# BRIDGE ANALYSIS REPORT

## Florida Department of Transportation
## District 6

## SR 826/Palmetto Expressway
## Project Development and Environment (PD&E) Study
Miami-Dade County, Florida

Financial Project ID Number: 432639-1-22-02
ETDM Number: 14308

**DRAFT**

**JANUARY 2026**

*The environmental review, consultation, and other actions required by applicable federal environmental laws for this project are being, or have been, carried out by FDOT pursuant to 23 U.S.C. § 327 and a Memorandum of Understanding dated May 26, 2022, and executed by the Federal Highway Administration (FHWA) and FDOT.*

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# 1.0 INTRODUCTION

## 1.1 PROJECT DESCRIPTION

The Florida Department of Transportation (FDOT) District Six is conducting a Project Development and Environment (PD&E) Study for State Road (SR) 826 (Palmetto Expressway) from US 1 (SR 5) to NW 25th Street, a distance of approximately 8.4 miles (see. ***Figure 1.1*** The objective of this PD&E Study is to evaluate corridor modifications to improve operations and interchange access. The study is also evaluating the addition of additional lanes and interchange improvements. The proposed improvements will address existing and future traffic needs, improve travel time reliability, enhance safety, and provide long-term mobility options along the corridor. The project is located in unincorporated Miami-Dade County, Florida.

SR 826, between US 1 and SR 874, consists primarily of six travel lanes (three lanes in each direction). Between SR 874 and NW 25th Street, the corridor consists primarily of ten travel lanes (five lanes in each direction) and two undesignated High Occupancy Vehicle (HOV) lanes (one in each direction). This segment of SR 826 is functionally classified as an Urban Other Freeway/Expressway

There are eleven existing interchanges within the project limits. Nine of the eleven interchanges provide connections to arterial/collector facilities. Two major system-to-system interchanges within the project limits are SR 826 with SR 874 and SR 826 with SR 836. These system-to-system interchanges provide a connection between major expressways, which services and distributes traffic originating from or destined to the north, south, east, and west portions of Miami-Dade County.

The purpose of the Bridge Analysis Report (BAR) is to examine different options to address the various structures needs associated with the recommended improvements. Presently, there are seventy-two structures along the project corridor including two pedestrian overpasses, two canals across SR 826, and several culverts. While the BAR seeks to provide the necessary bridge infrastructure to accommodate the proposed improvements, it also addresses structures' functionality, durability, constructability, maintainability, aesthetics, and economy.


**Figure 1.1 – Project Location Map**

## 1.2 Description of Existing Facility

SR 826, between US 1 and SR 874, consists of five to six 12-ft wide general purpose lanes, three-lanes in the northbound direction and two to three-lanes in the southbound direction, with 12-foot wide auxiliary lanes at selected locations, 11.5-ft to 13-ft wide paved outside shoulders, 11-ft wide paved inside shoulders, a 2-ft wide median barrier wall, and outside barrier walls. Between SR 874 and SR 836 the corridor consists primarily of twelve 11-ft to 14-ft general purpose lanes, six-lanes in each direction, 8-ft to 10.5-ft wide outside shoulders, 11-ft wide paved inside shoulders, a 2-ft wide median barrier wall, and outside barrier walls. The two typical sections for SR 826 are depicted below in ***Figures 1.2*** and ***1.3.***

There are seventy-two (72) existing bridge superstructures along the corridor, including bridges along SR 826 and SR 836, and four bridge culverts. These structures encompass a wide range of bridge types, i.e. concrete AASHTO bridges, steel plate girders structures (straight and curved), concrete segmental bridges, pedestrian overpasses, culverts, and retaining walls. The existing bridge substructures consist of typical end bents and multi-column intermediate piers. Multi-column intermediate pier consists of several column-frame systems supporting bridge superstructures. Existing foundations are made of mostly deep foundations, precast prestress and/or drilled shafts. Walls along the corridor are mechanically stabilized earth retaining systems.

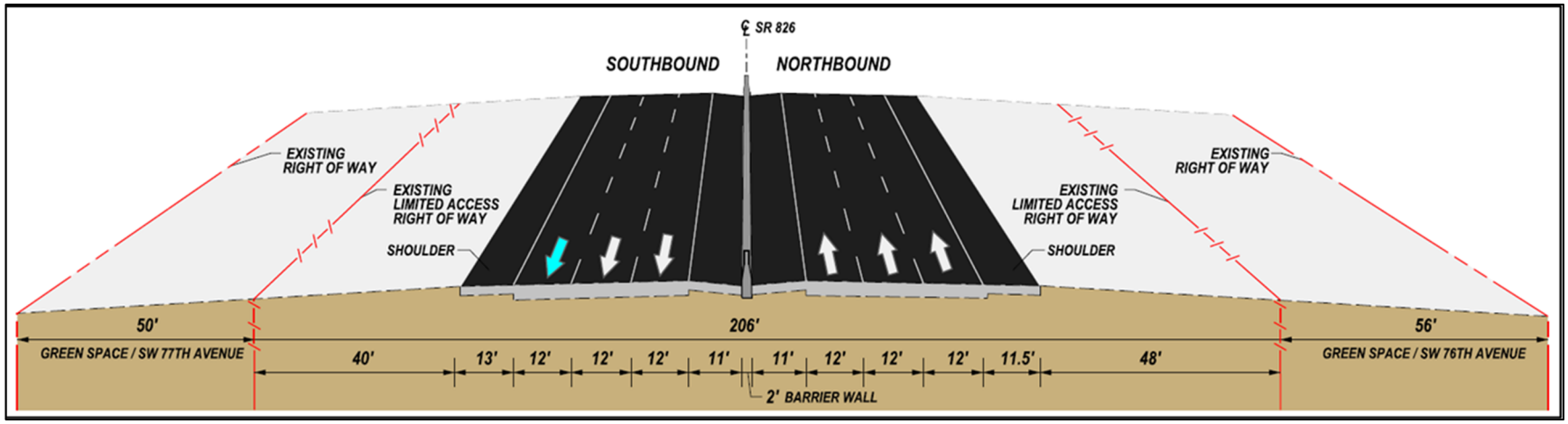



**Figure 1.2 – Existing Roadway Typical Section between US 1 and SR 874**

GENERAL USE LANE
AUXILIARY LANE

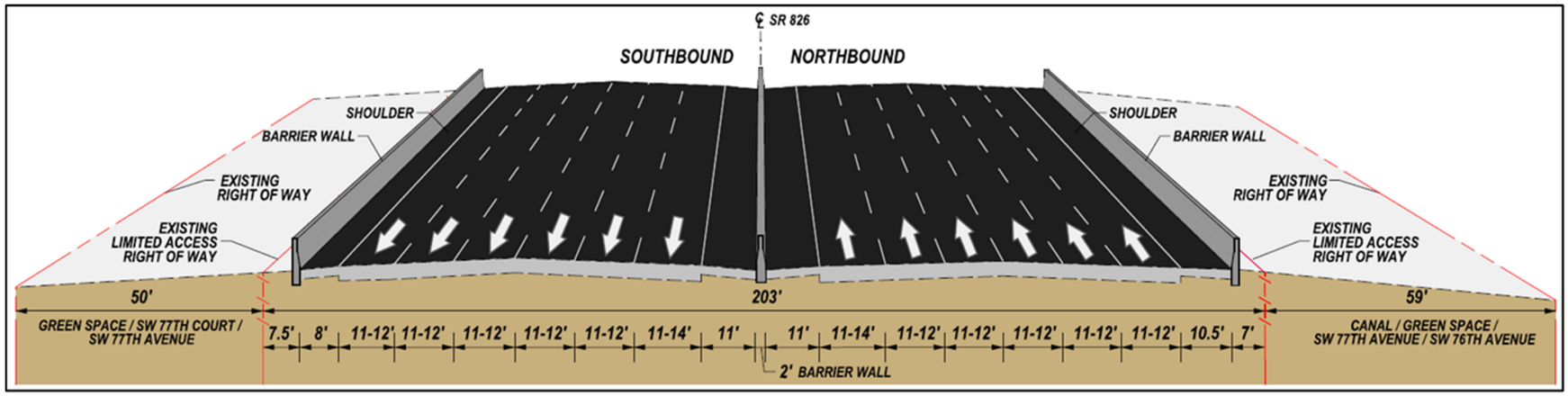



**Figure 1.3 - Existing Roadway Typical Section between SR 874 and SR 836**

# 2.0 Design Criteria

## 2.1 General

This section includes the design data and criteria for the structure elements encompassing the existing and proposed structures required for the improvements of the SR 826 from US 1 to SR 836 project corridor.

### A. Standards and Specifications

The following list of codes, standards, and specifications will be used during the design of the structures for this project:

- Florida Department of Transportation Standard Specifications for Road and Bridge Construction (2024 Edition).
- American Association of State Highway and Transportation Officials (AASHTO) "LRFD Bridge Design Specifications," 9th Edition (2020)
- Florida Department of Transportation, Florida Design Manual (FDM), January 2024.
- Florida Department of Transportation Structures Manual, January 2024.
- Florida Department of Transportation FY 2024-25 Standard Plans.
- MDX Enhancement Manual, 2004.

### B. Design Method(s)

- Load and Resistance Factor Design (LRFD)

### C. Design Loadings

- Dead Loads:

| | |
|---|---|
| Concrete (Bridge elements) | 150 pcf |
| Steel, Structural: | 490 pcf |
| Stay-in-Place Forms (SIP): | 20 psf |
| Traffic Railing Barrier (Index 521-427): | 430 plf |
| Traffic Railing Barrier (Index 521-426): | 645 plf |
| Concrete walls and deck | 150 pcf |

- Utilities (DW):
  None yet determined.

- Future Wearing Surface (DW):
  Structure Bridges are considered a long bridge with an 8½ in. slab thickness.
  Design Loading: 15 psf (for short Bridges)

- Design Loading: 15 psf (for short Bridges and widenings)

- Live Load (LL+IM):
  Design Loading: HL-93
  Permit Loading: FL-120

- Wind Loads (WL, WS): Per AASHTO LRFD 3.8 and SDG 2.4.

- Creep, Shrinkage and Thermal Effects (CR, SH, TU):
  The design mean temperature shall be 70° F.

  Thermal effects due to temperature rise and fall shall be calculated for the following temperature ranges:

  For concrete structures: Temperature Rise and/or Fall: 35° F
  For concrete deck on steel girder: Temperature Rise and/or Fall: 40° F

  Coefficient of thermal expansion:
  Concrete structure: 6.0x10-6 per °F
  Steel Structure: 6.5x10-6 per °F
  Shrinkage: Per AASHTO LRFD 5.4.2.3

- Vehicular Collision Force: All columns shall be designed in accordance with the SDG Section 2.6 and AASHTO LRFD Section 3.6.5. Pier protection can be implemented by:

  a) Pier-column designed to support 600 kips and shielding the columns using Pier Shielding Barriers (Index 521-001) or Guardrails (Index 536-001) if adequate offset is provided.

b) Using Pier Protection Barriers (PPB, Index 521-002) where this barrier can absorb the load regardless of the pier resistance.

Prestressed concrete piles located within mechanically stabilized earth walls are considered protected and are not subject to the vehicular collision force.

## D. Material Properties

The existing bridges date from 1957 to approximately 2015. Specific material properties of these structures are shown in existing plans. For the proposed structures, the materials listed below shall be used in the design of the structure elements presented in this Bridge Analysis Report:

### Concrete

Concrete shall be specified in accordance with the FDOT Standard Specifications for Road and Bridge Construction, 2024 Edition, and the FDOT SDG Section 1.4.3. The following concrete properties are specified:

| Class | Minimum 28-day Compressive Strength (psi) | Location |
|---|---|---|
| II | $f`_c = 3,400$ | Traffic Railing Barriers |
| II (Bridge Deck) | $f`_c = 4,500$ | Bridge Deck and Approach Slabs |
| IV | $f`_c = 5,500$ | CIP Substructure |
| V (Special) | $f`_c = 6,000$ | Concrete Piling |
| VI | $f`_c = 8,500$ | Prestressed Girders |

### Reinforcing Steel

Reinforcement shall be ASTM A615, Grade 60 ksi.

### Structural Steel

Use weathering steel (ASTM A709, Grade 50 ksi), left uncoated, for all new bridges unless otherwise noted. Stiffeners, internal and external cross frames, lateral bracing, and other ancillary items shall be Grade 50 ksi unless otherwise noted.

**Prestressing Steel**

Prestressed strands shall conform to ASTM A416, Grade 270, low relaxation strands.

### E. Concrete Cover

Unless otherwise noted, the following concrete covers shall be used:

| | |
|---|---|
| Superstructure: | |
| All Exterior and Interior surfaces | 2" |
| Substructure: | |
| External surfaces cast against earth and surfaces in contact with water | 4" |
| External formed surfaces | 3" |
| Prestressed Piling | 3" |
| Top and side of Pedestals | 2" |
| Front face of wall, top of barriers & parapet | 2" |

## 2.2 Environmental Classification

The classification of the bridge environment has been determined from the existing plans. The structures environment classification is classified as follows.

- From Culvert C-100A to SW 72nd St. and from Coral Way to SR 836:

  Substructure: Moderately Aggressive.

  Superstructure: Slightly Aggressive

- From SW 56th St. to Pedestrian Overpass over SR 826:

  Substructure: Slightly Aggressive.

  Superstructure: Slightly Aggressive

## 2.3 Aesthetics

This section summarizes the preliminary structures aesthetics criteria for bridges and walls along the project corridor. These recommendations are based on the FDM 121.9.3. The project has four significant sectors along the corridor: Bridge widenings along the corridor, SR 826/SR 836 Interchange (Section 5), a long Viaduct from the SR 826/SR 874 Interchange (Section 2) to north of the Pedestrian bridge (north of SW 40th Street), and Busway at US-1.

- Bridge Widenings along Corridor: Level 1 Aesthetics, proposed superstructure elements to match those existing, using same girder type.
- SR 826/SR 836 Interchange (Section 5): Level 2 Aesthetics, proposed flyovers have significant visibility to users of SR 836 and SR 826; this proposed flyover will be built between existing second and fourth level flyovers. it will become a third level structure. Proposed flyover to match existing flyovers type superstructure, closed box.
- Viaduct from SR 826/SR 874 to North of SW 40th Street: Level 2 Aesthetics, proposed flyover is a second level structure; however, it crosses over the pedestrian bridge north of SW 40th Street and over Bird Road, becoming a third level structure for approximately 6,500 ft; continuous concrete segmental and steel box girders structure types have been considered. At the SR 826/SR 874 interchange, the proposed structures over SR 874/CSX RR will be similar to those existing, continuous steel plate girders with constant uniform web depth to clear the railroad tracks.
- Busway at US-1: Level 1 Aesthetics is proposed at this location.

# 3.0 Alternatives Analysis

## 3.1 Bridge Alternatives

The objective of this BAR is to evaluate structural alternatives that will address existing and proposed improvements along SR 826. To keep up with growing traffic demand in the study area, four build alternatives have been considered in this PD&E Study. All four alternatives propose to add lanes along this segment of SR 826.

### 3.1.1 Alternative 1

Alternative 1 adds an additional general use lane in each direction between US 1 and SR 836 with auxiliary lanes at selected locations. The two typical sections for SR 826 are depicted in ***Figures 3.1*** and ***3.2***, representing the lane arrangements between US-1 & SR 874 and SR 874 & SR 836.

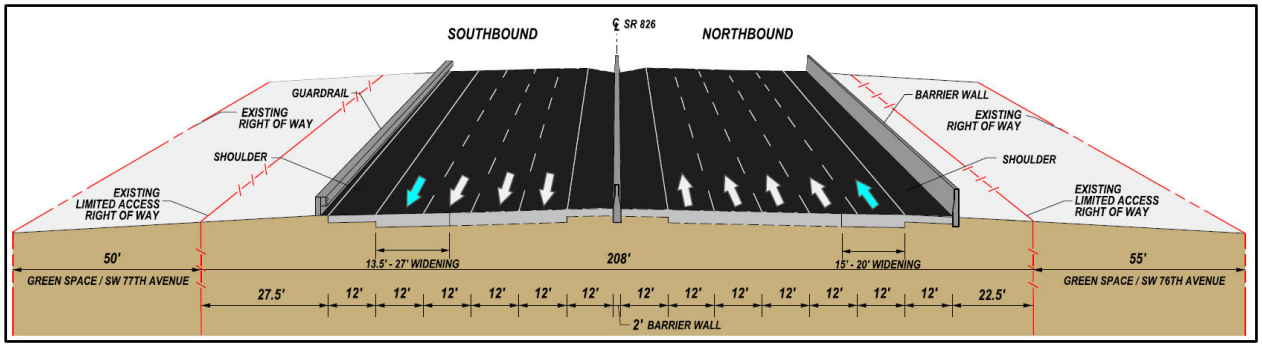



**Figure 3.1 – Typical Section between US 1 and SR 874**

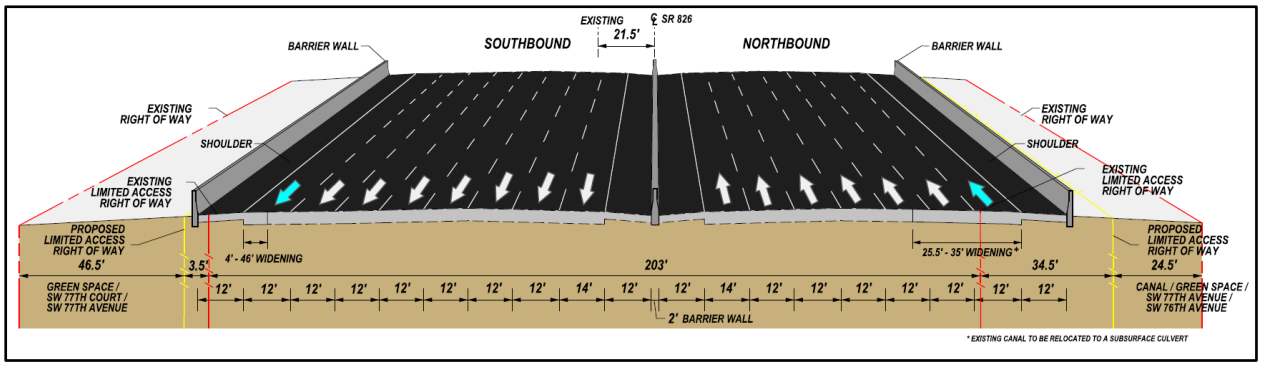



**Figure 3.2 – Typical Section between SR 874 and SR 836**

In this alternative, there are a total of 29 structures improvements, existing and proposed, along the corridor as listed below:

- 9 bridge replacements
- 16 bridge widenings
- 4 culverts
- 3 bridge demolitions

It is noted that there are four proposed Category 2 structures in this Alternative. ***Figure 3.3*** illustrate the Bridge layout of these structures along the corridor and ***Table 3.1*** describes the Proposed Bridge Characteristics for this Alternative. The proposed widenings, new bridges, replacements, and bridge demolitions are color-coded to facilitate their identification. Note that the proposed mainline alignment will require replacement of the pedestrian bridge as the west foundation footprint overlaps with the proposed lanes. Likewise, the lane addition at the SR 826 southbound ramp at Coral Way overlaps with the existing pedestrian bridge foundation, thus requiring replacing this bridge.

Alternative 1 is also proposing interchange, intersection and arterial improvements to support the optimal operations of the corridor.

| SUMMARY OF STRUCTURES | |
|---|---|
| ITEM | QUANTITY |
| PROPOSED BRIDGE REPLACEMENTS | 9 |
| PROPOSED BRIDGE DEMOLITIONS | 3 |
| ~~PROPOSED BRIDGE WIDENINGS~~ | 16 |
| PROPOSED NEW CULVERTS | 3 |
| PROPOSED CULVERT WIDENINGS | 1 |
| EXISTING BRIDGES TO REMAIN | 45 |

* CATEGORY 2 STRUCTURES - 4 (PROPOSED)

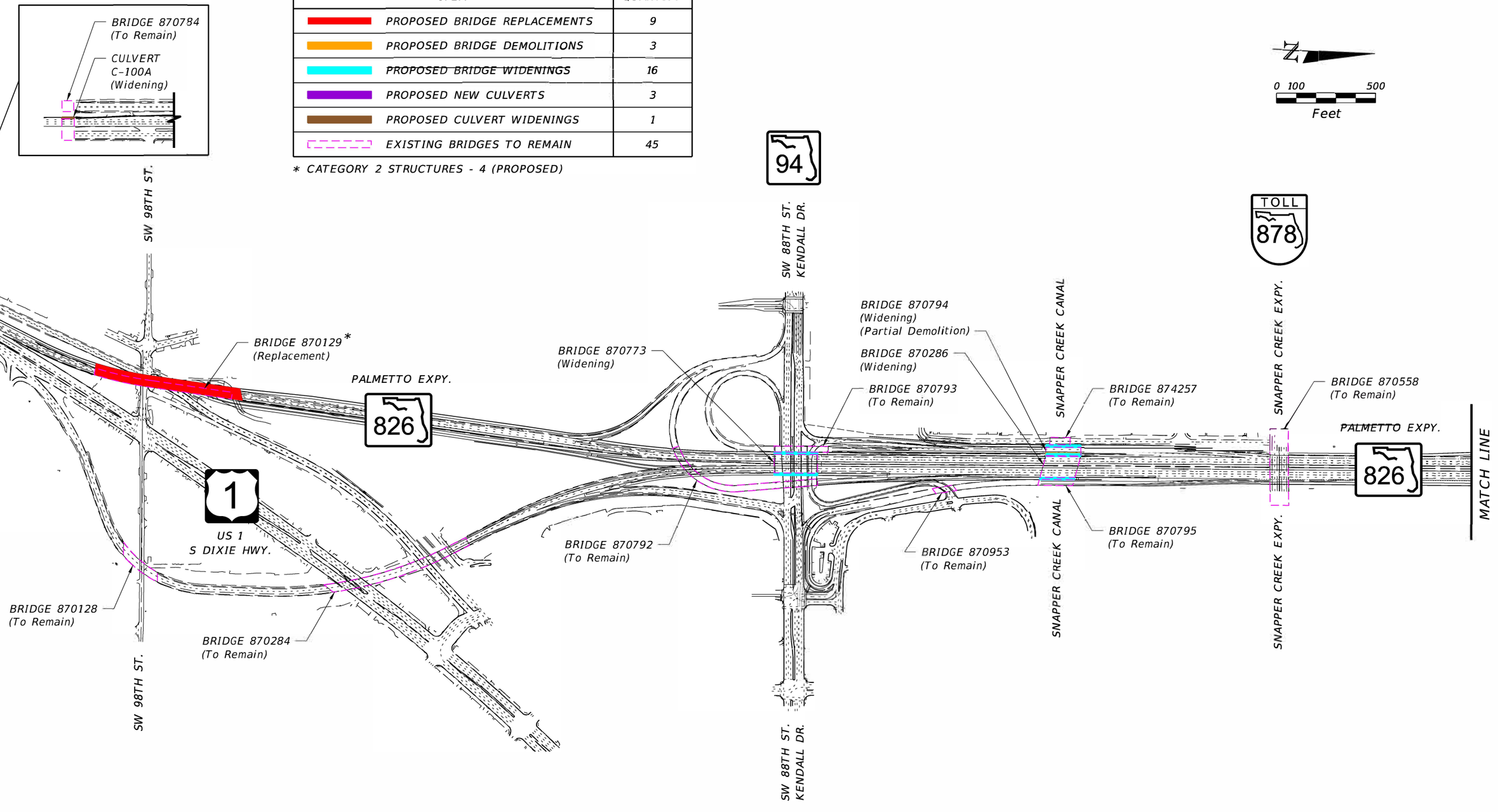



**Figure 3.3 - Bridge Location Map**

ALTERNATIVE 1

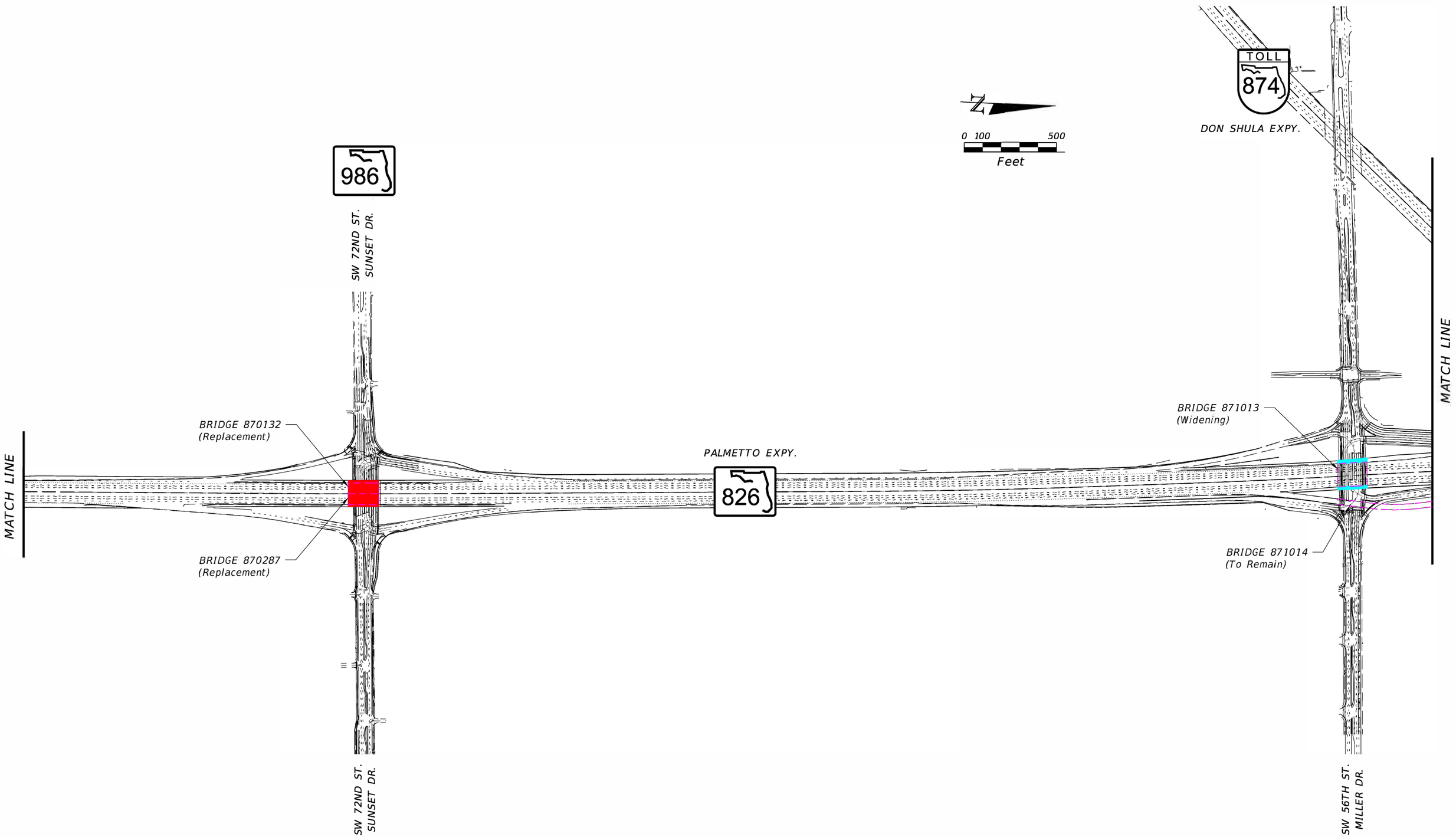



**Figure 3.3 - Bridge Location Map**

*ALTERNATIVE 1*

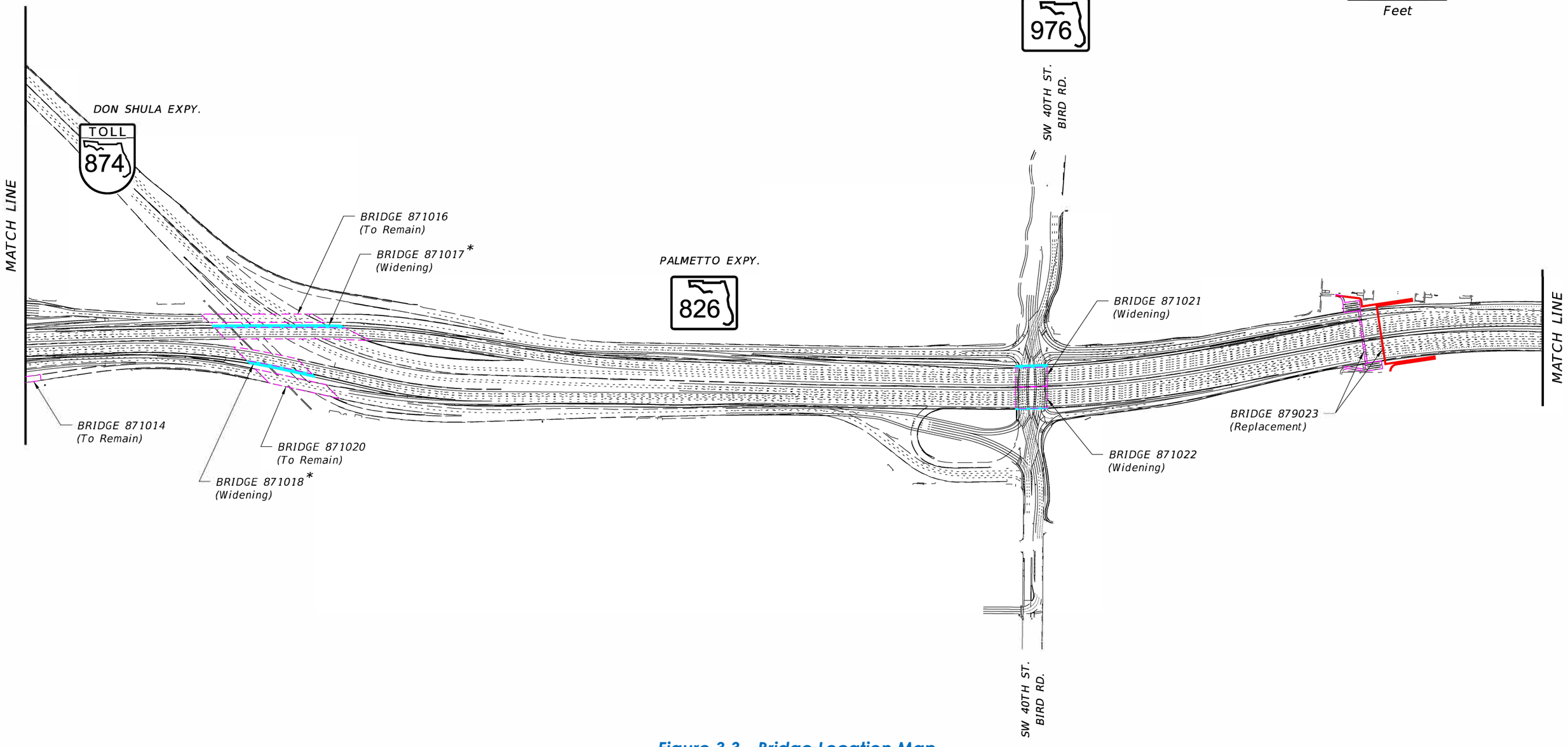



**Figure 3.3 - Bridge Location Map**

*ALTERNATIVE 1*

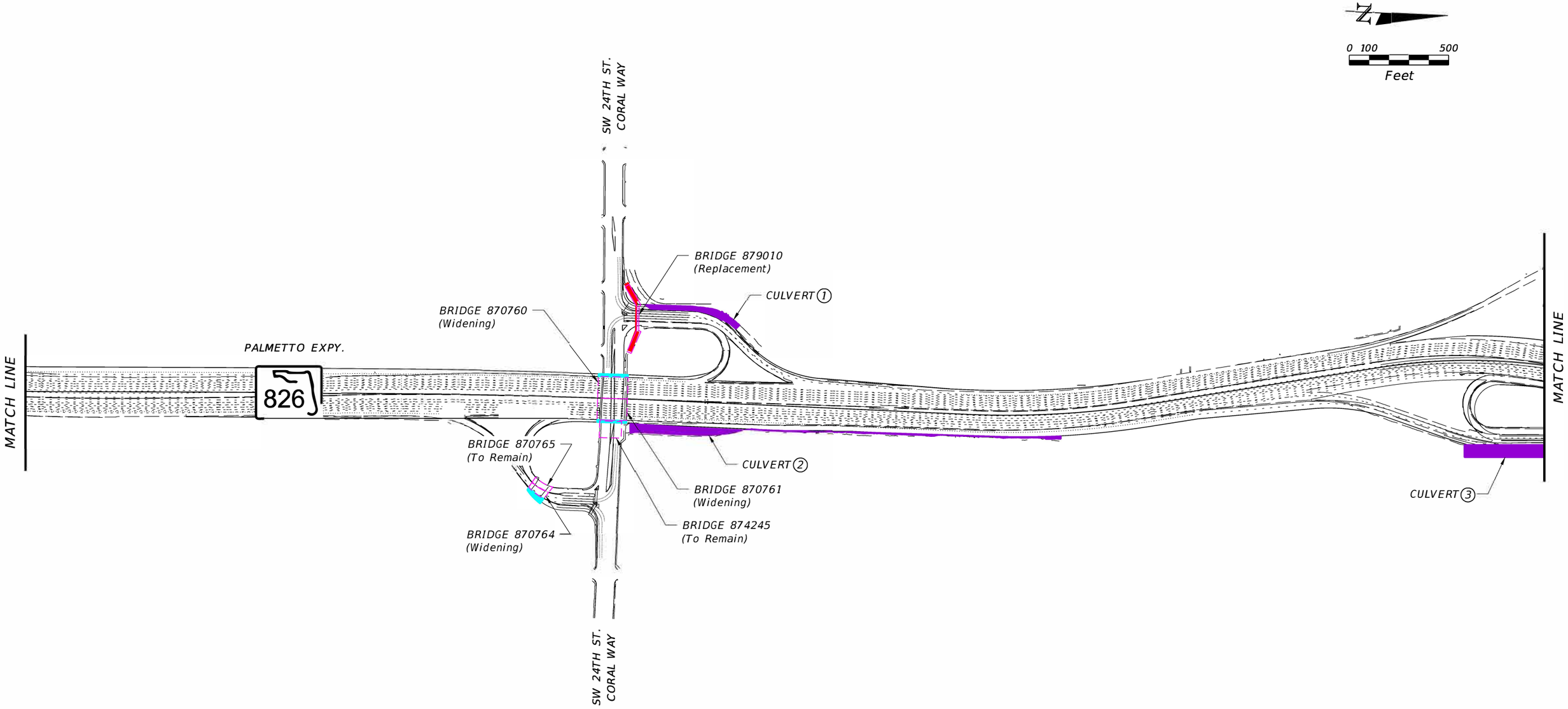



**Figure 3.3 - Bridge Location Map**

*ALTERNATIVE 1*

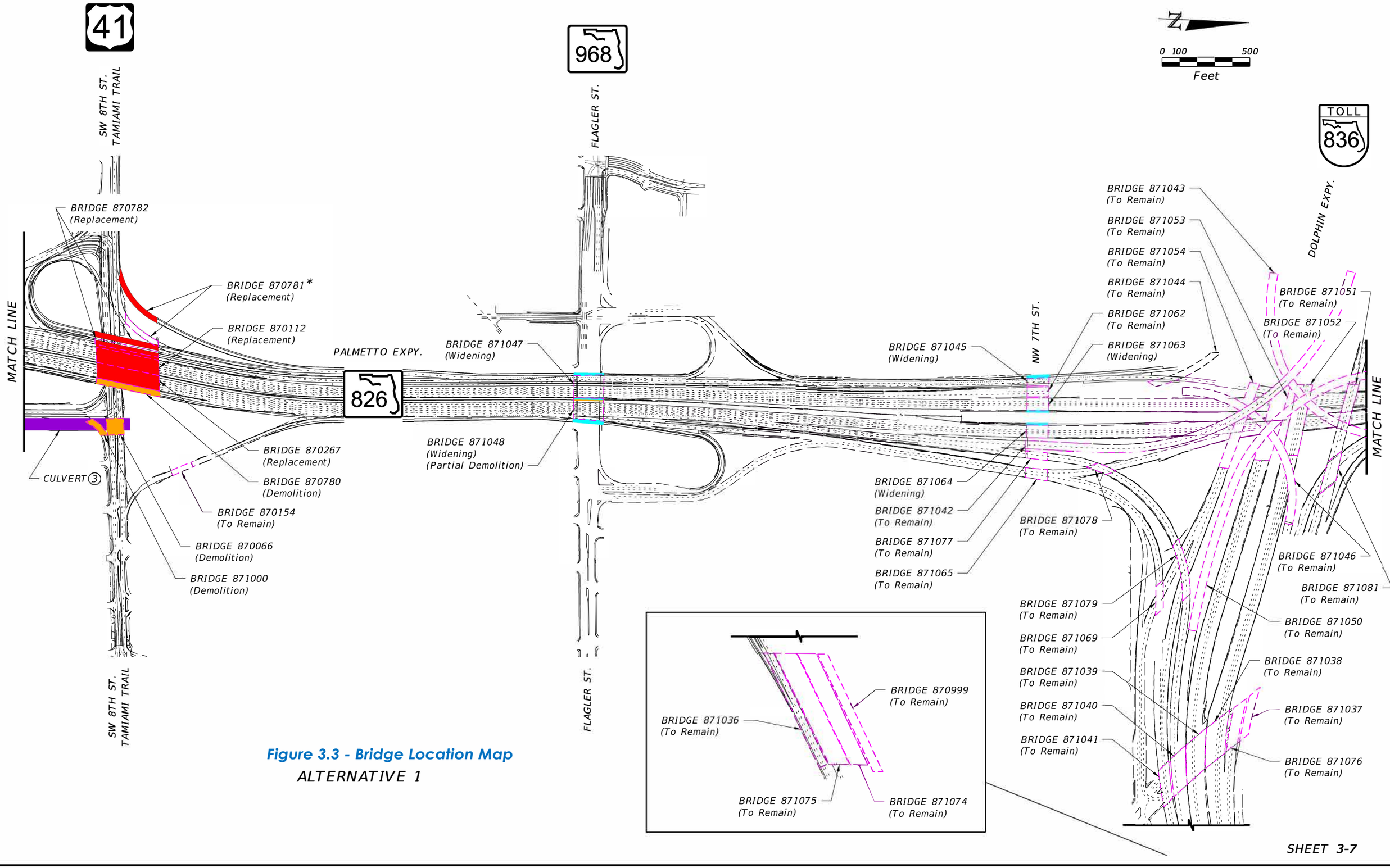



**Figure 3.3 - Bridge Location Map**

*ALTERNATIVE 1*

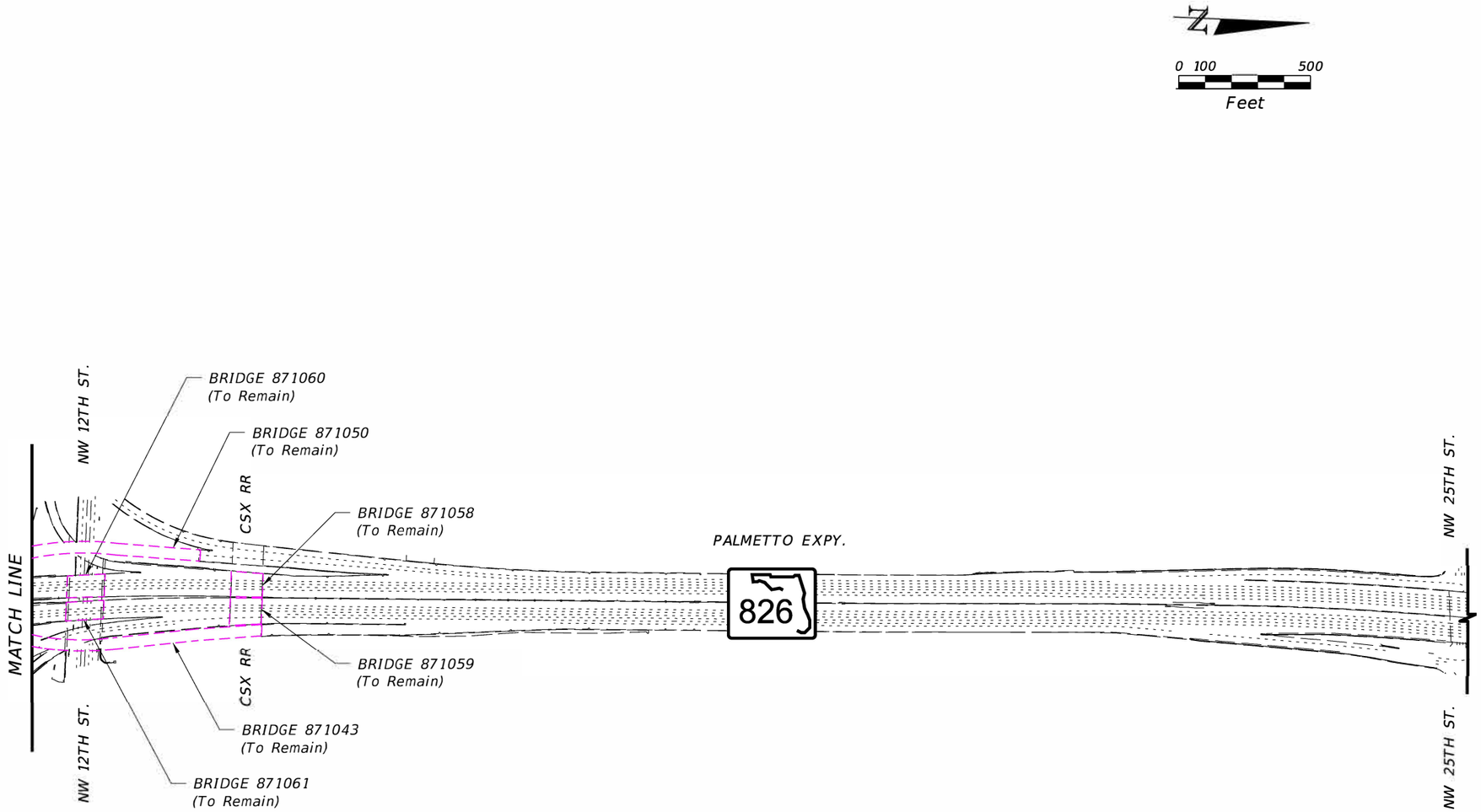



**Figure 3.3 - Bridge Location Map**

ALTERNATIVE 1

## Table 3.1 - SR 826 from US-1/SR-5/S. Dixie Highway to SR-836 Dolphin Expressway – Proposed Bridge Characteristics (Alternative 1)

| | | | Geometrics | | Alignment | | Structural | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bridge No. | Bridge Location | Direction | Overall Bridge Length / Span Arrangement (ft) | Deck Width (ft) | Min. Vertical Clearance (ft) | Underneath Roadway Designation | #Spans | Max Span (ft) | Superstructure Type | Substructure Type | Bridge Category | Structure Type |
| **C-100A** | Culvert expansion at C-100A Canal (Widening) | EW | TBD | NA | NA | NA | NA | | NA | Concrete | 1 | Widening |
| **870129** | SR 826 SB over SW 98th St. SB | SB | 94.6'+110.4'+121.8'+162.75'+134.4'+126' = 749.95' | 58.67' | 16.5' | SW 98th St. | 6 | 162.75 | Prestress Concrete, FIBs | Reinforced Concrete Column Piers | 2 | Replacement |
| **870773** | SR 826 over SW 88th St. NB and SB | NB and SB | 92.5'+72.75'+54.25' = 219.5' | 117.67 | 16.5' | SW 88th St, | 3 | 92.5 | Prestress Concrete, FIBs | Reinforced Concrete Column Piers | 1 | Widening |
| **870794** | SB SR 826 to Kendall Dr over Snapper Creek Canal | SB | 44.25'+43.83'+52.91+35.22' = 175.96' | 42.66 | NA | Snapper Creek Canal | 4 | 52.91 | Prestress Concrete, FIBs | Concrete Pile Bents | 1 | Widening |
| **870286** | NB SR 826 over Snapper Creek Canal | NB and SB | 44.25'+43.83'+44'+43.88' = 175.96' | 132.67 | NA | Snapper Creek Canal | 4 | 44.25 | Prestress Concrete, FIBs | Concrete Pile Bents | 1 | Widening |
| **870132** | SR 826 SB over SW 72nd St./Sunset Drive | SB | 162.5' | 144.67 | 16.5' | Sw 72nd St./Sunset Drive | 1 | 162.5' | Prestress Concrete, FIBs | Reinforced Concrete/Piles | 1 | Replacement |
| **870287** | SR 826 NB over SW 72nd St./ Sunset Drive | NB | 162.5' | | 16.5' | Sw 72nd St./Sunset Drive | 1 | 162.5' | Prestress Concrete, FIBs | Reinforced Concrete/Piles | 1 | Replacement |
| **871013** | SR 826 NB/SB over SW 56th St./Miller Drive | NB and SB | 159.75' | 158.15' Min / 162.80' Max | 16.5' | SW 56th St./Miller Drive | 1 | 159.75 | Prestress Concrete, FIBs | Reinforced Concrete/Piles | 1 | Widening |
| **871017** | SR 826 SB over SR 874 and CSX RR | SB | 203.31'+266.99'+245.77' = 716.07' | 70.67 | 16.5' | SR 874 and CSX RR | 3 | 266.99 | Steel Plate Girder | Reinforced Concrete Column Piers | 2 | Widening |
| **871018** | SR 826 NB over SCL RR and SR 874 | NB | 190'+140' = 330' | 70.67 | 16.5' | SCL RR and SR 874 | 2 | 190 | Steel Plate Girder | Reinforced Concrete Column Piers | 2 | Widening |
| **871021** | SR 826 SB over SR 976/Bird Rd./SW 40th St. | SB | 160.42' | 106.63' Min / 108.08' Max | 16.5' | SR 676/Bird Rd./SW 40th St. | 1 | 160.42 | Prestress Concrete, FIBs | Reinforced Concrete/Piles | 1 | Widening |
| **871022** | SR 826 NB over SR 976/Bird Rd./SW 40th St. | NB | 160.42' | 110.75' | 16.5' | SR 676/Bird Rd./SW 40th St. | 1 | 160.42 | Prestress Concrete, FIBs | Reinforced Concrete/Piles | 1 | Widening |
| **879023** | Pedestrian Overpass over SR 826 | E/W | 145'+157' = 302' | 10.0' | 16.5' | SR 826 | 2 | 157 | Prestress Concrete, FIBs | Reinforced Concrete Column Piers | 1 | Replacement |
| **879010** | Pedestrian Overpass over SR 826 SB To/From SW 24th | E/W | 144' | 10.0' | 16.5' | SR 826 SB To/From SW 24th St. | 1 | 144 | Prestress Concrete, FIBs | Reinforced Concrete Column Piers | 1 | Replacement |
| **CVRT-1** | Culvert by Coral Way Pedestrial Overpasss | NS | TBD | NA | NA | NA | NA | | NA | Concrete | 1 | New |
| **CVRT-2** | Culvert Along East Side of SR 826 & N. of Coral Way | NS | TBD | NA | NA | NA | NA | | NA | Concrete | 1 | New |
| **870760** | SR 826 SB over SR 972/SW 24th St. | SB | 75'+75' = 150' | 122.25' | 16.5' | SR 972/SW 24th St. | 2 | 75 | Prestress Concrete, FIBs | Reinforced Concrete Column Piers | 1 | Widening |

## Table 3.1 - SR 826 from US-1/SR-5/S. Dixie Highway to SR-836 Dolphin Expressway – Proposed Bridge Charcteristics

| | | | Geometrics | | Alignment | | Structural | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bridge No. | Bridge Location | Direction | Overall Bridge Length / Span Arrangement (ft) | Deck Width (ft) | Min. Vertical Clearance (ft) | Underneath Roadway Designation | #Spans | Max Span (ft) | Superstructure Type | Substructure Type | Bridge Category | Structure Type |
| **870761** | SR 826 NB over SR 972/SW 24th St. | NB | 75'+75' = 150' | 122' | 16.5' | SR 972/SW 24th St. | 2 | 75 | Prestress Concrete, FIBs | Reinforced Concrete Column Piers | 1 | Widening |
| **870764** | SR 826 NB to SR 972 over Coral Gables Canal | NB | 27.45'+39'+31' = 97.45' | 44.67' Min / 69.08' Max | 16.5' | Coral Gables Canal | 3 | 39 | Prestress Concrete, FIBs | Reinforced Concrete/Piles | 1 | Widening |
| **870782** | SR 826 SB/US 41 EB over US 41 /SR 90 | SB | 187.35'+181.75' = 369.1' | 29.67' | 16.5' | US 41/SR 90 | 2 | 187.35 | Prestress Concrete, FIBs | Reinforced Concrete Column Piers | 1 | Replacement |
| **870781** | SR 826 SB to US 41 WB over Tamiami Canal | SB to WB | 51.5'+50'+50'+50'+50'+50'+51.5' = 353' | 29.67' | 16.5' | Tamiami Canal | 7 | 51.5 | Flat Slab Concrete | Reinforced Concrete/Piles | 2 | Replacement |
| **870112** | SR 826 SB over US 41/SR90/SW 8th St. | SB | 160.00'+160.00' = 320.00' | 228' Min / 229' Max | 16.5' | US 41/SR 90/SW 8th St. | 7 | 160 | Prestress Concrete, FIBs | Reinforced Concrete Column Piers | 1 | Replacement |
| **870267** | SR 826 NB over US 41/SR90/SW 8th St. | NB | 160.00'+160.00' = 320.00' | | 16.5' | US 41/SR 90/SW 8th St. | 7 | 160 | Prestress Concrete, FIBs | Reinforced Concrete Column Piers | 1 | Replacement |
| **CVRT-3** | Culvert along East Side of SR 826 from SW 8th St South | NS | TBD | NA | NA | NA | NA | | NA | Concrete | 1 | New |
| **871047** | SR 826 SB over SR 968/West Flagler St. | SB | 170.36' | 149.5' | 16.5' | SR 968/West Flager St. | 1 | 170.36 | Prestress Concrete, FIBs | Reinforced Concrete/Piles | 1 | Widening |
| **871048** | SR 826 NB over SR 968/West Flagler St. | NB | 170.36' | 122.4' Min / 133.2' Max | 16.5' | SR 968/West Flager St. | 1 | 170.36 | Prestress Concrete, FIBs | Reinforced Concrete/Piles | 1 | Widening |
| **871045** | SB SR 826 Off-ramp over NW 7th St. | SB | 123.24' | 57.67' | 16.5' | NW 7th St. | 1 | 123.4 | Prestress Concrete, FIBs | Reinforced Concrete/Piles | 1 | Widening |
| **871063** | SR 826 SB over NW 7th St. | SB | 123.01' | 81' | 16.5' | NW 7th St. | 1 | 123.01 | Prestress Concrete, FIBs | Reinforced Concrete/Piles | 1 | Widening |
| **871064** | SR 826 NB over NW 7th St. | NB | 123' | 82' | 16.5' | NW 7th St. | 1 | 123 | Prestress Concrete, FIBs | Reinforced Concrete/Piles | 1 | Widening |

**Note: EB - Eastbound, WB - Westbound, NB - Northbound, SB - Southbound**

### 3.1.2 ALTERNATIVE 2

Alternative 2 was eliminated during the Alternative Analysis.

