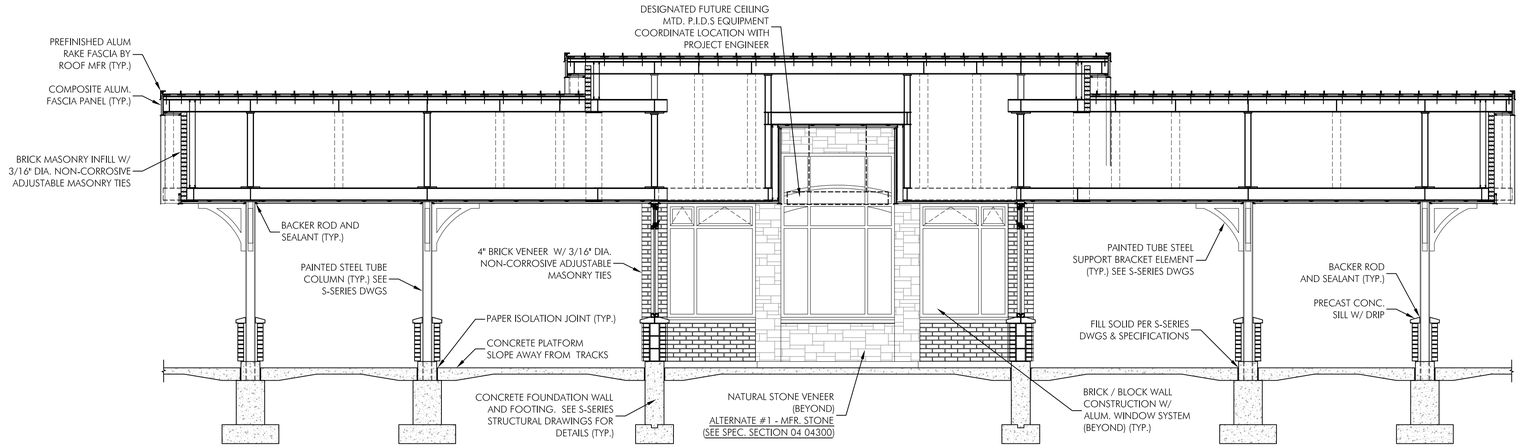
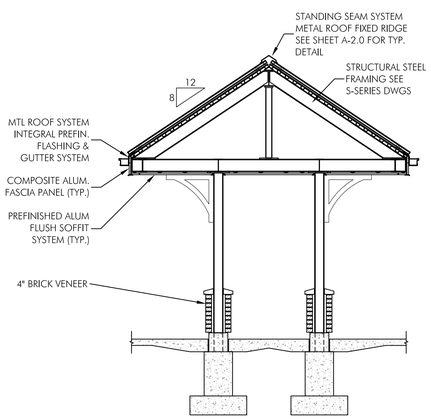
Sheet No. 8 OF 20
Dwg. No. A–3.0



A-A BUILDING SECTION
SCALE: 1/4" = 1'-0"



B-B BUILDING SECTION
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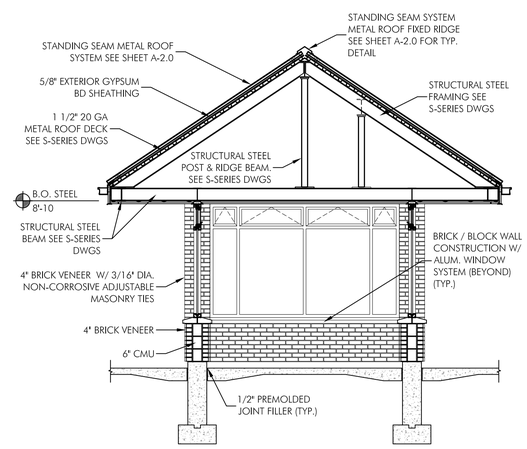

C-C BUILDING SECTION
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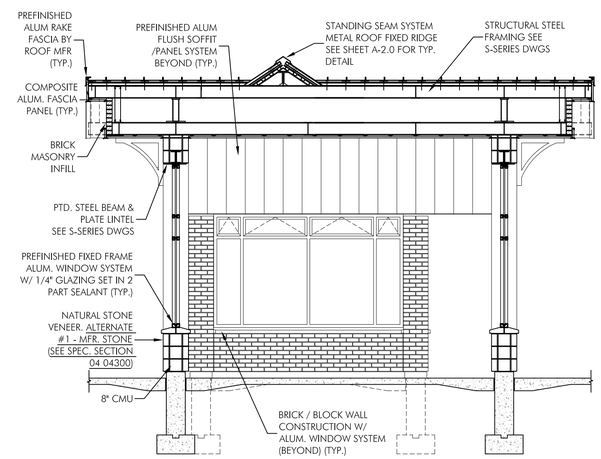

D-D BUILDING SECTION
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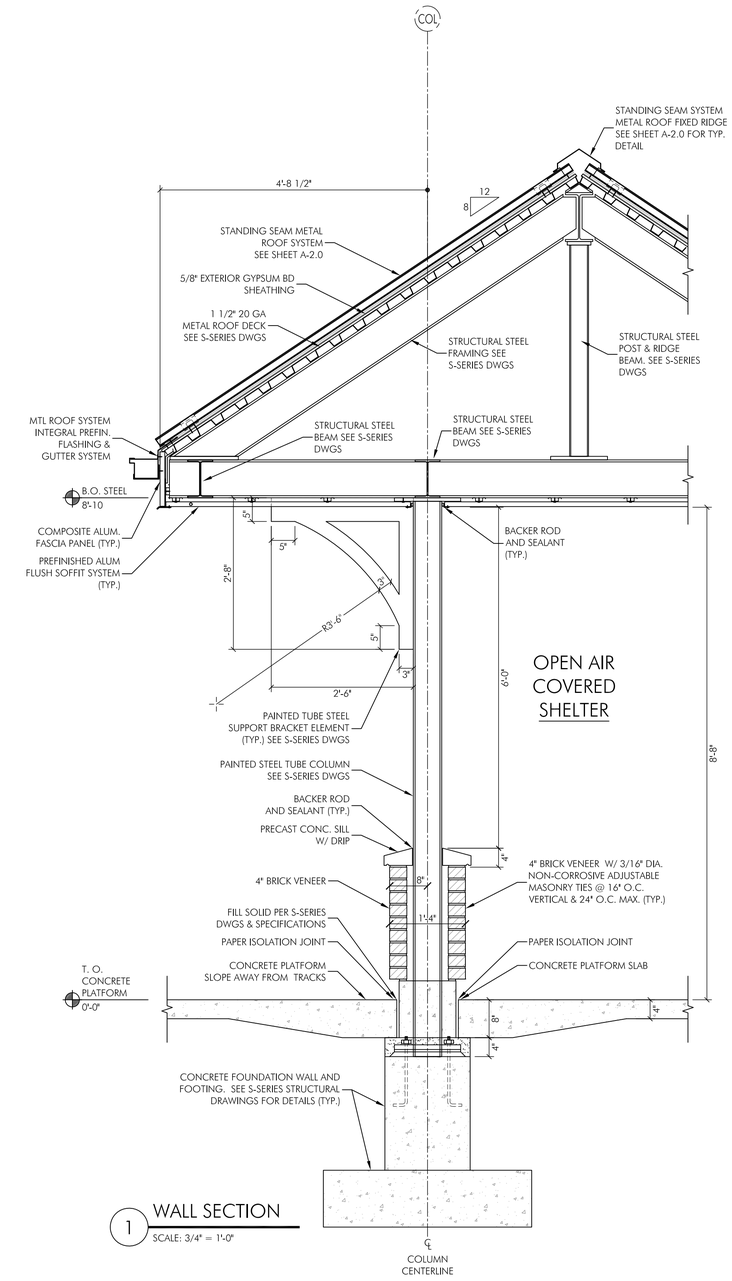

1 WALL SECTION
SCALE: 3/4" = 1'-0"

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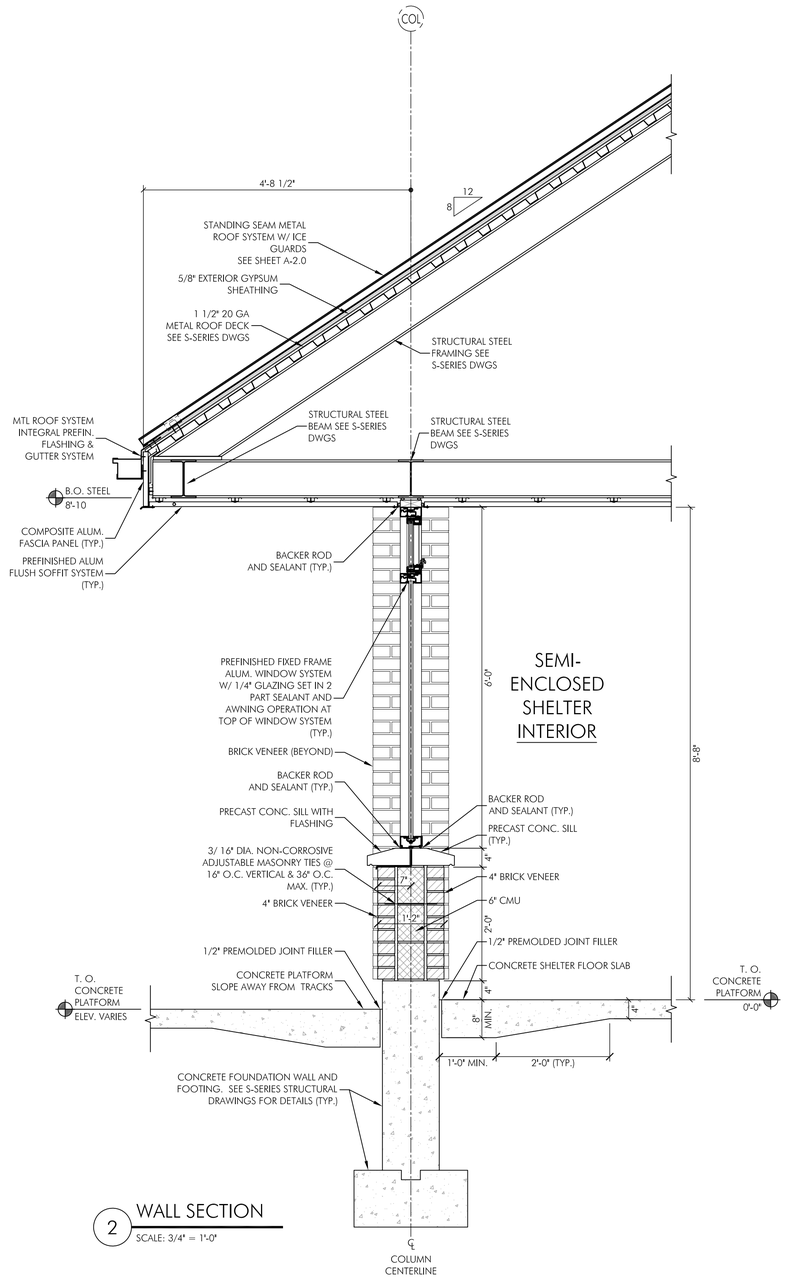
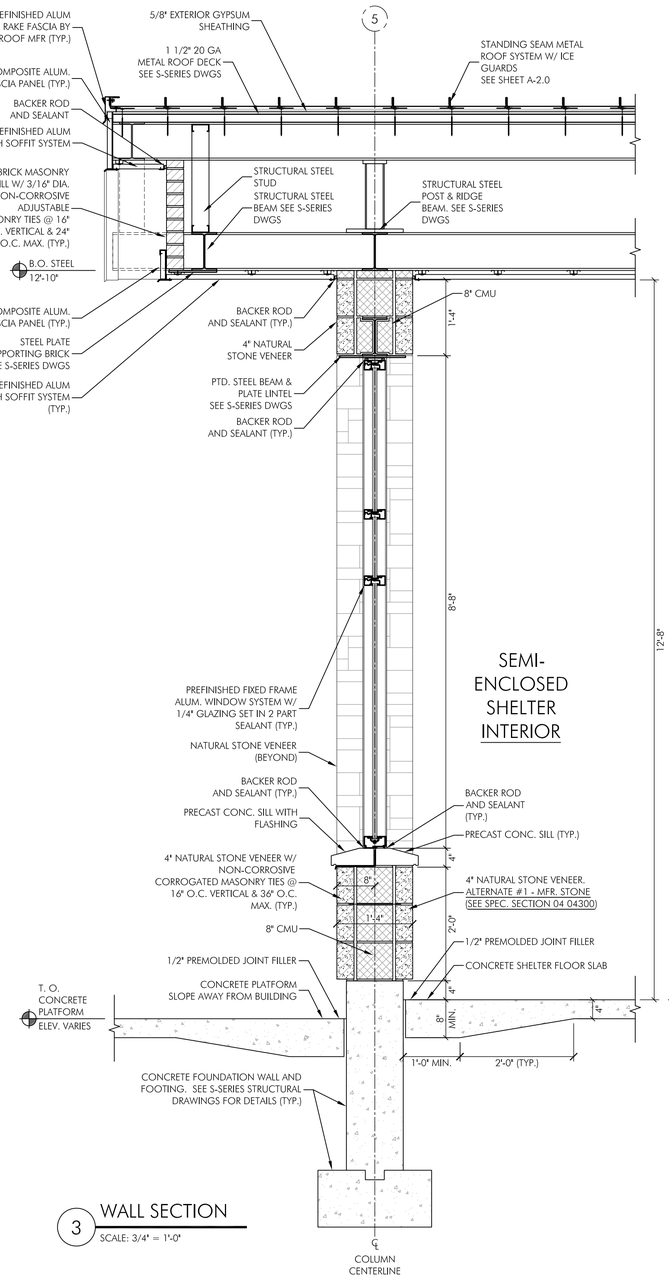
BUILDING AND WALL SECTIONS

Designed	rn	Drawn	jm	Checked	rn	Date	06/20/2008

Function No: ------
Work Elem. No: -----
Sheet No. 9 OF 20
Dwg. No. A-3.1



2 WALL SECTION
SCALE: 3/4" = 1'-0"



3 WALL SECTION
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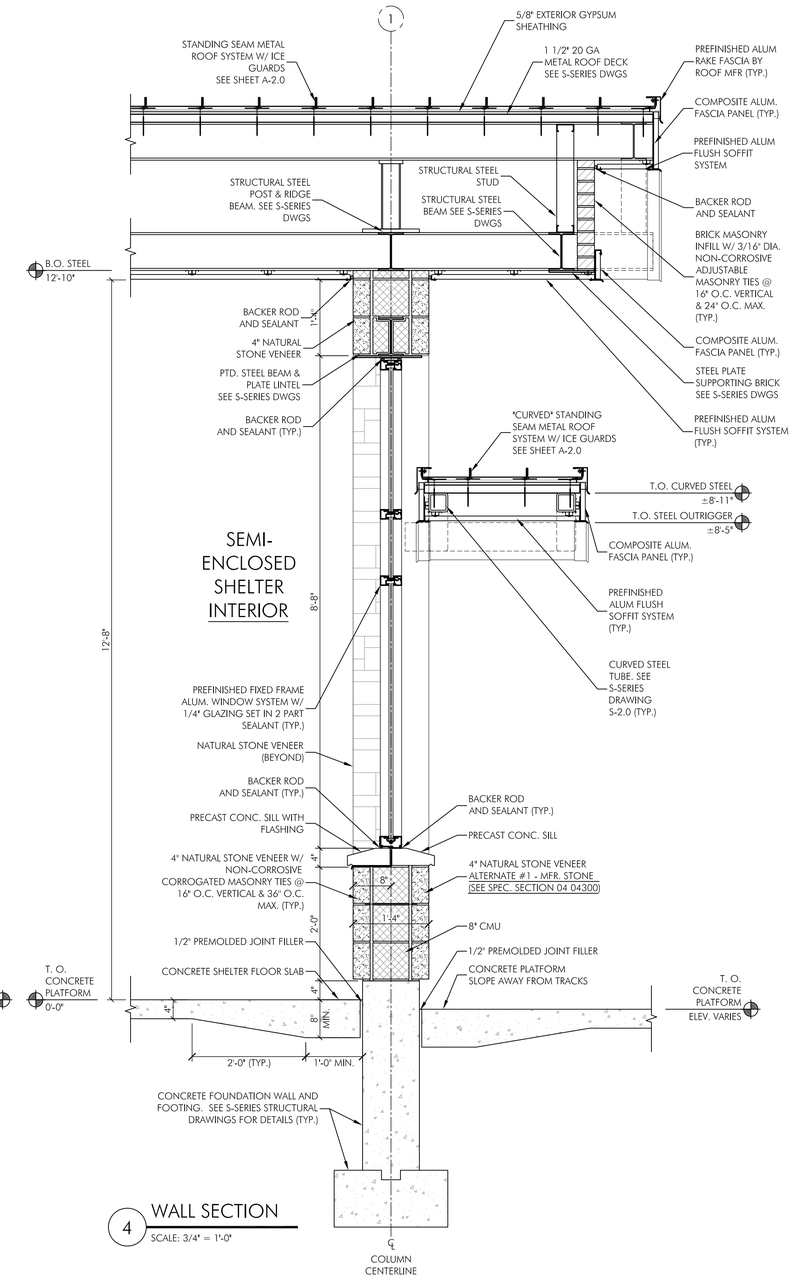

4 WALL SECTION
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WALL SECTIONS

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Function No: ------
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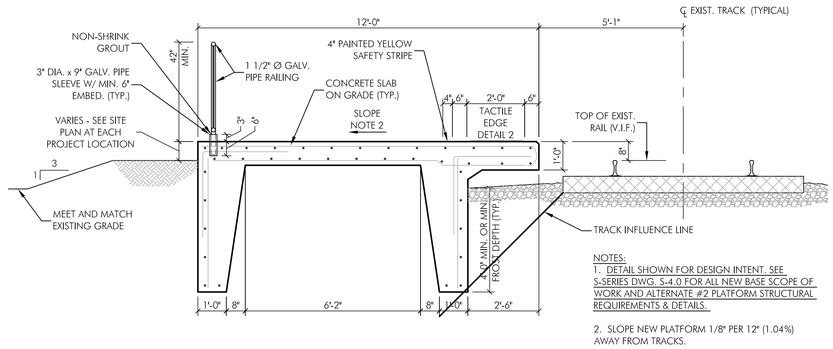
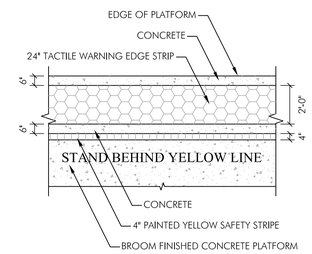
Sheet No. 10 OF 20
Dwg. No. A-3.2



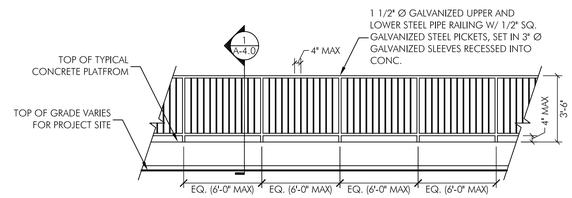
1 TYPICAL NEW PLATFORM SECTION - (SEE SHEET S-4.0)

SCALE: 3/8"=1'-0"



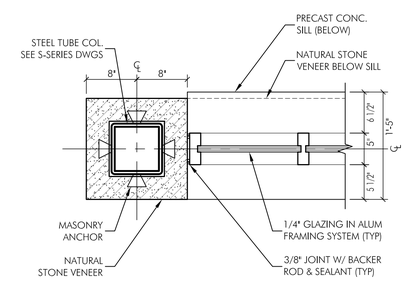
2 PLAN DETAIL

SCALE: 1/4"=1'-0"



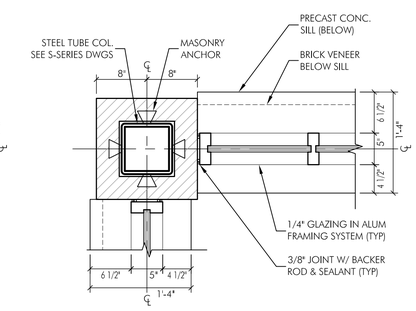
3 TYPICAL RAILING (NON-TRACKSIDE)

SCALE: 1/4"=1'-0"



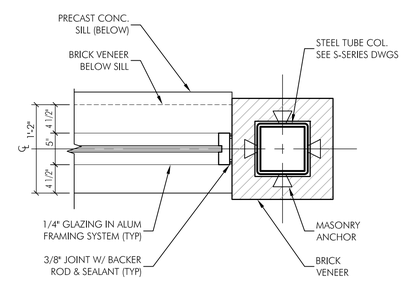
7 PLAN DETAIL

SCALE: 1" = 1'-0"



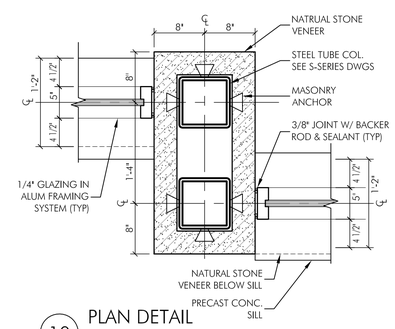
8 PLAN DETAIL

SCALE: 1" = 1'-0"



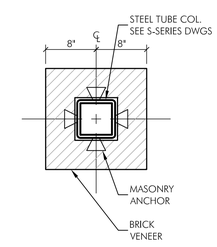
9 PLAN DETAIL

SCALE: 1" = 1'-0"



10 PLAN DETAIL

SCALE: 1" = 1'-0"



11 PLAN DETAIL

SCALE: 1" = 1'-0"

GRAPHIC SCALE

6" 0 1'

No.	Revisions	Date	By
	60% "PROGESS" SUBMISSION	06-30-08	
	90% "PROGESS" SUBMISSION	08-15-08	
	100% "FINAL" SUBMISSION	11-07-08	
	100% "FINAL" RESUBMISSION	02-20-09	

FILE NAME: X
PLOT SCALE: XXX
STANDARD PEN TABLE: YES

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Office of Chief Engineer
STRUCTURES
National Railroad Passenger Corporation
30th Street Station, Philadelphia, Pennsylvania 19104

Approved	Date
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DIRECTOR FACILITIES	

dna design & Architecture LLC
201 South State Street
Newtown, PA 18940
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Fax. 215.497.8362

Architecture
Interiors
Adaptive Reuse
Design Build
Project Management
Inspections

Project Number 08001

SMALL SHELTER / UNSTAFFED STATION

MISCELLANEOUS DETAILS

Designed rn | Drawn jm | Checked rn | Date 06/20/2008

Function No: ------
Work Elem. No: -----
Sheet No. 11 OF 20
Dwg. No. A-4.0

ATTACHMENT E

RENDERINGS OF SMALL UNSTAFFED STATIONS

FEC AMTRAK® PASSENGER RAIL

TBG0614102323390RL

Federal Funding Opportunity Number: FR-HSR-10-004

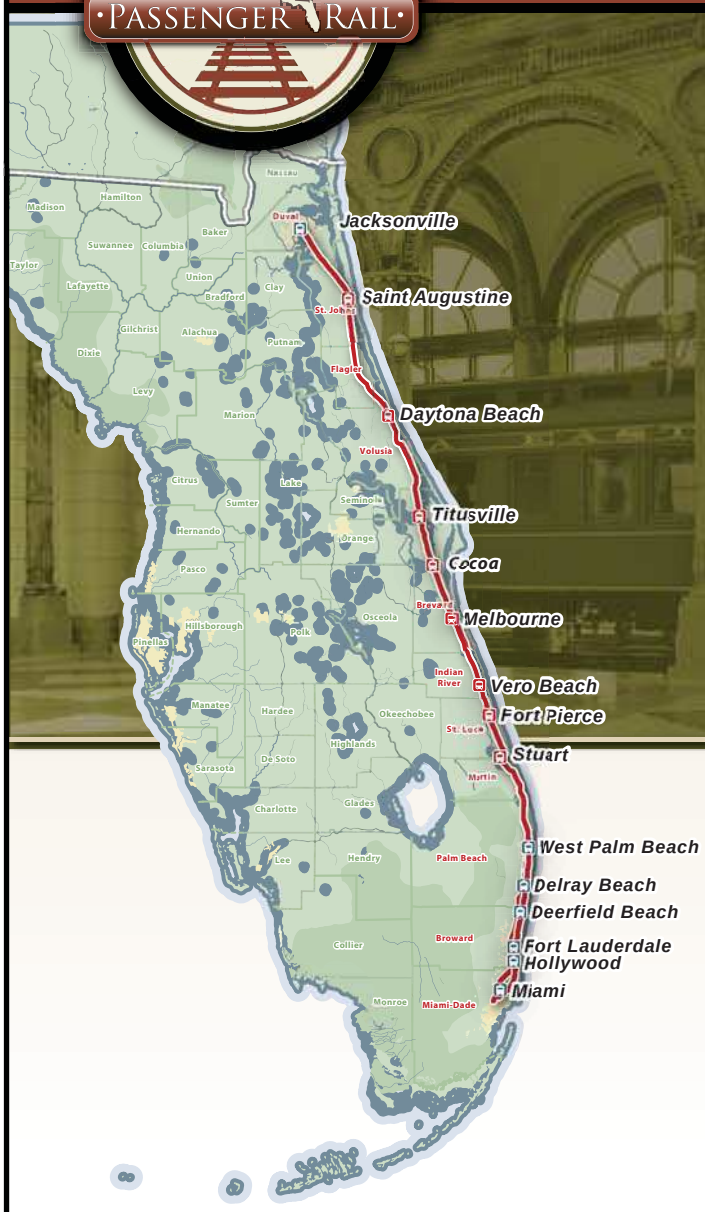
AMTRAK

AMTRAK

ATTACHMENT F

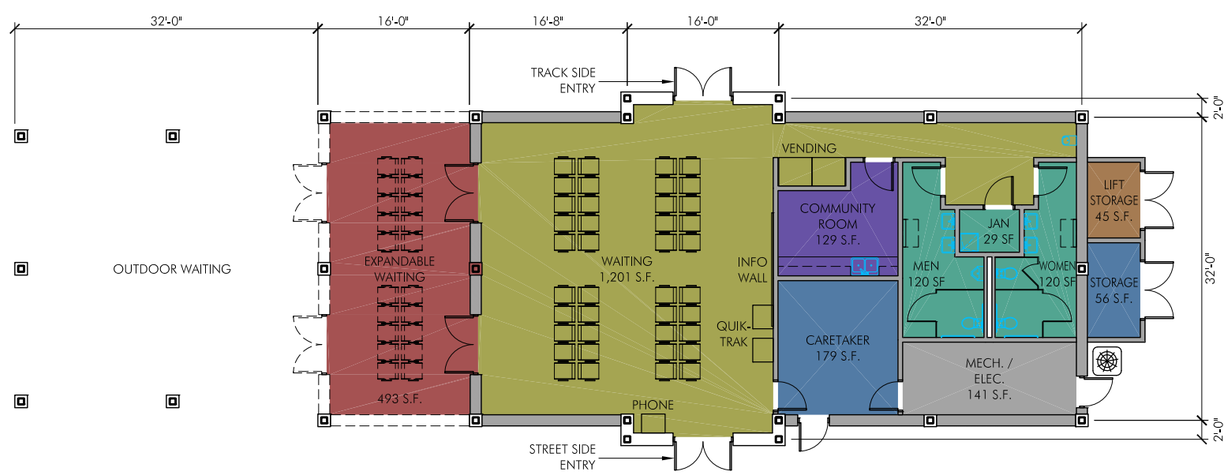
PLAN DETAIL FOR SMALL STATION WITH CARETAKER

FEC AMTRAK® PASSENGER RAIL



TBG0614102323390RL

Federal Funding Opportunity Number: FR-HSR-10-004



FLOOR PLAN - OPTION 7A(-R) (W/ 16' BAYS ONLY)

SCALE: 1/16" = 1'-0"

COLOR LEGEND

- CARETAKER AREA
- ELECTRICAL AND MECHANICAL SPACES
- TOILET ROOMS AND JANITOR
- WAITING AREA
- EXPANDED WAITING AREA
- COMMUNITY ROOM
- WHEELCHAIR LIFT STORAGE ROOM

ENCLOSED STATION AREA

BASIC PLAN: 2,364 S.F.
EXPANDED: 2,897 S.F.

FILE NAME: X
PLOT SCALE: XXX
STANDARD PEN TABLE: YES

No.	Revisions	Date	By

Amtrak®

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STRUCTURES
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Approved	Date
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Architecture
Interiors
Adaptive Reuse
Design Build
Project Management
Inspections

Project Number 09003

SMALL STATION WITH CARETAKER

FLOOR PLAN AND ELEVATION CONCEPTS

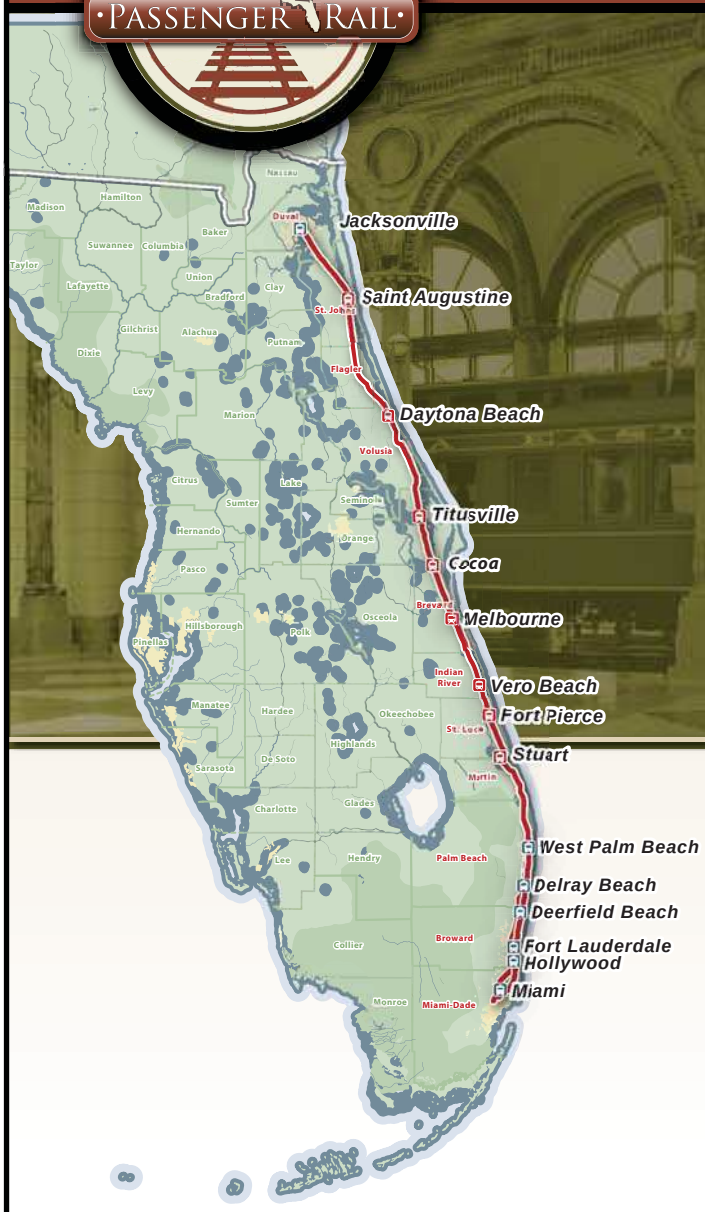
Designed	Drawn	Checked	Date
rn	jm	rn	06/11/2009

Function No:	------
Work Elem. No:	-----
Sheet No.	OF
Dwg. No.	OPT 7A(R)