### 3.1.3 ALTERNATIVE 3

Alternative 3 adds an un-tolled managed lane in each direction between US 1 and SR 836 with auxiliary lanes at selected locations. Two typical sections for SR 826 are depicted in ***Figures 3.3*** and ***3.4***, representing the lane arrangements between US-1 & SR 874 and SR 874 & SR 836.

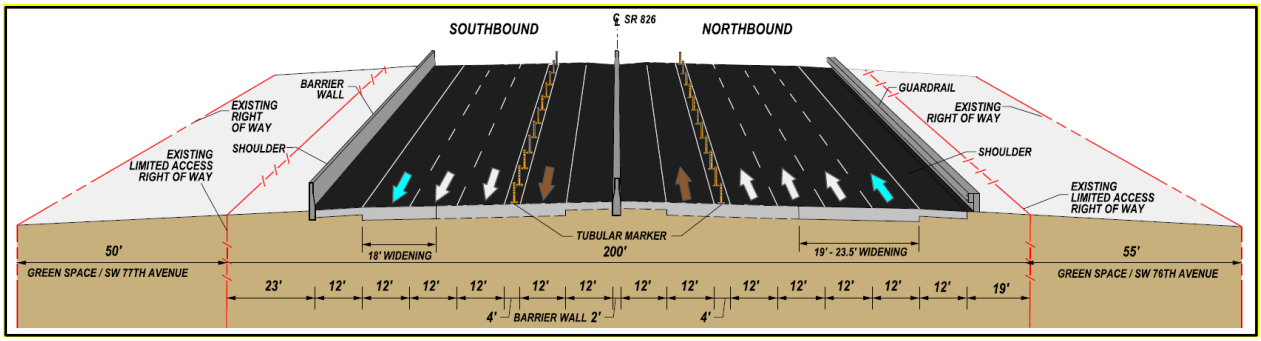



**Figure 3.4 – Typical Section between US 1 and SR 874**

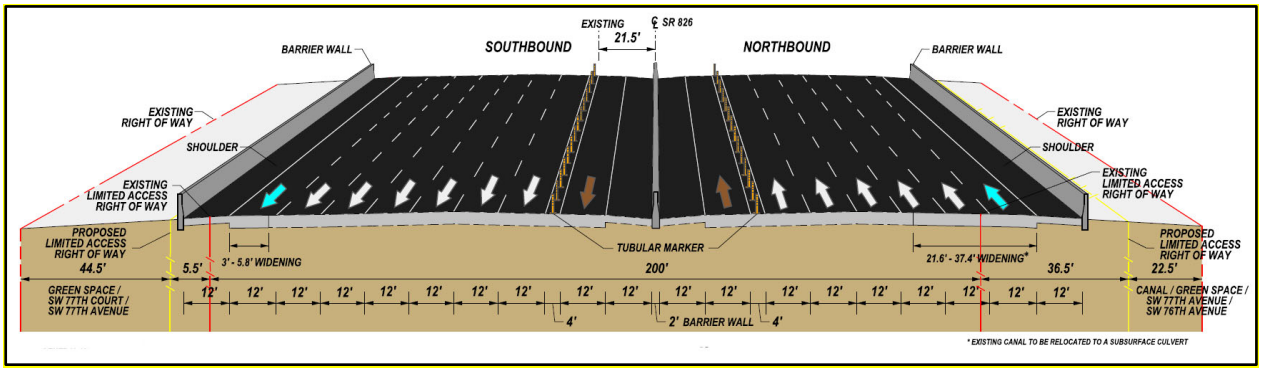



**Figure 3.5 – Typical Section between SR 874 and SR 836**

In this alternative, there is a total of 40 structures improvements, existing and proposed, along the corridor as listed below:

- 6 new 2 level and 2/3 level bridges
- 15 bridge replacements
- 15 bridge widenings
- 4 culverts
- 3 bridge demolitions

It is noted that there are nine proposed Category 2 structures in this Alternative ***Figure 3.6*** illustrates the Bridge layout of these structures along the corridor and ***Table 3.2*** describes the Proposed Bridge Characteristics for this Alternative. The proposed widenings, new bridges, replacements, and bridge demolitions are color-coded facilitating their identification. Like the previous alternatives, the pedestrian bridges, north of 40th Street and the pedestrian overpass at Coral Way, will require replacement as the existing foundation will be in conflict with the proposed roadway alignment at this location.

| SUMMARY OF STRUCTURES | |
|---|---|
| ITEM | QUANTITY |
| PROPOSED NEW BRIDGES (2 LEVEL) | 2 |
| PROPOSED NEW BRIDGES (2/3 LEVEL) | 4 |
| PROPOSED BRIDGE REPLACEMENTS | 15 |
| PROPOSED BRIDGE DEMOLITIONS | 3 |
| PROPOSED BRIDGE WIDENINGS | 15 |
| PROPOSED NEW CULVERTS | 3 |
| PROPOSED CULVERT WIDENINGS | 1 |
| EXISTING BRIDGES TO REMAIN | 40 |

* CATEGORY 2 STRUCTURES - 9 (PROPOSED)

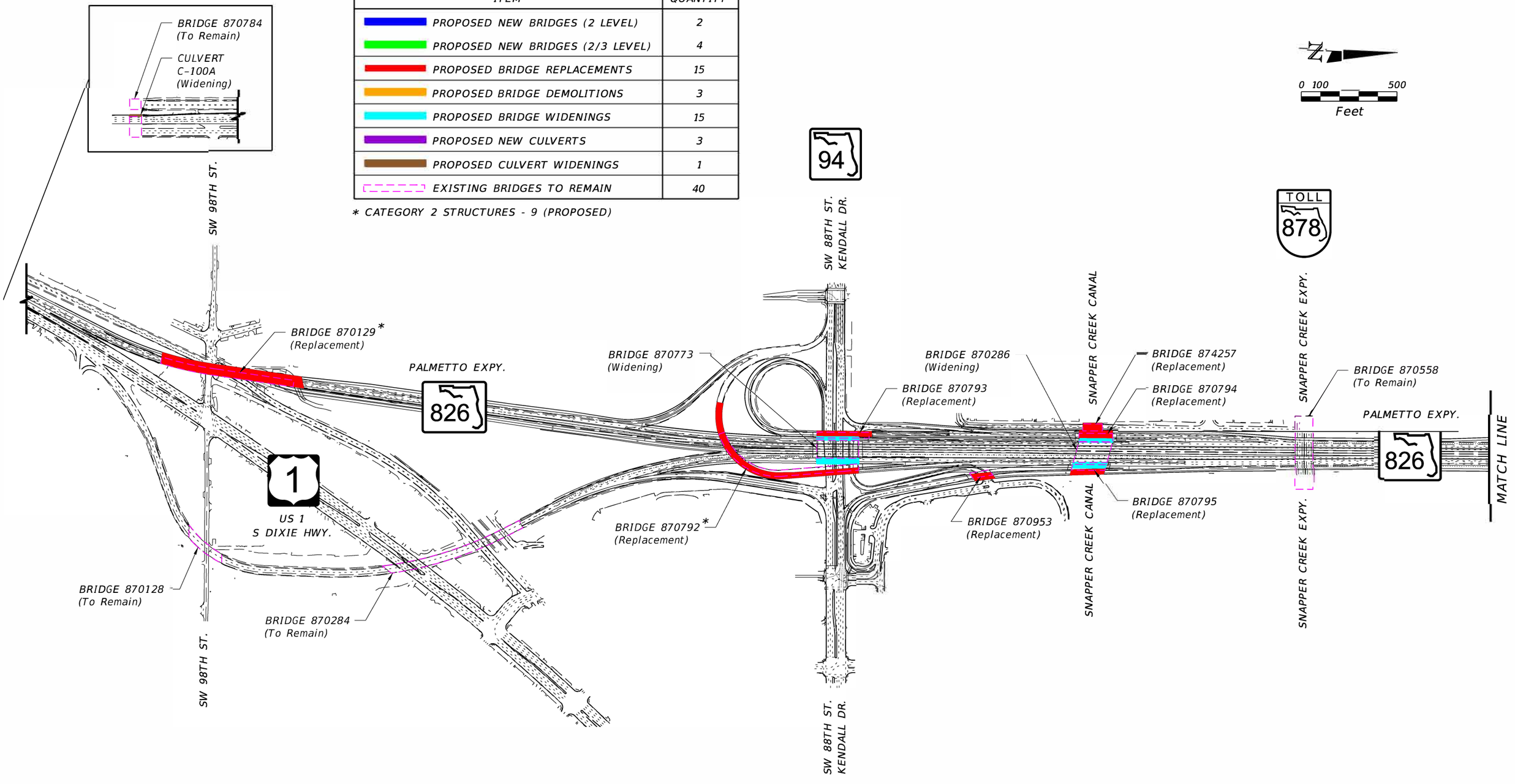



**Figure 3.9 - Bridge Location Map**

ALTERNATIVE 3

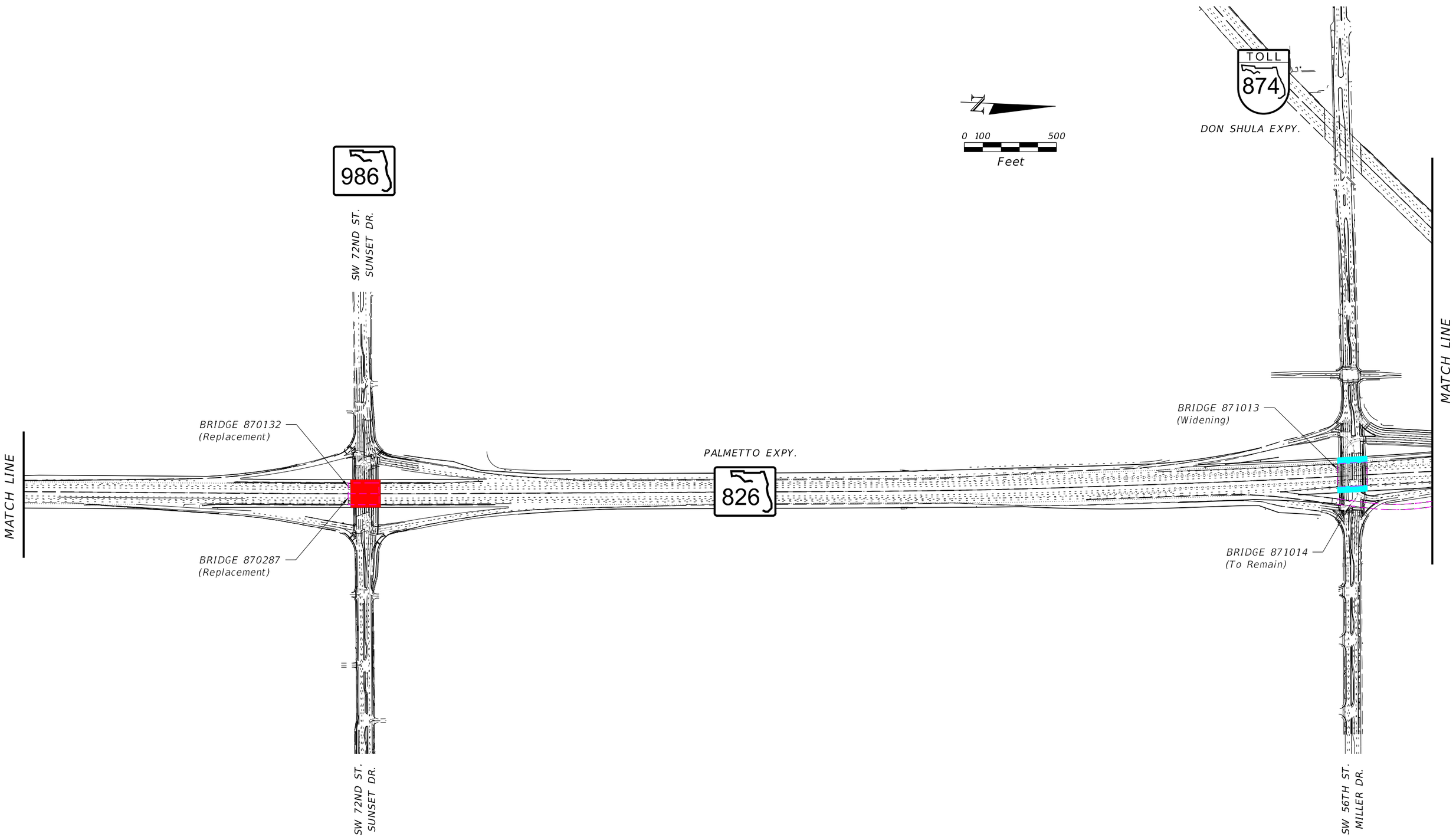



**Figure 3.9 - Bridge Location Map**

*ALTERNATIVE 3*

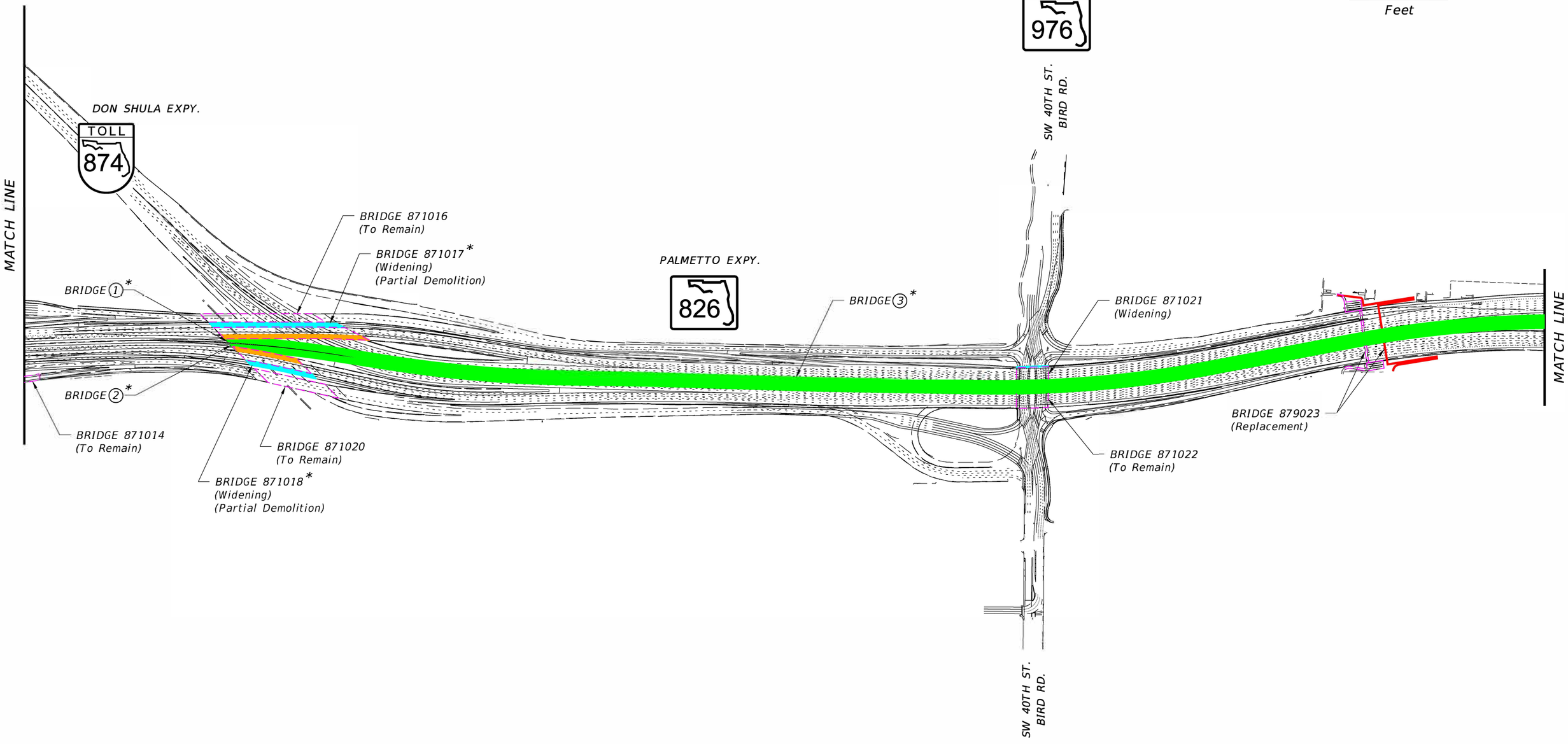



**Figure 3.9 - Bridge Location Map**

*ALTERNATIVE 3*

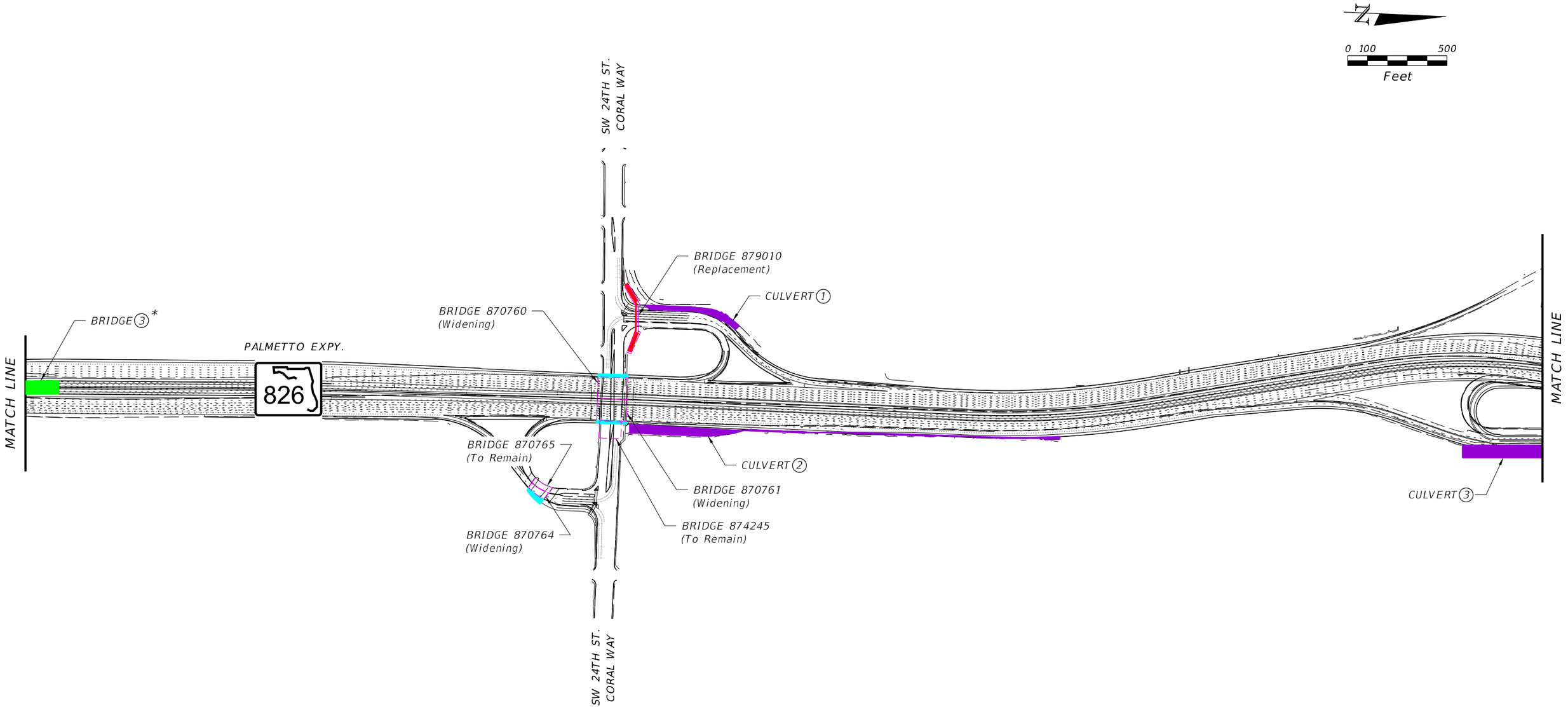



**Figure 3.9 - Bridge Location Map**

ALTERNATIVE 3

41

968

826

TOLL 836

N

0 100 500

Feet

SW 8TH ST.
TAMIAMI TRAIL

FLAGLER ST.

DOLPHIN EXPY.

MATCH LINE

PALMETTO EXPY.

NW 7TH ST.

BRIDGE 870782
(Replacement)

BRIDGE 870781 *
(Replacement)

BRIDGE 870112
(Replacement)

BRIDGE 870267
(Replacement)

BRIDGE 870780
(Demolition)

BRIDGE 870154
(To Remain)

BRIDGE 870066
(Demolition)

BRIDGE 871000
(Demolition)

CULVERT (3)

BRIDGE 871047
(Widening)

BRIDGE 871048
(Widening)
(Partial Demolition)

BRIDGE 871045
(Widening)

BRIDGE (4)

BRIDGE 871043
(To Remain)

BRIDGE 871053
(To Remain)

BRIDGE 871054
(To Remain)

BRIDGE 871044
(To Remain)

BRIDGE 871062
(To Remain)

BRIDGE 871063
(Widening)

BRIDGE 871051
(To Remain)

BRIDGE 871052
(To Remain)

BRIDGE 871064
(Widening)

BRIDGE 871042
(To Remain)

BRIDGE 871077
(To Remain)

BRIDGE 871065
(To Remain)

BRIDGE 871078
(To Remain)

BRIDGE (5) *

BRIDGE 871079
(To Remain)

BRIDGE 871069
(To Remain)

BRIDGE 871039
(To Remain)

BRIDGE 871040
(To Remain)

BRIDGE 871041
(To Remain)

BRIDGE (6)

BRIDGE 871046
(To Remain)

BRIDGE 871081
(To Remain)

BRIDGE 871050
(To Remain)

BRIDGE 871038
(To Remain)

BRIDGE 871037
(To Remain)

BRIDGE 871076
(To Remain)

BRIDGE 871036
(Widening)

BRIDGE 870999
(To Remain)

BRIDGE 871075
(To Remain)

BRIDGE 871074
(To Remain)

SW 8TH ST.
TAMIAMI TRAIL

FLAGLER ST.

MATCH LINE

**Figure 3.9 - Bridge Location Map**

*ALTERNATIVE 3*

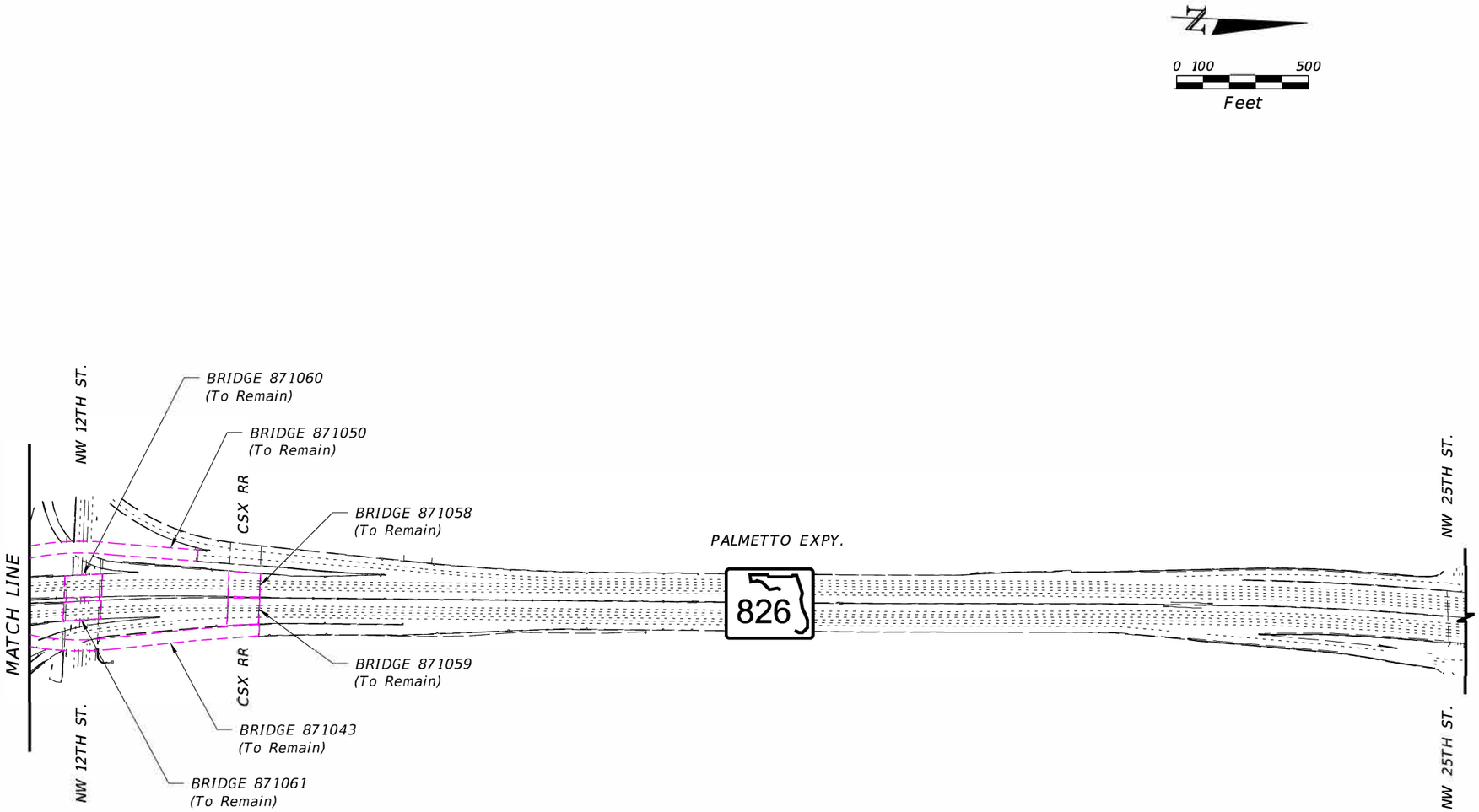



**Figure 3.9 - Bridge Location Map**

*ALTERNATIVE 3*

**Table 3.3 - SR 826 from US-1/SR-5/S. Dixie Highway to SR-836 Dolphin Expressway – Proposed Bridge Charcteristics (Alternative 3)**

| Location | | | Geometrics | | Alignment | | Structural | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bridge No. | Bridge Location | Direction | Overall Bridge Length / Span Arrangement (ft) | Deck Width (ft) | Min. Vertical Clearance (ft) | Underneath Roadway Designation | #Spans | Max Span (ft) | Superstructure Type | Substructure Type | Bridge Category | Structure Type |
| **C-100A** | Culvert expansion at C-100A Canal (Widening) | EW | TBD | NA | NA | NA | NA | | NA | Concrete | 1 | Widening |
| **870129** | SR 826 SB over SW 98th St. SB | SB | 94.6'+110.4'+121.8'+162.75'+134.4'+126' = 749.95' | 58.67' | 16.5' | SW 98th St. | 6 | 162.75 | Prestress Concrete, FIBs | Reinforced Concrete Column Piers | 2 | Replacement |
| **870792** | SR 826 NB from EB SW 88th St. to NB SR 826 | NB from EB to NB | 152'+218'+160'+160'+161.54'+127' = 978.54' | 29.67' Min / 33.67' Max | 16.5' | EB SW 88th St. to NB SR.826 | 6 | 218 | Steel Plate Girder | Reinforced Concrete Column Piers | 2 | Replacement |
| **870773** | SR 826 over SW 88th St. NB and SB | NB and SB | 92.5'+72.75'+54.25' = 219.5' | 150.67' | 16.5' | SW 88th St, | 3 | 92.5 | Prestress Concrete, FIBs | Reinforced Concrete Column Piers | 1 | Widening |
| **870793** | SR 826 SB off-ramp over SW 88th St. | SB | 92.33'+85.70'+109.42' = 287.45' | 29.67' | 16.5' | SW 88th St, | 3 | 109.42 | Prestress Concrete, FIBs | Reinforced Concrete Column Piers | 1 | Replacement |
| **870953** | SW 88th St. WB - SR 826 NB over Dadeland Mall Access | EB | 104.67' | 40.38' Min / 44.75' Max | 16.5' | Dadeland Mall Access | 1 | 104.67 | Prestress Concrete, FIBs | Reinforced Concrete/Piles | 1 | Replacement |
| **874257** | SW 77th Ave.NB and SB over Snapper Creek Canal | NB and SB | 50.86+50.90= 101.76 | 37.66 | NA | Snapper Creek Canal | 2 | 50.9 | Prestress Concrete, FIBs | Concrete Pile Bents | 1 | Replacement |
| **870794** | SR 826 SB to SR 94 over Snapper Creek Canal | SB | 88.12+87.98=176.1 | 42.67' | NA | Snapper Creek Canal | 2 | 88.12 | Prestress Concrete, FIBs | Concrete Pile Bents | 1 | Replacement |
| **870286** | SR 826 NB/SB over Snapper Creek Canal | NB and SB | 44.25'+43.83'+44'+43.88' = 175.96' | 152.66 | NA | Snapper Creek Canal | 4 | 44.25 | Prestress Concrete, FIBs | Concrete Pile Bents | 1 | Widening |
| **870795** | WB SW 88th St. - SR 826 NB over Snapper Creek Canal | NB | 88.31+89.32 = 177.63 | 29.67' | NA | Snapper Creek Canal | 2 | 89.32 | Prestress Concrete, FIBs | Concrete Pile Bents | 1 | Replacement |
| **870132** | SR 826 SB over SW 72nd St./Sunset Drive | SB | 162.5' | 152.67' | 16.5' | Sw 72nd St./Sunset Drive | 1 | 162.5' | Prestress Concrete, FIBs | Reinforced Concrete/Piles | 1 | Replacement |
| **870287** | SR 826 NB over SW 72nd St./ Sunset Drive | NB | 162.5' | | 16.5' | Sw 72nd St./Sunset Drive | 1 | 162.5' | Prestress Concrete, FIBs | Reinforced Concrete/Piles | 1 | Replacement |
| **871013** | SR 826 NB/SB over SW 56th St./Miller Drive | NB and SB | 159.75' | 189.81' Min / 189.97' Max | 16.5' | SW 56th St./Miller Drive | 1 | 159.75 | Prestress Concrete, FIBs | Reinforced Concrete/Piles | 1 | Widening |
| **871017** | SR 826 SB over SR 874 and CSX RR | SB | 205.77'+208'+242' = 655.77' | 58.67' | 16.5' | SR 874 and CSX RR | 3 | 266.99 | Steel Plate Girder | Reinforced Concrete Column Piers | 2 | Widening |
| **871018** | SR 826 NB over CSX RR and SR 874 | NB | 190'+140' = 330' | 58.67' | 16.5' | SCL RR and SR 874 | 2 | 190 | Steel Plate Girder | Reinforced Concrete Column Piers | 2 | Widening |
| **1** | SR 826 Managed Lanes SB over SR 874 and CSX RR | SB | 169.25'+198'+262' = 629.25' | 34.67' | 16.5' | SR over SR 874 and CSX RR | 3 | 262' | Steel Plate Girder | Reinforced Concrete Column Piers | 2 | New |
| **2** | SR 826 Managed Lanes NB over SR 874 and SCL RR | NB | 170.33'+190'+225' = 585.33' | 34.67' | 16.5' | SR over SR 874 and SCL RR | 3 | 225' | Steel Plate Girder | Reinforced Concrete Column Piers | 2 | New |
| **3** | SR 826 Managed Lanes NB/SB over SR 874 (3 Level) | NB and SB | Unit 1 = 225'+225'+225'+225'+160' = 1060'<br>Unit 2 = 160'+225'+225'+225'+225'+225'+160' = 1445'<br>Unit 3 = 160'+225'+225'+215'+235'+225'+185' = 1470'<br>Unit 4 = 185'+225'+225'+225'+225'+225'+160' = 1470'<br>Unit 5 = 160'+225'+225'+160' = 770'<br>(Total = 6215') | 68.67' | 16.5' | SR 874 | 30 | 235' | Concrete Segmental or Steel Box Girder | Reinforced Concrete Column Piers | 2 | New |
| **871021** | SR 826 SB over SR 976/Bird Rd./SW 40th St. | SB | 160.42' | 103.08' Min / 112.58' Max | 16.5' | SR 676/Bird Rd./SW 40th St. | 1 | 160.42' | Prestress Concrete, FIBs | Reinforced Concrete/Piles | 1 | Widening |
| **879023** | Pedestrian Overpass over SR 826 | E/W | 160'+150' = 310' | 10.0' | 16.5' | SR 826 | 2 | 160' | Prestress Concrete, FIBs | Reinforced Concrete Column Piers | 1 | Replacement |
| **879010** | Pedestrian Overpass over SR 826 SB To/From SW 24th | E/W | 144' | 10.0' | 16.5' | SR 826 SB To/From SW 24th St. | 1 | 144 | Prestress Concrete, FIBs | Reinforced Concrete Column Piers | 1 | Replacement |

**Table 3.3 - SR 826 from US-1/SR-5/S. Dixie Highway to SR-836 Dolphin Expressway – Proposed Bridge Charcteristics (Alternative 3)**

| Location | | | Geometrics | | Alignment | | Structural | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bridge No. | Bridge Location | Direction | Overall Bridge Length / Span Arrangement (ft) | Deck Width (ft) | Min. Vertical Clearance (ft) | Underneath Roadway Designation | #Spans | Max Span (ft) | Superstructure Type | Substructure Type | Bridge Category | Structure Type |
| **CVRT-1** | Culvert by Coral Way Pedestrial Overpasss | NS | TBD | NA | NA | NA | NA | | NA | Concrete | 1 | New |
| **CVRT-2** | Culvert Along East Side of SR 826 & N. of Coral Way | NS | TBD | NA | NA | NA | NA | | NA | Concrete | 1 | New |
| **870760** | SR 826 SB over SW 24th St./Coral Way | SB | 75'+75' = 150' | 125.83' Min / 133.25' Max | 16.5' | SR 972/SW 24th St. | 2 | 75 | Prestress Concrete, FIBs | Reinforced Concrete Column Piers | 1 | Widening |
| **870761** | SR 826 NB over SW 24th St./Coral Way | NB | 75'+75' = 150' | 119.17' Min / 122.58' Max | 16.5' | SR 972/SW 24th St. | 2 | 75 | Prestress Concrete, FIBs | Reinforced Concrete Column Piers | 1 | Widening |
| **870764** | SR 826 NB to SW 24th St./Coral Way over Coral Gables Canal | NB | 27.45'+39'+31' = 97.45' | 44.67' Min / 69.08' Max | 16.5' | Coral Gables Canal | 3 | 39 | Prestress Concrete, FIBs | Reinforced Concrete/Piles | 1 | Widening |
| **870782** | SR 826 SB Exit Ramp to US 41 EB over US 41 | SB | 187.35'+181.75' = 369.1' | 29.67' | 16.5' | US 41/SR 90 | 2 | 187.35 | Prestress Concrete, FIBs | Reinforced Concrete Column Piers | 1 | Replacement |
| **870781** | SR 826 SB Exit Ramp to US 41 WB over Tamiami Canal | SB to WB | 51.5'+50'+50'+50'+50'+50'+51.5' = 353' | 29.67' | 16.5' | Tamiami Canal | 7 | 51.5 | Flat Slab Concrete | Reinforced Concrete/Piles | 2 | Replacement |
| **870112** | SR 826 SB over US 41/SR90/SW 8th St. | SB | 160.00'+160.00' = 320.00' | 228' Min / 229' Max | 16.5' | US 41/SR 90/SW 8th St. | 7 | 160 | Prestress Concrete, FIBs | Reinforced Concrete Column Piers | 1 | Replacement |
| **870267** | SR 826 NB over US 41/SR90/SW 8th St. | NB | 160.00'+160.00' = 320.00' | | 16.5' | US 41/SR 90/SW 8th St. | 7 | 160 | Prestress Concrete, FIBs | Reinforced Concrete Column Piers | 1 | Replacement |
| **CVRT-3** | Culvert along East Side of SR 826 from SW 8th St South | NS | TBD | NA | NA | NA | NA | | NA | Concrete | 1 | New |
| **871047** | SR 826 SB over SR 968/West Flagler St. | SB | 170.36' | 157.3' Min / 160.9' Max | 16.5' | SR 968/West Flager St. | 1 | 170.36 | Prestress Concrete, FIBs | Reinforced Concrete/Piles | 1 | Widening |
| **871048** | SR 826 NB over SR 968/West Flagler St. | NB | 170.36' | 122.4' Min / 133.2' Max | 16.5' | SR 968/West Flager St. | 1 | 170.36 | Prestress Concrete, FIBs | Reinforced Concrete/Piles | 1 | Widening |
| **871045** | SB SR 826 CD over NW 7th St. | SB | 123.24' | 56.67' | 16.5' | NW 7th St. | 1 | 123.4 | Prestress Concrete, FIBs | Reinforced Concrete/Piles | 1 | Widening |
| **871063** | SR 826 SB over NW 7th St. | SB | 123.01' | 91.0' Min/ Max 91.25' | 16.5' | NW 7th St. | 1 | 123.01 | Prestress Concrete, FIBs | Reinforced Concrete/Piles | 1 | Widening |
| **4** | SR 826 NB Managed Lanes over NW 7th St. | NB | 123' | 29.67' | 16.5' | NW 7th St. | 1 | 123 | Prestress Concrete, FIBs | Reinforced Concrete/Piles | 1 | New |
| **871064** | SR 826 NB over NW 7th St. | NB | 123' | 90.67' | 16.5' | NW 7th St. | 1 | 123 | Prestress Concrete, FIBs | Reinforced Concrete/Piles | 1 | Widening |
| **5** | Flyover SR 826 and SR 836 from SR 826 NB to SR 836 EB (3 Level) -- (Aesthetic Level 2) | NB | 164'+234'+240'+240'+240'+230'+260'+220'+220'+160' =2,208' | 29.67' Min/33.67' Max | 16.5' | SR 836/SR 827 | 10 | 260' | Concrete Segmental or Steel Box Girder | Reinforced Concrete Column Piers | 2 | New |
| **6** | SR 836 EB on-ramp over NW 72nd Ave. | EB | 218' | 29.67' | 16.5' | NW 72nd Ave. | 1 | 218' | Steel Plate Girder | Reinforced Concrete/Piles | 2 | New |
| **871036** | SR 836 EB CD over CSX RR | EB | 702.25' | 2' Min/58' Max | 16.5' | NW 72 Ave | 7 | 111.5 | Prestress Concrete, FIBs | Reinforced Concrete Column Piers | 1 | Widening |

**Note: EB - Eastbound, WB - Westbound, NB - Northbound, SB - Southbound**

### 3.1.4 ALTERNATIVE 4

Alternative 4 proposes to add an additional general use Lane in each direction between US 1 and SR 874. with auxiliary lanes at selected locations. Two typical sections for SR 826 are depicted in ***Figures 3.7*** and ***3.8***, representing the lane arrangements between US-1 & SR 874 and SR 874 & SR 836.

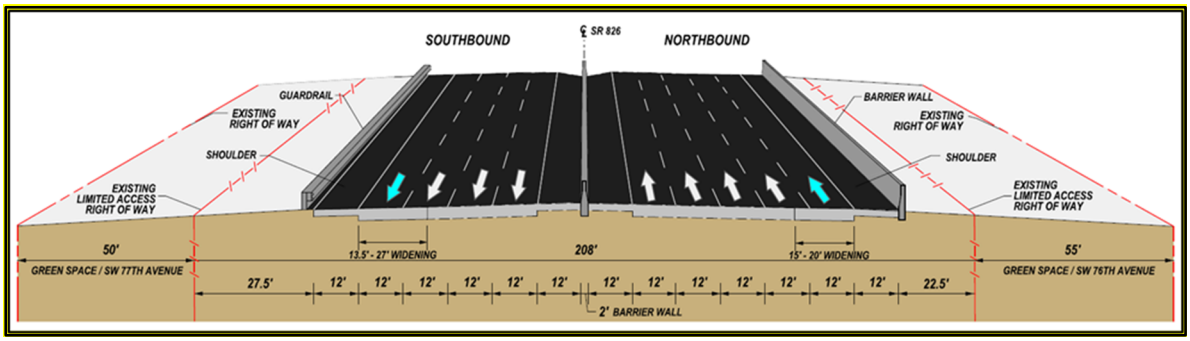



**Figure 3.7 – Typical Section between US 1 and SR 874**

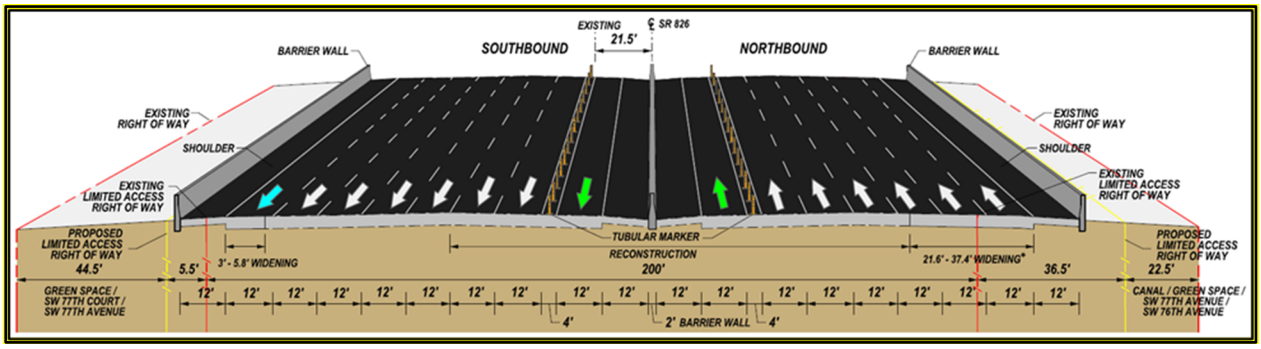



**Figure 3.8 – Typical Section between SR 874 and SR 836**

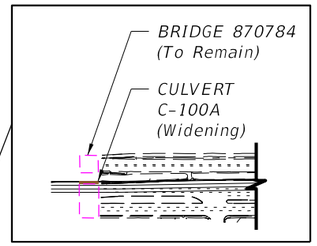
In this alternative, there is a total of 45 structures improvements, existing and proposed, along the corridor as listed below:

- 10 new 2 level and 2/3 level bridges
- 15 bridge replacements
- 16 bridge widenings
- 4 culverts
- 4 bridge demolitions

It is noted that there are eleven proposed Category 2 structures in this Alternative ***Figure 3.9*** illustrates the Bridge layout of these structures along the corridor and ***Table 3.3*** describes the Proposed Bridge Characteristics for this Alternative. The proposed widenings, new bridges, replacements, and bridge demolitions are color-coded facilitating their identification. Like the previous alternatives, the pedestrian bridges, north of 40th Street and the pedestrian overpass at Coral Way, will require replacement as the existing foundation will be in conflict with the proposed roadway alignment at this location. As discussed on the PER Build Alternative Matrix, this option is the preferred alternative.

| SUMMARY OF STRUCTURES | |
|---|---|
| ITEM | QUANTITY |
| PROPOSED NEW BRIDGES (2 LEVEL) | 6 |
| PROPOSED NEW BRIDGES (2/3 LEVEL) | 1 |
| PROPOSED BRIDGE REPLACEMENTS | 14 |
| PROPOSED BRIDGE DEMOLITIONS | 4 |
| PROPOSED BRIDGE WIDENINGS | 16 |
| PROPOSED NEW CULVERTS | 3 |
| PROPOSED CULVERT WIDENINGS | 1 |
| EXISTING BRIDGES TO REMAIN | 39 |

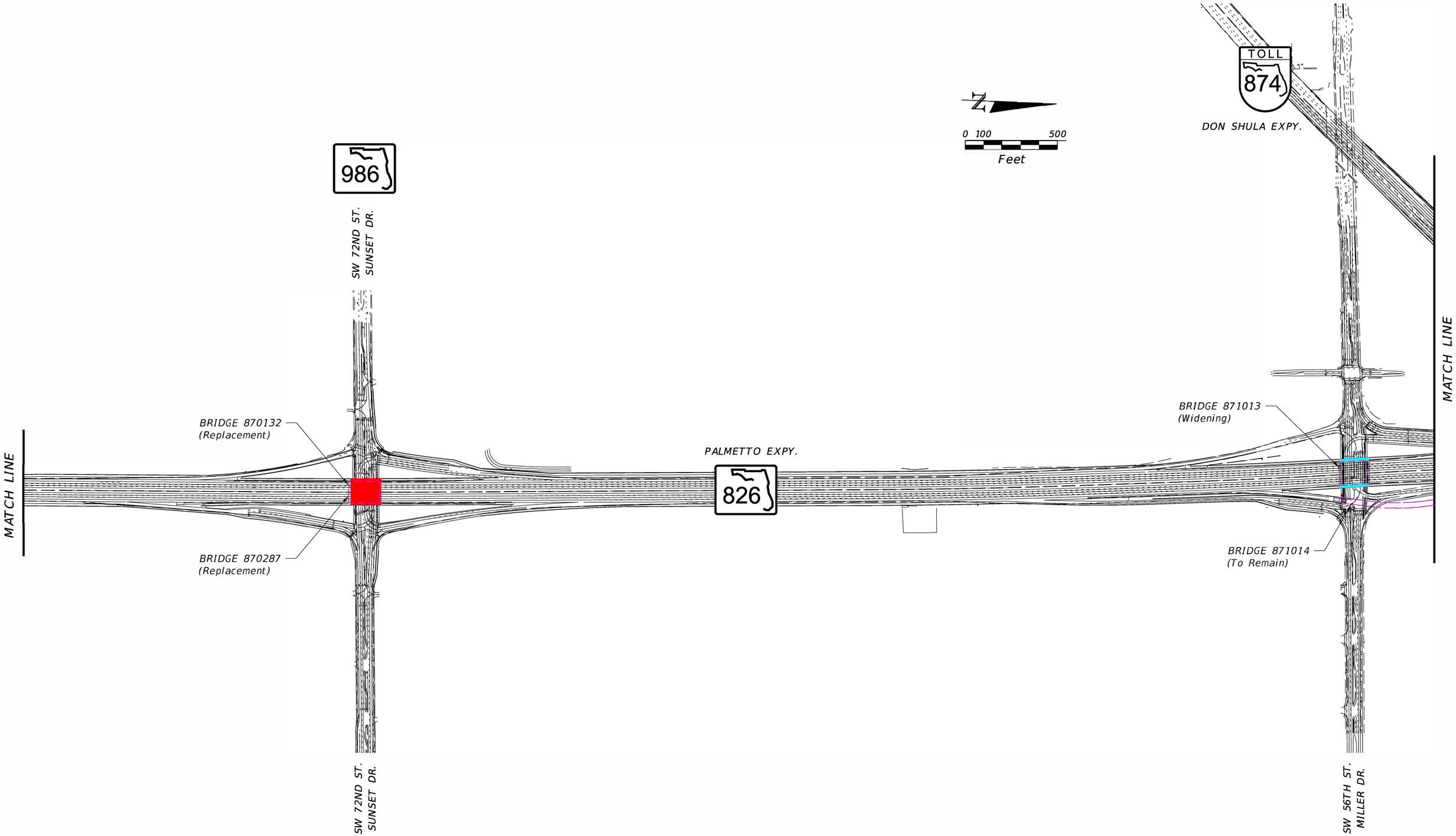
* CATEGORY 2 STRUCTURES - 7 (PROPOSED)