ATTACHMENT G

RENDERINGS OF MEDIUM STATIONS

FEC AMTRAK® PASSENGER RAIL



TBG0614102323390RL

Federal Funding Opportunity Number: FR-HSR-10-004

AMTRAK MEDIUM STATION

AMTRAK MEDIUM STATION

AMTRAK MEDIUM STATION

AMTRAK MEDIUM STATION

AMTRAK REPLICA HISTORIC TRAIN STATION ALTERNATIVE

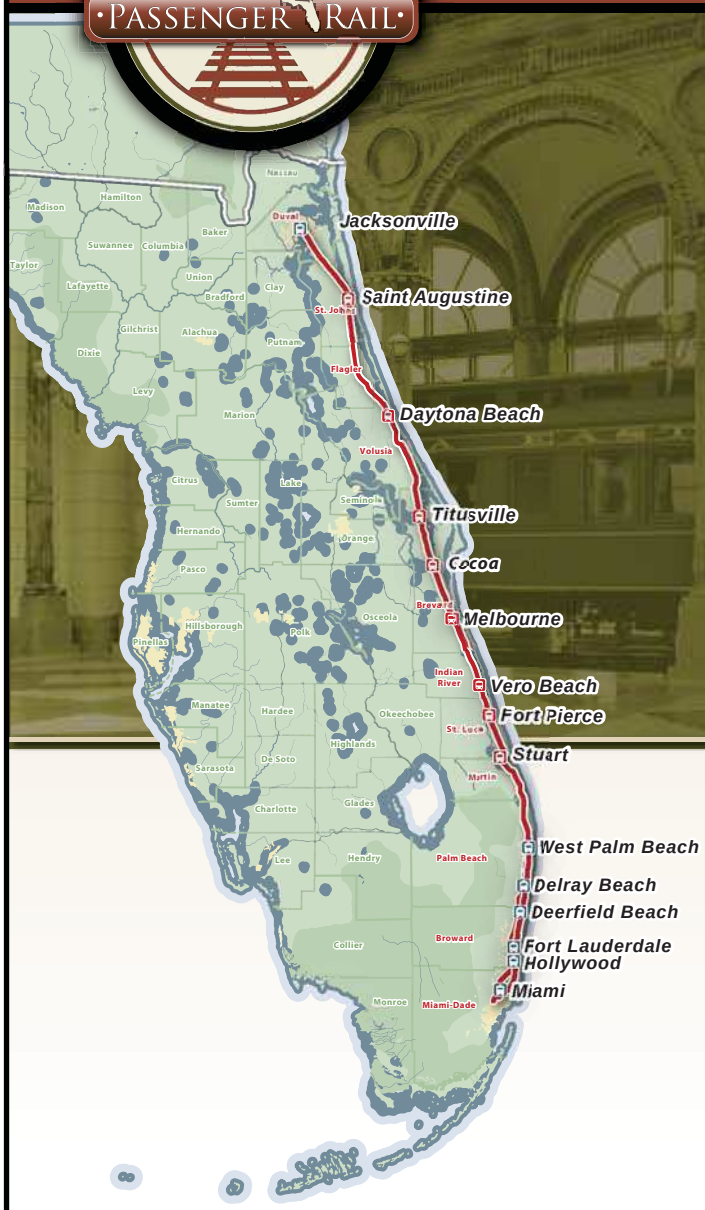
AMTRAK ON FEC CORRIDOR PROJECT
AMTRAK REPLICA HISTORIC TRAIN STATION ALTERNATIVE (PERSPECTIVE)

AMTRAK ON FEC CORRIDOR PROJECT
AMTRAK REPLICA HISTORIC TRAIN STATION ALTERNATIVE (FRONT ELEVATION)

ATTACHMENT H

AMTRAK STATION DESIGN STATEMENT OF CRITERIA

FEC AMTRAK® PASSENGER RAIL



TBG0614102323390RL

Federal Funding Opportunity Number: FR-HSR-10-004

SCOPE AND NATURE:

The purpose of this guideline is to establish standard design criteria that should be used as a reference for engineers and/or architectural firms preparing construction documents for architectural systems supporting Amtrak stations.

The information provided is a minimum requirement from Amtrak. It does not relieve the designer of record from designing the architectural system in compliance to these guidelines, all applicable codes and in strict accordance with the authority having jurisdiction.

The designer shall also use current industry materials and practices for any portion of the design that is not specified by the applicable codes and these guidelines.

1. FINISHES

Designer shall submit concept sketches at a design development level. Coordinate selection with the appropriate substrate system selected for the project. The system chosen should fit the design intention of the Architect of Record and the needs of the users. The finish selected for the station area must durable and easy to maintain. Unless approval is obtained from Amtrak's Chief Engineer, the finish systems will be limited to the following:

A. Station Buildings

i. General

a. Floor: Flooring shall be durable, seamless and slip resistant such as Terrazzo or tile type flooring. Use of sheet vinyl or vinyl tiles should be limited to places where there is a water presence or sanitary conditions warrant the need for installation. Vinyl flooring should also be used in areas where ease of maintenance is an issue such as electrical or telephone/data communication rooms. The use of carpet is not approved. Wood flooring should be limited to stations that have a historic significance and is approved by the State Historic Preservation Officer.

b. Walls: For paint the minimum grade should be at least an industrial level. The surface should always be "PIN-HOLE FREE" and smooth. The systems must be durable and maintenance free. The systems must be local and state code compliant.

c. Base: The preferred system for the area is to match the wall system design and have a minimum industrial grade level. Vinyl composition base (VCB) should be used typically when the walls are painted and there is no wainscot.

d. Ceilings: The preferred system is a minimum 1/2” thick gypsum wall board (GWB). In areas that require security or access to be limited above the ceiling level an industrial type grade 5/8” thick GWB should be used. These areas may be the cashier’s office, police holding areas, evidence rooms, public and unisex toilet rooms, etc. Acoustic tile can be used provided historic issue requirements are met. Materials used for this type of area ceiling should be durable, easily maintained and cost effective. A commercial type grade is required.

ii. Furniture

The preferred system for the area should be an industrial type grade stain and waterproof resistant. The system must be durable, seamless and maintenance free as possible.

iii. Glass

a. Where glass is required at ticket offices, a sliding glass panel system shall be utilized. The glass and track system should be single panel float glass.

b. For security the window should be allowed to open during the day while being closed and locked at night or during special circumstances. The use of this product as a trim must coordinate with the design intention for the entire area of concern. The system must be durable and maintenance free as possible.

B. Ticket Counters (millwork)

Ticket counters must be designed to accommodate the equipment and of the ticket agents. Acceptable material for the counter tops are Plastic-laminate, Solid-surfacing-material and stainless steel countertop. Kick Plates are to match the casework.

C. Rest Rooms

i. General

Full tile floors should be slip resistance. Minimum tile size should be 6" x 6". All floors should have a floor drains where possible and all walls are to be fully tiled including a base system. Where full wall tile is not used a wainscot shall be incorporated. The finish for the area must be durable and easy to maintain. Graffiti resistant materials shall be considered for bathroom walls and partitions. Walls are to be durable solid-surface, washable or stainless materials to reduce maintenance from vandalism.

ii. Toilet Fixtures

a. Water closets and urinals are to be commercial grade, wall-mounted and without a tank.

b. Lavatories are to be commercial grade.

iii. Toilet Partitions

a. Wall & ceiling mounted partitions should be used.

b. All toilet partitions are to be vandal resistant. Metal panels and doors shall be minimum 22 gauge steel, reinforcement to be 12 gauge minimum, head-rails should be standard tubular steel, wall brackets to be cast socket type and pilaster shoes are to be stainless steel a minimum 3 inches high.

c. Attachments are to have tamper-proof, heavy duty extruded aluminum brackets with stainless steel screws and bolts.

d. Material finishes are to be;

1) Stainless steel.

2) Finish galvanized steel priming and baked enamel system.

iv. Toilet Accessories:

a. Air hand dryers, paper towel dispensers, roll-towel units (versus C-fold towels), to be vandal resistant and a commercial grade.

b. Foldable baby changing tables

c. Attachments are to have tamper-proof, heavy duty extruded aluminum brackets with stainless steel screws and bolts.

v. Toilet Room Hardware:

Gravity type pivot hinges, adjustable for door close positioning; door strike and keeper with rubber bumper.

2. ELECTRIC WATER FOUNTAINS

Code compliant barrier-free modular drinking fountain fully-recessed or semi-recessed drinking fountain. The equipment must be durable and easy to maintain. The finish shall be standard stainless steel cabinet finish. The manufacturer shall provide a minimum 5 year warranty. The units selected shall be ENERGY STAR® certified.

3. LOCKERS (for Amtrak Personnel only)

Lockers shall be constructed from steel with flanges to give double thickness of metal at corners and edges. Hardware and anchoring system shall be commercial grade.

4. ELEVATORS

A. Elevator Design Criteria

i. New Passenger and Freight Traction and Hydraulic

Minimum passenger elevator capacity shall be 3,500#. For freight elevators the minimum capacity 4,000#. Elevator operation systems and machines shall have solid-state equipment. In addition to primary operation system features the following minimum requirements shall be provided:

1. Standby power operation.
2. Standby powered lowering.
3. Battery-powered lowering.
4. Automatic dispatching of loaded car.
5. Security features, such as cameras, phone, etc including car to lobby features as required by client or Amtrak.
6. Emergency communication system with a call out to a specified location such as building management or local police.
7. Key-switch operation.

ii. The following items must also be considered based on the location, client or Amtrak needs when selecting the elevator system.

1. Door reopening devices.
2. Door finish material for location of elevator.
3. Car enclosures type such as one side sliding doors or bi-parting doors, etc.
4. Elevator signal equipment.
5. Interior design and lighting should compliment all space that the car will land.
6. Hoistway and hoistway entrances shall be designed and located to addrss any safety concerns.

iii. Where components are not otherwise indicated, provide commercial grade components published by manufacturer as included in commercial grade pre-engineered elevator systems and as required for a complete system.

B. Existing Traction & Hydraulic Modernization:

Provide new operational and control systems. For Commercial grade levels are the minimal requirements expected for durability and reliability.

C. New Roped Hydraulic or Hydraulic

Rope hydraulic or Hydraulic elevator systems shall be commercial grade and have a power unit and lifting assembly capable of lifting the gross load to all required levels. The following minimal requirements are expected for durability and reliability:

i. The design of the power unit shall be a compact, self-contained integral unit consisting of all necessary equipment and connections. If required the system should provide energy efficient and low noise operation. Required equipment shall be mounted on a rubber isolated inner base, have removable drip pan, and enclosed with sound insulated sheet steel panels. A structural steel outer base if required shall support any hydraulic oil tank and controller.

ii. Hydraulic oil pump system, oil tank, oil control unit shall be commercial or heavy duty grade. The control unit shall be designed for safe and efficient operation. The oil tank shall be sized to store the volume of oil to lift the elevator to all landings plus reserve capacity to prevent air or other gas from entering the system.

iii. The tank shall have a removable cover, protected vent opening, drain valve, and at least one oil level gauge glass for the system.

iv. The roped hydraulic type elevator system rotational sheaves shall be commercial or heavy duty grade.

v. The governor and safety equipment shall be in compliance with the local elevator code.

vi. Elevator exposed supporting steel along with connections shall be primed and painted.

vii. The controller will need to be designed to accomplish the type of elevator operation indicated by the client.

D. New Traction

Design of traction elevator shall be either a commercial or heavy duty grade and shall be designed with standard components published by the manufacturers selected as included in standard pre-engineered elevator systems and as required for a complete system.

Based on the system and manufactures selected the following minimum criteria shall be met:

i. Solid-state power equipment.

ii. Shall be non-regenerative system.

iii. Limit total harmonic distortion of regenerated power to 5 percent per IEEE 519.

iv. Provide line filters or chokes to prevent electrical peaks or spikes from feeding back into building power system.

E. Application, Inspections and Test

i. The elevators shall be designed so a certificate of inspection can be obtained at the end of the project.

ii. The design documents shall be written to require the contractor to obtain and pay for all necessary applications and perform tests that may be required to obtain a certificate of inspection.

F. Warranty

The designers documents shall specify a manufacturer's standard warranty in which manufacturer agrees to repair, restore, or replace defective elevator work within five years from date of substantial completion.

G. Maintenance Service

Design documents shall specify a minimum five years full maintenance service by the elevator installer. Service shall include but not limited to monthly preventive maintenance, repair or replacement of worn or defective components, lubrication, cleaning, and adjusting as required for proper elevator operation at rated speed and capacity. Parts and equipment provided shall be the same as those used in the manufacture and installation of original equipment. The following service is also required to be specified in the design documents during the maintenance period:

i. Perform maintenance, including emergency callback service, during normal working hours.

ii. Include 24-hour-per-day, 7-day-per-week emergency callback service with response time of two hours or less.

5. ESCALATOR

A. Escalator Design Criteria

i. General

The following are minimum requirements for escalators:

a. Escalators need to be of the heavy-duty type for use in transit systems. The escalators shall be designed with provisions for thermal expansion and contraction of escalator assemblies due to changing ambient temperature and humidity conditions as well as any movement of the facility caused by trains braking when trains are fully loaded.

b. The escalators shall be designed for operations twenty-four (24) hours per day, seven (7) days per week. The design shall provide for bi-directional travel. All components to be heavy duty with up and down reversibility with a delay of no more than 2 minutes between directional changes. The speed of operation shall be heavy duty usage with at lease a minimal rate of speed of 100 feet per minute.

c. Electrical power services shall be designed for heavy duty usage escalator drive systems. The escalators drive system shall terminate in a disconnect switch located in the escalator pit. Lighting and receptacles shall be included in the escalator pit.

d. The escalator’s truss, machinery, motors and brakes shall be designed with a minimum design load for 320 pounds per 40" exposed step.

e. The escalators shall be designed to operating with full specified performance capability while exposed to temperature ranges of plus twenty-five (+25) to plus one hundred and twenty (+120) degrees Fahrenheit, dry bulb; and all conditions of relative humidity, and while exposed to airborne dust and debris.

B. Structural Requirement

i. New and existing escalators

The escalators shall be designed with escalator truss mounting angles and intermediate truss supports with attachments. The design shall provide for sizes as required to install escalators into the wellway structural support systems.

C. Operation Requirements

i. The design of the escalator sound level shall be to operate at or below a sixty-five (65) decibels, measured five (5) feet above the escalator at any location, with the escalator operating normally, either free-running or under load as a minimum. For multiple escalator installation, the design shall indicate that the noise measurements shall be made with only one (1) escalator unit in operation including that the entire installation is complete and in operating condition. Ambient level noises shall not exceed forty-nine (49) decibels and that the ambient level shall be maintained prior to units being turned on.

ii. The design of the escalators Vibration shall be at a maximum velocity reading of four-tenths (0.4) of an inch per second. The escalator shall be tested in order to achieving maximum velocity readings of four-tenths (0.4) of an inch per second.

D. Application, Inspections and Tests

i. The escalators shall be designed so a certificate of inspection can be obtained at the end of the project.

ii. The design documents will require the Contractor to obtain and pay for all necessary applications and perform tests that may be required for acceptance and approval of escalators certificate of inspection.

E. Warranty

Design Documents shall specify a manufacturer's standard warranty in which manufacturer agrees to repair, restore, or replace defective elevator work within at least 12 months from date of Substantial Completion.

F. Maintenance Service

i. Design documents shall specify a minimum 12 month full maintenance service by escalator Installer. Service shall include but not limited to monthly preventive maintenance, repair or replacement of worn or defective components, lubrication, cleaning, and adjusting as required for proper escalator operation at rated speed and capacity. Parts and equipment provided shall be the same as those used in the manufacture and installation of original equipment. The following service is also required to be specified in the design documents during the maintenance period:

a. Perform maintenance, including emergency callback service, during normal working hours.

b. Include 24-hour-per-day, 7-day-per-week emergency callback service with response time of two hours or less.

6. PAINT

When recommending type and usage provide the minimal requirements which consist of either a commercial or heavy duty grade expected for long durability and reliability. The paint systems shall meet the standard requirements published by the manufacturers selected and as required for a complete system. The paint system selected for each material shall be the correct system to provide the coating and finish desired and shall be in compliance with local and state VOC environmental regulations. All external systems in contact with any walking surface will require protection from salt corrosion.

7. FURNITURE

Bench seats and back pads shall be made from material that can withstand vandalism, are durable and easy to maintain. Benches shall be fixed in placed and shall not promote undesirable uses when arranged at the station. Intermediate arms should be provided for all interior benches.

8. EXTERIOR DOORS (PEDESTRIAN & GENERAL USE)

i. The door and door system should comply with current state and local building codes. The door operating system, hardware and finish must be durable, easy to maintain, and be able to withstand deicing chemicals.

ii. Wood door systems shall not be used unless historic requirements govern and require their usage.

iii. Hollow metal and revolving door systems shall be a commercial or heavy duty grade.

iv. Aluminum door systems shall be a commercial or heavy duty grade.

v. Steel door systems shall be a commercial or heavy duty grade.

vi. Curtain wall door systems shall be a commercial or heavy duty grade.

vii. Framed glass doors systems shall not be used unless historic requirements govern and require their usage.

9. HARDWARE

Amtrak does not have a universal standard. The hardware selected should match what is currently in use at the location. The minimal requirements shall be commercial or heavy duty grade and must be durable, easy to maintain, and be able to withstand deicing chemicals. Hardware selected from manufactures shall be selected as a complete system and not as a part unless approved by the manufacturer. The hardware should comply with current state and local building codes.

10. GLAZING

The glazing selected should match what is currently in use. The minimal requirements ¼" thick shall be commercial or heavy duty grade and shall be durable and be able to withstand deicing chemicals. The finishes and colors should match the final conditions of the spaces.

11. ROOFING

A. Roofing Systems

i. Types

Amtrak does not have a universal standard. The selection of the roof system for new or existing buildings must be based upon the effectiveness of the roof for the building location, material availability and cost. Use the manufactures recommendations so the roof system to be placed on the roof deck will provide the required warranty. For existing roofs, the type for replacement selected should match in kind what exists as long as it addresses the previous requirements. For both new and replacement conditions the minimal requirements shall be commercial or heavy duty grade. The design documents shall include standard requirements and details published by the manufacturers selected as required for a complete roof system. The preferred roof system for the station must durable and easy to maintain. The roof system and colors should match the style and aesthetics of the building. The use of shingle style, unless the project is historical or has an architectural characteristic requirement for the surrounding area, is not allowed.

ii. Insulation

The material and system selected should be applicable to the roof system and manufactures recommendation in order to receive the final certification and warrantee. The system should comply with local and state building codes. The system should also provide the minimal "u" value allowed for the roof to be installed. The system should also be an integral component with the existing or new structural roof system. The design of the new roof system or design of insulation and roofing membrane on an existing roof deck shall meet the required "R" value as specified in the applicable code for the project location. The design shall indicate each type of insulation that should be approved by the roof membrane system for intended use,

for compatibility with the specified roof assembly, plus for inclusion in the total system guarantee.

iii. Warrantees and Maintenance

a. A minimum 20 years shall be specified in the design documents manufactures standard roof membrane warranty. The roof membrane manufacturer shall provide a full 20 year labor and materials “no dollar limit” guarantee. The guarantee shall be a total system, term type, without deductibles or limitations on coverage amount.

b. The design documents shall also contain a separate specification for a four (4) year guarantee covering all work performed by the contractor for the project. The guarantee should include all labor and materials required to replace any defects in the work resulting from workmanship or material failure.

12. SEALANTS

A. Sealant Systems

i. Types

The sealant systems selected shall be commercial or heavy duty grade, be durable, easy to maintain and be able to withstand deicing chemicals. Use the manufactures recommendation when applicable and verify that a warranty will be provided at the end. The colors shall match the aesthetics of the building. Sealants shall be installed in accordance to the manufactures requirements for surface preparation and application. Residential grade is not acceptable.

ii. Warrantees and Maintenance

The sealant shall be warranted for a minimum of two years. The sealant manufacturer should have and provide a full labor and materials total system guarantee.

SCOPE AND NATURE:

The purpose of this guideline is to establish standard design criteria that should be used as a reference for engineers and/or architectural firms preparing construction documents for electrical systems supporting Amtrak stations.

The information provided is a minimum requirement from Amtrak. It does not relieve the designer of record from designing the electrical system in compliance to these guidelines, all applicable codes and in strict accordance with the authority having jurisdiction.

The designer shall also use current industry materials and practices for any portion of the design that is not specified by the applicable codes and these guidelines.

ELECTRICAL DESIGN CRITERIA

1. ELECTRICAL SERVICE REQUIREMENTS

a. Design engineer shall provide Amtrak with detailed load calculations used to select all equipment for project. Load calculations shall provide information for determining the following:

i. Primary vs. Secondary service
ii. 1Ø vs. 3Ø
iii. Outdoor vs. indoor transformers

2. POWER DISTRIBUTION

a. Switchgear

i. Allow capacity for anticipated future growth as determined by planning guidelines
ii. Perform a short circuit calculation, coordination study and arc flash study.
iii. Bus shall be copper

b. Panelboards

i. Outdoor
   a. Equipment minimum requirement shall be 3R unless environmental conditions require 4X.
   b. Internal heater shall be provided unless particular conditions show that is unneeded.
ii. Indoor – panels shall use door-in-door construction

iii. Bolt on breakers are required
iv. Bus shall be copper
v. Neutral & ground bus – 100% minimum

c. Transformers

i. Outdoor - Oil Filled or Cast Coil
ii. Indoor – Dry type, ventilated unless particular environmental issues dictate otherwise
iii. Copper windings
iv. Evaluate loads for distribution transformers to determine “k” rating

d. Motor Control Centers

i. Copper bus & wire
ii. Main Disconnect required

3. WIRING METHODS

a. Wire

i. Insulation type
   1. Indoor – THHN
   2. Exterior and underground – XHHW-2
ii. Conductor type
   1. Copper only

b. Cables

i. MC cables may be used in indoor concealed locations not subject to moisture or physical damage. Where subject to moisture or outdoors, PVC coated MC shall be used.

c. Conduit & Raceway

i. RGS – where subject to damage and/or moisture, also elbows for PVC (minimum size ¾”)
ii. EMT – where not subject to moisture or physical abuse (minimum size ¾”) Couplings shall be compression, set screws are not permitted.
iii. PVC – underground or encased in concrete, use RGS elbows on long pulls (minimum size 1”)
iv. FMC – indoor connection to transformers, machinery and lighting whips (minimum size ¾”)
v. Liquidtite – where flexible connection is required in an area subject to moisture (minimum size ¾”)

vi. Surface mounted (ie – Wiremold™) – retrofits in office area only. Construction shall be metal only with the ability to accept paint.

d. Boxes

i. Sheet steel - galvanized
   1. Device boxes
   2. Junction boxes not subject to precipitation

ii. Stainless steel – where subject to precipitation or corrosives
   1. Junction boxes
   2. Equipment (panelboards, contactors etc)
      a. Heaters to be installed where moisture infiltration must be prevented

iii. Cast - where subject to moisture or precipitation
   1. Devices
   2. Junction box

iv. Non-metallic
   1. Use with PVC conduit

e. Devices

i. Switches – commercial or industrial grade
ii. Receptacles– commercial or industrial grade
iii. Covers – metallic in all areas except office areas

f. Grounding

i. Ground conductor required in each conduit – do not use metallic conduit as a substitute
ii. Ground rods – copper coated steel ground rod unless particular soil conditions mandate SS.

4. LIGHTING

a. **Illumination values –** See Attachment 1 or IES minimums if not covered in the attachment

b. Exterior – except platform

i. Housing shall be wet location rated as a minimum
ii. MH or HPS lamp source

c. Platform

i. Housing - IP65 minimum

ii. White light – MH, fluorescent or LED

d. Emergency

i. Quartz restikes not to be used with HID
ii. See “Emergency Power”

e. Exit signs

i. LED
ii. Internal battery only if UPS or generator is not available

f. Lighting Controls

i. Prefer electronic switchable breakers – controlled by internal panel controller with TC and external PC
ii. Retrofit or alternate to switchable breakers - Contactor – PC & TC control
(PC – photocell, TC – time clock)

5. EMERGENCY POWER

a. Stations without conditioned space

i. Battery packs or internal ballasts with battery backup for lighting only

b. Stations with conditioned space

i. Station plus platforms - lighting inverter or UPS for lighting only
   1. For small stations with minimal platforms, battery packs or internal ballasts with battery backup may be used
ii. For lighting plus station computers – UPS
iii. Where operation of station is required other than for emergency egress – provide an emergency generator (If HID lighting, provide UPS or lighting inverter in addition to generator)

c. UPS

i. UPS shall be rated for the environment where it is to be installed.
ii. UPS shall provide remote alarm annunciation.

6. STANDBY POWER FOR TRAINS

a. Where required by Amtrak, 800amp Staneco cabinet or equivalent – number of cabinets and locations to be determined

(attachment 1 to be on separate page in final document)

Attachment 1

NATIONAL RAILROAD PASSENGER CORPORATION
ILLUMINATION LEVELS

Standard Design Criteria

Description	Foot-Candles
Station Platforms - covered (during train occupancy)	15
Station Platforms - uncovered (during train occupancy)	5
Station Platforms (except during train occupancy)	2
Waiting Rooms	30
Ticket Counters and Ticket Offices	100
Baggage Check-in Areas	50
Toilet, Washroom and Smoking Areas	30
Storage	20
Stairs and Ramps	10
Vending Areas	10
Locker Rooms and Showers	30
Exterior Station Lighting	10
Exterior Building Lighting (except Stations)	5
Vehicle Parking - uncovered	2
Vehicle Parking - covered	5
Maintenance Facilities (Moderate/Difficult Tasks)	70

NOTE:

All designated lighting levels are minimum, not average. Lighting levels are to be achieved at the dimmest point.

SCOPE AND NATURE:

The purpose of this guideline is to establish standard design criteria that should be used as a reference for engineers and/or architectural firms preparing construction documents for fire and life safety systems with in Amtrak stations.

The information provided is a minimum requirement from Amtrak. It does not relieve the designer of record from designing the fire and life safety systems in compliance to these guidelines, all applicable codes and in strict accordance with the authority having jurisdiction.

The designer shall also use current industry materials and practices for any portion of the design that is not specified by the applicable codes and these guidelines.

COMMUNICATIONL DESIGN CRITERIA

1. ADA PHONE & EMERGENCY CALL BOX

a. ADA Phone

i. Minimum of one phone per station.
ii. Phone must be accessible if station building is closed

b. Emergency call box

i. Minimum – one per platform
ii. Equipment minimum requirement shall be 3R unless environmental conditions require 4X.

FIRE ALARM DESIGN CRITERIA

1. FIRE ALARMS

a. Design Criteria

i. Stations requiring one or two zones may be zoned systems
ii. Stations requiring more than two zones shall be addressable

b. Notification

i. Local authorities – dial-up
ii. Amtrak Police at 30th Street – Ademco long protocol

SCOPE AND NATURE:

The purpose of this guideline is to establish standard design criteria that should be used as a reference for engineers and/or architectural firms preparing construction documents for HVAC systems that condition Amtrak stations.

The information provided is a minimum requirement from Amtrak. It does not relieve the designer of record from designing the HVAC system in compliance to these guidelines, all applicable codes and in strict accordance with the authority having jurisdiction.

The designer shall also use current industry materials and practices for any portion of the design that is not specified by the applicable codes and these guidelines.

1. PREPARATION OF LOAD CALCULATIONS

a. Design engineer shall provide Amtrak with detailed load calculations used to select all equipment for project. Load calculations shall include the minimum parameters:

   i. Temperature/humidity conditions – outdoor
   ii. Temperature and humidity conditions – indoor
   iii. Ventilation rate
   iv. Individual room loads
   v. Zone Load Summary
   vi. Psychrometric Chart

2. AMBIENT WEATHER CRITERIA

Refer to Latest volume of ASHRAE Fundamentals, Climatic Design Information

a. Summer

   i. Dry bulb design temperature-ASHRAE 1% city data.
   ii. Wet bulb design temperature – ASHRAE mean coincident with 1%
   iii. Wind speed for design city – ASHRAE

b. Winter

   i. Dry bulb design temperature – ASHRAE 99% city data
   ii. Wind Speed for city – ASHRAE Extreme Annual WS – 2.5%

3. INTERIOR SPACE TEMPERATURE AND HUMIDITY CRITERIA

a. Station Waiting Room, ticket offices, restrooms

i. 78° F. D.B., 55% R.H. Maximum
ii. 70° F. D.B., 30% R.H. Minimum

(Amtrak does recommend the use of humidification to achieve 30% RH)

b. Baggage and Storage

iii. 60° F. D.B., Minimum

4. INTERNAL LOAD CRITERIA

a. Lighting

i. Account for lighting loads for HVAC equipment sizing to reflect conditions as designed by lighting designer. Distribute loads to plenums as required and recommended in ASHRAE fundamentals.

b. People

i. 250 BTU/HR per person – Sensible
ii. 200 BTU/HR per person – Latent

c. Equipment

i. Size HVAC equipment to handle loads for equipment such as computers, printers, copy machines etc. in occupied spaces. Utilize appropriate diversity factors

5. FUEL SELECTION

a. Natural Gas

i. Natural gas is the preferred fuel for Amtrak facilities

b. Heating Oil

i. If natural gas is not available, heating oil should be utilized.

ii. Fuel oil storage shall be above ground.

c. Electricity

i. In the event the project location cannot accommodate natural gas or fuel oil, electricity may be utilized.

ii. First consider the use of electric heat pumps followed by electric resistance heat.

6. BUILDING ENVELOPE AND ENERGY CONSERVATION CRITERIA

a. General

i. Design in strict accordance with latest edition of ASHRAE/IESNA Standard 90.1

ii. Stations originally designed with perimeter heat to offset conduction losses shall be redesigned with perimeter heat in place. Perimeter heated buildings shall not be redesigned with all-air systems as a replacement.

7. AIR SYSTEM DESIGN CRITERIA

a. System Selection

i. HVAC systems shall be selected to achieve the highest level of comfort for Amtrak passengers and employees while focusing on energy efficiency and ease of maintenance. Air conditioning systems 7-1/2 tons and less shall be specified with a minimum EER of 16 or as prescribed in local energy codes.

ii. Engineering designers shall evaluate the use of variable air volume systems complimented with variable frequency drives on supply and return air fans.

iii. Air handling units shall be specified with double-wall construction. Single wall with exposed insulation shall not be specified.

iv. Design professional shall evaluate and recommend low ambient and/or hot gas bypass control based on internal loads and climatic conditions.

v. All air handling systems shall be designed with a ducted return air system. Plenum returns of any kind are not acceptable.

vi. The following safety factors will be employed in the design calculations:
   1. Cooling calculations: 5%
   2. Heating Calculations: 15%

b. System Security

i. Outside air intakes shall not be located to allow introduction of potentially life threatening chemical agents.

ii. No intake shall be located in sidewalks. Pad mounted, exterior units shall be installed behind an Amtrak approved secure fence system.

iii. Preferred locations are at roof level.

c. Ventilation

i. Outside air shall be provided in accordance with the latest edition of ASHRAE standard 62.

ii. Minimum outside air shall not be less than 20CFM per person.

iii. All HVAC systems shall utilize full economizer control.

iv. Exhaust public restrooms at a rate of 50 CFM per water closet or urinal minimum.
v. Return air shall not exceed 85% of supply air under any condition.

d. Pressurization Criteria

i. All Amtrak buildings *shall be maintained at a positive pressure relative to ambient.*
ii. Designers shall consider toilet exhaust, kitchen exhaust etc. when performing load calculations to achieve positive pressure.
iii. Make up air shall be conditioned.
iv. Building pressure relationships shall be documented on a simple airflow diagram within the construction documents.

e. Filtration Criteria

i. All air handling systems shall have a filtration system.
ii. Minimum filter rating shall be MERV 8. The preferred level of filtration shall be MERV 13 for systems 15 tons and higher.

f. Ductwork

i. Low, medium and high pressure ductwork shall be constructed in accordance with SMACNA guidelines.
ii. In all cases, Amtrak requires that all ductwork shall be seal class “A” with traverse and longitudinal joints sealed.
iii. Fire dampers, smoke dampers, and smoke detectors shall be provided in accordance with the NFPA code or authority having jurisdiction.
iv. All outside air and supply air ductwork shall be insulated.

8. STEAM AND HYDRONICS SYSTEM CRITERIA

a. General

i. Pipe guides, anchors, expansion loops, expansion joints, vents, drains, controls etc. shall be provided where required for all piping systems.
ii. Gauges, thermometers, gauge cocks, thermo-wells, shut-off valves control valves, and other devices will be provided for each piece of equipment for operation, maintenance, and balancing purposes.
iii. All piping systems shall be specified to be cleaned and flushed.
iv. All piping systems shall be specified to be tested in excess of service pressure.
v. All hydronic systems shall be balanced for specified design flow rate and pump head. Balancing will be performed by an independent agency, contracting directly with Amtrak.

vi. Hydronic systems shall be designed with 2-way control valves, differential bypass and centrifugal pumps with full cut impellars controlled by variable speed drives.

vii. Pumps shall be installed with N+1 redundancy.

b. Water Systems

i. All closed loop water systems shall be designed on a friction factor coefficient of C=130. All open piping systems will be sized on a friction coefficient of C=100. The following sizing criteria applies to both open and closed piping systems.

1. Chilled water, hot water (<2 inch)
   a. Maximum Pressure Drop: 4 ft.-hd per 100 equivalent feet of pipe
   b. Maximum velocity: 8 feet per second
   c. Minimum velocity: 1.5 feet per second

2. Chilled water, hot water (>2 inch)
   a. Maximum Pressure Drop: 4 ft.-hd per 100 equivalent feet of pipe
   b. Minimum Pressure Drop: 0.75 ft-hd per 100 equivalent feet of pipe
   c. Maximum velocity: 12 feet per second within mechanical rooms
   d. Maximum velocity: 8 feet per second outside mechanical rooms

3. Pipe Material
   a. 2” and smaller shall be type “L” copper
   b. 2-1/2” and larger – schedule 40 black steel, welded or seamless.

c. Steam Systems

i. Low pressure (up to 15 PSIG)
   1. Low pressure drop: ¼ PSIG per 100 equivalent feet of pipe.
   2. Maximum velocity within mechanical room shall not exceed 12000 feet per minute.
   3. Maximum velocity outside mechanical room shall not exceed 8000 feet per minute.

ii. Condensate Systems
   1. All condensate should be returned.
   2. Gravity flow condensate will be sized at 4 ounce pressure drop per 100 equivalent feet of pipe.