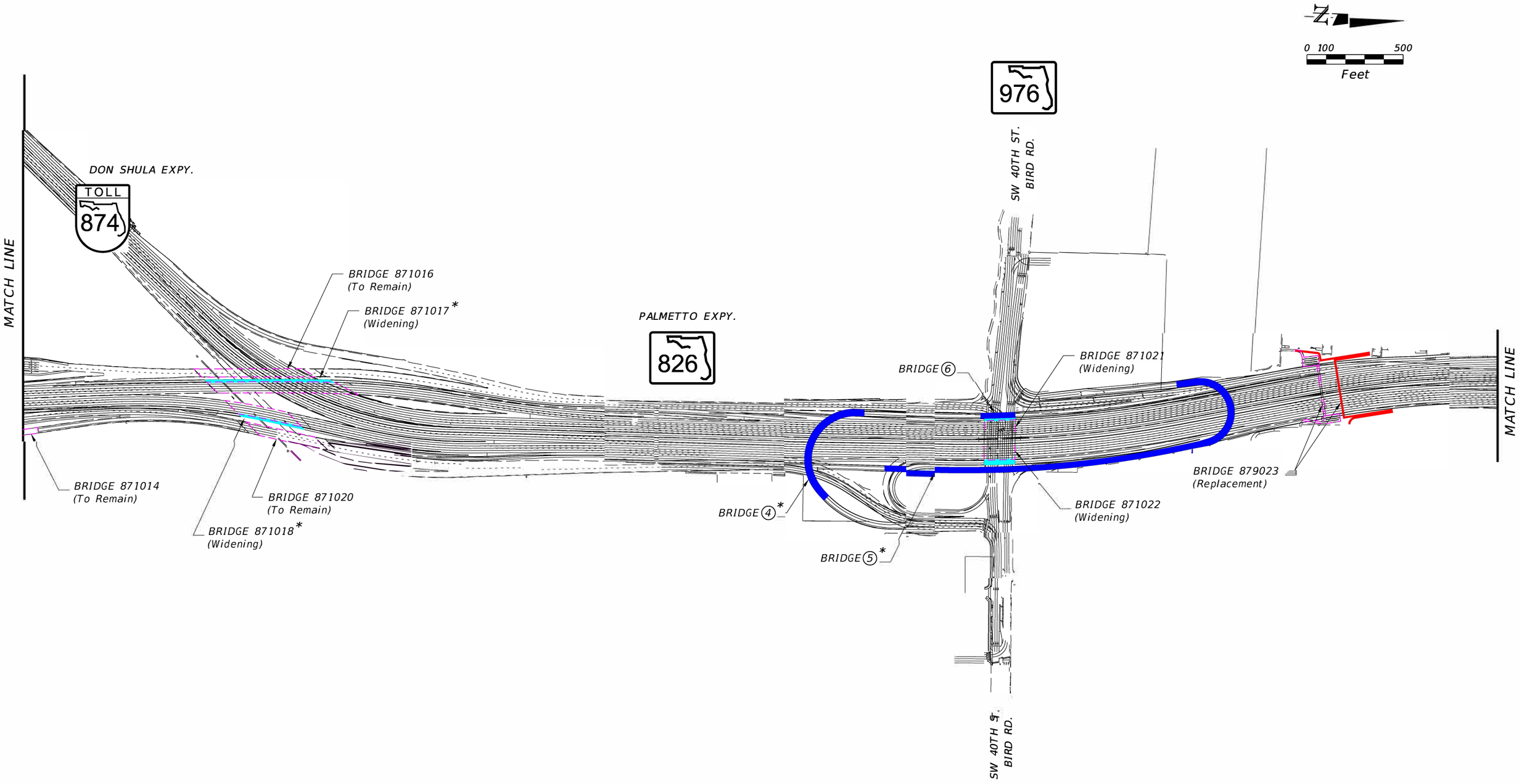




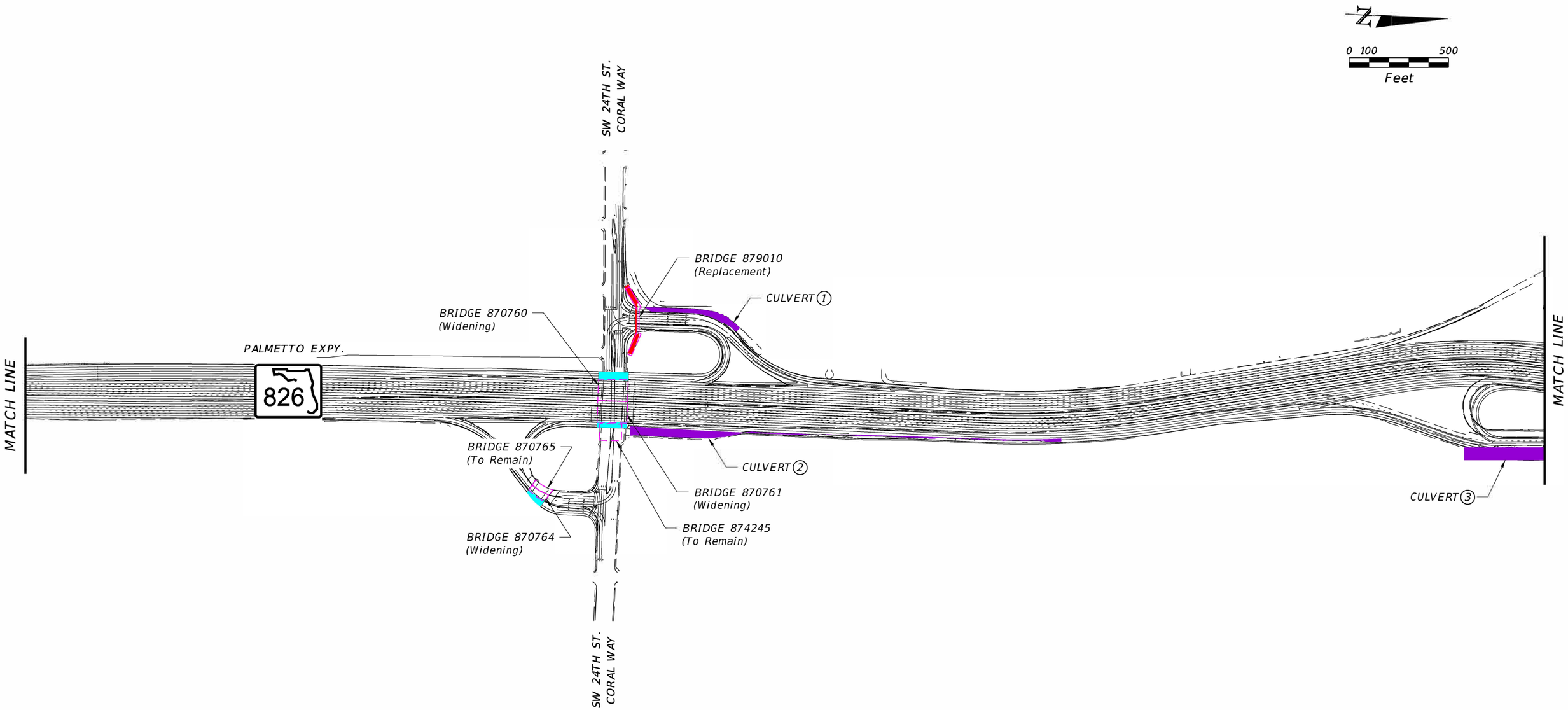
ALTERNATIVE 4




ALTERNATIVE 4




ALTERNATIVE 4




ALTERNATIVE 4

41

968

826

TOLL 836

SW 8TH ST.
TAMIAMI TRAIL

FLAGLER ST.

DOLPHIN EXPY.

PALMETTO EXPY.

NW 7TH ST.

MATCH LINE

MATCH LINE

0 100 500
Feet

BRIDGE 870782
(Replacement)

BRIDGE 870781 *
(Replacement)

BRIDGE 870112
(Replacement)

BRIDGE 870267
(Replacement)

BRIDGE 870780
(Demolition)

BRIDGE ⑦ *

BRIDGE 870154
(Demolition)

BRIDGE 870066
(Demolition)

BRIDGE 871000
(Demolition)

CULVERT ③

BRIDGE 871047
(Widening)

BRIDGE 871048
(Widening)

BRIDGE 871045
(Widening)

BRIDGE ⑧

BRIDGE 871064
(Widening)

BRIDGE 871042
(To Remain)

BRIDGE 871077
(To Remain)

BRIDGE 871065
(To Remain)

BRIDGE 871043
(To Remain)

BRIDGE 871053
(To Remain)

BRIDGE 871054
(To Remain)

BRIDGE 871044
(To Remain)

BRIDGE 871062
(To Remain)

BRIDGE 871063
(Widening)

BRIDGE 871051
(To Remain)

BRIDGE 871052
(To Remain)

BRIDGE 871078
(To Remain)

BRIDGE ⑨ *

BRIDGE 871079
(To Remain)

BRIDGE 871069
(To Remain)

BRIDGE 871039
(To Remain)

BRIDGE 871040
(To Remain)

BRIDGE 871041
(To Remain)

BRIDGE ⑩

BRIDGE 871046
(To Remain)

BRIDGE 871081
(To Remain)

BRIDGE 871050
(To Remain)

BRIDGE 871038
(To Remain)

BRIDGE 871037
(To Remain)

BRIDGE 871076
(To Remain)

BRIDGE 871036
(Widening)

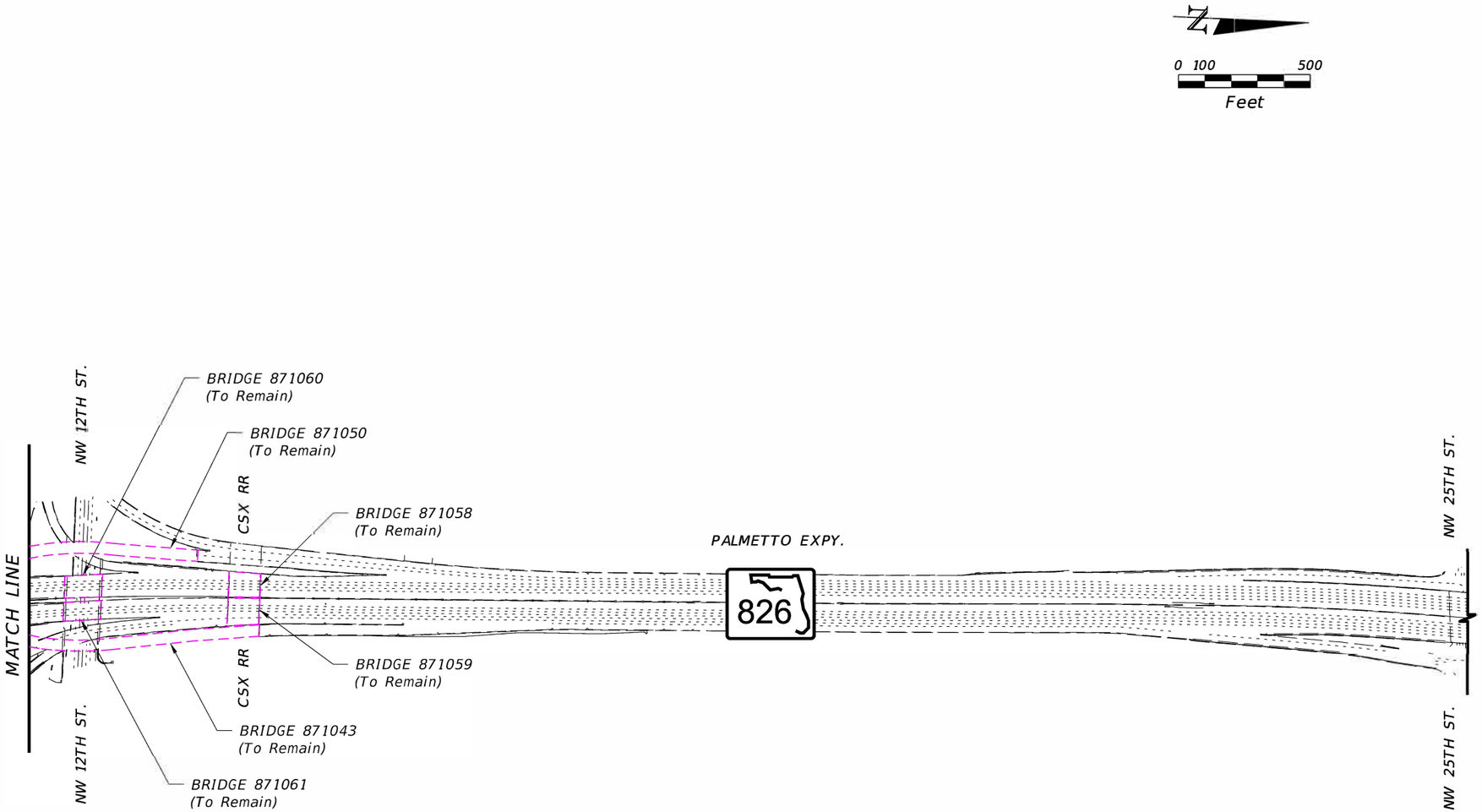
BRIDGE 870999
(To Remain)

BRIDGE 871075
(To Remain)

BRIDGE 871074
(To Remain)

ALTERNATIVE 4

SHEET 3-28




ALTERNATIVE 4

**Table 3.3 - SR 826 from US-1/SR-5/S. Dixie Highway to SR-836 Dolphin Expressway – Proposed Bridge Charcteristics (Alternative 4)**

| Location | | | Geometrics | | Alignment | | Structural | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bridge No. | Bridge Location | Direction | Overall Bridge Length / Span Arrangement (ft) | Deck Width (ft) | Min. Vertical Clearance (ft) | Underneath Roadway Designation | #Spans | Max Span (ft) | Superstructure Type | Substructure Type | Bridge Category | Structure Type |
| **C-100A** | Culvert expansion at C-100A Canal (Widening) | EW | TBD | NA | NA | NA | NA | | NA | Concrete | 1 | Widening |
| **870129** | SR 826 SB over SW 98th St. SB | SB | 94.62'+110.359'+121.82'+158.746'+138.402'+126.108' =750.055' | 58.67' | 16.5' | SW 98th St. | 6 | 158.2' | Prestress Concrete, FIBs | Reinforced Concrete Column Piers | 1 | Replacement |
| **870792** | SR 826 NB from EB SW 88th St. to NB SR 826 | NB from EB to NB | 152'+214'+160.67'+160.67'+160.67'+127.58' = 975.58' | 29.67' Min / 33.67' Max | 16.5' | Palmetto SB & NB, SW 88th St. | 6 | 214.0' | Steel Plate Girder | Reinforced Concrete Column Piers | 2 | Replacement |
| **870773** | SR 826 NB & SB over SW 88th St. WB & EB | NB and SB | 92.5'+72.75'+54.25' = 219.5' | 142.67' | 16.5' | SW 88th St, | 3 | 92.5' | Prestress Concrete, FIBs | Reinforced Concrete Column Piers | 1 | Widening |
| **870793** | SR 826 SB off-ramp over SW 88th St. WB & EB | SB | 92.18'+78.82'+106.00' = 277' | 29.67' | 16.5' | SW 88th St, | 3 | 106.0' | Prestress Concrete, FIBs | Reinforced Concrete Column Piers | 1 | Replacement |
| **870953** | SW 88th St. WB - SR 826 NB over Dadeland Mall Access | NB | 114.89' | 42.67' | 16.5' | Dadeland Mall Access | 1 | 114.89' | Prestress Concrete, FIBs | Reinforced Concrete/Piles | 1 | Replacement |
| **870794** | SR 826 SB to SW 88th St. over Snapper Creek Canal | SB | 88' + 88' = 176.0' | 42.67' | NA | Snapper Creek Canal | 2 | 88.0' | Prestress Concrete, FIBs | Concrete Pile Bents | 1 | Replacement |
| **870286** | SR 826 NB/SB over Snapper Creek Canal | NB and SB | 44.33'+43.5'+44.16'+43.75' = 175.75' | 134.67' | NA | Snapper Creek Canal | 4 | 44.33' | Prestress Concrete, AASHTO Beams | Concrete Pile Bents | 1 | Widening |
| **870795** | WB SW 88th St. - SR 826 NB over Snapper Creek Canal | NB | 89.25'+89.30' = 178.55' | 29.67' | NA | Snapper Creek Canal | 2 | 89.3' | Prestress Concrete, FIBs | Concrete Pile Bents | 1 | Replacement |
| **870132** | SR 826 SB over SW 72nd St./Sunset Drive | SB | 162.5' | 144.67' | 16.5' | Sw 72nd St./Sunset Drive | 1 | 162.5' | Prestress Concrete, FIBs | Reinforced Concrete/Piles | 1 | Replacement |
| **870287** | SR 826 NB over SW 72nd St./ Sunset Drive | NB | 162.5' | | 16.5' | Sw 72nd St./Sunset Drive | 1 | 162.5' | Prestress Concrete, FIBs | Reinforced Concrete/Piles | 1 | Replacement |
| **871013** | SR 826 NB/SB over SW 56th St./Miller Drive | NB and SB | 159.72' | 156.67' | 16.5' | SW 56th St./Miller Drive | 1 | 159.72' | Prestress Concrete, FIBs | Reinforced Concrete/Piles | 1 | Widening |
| **871017** | SR 826 SB over SR 874 and CSX RR | SB | 202.5' + 213.34' + 239.33' =655.17' | 70.67' | 16.5' | SR 874 and CSX RR | 3 | 239.33' | Steel Plate Girder | Reinforced Concrete Column Piers | 2 | Widening |
| **871018** | SR 826 NB over CSX RR and SR 874 | NB | 196.63' + 141.21' = 337.83' | 70.67' | 16.5' | SCL RR and SR 874 | 2 | 196.63' | Steel Plate Girder | Reinforced Concrete Column Piers | 2 | Widening |
| **4** | SR 826 SB off-ramp over SR 826 | SB | 117' +195'+216' + 130' = 658' | 36.67' | 16.5' | SR 826 | 4 | 216.0' | Concrete Segmental or Steel Box Girder | Concrete Column Piers | 2 | New |
| **5** | SR 826 NB off-ramp over SR 976/Bird Rd./SW 40th St. and SR 826 | NB | 127.47' +193' + 193' + 182' + 205' + 205'+ 205' + 205' + 205' + 194.35' + 226'+ 135.5' = 2276.35' | 29.67' Min / 35.67' Max | 16.5' | SR 976/Bird Rd./SW 40th St. and SR 826 | 12 | 226.0' | Concrete Segmental or Steel Box Girder | Reinforced Concrete Column Piers | 2 | New |
| **6** | SR 826 SB off-ramp over SR 976/Bird Rd./SW 40th St. | SB | 179.39' | 29.67' | 16.5' | SR 976/Bird Rd./SW 40th St. | 1 | 179.39' | Prestress Concrete, FIBs | Reinforced Concrete/Piles | 1 | New |
| **871021** | SR 826 SB over SR 976/Bird Rd./SW 40th St. | SB | 160.5' | 105.586' | 16.5' | SR 676/Bird Rd./SW 40th St. | 1 | 160.5' | Prestress Concrete, FIBs | Reinforced Concrete/Piles | 1 | Widening |
| **871022** | SR 826 NB over SR 976/Bird Rd./SW 40th St. | NB | 161' | 132.790' | 16.5' | SR 676/Bird Rd./SW 40th St. | 1 | 161.0' | Prestress Concrete, FIBs | Reinforced Concrete/Piles | 1 | Widening |

**Table 3.4 - SR 826 from US-1/SR-5/S. Dixie Highway to SR-836 Dolphin Expressway – Proposed Bridge Charcteristics (Alternative 4)**

| Location | | | Geometrics | | Alignment | | Structural | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bridge No. | Bridge Location | Direction | Overall Bridge Length / Span Arrangement (ft) | Deck Width (ft) | Min. Vertical Clearance (ft) | Underneath Roadway Designation | #Spans | Max Span (ft) | Superstructure Type | Substructure Type | Bridge Category | Structure Type |
| **879023** | Pedestrian Overpass over SR 826 | E/W | 160'+150' = 310' | 10.0' | 17.5' | SR 826 | 2 | 160.0' | Prestress Concrete, FIBs | Reinforced Concrete Column Piers | 1 | Replacement |
| **879010** | Pedestrian Overpass over SR 826 SB To/From SW 24th | E/W | 144' | 10.0' | 17.5' | SR 826 SB To/From SW 24th St. | 1 | 144.0' | Prestress Concrete, FIBs | Reinforced Concrete Column Piers | 1 | Replacement |
| **CVRT-1** | Culvert by Coral Way Pedestrial Overpasss | NS | TBD | NA | NA | NA | NA | | NA | Concrete | 1 | New |
| **CVRT-2** | Culvert Along East Side of SR 826 & N. of Coral Way | NS | TBD | NA | NA | NA | NA | | NA | Concrete | 1 | New |
| **870760** | SR 826 SB over SW 24th St./Coral Way | SB | 75.33' + 74.71 = 150.13' | 258.67' | 16.5' | SR 972/SW 24th St. | 2 | 75.33' | Prestress Concrete, FIBs | Reinforced Concrete Column Piers | 1 | Widening |
| **870761** | SR 826 NB over SW 24th St./Coral Way | NB | 74.96' + 74.96' = 149.92' | | 16.5' | SR 972/SW 24th St. | 2 | 74.96' | Prestress Concrete, FIBs | Reinforced Concrete Column Piers | 1 | Widening |
| **870764** | SR 826 NB to SW 24th St./Coral Way over Coral Gables Canal | NB | 28.14'+39.35'+29.89' = 97.38' | 46.69' Min / 71.48' Max | 16.5' | Coral Gables Canal | 3 | 39.35' | Cast-in-place Concrete Slab | Reinforced Concrete/Piles | 1 | Widening |
| **870782** | SR 826 SB Exit Ramp to US 41 EB over US 41 | SB | 181.71'+181.58' = 363.28' | 29.67' | 16.5' | US 41/SR 90 | 2 | 187.4 | Prestress Concrete, FIBs | Reinforced Concrete Column Piers | 1 | Replacement |
| **870781** | SR 826 SB Exit Ramp to US 41 WB over Tamiami Canal | SB to WB | 45.66' +51.73' + 46.33'+ 47.7' + 48.56' + 49.11' + 51.61' = 340.71' | 29.67' | 6' NHW | Tamiami Canal | 7 | 51.73' | Flat Slab Concrete | Reinforced Concrete/Piles | 1 | Replacement |
| **870112** | SR 826 SB over US 41/SR90/SW 8th St. | SB | 181.7'+181.7' = 363.4' | 256.33' | 16.5' | US 41/SR 90/SW 8th St. | 2 | 181.7' | Prestress Concrete, FIBs | Reinforced Concrete Column Piers | 1 | Replacement |
| **870267** | SR 826 NB over US 41/SR90/SW 8th St. | NB | 181.7'+181.7' = 363.4' | | 16.5' | US 41/SR 90/SW 8th St. | 2 | 181.7' | Prestress Concrete, FIBs | Reinforced Concrete Column Piers | 1 | Replacement |
| **CVRT-3** | Culvert along East Side of SR 826 from SW 8th St South | NS | TBD | NA | NA | NA | NA | | NA | Concrete | 1 | New |
| **7** | US 41 WB TO SR 826 NB over Tamiami Canal | NB | 93' + 93' + 93' + 93' = 372' | 33.67' | 6' NHW | Tamiami Canal | 4 | 93.0' | Prestress Concrete, FIBs | Reinforced Concrete Column Piers | 1 | New |
| **871047** | SR 826 SB over SR 968/West Flagler St. | SB | 170.25' | 294.86' Min / 307.43' Max | 16.5' | SR 968/West Flager St. | 1 | 170.25' | Prestress Concrete, FIBs | Reinforced Concrete/Piles | 1 | Widening |
| **871048** | SR 826 NB over SR 968/West Flagler St. | NB | 170..58' | | 16.5' | SR 968/West Flager St. | 1 | 170..58' | Prestress Concrete, FIBs | Reinforced Concrete/Piles | 1 | Widening |
| **871045** | SB SR 826 CD over NW 7th St. | SB | 123.34' | 56.875' | 16.5' | NW 7th St. | 1 | 123.34' | Prestress Concrete, FIBs | Reinforced Concrete/Piles | 1 | Widening |
| **871063** | SR 826 SB over NW 7th St. | SB | 125.0' | 79.25' | 16.5' | NW 7th St. | 1 | 125.0' | Prestress Concrete, FIBs | Reinforced Concrete/Piles | 1 | Widening |
| **8** | SR 826 NB Managed Lanes over NW 7th St. | NB | 125.0' | 29.67' | 16.5' | NW 7th St. | 1 | 125.0' | Prestress Concrete, FIBs | Reinforced Concrete/Piles | 1 | New |
| **871064** | SR 826 NB over NW 7th St. | NB | 123.12 | 82.156' | 16.5' | NW 7th St. | 1 | 123.12' | Prestress Concrete, FIBs | Reinforced Concrete/Piles | 1 | Widening |
| **9** | Flyover SR 826 and SR 836 from SR 826 NB to SR 836 EB (3 Level) -- (Aesthetic Level 2) | NB | 162.77'+226'+230'+231'+240'+249.54'+249'+192'=1,780.31' | 29.67' Min/35.67' Max | 16.5' | SR 836/SR 826 | 8 | 249.54' | Concrete Segmental or Steel Box Girder | Reinforced Concrete Column Piers | 2 | New |
| **10** | SR 836 EB on-ramp over NW 72nd Ave. | EB | 232.33' | 29.67' | 16.5' | NW 72nd Ave. | 1 | 232.33' | Steel Plate Girder | Reinforced Concrete/Piles | 2 | New |
| **871036** | SR 836 EB CD over CSX RR | EB | 101.2' + 102.4 + 88.9' + 89.2' = 381.7' | 52.75' Min / 77.1' Max | 16.5' | CSX RR | 4 | 102.4' | Prestress Concrete, FIBs | Reinforced Concrete Column Piers | 1 | Widening |

**Note: EB - Eastbound, WB - Westbound, NB - Northbound, SB - Southbound**

### 3.1.5 Alternative 4A – Preferred Alternative

Alternative 4A, the preferred alternative, proposes adding a general use lane in each direction between US 1 and SR 836. Alternative 4A also proposes to add one Express Lane in each direction between SR 874 and SR 836. This alternative essentially extends the existing SR 826 express lanes system south to SR 874.

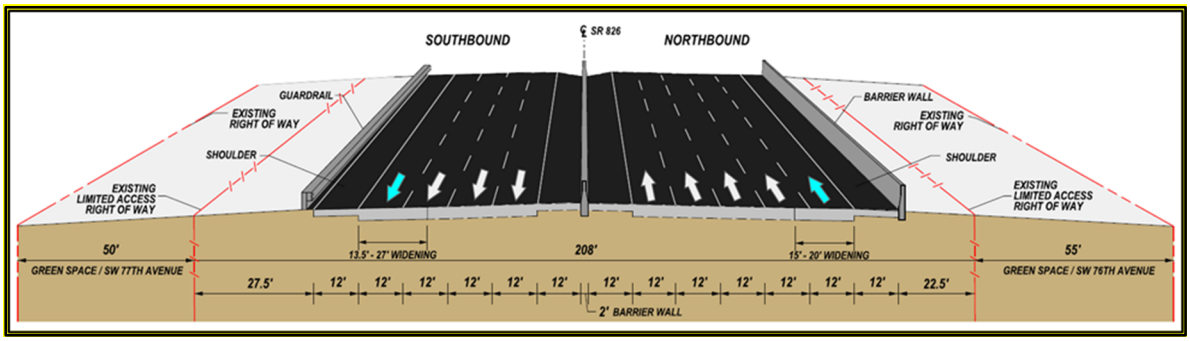



**Figure 3.10 – Typical Section between US 1 and SR 874**

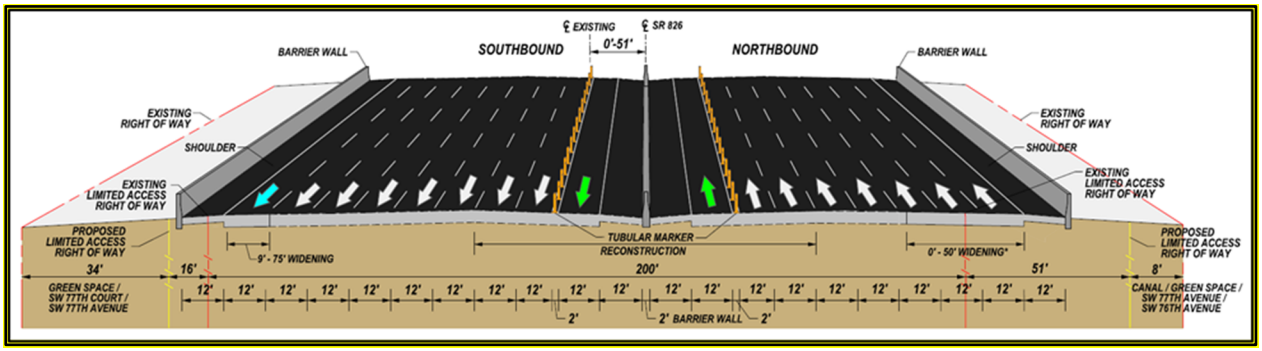



**Figure 3.11 – Typical Section between SR 874 and SR 836**

In this alternative, there is a total of 45 structures improvements, existing and proposed, along the corridor as listed below:

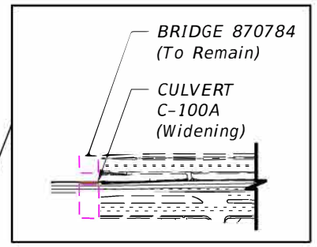
- 10 new 2 level and 2/3 level bridges
- 15 bridge replacements
- 16 bridge widenings
- 4 culverts
- 4 bridge demolitions

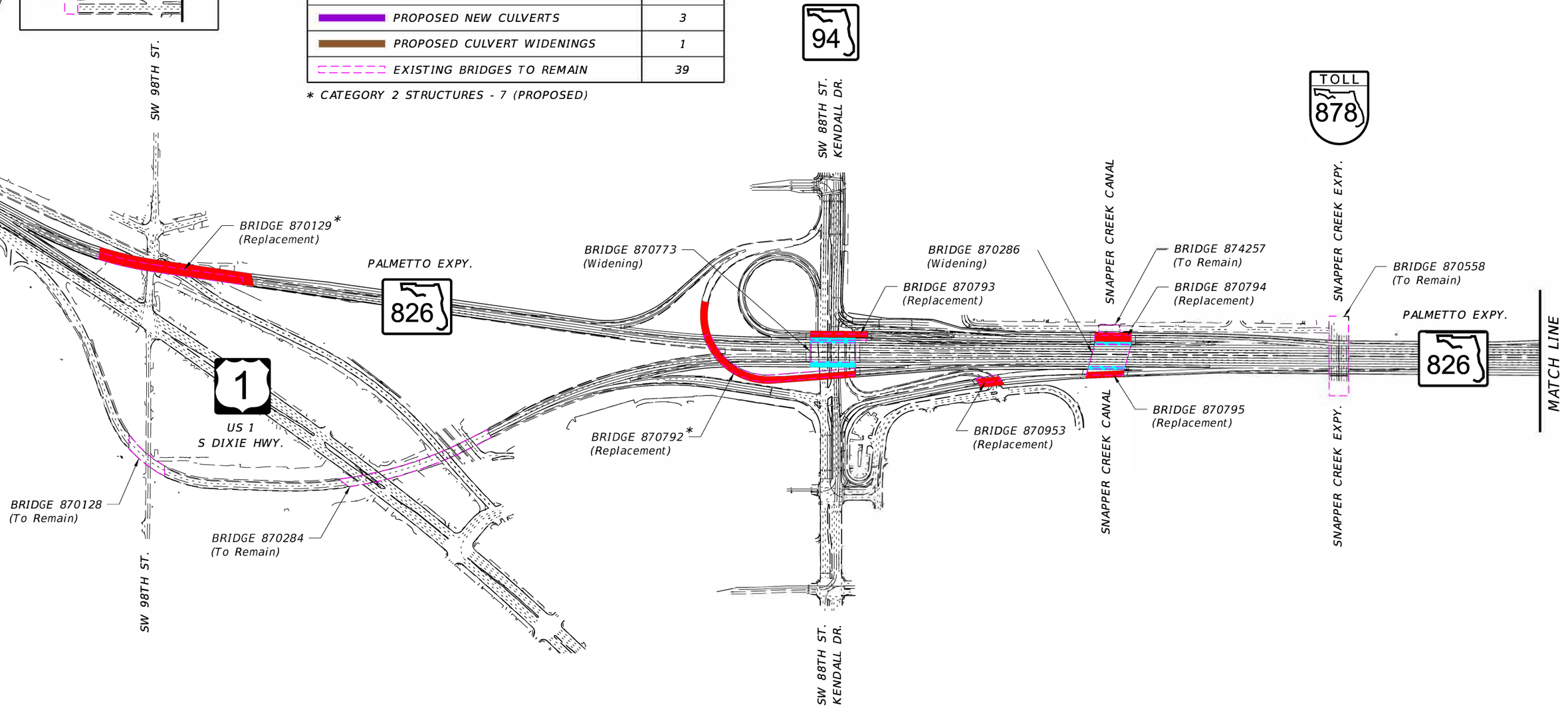
It is noted that there are eleven proposed Category 2 structures in this Alternative ***Figure 3.12*** illustrates the Bridge layout of these structures along the corridor and

***Table 3.4*** describes the Proposed Bridge Characteristics for this Alternative. The proposed widenings, new bridges, replacements, and bridge demolitions are color-coded facilitating their identification. Like the previous alternatives, the pedestrian bridges, north of 40th Street and the pedestrian overpass at Coral Way, will require replacement as the existing foundation will be in conflict with the proposed roadway alignment at this location. As discussed on the PER Build Alternative Matrix, this option is the preferred alternative.

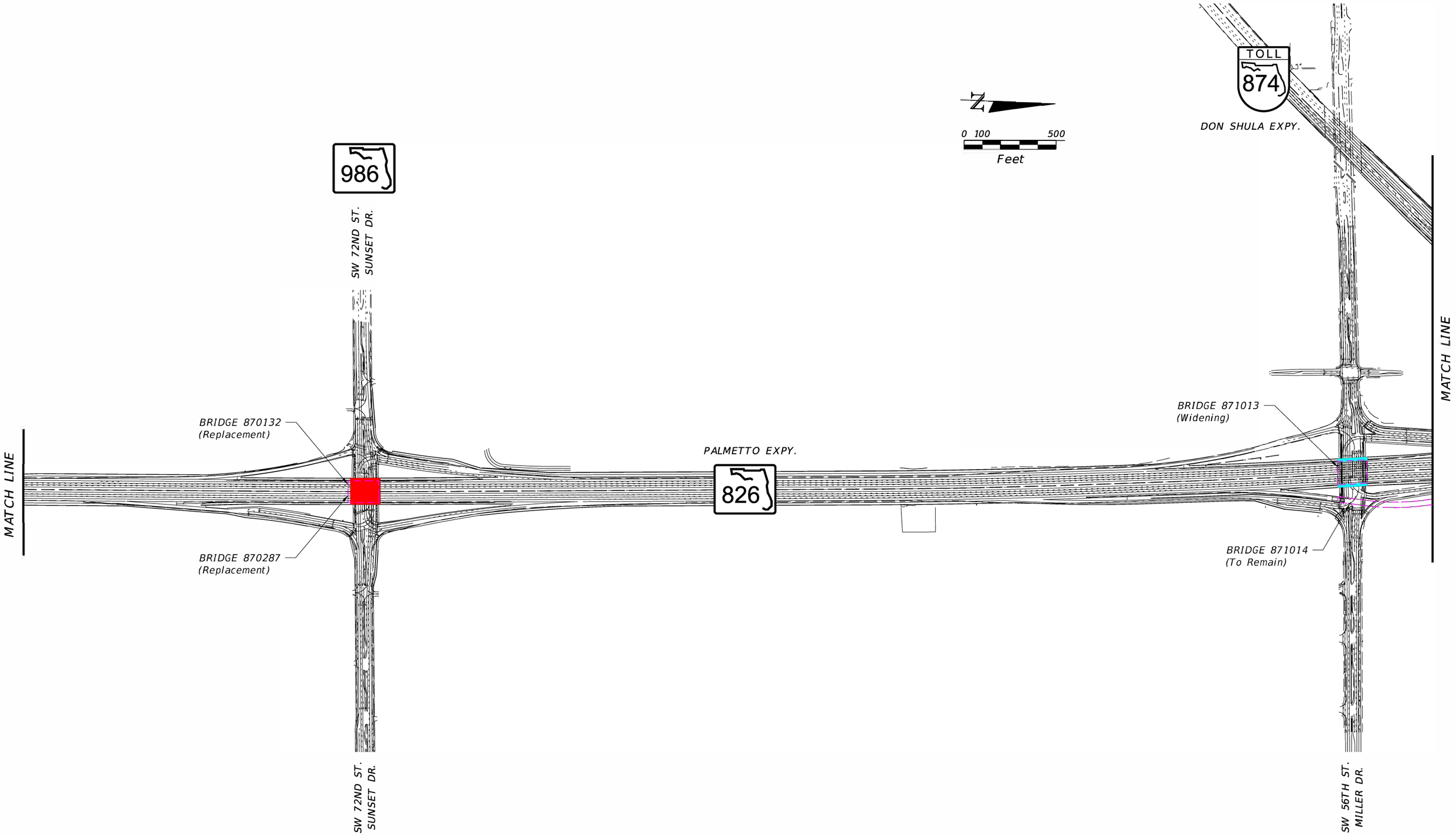
| SUMMARY OF STRUCTURES | |
|---|---|
| ITEM | QUANTITY |
| PROPOSED NEW BRIDGES (2 LEVEL) | 6 |
| PROPOSED NEW BRIDGES (2/3 LEVEL) | 1 |
| PROPOSED BRIDGE REPLACEMENTS | 14 |
| PROPOSED BRIDGE DEMOLITIONS | 4 |
| PROPOSED BRIDGE WIDENINGS | 16 |
| PROPOSED NEW CULVERTS | 3 |
| PROPOSED CULVERT WIDENINGS | 1 |
| EXISTING BRIDGES TO REMAIN | 39 |

* CATEGORY 2 STRUCTURES - 7 (PROPOSED)

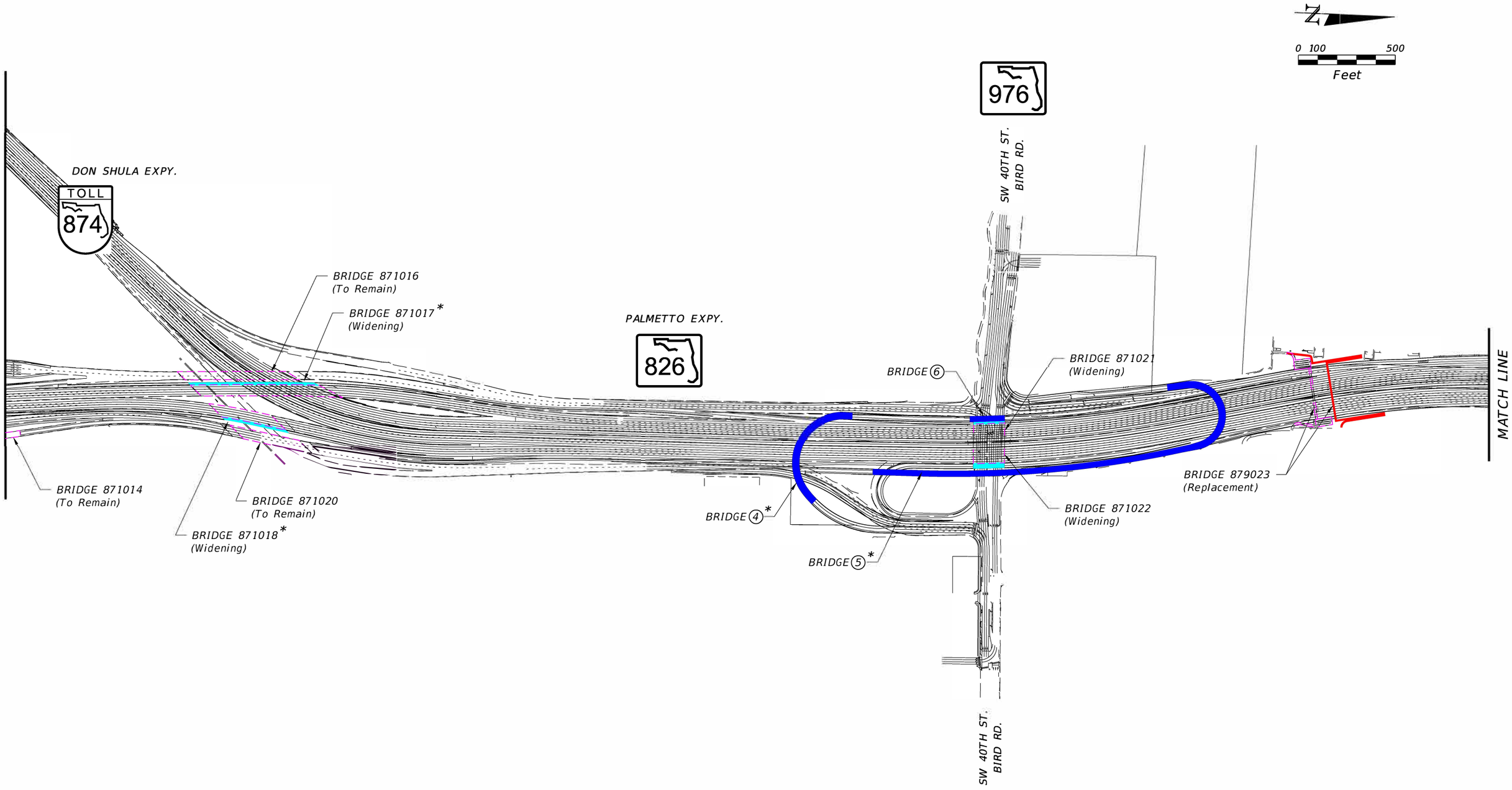



PREFERRED ALTERNATIVE




PREFERRED ALTERNATIVE




PREFERRED ALTERNATIVE

N

0 100 500

Feet

SW 24TH ST.
CORAL WAY

BRIDGE 879010
(Replacement)

CULVERT (1)

BRIDGE 870760
(Widening)

PALMETTO EXPY.