3. All gravity condensate piping should be designed for a slope of 1/8” per linear foot of piping.
4. Sizing safety factor for warm-up loads: 2 to 1
5. Condensate pumps shall be duplex type.

iii. Piping Materials:

1. Steam piping shall be Schedule 40 welded steel or seamless black steel pipe.
2. Condensate piping shall be schedule 80 welded steel or seamless black steel pipe.

iv. Insulation

1. Pipe insulation shall be in accordance with ASHRAE 90.
2. Aluminum jackets shall be utilized on piping exposed to the elements.

d. Propylene/Glycol Solution

i. Propylene glycol solutions shall be evaluated by design professional to achieve non-freeze operating ability as required by climate conditions.

e. Water Balancing

i. All hydronic systems shall be balanced to +/- 5% for specified design flow rate and system pump head. The balancing effort shall be documented and submitted in a balancing report.

f. Water Treatment

i. All water systems shall be treated with a chemical water treatment system.

ii. Construction documents shall include necessary piping arrangement to feed chemicals.

SCOPE AND NATURE:

The purpose of this guideline is to establish standard design criteria that should be used as a reference for engineers and/or architectural firms preparing construction documents for structural systems supporting Amtrak stations.

The information provided is a minimum requirement from Amtrak. It does not relieve the designer of record from designing the structural system in compliance to these guidelines, all applicable codes and in strict accordance with the authority having jurisdiction.

The designer shall also use current industry materials and practices for any portion of the design that is not specified by the applicable codes and these guidelines.

1. STRUCTURAL SYSTEMS

Coordinate selection of the appropriate structural system with the Architect of Record to best support the structure and fit into the Architect's design philosophy. Unless approval is obtained from Amtrak's Chief Engineer, the structural systems will be limited to following:

A. Station Buildings

i Foundation system

a. Reinforced, cast in place concrete footings with concrete piers.

b. Reinforced, cast in place concrete continuous footings with cast in place concrete or solid masonry block or hollow masonry blocks - grouted solid, strip/wall foundations.

c. Drilled piers with reinforced cast in place concrete.

d. Driven steel or pre cast concrete piles with reinforced, cast in place concrete pile caps.

ii Superstructure

a. Steel.

b. Reinforced Cast in place concrete.

c. Pre cast concrete.

d. Reinforced masonry.

e. Timber can only be used in buildings where timber is currently a structural element and use of another material would have an adverse impact on the historic fabric of the building.

f. Pre engineered building systems may only be used with the approval from Amtrak's Chief Engineer.

iii Floor Systems

a. Slab on grade shall be a minimum of 4” thick cast in place concrete with the required steel reinforcing bar or welded wire fabric reinforcing as determined in the slab design.

b. Elevated floors shall be reinforced cast in place concrete, pre cast plank or composite cast in place concrete/steel deck systems. Reinforcing of the cast in place concrete floors shall be steel rebar or welded wire fabric.

c. Fiber reinforcing will not be allowed as structural reinforcing of any floor system.

d. Fire ratings of all floor systems must meet the requirements of the Architects code review for the building.

iv Roof System

a. Light gage metal decking.

b. Cast in place concrete.

c. Pre cast concrete.

B. Platforms

i Foundation system

a. Cast in place concrete footings with concrete piers.

b. Cast in place concrete continuous footings with cast in place concrete strip/wall foundations.

c. Drilled piers with reinforced, cast in place concrete.

d. Driven steel or concrete piles with cast in place concrete pile caps.

ii Platform structure

a. Pre cast concrete. Pre cast planks shall be solid.

b. Reinforced, cast in place concrete.

C. Canopies

i Foundation system

a. Reinforced, cast in place concrete footings with concrete piers.

b. Drilled piers with reinforced, cast in place concrete.

c. Driven steel or concrete piles with cast in place concrete pile caps.

ii Superstructure

a. Steel.

b. Reinforced, cast in place concrete.

c. Pre cast concrete.

iii Roof System

a. Light gage metal decking.

b. Cast in place concrete.

c. Pre cast concrete

2. DESIGN OF STRUCTURAL SYSTEM

Design of the structural system must be in accordance with the local building code's site-specific requirements for snow, ice, wind, frost depth and seismic zone or the following Amtrak minimum design loads requirements:

A. Dead Load

Dead load shall include the weight of the structural system being used, weight of exterior wall façade, interior walls, flooring and ceiling and mechanical and electrical equipment.

B. Live Loads

i. Floor Live Load

a. Passenger waiting area – 100psf

b. Baggage storage areas – 150psf

c. Train Platform – 150psf

d. No live load reduction will be allowed for any portion of the structure design.

ii. Roof Live Load - Per local code requirements for but not limited to snow, ice, drifting, and ponding with a minimum of 30psf.

C. Wind Loads

i. Per local code requirement for design of main structural system with a minimum of 30psf.

ii. Uplift pressure due to wind with out gravity live loads must also be analyzed.

D. Earthquake Loads

i. Per local code requirements.

E. Structural Analysis Requirements

i. Designer shall analyze the main structural components with all combination of loads required by code.

ii. Foundation design shall support all loading conditions and shall be in conformance with the geotechnical capacity of the soil at the location of construction. Design shall be in accordance with the site specific geotechnical recommendations and site specific requirements including frost depth and seismic zone.

3. STRUCTURAL MATERIAL REQUIREMENTS

The following is a minimum for material requirements for the various structural materials:

A. Concrete

i. Strength – 4000psi @ 28 days.

ii. Air Entrainment – 4 - 5%.

iii. Water/Cement Ratio – maximum .45.

iv. Concrete shall contain silica fume and other additives as needed in accordance with ACI 318.

B. Pre cast Concrete

i. Strength – 5000psi.

ii. Design in accordance with ACI 318 and PCI MNL-120.

C. Concrete Reinforcing

i. Strength – Rebar: ASTM A615 Grade 60 WWF: ASTM A185.

ii. All reinforcing shall be epoxy coated.

iii. Rebar detailing to be in accordance with ACI 315.

D. Steel

i. Rolled wide flange sections shall conform to ASTM A992 Grade 50.

ii. All other rolled sections shall conform to ASTM A36.

iii. Rectangular hollow sections shall conform to ASTM A500 Grade B Fy – 46ksi.

iv. Hollow pipe sections shall conform to ASTM A53 Type E.

v. Welding rods shall be E70XX.

vi. Steel joist shall be designed in accordance with the Steel Joist Institute for Series K, LH, DLH, G joists and girders.

vii. Roof deck shall be minimum 1 ½" deep, 18 gage, metal deck that complies with the design properties of Type B metal deck as manufactured by United Steel Deck.

viii Steel composite floor deck shall be a minimum 18 gage composite metal deck that complies with the design properties of Lok-Floor deck as manufactured by United Steel Deck.

ix. Bolts shall be minimum ¾" diameter ASTM A325. All bolted connections shall be full depth of the section web.

E. Masonry

i. Masonry units shall be type N-1 conforming to ASTM C90 with a minimum compressive strength of 1900psi.

ii. Mortar shall conform to ASTM C270 with a minimum compressive strength of 1800psi @ 28 days. Mortar for walls below the ground shall be type M. All other mortar shall be type S.

iii. Grout shall be high slump mix conforming to ASTM C476 with a minimum compressive strength of 3000psi.

iv. Laid up masonry design f'm is 1350psi.

v. All horizontal joint and vertical wall reinforcing shall be epoxy coated.

F. Timber

i. Structural timber shall have the have the following properties as minimums, Fb = 850psi, Fv = 75psi, E = 1300ksi

ii. Glued laminated members shall conform to AITC 117-84 and shall have the following properties as minimums, Fb = 2200psi, Fv = 165 psi, E = 1500 ksi.

Iii Parallam beams shall have the following properties as minimums, Fb = 2900psi, Fv = 290 psi, E = 2000ksi

F. Finishes

i. All steel that will be exposed to the environmental elements shall be hot dipped galvanized with a minimum of 4 mil thickness in accordance with ASTM A153 prior to painting.

ii. All interior steel shall have a shop coat of rust inhibitive paint.

iii. Steel roof deck shall be hot dipped galvanized with a G90 coating in accordance to ASTM A653.

iv. Steel composite floor deck shall be hot dipped galvanized with a G60 coating in accordance to ASTM A653.

v. Exposed concrete surfaces shall have a broom finish.

4. DOCUMENTATION REQUIREMENTS

Designer shall include on the drawings information in tabular form the Dead, Live, Roof, Wind, Earthquake loads including listing the code from which the loads was derived. Include wind loads for cladding and roofing design for all portions of the building in tabular form.

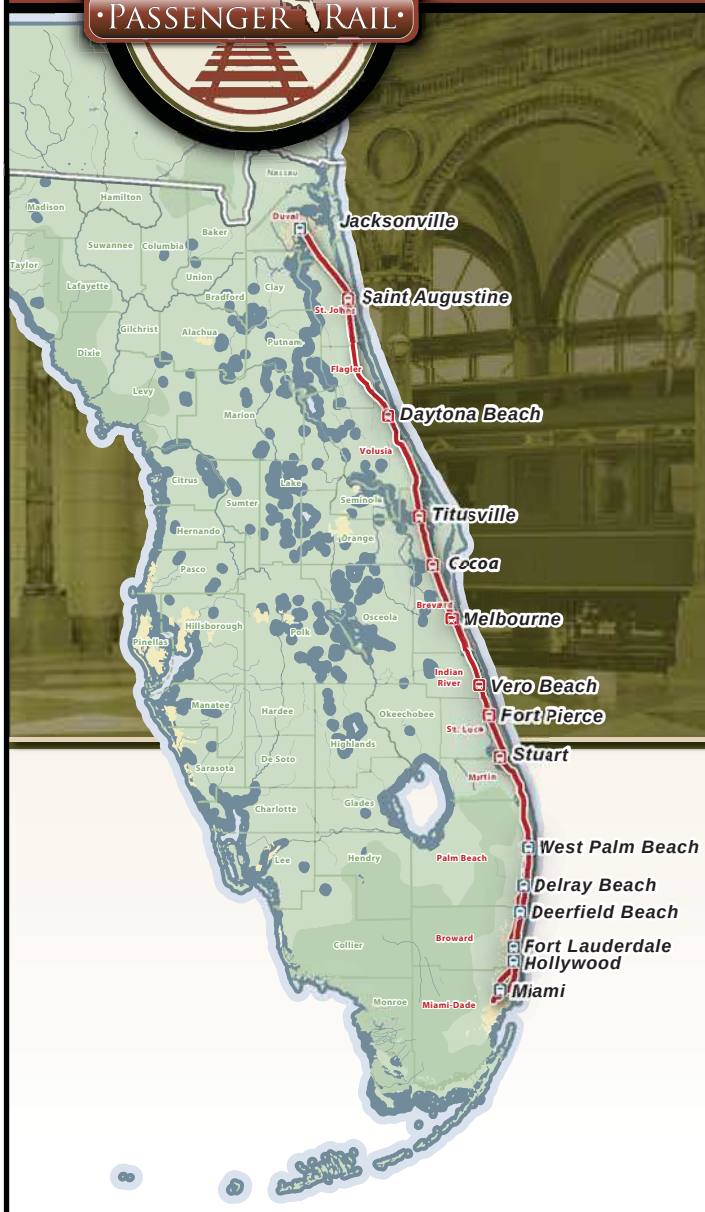
Designer shall include on the drawing maximum design loads at all connection points and at the top of foundations.

The construction documents shall include all member sizes, required reinforcing, connection details and material specifications.

ATTACHMENT I

MIAMI INTERMODAL CENTER AND MIAMI CENTRAL STATION (FOR REFERENCE ONLY)

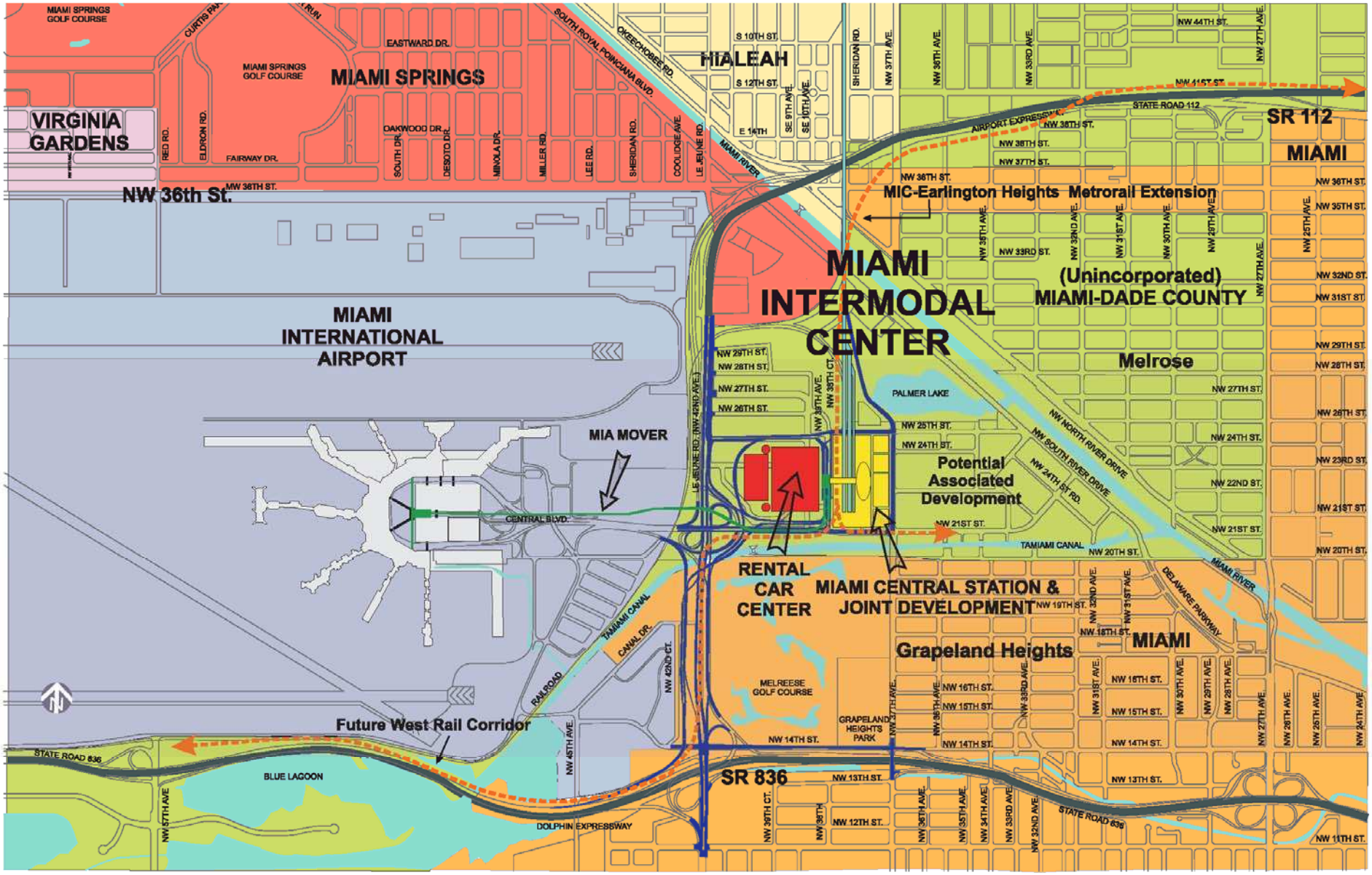
FEC AMTRAK® PASSENGER RAIL



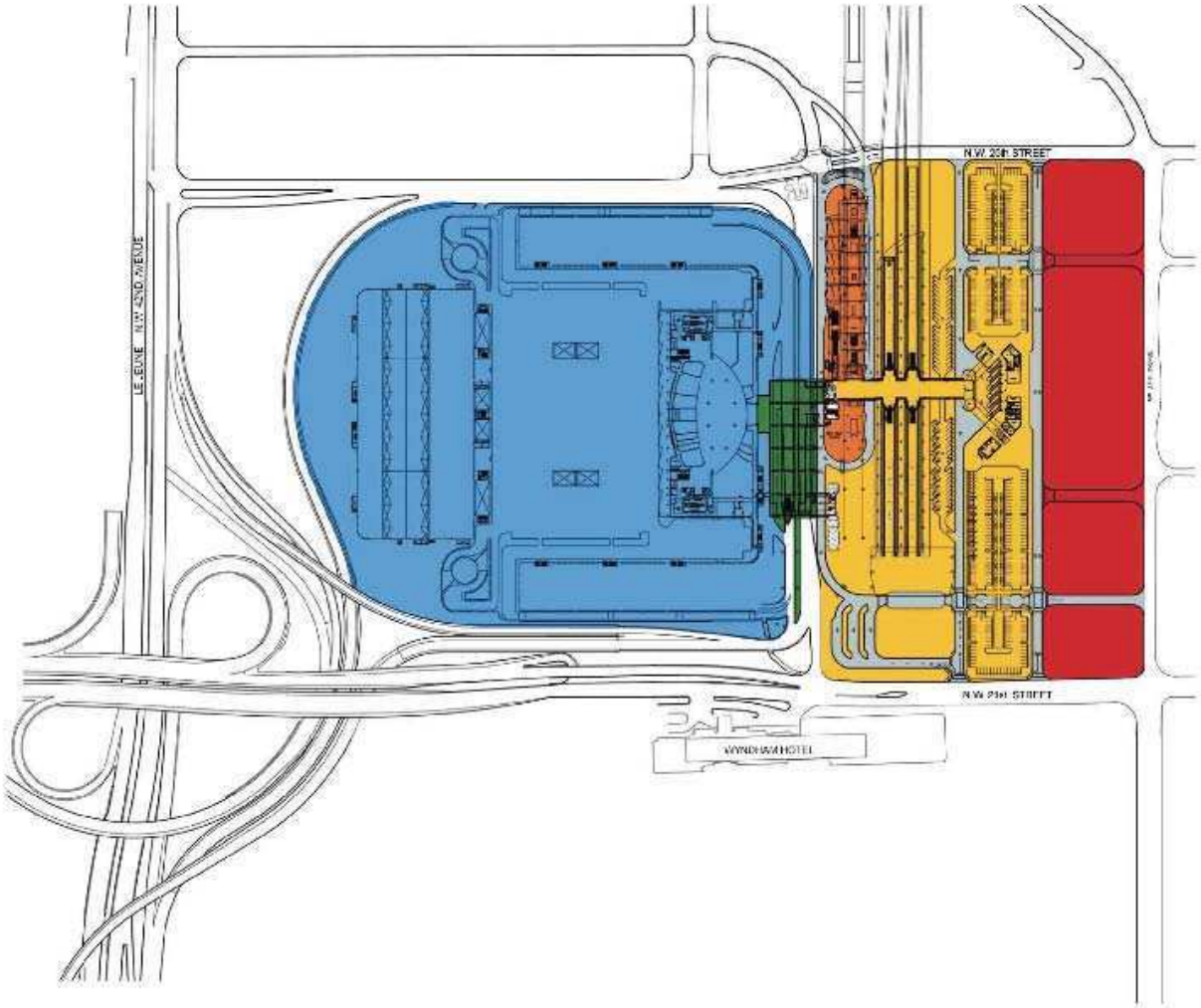
AUGUST 2010

Federal Funding Opportunity Number: FR-HSR-10-004

TBG061410232339QRL



MIAMI INTERMODAL CENTER (MIC)



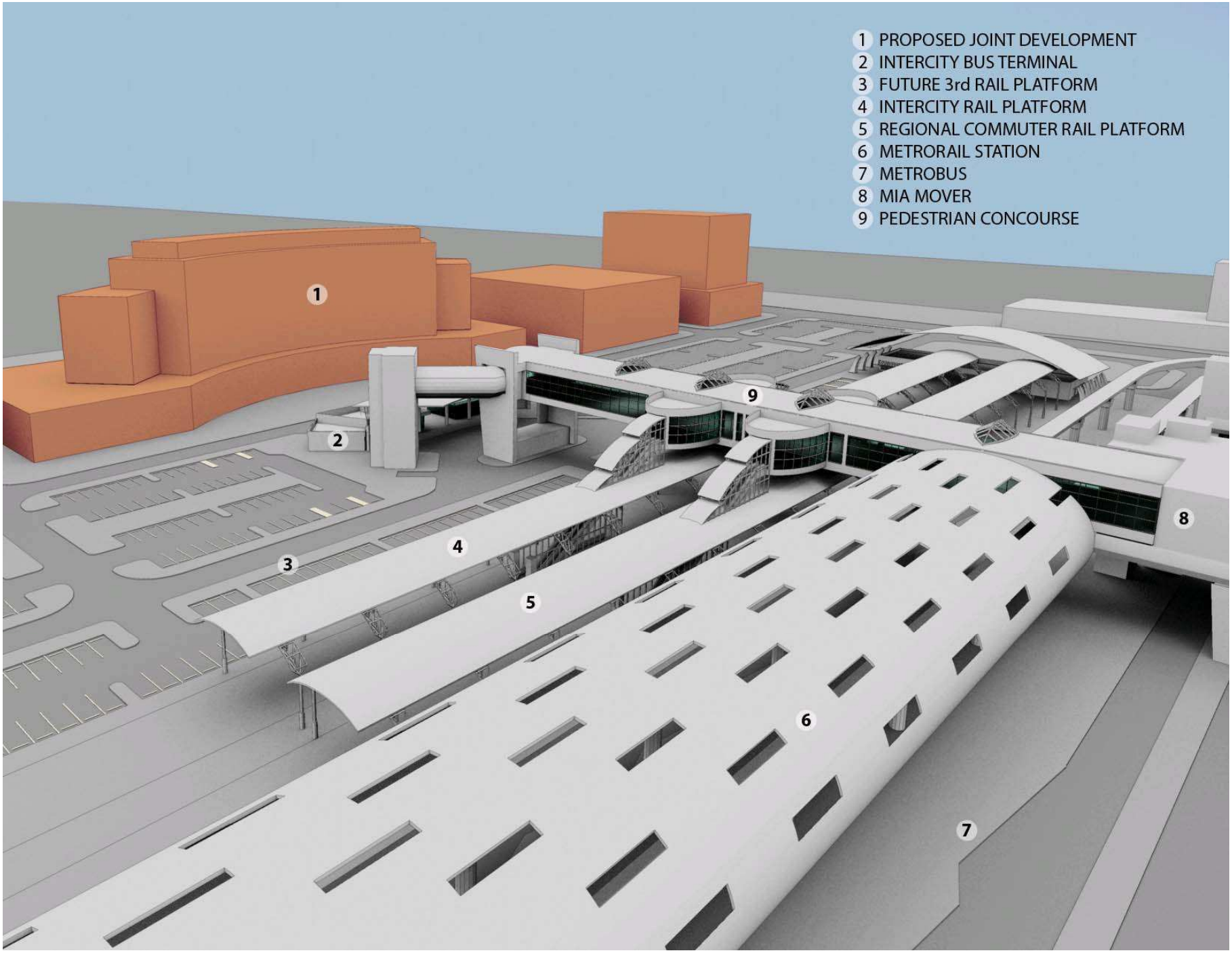
KEY

April 2010	Rental Car Center
Sept. 2011	MIA Mover
2012	MCS Internal Roads
March 2012	MIC Earlington Heights Connector / Bus Plaza
* TBD	Central Station (MCS)
After MCS	Joint Development Parcels

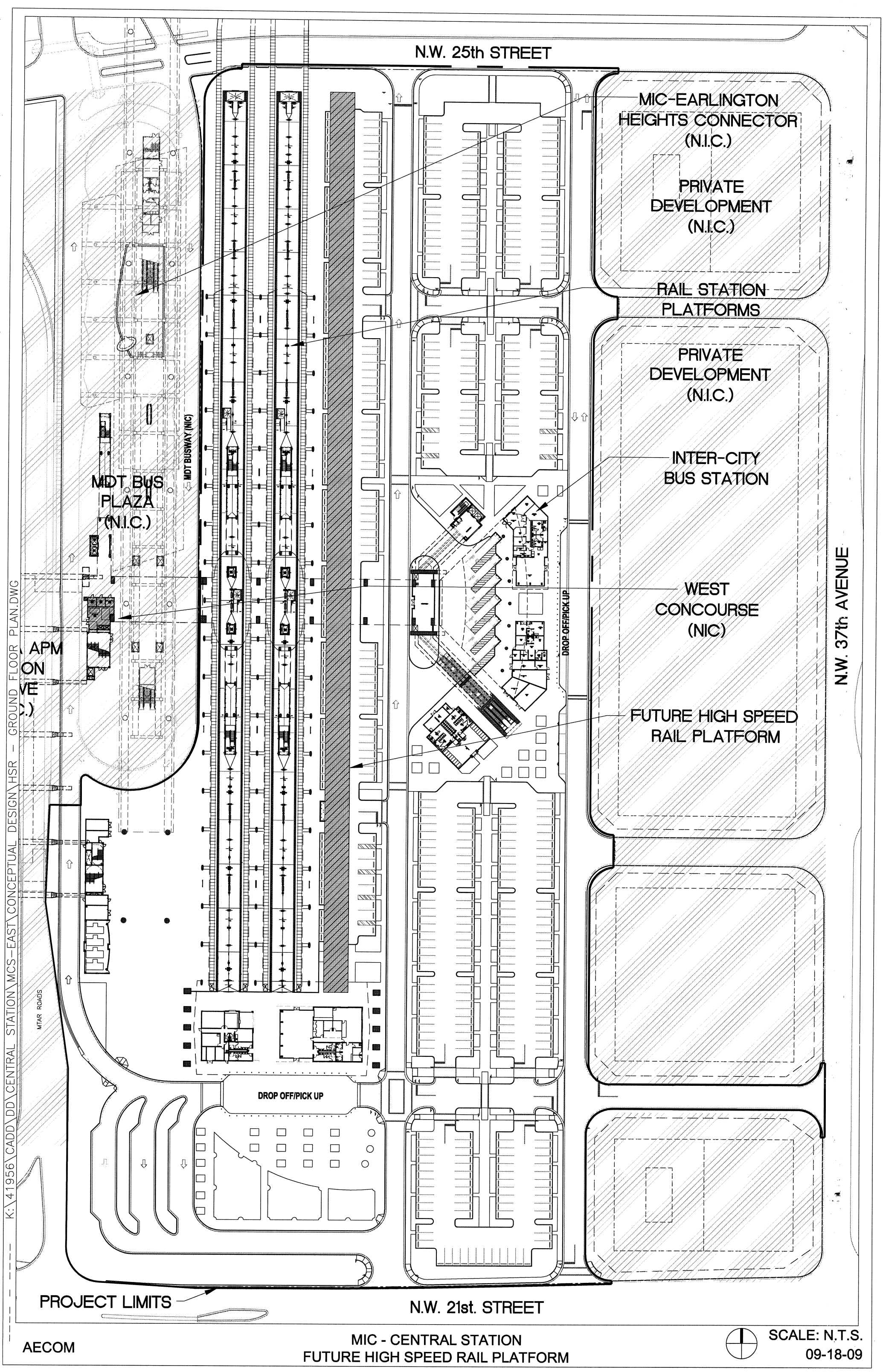
* Basec on available funding

MIC PROGRAM

COMPLETION DATES FOR MAJOR PROGRAM COMPONENTS



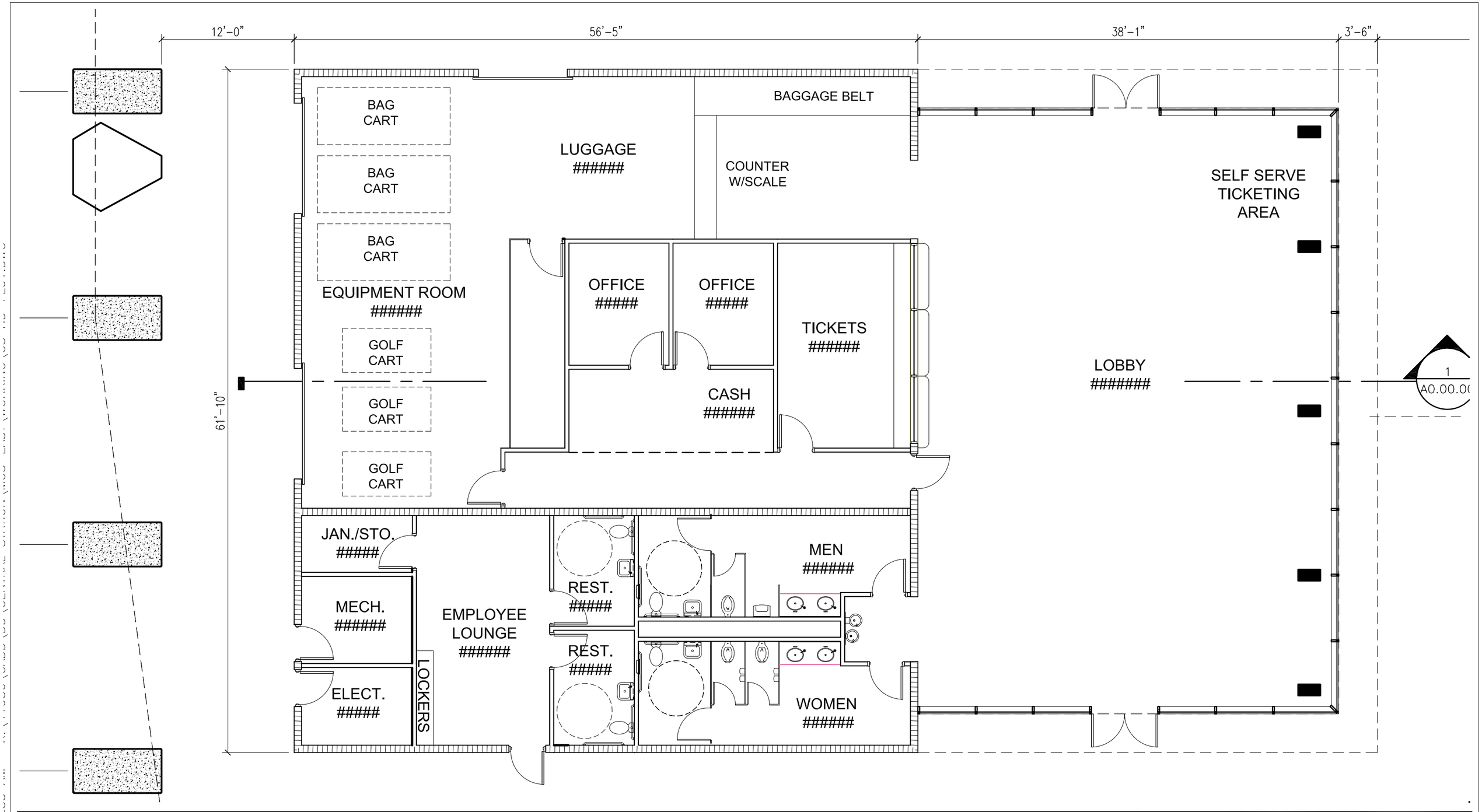
MIAMI CENTRAL STATION AT MIC



AECOM

MIC - CENTRAL STATION
FUTURE HIGH SPEED RAIL PLATFORM

SCALE: N.T.S.
09-18-09



CENTRAL STATION HEAD HOUSE (AMTRAK)

SCALE:1/8"=1'-0"