826

MATCH LINE

BRIDGE 870765
(To Remain)

CULVERT (2)

BRIDGE 870761
(Widening)

BRIDGE 874245
(To Remain)

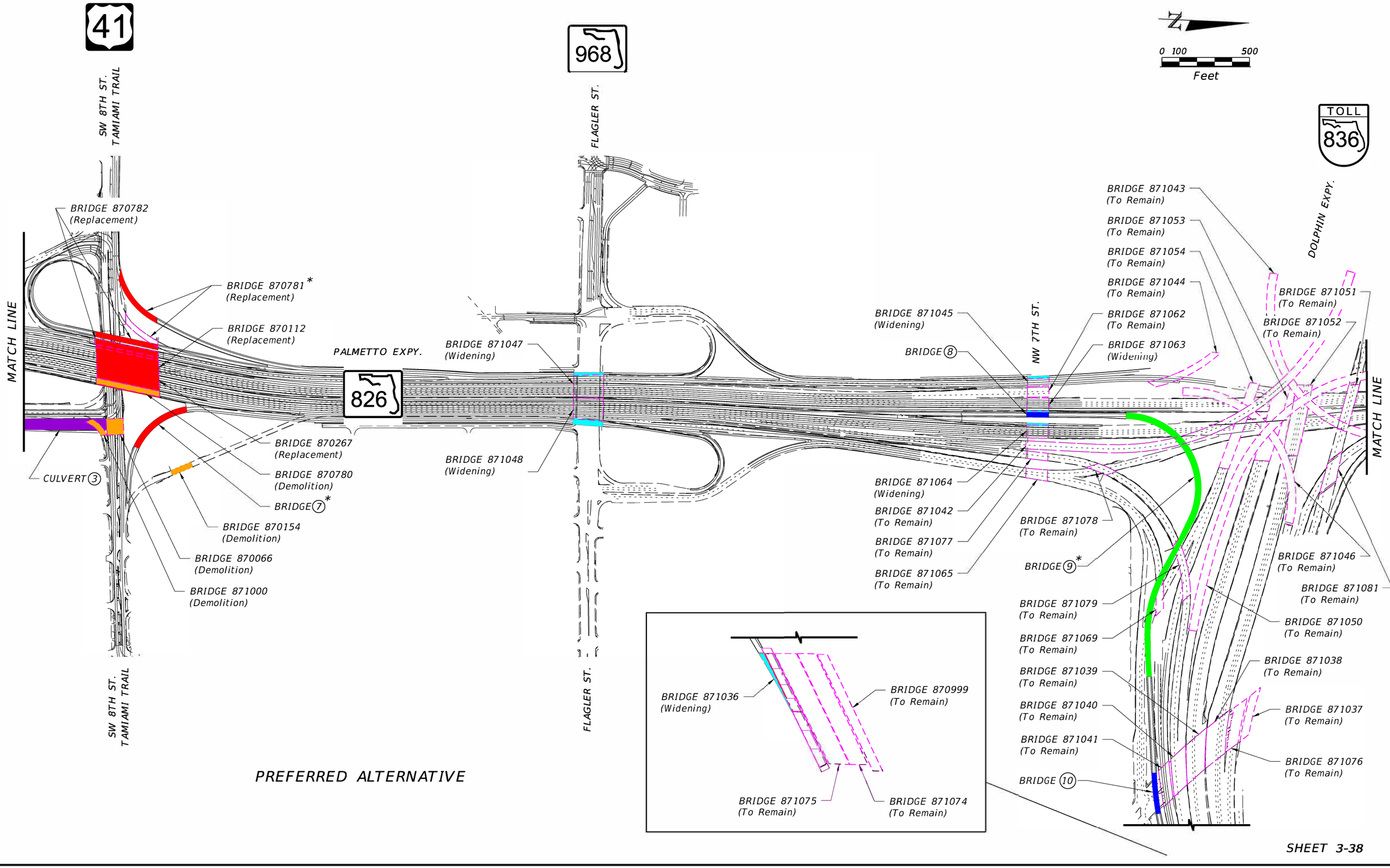
BRIDGE 870764
(Widening)

SW 24TH ST.
CORAL WAY

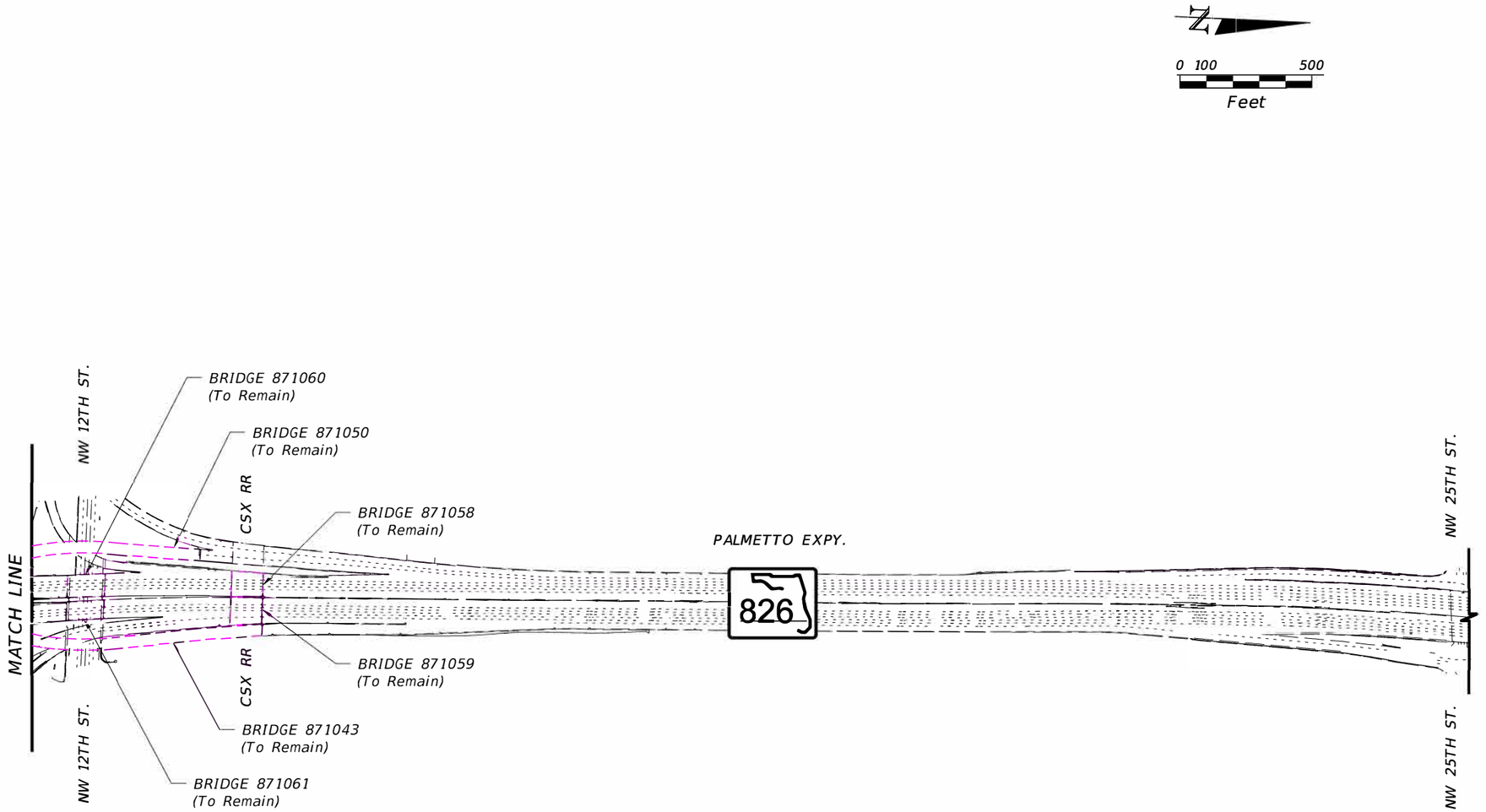
CULVERT (3)

MATCH LINE

PREFERRED ALTERNATIVE




PREFERRED ALTERNATIVE




PREFERRED ALTERNATIVE

**Table 3.4 - SR 826 from US-1/SR-5/S. Dixie Highway to SR-836 Dolphin Expressway – Proposed Bridge Charcteristics (Preferred Alternative)**

| Location | | | Geometrics | | Alignment | | Structural | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bridge No. | Bridge Location | Direction | Overall Bridge Length / Span Arrangement (ft) | Deck Width (ft) | Min. Vertical Clearance (ft) | Underneath Roadway Designation | #Spans | Max Span (ft) | Superstructure Type | Substructure Type | Bridge Category | Structure Type |
| **C-100A** | Culvert expansion at C-100A Canal (Widening) | EW | TBD | NA | NA | NA | NA | | NA | Concrete | 1 | Widening |
| **870129** | SR 826 SB over SW 98th St. SB | SB | 94.62'+110.359'+121.82'+158.746'+138.402'+126.108' =750.055' | 58.67' | 16.5' | SW 98th St. | 6 | 158.2' | Prestress Concrete, FIBs | Reinforced Concrete Column Piers | 1 | Replacement |
| **870792** | SR 826 NB from EB SW 88th St. to NB SR 826 | NB from EB to NB | 152'+214'+160.67'+160.67'+160.67'+127.58' = 975.58' | 29.67' Min / 33.67' Max | 16.5' | Palmetto SB & NB, SW 88th St. | 6 | 214' | Steel Plate Girder | Reinforced Concrete Column Piers | 2 | Replacement |
| **870773** | SR 826 NB & SB over SW 88th St. WB & EB | NB and SB | 92.5'+72.75'+54.25' = 219.5' | 142.67' | 16.5' | SW 88th St, | 3 | 92.5' | Prestress Concrete, FIBs | Reinforced Concrete Column Piers | 1 | Widening |
| **870793** | SR 826 SB off-ramp over SW 88th St. WB & EB | SB | 92.18'+78.82'+106.00' = 277' | 29.67' | 16.5' | SW 88th St, | 3 | 106' | Prestress Concrete, FIBs | Reinforced Concrete Column Piers | 1 | Replacement |
| **870953** | SW 88th St. WB - SR 826 NB over Dadeland Mall Access | NB | 114.89' | 42.67' | 16.5' | Dadeland Mall Access | 1 | 114.89' | Prestress Concrete, FIBs | Reinforced Concrete/Piles | 1 | Replacement |
| **870794** | SR 826 SB to SW 88th St. over Snapper Creek Canal | SB | 88' + 88' = 176.0' | 42.67' | NA | Snapper Creek Canal | 2 | 88' | Prestress Concrete, FIBs | Concrete Pile Bents | 1 | Replacement |
| **870286** | SR 826 NB/SB over Snapper Creek Canal | NB and SB | 44.33'+43.5'+44.16'+43.75' = 175.75' | 134.67' | NA | Snapper Creek Canal | 4 | 44.33' | Prestress Concrete, AASHTO Beams | Concrete Pile Bents | 1 | Widening |
| **870795** | WB SW 88th St. - SR 826 NB over Snapper Creek Canal | NB | 89.25'+89.30' = 178.55' | 29.67' | NA | Snapper Creek Canal | 2 | 89.3' | Prestress Concrete, FIBs | Concrete Pile Bents | 1 | Replacement |
| **870132** | SR 826 SB over SW 72nd St./Sunset Drive | SB | 162.5' | 144.67' | 16.5' | Sw 72nd St./Sunset Drive | 1 | 162.5' | Prestress Concrete, FIBs | Reinforced Concrete/Piles | 1 | Replacement |
| **870287** | SR 826 NB over SW 72nd St./ Sunset Drive | NB | 162.5' | | 16.5' | Sw 72nd St./Sunset Drive | 1 | 162.5' | Prestress Concrete, FIBs | Reinforced Concrete/Piles | 1 | Replacement |
| **871013** | SR 826 NB/SB over SW 56th St./Miller Drive | NB and SB | 159.72' | 156.67' | 16.5' | SW 56th St./Miller Drive | 1 | 159.72' | Prestress Concrete, FIBs | Reinforced Concrete/Piles | 1 | Widening |
| **871017** | SR 826 SB over SR 874 and CSX RR | SB | 202.5' + 213.34' + 239.33' =655.17' | 70.67' | 16.5' | SR 874 and CSX RR | 3 | 239.33' | Steel Plate Girder | Reinforced Concrete Column Piers | 2 | Widening |
| **871018** | SR 826 NB over CSX RR and SR 874 | NB | 194.68' + 142.5' = 337.18' | 70.67' | 16.5' | SCL RR and SR 874 | 2 | 194.68' | Steel Plate Girder | Reinforced Concrete Column Piers | 2 | Widening |
| **4** | SR 826 SB off-ramp over SR 826 | SB | 117' +195'+216' + 130' = 658' | 36.67' | 16.5' | SR 826 | 4 | 216' | Concrete Segmetal or Steel Box Girder | Reinforced Concrete Column Piers | 2 | New |
| **5** | SR 826 NB off-ramp over SR 976/Bird Rd./SW 40th St. and SR 826 | NB | 127.47' +193' + 193' + 182' + 205' + 205'+ 205' + 205' + 205' + 205' + 194.35' + 226'+ 135.5' = 2276.35' | 29.67' Min / 35.67' Max | 16.5' | SR 976/Bird Rd./SW 40th St. and SR 826 | 12 | 226' | Concrete Segmetal or Steel Box Girder | Reinforced Concrete Column Piers | 2 | New |
| **6** | SR 826 SB off-ramp over SR 976/Bird Rd./SW 40th St | SB | 179.39' | 29.67' | 16.5' | SR 976/Bird Rd./SW 40th St. | 1 | 179.39' | Prestress Concrete, FIBs | Reinforced Concrete/Piles | 1 | New |
| **871021** | SR 826 SB over SR 976/Bird Rd./SW 40th St. | SB | 160.5' | 104.67' | 16.5' | SR 676/Bird Rd./SW 40th St. | 1 | 160.5' | Prestress Concrete, FIBs | Reinforced Concrete/Piles | 1 | Widening |
| **871022** | SR 826 NB over SR 976/Bird Rd./SW 40th St. | NB | 160.67' | 132.67' | 16.5' | SR 676/Bird Rd./SW 40th St. | 1 | 160.67 | Prestress Concrete, FIBs | Reinforced Concrete/Piles | 1 | Widening |
| **879023** | Pedestrian Overpass over SR 826 | E/W | 160'+150' = 310' | 10.0' | 17.5' | SR 826 | 2 | 160 | Prestress Concrete, FIBs | Reinforced Concrete Column Piers | 1 | Replacement |
| **879010** | Pedestrian Overpass over SR 826 SB To/From SW 24th | E/W | 144' | 10.0' | 17.5' | SR 826 SB To/From SW 24th St. | 1 | 144' | Prestress Concrete, FIBs | Reinforced Concrete Column Piers | 1 | Replacement |

**Table 3.5 - SR 826 from US-1/SR-5/S. Dixie Highway to SR-836 Dolphin Expressway – Proposed Bridge Charcteristics (Preferred Alternative)**

| Location | | | Geometrics | | Alignment | | Structural | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bridge No. | Bridge Location | Direction | Overall Bridge Length / Span Arrangement (ft) | Deck Width (ft) | Min. Vertical Clearance (ft) | Underneath Roadway Designation | #Spans | Max Span (ft) | Superstructure Type | Substructure Type | Bridge Category | Structure Type |
| **CVRT-1** | Culvert by Coral Way Pedestrial Overpasss | NS | TBD | NA | NA | NA | NA | | NA | Concrete | 1 | New |
| **CVRT-2** | Culvert Along East Side of SR 826 & N. of Coral Way | NS | TBD | NA | NA | NA | NA | | NA | Concrete | 1 | New |
| **870760** | SR 826 SB over SW 24th St./Coral Way | SB | 75.33' + 74.71 = 150.13' | 280.67' | 16.5' | SR 972/SW 24th St. | 2 | 75.33' | Prestress Concrete, FIBs | Reinforced Concrete Column Piers | 1 | Widening |
| **870761** | SR 826 NB over SW 24th St./Coral Way | NB | 74.96' + 74.96' = 149.92' | | 16.5' | SR 972/SW 24th St. | 2 | 74.96' | Prestress Concrete, FIBs | Reinforced Concrete Column Piers | 1 | Widening |
| **870764** | SR 826 NB to SW 24th St./Coral Way over Coral Gables Canal | NB | 28.14'+39.35'+29.89' = 97.38' | 46.69' Min / 71.48' Max | 16.5' | Coral Gables Canal | 3 | 39.35' | Cast-in-place Concrete Slab | Reinforced Concrete/Piles | 1 | Widening |
| **870782** | SR 826 SB Exit Ramp to US 41 EB over US 41 | SB | 181.71'+181.58' = 363.28' | 29.67' | 16.5' | US 41/SR 90 | 2 | 187.35 | Prestress Concrete, FIBs | Reinforced Concrete Column Piers | 1 | Replacement |
| **870781** | SR 826 SB Exit Ramp to US 41 WB over Tamiami Canal | SB to WB | 45.66' +51.73' + 46.33'+ 47.7' + 48.56' + 49.11' + 51.61' = 340.71' | 29.67' | 6' NHW | Tamiami Canal | 7 | 51.73' | Flat Slab Concrete | Reinforced Concrete/Piles | 1 | Replacement |
| **870112** | SR 826 SB over US 41/SR90/SW 8th St. | SB | 181.7'+181.7' = 363.4' | 256.33' | 16.5' | US 41/SR 90/SW 8th St. | 2 | 181.7' | Prestress Concrete, FIBs | Reinforced Concrete Column Piers | 1 | Replacement |
| **870267** | SR 826 NB over US 41/SR90/SW 8th St. | NB | 181.7'+181.7' = 363.4' | | 16.5' | US 41/SR 90/SW 8th St. | 2 | 181.7' | Prestress Concrete, FIBs | Reinforced Concrete Column Piers | 1 | Replacement |
| **CVRT-3** | Culvert along East Side of SR 826 from SW 8th St South | NS | TBD | NA | NA | NA | NA | | NA | Concrete | 1 | New |
| **7** | US 41 WB TO SR 826 NB over Tamiami Canal | NB | 93' + 93' + 93' + 93' = 372' | 33.67 | 6' NHW | Tamiami Canal | 4 | 93' | Prestress Concrete, FIBs | Reinforced Concrete Column Piers | 1 | New |
| **871047** | SR 826 SB over SR 968/West Flagler St. | SB | 170.25' | 294.86' Min / 307.43' Max | 16.5' | SR 968/West Flager St. | 1 | 170.25' | Prestress Concrete, FIBs | Reinforced Concrete/Piles | 1 | Widening |
| **871048** | SR 826 NB over SR 968/West Flagler St. | NB | 170..58' | | 16.5' | SR 968/West Flager St. | 1 | 170..58' | Prestress Concrete, FIBs | Reinforced Concrete/Piles | 1 | Widening |
| **871045** | SB SR 826 CD over NW 7th St. | SB | 123.34' | 55.875' | 16.5' | NW 7th St. | 1 | 123.34' | Prestress Concrete, FIBs | Reinforced Concrete/Piles | 1 | Widening |
| **871063** | SR 826 SB over NW 7th St. | SB | 125' | 79.25' | 16.5' | NW 7th St. | 1 | 125' | Prestress Concrete, FIBs | Reinforced Concrete/Piles | 1 | Widening |
| **8** | SR 826 NB Managed Lanes over NW 7th St. | NB | 125' | 29.67' | 16.5' | NW 7th St. | 1 | 125' | Prestress Concrete, FIBs | Reinforced Concrete/Piles | 1 | New |
| **871064** | SR 826 NB over NW 7th St. | NB | 123.12 | 83.95' Min / 85.56' Max | 16.5' | NW 7th St. | 1 | 123.12 | Prestress Concrete, FIBs | Reinforced Concrete/Piles | 1 | Widening |
| **9** | Flyover SR 826 and SR 836 from SR 826 NB to SR 836 EB (3 Level) -- (Aesthetic Level 2) | NB | 162.77'+226'+230'+231'+240'+249.54'+249'+192'=1,780.31' | 29.67' Min / 35.67' Max | 16.5' | SR 836/SR 826 | 8 | 249.54' | Concrete Segmental or Steel Box Girder | Reinforced Concrete Column Piers | 2 | New |
| **10** | SR 836 EB on-ramp over NW 72nd Ave. | EB | 232.33' | 29.67' | 16.5' | NW 72nd Ave. | 1 | 232.33' | Steel Plate Girder | Reinforced Concrete/Piles | 2 | New |
| **871036** | SR 836 EB CD over CSX RR | EB | 101.2' + 102.4 + 88.9' + 89.2' = 381.7' | 52.75' Min / 77.1' Max | 16.5' | CSX RR | 4 | 102.4 | Prestress Concrete, FIBs | Reinforced Concrete Column Piers | 1 | Widening |

**Note: EB - Eastbound, WB - Westbound, NB - Northbound, SB - Southbound**

# 4.0 STRUCTURAL ANALYSIS

For the Preferred Alternative, there are forty-one (41) structures within the project limits; seven (7) new bridges, fourteen (14) bridge replacements, sixteen (16) bridge widenings, one (1) culvert widening and three (3) new bridge culverts. A replacement is a new bridge that is being built in the same footprint of the existing. A detailed description of each structure is presented below. Additionally, Bridge Concept Plans can be found in Appendix A.

## 4.1 BRIDGE 870129- SR 826 SB OVER SW 98TH ST

**Existing Condition**

Bridge 870129 carries SR-826 southbound traffic over SW 98th St and busway. The existing bridge is composed of ten spans, for a total bridge length of 704.2 ft. The overall width of the bridge is 36.1 ft, constant along the bridge. The bridge consists of two 12.5 ft traffic lanes and two (2) 4 ft shoulders. The 32" F-Shape Traffic Railing Barrier is used on both sides of the bridge. ***Figure 4.1*** illustrates the existing bridge.

**Figure 4.1 – Bridge 870129**

The existing superstructure is composed of simply supported AASHTO Type III Beams. The existing bridge substructure consists of typical end bents, hammerhead piers, and straddle bents (Piers 5 and 6). All pier columns are supported on isolated footings with 18" square prestressed concrete pile foundations. The end bents are made up of 3 ft by 3 ft cap and are similarly supported on 18" square prestressed concrete pile foundations. Both end bents use the concrete slope protection as the soil retaining system. There are no utilities being currently supported by the existing bridge. The existing minimum vertical clearance is 22.57 ft and occurs in Span 4 along Johnson Drive. The bridge was built in 1961 with a barrier retrofit performed in 1996.

**Proposed Condition**

Due to site constraints and conflicts with the ROW, the existing southbound bridge will be replaced with a new bridge as shown in the proposed typical section below, ***Figure 4.2***. It consists of three (3) 12 ft general purpose lanes, 10 ft shoulders on both sides and 1.33 ft standard traffic railing barriers, summing to a 58.67 ft wide bridge structure.

The superstructure for the proposed bridge will consist of Florida-I 72 Beams (FIB-72) with an 8½" thick concrete deck. The girders will be supported on composite neoprene bearing pads. The bridge will be built in phases, since the proposed bridge location overlaps the existing bridge location, due to the proximity of the right-of-way line.

The proposed new bridge will be supported on a combination of hammerhead piers and straddle bents, as needed at each support location. Post-tensioned concrete straddle bents will be required over the Busway Facility at Pier 4 & 5 locations. Minimum vertical clearance of 16.5 ft will be kept at the straddle bents.

The size of the proposed substructure elements (column and pier cap) at the intermediate piers will match the existing pier shapes. The existing end bents will be widened matching the proposed structure and supported on additional prestressed concrete piles. Proposed hammerhead and straddle piers at the intermediate pier locations will be supported on a pile type foundation.

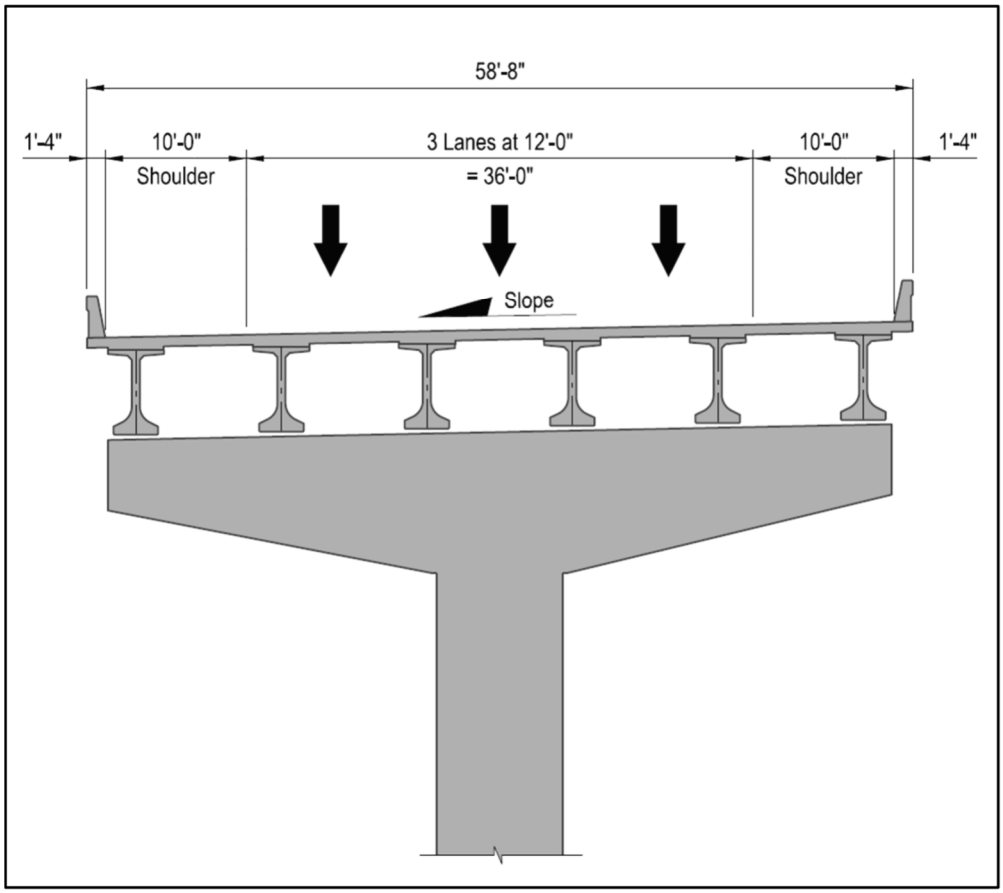



**Figure 4.2- Proposed Bridge Typical Section**

## 4.2 BRIDGE 870792 - SR 826 NB FROM EB SW 88TH ST. TO NB SR 826

**Existing Condition**

Bridge 870792 carries traffic from eastbound Kendall Drive to northbound SR-826. The existing ramp bridge consists of nine spans, 91.5 ft, 108.5 ft, 108.5 ft, 91.5 ft, 85.86 ft, 94 ft, 94 ft, 72.98 ft, and 54.43 ft, with a total bridge length of 801.27 ft. The overall bridge width is 31.7 ft constant along the bridge. The bridge structure was built in 1997.

The bridge consists of two traffic lanes that varies from 12 ft to 11 ft. The right shoulder is 6 ft wide and the left shoulder is 9 ft. Starting on Span 7, there is an acceleration lane with a maximum width of 11 ft. The 32" F-Shape Traffic Railing Barrier is used on both sides of the bridge.

The existing superstructure is composed of continuous steel plate girders. The existing bridge substructure consists of typical end bents and hammerhead piers. All pier columns are supported on footers using 18" square prestressed concrete pile foundations. The end bents are made up of 3 ft by 3 ft cap and are similarly supported on 18" square prestressed concrete pile foundations. The end bents use the concrete slope protection as the soil retaining system. There are no utilities being currently supported by the existing bridge. The existing minimum vertical clearance is 16.75 ft and occurs in Span 1 and SR-826 SB. ***Figure 4.3*** illustrates the existing bridge.

**Figure 4.3 – Bridge 870792**

**Proposed Condition**

Due to site constraints and conflict with the ROW, the existing bridge will be replaced. The proposed replacement ramp is a six-span single-lane bridge over SR 826, carrying traffic from eastbound N. Kendall Drive to northbound SR-826. The proposed structure will have an overall length of 976.36 ft. The structure will be on a curved alignment, with normal ends, carrying one (1) 15 ft lane with variable width inside shoulder, starting from 10 ft at begin bridge transitioning to 6 ft at end bridge. The outside shoulder will be 6 ft. This makes the bridge width variable, from 33.67 ft to 29.67 ft. The bridge super-elevation will transition from 2% to a maximum cross-slope of approximately 7%. The bridge superstructure is proposed as a

curved steel plate girder structure with a web depth of 6 ft, acting compositely with an 8.5" concrete deck. The minimum vertical clearance over SR 826 and SW 88th Street will be 16.5 ft. The bridge substructure will be made of reinforced concrete hammerhead piers founded on precast prestressed concrete piles. The bridge approaches considered MSE walls, similar to existing. The ***Figure 4.4*** shows the bridge typical section and the proposed intermediate pier section.

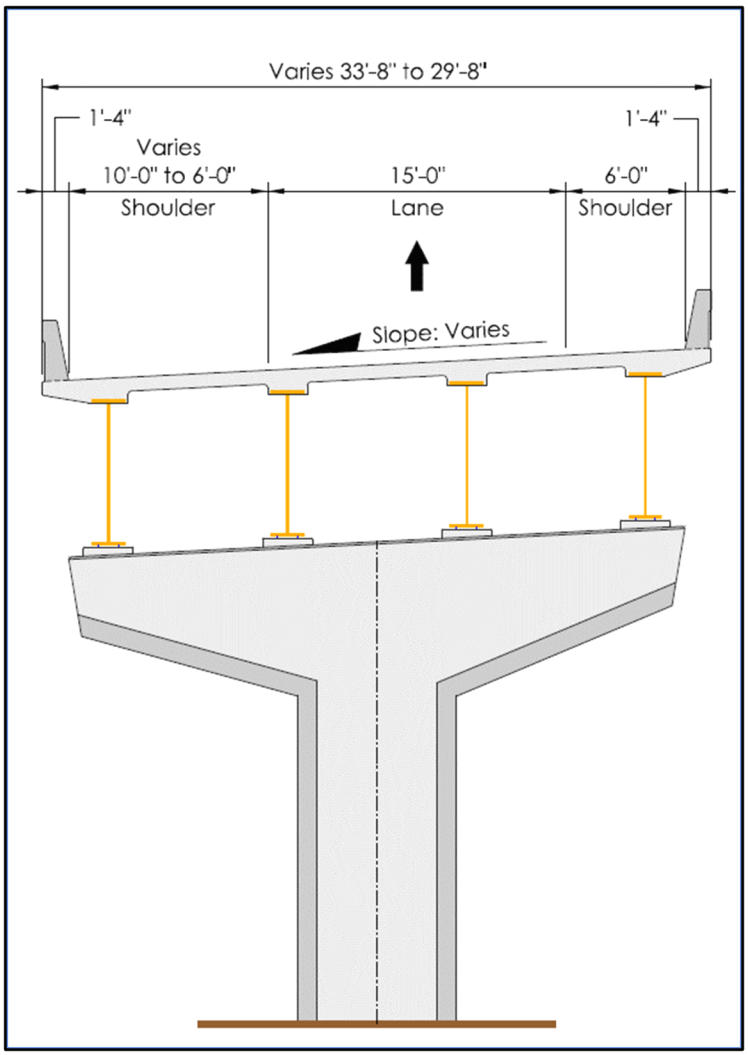



**Figure 4.4 – Proposed Typical Section**

Construction of this structure requires closing traffic on the ramp to demolish the existing bridge and build the new curved structure. Proposed piers are located strategically to avoid the location of the existing foundations. Traffic to the SW 88th Street EB to SR 826 NB ramp can be rerouted during construction of the new bridge to the intersection where traffic from SW 88th Street WB to SR 826 NB is

located- east of SR 826. This intersection will need to be temporarily reconfigured and properly signalized to accommodate traffic from both SW 88th Street WB and EB to the ramp towards SR 826 NB.

## 4.3 BRIDGE 870773 - SR 826 NB & SB OVER SW 88TH ST.

**Existing Condition**

Bridge 870773 carries SR-826 southbound and northbound traffic over SR-94 (North Kendall Dr.). The existing bridge consists of three spans, 92.5 ft, 72.75 ft and 54.25 ft, with a total bridge length of 219.5 ft. The overall width of the bridge is 94.1 ft. uniformly along the bridge.

The bridge carries two-way traffic separated by two modified traffic railing barriers (1.33 ft width each) with an opaque visual barrier mounted on the south bound direction barrier and a 1" joint between structures. Each side of the existing roadway section consists of two (2) 12 ft traffic lanes, 10.13 ft inside shoulder and a 10 ft outside shoulder. The 32" F-Shape Traffic Railing Barrier is used on both sides of the bridge. A median as described above separates northbound and southbound traffic. The existing minimum vertical clearance is 16.83 ft and occurs in Span 1, along eastbound N. Kendall Drive. The bridge was built in 1997 with no subsequent widenings. ***Figure 4.5*** illustrates the existing bridge.

**Figure 4.5 - Bridge 870773**

The existing superstructure is composed of AASHTO Type IV Beams in spans 1 & 2, and AASHTO Type IV Beams (exterior) and AASHTO Type II Beams (interior) in Span 3. The existing bridge substructure consists of typical end bents and multi-column framed piers, each consisting of three columns. All pier columns are 5 ft by 3 ft and are supported on isolated footings with 18" square prestressed concrete pile foundations. The end bents are made up of 3 ft by 3 ft cap and are similarly supported on 18" square prestressed concrete pile foundations. Both end bents use the wrap-around MSE retaining wall system. There are no utilities being currently supported by the existing bridge.

**Proposed Condition**

The existing mainline bridges will be widened as shown in the proposed typical section below (***Figure 4.6***). The northbound bridge accommodates a 10 ft outside shoulder, three (3) 12 ft general purpose lanes, and a 22.625 ft interior shoulder. The southbound bridge structure accommodates a 10 ft outside shoulder, three (3) 12 ft general purpose lanes, and a 22.625 ft interior shoulder. The bridge is bordered with standard 1.33 ft wide traffic railing barriers and each direction of traffic is separated by two (2) existing 1.33 ft wide traffic barriers and a 1" joint between bridge structures. The total bridge width sums to 142.67 ft.

The superstructure options for the proposed widening are limited to Florida I-Beams (FIB) per Structures Design Guidelines (SDG) requirements. The proposed widening anticipates multi-lines of FIB-36 girders. The bridge will be built in phases since the proposed bridge location overlaps the adjacent existing bridges No. 870793 and 870792. Such bridge structures must be removed and re-built at a new location prior to the widening of the bridge.

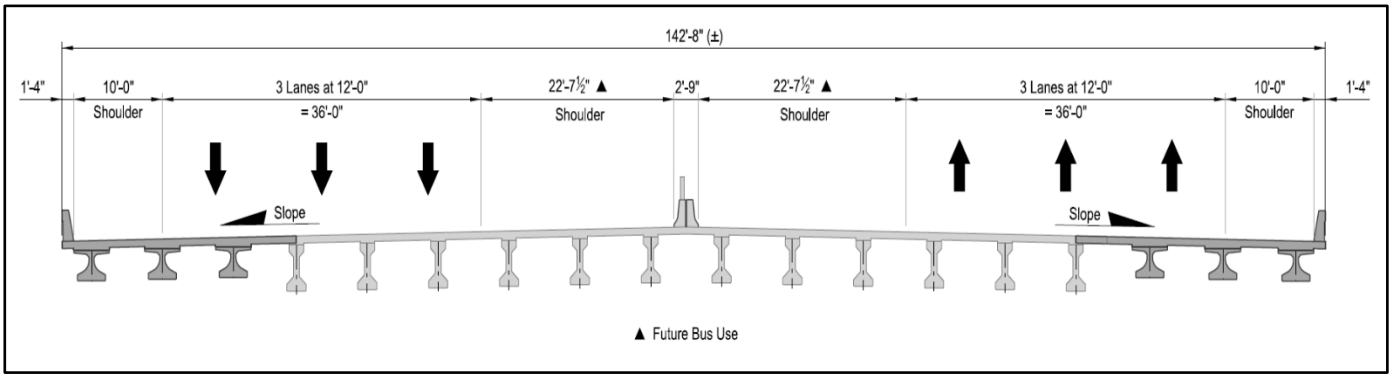



**Figure 4.6 – Proposed Typical Section**

The proposed bridge would be supported on hammerhead piers matching the shape of the existing substructure. The widened structure will meet the 16.5 ft minimum vertical clearance criteria.

The proposed substructure elements (column and pier cap) at the intermediate piers will match the existing structure shape and size. The existing end bents will be widened matching the existing and supported on additional prestressed concrete piles for both the northbound and southbound structures. An independent hammerhead style pier is proposed at the intermediate pier locations on both sides of the bridge and will be supported on a piled foundation. The new columns will require design for Vehicle Collision Forces in accordance with the AASHTO LRFD Design Specifications.

## 4.4 BRIDGE 870793 – SR 826 SB OFF-RAMP OVER SW 88TH ST.

**Existing Condition**

Bridge 870793 carries SR-826 southbound exit ramp traffic over SR-94 (N. Kendall Dr.). The existing bridge consists of three spans: 92.5 ft, 72.75 ft, and 108.25 ft, with a total bridge length of 273.5 ft. The overall width of the bridge is 30.1 ft uniformly along the bridge.

The bridge ramp carries one (1) 15'-0" traffic lane with 6'-0" shoulders. The 32" F-Shape Traffic Railing Barrier is used on both sides of the bridge. The existing minimum vertical clearance is 16.52 ft and occurs in Span 2, along westbound N. Kendal Drive. The bridge was built in 1997 with no subsequent widenings.

The existing superstructure is composed of AASHTO Type IV Beams composite with an 8" concrete deck slab. The existing bridge substructure consists of typical concrete end bents and hammerhead piers. All pier columns are 5 ft by 3 ft and are supported on isolated footings with 18" square prestressed concrete pile foundations. The end bents are made up of 3 ft by 3 ft cap and are similarly supported on 18" square prestressed concrete piles. Both end bents use the wrap around MSE retaining wall system. There are no utilities being currently supported by the existing bridge. ***Figure 4.7*** illustrates the existing bridge.

**Figure 4.7 – Bridge 870793**

**Proposed Condition**

The existing ramp bridge, Bridge No. 870793, conflicts with the widening of the mainline Bridge No. 870773, thus necessitating the relocation of its alignment. The new location of the ramp bridge would follow an alignment parallel to the existing ramp bridge alignment. The proposed ramp bridge would accommodate one (1) 15 ft lane with 6 ft outside and inside shoulders, for a total bridge width of 29.67 ft. The ramp bridge will be bordered with standard 1.33 ft wide traffic railing barriers. The superstructure will consist of Florida-I 45 Beams (FIB-45) with an 8½" concrete deck supported on composite elastomeric bearing pads.

The proposed bridge will be supported on hammerhead piers that will align with the existing bridge pier at one location while the other pier location will be placed north of the existing pier to reduce the maximum span length of the new bridge. The proposed substructure elements (column and pier cap) at the intermediate piers will match the existing piers shape and size. The proposed end bent at begin bridge will be aligned with the existing end bent and will be supported on existing and new piles. A new end bent on piles is proposed at end bridge. Proposed hammerhead piers at the intermediate pier locations will be supported on a pile type foundation. ***Figure 4.8*** depicts the bridge typical section at an intermediate column pier.

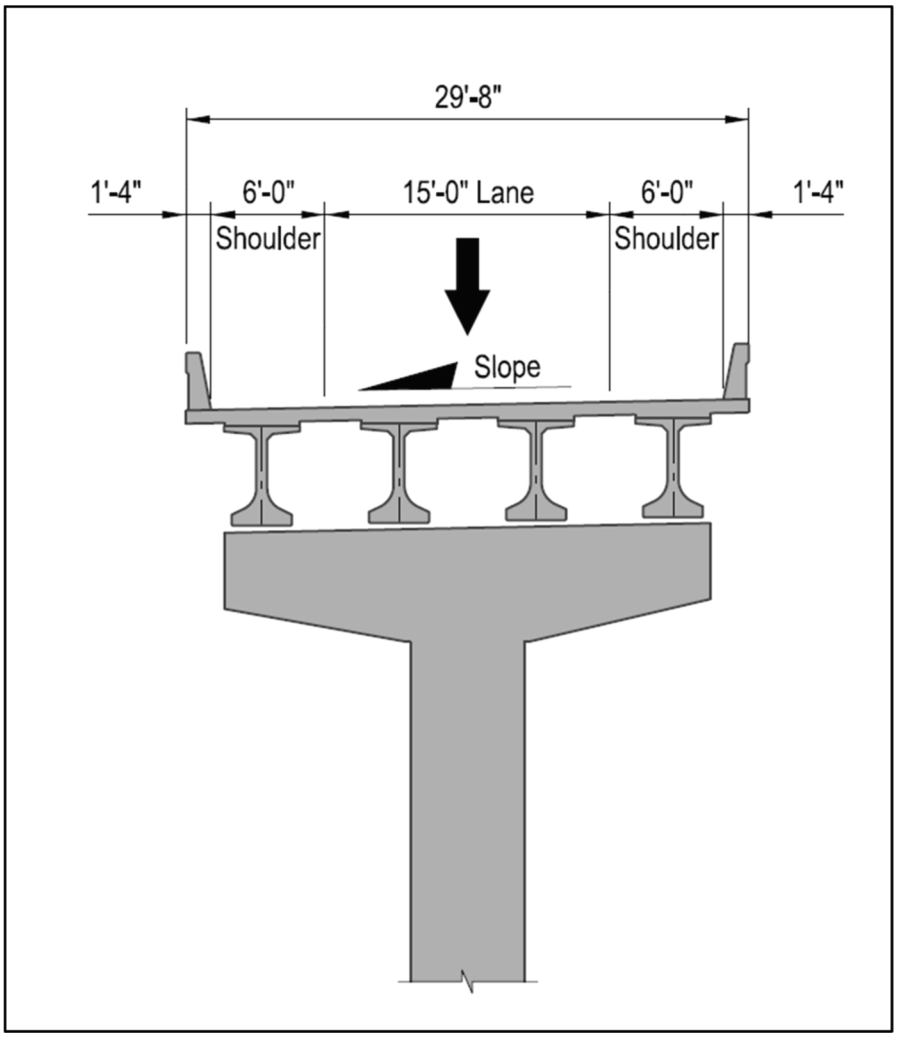



**Figure 4.8 – Proposed Typical Section**

## 4.5 BRIDGE 870953 – SW 88TH ST. WB – SR 826 NB OVER DADELAND MALL ACCESS

**Existing Condition**

Bridge 870953 is a Kendall Drive westbound to SR-826 northbound Ramp that crosses the Dadeland Mall Access Road. The existing bridge consists of a single span, 104.61 ft in length. The overall width of the bridge is 30.1 ft uniformly along the bridge. The existing minimum vertical clearance is 16.71 ft. The bridge was built in 1998 with no subsequent widenings. The bridge carries northbound traffic and consists of a single 15 ft traffic lane and two (2) 6 ft shoulders. The 32" F-Shape Traffic Railing Barrier is used on both sides of the bridge.

The existing superstructure is composed of AASHTO Type IV Beams. The existing bridge substructure consists of typical end bents which are made up of 3 ft by 3 ft cap and are supported on 18" square prestressed concrete piles. Both end bents use the wrap around MSE retaining wall system. There are no utilities being currently supported by the existing bridge. ***Figure 4.9*** illustrates the existing bridge.

**Figure 4.9 – Bridge 870953**

**Proposed Concept**

Proposed realignment is shifting the existing SR 826 NB on-ramp towards the east. The existing bridge over Dadeland Mall access road will be replaced by a new ramp bridge to accommodate proposed traffic. The new ramp bridge will accommodate two (2) lanes of traffic with a lane width of 12 ft, a 6 ft inside shoulder and a 10 ft outside shoulder. The total bridge deck width will be 42.67 ft. The outside traffic railing barriers would consist of 1.33 ft wide, single-slope standard FDOT barriers. (See ***Figure 4.10***)

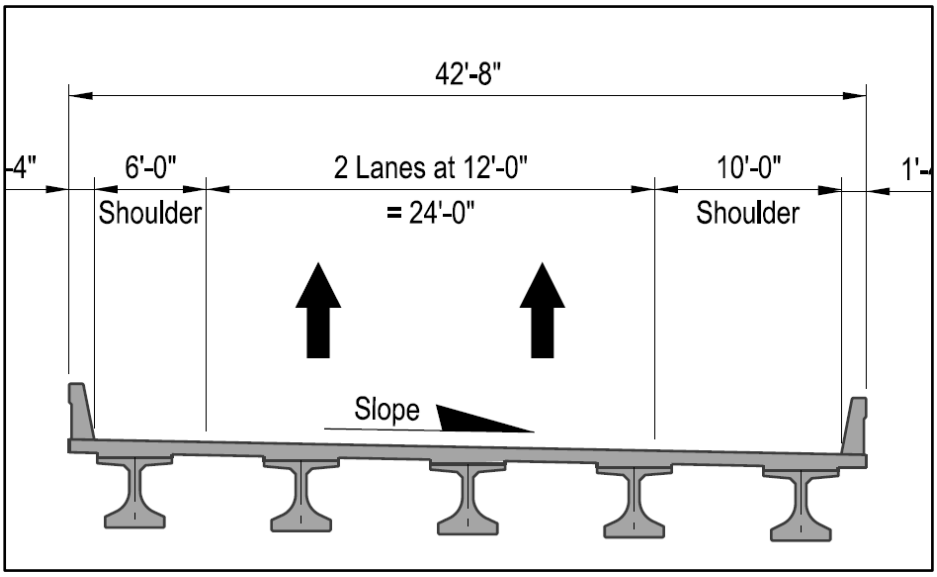



**Figure 4.10 – Proposed Typical Section**

The superstructure will consist of an 8½" thick concrete deck over Florida-I 45 Beams (FIB-45). The bridge will be built in phases since the proposed bridge location overlaps the existing bridge location. The end bents will be supported on piles and will be aligned with the existing bridge ends. Both end bents use the wrap around MSE wall system.

## 4.6 Bridge 874257 - SW 77th Ave. NB and SB over Snapper Creek Canal

### Existing Condition

Bridge 874257 carries NB and SB traffic from SW 77th Avenue and is crossing over the Snapper Creek Canal. The existing bridge consists of three spans, 34.1 ft each, for a total bridge length of 102.2 ft. The overall bridge width is 36.7 ft uniformly along the bridge structure. Bridge was built in 1965 with no subsequent widenings. The bridge carries traffic from SW 77th Ave. and consists of two (2) 15 ft traffic lanes with 1.75 ft and 3 ft shoulders. Vertical Face Barrier with metal rail is used on both sides of the bridge.

The existing superstructure is composed of hollow core slabs in all spans. The existing bridge substructure consists of pile bents. All bents are supported on 18" square prestressed concrete piles. Both bridge ends have Sand Cement Rip-Rap in front of the end bents as soil slope protection. There is an abandon utility conduit attached to the bridge structure. ***Figure 4.11*** illustrates the existing bridge.

**Figure 4.11 – Bridge 874257**

**Proposed Concept**

This bridge is not part of the preferred alternative.

## 4.7 BRIDGE 870794 - SR 826 SB TO SW 88TH ST. OVER SNAPPER CREEK CANAL

**Existing Condition**

Bridge 870794 is located along a ramp which carries traffic from southbound SR-826 to North Kendall Drive. It also serves as a crossing over the Snapper Creek Canal. The existing bridge consists of four spans, 44 ft each, for a total bridge length of 176 ft. The overall width of the bridge is 43.1 ft uniformly along the bridge. The existing minimum vertical clearance is 5.5 ft and occurs in Span 2, above Normal High Water (N.H.W.). Bridge was built in 1997 with no subsequent widenings. The bridge carries southbound SR-826 exit ramp traffic and consists of two (2) 12 ft traffic lanes with 6 ft and 10 ft shoulders. The 32" F-Shape Traffic Railing Barrier is used on both sides of the bridge.

The existing superstructure is composed of AASHTO Type II Beams in all spans. The existing bridge substructure consists of typical end bents and pile bents. All intermediate bent caps are 3 ft wide by 2.5 ft deep while the end bent caps are 3 ft wide by 3 ft deep and are supported on 18" square prestressed concrete piles. Both bridge ends have a retaining wall along the west side and Sand Cement Rip-Rap in front of the end bents as soil slope protection. There are no utility conduits attached to the bridge structure. ***Figure 4.12*** illustrates the existing bridge.

**Figure 4.12 – Bridge 870794**

**Proposed Concept**

As described in the previous section, the new location of the bridge will be parallel to the existing bridge alignment. The proposed bridge would accommodate two (2) 12 ft lanes with a 6 ft inside shoulder and a 10 ft outside shoulder with 1.33 ft wide single slope traffic railing barrier on both sides of the bridge, adding up to a 42.67 ft wide bridge structure. (See ***Figure 4.13***)

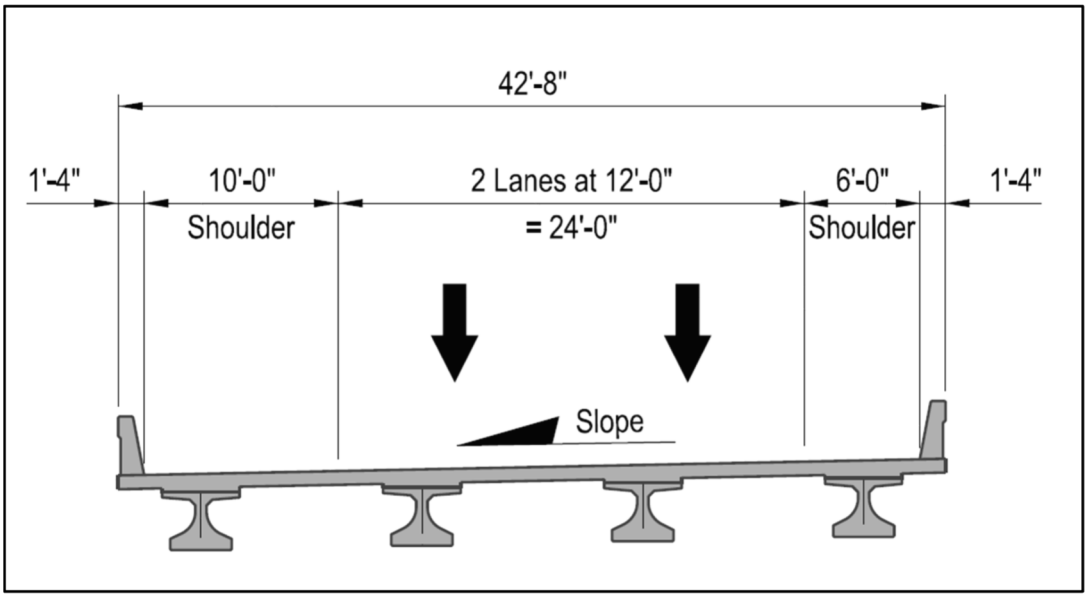



**Figure 4.13 – Proposed Typical Section**

The proposed bridge has two (2) 88 ft spans, for a total length of 176 ft. The proposed bridge will be supported on an intermediate pile bent that align with the existing pile bent location. The superstructure will consist of an 8½" thick concrete deck over Florida-I 36 Beams (FIB-36) supported on composite elastomeric bearing pads.

Pile bent and end bents will match the existing bents in type and size, as well as their orientation to maintain the current flow of water within the canal. The proposed new pile bent will also need to be coordinated with the bridge hydraulic report for scour effects as well as the pile bent dimensions.

## 4.8 Bridge 870286 - SR 826 NB/SB over Snapper Creek Canal

### Existing Condition

Bridge 870286 carries SR-826 northbound and southbound traffic over Snapper Creek Canal. The existing bridge consists of four spans, 44.24 ft, 43.85 ft, 44.27 ft and 43.69 ft, with a total bridge length of 176.05 ft. The overall width of the bridge is 106.08 ft uniformly along the bridge. The existing minimum vertical clearance is 5.5 ft and occurs in Span 3, above Normal High Water (N.H.W.). The bridge was built in 1961 and a widening designed in 1995. This structure was originally built as two separate bridges: Bridge 870131 (SB) and 870286 (NB).

The bridge carries two-way traffic separated by two modified traffic railing barriers (1.33 ft width each) with an opaque visual barrier mounted on the south bound direction barrier and a 1" open joint between structures. The northbound structure carries three (3) 12 ft traffic lanes, a 10.13 ft inside shoulder and a 10 ft outside shoulder. The southbound bridge carries two (2) 12 ft traffic lanes, a 10.13 ft inside shoulder and a 10 ft outside shoulder. The 32" F-Shape Traffic Railing Barrier is used on both sides of the bridge. A median as described above separates northbound and southbound traffic.

The existing superstructure is composed of AASHTO Type II Beams in all spans. The existing bridge substructure consists of typical end bents and pile bents. All pile bents consist of a 3.5 ft by 3.5 ft pile cap and are supported on 18" square prestressed concrete piles. The end bents are made up of 3 ft wide by 3.5 ft deep

cap and are similarly supported on 18" square prestressed concrete piles. Both end bents use Sand Cement Rip Rap as the soil slope protection. There are no utilities being currently supported by the existing bridge. ***Figure 4.14*** illustrates the existing bridge.

**Figure 4.14 – Bridge 870286**

**Proposed Concept**

The existing mainline bridge will be widened as shown in the proposed typical section below. The northbound bridge accommodates a 12 ft outside shoulder, four (4) 12 ft general purpose lanes, and 11. 5 ft inside shoulder. The southbound bridge structure accommodates a 10 ft outside shoulder, three (3) 12 ft general purpose lanes, and an 11.75 ft interior shoulder. The bridge is bordered with standard 1.33 ft wide traffic railing barriers and each direction of traffic is separated by two (2) traffic barriers and a 1" joint between bridge structures. The total proposed bridge width sums to 134.67 ft. (See ***Figure 4.15***) It is noted that the load rating analysis of this bridge, as shown in Chart 2 of Chapter 7, demonstrates that widening of this structure is feasible.