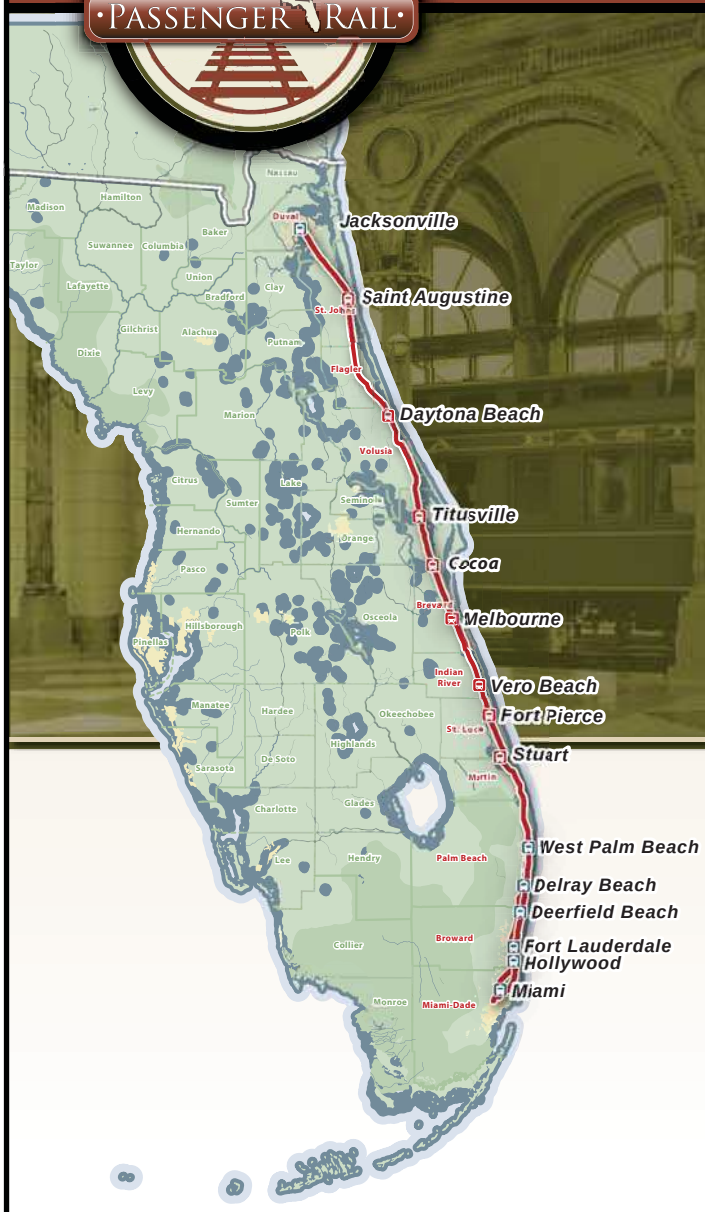
05.22.08

Miami Intermodal Center

ATTACHMENT J

CAPITAL COST ESTIMATE

FEC AMTRAK® PASSENGER RAIL



Federal Funding Opportunity Number: FR-HSR-10-004

TBG061410232339ORL

HIGH-SPEED INTERCITY PASSENGER RAIL (HSIPR) PROGRAM			DATE:	15-Jul-10
TRACK 2 CORRIDOR PROGRAM			EST. BY:	C. Deeb
			Check	H. Gutierrez
ENGINEERS OPINION OF CAPITAL COST				
STANDARD				
COST				**UNIT**
CATEGORIES	**DESCRIPTION**	**QTY**	**UNIT**	**COST**
10 TRACK STRUCTURES AND TRACK				
10.03	Track structure: Undergrade Bridges	1	LS	$0
10.06	Track structure: At-grade (grading and subgrade stabilization)	1	LS	$28,000
10.09	Track new construction: Conventional ballasted	1	LS	$7,627,000
10.11	Track rehabilitation: Ballast and surfacing	1	LS	$6,113,000
10.14	Track: Special track work (switches, turnouts, insulated joints)	1	LS	$4,071,000
	Total for Category 10			**$17,839,000**
20 STATIONS, TERMINALS, INTERMODAL				
20.01	Station buildings: Intercity passenger rail only	1	LS	$4,516,000
20.03	Platforms	1	LS	$18,924,000
20.04	Elevators, Escalators			$3,000,000
20.06	Pedestrian / bike access and accommodation, landscaping, parking lots	1	LS	$2,248,000
	Total for Category 20			**$28,688,000**
40 SITEWORK, RIGHT OF WAY, LAND, EXISTING IMPROVEMENTS				
40.01	Demolition, clearing, site preparation	1	LS	$1,083,000
40.02	Site utilities, utility relocation	1	LS	$540,000
40.06	Temporary facilities and other indirect costs during construction	1	LS	2,390,955
40.07	Purchase or lease of real estate	1	LS	29,438,000
	Total for Category 40			**$33,451,955**
50 COMMUNICATIONS & SIGNALING				
50.01	Wayside signaling equipment	1	LS	$9,621,000
50.06	Grade crossing protection	1	LS	$19,490,000
	Total for Category 50			**$29,111,000**
	TOTAL CONSTRUCTION COSTS W/ PURCHASE OF REAL ESTATE			**$109,089,955**
	TOTAL CONSTRUCTION COSTS W/O PURCHASE OF REAL ESTATE			**$79,651,955**
TOTAL GENERAL CONTRACTOR CONSTRUCTION COSTS W/O PURCHASE OF REAL ESTATE				**$32,701,955**
	TOTAL RR FORCE ACCOUNT CONSTRUCTION COSTS			**$46,950,000**
70 VEHICLES				
70.03	Vehicle Acquistion: Diesel Multiple Unit	1	LS	$0
70.04	Vehicle Acquistion: Loco-hauled passenger cars and locomotives	1	LS	$110,250,000
	Total for Category 70			**$110,250,000**
80 PROFESSIONAL SERVICES (applies to Cats. 10-60)				
	General Contractor Work (Stations)			
80.01	Service Development Plan/Service Environmental	1	LS	
80.02	Preliminary Engineering/Project Environmental	1	LS	$1,308,078
80.03	Final design	1	LS	$3,270,196
80.04	Project management for design and construction	1	LS	$654,039
80.05	Construction administration & management	1	LS	$2,779,666
80.06	Professional liability and other non-construction insurance	1	LS	$1,635,098
80.07	Legal; Permits; Review Fees by other agencies, cities, etc.	1	LS	$654,039
80.08	Surveys, testing, investigation	1	LS	$327,020
80.09	Engineering inspection	1	LS	$490,529
80.10	Start up	1	LS	$3,805,000
	Sub-Total			**$14,923,665**
	Railroad Force Account Work			
80.01	Service Development Plan/Service Environmental	1	LS	
80.02	Preliminary Engineering/Project Environmental	1	LS	$939,000
80.03	Final design	1	LS	$2,817,000
80.04	Project management for design and construction	1	LS	$939,000
80.05	Construction administration & management	1	LS	$939,000
80.06	Professional liability and other non-construction insurance	1	LS	$0
80.07	Legal; Permits; Review Fees by other agencies, cities, etc.	1	LS	$0
80.08	Surveys, testing, investigation	1	LS	$469,500
80.09	Engineering inspection	1	LS	$0
80.10	Start up	1	LS	
	Sub-Total			**$6,103,500**
	Total for Category 80			**$21,027,165**
90 UNALLOCATED CONTINGENCY				
	Total for Category 90			**7,965,196**
100 FINANCE CHARGES				
	Total for Category 100			**$1,593,039**
	TOTAL			**$249,925,354**

10 TRACK STRUCTURES AND TRACK								
10.03 Track structure: Undergrade Bridges								
Cost Reference	**DESCRIPTION**	**COST ID**	**TOTAL QUANTITIES**	**UNIT**	**UNIT COST**	**BASE COST**	**ALLOCATED CONTINGENCY**	**TOTAL COST**
	General Contractor Work							
	St Augustine Realignment							
	Small Creek Crossing (50-ft)							
	Concrete Deck/ Pre-stressed Girder		0	SF	$700	$0	25.00%	$0
	Total							**$0**

10 TRACK STRUCTURES AND TRACK

10.06 Track structure: At-grade (grading and subgrade stabilization)

Cost Reference	DESCRIPTION	COST ID	QTY	UNIT	UNIT COST	BASE COST	ALLOCATED CONTINGENCY	TOTAL COST
	RR Force Account							
	Bowden Yard							
Unit Price - FEC	Site Preparation (Clearing, Grubbing, Grading & Drainage)		1	LS	$25,000	$25,000	10.00%	$28,000
	Total							**$28,000.00**

10 TRACK STRUCTURES AND TRACK

10.09 Track new construction: Conventional ballasted

Cost Reference	DESCRIPTION	COST ID	QTY	UNIT	UNIT COST	BASE COST	ALLOCATED CONTINGENCY	TOTAL COST
	RR Force Account							
	Bowden Yard							
	Lead Track to Reba St							
	New Track Construction (4000-ft)							
Unit Price - FEC	Track Material: 136# Rail w/ new crossties		4,000	TF	$120.00	$480,000	5.00%	$504,000
Unit Price - FEC	Install Track - Labor & Equipment		4,000	TF	$55.00	$220,000	5.00%	$231,000
	Sub-Total							**$735,000**
	Station Tracks (8 locations @ 2,500 ft each)							
Unit Price - FEC	Track Material: 136# Rail w/ new crossties		20,000	TF	$120.00	$2,400,000	5.00%	$2,520,000
Unit Price - FEC	Install Track - Labor & Equipment		20,000	TF	$55.00	$1,100,000	5.00%	$1,155,000
Unit Price - FEC	Surface Track No 24 Turnout		16	EA	$1,000.00	$16,000	5.00%	$17,000
	Sub-Total							**$3,692,000**
	Northwood Connection (Single Track w/wyes)							
Unit Price - FEC	Track Material: 136# Rail w/ new crossties		4,900	TF	$120.00	$588,000	5.00%	$617,000
Unit Price - FEC	Install Track - Labor & Equipment		4,900	TF	$55.00	$269,500	5.00%	$283,000
	Sub-Total							**$900,000**
	MIC							
	Platform Tracks		1	LS	$2,300,000.00	$2,300,000		$2,300,000
	Total		**28,900**	TF				**$7,627,000**
Rail (CWR)								
ft	yd	lb	lb	**TONS**				
57,800	19,267	136	2,620,267	1,310				
12" Ballast Section								
CY per mile		# of Miles	Total CY					
7,200		5	39,409					
12" Subballast Section								
CY per mile		# of Miles	Total CY					
8,475		5	46,388					
Concrete Crossties 24" Centers								
# of ties per 39' @ 24" C-C		TF	Total # of Ties					
24		28,900	14,450					

10 TRACK STRUCTURES AND TRACK

10.11 Track rehabilitation: Ballast and surfacing

Cost Reference	DESCRIPTION	COST ID	QTY	UNIT	UNIT COST	BASE COST	ALLOCATED CONTINGENCY	TOTAL COST
	RR Force Account							
	Bowden Yard							
Unit Price - FEC	Ballast Rock		14	Cars	$2,450.00	$34,300	5.00%	$36,000
Unit Price - FEC	Surface Track No 20 Turnout		5	EA	$1,000.00	$5,000	5.00%	$5,000
Unit Price - FEC	Surface Track No 10 Turnout		2	EA	$750.00	$1,500	5.00%	$2,000
	Sub-Total							**$43,000**
	Curve Modifications							
Unit Price - FEC	Ballast Rock		1,500	Cars	$2,450.00	$3,675,000	5.00%	$3,859,000
Unit Price - FEC	Surface Curves to increase speeds (2-passes)		316,800	TF	$6.50	$2,059,200	5.00%	$2,162,000
	Sub-Total							**$6,021,000**
	Northwood Connection							
Unit Price - FEC	Ballast Rock		16	Cars	$2,450.00	$39,200	5.00%	$41,000
Unit Price - FEC	Surface Track No 10 Turnout		2	EA	$750.00	$1,500	5.00%	$2,000
Unit Price - FEC	Surface Track No 20 Turnout		6	EA	$1,000.00	$6,000	5.00%	$6,000
	Sub-Total							**$49,000**
	St Augustine Station							
Unit Price - FEC	Realign Existing FEC Track		0	TF	$55.00	$0	5.00%	$0
	Sub-Total							**$0**
	Total							**$6,113,000**

10 TRACK STRUCTURES AND TRACK

10.14 Track: Special track work (switches, turnouts, insulated joints)

Cost Reference	DESCRIPTION	COST ID	QTY	UNIT	UNIT COST	BASE COST	ALLOCATED CONTINGENCY	TOTAL COST
	RR Force Account							
	Bowden Yard							
Unit Price-FEC	No 20 Universal Crossover - 136# (Material)		1	EA	$199,500	$199,500	5.00%	$209,000
Unit Price-FEC	Labor to Install No 20 Universal Crossover		1	EA	$65,000	$65,000	5.00%	$68,000
Unit Price-FEC	No 20 Turnout - 136# (Material)		1	EA	$98,115	$98,115	5.00%	$103,000
Unit Price-FEC	Labor to Install No 20 Turnout		1	EA	$30,000	$30,000	5.00%	$32,000
Unit Price-FEC	No 10 Turnout - 136# (Material)		2	EA	$54,000	$108,000	5.00%	$113,000
Unit Price-FEC	Labor to Install No 10 Turnout		2	EA	$18,000	$36,000	5.00%	$38,000
Unit Price-FEC	No 24 Turnout - 136# (Replace Existing Switch to increase speed)		1	EA	$125,000	$125,000	5.00%	$131,000
	Sub-Total		4	EA				**$694,000**
	Station Tracks							
Unit Price-FEC	No 24 Powered Turnout 136#		16	EA	$125,000	$2,000,000	5.00%	$2,100,000
Unit Price-FEC	Labor to Install No 24 Turnout		16	EA	$35,000	$560,000	5.00%	$588,000
	Sub-Total		16	EA				**$2,688,000**
	Northwood Connection Single Track w/wyes)							
Unit Price-FEC	No 10 Turnout - 136# (Material)		2	EA	$54,000	$108,000	5.00%	$113,000
Unit Price-FEC	Labor to Install No 10 Turnout		2	EA	$18,000	$36,000	5.00%	$38,000
Unit Price-FEC	No 20 Turnout - 136# (Material)		4	EA	$98,115	$392,460	5.00%	$412,000
Unit Price-FEC	Labor to Install No 20 Turnout		4	EA	$30,000	$120,000	5.00%	$126,000
	Sub-Total		6	EA				**$689,000**
	Total		26	EA				**$4,071,000**

20 STATIONS, TERMINALS, INTERMODAL

20.01 Station buildings: Intercity passenger rail only

Cost Reference	DESCRIPTION	COST ID	TOTAL QUANTITIES	UNIT	UNIT COST	BASE COST	ALLOCATED CONTINGENCY	TOTAL COST
	General Contractor Work							
	DAYTONA BEACH AMTRAK STATIONS							
	Medium Size - Partially Staffed							
	Alt. #1 - South of International Speedway Blvd. (Magnolia Avenue Station)		1	EA	$1,211,000	$1,211,000	10.00%	$1,332,000
	TITUSVILLE AMTRAK STATIONS							
	Sheltered, Unstaffed							
	Alt. #2 - North of Pine Street (Historic station)		1	EA	$216,000	$216,000	10.00%	$238,000
	COCOA AMTRAK STATIONS							
	Medium Size - Staffed							
	Alt. #2 - South of Rosa L. Jones Boulevard		1	EA	$1,211,000	$1,211,000	10.00%	$1,332,000
	MELBOURNE AMTRAK STATIONS							
	Sheltered, Unstaffed							
	Alternative 3 - North of E. Strawbridge Avenue (U.S. 192)		1	EA	$216,000	$216,000	10.00%	$238,000
	ST. AUGUSTINE OPTION 1							
	Medium Size - Staffed							
	Alt. #1 - U.S. 1 at San Marco Avenue (Historic Rail Turnaround)		1	EA	$1,211,000	$1,211,000	10.00%	$1,332,000
	VERO							
	Sheltered, Unstaffed							
	Alt. #3 - North of 23rd Street		1	EA	$216,000	$216,000	10.00%	$238,000
	FORT PIERCE							
	Sheltered, Unstaffed							
	Alt. #1 - South of Orange Avenue		1	EA	$216,000	$216,000	10.00%	$238,000
	STUART							
	Sheltered, Unstaffed							
	Alt. #3 - Stypmann Boulevard		1	EA	$216,000	$216,000	10.00%	$238,000
	MIC							
	Headhouse Building		1	LS	$900,000	$900,000		$900,000
	Total							**$4,516,000**

20 STATIONS, TERMINALS, INTERMODAL

20.03 Platforms (12' x 1,000')

Platform Canopy included under station building Cost. For the platforms at the MIC, canopy is included