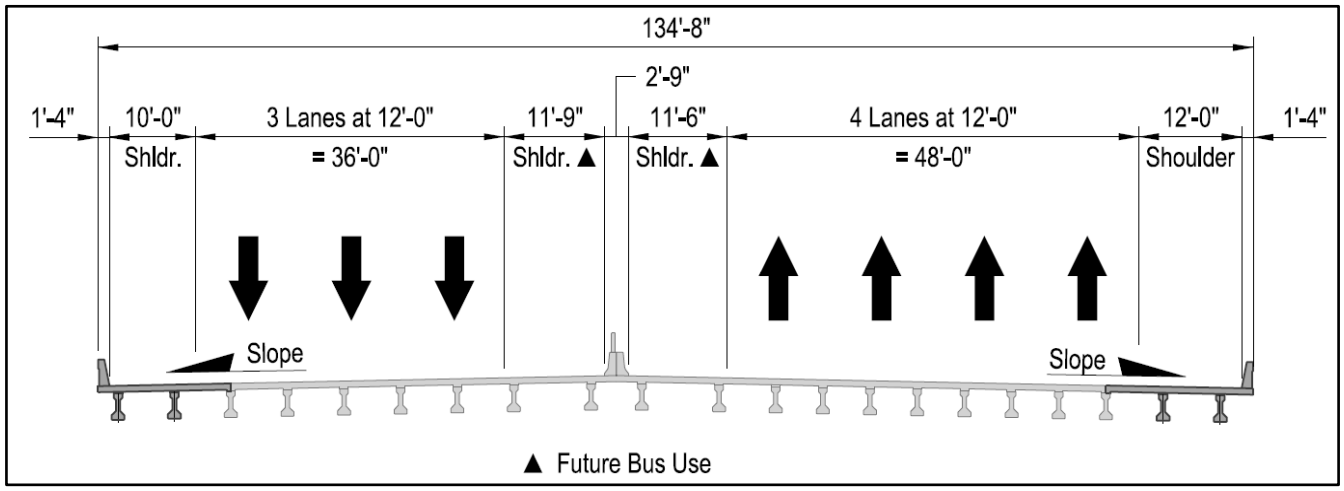



**Figure 4.15 – Proposed Bridge Typical Section**

The superstructure for the proposed widening will require multiple lines of modified AASHTO Type II Concrete girders, to maintain the existing minimum vertical clearance over the Snapper Creek Canal. The bridge will be built in phases since the proposed bridge location overlaps the adjacent existing Bridge No. 870794 and 870795. These bridge structures must be removed prior to the widening of the bridge.

The proposed bridge would be supported on pile bents, to match the existing substructure type and alignment. The widened structure will meet the existing minimum vertical clearance criteria. Pile bents and end bents will match the existing bents in type and size, as well as their orientation to maintain the current

flow of water within the canal. The proposed new pile bents will also need to be coordinated with the bridge hydraulic report for scour effects as well as the pile bent dimensions.

## 4.9 Bridge 870795 - WB SW 88th St. – SR 826 NB over Snapper Creek Canal

**Existing Condition**

Bridge 870795 is located along a ramp which carries traffic from westbound Kendall to northbound SR-826. It also serves as a crossing over the Snapper Creek Canal. The existing bridge consists of four spans, 44 ft each, for a total bridge length of 176 ft. The overall width of the bridge is 30.1 ft uniformly along the bridge. The existing minimum vertical clearance is 4.92 ft and occurs in Span 4, above Design High Water (D.H.W.). The bridge was built in 1997 with no subsequent widenings. The bridge carries northbound traffic and consists of a single 15 ft traffic lane and two (2) 6 ft shoulders. The 32" F-Shape Traffic Railing Barrier is used on both sides of the bridge.

The existing superstructure is composed of AASHTO Type II Beams in all spans. The existing bridge substructure consists of typical end bents and pile bents. All pile bents and end bents consist of a 3 ft wide by 2.5 ft deep pile cap and are supported on 18" square prestressed concrete piles. The south end bent uses a wrap-around MSE wall system and Sand Cement Rip Rap as the soil slope protection, while the north end bent uses a MSE wall on the east side and Sand

**Figure 4.16 – Bridge 870795**

Cement Rip Rap in front of the end bent cap. There is a 4" fiberglass conduit attached to the east side barrier. ***Figure 4.16*** illustrates the existing bridge.

**Proposed Concept**

Bridge No. 870795 will be removed and replaced since it conflicts with the widening of the mainline Bridge No. 870286. The new bridge will accommodate the proposed realignment which is shifting the SR 826 NB on-ramp traffic towards the east. The existing bridge will be replaced with a new bridge for which a proposed typical section is shown below. The proposed bridge would accommodate a 15 ft lane with 6 ft shoulders and 1.33 ft single-slope traffic railing barriers on both sides of the bridge summing to a 29.67 ft wide bridge structure.

The proposed bridge has two spans, 86.7 ft and 92.97 ft in length, for a total bridge length of 179.67 ft. The proposed bridge will be supported on an intermediate pile bent that aligns with the existing pile bent location. (See ***Figure 4.17***)

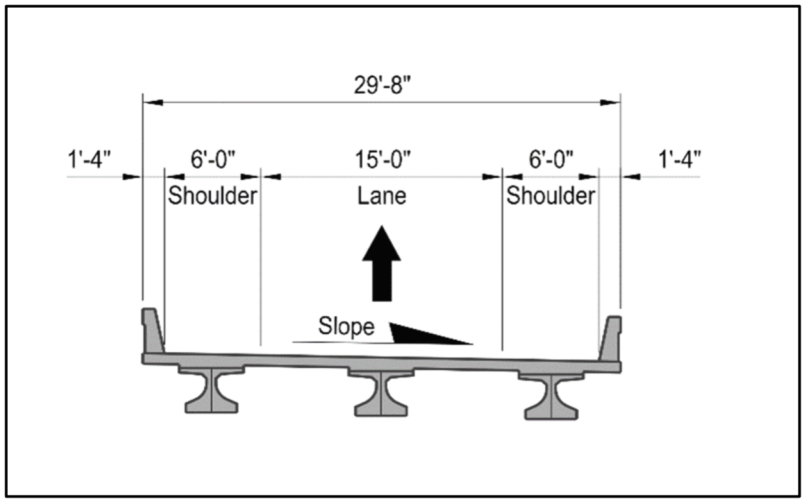



**Figure 4.17 – Proposed Typical Section**

The superstructure will consist of an 8½" thick concrete deck over Florida-I 36 Beams (FIB-36) supported on composite elastomeric bearing pads. Pile bent and end bents will match the orientation of the existing bents to maintain the current flow of water within the canal. The proposed new pile bent will also need to be coordinated with the bridge hydraulic report for scour effects as well as the pile bent dimensions. The new bridge will line up the new piles with the existing piles, which are currently at a 15 degrees skew angle.

## 4.10 BRIDGE 870132 & 870287- SR 826 SB/NB OVER SW 72ND ST./SUNSET DRIVE

**Existing Condition**

Bridge 870132 carries SR-826 southbound traffic over SW 72nd St. (Sunset Dr.) and is a parallel structure to Bridge 870287. The existing bridge consists of three spans, 38.5 ft, 90 ft and 38.5 ft, with a total bridge length of 167 ft. The overall width of the bridge is 59 ft uniformly along the bridge. The existing minimum vertical clearance is 15.21 ft and occurs in Span 2, along Sunset Drive. The bridge was originally built in 1961 with a widening constructed in 1997.

Existing roadway section consists of three (3) 12 ft traffic lanes, 10.13 ft inside shoulder and 10 ft outside shoulder. The 32" F-Shape Traffic Railing Barrier is used on the west side of bridge, and a modified 1.33 ft Traffic Railing Barrier on the east side of bridge.

The existing superstructure is composed of AASHTO Type II, AASHTO Type IV, and Modified AASHTO Type IV (4.17 ft depth) beams. The existing bridge substructure consists of typical end bents and multi-column framed piers, with an additional single column pier for inside and outside widenings. All pier columns are rectangular in cross section with a variable width and depth and are supported on isolated footings with 18" square prestressed concrete piles. The end bents are made up of 3 ft by 3 ft cap and are similarly supported on 18" square prestressed concrete piles. Both end bents use the concrete slope pavement as slope protection. There are no utilities being currently supported by the existing bridge. ***Figure 4.18*** illustrates the existing bridge.

**Figure 4.18 – Bridge 870132**

Bridge 870287 carries SR-826 northbound traffic over SW 72nd St. (Sunset Dr.) and is a parallel structure to Bridge 870132. The existing bridge consists of three spans, 38.5 ft, 90 ft and 38.5 ft, with a total bridge length of 167 ft. The overall width of the bridge is 59 ft uniformly along the bridge. The existing minimum vertical clearance is 15.21 ft and occurs in Span 2, along eastbound Sunset Drive. This is below the minimum of 16 ft required by the Federal Highway Administration (FHWA). The bridge was originally built in 1961 with a widening constructed in 1997.

Existing roadway section consists of three (3) 12 ft traffic lanes, 10.13 ft inside shoulder and 10 ft outside shoulder. The 32" F-Shape Traffic Railing Barrier is used on the east side of bridge, and a modified 1.33 ft Traffic Railing Barrier on the west side of bridge.

The existing superstructure is composed of AASHTO Type II, AASHTO Type IV, and Modified AASHTO Type IV (4.17 ft depth) beams. The existing bridge substructure consists of typical end bents and multi-column framed piers, with an additional single column pier for inside and outside widenings. All pier columns are rectangular in cross section with a variable width and depth and are supported on isolated footings with 18" square prestressed concrete piles. The end bents are made up of 3 ft by 3 ft cap and are similarly supported on 18" square prestressed concrete piles. Both end bents use the concrete slope pavement as slope protection. There are no utilities being currently supported by the existing bridge. ***Figure 4.19*** illustrates the existing bridge.

Figure 4.19 - 870287

**Proposed Concept**

Due to the conflict incurred by the widening of the arterial roadway below, the end bents of Bridges 870132 and 870287 need to be shifted to accommodate the new geometry. Therefore, the bridges will be replaced with a new bridge as shown in the figure below. In the southbound direction, the proposed bridge will accommodate a 10 ft outside shoulder, four (4) 12 ft lanes, and a 13.16 ft inside shoulder. In the northbound direction, the bridge accommodates a 10 ft outside shoulder, four (4) 12 ft lanes, and a 10 ft inside shoulder. Each direction of traffic is separated by a 2 ft median barrier and bordered along the exterior side of the bridge with 1.33 ft standard single slope barriers. The total bridge width will be 144.67 ft. (See ***Figure 4.20***)

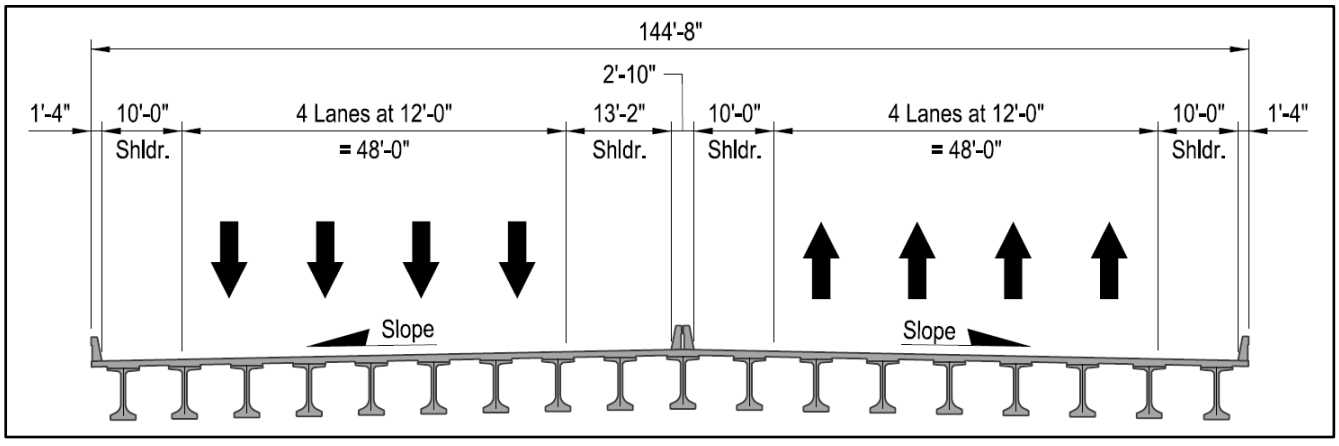



Figure 4.20 - Proposed Bridge Typical Section

The new bridge will need to be built in phases to maintain traffic during construction. The new single span bridge will be 162.5 ft long, located ahead of

the existing bridge structure. The superstructure will consist of a concrete deck on multiple lines of Florida-I 78 Beams (FIB-78) bearing on composite elastomeric bearing pads. The substructure will consist of concrete end bents supported on precast, prestressed concrete piles.

## 4.11 Bridge 871013 - SR 826 NB/SB over SW 56th St./Miller Drive

### Existing Condition

Bridge 871013 carries SR-826 southbound and northbound traffic over SW 56h St. (Miller Dr.). The existing bridge consists of a single span with a length of 159.75 ft. The overall width of the bridge is 127.15 ft uniformly along the bridge. The existing minimum vertical clearance is 17.17 ft and occurs along baseline survey of Miller Drive. The bridge was built in 2011 with no subsequent widenings.

The bridge carries two-way traffic separated by a 2 ft median barrier. The northbound side consists of three (3) 11.81 ft lanes with two (2) 9.84 ft shoulders. The southbound side consists of four (4) 11.81 ft lanes with two (2) 9.84 ft shoulders. The 32" F-Shape Traffic Railing Barrier is used on both sides of the bridge.

The existing superstructure is composed of Florida-I 78 Beams. The existing bridge substructure consists of typical end bents which are made up of 4.5 ft wide by 3 ft deep cap and are supported on 24" square prestressed concrete piles. Both end bents use the wrap around MSE retaining wall system. There are no utilities being currently supported by the existing bridge. ***Figure 4.21*** illustrates the existing bridge.

**Figure 4.21 – Bridge 871013**

**Proposed Concept**

The proposed improvements require the widening of this bridge. Because the load rating analysis of this bridge shows adequate ratings (Chart 3 of Chapter 7), widening is feasible. As shown in the proposed typical section below, the final condition for the southbound traffic on the bridge structure consists of a 10 ft wide outside shoulder, five (5) 12 ft general purpose lanes, and an inside shoulder of 12 ft. The proposed improvements on the southbound side will require a bridge widening on the west side of the structure that varies from 14.8 ft at begin bridge to 15.1 ft at end bridge.

The proposed concept for the northbound traffic on the bridge consists of a 10 ft wide outside shoulder, four (4) 12 ft general purpose lanes and a 12 ft wide inside shoulder. The proposed improvements to northbound traffic will require a bridge widening on the east side of 14.6 ft. Each direction of traffic is separated by a 2 ft median barrier and bordered along the exterior side of the bridge with 1.33 ft standard single slope traffic barriers. The proposed overall bridge width is 156.67 ft. (See ***Figure 4.22***)

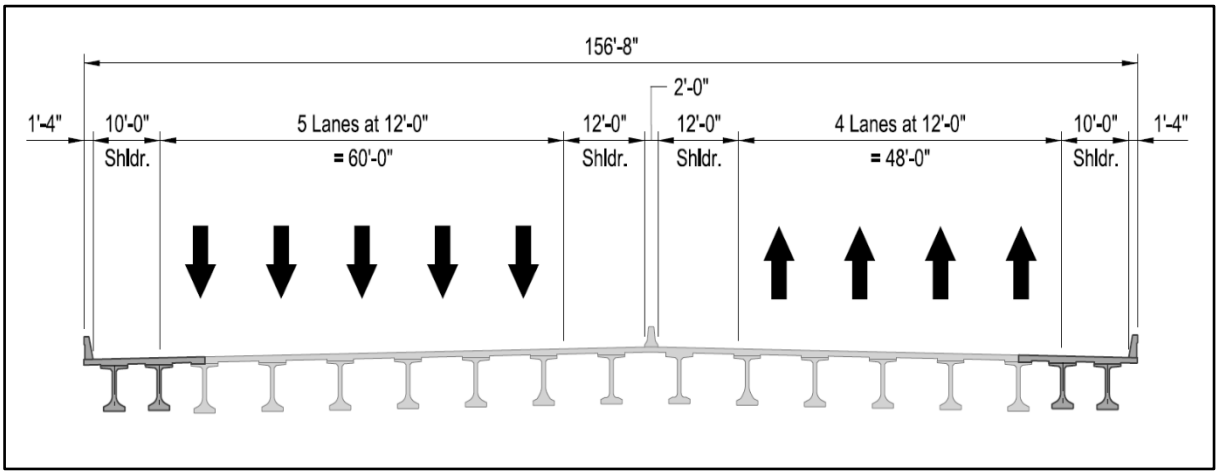



**Figure 4.22 – Proposed Typical Section**

The superstructure options for the proposed widening are limited to FIB beams, matching the existing structure. The superstructure will consist of a concrete deck on multiple lines of Florida-I 72 Beams (FIB-72) bearing on composite elastomeric bearing pads. The existing minimum vertical clearance will be maintained. The existing end bents will be widened on both sides, matching existing, and will be

supported on additional prestressed concrete piles. Existing MSE wall will be widened on both sides, wrapping around the proposed end bents widening.

## 4.12 BRIDGE 871017 - SR 826 SB OVER SR 874 AND CSX RR

**Existing Condition**

Bridge 871017 carries SR-826 southbound traffic over SR-874 and CSX Railroad. The existing bridge consists of three spans, 203.31 ft, 267 ft and 245.77 ft, with a total bridge length of 716.07 ft. The overall width of the bridge is 58.13 ft uniformly along the bridge. The existing minimum vertical clearance is 16.5 ft and occurs in Span 2, along northbound SR 874. The minimum vertical clearance over CSX Railroad is 23.75 ft occurring in Span 1. The bridge was built in 2011 with no subsequent widenings. Existing roadway section consists of three (3) 11.81 ft lanes and two (2) 9.84 ft shoulders. The 32" F-Shape Barrier is used on the bridge.

The existing superstructure is composed of 7 ft deep continuous steel plate girders. The existing bridge substructure consists of typical end bents and multi-column framed piers. All pier columns are rectangular in cross section and are supported on isolated footings with 24" square prestressed concrete piles. Both end bents similarly are supported on 24" square prestressed concrete piles and use the wrap around MSE retaining wall system. ***Figure 4.23*** illustrates the existing bridge.

**Figure 4.23 – Bridge 871017**

**Proposed Concept**

The existing mainline southbound bridge will be widened along the west (left) side of the structure. The bridge will accommodate a 10 ft outside shoulder, four (4) 12 ft lanes, and an inside shoulder width that varies between 10.02 ft and 9.73 ft. The 1.33 ft standard single slope traffic railing barriers will be provided on both sides of the bridge. The total bridge width will vary between 70.85 ft and 70.56 ft. The site conditions include the CSX railroad corridor on the south end and the dual directions of SR-874, which present a challenge for access and staging areas for the construction activities. (See ***Figure 4.24***)

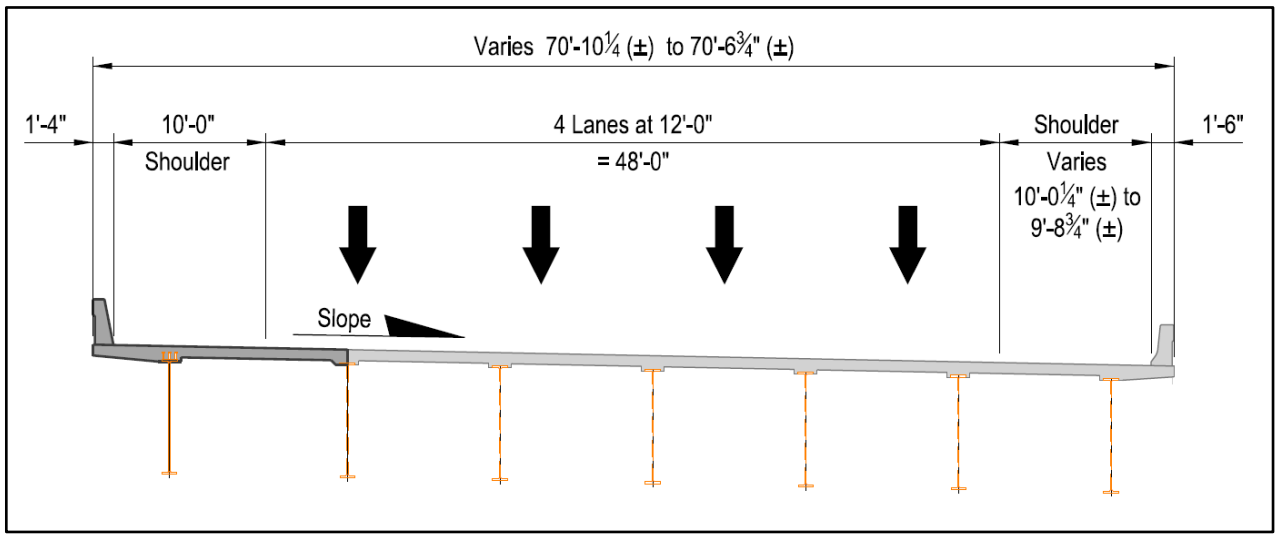



**Figure 4.24 – Proposed Typical Section**

Bridge widening is needed due to the conflict between the existing bridge and the proposed Express Lane bridge structure, being proposed between the southbound and northbound SR 826 bridge structure, at this crossing. Based on the load rating analysis of this bridge, widening is feasible as shown in Chart 4 of Chapter 7. The bridge widening will occur along the west side of the existing bridge where hammerhead piers will be built in line with the existing bridge piers to support two lines of steel I-Girders. The cut line for the existing bridge will be required along the existing steel girder.

The existing bridge superstructure consists of an 8 ½" concrete deck over six (6) steel plate I-girders with 7 ft deep webs. The bridge widening is to be performed along the high side of the bridge section.

The size of the proposed substructure elements (column and pier cap) at the intermediate piers will match the existing structure shape and will be aligned with the existing piers. The existing piers are built with skew angles ranging between 45 and 66 degrees. The existing end bents will be widened, matching the existing, and supported on additional prestressed concrete piles. An independent hammerhead style pier will be proposed at the intermediate pier locations, supported on a pile type foundation. The new columns will be designed for Vehicle Collision Forces in accordance with the design specifications.

## 4.13 Bridge 871018 - SR 826 NB over CSX RR and SR 874

**Existing Condition**

Bridge 871018 carries SR-826 northbound traffic over SR-874 and CSX Railroad. The existing bridge consists of two spans, 190 ft and 140 ft, with a total bridge length of 330 ft. The overall width of the bridge is 58.21 ft uniformly along the bridge. The existing minimum vertical clearance is 22.38 ft and occurs in Span 2, along northbound SR 874. The minimum vertical clearance over CSX Railroad is 23.5 ft occurring in Span 1. The bridge was originally built in 2011 with no subsequent widenings. Existing roadway section consists of three (3) 11.81 ft traffic lanes and two (2) 9.84 ft shoulders. The 32" F-Shape Traffic Railing Barrier is used on both sides of the bridge.

The existing superstructure is composed of 5.92 ft deep continuous steel plate girders. The existing bridge substructure consists of typical end bents and a multi-column framed pier. ***Figure 4.25*** illustrates the existing bridge.

**Figure 4.25 – Bridge 871018**

All pier columns are rectangular in cross section and are supported on isolated footings with 24" square prestressed concrete piles. Both end bents similarly are supported on 24" square prestressed concrete piles and use the wrap around MSE wall retaining wall system. There are no utilities being currently supported by the existing bridge.

**Proposed Concept**

The existing mainline northbound bridge will be widened along the east (right) side of the structure (see proposed bridge typical section below). The bridge will accommodate a 10 ft outside shoulder, four (4) 12 ft lanes, 10 ft inside shoulder, and 1.33 ft standard single slope traffic railing barriers on both sides of the bridge. The total bridge width will be 70.67 ft. (See ***Figure 4.26***) The site conditions include the CSX railroad corridor on the south end and a single lane off-ramp from SR-874 to SW 40th Street (Bird Road), which present a challenge for access and staging areas for the construction activities.

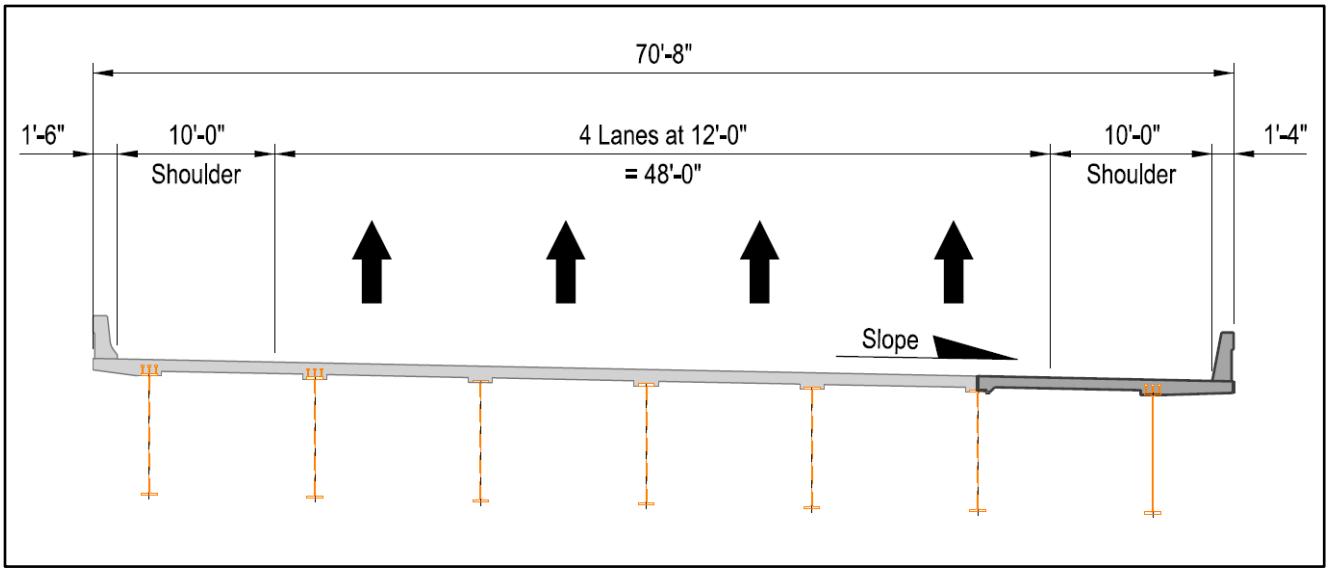



**Figure 4.26 – Proposed Typical Section**

The bridge widening is needed due to the conflict between the existing bridge and the proposed Express Lanes bridge structure between the southbound and northbound SR-826 bridge structure at this crossing. Based on the load rating analysis of this bridge, widening is feasible as illustrated in Chart 5 of Chapter 7. The bridge widening occurs along the east side of the existing bridge, to compensate for the portion of structure removed from the west side of the bridge.

A hammerhead pier will be built in line with the existing bridge piers to support two lines of steel I-Girders. The cut line for the existing bridge will be required along the existing steel girder. The bridge widening is to be performed along the low side of the bridge section.

The size of the proposed substructure elements (column and pier cap) at the intermediate piers will match the existing structure shape and aligned with the existing piers. The existing piers were built with skew angles ranging between 45 and 66 degrees. The existing end bents will be widened, matching the existing structure, and supported on additional prestressed concrete piles. An independent hammerhead style pier will be proposed at the intermediate pier location supported on a piled foundation. The new columns will be designed for Vehicle Collision Forces in accordance with the LRFD specification.

## 4.14 Bridge 1 - SR 826 Managed Lanes SB over SR 874 and CSX RR

**Proposed Concept**

This bridge is not part of the preferred alternative.

## 4.15 Bridge 2 - SR 826 Managed Lanes NB over SR 874 and CSX RR

**Proposed Concept**

This bridge is not part of the preferred alternative.

## 4.16 Bridge 3 - SR 826 Managed Lanes NB/SB over SR 874

**Proposed Concept**

This bridge is not part of the preferred alternative.

## 4.17 Bridge 4 – SR 826 SB Off-Ramp over SR 826

**Proposed Condition**

The proposed Bridge 4 is on a curved alignment with normal ends. The structure is 583.35 ft long and has 4 spans (maximum span is 215 ft). It traverses over SR 826 carrying the traffic from the SR 826 SB off-ramp to Bird Rd. west, making this bridge highly visible.

The proposed structure has a single (1) 16 ft lane, with a 12 ft inside shoulder and an 6 ft outside shoulder. The bridge is bordered with standard 1.33 ft wide single slope traffic railing barriers for a total bridge width of 36.67 ft. The bridge super-elevation transitions from 2% to a maximum cross-slope of 5% approximately.

Since the structure is highly visible, it is recommended the superstructure type is a closed box. The closed box alternatives provide for a higher torsional stiffness and enhanced aesthetic value for these high-level structures and therefore the open web girders are not recommended.

The concrete segmental alternate is proposed as a single cell, 11 ft constant depth, 36.67 ft width and post-tensioned longitudinally and transversely. The concrete trapezoidal box webs are sloped 1:2 and built using the balanced cantilever method. The minimum vertical clearance is 16.5 ft over the SR 826. The bridge substructure is proposed of reinforced concrete single flare pier-columns with a column width of 12 ft. The foundation considers the use of concrete footers supported on precast prestressed concrete piles. The approaches to the bridge are proposed as MSE walls. The ***Figure 4.27*** shows the bridge typical section.

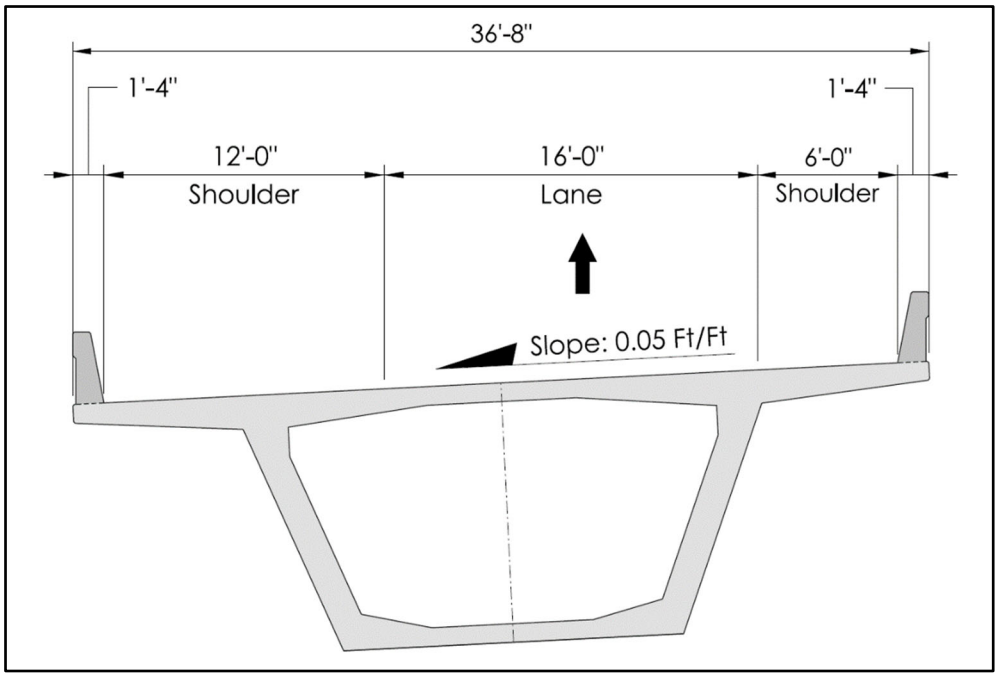



**Figure 4.27- Proposed Bridge 4 Typical Section, Segmental Option**

Construction of this flyover is particularly challenging as an overhead gantry truss will not fit within the geometrical vertical constrains of the surrounding structures. Thus, selective work zone locations will need to be identified and secured so cranes can be positioned for the erection. Delivery of the superstructure pieces can be done through the adjacent roadways within the interchange. Temporary closures of the road will be needed as well.

The other proposed alternative is an 8 ½" concrete deck over two (2) steel box girders with 8.833 ft deep webs. The minimum vertical clearance is 16.5 ft over the SR 826. The proposed bridge substructure is a 10 ft wide reinforced concrete single-column pier with a pier cap. The foundation considers the use of concrete footers supported on precast prestressed concrete piles. ***Figure 4.28*** shows the proposed bridge typical section for the steel box girder alternative.

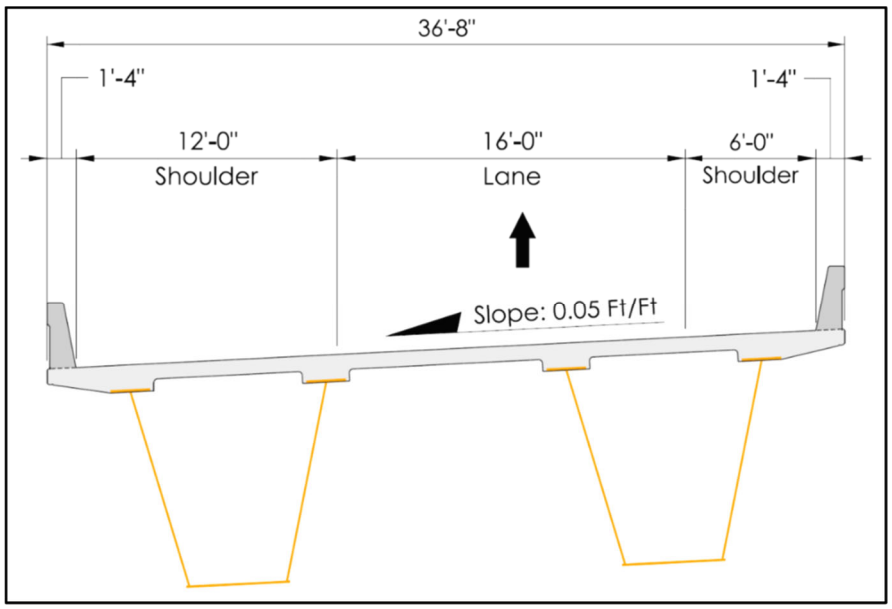



**Figure 4.28 Proposed Bridge 4 Typical Section, Steel Box Option**

## 4.18 BRIDGE 5 – SR 826 SB OFF-RAMP OVER SR 976/BIRD RD./SW 40TH ST. AND SR 826

### Proposed Condition

The proposed Bridge starts on a straight alignment parallel to SR 826 crossing over SR 976/Bird Rd./ SW 40th St. carrying the traffic from the NB SR 826 off ramp and then turns in a curved alignment crossing over SR 826, making this bridge highly visible. The structure is 2,276 ft long and has 12 spans (maximum span is 220 ft).

The proposed structure is a single lane that varies from 15ft to 17 ft, a 6 ft outside shoulder and an inside shoulder that varies from 6 ft to 10ft. The bridge is bordered with standard 1.33 ft wide single slope traffic railing barriers for a total bridge width that varies from 29.67 ft to 35.67 ft. The bridge super-elevation transitions from 2% to a maximum cross-slope of 5% approximately.

Because of the structure's visibility, the superstructure types are proposed as segmental structures or steel box girders. The closed box alternatives provide for a higher torsional stiffness and enhanced aesthetic value for these high-level structures and therefore the open web girders are not recommended.

The concrete segmental alternate is proposed as a single cell, 11 ft constant depth, with a varying overhang, for a deck width that varies from 29.67 ft to 35.67 ft and post-tensioned longitudinally and transversely. The concrete trapezoidal box webs are sloped 1:2 and built using the balanced cantilever method. The minimum vertical clearance is 16.5 ft over the SR 826 and SR 976. The bridge substructure is proposed of reinforced concrete single flare pier-columns, cantilever C-piers and straddle bents. The foundation considers the use of concrete footers supported on precast prestressed concrete piles. The approaches to the bridge are proposed as MSE walls. The ***Figure 4.29*** shows the bridge typical section.

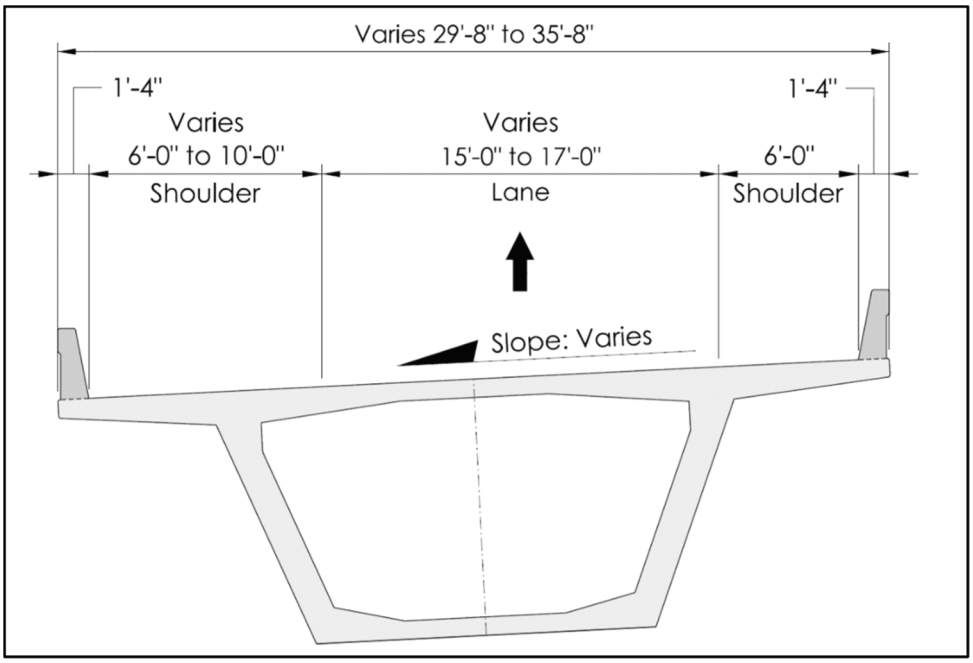



**Figure 4.29 - Proposed Bridge 5 Typical Section, Segmental Option**

Construction of this flyover is particularly challenging as an overhead gantry truss will not fit within the geometrical vertical constrains of the surrounding structures. Thus, selective work zone locations will need to be identified and secured so cranes can be positioned for the erection. Delivery of the superstructure pieces can be done through the adjacent roadways within the interchange. Temporary closures of the road will be needed as well.

The other proposed alternative is an 8 ½" concrete deck over two (2) steel box girders with 8.833 ft deep webs. The minimum vertical clearance is 16.5 ft over the SR 826 and SR 976. The proposed bridge substructure is a 10 ft wide reinforced concrete single-column pier with a pier cap. The foundation considers the use of concrete footers supported on precast prestressed concrete piles. ***Figure 4.30*** shows the proposed bridge typical section for the steel box girder alternative.

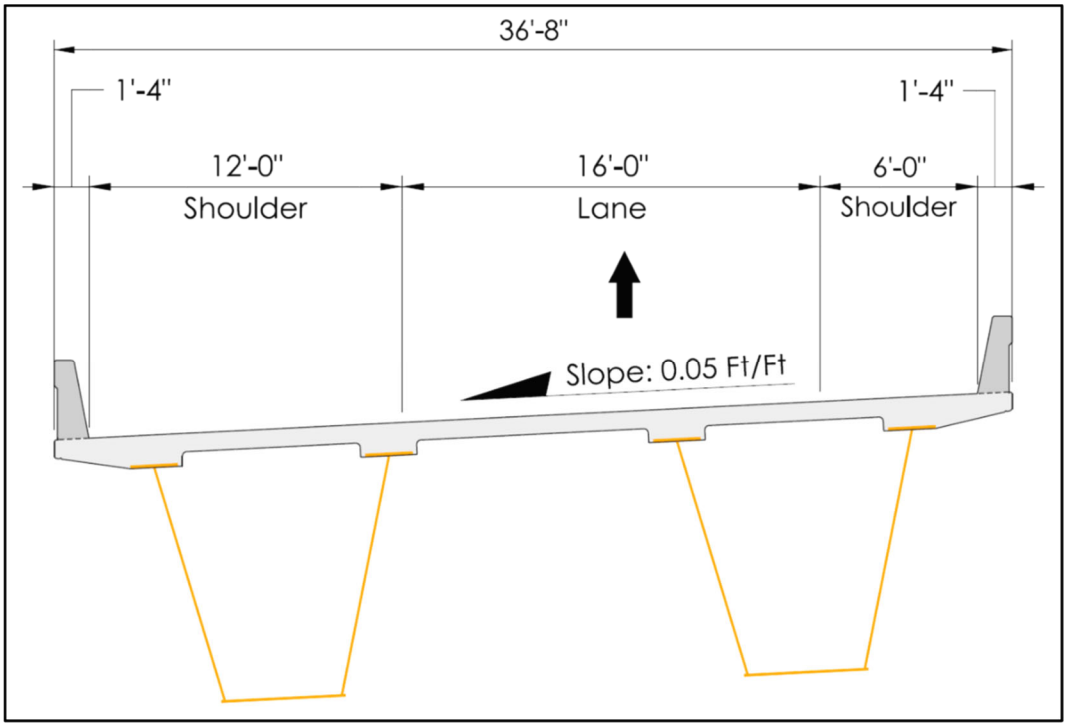



**Figure 4.28 - Proposed Bridge 5 Typical Section, Steel Box Option**

## 4.19 BRIDGE 6 - SR 826 SB OFF-RAMP OVER SR 976/BIRD RD./SW 40TH ST.

### Proposed Condition

The proposed ramp bridge is a single span structure with a total bridge length of 178.45 ft. The bridge structure would accommodate one (1) 15 ft lane with 6 ft

outside and inside shoulders, for a total bridge width of 29.67 ft. The ramp bridge will be bordered with standard 1.33 ft wide traffic railing barriers. (See ***Figure 4.31***)

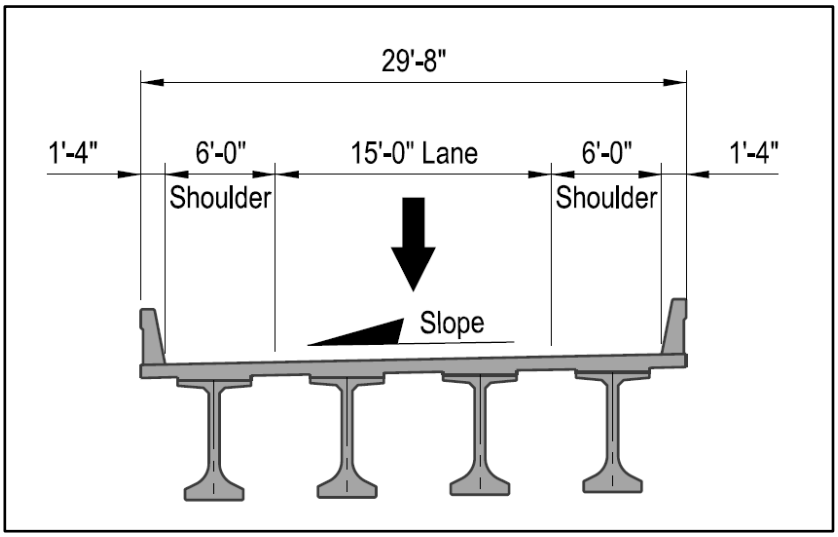



**Figure 4.31 Proposed Bridge Typical Section**

The superstructure will consist of four (4) Florida-I 78 Beams with an 8½" concrete deck supported on composite elastomeric bearing pads. The proposed bridge will be supported on new end bents on piles. MSE walls will be provided at both bridge ends and will wrap around the proposed end bents.

## 4.20 Bridge 871021 - SR 826 SB over SR 976/Bird Rd./SW 40th St.

### Existing Condition

Bridge 871021 carries SR-826 southbound traffic over SR-976 (Bird Road). The existing bridge consists of a single span with a length of 160.42 ft. The overall width of the bridge is 95.61 ft uniformly along the bridge. The existing minimum vertical clearance is 16.58 ft and occurs along WB Bird Road. The bridge was built in 2011 with no subsequent widenings. The bridge consists of five (5) 11.81 ft lanes with two (2) 9.84 ft shoulders, 11.81 ft designated HOV Lane and a 1.97 ft gore. The 32" F-Shape Traffic Railing Barrier is used on both sides of the bridge. The east side barrier includes a mounted Opaque Visual Barrier.

The existing superstructure is composed of Florida-I 78 Beams. The existing bridge substructure consists of typical end bents which are supported on 24" square prestressed concrete piles. Both end bents use the standard MSE retaining wall

system. There are no utilities being currently supported by the existing bridge. ***Figure 4.32*** illustrates the existing bridge.

**Figure 4.32 – Bridge 871021**

### Proposed Concept

As shown in the proposed typical section below, the final condition for the bridge consists of an 8 ft outside shoulder, seven (7) 11 ft general purpose lanes, 1.5' delineators, 11 ft express lane, and an inside express lane shoulder that varies between 5.125 ft and 3.75 ft. The proposed improvements will require an outside bridge widening, varying in width, from approximately 8.74 ft to 9.90 ft with a 1.33 ft wide single slope traffic railing. In addition, the proposed traffic railings, shielding the proposed pier columns for the elevated structure, will be extended over the existing bridges (871021 and 871022). The proposed bridge width will vary between 105.58 ft and 104.25 ft. (See ***Figure 4.33***)

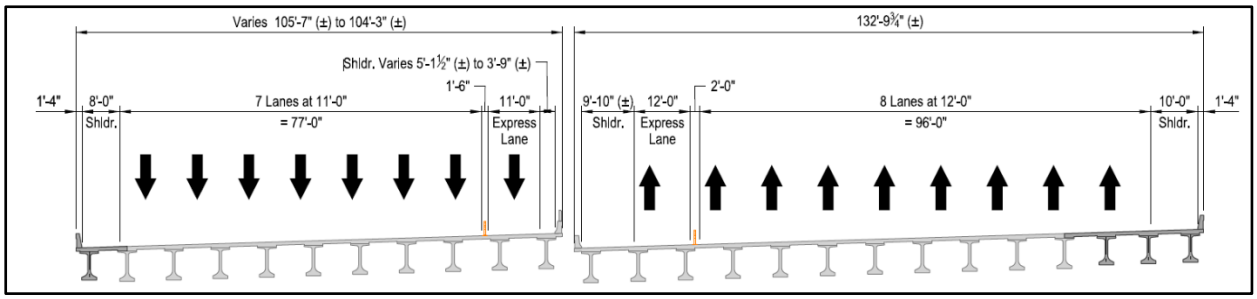



**Figure 4.33 – Proposed Bridge Typical Section**

The superstructure options for the proposed widening are limited to FIBs, to match existing. A line of FIB-72 will be required to accommodate the proposed southbound bridge widening. The existing minimum vertical clearance will be maintained, since the proposed FIB-72 is 6" shallower than the existing FIB-78, and the proposed exterior beam will not encroach into the existing vertical clearance.

The existing end bents will be widened to match existing and will be supported on additional prestressed concrete piles. Existing MSE wall on the west side will be widened and will wrap around the proposed end bents for the adjacent bridge.

## 4.21 Bridge 871022 - SR 826 NB over SR 976/Bird Rd./SW 40th St.

### Existing Condition

Bridge 871022 carries SR-826 northbound traffic over SR-976 (Bird Road). The existing bridge consists of a single span with a length of 160.42 ft. The overall width of the bridge is 107.43 ft uniformly along the bridge. The existing minimum vertical clearance is 16.58 ft and occurs along WB Bird Road. The bridge was built in 2011 with no subsequent widenings. The bridge consists of six (6) 11.81 ft lanes with two (2) 9.84 ft shoulders, 11.81 ft designated HOV Lane and a 1.97 ft gore. The 32" F-Shape Traffic Railing Barrier is used on both sides of the bridge. ***Figure 4.34*** illustrates the existing bridge.


**Figure 4.29 – Bridge 871022**

The existing superstructure is composed of Florida-I 78 Beams. The existing bridge substructure consists of typical end bents which are supported on 24" square prestressed concrete piles. Both end bents use the standard MSE retaining wall system. There are no utilities being currently supported by the existing bridge.

**Proposed Concept**

As shown in the proposed typical section below, the final condition for the bridge consists of one (1) 10 ft outside shoulder, eight (8) 12 ft general purpose lanes, 2' delineators, 12 ft express lane, and a 9.83 ft inside express lane shoulder. The proposed improvements will require an outside bridge widening, varying in width, from approximately 25.72 ft to 25.55 ft with a 1.33 ft wide single slope traffic railing. In addition, the proposed traffic railings, shielding the proposed pier columns for the elevated structure, will be extended over the existing bridges (871021 and 871022. The proposed bridge width will be approximately 132.81 ft. (See ***Figure 4.35***)

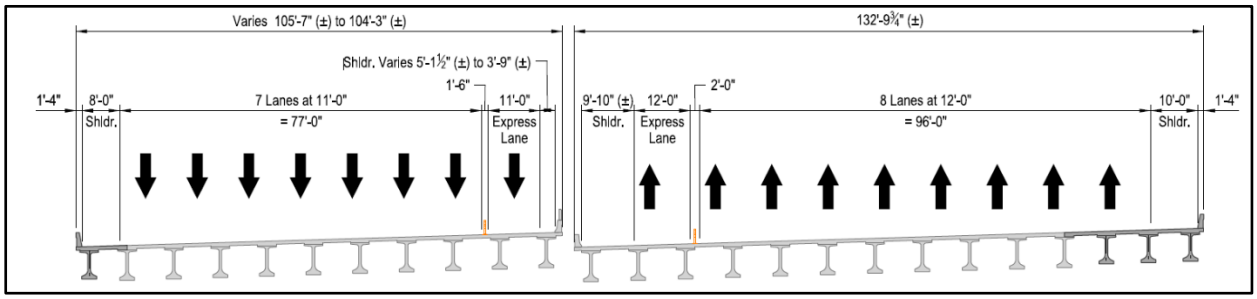



**Figure 4.35 – Proposed Bridge Typical Section**

The superstructure options for the proposed widening are limited to FIBs, to match existing. A line of FIB-78 will be required to accommodate the proposed northbound bridge widening. The existing minimum vertical clearance will be maintained since the proposed FIB-78 is on the high side of the existing structure.

The existing end bents will be widened to match existing and will be supported on additional prestressed concrete piles. Existing MSE wall on the east side will be widened and will wrap around the proposed end bents widening.

## 4.22 BRIDGE 879023 - PEDESTRIAN OVERPASS OVER SR 826

**Existing Condition**

Bridge 879023 is an existing pedestrian overpass over SR 826, approximately 1,650 ft north of Bird Road, is a 286.8 ft long structure. This bridge carries pedestrians in the east/west direction over SR 826. This bridge structure was built as part of Palmetto Section 2 improvements program in 2010. The existing bridge consists of a two-span bridge with spans of 161.1ft and 125.7 ft, and 10 ft wide deck, uniform along the bridge. A center pier is located at the center of SR 826. The existing superstructure comprises two AASHTO prestressed concrete girder acting compositely with an 8" concrete deck.

The substructure consists of a typical wall pier and spread footers at both ends of the bridge. These shallow foundations rest on competent fill, which are part of the switchback ramps encapsulated in MSE walls. All substructure members at the center pier are supported on footers using 18" square prestressed concrete piles. The existing minimum vertical clearance is 16.67 ft and occurs at SR 826 NB location. The bridge including the ramps are enclosed with a chain link fence. ***Figure 4.36*** depicts the pedestrian structure.

**Figure 4.36 – Bridge 870923, Pedestrian Overpass at SR826**

**Proposed Concept**

Since the preferred concept adds lanes on both SR 826 directions, the proposed shoulder on the westbound direction overlaps with the footprint of the existing west switchback ramp, as a result the existing bridge will be replaced. The nature of the switchback ramps precludes the replacement of the bridge in the same footprint; additionally, the need to maintain pedestrian traffic on the bridge at all times further complicates replacement at the same location. Hence, the proposed bridge is relocated approximately 95 ft north of existing; this new location allows the construction of the proposed pedestrian bridge behind the traffic railing barrier at the west shoulder and the available ROW west of SR 826.

Furthermore, the construction of the proposed bridge will not affect the operation and pedestrian circulation of the existing structure. The at-grade entrance/exit east and west of the proposed overpass will remain the same as the existing, thus, use of the new facility will be seamless to the users.

This proposed structure uses the same functional and structural features of the existing facility. The overpass will be 310 ft long, with spans of 150 ft and 160 ft, and a 10 ft wide concrete deck. The deck will be supported by two FIB-72 girders, similar to the existing facility. The substructure will use the same concept as existing with switchback ramps supported on fill bounded by MSE walls. The bridge will be enclosed with a chain link fence. Typical section of the proposed facility is shown in ***Figure 4.37***.

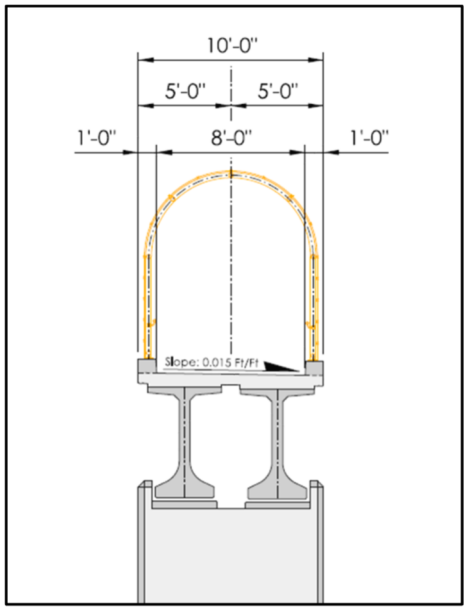



**Figure 4.37 – Pedestrian Overpass, North of Bird Road, Typical Section**

## 4.23 Bridge 879010 - Pedestrian Overpass over SR 826 SB To/From SW 24th St.

### Existing Condition

Bridge 879010 is a pedestrian structure which carries pedestrian traffic in the east/west direction over SR-826 southbound to/from SW 24th Street, Coral Way.

The existing bridge consists of a single span with a pedestrian width of 8 feet, and a bridge spanning 144 ft. The main span uses two AASHTO Type VI beams acting compositely with an 8" inch concrete deck. The existing vertical clearance over SR 826 SB about 16.5 ft. The bridge including ramps has a chain link fence enclosure.

The main span is supported on a reinforced concrete frame structure. The switchback approach ramps east and west of the main span, are flat slab structures supported on framed piers. ***Figure 4.38*** illustrates the existing bridge.

**Figure 4.38 – Bridge 879010, Pedestrian Overpass at Coral Way**

### Proposed Concept

This structure is a replacement of an existing bridge approximately in the same footprint to accommodate the widening of the exit ramp below it. The superstructure will be a 144 ft long span single span using two FIB-63. The approach structures will be similar to existing flat slab concrete ramps. The challenge will be the interference with the existing foundation. ***Figure 4.39*** shows the proposed typical section.

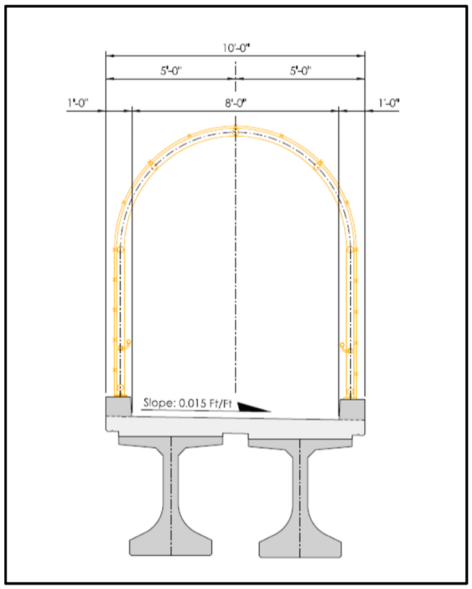



**Figure 4.39 – Overpass at Coral Way**

## 4.24 Bridge 870760 and 870761- SR 826 SB/NB over SR 972/SW 24th St./Coral Way

**Existing Condition**

Bridge 870760 carries SR-826 southbound traffic over SR-972 (SW 24th St.). The existing bridge consists of two spans, each 75 ft long, with a total bridge length of 150 ft. The overall width of the bridge is 109 ft uniformly along the bridge. The existing minimum vertical clearance is 16.5 ft and occurs in Span 2, along westbound SW 24th St. The bridge was built in 2008 with no subsequent widenings. The bridge consists of six (6) 12 ft traffic lanes, one (1) 14 ft lane, 10 ft outside shoulder and 10.13 ft inside shoulder. The 32" F Barrier is used on the west side of the bridge, while a modified F-shape Barrier is used on the east side.

The existing superstructure is composed of AASHTO Type III Beams in both spans. The existing bridge substructure consists of typical end bents and multi-column framed piers All pier columns are 3 ft in diameter and are supported on 42" diameter drilled shafts. Both end bents are supported on 36" diameter drilled shafts and use wrap around MSE retaining wall system. There are no utilities being currently supported by the existing bridge. ***Figure 4.40*** illustrates the existing bridge.

**Figure 4.30 – Bridge 870760**

Bridge 870761 carries SR-826 northbound traffic over SR-972 (SW 24th St.). The existing bridge consists of two spans, each 75 ft long, with a total bridge length of 150 ft. The overall width of the bridge is 109 ft uniformly along the bridge. The existing minimum vertical clearance is 16.5 ft and occurs in Span 2, along westbound SW 24th St. The bridge was built in 2008 with no subsequent widenings.

The bridge consists of six (6) 12 ft traffic lanes, one (1) 14 ft lane, 10 ft outside shoulder and 10.13 ft inside shoulder. The 32" F-Shape Traffic Railing Barrier is used on the east side of the bridge, while a modified F-shape Barrier with a mounted Opaque Visual Barrier is used on the west side.

The existing superstructure is composed of AASHTO Type III Beams in both spans. The existing bridge substructure consists of typical end bents and multi-column framed piers All pier columns are 3 ft in diameter and are supported on 42" diameter drilled shafts. Both end bents are supported on 36" diameter drilled shafts and use wrap around MSE wall retaining wall system. There are no utilities being currently supported by the existing bridge. ***Figure 4.41*** illustrates the existing bridge.

**Figure 4.41 – Bridge 870761**

### Proposed Concept

As shown in the typical section below, the proposed concept for the northbound and southbound traffic on the bridge structure consists of a 10 ft wide outside shoulder, nine (9) 12 ft general purpose lanes, 2' delineators, a 12 ft express lane, and a 12 ft express lane interior shoulder for the southbound bridge and 10 ft wide outside shoulder, eight (8) 12 ft general purpose lanes, 2' delineators, a 12 ft express lane, and a 12 ft express lane interior shoulder for the northbound traffic. The proposed improvements will require an outside bridge widening of approximately 35.33 ft for the southbound bridge and of approximately 23.33 ft for the northbound bridge with 1.33 ft wide single slope traffic barriers on both sides of the bridge. In addition, reconstruction of the median barrier will be required. The proposed out to out bridge width will be 280.67 ft. (See ***Figure 4.42***)

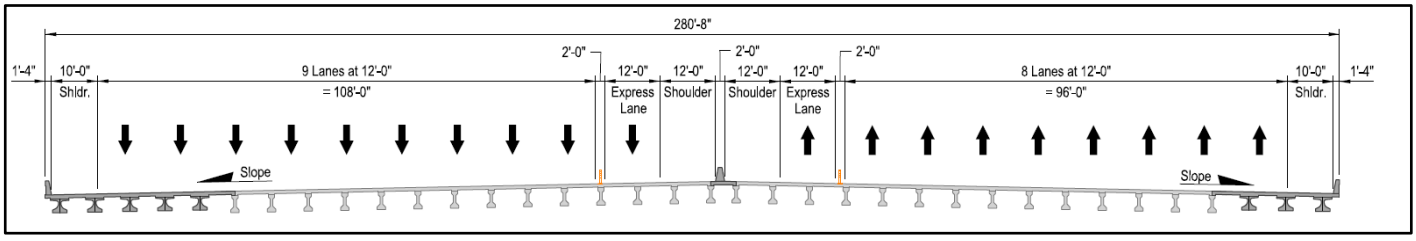



**Figure 4.42 – Proposed Bridge Typical Section**

The superstructure options for the proposed widening are limited to FIB beams per SDG Section 7.6. Multi-lines of FIB-36 equally spaced will be required to accommodate the proposed widening on the southbound and northbound bridges. The existing minimum vertical clearance will be maintained since the proposed FIB-36 are 9" shallower than the existing AASHTO Type III beams and consequently the proposed exterior beam will not encroach into the existing minimum vertical clearance.

The size of the proposed substructure elements (column and pier cap) at the intermediate pier will match the existing. The existing end bents will be lengthened and supported by drilled shafts matching the existing for both the northbound and southbound structures. An independent hammerhead pier will be provided at the intermediate pier location for the northbound structure while a framed pier will be used for the southbound bridge with three (3) lines of beams. Each pier column will be supported on a single drilled shaft foundation to match the existing. The new columns will require to be designed for a Vehicular Collision Force per the design specifications.

## 4.25 Bridge 870764 - SR 826 NB to SW 24th St./Coral Way over C. Gables Canal

**Existing Condition**

Bridge 870764 carries SR-826 northbound traffic over Coral Gables Canal. The existing bridge consists of three spans: 30 ft, 37.5 ft and 30 ft, with a total bridge length of 97.5 ft. The bridge has a variable width. The existing minimum vertical clearance is 5.8 ft and occurs in Span 2 above Normal High Water (N. H. W.). The bridge was built in 2007 with no subsequent widenings. The bridge consists of one (1) 15 ft traffic lane, a 5.71 ft inside shoulder, a 6 ft outside shoulder and a gore varying in width. The 32" F-Shape Traffic Railing Barrier is used on both sides of the bridge.

The existing superstructure is composed of a continuous, variable width, 1.5 ft deep cast in place concrete flat slab. The existing bridge substructure consists of typical end bents and intermediate bents. All intermediate bents consist of a 4.17 ft by 2.5 ft cap and are supported on 42" drilled shafts. The end bents are made up of 4.83 ft by 2.5 ft cap and are supported on 36" drilled shafts. There are no utilities being currently supported by the existing bridge. ***Figure 4.43*** illustrates the existing bridge.

**Figure 4.43 – Bridge 870764**

**Proposed Concept**

The existing ramp bridge will be widened as shown in the proposed bridge typical section below. Based on the load rating analysis of this bridge, widening is feasible (refer to Chart 9 of Chapter 7). The bridge will accommodate a 6 ft inside shoulder, two (2) lanes varying to four (4) lanes, a 10 ft outside shoulder, a standard 1.33 ft wide traffic railing barrier along the outside of the bridge and an existing F-shape traffic railing on the inside. The total bridge width will vary between 46.67 ft to 71.50 ft. (See ***Figure 4.44***) The widened structure will meet the minimum vertical clearance criteria required over the Coral Gable Canal, since the bridge is being widened to the high side of the bridge cross slope. The existing vertical clearance is 5.8 ft above the Normal High Water, as shown on the original plans.

The superstructure for the proposed widening will require to match the existing 18" thick cast-in-place concrete slab. The traffic railing barrier along the widened portion of the bridge will consist of the standard FDOT 1.33 ft wide single slope traffic railing barrier.

The intermediate drilled shaft bents will extend along its current alignment to maintain the current flow of water within the canal. The end bents will match the existing end bents in type and size, as well as their orientation. The proposed new drilled shaft bents will also need to be coordinated with the bridge hydraulic report for scour effects.

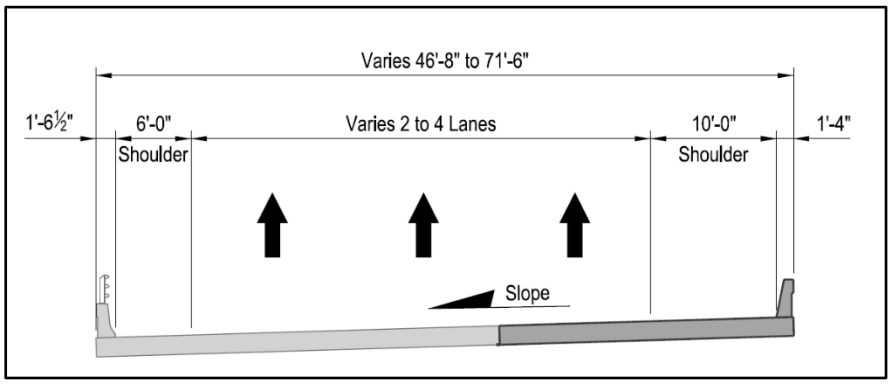



**Figure 4.44 – Proposed Bridge Typical Section**

## 4.26 BRIDGE 870782 - SR 826 SB EXIT RAMP TO US 41 EB OVER US 41

### Existing Condition

Bridge 870782 carries SR-826 southbound off-ramp traffic over Tamiami Canal to US 41 eastbound. The existing bridge consists of seven spans: first span at 45.5 ft, five spans at 56.5 ft and last span at 40.5 ft, with a total bridge length of 368.5 ft. The overall width of the bridge is 31.1 ft uniformly along the bridge. The existing minimum vertical clearance is 17.5 ft and occurs in Span 3, above US 41 westbound. The bridge was built in 2004. ***Figure 4.45*** illustrates the existing bridge.


**Figure 4.45 – Bridge 870782**

The structure carries one (1) 16 ft traffic lane, a 6 ft inside shoulder and a 6 ft outside shoulder. The 32" F-Shape Traffic Railing Barrier is used on both sides of the bridge.

The existing superstructure is composed of AASHTO Type II Beams in all spans. The existing bridge substructure consists of typical end bents and pile bents. All pile bents consist of a 3.5 ft by 3 ft pile cap and are supported on 24" square prestressed concrete piles. The end bents are made up of 3 ft wide by 2.5 ft deep cap and are supported on 18" square prestressed concrete piles. Both end bents use Concrete Slope Pavement as the soil slope protection. There are no utilities being currently supported by the existing bridge.

**Proposed Concept**

Since the footprint of the proposed structure partially encroaches into the footprint of the existing bridge 870781, it will be required to demolish Bridge 870781 and construct a new bridge prior to construction of the proposed new Bridge 870782. Once the proposed bridge is built, adjacent existing Bridge 870782 will be demolished to allow for the construction of the proposed mainline bridge.

The proposed bridge is a two-span single-lane bridge ramp over US 41/SR 90 and Tamiami Canal, carrying the SR 826 SB exit ramp to US 41/SR 90 EB traffic. The bridge has an overall length of 363.28 ft with straight alignment and skewed ends. The deck carries one (1) 15 ft lane with constant width shoulders of 6 ft and the total bridge width is 29.67 ft. The bridge super-elevation is a constant 2%. The bridge superstructure consists of five (5) equally spaced FIB-78. This superstructure system will raise the vertical profile. The vertical clearance over US 41/SR 90 will be a minimum of 16.5 ft. The bridge substructure is made of end bents on piles and an intermediate hammerhead pier supported on piled foundation. MSE Wall system will be used at the bridge ends. The ***Figure 4.46*** shows the bridge typical section and the proposed intermediate hammerhead pier.

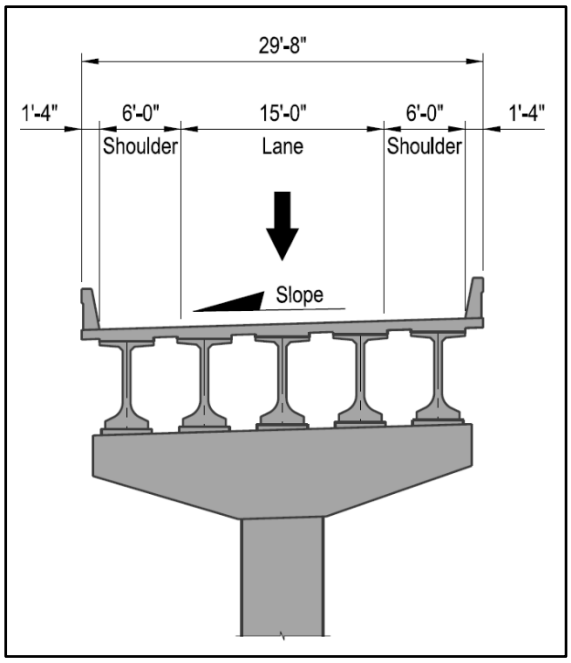



**Figure 4.46 – Proposed Typical Section**

## 4.27 Bridge 870781 - SR 826 SB Exit Ramp to US 41 WB over Tamiami Canal

### Existing Condition

Bridge 870781 carries SR-826 southbound off ramp traffic over Tamiami Canal to US 41 westbound. The existing bridge consists of seven spans, with a 38.5 ft maximum span and a total bridge length of 240 ft. The overall width of the bridge is 31.1 ft uniformly along the bridge. The existing minimum vertical clearance is 6.04 ft and occurs in Span 7, above Normal High Water (N.H.W.). The bridge was built in 2004.

The structure carries one (1) 16 ft traffic lane, a 6 ft inside shoulder and a 6 ft outside shoulder. The 32" F-Shape Traffic Railing Barrier is used on both sides of the bridge. The existing superstructure is composed of concrete flat slab. The existing bridge substructure consists of typical end bents and pile bents. All pile bents consist of a 3 ft by 2.7 ft pile cap and are supported on 18" square prestressed concrete piles. The end bent no.1 is made up of 4 ft wide by 2 ft deep cap and are similarly supported on 18" square prestressed concrete piles and sheet pile panels; end bent no.2 is made up of 3 ft wide by 2.8 ft deep cap, supported on 18" square prestressed concrete piles. End bent no.1 use Concrete Slope Pavement

Protection while end bent no.2 use Rubble Rip-Rap as the soil slope protection. There are no utilities being currently supported by the existing bridge. ***Figure 4.47*** illustrates the existing bridge.

**Figure 4.47 – Bridge 870781**

**Proposed Concept**

The proposed bridge will be a seven-span, single-lane bridge ramp over Tamiami Canal, carrying the SR 826 SB exit ramp to US 41/SR 90 WB traffic. The bridge will have an overall length of approximately 353 ft along curved alignment with skewed ends. The deck carries one (1) 15 ft lane with constant width shoulders of 6 ft and the bridge width is 29.67 ft.

The bridge superstructure options for the proposed structure are prestressed concrete slabs and cast-in-place flat slab. The vertical clearance over the canal will be 2 ft minimum over the Design High Water elevation and 6 ft minimum over the Normal High-Water elevation, as well as a 25 ft minimum horizontal clearance between substructure elements to be maintained within the canal limits. The bridge substructure is made of pile bents and will be placed in skew to follow the channel direction of flow to minimize the impact to the existing channel section and reduce scour on the proposed pile bents. MSE Wall system will be used at the north end of the bridge structure and a bulkhead wall will be provided at the south bridge end landing on US-41/SR 90 WB traffic. The ***Figure 4.48*** shows the bridge typical section and the proposed intermediate pile bent.

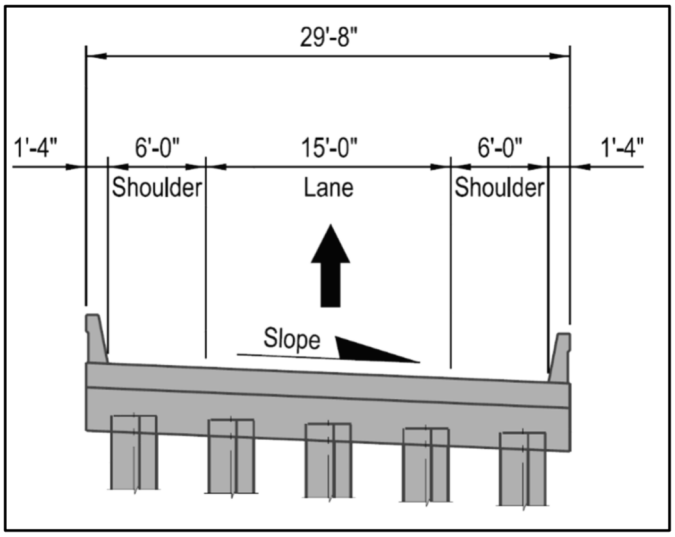



**Figure 4.48 – Proposed Bridge Typical Section**

## 4.28 BRIDGE 870112 AND 870267 - SR 826 SB/NB OVER US 41/SR90/SW 8TH ST.

### Existing Condition

Bridge 870112 carries SR-826 southbound traffic over US 41 (SR-90) / SW 8th St. The existing bridge consists of seven spans: two end spans at 40.52 ft and five interior spans at 56.5 ft, with a total bridge length of 365.54 ft. The overall width of the bridge is 85 ft uniformly along the bridge. The existing minimum vertical clearance is 16.5 ft and occurs in Span 3, along SR-90. The bridge was originally built in 1960 with two widenings, the latest constructed in 2007. ***Figure 4.49*** illustrates the existing bridge.

**Figure 4.49 – Bridge 870112**

Existing roadway section consists of four (4) 12 ft traffic lanes, one (1) 14 ft lane and two (2) 10 ft shoulders. The 32" F-Shape Traffic Railing Barrier is used on the west side of the bridge, and a 2.58 ft Median Traffic Railing Barrier shared with Bridge No. 870267 on the east side of the structure.

The existing superstructure is composed of AASHTO Type II and Modified AASHTO Type II (2.71 ft deep) beams. The existing bridge substructure consists of typical end bents and pile bents. All pile bents consist of a 3.67 ft by 3.5 ft pile cap and are supported on 24" square prestressed concrete piles. The end bents are made up of 3 ft by 3 ft cap and are supported on 18" square prestressed concrete piles. Both end bents use Concrete Slope Pavement as the soil slope protection. There are no utilities being currently supported by the existing bridge.

Bridge 870267 carries SR-826 northbound traffic over US 41 (SR-90) / SW 8th St. The existing bridge consists of seven spans: two end spans at 40.52 ft and five interior spans at 56.5 ft, with a total bridge length of 365.54 ft. The overall width of the bridge is 85 ft uniformly along the bridge. The existing minimum vertical clearance is 16.5 ft and occurs in Span 3, along SR-90. The bridge was originally built in 1957 with three widenings, in 1968, 1975, and the latest constructed in 2004. ***Figure 4.50*** illustrates the existing bridge.

**Figure 4.31 -Bridge 870267**

Existing roadway section consists of four (4) 12 ft traffic lanes, one (1) 14 ft lane and two (2) 10 ft shoulders. The 32" F-Shape Traffic Railing Barrier is used on the east side of the bridge, and a 2.58 ft Median Traffic Railing Barrier shared with Bridge 870112 on the west side of the bridge.

The existing superstructure is composed of AASHTO Type II and Modified AASHTO Type II (2.71 ft deep) beams. The existing bridge substructure consists of typical end bents and pile bents. All pile bents consist of a 3.67 ft by 3.5 ft pile cap and are supported on 24" square prestressed concrete piles. The end bents are made up of 3 ft by 3 ft cap and are supported on 18" square prestressed concrete piles. Both end bents use Concrete Slope Pavement as the soil slope protection. There are no utilities being currently supported by the existing bridge.

**Proposed Concept**

Bridges 870112 and 870267 will need to be replaced to accommodate a distinct roadway geometry, including a super-elevation transition, which traverses the bridges due to the reverse curve along the roadway alignment. Proposed bridge structures will also require demolition of existing Bridges 870782 and 870780.

As shown in ***Figure 4.51*** below, the proposed concept for the southbound bridge will accommodate a 10 ft wide outside shoulder, eight (8) 12 ft general purpose lanes, 2' delineators, a 12 ft express lane, and a 10 ft express lane interior shoulder.

The proposed concept for the northbound bridge, ***Figure 4.51***, consists of a 10 ft wide outside shoulder, seven (7) 12 ft general purpose lanes, 2' delineators, a 12 ft express lane, and a 12 ft express lane interior shoulder.

Both bridges will carry a standard single slope traffic railing barrier along the inside and outside bridge copings with a 1" gap between bridges. The proposed overall bridge width is 256.33 ft.

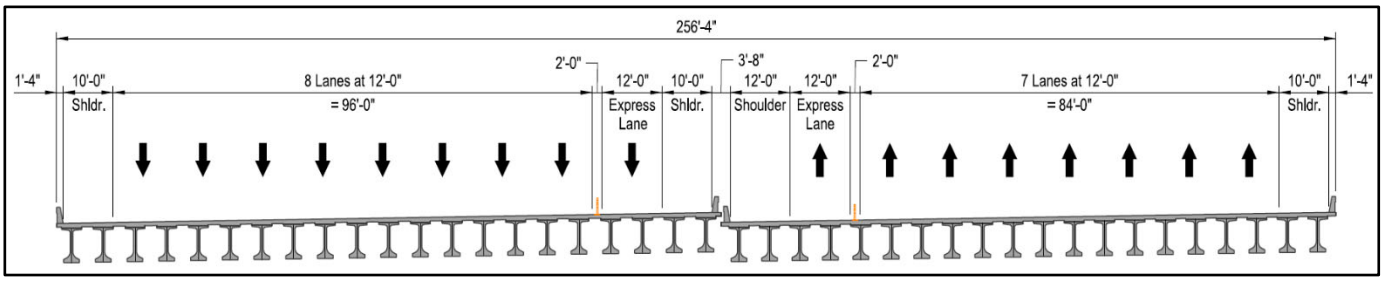



**Figure 4.32 - Proposed Bridge Typical Section**

The superstructure will consist of Florida-I Beams. Multi-lines of proposed beams will be required to accommodate the proposed sequence of construction of the northbound and southbound bridges. The construction of the two bridges will need to be coordinated with the traffic control plans to ensure a reasonable transition between the roadway and bridge work.

With the use of Florida-I Beams, a new span arrangement can be designed to accommodate a 2-span structure. This superstructure system will require to raise the vertical profile. The vertical clearance over US 41/SR 90 will be a minimum of 16.5 ft. The bridge substructure is made of end bents on piles and an intermediate multi-column pier supported on piled foundation. MSE Wall system will be used at the bridge ends.

## 4.29 Bridge 7 – US 41 WB to SR 826 NB over Tamiami Canal

**Proposed Concept**

The proposed Bridge 7 will be a four-span, single-lane bridge ramp over Tamiami Canal, carrying the SR 826 NB on-ramp from US 41/SR 90 WB traffic. The bridge will have an overall length of approximately 372.00 ft along a curved alignment with skewed ends. The deck carries one (1) 15 ft lane with shoulders width of 6 ft and 10 ft, respectively and a bridge width of 33.67 ft.

The bridge superstructure option for the proposed structure is prestressed Florida-I 36 beams. The vertical clearance over the canal will be 2 ft minimum over the Design High Water elevation and 6 ft minimum over the Normal High-Water elevation. The bridge substructure is made of pile bents and will be placed slightly skewed as necessary to follow the channel direction of flow as much as possible to minimize the impact to the existing channel section and consequently reduce scour on the proposed pile bents. Retaining wall system will be provided at both ends of the bridge structure to connect the proposed bridge ramp to the US-41/SR 90 WB and SR 826 NB traffic. The ***Figure 4.52*** shows the bridge typical section and the proposed intermediate pile bent.

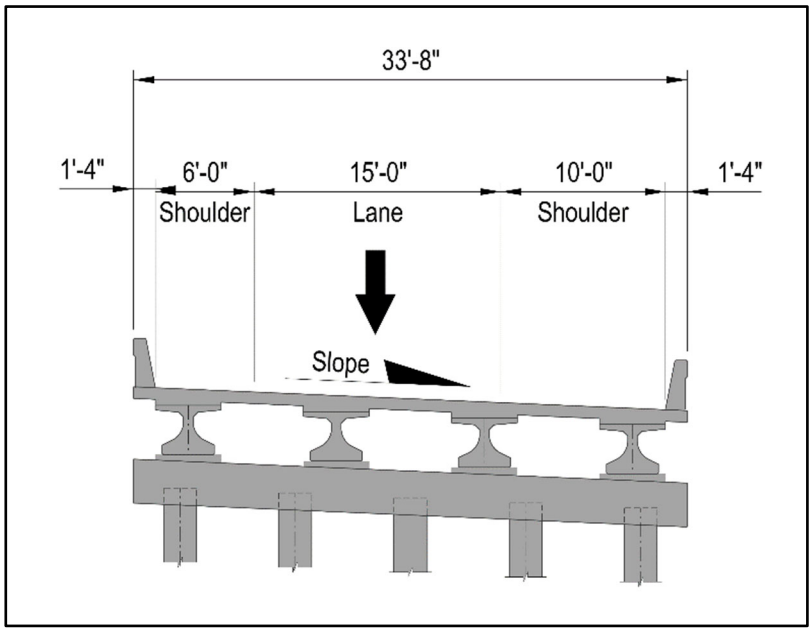



**Figure 4.52 – Proposed Bridge Typical Section**

## 4.30 BRIDGE 871047 AND 871048 - SR 826 SB/NB OVER SR 968/WEST FLAGLER ST.

**Existing Condition**

Bridge 871047 carries SR-826 southbound traffic over SR-968 (West Flagler St.). The existing bridge consists of a single span, with a total bridge length of 170.36 ft. The overall width of the bridge varies between 125.17 ft on the south end bent to 133.33 ft on the north end bent. The existing minimum vertical clearance is 16.83 ft and occurs along eastbound W. Flagler Street. The bridge was built in 2014 with no subsequent widenings.

The bridge accommodates two (2) 12 ft incoming ramp lanes with a 16 ft wide outside shoulder, a variable gore width, four (4) 12 ft general purpose lanes, a 2 ft wide buffer, a 12 ft lane, and a 10 ft wide outside shoulder. The 32" F-Shape Traffic Railing Barrier is used on both sides of the bridge.

The existing superstructure is composed of Florida I-78 Beams. The existing bridge substructure consists of typical end bents, supported on 24" square prestressed concrete piles. Both end bents are made up of 4 ft by 3 ft cap with a standard

MSE wall retaining wall system. There are no utilities being currently supported by the existing bridge. ***Figure 4.53*** illustrates the existing bridge.

**Figure 4.53 – Bridge 871047**

Bridge 871048 carries SR-826 northbound traffic over SR-968 (West Flagler St.). The existing bridge consists of a single span, with a total bridge length of 170.36 ft. The overall width of the bridge varies between 119.10 ft on the south end bent to 129.08 ft on the north end bent. The existing minimum vertical clearance is 16.63 ft and occurs along eastbound W. Flagler Street. It was built in 2013 with no subsequent widenings.

The bridge accommodates two (2) 12 ft exiting ramp lanes with a 10 ft wide outside shoulder, a variable gore width, four (4) 12 ft general purpose lanes, a 2 ft wide buffer, a 12 ft lane, and a 10 ft wide inside shoulder. The 32" F-Shape Traffic Railing Barrier is used on both sides of the bridge.

The existing superstructure is composed of Florida I-78 Beams. The existing bridge substructure consists of typical end bents, supported on 24" square prestressed concrete piles. Both end bents are made up of 4 ft by 3 ft cap with a standard MSE retaining wall system. There are no utilities being currently supported by the existing bridge. ***Figure 4.54*** illustrates the existing bridge.

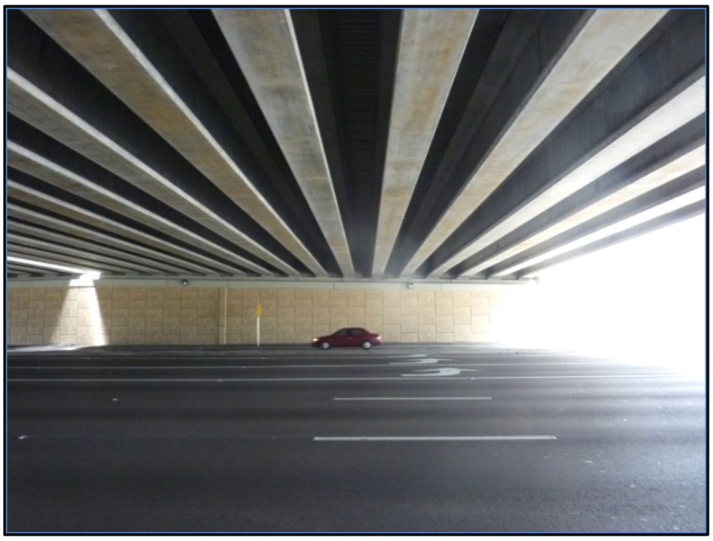


**Figure 4.54 -Bridge 871048**

**Proposed Concept**

As shown in the proposed bridge typical section below, the final condition for the southbound traffic on the bridge structure consists of a 10 ft wide outside shoulder, three (3) 12 ft general purpose lanes, a shoulder that varies between 11.79 ft and 12.48 ft inside shoulder, 2' barriers, a 10 ft shoulder, 12 ft lane, five (5) 11 ft express lanes, 2 ft delineator, 11 ft express lane and a 10 ft express lane interior shoulder. The proposed improvements on southbound bridge will require an outside widening that varies from 21.04 ft at begin bridge to 15.14 ft at end bridge and the reconstruction of the median barrier, requiring the lengthening of the existing bridge deck on the inside of the southbound bridge.

The proposed concept for the northbound traffic on the bridge consists of a 10 ft wide outside shoulder, a 12 ft lane, a gore with a varied width, seven (7) 11 ft general purpose lanes, 2 ft delineators, an 11 ft Express Lane, and a 10 ft Express Lane shoulder. The proposed improvements on the northbound bridge will require an outside widening varying from 31.4 ft at begin bridge to 30.7 ft at end bridge and the reconstruction of the median barrier, requiring the partial removal of the existing bridge deck on the inside of the northbound structure to allow for the bridge deck widening on Bridge 871047.

The proposed overall bridge width varies from approximately 294.86 ft at the south end bent to 307.46 ft at the north end bent. The superstructure options for the proposed widening are limited to Florida-I Beams (FIB) to match the existing

structure. Two (2) lines of equally spaced FIB-72 will be required to accommodate the proposed outside widening on the southbound bridge and three (3) lines of equally spaced FIB-72 will be required to accommodate the proposed outside widening on the northbound bridge. (See ***Figure 4.55***) The existing minimum vertical clearance will be maintained since the proposed FIB-72 are 6" shallower than the existing FIB-78 and the proposed exterior beams will not encroach into the existing vertical clearance. Based on the load rating analysis of these bridges, widening is feasible (refer to Chart 10 and 11 of Chapter 7).

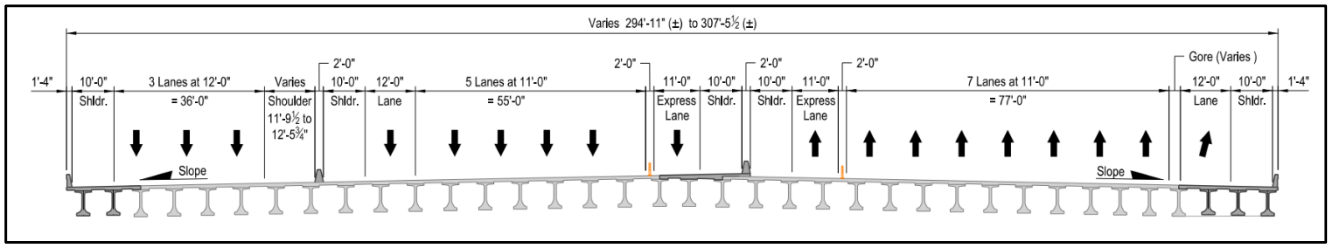



**Figure 4.55 – Proposed Bridge Typical Section**

The existing end bents will be widened, matching existing, and will be supported on additional prestressed concrete piles for both the northbound and southbound structure. Existing MSE wall will be widened at the begin bridge wrapping around the proposed end bent widening and will be reconstructed at the end bridge to accommodate the proposed bridge widening.

## 4.31 Bridge 871045 - SR 826 SB CD over NW 7th St.

### Existing Condition

Bridge 871045 is a southbound SR-826 Connector from eastbound SR 836 to Flagler Street, and carries traffic over NW 7th St. The existing bridge consists of a single span with a length of 123.24 ft. The overall width of the bridge is 43.08 ft uniformly along the bridge. The existing minimum vertical clearance is 17.08 ft and occurs along NW 7th St. The bridge was built in 2015 with no subsequent widenings.

The bridge carries southbound traffic and consists of two (2) 12 ft traffic lanes and a 10 ft and a 6 ft shoulders. The 32" F-Shape Traffic Railing Barrier is used on both sides of the bridge.

The existing superstructure is composed of Florida-I 45 Beams. The existing bridge substructure consists of typical end bents which are supported on 24" square

prestressed concrete piles. Both end bents use the wrap around MSE retaining wall system. There are no utilities being currently supported by the existing bridge. ***Figure 4.56*** illustrates the existing bridge.


**Figure 4.56 – Bridge 871045**

**Proposed Concept**

As shown in the typical section below, the proposed concept for the bridge structure consists of an outside shoulder of 10 ft, three (3) 12 ft lanes and an inside shoulder of approximately 7.0 ft, with an existing 32" F-Shape traffic railing along the east side and a new 1.33 ft wide single slope traffic barrier on the west side being widened. The proposed bridge width will be approximately 55.88 ft. The proposed modifications on bridge structure will require an outside widening of approximately 15.94 ft. (See ***Figure 4.57***)

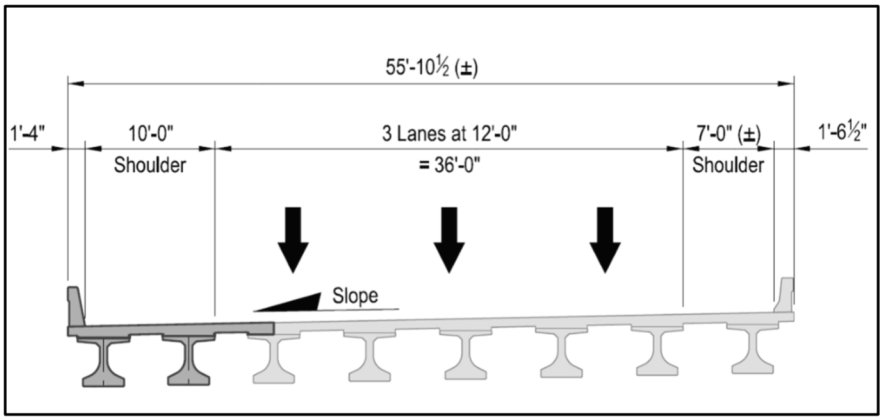



**Figure 4.57 – Proposed Typical Section**

The superstructure options for the proposed widening are limited to FIB beams to match existing. Two (2) lines of equally spaced FIB-45 will be required to accommodate the proposed bridge widening. The proposed widening will reduce the existing minimum vertical clearance over future NW 7th St. shown in the existing bridge plans but will still meet the 16.5 ft minimum vertical clearance criteria. Based on the load rating analysis of this bridge, widening is feasible (refer to Chart 12 of Chapter 7).

The existing end bents will be widened towards the outside, matching existing and will be supported with additional prestressed concrete piles. Existing MSE wall will be lengthened wrapping around the proposed end bents widening.

## 4.32 Bridge 871063 - SR 826 SB over NW 7th St.

### Existing Condition

Bridge 871063 carries SR-826 southbound traffic over NW 7th St. The existing bridge consists of a single span with a length of 123.01 ft. The overall width of the bridge is 73.08 ft. The existing minimum vertical clearance is 16.58 ft and occurs along NW 7th St. The bridge was built in 2014 with no subsequent widenings.

The bridge consists of four (4) 12 ft traffic lanes, a 2 ft buffer, and two (2) 10 ft shoulders. The 32" F-Shape Traffic Railing Barrier is used on both sides of the bridge. The existing superstructure is composed of Florida-I 45 Beams. The existing bridge substructure consists of typical end bents which are supported on 24" square prestressed concrete piles. Both end bents use the standard MSE retaining wall

system. There are no utilities being currently supported by the existing bridge. ***Figure 4.58*** illustrates the existing bridge.

**Figure 4.58 – Bridge 871063**

**Proposed Concept**

As shown in the proposed bridge typical section below, the final condition for the bridge consists of an outside shoulder that varies between 10.08 ft and 10.54 ft, four (4) 11 ft general use lanes, 2 ft delineators, 11 ft express lane and an 8.81 ft inside shoulder. The proposed bridge width will vary from 78.77 ft to 79.23 ft. The proposed improvement will require a widening of approximately 20.73 ft. (See ***Figure 4.59***)

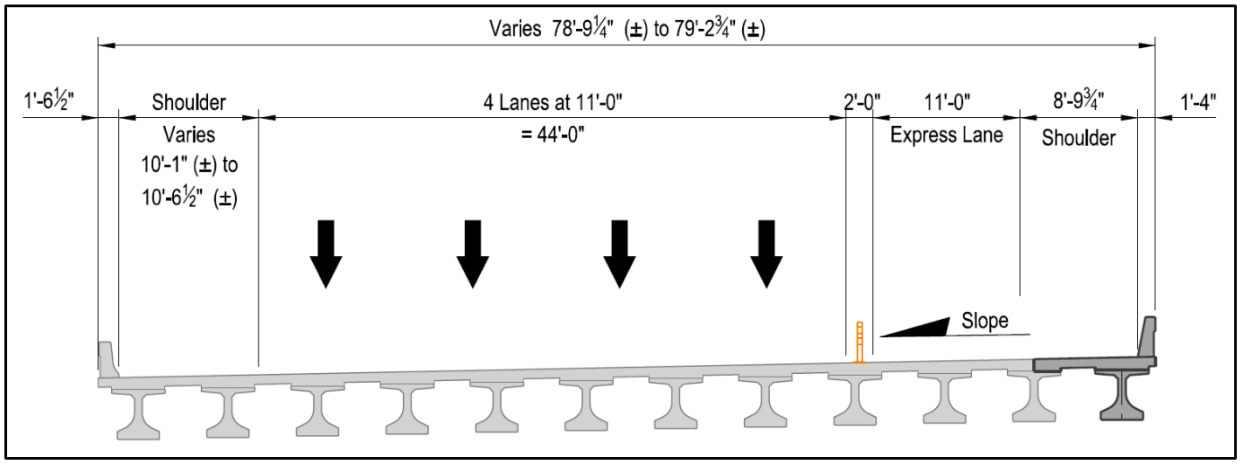



**Figure 4.59 – Proposed Bridge Typical Section**

The superstructure options for the proposed widening are limited to FIB beams to match existing. A single (1) line of FIB-45 will be required to accommodate the

proposed widening on the east side of the bridge. Based on the load rating analysis of this bridge, widening is feasible (refer to Chart 13 of Chapter 7).

The existing minimum vertical clearance over future NW 7th St. will be maintained since the proposed bridge widening is on the high side of the bridge. The existing end bents will be widened matching existing and will be supported on additional prestressed concrete piles. Existing MSE walls will be lengthened at both bridge ends.

## 4.33 BRIDGE 871064 - SR 826 NB OVER NW 7TH ST.

**Existing Condition**

Bridge 871064 carries SR-826 northbound traffic over NW 7th St. The existing bridge consists of a single span with a length of 123 ft. The overall width of the bridge is 73.08 ft. The existing minimum vertical clearance is 16.5 ft and occurs along NW 7th St. The bridge was built in 2014 with no subsequent widenings. The bridge consists of four (4) 12 ft traffic lanes, a 2 ft buffer, and two (2) 10 ft shoulders. The 32" F-Shape Traffic Railing Barrier is used on both sides of the bridge.

The existing superstructure is composed of Florida-I 45 Beams. The existing bridge substructure consists of typical end bents which are supported on 24" square prestressed concrete piles. Both end bents use the standard MSE retaining wall system. There are no utilities being currently supported by the existing bridge. ***Figure 4.60*** illustrates the existing bridge.

**Figure 4.33 – Bridge 871064**

**Proposed Concept**

As shown in the proposed typical section below, the final condition for the bridge consists of an outside shoulder that varies between 15.73 ft and 14.02 ft, four (4) 11 ft general use lanes, 2 ft delineators, 11 ft Express Lane, and a 10 ft Express Lane shoulder. The proposed bridge width is 86.56 ft. The proposed improvements will require a bridge widening of approximately 12.3 ft. (See ***Figure 4.61***)

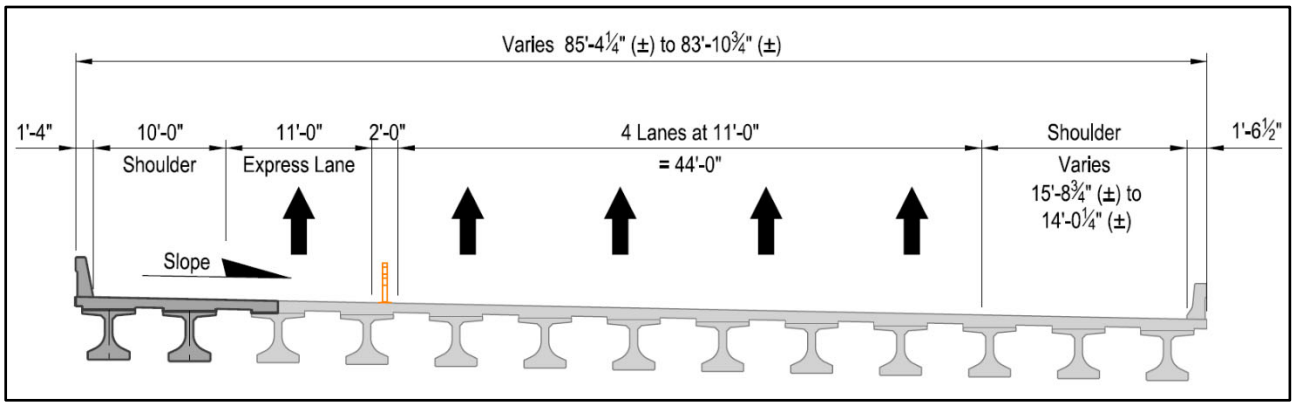



**Figure 4.61 – Proposed Bridge Typical Section**

The superstructure options for the proposed widening are limited to FIB beams to match existing. Two (2) lines of FIB-45 will be required to accommodate the proposed widening on the east side of the bridge. Based on the load rating analysis of this bridge, widening is feasible (refer to Chart 14 of Chapter 7).

The existing minimum vertical clearance is maintained as the proposed widening is on the high side of the bridge. The existing end bents will be widened matching the existing and supported on additional piles. The existing MSE walls will be lengthened wrapping around the proposed end bents widening.

## 4.34 Bridge 8 - SR 826 NB Managed Lanes over NW 7th St.

**Proposed Concept**

Bridge 8 is proposed to span over NW 7th Street and will be built between Bridges 871063 (west) and 871064 (east). Hence, Sections 4.32 and 4.33 (above) covered the existing conditions for the proposed structure.

The purpose of this structure is to provide the connection of the northbound managed lane to Bridge 9, third level flyovers traversing the SR 826/SR 836 interchange. This structure is a single-lane bridge, 123 ft long and 29.67 ft wide. The typical section shows a single 15 ft wide lane with 6 ft shoulders.