Cost Reference	DESCRIPTION	COST ID	TOTAL QUANTITIES	UNIT	UNIT COST	BASE COST	ALLOCATED CONTINGENCY	TOTAL COST
	General Contractor Work							
	DAYTONA BEACH AMTRAK STATIONS							
	Alt. #1 - South of International Speedway Blvd. (Magnolia Avenue Station)		12,000	SF	$30	$360,000	10.00%	$396,000
	TITUSVILLE AMTRAK STATIONS							
	Alt. #2 - North of Pine Street (Historic station)		12,000	SF	$30	$360,000	10.00%	$396,000
	COCOA AMTRAK STATIONS							
	Alt. #2 - South of Rosa L. Jones Boulevard		12,000	SF	$30	$360,000	10.00%	$396,000
	MELBOURNE AMTRAK STATIONS							
	Alternative 3 - North of E. Strawbridge Avenue (U.S. 192)		10,680	SF	$30	$320,400	10.00%	$352,000
	ST. AUGUSTINE OPTION 1							
	Alt. #1 - U.S. 1 at San Marco Avenue (Historic Rail Turnaround)		12,000	SF	$30	$360,000	10.00%	$396,000
	VERO							
	Alt. #3 - North of 23rd Street		12,000	SF	$30	$360,000	10.00%	$396,000
	FORT PIERCE							
	Alt. #1 - South of Orange Avenue		12,000	SF	$30	$360,000	10.00%	$396,000
	STUART							
	Alt. #3 - Stypmann Boulevard		12,000	SF	$30	$360,000	10.00%	$396,000
	MIC							
	Platform includes signage, seating, CCTV		1	LS	$1,800,000	$1,800,000		$1,800,000
	Platform Canopy includes 2 escalator/stair chutes		1	LS	$14,000,000	$14,000,000		$14,000,000
	Total							**$18,924,000**

20 STATIONS, TERMINALS, INTERMODAL

20.04 Elevators, escalators

Cost Reference	DESCRIPTION	COST ID	TOTAL QUANTITIES	UNIT	UNIT COST	BASE COST	ALLOCATED CONTINGENCY	TOTAL COST
	MIC							
	2 Elevators, 2 Escalators, and 2 Stairs		1	LS	$3,000,000	$3,000,000		$3,000,000
	Total							**$3,000,000**

20 STATIONS, TERMINALS, INTERMODAL

20.06 Pedestrian / bike access and accommodation, landscaping, parking lots

Cost Reference	DESCRIPTION	COST ID	TOTAL QUANTITIES	UNIT	UNIT COST	BASE COST	ALLOCATED CONTINGENCY	TOTAL COST
	Site Layout - Parking Lots, Acess Roads and Site Work							
	General Contractor Work							
	DAYTONA BEACH AMTRAK STATIONS							
	International Speedway Blvd. South (Magnolia Avenue Station)		1	EA	$255,530	$255,530	10.00%	$281,000
	TITUSVILLE AMTRAK STATIONS							
	Historic station (Pine St. to Main St.)		1	EA	$255,530	$255,530	10.00%	$281,000
	COCOA AMTRAK STATIONS							
	SR 520/FEC		1	EA	$255,530	$255,530	10.00%	$281,000
	MELBOURNE AMTRAK STATIONS							
	Alternative 3 - North of E. Strawbridge Ave.		1	EA	$255,530	$255,530	10.00%	$281,000
	ST. AUGUSTINE OPTION 1							
	Historic Rail Turnaround		1	EA	$255,530	$255,530	10.00%	$281,000
	VERO							
	Alternative 1		1	EA	$255,530	$255,530	10.00%	$281,000
	FORT PIERCE							
	Alternative 2		1	EA	$255,530	$255,530	10.00%	$281,000
	STUART							
	Alternative 1		1	EA	$255,530	$255,530	10.00%	$281,000
	Total							**$2,248,000**

40 SITEWORK, RIGHT OF WAY, LAND, EXISTING IMPROVEMENTS

40.01 Demolition, clearing, site preparation

Cost Reference	DESCRIPTION	COST ID	QTY	UNIT	UNIT COST	BASE COST	ALLOCATED CONTINGENCY	TOTAL COST
	Bowden Yard							
	Track Removal							
	Remove No 20 Turnouts		1	EA	$15,000	$15,000	5.00%	$16,000
	Remove Existing Crossover		1	EA	$5,000	$5,000	5.00%	$5,000
	Sub-Total							**$21,000**
	Northwood Connection							
	Clear & Grub - Light - Medium Vegitation		0.78	MI	$15,000	$11,700	5.00%	$12,000
	Demolition (Existing Buildings)		1	LS	$1,000,000	$1,000,000	5.00%	$1,050,000
	Sub-Total							**$1,062,000**
	Total							**$1,083,000**

40 SITEWORK, RIGHT OF WAY, LAND, EXISTING IMPROVEMENTS

40.02 Site Utilities, Utility relocations

Cost Reference	DESCRIPTION	COST ID	QTY	UNIT	UNIT COST	BASE COST	ALLOCATED CONTINGENCY	TOTAL COST
	General Contractor Work							
	Stations							
			8	EA	$50,000.00	$400,000	20.00%	$480,000
	Northwood Connection							
			1	LS	$50,000.00	$50,000	20.00%	$60,000
	Total							**$540,000**

40 SITEWORK, RIGHT OF WAY, LAND, EXISTING IMPROVEMENTS

40.06 Temporary facilities and other indirect costs during construction

	STATIONING									
	BEGIN	END	DESCRIPTION	COST ID	QTY	UNIT	UNIT COST	BASE COST	ALLOCATED CONTINGENCY	TOTAL COST
			General Contractor Work Only							
			General Requirements							
			Mobilization		6%			$1,902,420		$1,902,420
			Contractor Temporary Facilities		1	LS	$300,000	$300,000	10.00%	$330,000
			Remove Temporary Facilities and Site Clean-Up		0.50%			$158,535		$158,535
			TOTAL							**$2,390,955**

40 SITEWORK, RIGHT OF WAY, LAND, EXISTING IMPROVEMENTS

40.07 Purchase or lease of real estate

Cost Reference	DESCRIPTION	COST ID	QTY	UNIT	UNIT COST	BASE COST	ALLOCATED CONTINGENCY	TOTAL COST
	STATIONS							
	DAYTONA BEACH AMTRAK STATION							
	Alt. #1 - South of International Speedway Blvd. (Magnolia Avenue Station)		63,984	SF	$49.17	$3,146,093	0.00%	$3,146,000
	TITUSVILLE AMTRAK STATIONS							
	Alt. #2 - North of Pine Street (Historic station)		10,178	SF	$15.15	$154,197	0.00%	$154,000
	COCOA AMTRAK STATIONS							
	Alt. #2 - South of Rosa L. Jones Boulevard		48,132	SF	$39.23	$1,888,218	0.00%	$1,888,000
	MELBOURNE AMTRAK STATIONS							
	Alternative 3 - North of E. Strawbridge Avenue (U.S. 192)		10,500	SF	$25.17	$264,285	0.00%	$264,000
	ST. AUGUSTINE							
	Alt. #1 - U.S. 1 at San Marco Avenue (Historic Rail Turnaround)		66,950	SF	$30	$2,008,500	10.00%	$2,209,000
	VERO							
	Alt. #3 - North of 23rd Street		100	SF	$30	$3,000	0.00%	$3,000
	FORT PIERCE							
	Alt. #1 - South of Orange Avenue		8,400	SF	$30	$252,000	0.00%	$252,000
	STUART							
	Alt. #3 - Stypmann Boulevard		3,944	SF	$50	$197,200	0.00%	$197,000
	Sub-Total							**$8,113,000**
	NORTHWOOD CONNECTION							
	50-ft Right of way		1	LS	$21,325,321	$21,325,321	0.00%	$21,325,000
	Sub-Total							**$21,325,000**
	Total							**$29,438,000**

50 COMMUNICATIONS AND SIGNALING

50.01 Wayside signaling equipment

Cost Reference	DESCRIPTION	COST ID	QTY	UNIT	UNIT COST	BASE COST	ALLOCATED CONTINGENCY	TOTAL COST
	RR Force Account							
	Bowden Yard							
Unit Price FEC	Universal Control Point		1	LS	$512,520	$512,520	10.00%	$564,000
Unit Price FEC	Immediate Signal		4	EA	$95,000	$380,000	10.00%	$418,000
Unit Price FEC	Control Point 5.4		1	LS	$340,400	$340,400	10.00%	$374,000
Unit Price FEC	Control Point 9.7 (Replace Existing CP)		1	LS	$362,650	$362,650	10.00%	$399,000
Unit Price FEC	Reba Street Control Point		1	LS	$362,650	$362,650	10.00%	$399,000
Unit Price FEC	Electric Lock		2	EA	$70,000	$140,000	10.00%	$154,000
Unit Price FEC	Adjust Grade Crossing Approaches		4	LS	$30,000	$120,000	10.00%	$132,000
	Sub-Total							**$2,440,000**
	Station Tracks							
Unit Price FEC	Control Point		16	EA	$362,650	$5,802,400	10.00%	$6,383,000
	Sub-Total							**$6,383,000**
	Northwood Connection							
Unit Price FEC	Control Point		2	EA	$362,650	$725,300	10.00%	$798,000
	Sub-Total							**$798,000**
	Total							**$9,621,000**

50 COMMUNICATIONS AND SIGNALING

50.06 Grade crossing protection

Cost Reference	DESCRIPTION	COST ID	QTY	UNIT	UNIT COST	BASE COST	ALLOCATED CONTINGENCY	TOTAL COST
	RR Force Account							
	Stations							
	Modify Crossing Gate Locations for 2nd Track							
	DAYTONA BEACH AMTRAK STATIONS							
	Alt. #1 - South of International Speedway Blvd. (Magnolia Avenue Station)							
			2	EA	$50,000	$100,000	10.00%	$110,000
			100	TF	$600	$60,000	5.00%	$63,000
	TITUSVILLE AMTRAK STATIONS							
	Alt. #2 - North of Pine Street (Historic station)							
			2	EA	$50,000	$100,000	10.00%	$110,000
			100	TF	$600	$60,000	5.00%	$63,000
	COCOA AMTRAK STATIONS							
	Alt. #2 - South of Rosa L. Jones Boulevard							
			1	EA	$50,000	$50,000	10.00%	$55,000
			50	TF	$600	$30,000	5.00%	$32,000
	MELBOURNE AMTRAK STATIONS							
	Alternative 3 - North of E. Strawbridge Avenue (U.S. 192)							
			2	EA	$50,000	$100,000	10.00%	$110,000
			100	TF	$600	$60,000	5.00%	$63,000
	ST. AUGUSTINE OPTION 1							
	Alt. #1 - U.S. 1 at San Marco Avenue (Historic Rail Turnaround)							
			0	EA	$50,000	$0	10.00%	$0
			0	TF	$600	$0	5.00%	$0
	VERO							
	Alt. #3 - North of 23rd Street							
			3	EA	$50,000	$150,000	10.00%	$165,000
			150	TF	$600	$90,000	5.00%	$95,000
	FORT PIERCE							
	Alt. #1 - South of Orange Avenue							
			2	EA	$50,000	$100,000	10.00%	$110,000
			100	TF	$600	$60,000	5.00%	$63,000
	STUART							
	Alt. #3 - Stypmann Boulevard							
			2	EA	$50,000	$100,000	10.00%	$110,000
			200	TF	$600	$120,000	5.00%	$126,000
	Sub-Total							**$1,275,000**
	Mainline System Signals MP 9.7 to WPB							
	Install Signal Cut Section & Adjust Grade Crossing Approaches		1	LS	$16,000,000	$16,000,000	5.00%	$16,800,000
	Sub-Total							**$16,800,000**
	Northwood Connection							
	Warninng and Protection System		3	EA	$400,000	$1,200,000	10.00%	$1,320,000
	Grade Crossing Panels		150	TF	$600	$90,000	5.00%	$95,000
	Sub-Total							**$1,415,000**
	Total							**$19,490,000**

70 VEHICLES

70.03 Vehicle Acquistion: DMU

	STATIONING						UNIT		ALLOCATED	
	BEGIN	END	DESCRIPTION	COST ID	QTY	UNIT	COST	BASE COST	CONTINGENCY	TOTAL COST
									5%	$0
			Total							**$0**

70 VEHICLES

70.04 Vehicle Acquistion: Loco-haul passenger cars

			DESCRIPTION	COST ID	QTY	UNIT	UNIT COST	BASE COST	ALLOCATED CONTINGENCY	TOTAL COST
		Passenger Cars and locos			24			$105,000,000	5%	$110,250,000
			Total		24					**$110,250,000**

80 PROFESSIONAL SERVICES

80.02 Preliminary Engineering/ Project Environmental

	STATIONING									
	BEGIN	END	DESCRIPTION	COST ID	QTY	UNIT	UNIT COST	BASE COST	ALLOCATED CONTINGENCY	TOTAL COST
			General Contractor							
			Preliminary Engineering		4.00%	LS		$1,308,078		$1,308,078
			RR Force Account							
			Preliminary Engineering		2.00%	LS		$939,000		$939,000

80 PROFESSIONAL SERVICES

80.03 Final Design and Construction Services

	STATIONING									
	BEGIN	END	DESCRIPTION	COST ID	QTY	UNIT	UNIT COST	BASE COST	ALLOCATED CONTINGENCY	TOTAL COST
			General Contractor							
			Final Design Engineering-		6.00%	LS		$1,962,117		$1,962,117
			Construction Services by Engineering Team		4.00%	LS		$1,308,078		$1,308,078
			(Shop Dwgs, RFI's, NPC's, FOF's, etc)							
			TOTAL							**$3,270,196**
			RR Force Account							
			Final Design Engineering-		4.00%	LS		$1,878,000		$1,878,000
			Construction Services by Engineering Team		2.00%	LS		$939,000		$939,000
			(Shop Dwgs, RFI's, NPC's, FOF's, etc)							
			TOTAL							**$2,817,000**

80 PROFESSIONAL SERVICES

80.04 Project Management for Design and Construction

	STATIONING									
	BEGIN	END	DESCRIPTION	COST ID	QTY	UNIT	UNIT COST	BASE COST	ALLOCATED CONTINGENCY	TOTAL COST
			General Contractor							
			Project Management for Design and Construction		2%	LS		$654,039		$654,039
			RR Force Account							
			Project Management for Design and Construction		2%	LS		$939,000		$939,000

80 PROFESSIONAL SERVICES

80.05 Construction Administration and Management

	STATIONING									
	BEGIN	END	DESCRIPTION	COST ID	QTY	UNIT	UNIT COST	BASE COST	ALLOCATED CONTINGENCY	TOTAL COST
			General Contractor							
			Construction Administration & Management		8.50%	LS		$2,779,666		$2,779,666
			RR Force Account							
			Construction Administration & Management		2.00%	LS		$939,000		$939,000

80 PROFESSIONAL SERVICES

80.06 Professional liability and other non-construction insurance

	STATIONING									
	BEGIN	END	DESCRIPTION	COST ID	QTY	UNIT	UNIT COST	BASE COST	ALLOCATED CONTINGENCY	TOTAL COST
			General Contractor							
			Insurance and Insurance Certificates		5%	LS		$1,635,098		$1,635,098
			RR Force Account							
			Insurance and Insurance Certificates			LS		$0		$0

80 PROFESSIONAL SERVICES

80.07 Legal; Permits; Review Fees by other agencies, cities, etc.

	STATIONING									
	BEGIN	END	DESCRIPTION	COST ID	QTY	UNIT	UNIT COST	BASE COST	ALLOCATED CONTINGENCY	TOTAL COST
			General Contractor							
			Legal; Permits; Review Fees by Others, Cities, Etc		2%	LS		$654,039		$654,039
			RR Force Account							
			Legal; Permits; Review Fees by Others, Cities, Etc			LS		$0		$0

80 PROFESSIONAL SERVICES

80.08 Surveys, testing, investigation

	STATIONING									
	BEGIN	END	DESCRIPTION	COST ID	QTY	UNIT	UNIT COST	BASE COST	ALLOCATED CONTINGENCY	TOTAL COST
			General Contractor							
			Surveys, Testing, Investigations		1.00%	LS		$327,020		$327,020
			RR Force Account							
			Surveys, Testing, Investigations		1.00%	LS		$469,500		$469,500

80 PROFESSIONAL SERVICES

80.09 Engineering inspection

	STATIONING									
	BEGIN	END	DESCRIPTION	COST ID	QTY	UNIT	UNIT COST	BASE COST	ALLOCATED CONTINGENCY	TOTAL COST
			General Contractor							
			Engineering Inspection		1.50%	LS		$490,529		$490,529
			RR Force Account							
			Engineering Inspection			LS		$0		$0

90 UNALLOCATED CONTINGENCY

	STATIONING		DESCRIPTION	COST ID	QTY	UNIT	UNIT COST	BASE COST	ALLOCATED CONTINGENCY	TOTAL COST
	BEGIN	END								
			Unallocated Contingency		10%	LS		7,965,196		7,965,196

100 FINANCIAL CHARGES

	STATIONING									
	BEGIN	END	DESCRIPTION	COST ID	QTY	UNIT	UNIT COST	BASE COST	ALLOCATED CONTINGENCY	TOTAL COST
			Payment and Performance Bonds and Guarantees		2.00%	LS		$1,593,039		$1,593,039