Bridge 8 is proposed as simply supported structure with the bridge ends in line with the ends of the parallel existing structures. The superstructure comprises FIB 45 girders acting compositely with an 8½" concrete deck. The substructure consists of reinforced concrete end bents supported on precast prestressed concrete piles. MSE walls will be in front of end bents, aligned with the existing walls of the adjacent bridges. Since the parallel structures meet the minimum vertical clearance requirements, there is no clearance concern on these bridges as they are on the high side. ***Figure 4.62*** illustrates the structure typical sections.

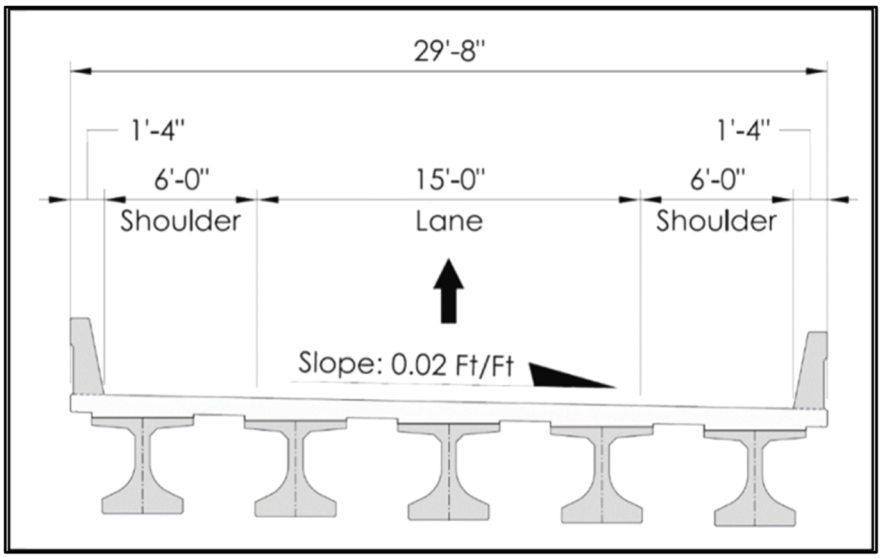



**Figure 4.62 – Bridge 8 Typical Section**

The main challenge of this structure is access for bridge construction. Bringing material along NW 7th Street is feasible; however, erection of girders may be done by placing one crane behind each end bent.

## 4.35 Bridge 9 – Flyover from SR 826 NB to SR 836 EB

### Existing Condition

The SR 826 and SR 836 Interchange is a fully directional interchange with 46 bridge structures that was completed in 2015. The facility provides direct connector

ramps and collector-distributor ramps improving geometric and operational features. The interchange has four high-level segmental bridge ramps that traverse the core of the interchange. During the interchange design, an envelope was left to accommodate future managed lanes, which is what we are analyzing in this study.

**Proposed Concept**

The proposed Bridge 9 traverses the interchange from SR 826 to SR 836 carrying the NB managed lane, between a second and a third level segmental bridge, making this bridge highly visible third level flyover. Because of the structure's visibility within the interchange and considering the existing structures, the superstructure types are proposed as closed boxes with the same features, including pier shape, of the existing high-level flyovers. Hence, the proposed bridges are considered as segmental structures or steel box girders.

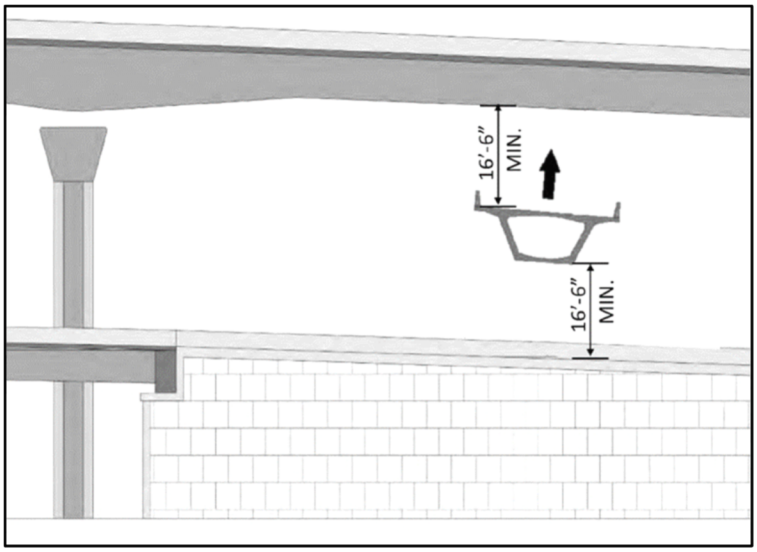



**Figure 4.34 – Bridge 9 Between a 2nd and 3rd Level Flyovers**

The proposed structure is both curved single lane flyover, with (1)15 ft lane with an inside shoulder that varies from 6 ft to 12 ft and an outside shoulder that varies from 6 ft to 10 ft. ***Figure 4.63*** shows how the single lane flyover was accommodated between two existing segmental structures.

Bridge 9 is 1,780 ft long and has 8 spans (maximum span is 250 ft). The box width varies from 27.67 ft to 35.67 ft, and is 11 ft deep, constant depth. The single-column pier is similar to those existing including the capital on top of the column, blending

seamlessly with the existing long span flyovers. ***Figure 4.64*** shows the bridge typical section.

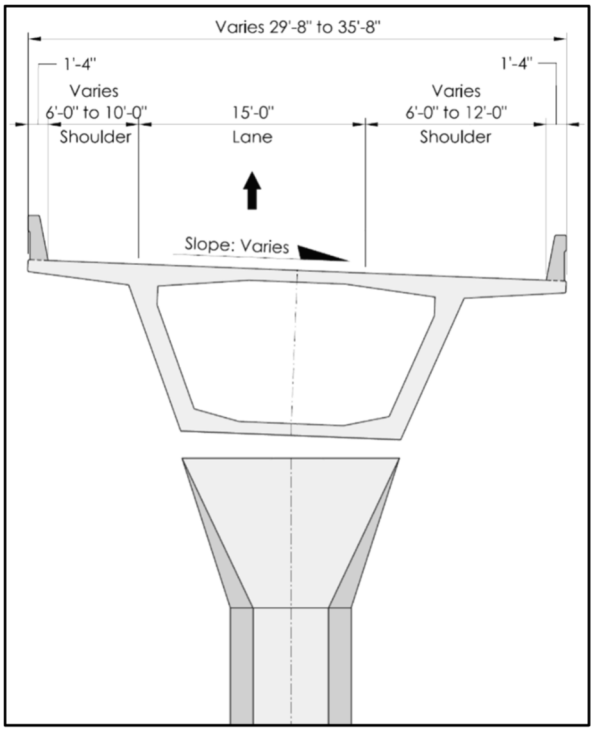



**Figure 4.64 – Bridge 9 Typical section**

Construction of this flyover is particularly challenging as an overhead gantry truss will not fit within the geometrical vertical constrains of the surrounding structures. Thus, selective work zone locations will need to be identified and secured so cranes can be positioned for the erection. Delivery of the superstructure pieces can be done through the adjacent roadways within the interchange. Temporary closures of the road will be needed as well.

## 4.36 Bridge 10 – SR 836 EB On-Ramp over NW 72nd Ave.

**Proposed Concept**

Bridge 10 spanning over NW 72nd Avenue is located south and parallel to Bridge 871041. This structure is a single-lane bridge, 231 ft long and 29.67 ft wide. The typical section shows a single 15 ft wide lane with 6 ft shoulders.

Bridges 10 is proposed as a simply supported structure with the bridge ends in line with the ends of the parallel existing structures. The superstructure will consist of

steel plate girder structure with a web depth of 8.0 ft acting compositely with an 8½" concrete deck. The substructure consists of reinforced concrete end bents supported on precast prestressed concrete piles. MSE walls will be in front of the end bents, aligned with the existing walls of the adjacent bridges. Since the parallel structures meet the minimum vertical clearance requirements, there is no clearance concern on these bridges as this bridge is on the high side of all parallel structures. ***Figure 4.65*** shows the structure typical section.

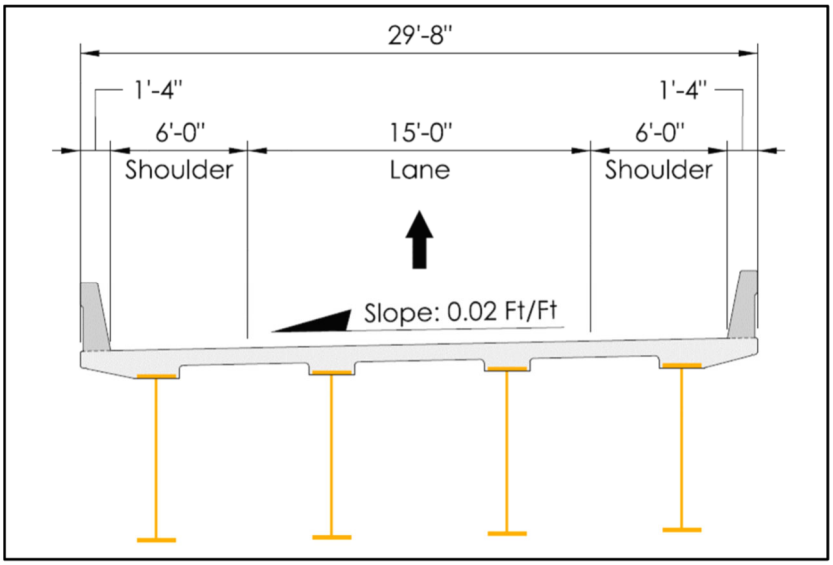



**Figure 4.65 – Proposed Bridge 10**

## 4.37 BRIDGE 871036 – SR 836 EB CD OVER CSX RAILROAD

### Existing Condition

Bridge 871036 carries eastbound CD traffic over CSX Railroad. The existing bridge consists of seven (7) spans, with a maximum span length of 100.38 ft within the first unit (four spans). The second unit is made of 3 spans, with a maximum span of 119.08 ft. The total bridge length is 702.25 ft, and the bridge width is 51.08 ft. The existing minimum vertical clearance is 24.58 ft and occurs over CSX RR Track at span 6. The bridge was built in 2013 with no subsequent widenings. The bridge carries of three (3) 12 ft traffic lanes, and 6 ft shoulders. The 32" F-Shape Traffic Railing Barrier is used on both sides of the bridge.

The existing superstructure is composed of Florida-I 45 Beams. The existing bridge substructure consists of typical end bents supported on 24" sq. prestressed concrete piles and intermediate bents supported precast prestressed concrete

piles. Both end bents use the standard MSE retaining wall system. There are no utilities being currently supported by the existing bridge. ***Figure 4.66*** illustrates the existing bridge.

**Figure 4.66 – Bridge 871036**

**Proposed Concept**

The proposed cross section for Bridge 871036 is shown in ***Figure 4.67*** below. The existing bridge will be widened along the south side of the structure, within the first four (4) spans of the bridge, to provide a bridge section with an existing 32" F-shape traffic railing that is to remain, a 6 ft left shoulder, a 12 ft lane, a lane that varies in width from 12.74 ft 70 12 ft, a gore varying in width, a 15 ft lane and a 1.33 ft wide traffic barrier. The total bridge width will vary from 77.08 ft to 51.08 ft.

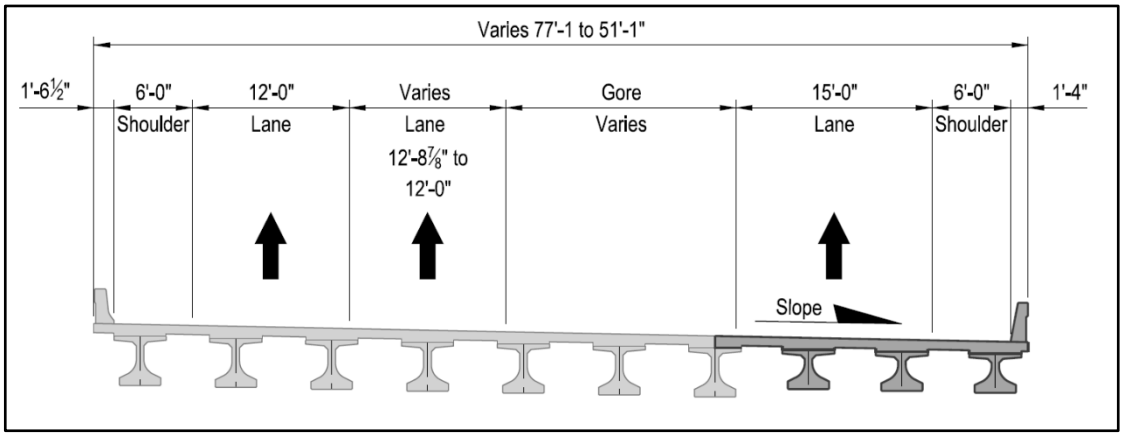



**Figure 4.67 – Proposed Bridge Typical**

The superstructure of the existing bridge will be widened within the first four (4) spans of the structure, with multi-lines of FIB-36 concrete beams in spans 1 and 2, and one (1) line of FIB-36 beam in spans 3 and 4. The existing railing barrier along the widened portion of the bridge will be replaced with a 1.33 ft wide FDOT single slope traffic railing barrier. The existing minimum vertical clearance of 24.58 ft over the railroad track will be maintained since the proposed FIB-36 are 9" shallower than the existing beams. Based on the load rating analysis, the widening is feasible (refer to Chart 15 of Chapter 7).

The existing end bent at begin bridge will be widened matching the existing and supported on additional 24" sq. concrete piles. The existing intermediate bents will be lengthened and supported on additional concrete piles to match existing. The existing MSE wall at begin bridge will be extended wrapping around the proposed end bent widening.

## 4.38 Culverts

The project has identified four (4) culverts that would need to be added or extended to accommodate the proposed project improvements. The following list includes the culverts so far identified as part of the project.

- Culvert widening at C-100A Canal
- CVRT-1 Bridge Culvert by Coral Way Pedestrian Overpass
- CVRT-2 Bridge Culvert Along East Side of SR 826 & N. of Coral Way
- CVRT-3 Bridge Culvert along East Side of SR 826 NB off-ramp to SW 8th St.

The design concept for the culverts cannot be provided at this time since there is not enough information to determine culvert cross-sections, sizes, and limits.

## 4.39 Walls

Retaining earth support systems to retain earth at bridge ends in the structures within the project corridor, are slope systems or mechanically stabilized earth (MSE) walls.

Considering the sixteen bridge widenings of the preferred alternate, our preliminary analysis has determined that there would be twenty-nine MSE walls on

the sides of the bridges, thirty-one walls in front of end bents, and four sides on slope. For the fifteen bridge replacements, there will be eight walls on the sides, ten walls in front and eighteen sides will be on slope. As the new bridges are typically wider than existing, reconstruction of the existing walls may not be feasible.

The ten new bridges will require twenty walls on both sides of the bridge, twenty walls in front of the end bents. As to aesthetics, the proposed walls will match the theme and features of the existing walls along the project corridor.

# 5.0 Conclusions and Recommendations

## 5.1 Preliminary Engineer's Estimate

Probable cost estimates have been collected from the Florida Department of Transportation construction cost database. The impacts of phased construction and overall project complexity were accounted for by applying a 20 percent increase to the estimated bridge construction costs. Additionally, FDOT Structures Design Guidelines (2026) Section 9.2.3 uses 2023 average estimates, therefore, to account for escalation to current market conditions, the contingency typically applied at this stage which is used to consider the nature of the design was increased to 40% contingency.

The primary source of cost information is the FDOT Structures Design Guidelines, Section 9, BDR Cost Estimating, 2026. The resulting probable cost per structure is summarized in ***Table 5.1*** below.

## 5.2 Recommendations

As discussed in this document, the preferred alternative is the most competitive of all the evaluated alternatives. The total probable cost of the bridge structures associated with this preferred alternate is $220,742,542.

| 5.1 COST ESTIMATE - Preferred Alternative | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Bridge No. | Bridge Location | Structure Length (ft) | Bridge Area (Sqft) | Construction Unit Cost | Removal Area (Sqft) | Removal Unit Cost | Bridge Type | Total Cost |
| 870129 | SR 826 SB over SW 98th St. SB (2 Level) | 750.00 | 44,003 | $276 | 24,183.58 | $115 | PCB | $14,925,802 |
| 870792 | SR 826 NB from EB SW 88th St. to NB SR 826 (2 Level) | 975.58 | 30,897 | $324 | 25,753.08 | $115 | SPG | $12,972,109 |
| 870773 | SR 826 NB & SB over SW 88th St. WB & EB (2 Level) | 219.50 | 12,198 | $205 | 1,538.50 | $165 | PCB | $2,754,401 |
| 870793 | SR 826 SB off-ramp over SW 88th St. (2 Level) | 277.00 | 8,219 | $276 | 8,227.78 | $70 | PCB | $2,844,276 |
| 870953 | SW 88th St. WB - SR 826 NB over Dadeland Mall Access (2 Level) | 114.89 | 4,902 | $276 | 3,077.93 | $70 | PCB | $1,568,506 |
| 870794 | SR 826 SB to SW 88th St. over Snapper Creek Canal (2 Level) | 176.00 | 7,510 | $192 | 7,582.66 | $70 | PCB | $1,972,691 |
| 870286 | SR 826 NB/SB over Snapper Creek Canal (2 Level) | 175.75 | 6,302 | $205 | 1,033.72 | $165 | PCB | $1,462,480 |
| 870795 | WB SW 88th St. - SR 826 NB over Snapper Creek Canal | 178.55 | 5,298 | $192 | 5295 | $70 | PCB | $1,387,762 |
| 870132 | SR 826 SB over SW 72nd St./Sunset Drive (2 Level) | 162.50 | 23,509 | $192 | 9853 | $70 | PCB | $5,203,414 |
| 870287 | SR 826 NB over SW 72nd St./ Sunset Drive (2 Level) | 162.50 | | $192 | 9853 | $70 | PCB | $689,710 |
| 871013 | SR 826 NB/SB over SW 56th St./Miller Drive (2 Level) | 159.72 | 5,791 | $205 | 982 | $165 | PCB | $1,349,217 |
| 871017 | SR 826 SB over SR 874 and CSX RR (2 Level) | 655.17 | 10,590 | $240 | 20125 | $165 | SPG | $5,862,196 |
| 871018 | SR 826 NB over CSX RR and SR 874 (2 Level) | 337.18 | 5,419 | $240 | 9061 | $165 | SPG | $2,795,747 |
| 4 | SR 826 SB off-ramp over SR 826 (3 Level) | 658.00 | 24,129 | $340 | | | SBG or SEG | $8,203,812 |
| 5 | SR 826 NB off-ramp over SR 976/Bird Rd./SW 40th and SR 826 (3 Level) | 2276.35 | 74,368 | $340 | | | SBG or SEG | $25,285,241 |
| 6 | SR 826 SB off-ramp over SR 976/Bird Rd./SW 40th St | 179.39 | 5,321 | $160 | | | PCB | $851,324 |
| 871021 | SR 826 SB over SW 40th St./Bird Rd. (2 Level) | 160.50 | 2,049 | $205 | 550 | $165 | PCB | $510,770 |
| 871022 | SR 826 NB over SW 40th St./Bird Rd. (2 Level) | 160.67 | 4,690 | $205 | 539 | $165 | PCB | $1,050,406 |
| 879023 | Pedestrian Overpass over SR 826 (2 Level) | 310.00 | 4,650 | $160 | 11468 | $70 | PCB | $1,546,754 |
| 879010 | Pedestrian Overpass over SR 826 SB To/From SW 24th St. | 144.00 | 6,375 | $160 | 6671 | $70 | PCB | $1,487,005 |
| 870760 | SR 826 SB over SW 24th St./Coral Way (2 Level) | 150.13 | 6,155 | $205 | 1281 | $165 | PCB | $1,473,150 |
| 870761 | SR 826 NB over SW 24th St./Coral Way (2 Level) | 149.92 | 4,294 | $205 | 1281 | $165 | PCB | $1,091,628 |
| 870764 | SR 826 NB to SW 24th St./Coral Way over Coral Gables Canal (2 Level) | 97.38 | 2,661 | $205 | 195 | $165 | Flat Slab Concrete | $577,671 |
| 870782 | SR 826 SB Exit Ramp to US 41 EB over US 41 (2 Level) | 363.28 | 10,779 | $160 | | $70 | PCB | $1,724,582 |
| 870781 | SR 826 SB Exit Ramp to US 41 WB over Tamiami Canal (2 Level) | 340.71 | 10,109 | $230 | 7464 | $70 | Flat Slab Concrete | $2,847,519 |
| 870112 | SR 826 SB over US 41/SR 90/SW 8th St. (2 Level) | 363.40 | 48,270 | $192 | 42678 | $70 | PCB | $12,255,349 |
| 870267 | SR 826 NB over US 41/SR 90/SW 8th St. (2 Level) | 363.40 | 44,880 | $192 | 42678 | $70 | PCB | $11,604,369 |
| 7 | US 41 WB TO SR 826 NB over Tamiami Canal | 372.00 | 12,525 | $160 | 3834 | $70 | PCB | $2,272,401 |
| 871000 | SR.826 NB off-ramp over Coral Gables Canal | 119.04 | | | 4005 | $70 | Flat Slab Concrete | $280,333 |
| 870066 | US41/SR90/SW 8th St. over Coral Gables Canal | 92.00 | | | 8717 | $70 | Flat Slab Concrete | $610,224 |
| 871047 | SR 826 SB over SR 968/West Flagler St. (2 Level) | 170.25 | 3,179 | $205 | 1,091.38 | $165 | PCB | $831,853 |

| 5.1 COST ESTIMATE - Preferred Alternative | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Bridge No. | Bridge Location | Structure Length (ft) | Bridge Area (Sqft) | Construction Unit Cost | Removal Area (Sqft) | Removal Unit Cost | Bridge Type | Total Cost |
| 871048 | SR 826 NB over SR 968/West Flagler St. (2 Level) | 170.58 | 5,920 | $205 | 3,814.46 | $165 | PCB | $1,843,022 |
| 871045 | SR 826 SB CD over NW 7th St. (Level 2) | 123.34 | 2,019 | $205 | 408 | $165 | PCB | $481,356 |
| 871063 | SR 826 SB over NW 7th St. (Level 2) | 125.00 | 1,191 | $205 | 369 | $165 | PCB | $305,070 |
| 8 | SR 826 NB Managed Lanes over NW 7th St. (Level 2) | 125.00 | 3,709 | $160 | | | PCB | $593,400 |
| 871064 | SR 826 NB over NW 7th St. (Level 2) | 123.12 | 1,855 | $205 | 369 | $165 | PCB | $441,095 |
| 9 | Flyover from SR 826 NB to SR 836 EB (3 Level) | 1780.31 | 60,260 | $340 | | | SBG or SEG | $20,488,233 |
| 10 | SR 836 EB on-ramp over NW 72nd Ave. | 232.33 | 6,893 | $270 | | | SPG | $1,861,172 |
| 871036 | SR 836 EB CD over CSX RR | 381.70 | 5,433 | $205 | 1536 | $165 | PCB | $1,367,197 |
| PCB: Prestressed Concrete Beam; PSB: Prestressed Slab Bridge; SPG: Steel Plate Girder; SBG: Steel Box Girder; SEG: Segmental; Cost of Culverts not included. | | | | | | | Total: | $220,742,542 |

Notes:

1. Cost Estimate for Bridges 870129, 870792, 870795, 870132, 870287, 879010, 870112, 870267, 870793, 870953, 870794, 979023 & 870781 includes the cost for its complete demolition for bridge replacement. Demolition cost of existing Bridges 870782 and 870780 are included in the cost for Bridges 870112 and 870267, respectively.

2. Cost estimate for Bridges 871000 and 870066 are for demolition costs only.

3. Cost estimate for Bridges 870773, 870286, 871013, 871017, 871018, 871021, 870122, 870760, 870761, 870764, 871047, 871048, 871045, 871063, 871064 and 871036 includes the cost for partial demolition of existing bridge for its widening.

4. For bridges requiring multiple construction phases or complex construction (Bridges 4, 5 & 9), (Bridge Replacements 870129, 870792, 870793, 870953, 870794, 870595, 870132, 870287, 870112 and 870267 unit costs have been increased by 20%.

5. Cost Estimate for Bridges 3, 4, 5 and 9 correnspons to the higher of SEG or SBG.

6. Total Probable Cost includes 40% contingency.

## 6.0 LOAD RATING DOCUMENTATION

Appendix A presents the load rating capacity charts for the existing structures.

# Appendix A

# FDOT BRIDGE LOAD RATING SUMMARY FORM

| | | | |
|---|---|---|---|
| **Bridge No.** | **870773** | **Analysis Method:** **LRFR-LRFD** | **FDOT Bridge Load Rating Summary Form (Page 1 of 1)** |
| **Bridge Name** | **S.R. 826 Palmetto Expressway over N. Kendall Drive** | | |
| **Description** | **3 Simply-supported spans, 93-73-54 feet, Composite prestress girder** | | |

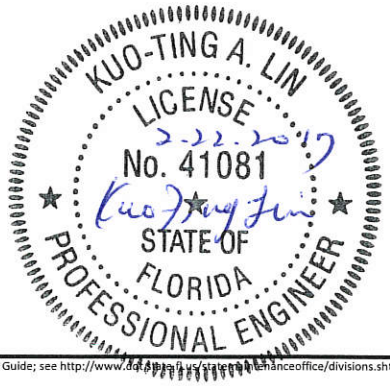
| Rating Type | Rating Type | Gross Axle Weight (tons) | Moment/Shear/Service | | Dead Load Factor | Live Load Factor | Live Load Distrib. Factor (axles) | Rating Factor | Span No. - Girder No., Interrior/Exterior, %Span-L | Pontis RF-Weight (tons) |
|---|---|---|---|---|---|---|---|---|---|---|
| **Level** | **Vehicle** | **Weight** | **Member Type** | **Limit** | **DC** | **LL** | **LLDF** | **RF** | **Governing Location** | **RATING** |
| Inventory | HL93 | 36 | Prestressed | Strength, Moment | 1.25/0.90 | 1.75 | 0.690 | 1.150 | Span 3, Beam 7, Exterior, 50%L | 41.4 |
| Operating | HL93 | 36 | Prestressed | Strength, Moment | 1.25/0.90 | 1.35 | 0.690 | 1.490 | Span 3, Beam 7, Exterior, 50%L | 53.6 |
| Permit | FL120 | 60 | Prestressed | Strength, Shear | 1.25/0.90 | 1.35 | 0.730 | 0.990 | Span 3, Beams 2 thru 6, Interior, 30%L | 59.4 |
| Max Span | FL120 | 60 | Prestressed | Strength, Moment | 1.25/0.90 | 1.35 | 0.730 | 1.430 | Span 1, Beam 6, Exterior, 50%L | 85.8 |
| Legal | SU2 | 17 | Member Type | Limit Test | NA | NA | | | | -1 |
| | SU3 | 33 | Member Type | Limit Test | NA | NA | | | | -1 |
| | SU4 | 35 | Prestressed | Strength, Moment | 1.25/0.90 | 1.35 | 0.690 | 1.650 | Span 3, Beam 7, Exterior, 50%L | 57.8 |
| | C3 | 28 | Member Type | Limit Test | NA | NA | | | | -1 |
| | C4 | 36.7 | Member Type | Limit Test | NA | NA | | | | -1 |
| | C5 | 40 | Prestressed | Strength, Moment | 1.25/0.90 | 1.35 | 0.690 | 1.930 | Span 3, Beam 7, Exterior, 50%L | 77.2 |
| | ST5 | 40 | Prestressed | Strength, Moment | 1.25/0.90 | 1.35 | 0.690 | 2.190 | Span 3, Beam 7, Exterior, 50%L | 87.6 |

| | | | | | |
|---|---|---|---|---|---|
| *Original* Design Load | HS20 or HS20-S16-44 | | Performed by: | Ming-Hung Teng | Date: 03/17/16 |
| Rating Type, *Analysis* | LRFR-LRFD | | Checked by: | Randall C. Wright | Date: 03/25/16 |
| Distribution Method | AASHTO Formula | | Sealed By: | K.T. Lin | Date: 02/22/17 |
| Impact Factor | 33.0% | (axle loading) | FL P.E. No.: | #41081 | |
| FL120 Gov. Span Length | 52.2 | (feet) | Cert. Auth. No.: | #7011 | |
| Recommended Posting | At/Above legal loads. Posting Not Required. | | Phone & email: | 305-265-5400, klin@eacconsult.com | |
| Rec. SU Posting | 99 | (tons) | Company: | EAC Consulting, Inc. | |
| Rec. C Posting | 99 | (tons) | Address: | 815 NW 57th Avenue, Suite 402, Miami, FL 33126 | |
| Rec. ST5 Posting | 99 | (tons) | P.E. Seal | | |
| Floor Beam Present? | No | | | | |
| Segmental Bridge? | No | | | | |
| Project No. & Reason | NA | Update | | | |
| Status | Built | | | | |

COMMENTS BY THE ENGINEER

Good condition

See load rating narrative




This 02-23-2015 table is based on requirements within the 2015 FDOT Bridge Load Rating Manual, and the 2014 BMS Coding Guide; see http://www.dot.state.fl.us/statemaintenanceoffice/divisions.shtm

Chart 2

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION

# LOAD CAPACITY INFORMATION

FORM 850-010-06
MAINTENANCE - 06/93


1. **BRIDGE DATA:**
Bridge Number 870286 Date 06/30/00
STR Type Main [BMIS Item B1(43)] CODE 502 STR Type APR [BMIS Item B2(44)] CODE 000

2. **POSTING DATE:**
Posted NO If yes, Existing Restrictions NONE
BMIS Item H8(41) A (OPEN)
Posting Needed NO If Yes, Proposed Restrictions NONE
BMIS Item H11(70) 5
BMIS Item H7(31) 5

3. **ANALYSIS DATA:**

A. Method of Analysis:
- [X] Load Factor
- [ ] Working Stress

B. Analysis System:
- PC- BARS
- N.A SALOD
- [ ] BRUFEM
- [ ] Load Test
- [X] Other AASHTO

C. Analysis Based On:
- [X] Design Drawings
- [ ] As-Built Record Plans
- [ ] Shop Drawings
- [ ] Field Measurement
- [ ] Catalogs
- [ ] Sample Testing
- [ ] Other

D. Data Stored:
- [X] District Office
- [ ] Central Office
- [ ] Microfilm
- [ ] Bridge Owner
- [ ] Materials Test Lab
- [ ] Other

E. Controlling Member Analyzed:

Material:
- [ ] Steel
- [X] Concrete
  - [ ] Cast in Place
  - [ ] Precast
  - [X] Prestressed
  - [ ] Post Tensioned
- [ ] Timber
- [ ] Other

Function:
- [ ] Slab
- [ ] Stringer
- [ ] Floor Beam
- [X] Girder
- [ ] Culvert
- [ ] Truss

Substructure:
- [X] Bent Construction
  - [X] Piling
  - [X] Cap
- [ ] Pier Construction
  - [ ] Piling
  - [ ] Footing
  - [ ] Column
  - [ ] Cap

Span:
- [X] Simple
- [ ] Continuous
- [ ] Frame

Slab:
- [ ] Non-Composite
- [X] Composite

Shape:
- [ ] Rolled
- [ ] Built-up Welded
- [ ] Built-up Riveted
- [ ] Box Shape
- [X] AASHTO Girders
- [ ] Other

4. **Load Rating Summary Table:**

**LOAD RATING SUMMARY FOR OPERATING RATING (GROSS TONS - METRIC SYSTEM)**

| VEHICLE TYPE | TONS | OPR RATING | OPR FACTOR | SPAN NO. | SPAN LENGTH | CONTR. MEMBER | M OR V | LLDF |
|---|---|---|---|---|---|---|---|---|
| SU2 | 15.4 | 53.4 | 3.466 | 1-4 | 12.893 | 1 | M | 1.409 |
| SU3 | 29.9 | 55.4 | 1.853 | ↓ | ↓ | ↓ | ↓ | ↓ |
| SU4 | 31.7 | 54.7 | 1.725 | | | | | |
| C3 | 25.3 | 78.1 | 3.088 | | | | | |
| C4 | 33.1 | 77.6 | 2.344 | | | | | |
| C5 | 36.2 | 78.6 | 2.171 | | | | | |
| ST5 | 36.2 | 83.3 | 2.301 | ↓ | ↓ | ↓ | ↓ | ↓ |
| MS 18 | 32.7 | 66.1 | 2.020 | 1-4 | 12.893 | 1 | M | 1.409 |

MS 18 Inventory Rating 39.6 Rating Factor 1.212

5. **Comments:**
IMPACT (%) = 29.9

6. **Computations:**
Performed By JAG Date 06/30/00
Checked By GN Date
Reviewed By EG P.E #: 50587 Date

7. **Responsible Engineer:**
P.E. # Date

METRIC

Chart 3

Form Revision un-07

# BRIDGE LOAD RATING SUMMARY FORM

**BRIDGE DATA**

| | |
|---|---|
| **Bridge Number:** | 871013 |
| Struct. Type Main [Item 43] @: | 502 |
| Struct. Type Appr. [Item 44] @: | 0 |

**POSTING DATA**

**Current Restrictions**

| | |
|---|---|
| Item 41 @: | Open, No Restrictions |
| Is Posting Needed: | No |

**Proposed Restrictions**

| | |
|---|---|
| Item 70 @: | At/Above Legal Loads |

**PROGRAM USED**

CONSPAN VERSION 9.0

**BASIS FOR ANALYSIS**

| | |
|---|---|
| Design Drawings: | Yes |
| As-Built Drawings: | No |
| Shop Drawings: | No |
| Field Measurements: | No |
| Coupon Testing: | No |
| Other: | |

**LIVE LOAD DISTRIBUTION**

| | |
|---|---|
| AASHTO LFD: | |
| AASHTO LRFD: | 0.7700 |
| SALOD: | |
| BRUFEM: | |
| Finite Element on Grillage: | |

**LONGITUDINAL GOVERNING COMPONENT**

| | |
|---|---|
| Main/Approach Span: | Main |
| Description: | Multi-Beam |
| Material: | Concrete |
| Simple/Continuous Span: | Simple |
| Span Length: | 157.25 |
| Flexure, Shear or Principal Tension: | Flexure |

**OTHER SPAN OF INTEREST**
(If Applicable)

**TRANSVERSE GOVERNING COMPONENT**

| | |
|---|---|
| Main/Approach Span: | |
| Description: | |
| Material: | |
| Deck, Box or Substructure: | |
| Flexure, Shear or Principal Tension: | |

**OTHER SPAN OF INTEREST**
(If Applicable)

## PONTIS DATABASE INPUT

### PONTIS APPRAISAL TAB

| Description (NBIS Code) | Value | | |
|---|---|---|---|
| Design Load (31) @ | HL93 | | |
| HL93, M9 (H10), M13.5 ((H15), M13.5 (HS15), M18 (H20), MS18 (HS20), MS18 (HS20)+Mod. Pedestria Railroad, MS22.5 (HS25), Unknown (NBI), Unknown (P), Not Applicable (P) | | | |
| Operating Type (63) @ | Load & Resistance Factor | | |
| Unknown, Load Factor, Allowable Stress, Load & Resistance Factor, Load Test, No Rating, Unknown (NBI), Not Applicable (P) | | | |
| Operating Rating (64)* @ ( ) | 48.6 | Tons | |
| Inventory Type (65) @ | Load & Resistance Factor | | |
| Unknown, Load Factor, Allowable Stress, Load & Resistance Factor, Load Test, No Rating, Unknown (NBI), Not Applicable (P) | | | |
| Inventory Rating (66)* @ ( ) | 43.9 | Tons | |

**LEGEND**

- * If rating is provided as a factor from an LRFR analysis, multiply the rating factor by 36 tons
- ** If not calculated, enter "-1"
- # LRFR Rating Only
- ## If Posting is not required, enter "99"
- @ BMS Coding Manual available on the FDOT Office of Maintenance website
- ( ) List Controlling Member & (M=moment, V=shear, pt=post-tensioning) for this Rating

### PONTIS LOAD RATING 1 TAB

| Description (NBIS Code) | Value | |
|---|---|---|
| HS 20/HL 93 Governing Span Length | 157.25 | FT |
| Load Rating Origination | Design Plans | |
| Unknown, Design Plans, As-Built Plans, Field Measurements | | |
| Load Rating Date | 02-Nov-09 | |
| Method Calculation | AASHTO Formula | |
| Unknown, AASHTO Formula, SALOD, BRUFEM, Other | | |
| Load Distribution Factor | 0.7700 | |
| Impact Factor | 1.33 | |
| Design Method | LRFD | |
| Unknown, Working Stress, Load Factor, LRFD, Others | | |
| Design Measure | English | |
| Unknown, English, Systeme International | | |

**TRUCK OPERATING RATINGS**

| | | | | |
|---|---|---|---|---|
| SU 2** | Enter Contr. Mem. | ( ) | -1.0 | Tons |
| SU 3** | Enter Contr. Mem. | ( ) | -1.0 | Tons |
| SU 4** | Enter Contr. Mem. | ( ) | -1.0 | Tons |
| C 3** | Enter Contr. Mem. | ( ) | -1.0 | Tons |
| C 4** | Enter Contr. Mem. | ( ) | -1.0 | Tons |
| C 5** | Enter Contr. Mem. | ( ) | -1.0 | Tons |
| ST 5** | Enter Contr. Mem. | ( ) | -1.0 | Tons |
| Recommended SU Posting ## | | | 99 | Tons |
| Recommended C Posting ## | | | 99 | Tons |
| Recommended ST Posting ## | | | 99 | Tons |

### PONTIS LOAD RATING 2 TAB

| Description (NBIS Code) | Value | |
|---|---|---|
| FL 120 Longitudinal Governing Span Rating | 88.0 | Tons |
| **SEGMENTAL** | | |
| FL 120 Transverse Rating (Segmental)** | | Tons |
| Single Axle Transverse Rating** | | Tons |
| Tandem Axle Transverse Rating** | | Tons |
| Wing Span** | | FT |
| Web-to-Web Span** | | FT |
| **MAXIMUM SPAN** | | |
| HS 20 Operating Rating Maximum Span** | | Tons |
| FL 120 Longitudinal Maximum Span # | | Tons |
| **FLOOR BEAM** | | |
| Floor Beam Present | No = Stop / Yes = Continue | |
| Governing Floor Beam Span** | | FT |
| Governing Floor Beam Spacing** | | FT |
| Floor Beam HS 20 Rating** | | Tons |
| Floor Beam SU 4 Rating** | | Tons |
| Floor Beam Inventory Rating Factor** # | | |
| Floor Beam Operating Rating Factor **# | | |
| Floor Beam FL 120 Rating # | | Tons |

**COMMENTS BY ENGINEER**

Span Length is Measured from CL Bearing to CL Bearing. Controlling Beam: Interior

| | |
|---|---|
| Responsible Engineer: | Daniel Raymat, P.E. |
| FL P.E. #: | 63111 |
| Date: | 25-Jan-10 |
| Address: | 7300 N. Kendall Drive, Suite 400 |

**COMPUTATIONS**

| | | | |
|---|---|---|---|
| Performed By: | Alena Lopez | Date: | 01-Oct-09 |
| Checked By: | Chaoxi Ling | Date: | 01-Oct-09 |
| Reviewed By: | Daniel Raymat | Date: | 02-Nov-09 |

Chart 4

Form Revision. un-07

# BRIDGE LOAD RATING SUMMARY FORM

**BRIDGE DATA**

| | |
|---|---|
| Bridge Number: | 871017 |
| Struct. Type Main [Item 43] @: | 402 |
| Struct. Type Appr. [Item 44] @: | 0 |

**POSTING DATA**

**Current Restrictions**

| | |
|---|---|
| Item 41 @: | Open, No Restrictions |
| Is Posting Needed: | No |

**Proposed Restrictions**

| | |
|---|---|
| Item 70 @: | At/Above Legal Loads |

**PROGRAM USED**

MDX VERSION 6.5.329

**BASIS FOR ANALYSIS**

| | |
|---|---|
| Design Drawings: | Yes |
| As-Built Drawings: | No |
| Shop Drawings: | No |
| Field Measurements: | No |
| Coupon Testing: | No |
| Other: | |

**LIVE LOAD DISTRIBUTION**

| | |
|---|---|
| AASHTO LFD: | |
| AASHTO LRFD: | |
| SALOD: | |
| BRUFEM: | |
| Finite Element on Grillage: | Grid Analysis |

**LONGITUDINAL GOVERNING COMPONENT**

| | |
|---|---|
| Main/Approach Span: | Main |
| Description: | Multi-Beam |
| Material: | Steel |
| Simple/Continuous Span: | Continuous |
| Span Length: | 274.39' |
| Flexure, Shear or Principal Tension: | Flexure |

**TRANSVERSE GOVERNING COMPONENT**

| | |
|---|---|
| Main/Approach Span: | |
| Description: | |
| Material: | |
| Deck, Box or Substructure: | |
| Flexure, Shear or Principal Tension: | |

**OTHER SPAN OF INTEREST**
(If Applicable)

**OTHER SPAN OF INTEREST**
(If Applicable)

## PONTIS DATABASE INPUT

### PONTIS APPRAISAL TAB

| Description (NBIS Code) | Value | |
|---|---|---|
| Design Load (31) @ | HL93 | |
| HL93, M9 (H10), M13.5 ((H15), M13.5 (HS15), M18 (H20), MS18 (HS20), MS18 (HS20)+Mod, Pedestria Railroad, MS22.5 (HS25), Unknown (NBI), Unknown (P), Not Applicable (P) | | |
| Operating Type (63) @ | Load & Resistance Factor | |
| Unknown, Load Factor, Allowable Stress, Load & Resistance Factor, Load Test, No Rating, Unknown (NBI), Not Applicable (P) | | |
| Operating Rating (64)* @ ( ) | 64.4 | Tons |
| Inventory Type (65) @ | Load & Resistance Factor | |
| Unknown, Load Factor, Allowable Stress, Load & Resistance Factor, Load Test, No Rating, Unknown (NBI), Not Applicable (P) | | |
| Inventory Rating (66)* @ ( ) | 36.7 | Tons |

**LEGEND**

- * If rating is provided as a factor from an LRFR analysis, multiply the rating factor by 36 tons
- ** If not calculated, enter "-1"
- # LRFR Rating Only
- ## If Posting is not required, enter "99"
- @ BMS Coding Manual available on the FDOT Office of Maintenance website
- ( ) List Controlling Member & (M=moment, V=shear, pt=post-tensioning) for this Rating

### PONTIS LOAD RATING 1 TAB

| Description (NBIS Code) | Value | |
|---|---|---|
| HS 20/HL 93 Governing Span Length | 274.39 | FT |
| Load Rating Origination | Design Plans | |
| Unknown, Design Plans, As-Built Plans, Field Measurements | | |
| Load Rating Date | 16-Apr-09 | |
| Method Calculation | Other | |
| Unknown, AASHTO Formula, SALOD, BRUFEM, Other | | |
| Load Distribution Factor | Grid | |
| Impact Factor | 1.33 | |
| Design Method | LRFD | |
| Unknown, Working Stress, Load Factor, LRFD, Others | | |
| Design Measure | English | |
| Unknown, English, Systeme International | | |

**TRUCK OPERATING RATINGS**

| | | | | |
|---|---|---|---|---|
| SU 2** | Enter Contr. Mem. | ( ) | -1.0 | Tons |
| SU 3** | Enter Contr. Mem. | ( ) | -1.0 | Tons |
| SU 4** | Enter Contr. Mem. | ( ) | -1.0 | Tons |
| C 3** | Enter Contr. Mem. | ( ) | -1.0 | Tons |
| C 4** | Enter Contr. Mem. | ( ) | -1.0 | Tons |
| C 5** | Enter Contr. Mem. | ( ) | -1.0 | Tons |
| ST 5** | Enter Contr. Mem. | ( ) | -1.0 | Tons |
| Recommended SU Posting ## | | | 99 | Tons |
| Recommended C Posting ## | | | 99 | Tons |
| Recommended ST Posting ## | | | 99 | Tons |

### PONTIS LOAD RATING 2 TAB

| Description (NBIS Code) | Value | |
|---|---|---|
| FL 120 Longitudinal Governing Span Rating | 94.2 | Tons |
| **SEGMENTAL** | | |
| FL 120 Transverse Rating (Segmental)** | | Tons |
| Single Axle Transverse Rating** | | Tons |
| Tandem Axle Transverse Rating** | | Tons |
| Wing Span** | | FT |
| Web-to-Web Span** | | FT |
| **MAXIMUM SPAN** | | |
| HS 20 Operating Rating Maximum Span** | | Tons |
| FL 120 Longitudinal Maximum Span # | | Tons |
| **FLOOR BEAM** | | |
| Floor Beam Present | No = Stop / Yes = Continue | |
| Governing Floor Beam Span** | | FT |
| Governing Floor Beam Spacing** | | FT |
| Floor Beam HS 20 Rating** | | Tons |
| Floor Beam SU 4 Rating** | | Tons |
| Floor Beam Inventory Rating Factor** # | | |
| Floor Beam Operating Rating Factor **# | | |
| Floor Beam FL 120 Rating # | | Tons |

**COMMENTS BY ENGINEER**

Span Length is Measured from CL Bearing to CL Bearing. Controlling Beam: Span 2 Beam 6.

| | |
|---|---|
| Responsible Engineer: | Daniel Raymat, P.E. |
| FL P.E. #: | 63111 |
| Date: | 17-Jul-09 |
| Address: | 7300 N. Kendall Drive, Suite 400 |

**COMPUTATIONS**

| | | | |
|---|---|---|---|
| Performed By: | Chaoxi Ling, PE | Date: | 16-Apr-09 |
| Checked By: | Abid Hadrous, PE | Date: | 16-Apr-09 |
| Reviewed By: | Daniel Raymat, PE | Date: | 16-Apr-09 |

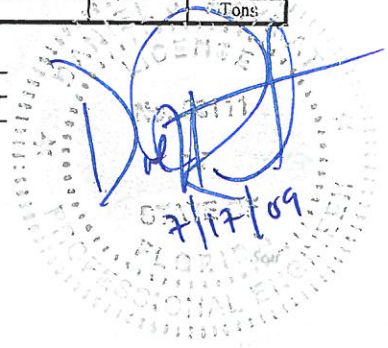


Chart 5

Form Revision: 27-Jun-07

# BRIDGE LOAD RATING SUMMARY FORM

| BRIDGE DATA | |
|---|---|
| **Bridge Number:** | 871018 |
| Struct. Type Main [Item 43] @: | 302 |
| Struct. Type Appr. [Item 44] @: | 101 |

| POSTING DATA | |
|---|---|
| **Current Restrictions** | |
| Item 41 @: | Open, No Restrictions |
| Is Posting Needed: | No |
| **Proposed Restrictions** | |
| Item 70 @: | At/Above Legal Loads |

| PROGRAM USED |
|---|
| MDX v 6.5.592 |

| BASIS FOR ANALYSIS | |
|---|---|
| Design Drawings: | Yes |
| As-Built Drawings: | No |
| Shop Drawings: | No |
| Field Measurements: | No |
| Coupon Testing: | No |
| Other: | |

| LIVE LOAD DISTRIBUTION | |
|---|---|
| AASHTO LFD: | |
| AASHTO LRFD: | |
| SALOD: | |
| BRUFEM: | |
| Finite Element on Grillage: | Grid Analysis |

| LONGITUDINAL GOVERNING COMPONENT | |
|---|---|
| Main/Approach Span: | Main |
| Description: | Multi-Beam |
| Material: | Steel |
| Simple/Continuous Span: | Continuous |
| Span Length: | 190.00 |
| Flexure, Shear or Principal Tension: | Flexure |

| TRANSVERSE GOVERNING COMPONENT | |
|---|---|
| Main/Approach Span: | |
| Description: | |
| Material: | |
| Deck, Box or Substructure: | |
| Flexure, Shear or Principal Tension: | |

**OTHER SPAN OF INTEREST**
(If Applicable)

**OTHER SPAN OF INTEREST**
(If Applicable)

## PONTIS DATABASE INPUT

### PONTIS APPRAISAL TAB

| Description (NBIS Code) | Value | |
|---|---|---|
| Design Load (31) @ | HL93 | |
| HL93, M9 (H10), M13.5 ((H15), M13.5 (HS15), M18 (H20), MS18 (HS20), MS18 (HS20)+Mod, Pedestrian, Railroad, MS22.5 (HS25), Unknown (NBI), Unknown (P), Not Applicable (P) | | |
| Operating Type (63) @ | Load & Resistance Factor | |
| Unknown, Load Factor, Allowable Stress, Load & Resistance Factor, Load Test, No Rating, Unknown (NBI), Not Applicable (P) | | |
| Operating Rating (64)* @ ( ) | 61.2 (M) | Tons |
| Inventory Type (65) @ | Load & Resistance Factor | |
| Unknown, Load Factor, Allowable Stress, Load & Resistance Factor, Load Test, No Rating, Unknown (NBI), Not Applicable (P) | | |
| Inventory Rating (66)* @ ( ) | 47.2 (M) | Tons |

### PONTIS LOAD RATING 1 TAB

| Description (NBIS Code) | Value | |
|---|---|---|
| HS 20/HL 93 Governing Span Length | 190.00 | FT |
| Load Rating Origination | Design Plans | |
| Unknown, Design Plans, As-Built Plans, Field Measurements | | |
| Load Rating Date | 20-Aug-09 | |
| Method Calculation | AASHTO Formula | |
| Unknown, AASHTO Formula, SALOD, BRUFEM, Other | | |
| Load Distribution Factor | Grid Analysis | |
| Impact Factor | 0.33 | |
| Design Method | LRFD | |
| Unknown, Working Stress, Load Factor, LRFD, Others | | |
| Design Measure | English | |
| Unknown, English, Systeme International | | |
| **TRUCK OPERATING RATINGS** | | |
| SU 2** ( ) | -1 | Tons |
| SU 3** ( ) | -1 | Tons |
| SU 4** ( ) | -1 | Tons |
| C 3** ( ) | -1 | Tons |
| C 4** ( ) | -1 | Tons |
| C 5** ( ) | -1 | Tons |
| ST 5** ( ) | -1 | Tons |
| Recommended SU Posting ## | 99 | Tons |
| Recommended C Posting ## | 99 | Tons |
| Recommended ST Posting ## | 99 | Tons |

### PONTIS LOAD RATING 2 TAB

| Description (NBIS Code) | Value | |
|---|---|---|
| FL 120 Longitudinal Governing Span Rating | 63.0 | Tons |
| **SEGMENTAL** | | |
| FL 120 Transverse Rating (Segmental)** | -1 | Tons |
| Single Axle Transverse Rating** | -1 | Tons |
| Tandem Axle Transverse Rating** | -1 | Tons |
| Wing Span** | -1 | FT |
| Web-to-Web Span** | -1 | FT |
| **MAXIMUM SPAN** | | |
| HS 20 Operating Rating Maximum Span** | -1 | Tons |
| FL 120 Longitudinal Maximum Span # | 63.0 | Tons |
| **FLOOR BEAM** | | |
| Floor Beam Present | No = Stop / Yes = Continue | |
| Governing Floor Beam Span** | -1 | FT |
| Governing Floor Beam Spacing** | -1 | FT |
| Floor Beam HS 20 Rating** | -1 | Tons |
| Floor Beam SU 4 Rating** | -1 | Tons |
| Floor Beam Inventory Rating Factor** # | -1 | |
| Floor Beam Operating Rating Factor **# | -1 | |
| Floor Beam FL 120 Rating # | -1 | Tons |

| LEGEND |
|---|
| * If rating is provided as a factor from an LRFR analysis, multiply the rating factor by 36 tons |
| ** If not calculated, enter "-1" |
| # LRFR Rating Only |
| ## If Posting is not required, enter "99" |
| @ BMS Coding Manual available on the FDOT Office of Maintenance website |
| ( ) List Controlling Member & (M=moment, V=shear, pt=post-tensioning) for this Rating |

**COMMENTS BY ENGINEER**

Exterior Girder 1 Governed for Moment and Interior Girder 5 Governed for Shear.
Rating of Legal vehicles is not required when Design Operating Rating Factor is > 1.0.

| COMPUTATIONS | | | |
|---|---|---|---|
| Performed By: | J. Dennis Martinez | Date: | Aug-09 |
| Checked By: | BKC | Date: | Aug-09 |
| Reviewed By: | | Date: | |


Responsible Engineer: J. Dennis Martinez
FL P.E. #: 69303
Date: 20-Aug-09
Address: 201 Alhambra Circle, Suite 900
Coral Gables, Florida 33134

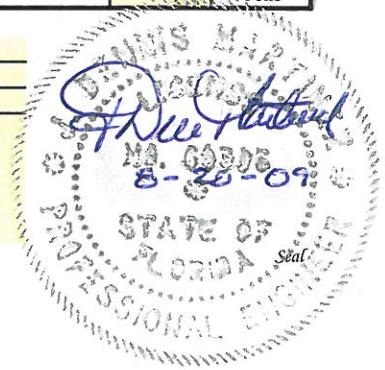



Chart 6

Form Revision. an-07

# BRIDGE LOAD RATING SUMMARY FORM

**BRIDGE DATA**

| | |
|---|---|
| **Bridge Number:** | **871021** |
| Struct. Type Main [Item 43] @: | 502 |
| Struct. Type Appr. [Item 44] @: | 0 |

**POSTING DATA**

**Current Restrictions**

| | |
|---|---|
| Item 41 @: | Open, No Restrictions |
| Is Posting Needed: | No |

**Proposed Restrictions**

| | |
|---|---|
| Item 70 @: | At/Above Legal Loads |

**PROGRAM USED**

CONSPAN VERSION 9.0

**BASIS FOR ANALYSIS**

| | |
|---|---|
| Design Drawings: | Yes |
| As-Built Drawings: | No |
| Shop Drawings: | No |
| Field Measurements: | No |
| Coupon Testing: | No |
| Other: | |

**LIVE LOAD DISTRIBUTION**

| | |
|---|---|
| AASHTO LFD: | |
| AASHTO LRFD: | 0.7600 |
| SALOD: | |
| BRUFEM: | |
| Finite Element on Grillage: | |

**LONGITUDINAL GOVERNING COMPONENT**

| | |
|---|---|
| Main/Approach Span: | Main |
| Description: | Multi-Beam |
| Material: | Concrete |
| Simple/Continuous Span: | Simple |
| Span Length: | 157.92 |
| Flexure, Shear or Principal Tension: | Flexure |

**TRANSVERSE GOVERNING COMPONENT**

| | |
|---|---|
| Main/Approach Span: | |
| Description: | |
| Material: | |
| Deck, Box or Substructure: | |
| Flexure, Shear or Principal Tension: | |

**OTHER SPAN OF INTEREST**
(If Applicable)

**OTHER SPAN OF INTEREST**
(If Applicable)

## PONTIS DATABASE INPUT

### PONTIS APPRAISAL TAB

| Description (NBIS Code) | Value | |
|---|---|---|
| Design Load (31) @ | HL93 | |
| HL93, M9 (H10), M13.5 ((H15), M13.5 (HS15), M18 (H20), MS18 (HS20), MS18 (HS20)+Mod, Pedestria Railroad, MS22.5 (HS25), Unknown (NBI), Unknown (P), Not Applicable (P) | | |
| Operating Type (63) @ | Load & Resistance Factor | |
| Unknown, Load Factor, Allowable Stress, Load & Resistance Factor, Load Test, No Rating, Unknown (NBI), Not Applicable (P) | | |
| Operating Rating (64)* @ ( ) | 49.7 | Tons |
| Inventory Type (65) @ | Load & Resistance Factor | |
| Unknown, Load Factor, Allowable Stress, Load & Resistance Factor, Load Test, No Rating, Unknown (NBI), Not Applicable (P) | | |
| Inventory Rating (66)* @ ( ) | 44.6 | Tons |

**LEGEND**

- * If rating is provided as a factor from an LRFR analysis, multiply the rating factor by 36 tons
- ** If not calculated, enter "-1"
- # LRFR Rating Only
- ## If Posting is not required, enter "99"
- @ BMS Coding Manual available on the FDOT Office of Maintenance website
- ( ) List Controlling Member & (M=moment, V=shear, pt=post-tensioning) for this Rating

### PONTIS LOAD RATING 1 TAB

| Description (NBIS Code) | Value | |
|---|---|---|
| HS 20/HL 93 Governing Span Length | 157.92 | FT |
| Load Rating Origination | Design Plans | |
| Unknown, Design Plans, As-Built Plans, Field Measurements | | |
| Load Rating Date | 26-Jul-09 | |
| Method Calculation | AASHTO Formula | |
| Unknown, AASHTO Formula, SALOD, BRUFEM, Other | | |
| Load Distribution Factor | 0.7600 | |
| Impact Factor | 1.33 | |
| Design Method | LRFD | |
| Unknown, Working Stress, Load Factor, LRFD, Others | | |
| Design Measure | English | |
| Unknown, English, Systeme International | | |

**TRUCK OPERATING RATINGS**

| | | | | |
|---|---|---|---|---|
| SU 2** | Enter Contr. Mem. | ( ) | -1.0 | Tons |
| SU 3** | Enter Contr. Mem. | ( ) | -1.0 | Tons |
| SU 4** | Enter Contr. Mem. | ( ) | -1.0 | Tons |
| C 3** | Enter Contr. Mem. | ( ) | -1.0 | Tons |
| C 4** | Enter Contr. Mem. | ( ) | -1.0 | Tons |
| C 5** | Enter Contr. Mem. | ( ) | -1.0 | Tons |
| ST 5** | Enter Contr. Mem. | ( ) | -1.0 | Tons |
| Recommended SU Posting ## | | | 99 | Tons |
| Recommended C Posting ## | | | 99 | Tons |
| Recommended ST Posting ## | | | 99 | Tons |

### PONTIS LOAD RATING 2 TAB

| Description (NBIS Code) | Value | |
|---|---|---|
| FL 120 Longitudinal Governing Span Rating | 89.9 | Tons |
| **SEGMENTAL** | | |
| FL 120 Transverse Rating (Segmental)** | | Tons |
| Single Axle Transverse Rating** | | Tons |
| Tandem Axle Transverse Rating** | | Tons |
| Wing Span** | | FT |
| Web-to-Web Span** | | FT |
| **MAXIMUM SPAN** | | |
| HS 20 Operating Rating Maximum Span** | | Tons |
| FL 120 Longitudinal Maximum Span # | | Tons |
| **FLOOR BEAM** | | |
| Floor Beam Present | No = Stop / Yes = Continue | |
| Governing Floor Beam Span** | | FT |
| Governing Floor Beam Spacing** | | FT |
| Floor Beam HS 20 Rating** | | Tons |
| Floor Beam SU 4 Rating** | | Tons |
| Floor Beam Inventory Rating Factor** # | | |
| Floor Beam Operating Rating Factor **# | | |
| Floor Beam FL 120 Rating # | | Tons |

**COMMENTS BY ENGINEER**

Southbound Bridge.
Span Length is Measured from CL Bearing to CL Bearing. Controlling Beam: Interior

| | |
|---|---|
| Responsible Engineer: | Daniel Raymat, P.E. |
| FL P.E. #: | 63111 |
| Date: | 20-Nov-09 |
| Address: | 7300 N. Kendall Drive, Suite 400 |

**COMPUTATIONS**

| | | | |
|---|---|---|---|
| Performed By: | Alena Lopez | Date: | 16-Jul-09 |
| Checked By: | Chaoxi Ling | Date: | 26-Aug-09 |
| Reviewed By: | Daniel Raymat | Date: | 26-Aug-09 |

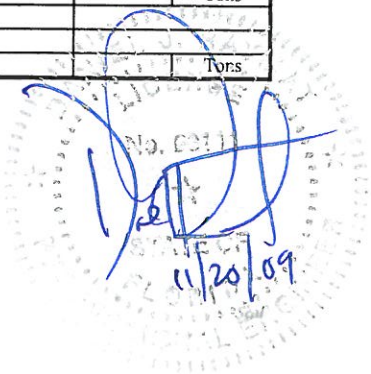


Chart 7

MP

Form Revision: 10-July-07

# BRIDGE LOAD RATING SUMMARY FORM

**BRIDGE DATA**

| | |
|---|---|
| **Bridge Number:** | 870760 |
| Struct. Type Main [Item 43] @: | 5 02 |
| Struct. Type Appr. [Item 44] @: | 0 00 |
| Select Construction Cont | |

**POSTING DATA**

**Current Restrictions**

| | |
|---|---|
| Item 41 @: | Open, No Restrictions |
| Is Posting Needed: | No |

**Proposed Restrictions**

| | |
|---|---|
| Item 70 @: | At/Above Legal Loads |

**PROGRAM USED**

PC-BARS

**BASIS FOR ANALYSIS**

| | |
|---|---|
| Design Drawings: | Yes |
| As-Built Drawings: | No |
| Shop Drawings: | No |
| Field Measurements: | No |
| Coupon Testing: | No |
| Other: | |

**LIVE LOAD DISTRIBUTION**

| | |
|---|---|
| AASHTO LFD: | |
| AASHTO LRFD: | |
| SALOD: | 1.1980 |
| BRUFEM: | |
| Finite Element on Grillage: | |

**LONGITUDINAL GOVERNING COMPONENT**

| | |
|---|---|
| Main/Approach Span: | |
| Description: | |
| Material: | |
| Simple/Continuous Span: | |
| Span Length: | |
| Flexure, Shear or Principal Tension: | |

**TRANSVERSE GOVERNING COMPONENT**

| | |
|---|---|
| Main/Approach Span: | |
| Description: | |
| Material: | |
| Deck, Box or Substructure: | |
| Flexure, Shear or Principal Tension: | |

**OTHER SPAN OF INTEREST**
(If Applicable)

**OTHER SPAN OF INTEREST**
(If Applicable)

## PONTIS DATABASE INPUT

### PONTIS APPRAISAL TAB

| Description (NBIS Code) | Value | |
|---|---|---|
| Design Load (31) @ | MS18 (HS20) | |
| HL93, M9 (H10), M13.5 ((H15), M13.5 (HS15), M18 (H20), MS18 (HS20), MS18 (HS20)+Mod, Pedestrian, Railroad, MS22.5 (HS25), Unknown (NBI), Unknown (P), Not Applicable (P) | | |
| Operating Type (63) @ | Load Factor | |
| Unknown, Load Factor, Allowable Stress, Load & Resistance Factor, Load Test, No Rating, Unknown (NBI), Not Applicable (P) | | |
| Operating Rating (64)* @ ( ) | 104.5 | Tons |
| Inventory Type (65) @ | Load Factor | |
| Unknown, Load Factor, Allowable Stress, Load & Resistance Factor, Load Test, No Rating, Unknown (NBI), Not Applicable (P) | | |
| Inventory Rating (66)* @ ( ) | 64.9 | Tons |

**LEGEND**

- * If rating is provided as a factor from an LRFR analysis, multiply the rating factor by 36 tons
- ** If not calculated, enter "-1"
- # LRFR Rating Only
- ## If Posting is not required, enter "99"
- @ BMS Coding Manual available on the FDOT Office of Maintenance website

### PONTIS LOAD RATING 1 TAB

| Description (NBIS Code) | Value | |
|---|---|---|
| HS 20/HL 93 Governing Span Length | 75.00 | FT |
| Load Rating Origination | Design Plans | |
| Unknown, Design Plans, As-Built Plans, Field Measurements | | |
| Load Rating Date | | |
| Method Calculation | SALOD | |
| Unknown, AASHTO Formula, SALOD, BRUFEM, Other | | |
| Load Distribution Factor | 1.1980 | |
| Impact Factor | 25.00 | |
| Design Method | Load Factor | |
| Unknown, Working Stress, Load Factor, LRFD, Others | | |
| Design Measure | English | |
| Unknown, English, Systeme International | | |

**TRUCK OPERATING RATINGS**

| | | | | |
|---|---|---|---|---|
| SU 2** | 5.346 | V | 90.9 | Tons |
| SU 3** | 2.973 | V | 98.1 | Tons |
| SU 4** | 2.835 | V | 99.2 | Tons |
| C 3** | 4.089 | V | 114.5 | Tons |
| C 4** | 3.063 | V | 112.3 | Tons |
| C 5** | 2.845 | V | 113.8 | Tons |
| ST 5** | 3.286 | V | 131.5 | Tons |
| Recommended SU Posting ## | | | 99 | Tons |
| Recommended C Posting ## | | | 99 | Tons |
| Recommended ST Posting ## | | | 99 | Tons |

### PONTIS LOAD RATING 2 TAB

| Description (NBIS Code) | Value | |
|---|---|---|
| FL 120 Longitudinal Governing Span Rating | | Tons |
| **SEGMENTAL** | | |
| FL 120 Transverse Rating (Segmental)** | | Tons |
| Single Axle Transverse Rating** | | Tons |
| Tandem Axle Transverse Rating** | | Tons |
| Wing Span** | | FT |
| Web-to-Web Span** | | FT |
| **MAXIMUM SPAN** | | |
| HS 20 Operating Rating Maximum Span** | | Tons |
| FL 120 Longitudinal Maximum Span # | | Tons |
| **FLOOR BEAM** | | |
| Floor Beam Present | No = Stop / Yes = Continue | |
| Governing Floor Beam Span** | | FT |
| Governing Floor Beam Spacing** | | FT |
| Floor Beam HS 20 Rating** | | Tons |
| Floor Beam SU 4 Rating** | | Tons |
| Floor Beam Inventory Rating Factor** # | | |
| Floor Beam Operating Rating Factor **# | | |
| Floor Beam FL 120 Rating # | | Tons |

**COMMENTS BY ENGINEER**


Responsible Engineer: Frank Guyamier
FL P.E. #: 50587
Date:
Address: 1000 NW 111 Avenue
Miami, FL 33172


**COMPUTATIONS**

| | | | |
|---|---|---|---|
| Performed By: | NCR | Date: | 6-10-08 |
| Checked By: | GN | Date: | 6/19/2008 |
| Reviewed By: | FG | Date: | 6/25/2008 |

Seal

Chart 8

Form Revision: 10-July-07

# BRIDGE LOAD RATING SUMMARY FORM

**BRIDGE DATA**

| | |
|---|---|
| Bridge Number: | 870761 |
| Struct. Type Main [Item 43] @: | 5 02 |
| Struct. Type Appr. [Item 44] @: | 0 00 |
| Select Construction Cont | |

**POSTING DATA**

**Current Restrictions**

| | |
|---|---|
| Item 41 @: | Open, No Restrictions |
| Is Posting Needed: | No |

**Proposed Restrictions**

| | |
|---|---|
| Item 70 @: | At/Above Legal Loads |

**PROGRAM USED**

PC-BARS

**BASIS FOR ANALYSIS**

| | |
|---|---|
| Design Drawings: | Yes |
| As-Built Drawings: | No |
| Shop Drawings: | No |
| Field Measurements: | No |
| Coupon Testing: | No |
| Other: | |

**LIVE LOAD DISTRIBUTION**

| | |
|---|---|
| AASHTO LFD: | |
| AASHTO LRFD: | |
| SALOD: | 1.1980 |
| BRUFEM: | |
| Finite Element on Grillage: | |

**LONGITUDINAL GOVERNING COMPONENT**

| | |
|---|---|
| Main/Approach Span: | |
| Description: | |
| Material: | |
| Simple/Continuous Span: | |
| Span Length: | |
| Flexure, Shear or Principal Tension: | |

**OTHER SPAN OF INTEREST**
(If Applicable)

**TRANSVERSE GOVERNING COMPONENT**

| | |
|---|---|
| Main/Approach Span: | |
| Description: | |
| Material: | |
| Deck, Box or Substructure: | |
| Flexure, Shear or Principal Tension: | |

**OTHER SPAN OF INTEREST**
(If Applicable)

## PONTIS DATABASE INPUT

### PONTIS APPRAISAL TAB

| Description (NBIS Code) | Value | |
|---|---|---|
| Design Load (31) @ | MS18 (HS20) | |
| HL93, M9 (H10), M13.5 ((H15), M13.5 (HS15), M18 (H20), MS18 (HS20), MS18 (HS20)+Mod, Pedestrian, Railroad, MS22.5 (HS25), Unknown (NBI), Unknown (P), Not Applicable (P) | | |
| Operating Type (63) @ | Load Factor | |
| Unknown, Load Factor, Allowable Stress, Load & Resistance Factor, Load Test, No Rating, Unknown (NBI), Not Applicable (P) | | |
| Operating Rating (64)* @ ( ) | 104.5 | Tons |
| Inventory Type (65) @ | Load Factor | |
| Unknown, Load Factor, Allowable Stress, Load & Resistance Factor, Load Test, No Rating, Unknown (NBI), Not Applicable (P) | | |
| Inventory Rating (66)* @ ( ) | 64.9 | Tons |

**LEGEND**

- * If rating is provided as a factor from an LRFR analysis, multiply the rating factor by 36 tons
- ** If not calculated, enter "-1"
- # LRFR Rating Only
- ## If Posting is not required, enter "99"
- @ BMS Coding Manual available on the FDOT Office of Maintenance website

### PONTIS LOAD RATING 1 TAB

| Description (NBIS Code) | Value | |
|---|---|---|
| HS 20/HL 93 Governing Span Length | 75.00 | FT |
| Load Rating Origination | Design Plans | |
| Unknown, Design Plans, As-Built Plans, Field Measurements | | |
| Load Rating Date | | |
| Method Calculation | SALOD | |
| Unknown, AASHTO Formula, SALOD, BRUFEM, Other | | |
| Load Distribution Factor | 1.1980 | |
| Impact Factor | 25.00 | |
| Design Method | Load Factor | |
| Unknown, Working Stress, Load Factor, LRFD, Others | | |
| Design Measure | English | |
| Unknown, English, Systeme International | | |

**TRUCK OPERATING RATINGS**

| | | | | |
|---|---|---|---|---|
| SU 2** | 5.346 | V | 90.9 | Tons |
| SU 3** | 2.973 | V | 98.1 | Tons |
| SU 4** | 2.835 | V | 99.2 | Tons |
| C 3** | 4.089 | V | 114.5 | Tons |
| C 4** | 3.063 | V | 112.3 | Tons |
| C 5** | 2.845 | V | 113.8 | Tons |
| ST 5** | 3.286 | V | 131.5 | Tons |
| Recommended SU Posting ## | | | 99 | Tons |
| Recommended C Posting ## | | | 99 | Tons |
| Recommended ST Posting ## | | | 99 | Tons |

### PONTIS LOAD RATING 2 TAB

| Description (NBIS Code) | Value | |
|---|---|---|
| FL 120 Longitudinal Governing Span Rating | | Tons |
| **SEGMENTAL** | | |
| FL 120 Transverse Rating (Segmental)** | | Tons |
| Single Axle Transverse Rating** | | Tons |
| Tandem Axle Transverse Rating** | | Tons |
| Wing Span** | | FT |
| Web-to-Web Span** | | FT |
| **MAXIMUM SPAN** | | |
| HS 20 Operating Rating Maximum Span** | | Tons |
| FL 120 Longitudinal Maximum Span # | | Tons |
| **FLOOR BEAM** | | |
| Floor Beam Present | No = Stop / Yes = Continue | |
| Governing Floor Beam Span** | | FT |
| Governing Floor Beam Spacing** | | FT |
| Floor Beam HS 20 Rating** | | Tons |
| Floor Beam SU 4 Rating** | | Tons |
| Floor Beam Inventory Rating Factor** # | | |
| Floor Beam Operating Rating Factor **# | | |
| Floor Beam FL 120 Rating # | | Tons |

**COMMENTS BY ENGINEER**

Responsible Engineer: Frank Guyamier
FL P.E. #: 50587
Date:
Address: 1000 NW 111 Avenue
Miami, FL 33172

**COMPUTATIONS**

| | | | |
|---|---|---|---|
| Performed By: | NCR | Date: | 6-19-08 |
| Checked By: | GN | Date: | 6/19/2008 |
| Reviewed By: | FG | Date: | 6/19/2008 |

Seal

Chart 9

Form Revision: 10-July-07

# BRIDGE LOAD RATING SUMMARY FORM

**BRIDGE DATA**

| | |
|---|---|
| Bridge Number: | 870764 |
| Struct. Type Main [Item 43] @: | 2 01 |
| Struct. Type Appr. [Item 44] @: | 0 00 |
| Select Construction Cost | |

**POSTING DATA**

**Current Restrictions**

| | |
|---|---|
| Item 41 @: | Open, No Restrictions |
| Is Posting Needed: | No |

**Proposed Restrictions**

| | |
|---|---|
| Item 70 @: | At/Above Legal Loads |

**PROGRAM USED**

PC-BARS

**BASIS FOR ANALYSIS**

| | |
|---|---|
| Design Drawings: | Yes |
| As-Built Drawings: | No |
| Shop Drawings: | No |
| Field Measurements: | No |
| Coupon Testing: | |
| Other: | |

**LIVE LOAD DISTRIBUTION**

| | |
|---|---|
| AASHTO LFD: | 0.1690 |
| AASHTO LRFD: | |
| SALOD: | |
| BRUFEM: | |
| Finite Element on Grillage: | |

**LONGITUDINAL GOVERNING COMPONENT**

| | |
|---|---|
| Main/Approach Span: | |
| Description: | |
| Material: | |
| Simple/Continuous Span: | |
| Span Length: | |
| Flexure, Shear or Principal Tension: | |

**OTHER SPAN OF INTEREST**
(If Applicable)

**TRANSVERSE GOVERNING COMPONENT**

| | |
|---|---|
| Main/Approach Span: | |
| Description: | |
| Material: | |
| Deck, Box or Substructure: | |
| Flexure, Shear or Principal Tension: | |

**OTHER SPAN OF INTEREST**
(If Applicable)

## PONTIS DATABASE INPUT

### PONTIS APPRAISAL TAB

| Description (NBIS Code) | Value | |
|---|---|---|
| Design Load (31) @ | MS18 (HS20) | |
| HL93, M9 (H10), M13.5 ((H15), M13.5 (HS15), M18 (H20), MS18 (HS20), MS18 (HS20)+Mod, Pedestrian, Railroad, MS22.5 (HS25), Unknown (NBI), Unknown (P), Not Applicable (P) | | |
| Operating Type (63) @ | Load Factor | |
| Unknown, Load Factor, Allowable Stress, Load & Resistance Factor, Load Test, No Rating, Unknown (NBI), Not Applicable (P) | | |
| Operating Rating (64)* @ ( ) | 65.4 | Tons |
| Inventory Type (65) @ | Load Factor | |
| Unknown, Load Factor, Allowable Stress, Load & Resistance Factor, Load Test, No Rating, Unknown (NBI), Not Applicable (P) | | |
| Inventory Rating (66)* @ ( ) | 39.3 | Tons |

**LEGEND**

* If rating is provided as a factor from an LRFR analysis, multiply the rating factor by 36 tons
** If not calculated, enter "-1"
# LRFR Rating Only
## If Posting is not required, enter "99"
@ BMS Coding Manual available on the FDOT Office of Maintenance website

### PONTIS LOAD RATING 1 TAB

| Description (NBIS Code) | Value | |
|---|---|---|
| HS 20/HL 93 Governing Span Length | 30.00 | FT |
| Load Rating Origination | Design Plans | |
| Unknown, Design Plans, As-Built Plans, Field Measurements | | |
| Load Rating Date | 23-Jun-08 | |
| Method Calculation | AASHTO Formula | |
| Unknown, AASHTO Formula, SALOD, BRUFEM, Other | | |
| Load Distribution Factor | 0.1690 | |
| Impact Factor | 30.00 | |
| Design Method | Load Factor | |
| Unknown, Working Stress, Load Factor, LRFD, Others | | |
| Design Measure | English | |
| Unknown, English, Systeme International | | |

**TRUCK OPERATING RATINGS**

| | | | | |
|---|---|---|---|---|
| SU 2** | (3.221) Contr. Mem. | M | 54.8 | Tons |
| SU 3** | (1.699) Contr. Mem. | M | 56.1 | Tons |
| SU 4** | (1.569) Contr. Mem. | M | 54.9 | Tons |
| C 3** | (3.079) Contr. Mem. | M | 86.2 | Tons |
| C 4** | (2.300) Contr. Mem. | M | 84.3 | Tons |
| C 5** | (2.075) Contr. Mem. | M | 83.0 | Tons |
| ST 5** | (4.220) Contr. Mem. | M | 168.8 | Tons |
| Recommended SU Posting ## | | | 99 | Tons |
| Recommended C Posting ## | | | 99 | Tons |
| Recommended ST Posting ## | | | 99 | Tons |

### PONTIS LOAD RATING 2 TAB

| Description (NBIS Code) | Value | |
|---|---|---|
| FL 120 Longitudinal Governing Span Rating | | Tons |
| **SEGMENTAL** | | |
| FL 120 Transverse Rating (Segmental)** | | Tons |
| Single Axle Transverse Rating** | | Tons |
| Tandem Axle Transverse Rating** | | Tons |
| Wing Span** | | FT |
| Web-to-Web Span** | | FT |
| **MAXIMUM SPAN** | | |
| HS 20 Operating Rating Maximum Span** | | Tons |
| FL 120 Longitudinal Maximum Span # | | Tons |
| **FLOOR BEAM** | | |
| Floor Beam Present | No = Stop / Yes = Continue | |
| Governing Floor Beam Span** | | FT |
| Governing Floor Beam Spacing** | | FT |
| Floor Beam HS 20 Rating** | | Tons |
| Floor Beam SU 4 Rating** | | Tons |
| Floor Beam Inventory Rating Factor** # | | |
| Floor Beam Operating Rating Factor **# | | |
| Floor Beam FL 120 Rating # | | Tons |

**COMMENTS BY ENGINEER**

TRUCK OPERATING RATINGS - OPERATING FACTOR = ( ). I
= FOR CONT. SPANS: LENGTH OF SPAN UNDER CONSIDERATION FOR + MOM. AND - MOM. THE AVERAGE OF TWO SPANS.

Responsible Engineer: Frank Guyamier
FL P.E. #: 50587
Date:
Address: FDOT - DISTRICT SIX
1000 NW 111 AVE
MIAMI, FL 33172

**COMPUTATIONS**

| | | | |
|---|---|---|---|
| Performed By: | NCR | Date: | 6-26-08 |
| Checked By: | GN | Date: | 6-30-2008 |
| Reviewed By: | FG | Date: | 7-8-2008 |

Seal

Chart 10

Form Revision: 27-Jun-07

# BRIDGE LOAD RATING SUMMARY FORM

**BRIDGE DATA**

| | |
|---|---|
| **Bridge Number:** | 871047 |
| Struct. Type Main [Item 43] @: | 502 |
| Struct. Type Appr. [Item 44] @: | 0 |

**POSTING DATA**

**Current Restrictions**

| | |
|---|---|
| Item 41 @: | Open, No Restrictions |
| Is Posting Needed: | No |

**Proposed Restrictions**

| | |
|---|---|
| Item 70 @: | At/Above Legal Loads |

**PROGRAM USED**

CONSPAN VERSION 9.0

**BASIS FOR ANALYSIS**

| | |
|---|---|
| Design Drawings: | Yes |
| As-Built Drawings: | No |
| Shop Drawings: | No |
| Field Measurements: | No |
| Coupon Testing: | No |
| Other: | |

**LIVE LOAD DISTRIBUTION**

| | |
|---|---|
| AASHTO LFD: | |
| AASHTO LRFD: | 0.6700 |
| SALOD: | |
| BRUFEM: | |
| Finite Element on Grillage: | |

**LONGITUDINAL GOVERNING COMPONENT**

| | |
|---|---|
| Main/Approach Span: | Main |
| Description: | Multi-Beam |
| Material: | Concrete |
| Simple/Continuous Span: | Simple |
| Span Length: | 168.56 |
| Flexure, Shear or Principal Tension: | Flexure |

**TRANSVERSE GOVERNING COMPONENT**

| | |
|---|---|
| Main/Approach Span: | |
| Description: | |
| Material: | |
| Deck, Box or Substructure: | |
| Flexure, Shear or Principal Tension: | |

**OTHER SPAN OF INTEREST**
(If Applicable)

**OTHER SPAN OF INTEREST**
(If Applicable)

## PONTIS DATABASE INPUT

### PONTIS APPRAISAL TAB

| Description (NBIS Code) | Value |
|---|---|
| Design Load (31) @ | HL93 |
| HL93, M9 (H10), M13.5 ((H15), M13.5 (HS15), M18 (H20), MS18 (HS20), MS18 (HS20)+Mod, Pedestrian, Railroad, MS22.5 (HS25), Unknown (NBI), Unknown (P), Not Applicable (P) | |
| Operating Type (63) @ | Load & Resistance Factor |
| Unknown, Load Factor, Allowable Stress, Load & Resistance Factor, Load Test, No Rating, Unknown (NBI) Not Applicable (P) | |
| Operating Rating (64)* @ ( ) | 55.4 Tons |
| Inventory Type (65) @ | Load & Resistance Factor |
| Unknown, Load Factor, Allowable Stress, Load & Resistance Factor, Load Test, No Rating, Unknown (NBI) Not Applicable (P) | |
| Inventory Rating (66)* @ ( ) | 50.8 Tons |

**LEGEND**

* If rating is provided as a factor from an LRFR analysis, multiply the rating factor by 36 tons
** If not calculated, enter "-1"
# LRFR Rating Only
## If Posting is not required, enter "99"
@ BMS Coding Manual available on the FDOT Office of Maintenance website
( ) List Controlling Member & (M=moment, V=shear, pt=post-tensioning) for this Rating

### PONTIS LOAD RATING 1 TAB

| Description (NBIS Code) | Value |
|---|---|
| HS 20/HL 93 Governing Span Length | 168.56 FT |
| Load Rating Origination | Design Plans |
| Unknown, Design Plans, As-Built Plans, Field Measurements | |
| Load Rating Date | 10-Jun-12 |
| Method Calculation | AASHTO Formula |
| Unknown, AASHTO Formula, SALOD, BRUFEM, Other | |
| Load Distribution Factor | 0.6700 |
| Impact Factor | 1.33 |
| Design Method | LRFD |
| Unknown, Working Stress, Load Factor, LRFD, Others | |
| Design Measure | English |
| Unknown, English, Systeme International | |

**TRUCK OPERATING RATINGS**

| | | | |
|---|---|---|---|
| SU 2** | Enter Contr. Mem. ( ) | -1.0 | Tons |
| SU 3** | Enter Contr. Mem. ( ) | -1.0 | Tons |
| SU 4** | Enter Contr. Mem. ( ) | -1.0 | Tons |
| C 3** | Enter Contr. Mem. ( ) | -1.0 | Tons |
| C 4** | Enter Contr. Mem. ( ) | -1.0 | Tons |
| C 5** | Enter Contr. Mem. ( ) | -1.0 | Tons |
| ST 5** | Enter Contr. Mem. ( ) | -1.0 | Tons |
| Recommended SU Posting ## | | 99 | Tons |
| Recommended C Posting ## | | 99 | Tons |
| Recommended ST Posting ## | | 99 | Tons |

### PONTIS LOAD RATING 2 TAB

| Description (NBIS Code) | Value | |
|---|---|---|
| FL 120 Longitudinal Governing Span Rating | 103.0 | Tons |
| **SEGMENTAL** | | |
| FL 120 Transverse Rating (Segmental)** | | Tons |
| Single Axle Transverse Rating** | | Tons |
| Tandem Axle Transverse Rating** | | Tons |
| Wing Span** | | FT |
| Web-to-Web Span** | | FT |
| **MAXIMUM SPAN** | | |
| HS 20 Operating Rating Maximum Span** | | Tons |
| FL 120 Longitudinal Maximum Span # | | Tons |
| **FLOOR BEAM** | | |
| Floor Beam Present | No = Stop / Yes = Continue | |
| Governing Floor Beam Span** | | FT |
| Governing Floor Beam Spacing** | | FT |
| Floor Beam HS 20 Rating** | | Tons |
| Floor Beam SU 4 Rating** | | Tons |
| Floor Beam Inventory Rating Factor** # | | |
| Floor Beam Operating Rating Factor **# | | |
| Floor Beam FL 120 Rating # | | Tons |

**COMMENTS BY ENGINEER**

Span Length is Measured from CL Bearing to CL Bearing. Controlling Beams: Beams 2 & 3 (Interior)

| | |
|---|---|
| Responsible Engineer: | Daniel Raymat, P.E. |
| FL P.E. #: | 63111 |
| Date: | 19-Jun-12 |
| Address: | 7300 N. Kendall Drive, Suite 400 |

DANIEL RAYMAT LICENSE No 63111 STATE OF FLORIDA PROFESSIONAL ENGINEER 1/10/14

**COMPUTATIONS**

| | | | |
|---|---|---|---|
| Performed By: | Alena Lopez | Date: | 10-Jun-12 |
| Checked By: | Chaoxi Ling | Date: | 18-Jun-12 |
| Reviewed By: | Daniel Raymat | Date: | 19-Jun-12 |

Chart 11

Form Revision: 27-.

# BRIDGE LOAD RATING SUMMARY FORM

**BRIDGE DATA**

| | |
|---|---|
| **Bridge Number:** | **871048** |
| Struct. Type Main [Item 43] @: | 502 |
| Struct. Type Appr. [Item 44] @: | 0 |

**POSTING DATA**

**Current Restrictions**

| | |
|---|---|
| Item 41 @: | Open, No Restrictions |
| Is Posting Needed: | No |

**Proposed Restrictions**

| | |
|---|---|
| Item 70 @: | At/Above Legal Loads |

**PROGRAM USED**

CONSPAN VERSION 9.0

**BASIS FOR ANALYSIS**

| | |
|---|---|
| Design Drawings: | Yes |
| As-Built Drawings: | No |
| Shop Drawings: | No |
| Field Measurements: | No |
| Coupon Testing: | No |
| Other: | |

**LIVE LOAD DISTRIBUTION**

| | |
|---|---|
| AASHTO LFD: | |
| AASHTO LRFD: | 0.6600 |
| SALOD: | |
| BRUFEM: | |
| Finite Element on Grillage: | |

**LONGITUDINAL GOVERNING COMPONENT**

| | |
|---|---|
| Main/Approach Span: | Main |
| Description: | Multi-Beam |
| Material: | Concrete |
| Simple/Continuous Span: | Simple |
| Span Length: | 168.73 |
| Flexure, Shear or Principal Tension: | Flexure |

**TRANSVERSE GOVERNING COMPONENT**

| | |
|---|---|
| Main/Approach Span: | |
| Description: | |
| Material: | |
| Deck, Box or Substructure: | |
| Flexure, Shear or Principal Tension: | |

**OTHER SPAN OF INTEREST**
(If Applicable)

**OTHER SPAN OF INTEREST**
(If Applicable)

## PONTIS DATABASE INPUT

### PONTIS APPRAISAL TAB

| Description (NBIS Code) | Value | |
|---|---|---|
| Design Load (31) @ | HL93 | |
| HL93, M9 (H10), M13.5 ((H15), M13.5 (HS15), M18 (H20), MS18 (HS20), MS18 (HS20)+Mod. Pedestrian, Railroad, MS22.5 (HS25), Unknown (NBI), Unknown (P), Not Applicable (P) | | |
| Operating Type (63) @ | Load & Resistance Factor | |
| Unknown, Load Factor, Allowable Stress, Load & Resistance Factor, Load Test, No Rating, Unknown (NBI), Not Applicable (P) | | |
| Operating Rating (64)* @ (Beam 15) | 54.4 | Tons |
| Inventory Type (65) @ | Load & Resistance Factor | |
| Unknown, Load Factor, Allowable Stress, Load & Resistance Factor, Load Test, No Rating, Unknown (NBI), Not Applicable (P) | | |
| Inventory Rating (66)* @ (Beam 15) | 49.3 | Tons |

**LEGEND**

| |
|---|
| * If rating is provided as a factor from an LRFR analysis, multiply the rating factor by 36 tons |
| ** If not calculated, enter "-1" |
| # LRFR Rating Only |
| ## If Posting is not required, enter "99" |
| @ BMS Coding Manual available on the FDOT Office of Maintenance website |
| ( ) List Controlling Member & (M=moment, V=shear, pt=post-tensioning) for this Rating |

### PONTIS LOAD RATING 1 TAB

| Description (NBIS Code) | Value | |
|---|---|---|
| HS 20/HL 93 Governing Span Length | 168.73 | FT |
| Load Rating Origination | Design Plans | |
| Unknown, Design Plans, As-Built Plans, Field Measurements | | |
| Load Rating Date | 02-Nov-10 | |
| Method Calculation | AASHTO Formula | |
| Unknown, AASHTO Formula, SALOD, BRUFEM, Other | | |
| Load Distribution Factor | 0.6600 | |
| Impact Factor | 1.33 | |
| Design Method | LRFD | |
| Unknown, Working Stress, Load Factor, LRFD, Others | | |
| Design Measure | English | |
| Unknown, English, Systeme International | | |

**TRUCK OPERATING RATINGS**

| | | | | |
|---|---|---|---|---|
| SU 2** | Enter Contr. Mem. | ( ) | -1.0 | Tons |
| SU 3** | Enter Contr. Mem. | ( ) | -1.0 | Tons |
| SU 4** | Enter Contr. Mem. | ( ) | -1.0 | Tons |
| C 3** | Enter Contr. Mem. | ( ) | -1.0 | Tons |
| C 4** | Enter Contr. Mem. | ( ) | -1.0 | Tons |
| C 5** | Enter Contr. Mem. | ( ) | -1.0 | Tons |
| ST 5** | Enter Contr. Mem. | ( ) | -1.0 | Tons |
| Recommended SU Posting ## | | | 99 | Tons |
| Recommended C Posting ## | | | 99 | Tons |
| Recommended ST Posting ## | | | 99 | Tons |

### PONTIS LOAD RATING 2 TAB

| Description (NBIS Code) | Value | |
|---|---|---|
| FL 120 Longitudinal Governing Span Rating | 100.7 | Tons |
| **SEGMENTAL** | | |
| FL 120 Transverse Rating (Segmental)** | | Tons |
| Single Axle Transverse Rating** | | Tons |
| Tandem Axle Transverse Rating** | | Tons |
| Wing Span** | | FT |
| Web-to-Web Span** | | FT |
| **MAXIMUM SPAN** | | |
| HS 20 Operating Rating Maximum Span** | | Tons |
| FL 120 Longitudinal Maximum Span # | | Tons |
| **FLOOR BEAM** | | |
| Floor Beam Present | No = Stop / Yes = Continue | |
| Governing Floor Beam Span** | | FT |
| Governing Floor Beam Spacing** | | FT |
| Floor Beam HS 20 Rating** | | Tons |
| Floor Beam SU 4 Rating** | | Tons |
| Floor Beam Inventory Rating Factor** # | | |
| Floor Beam Operating Rating Factor **# | | |
| Floor Beam FL 120 Rating # | | Tons |

**COMMENTS BY ENGINEER**

Span Length is Measured from CL Bearing to CL Bearing. Controlling Beam: Beam 15 (Interior)

**COMPUTATIONS**

| | | | |
|---|---|---|---|
| Performed By: | Joan De la Rosa | Date: | 10-Jan-11 |
| Checked By: | Chaoxi Ling | Date: | 11-Jan-11 |
| Reviewed By: | Daniel Raymat | Date: | 11-Jan-11 |

| | |
|---|---|
| Responsible Engineer: | Daniel Raymat, P.E. |
| FL P.E. #: | 63111 |
| Date: | 11-Jan-11 |
| Address: | 7300 N. Kendall Drive, Suite 400 |

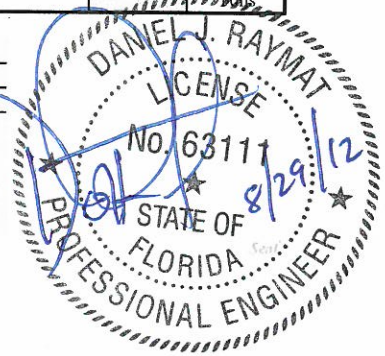


Chart 12

Form Revision: n-07

# BRIDGE LOAD RATING SUMMARY FORM

**BRIDGE DATA**

| | |
|---|---|
| **Bridge Number:** | 871045 |
| Struct. Type Main [Item 43] @: | 502 |
| Struct. Type Appr. [Item 44] @: | 0 |

**POSTING DATA**

**Current Restrictions**

| | |
|---|---|
| Item 41 @: | Open, No Restrictions |
| Is Posting Needed: | No |

**Proposed Restrictions**

| | |
|---|---|
| Item 70 @: | At/Above Legal Loads |

**PROGRAM USED**

CONSPAN VERSION 10.0

**BASIS FOR ANALYSIS**

| | |
|---|---|
| Design Drawings: | Yes |
| As-Built Drawings: | No |
| Shop Drawings: | No |
| Field Measurements: | No |
| Coupon Testing: | No |
| Other: | |

**LIVE LOAD DISTRIBUTION**

| | |
|---|---|
| AASHTO LFD: | |
| AASHTO LRFD: | 0.6600 |
| SALOD: | |
| BRUFEM: | |
| Finite Element on Grillage: | |

**LONGITUDINAL GOVERNING COMPONENT**

| | |
|---|---|
| Main/Approach Span: | Main |
| Description: | Multi-Beam |
| Material: | Concrete |
| Simple/Continuous Span: | Simple |
| Span Length: | 120.92 |
| Flexure, Shear or Principal Tension: | Flexure |

**TRANSVERSE GOVERNING COMPONENT**

| | |
|---|---|
| Main/Approach Span: | |
| Description: | |
| Material: | |
| Deck, Box or Substructure: | |
| Flexure, Shear or Principal Tension: | |

**OTHER SPAN OF INTEREST**
(If Applicable)

**OTHER SPAN OF INTEREST**
(If Applicable)

## PONTIS DATABASE INPUT

### PONTIS APPRAISAL TAB

| Description (NBIS Code) | Value |
|---|---|
| Design Load (31) @ | HL93 |
| HL93, M9 (H10), M13.5 ((H15), M13.5 (HS15), M18 (H20), MS18 (HS20), MS18 (HS20)+Mod, Pedestrian, Railroad, MS22.5 (HS25), Unknown (NBI), Unknown (P), Not Applicable (P) | |
| Operating Type (63) @ | Load & Resistance Factor |
| Unknown, Load Factor, Allowable Stress, Load & Resistance Factor, Load Test, No Rating, Unknown (NBI), Not Applicable (P) | |
| Operating Rating (64)* @ (Beam 6) | 42.84 (M) Tons |
| Inventory Type (65) @ | Load & Resistance Factor |
| Unknown, Load Factor, Allowable Stress, Load & Resistance Factor, Load Test, No Rating, Unknown (NBI), Not Applicable (P) | |
| Inventory Rating (66)* @ (Beam 6) | 39.24 (M) Tons |

**LEGEND**

- * If rating is provided as a factor from an LRFR analysis, multiply the rating factor by 36 tons
- ** If not calculated, enter "-1"
- # LRFR Rating Only
- ## If Posting is not required, enter "99"
- @ BMS Coding Manual available on the FDOT Office of Maintenance website
- ( ) List Controlling Member & (M=moment, V=shear, pt=post-tensioning) for this Rating

### PONTIS LOAD RATING 1 TAB

| Description (NBIS Code) | Value |
|---|---|
| HS 20/HL 93 Governing Span Length | 120.92 FT |
| Load Rating Origination | Design Plans |
| Unknown, Design Plans, As-Built Plans, Field Measurements | |
| Load Rating Date | 02-Jul-12 |
| Method Calculation | AASHTO Formula |
| Unknown, AASHTO Formula, SALOD, BRUFEM, Other | |
| Load Distribution Factor | 0.6600 |
| Impact Factor | 1.33 |
| Design Method | LRFD |
| Unknown, Working Stress, Load Factor, LRFD, Others | |
| Design Measure | English |
| Unknown, English, Systeme International | |

**TRUCK OPERATING RATINGS**

| | | | | |
|---|---|---|---|---|
| SU 2** | Enter Contr. Mem. | ( ) | -1.0 | Tons |
| SU 3** | Enter Contr. Mem. | ( ) | -1.0 | Tons |
| SU 4** | Beam 6 | (M) | 59.4 | Tons |
| C 3** | Enter Contr. Mem. | ( ) | -1.0 | Tons |
| C 4** | Enter Contr. Mem. | ( ) | -1.0 | Tons |
| C 5** | Beam 6 | (M) | 65.7 | Tons |
| ST 5** | Beam 6 | (M) | 72.3 | Tons |
| Recommended SU Posting ## | | | 99 | Tons |
| Recommended C Posting ## | | | 99 | Tons |
| Recommended ST Posting ## | | | 99 | Tons |

### PONTIS LOAD RATING 2 TAB

| Description (NBIS Code) | Value | |
|---|---|---|
| FL 120 Longitudinal Governing Span Rating | 71.7 | Tons |
| **SEGMENTAL** | | |
| FL 120 Transverse Rating (Segmental)** | | Tons |
| Single Axle Transverse Rating** | | Tons |
| Tandem Axle Transverse Rating** | | Tons |
| Wing Span** | | FT |
| Web-to-Web Span** | | FT |
| **MAXIMUM SPAN** | | |
| HS 20 Operating Rating Maximum Span** | | Tons |
| FL 120 Longitudinal Maximum Span # | | Tons |
| **FLOOR BEAM** | | |
| Floor Beam Present | No = Stop / Yes = Continue | |
| Governing Floor Beam Span** | | FT |
| Governing Floor Beam Spacing** | | FT |
| Floor Beam HS 20 Rating** | | Tons |
| Floor Beam SU 4 Rating** | | Tons |
| Floor Beam Inventory Rating Factor** # | | |
| Floor Beam Operating Rating Factor **# | | |
| Floor Beam FL 120 Rating # | | Tons |

**COMMENTS BY ENGINEER**

Span Length is Measured from CL Bearing to CL Bearing. Controlling Beam: Beam 6

| | |
|---|---|
| Responsible Engineer: | Gustavo Llanos, P.E. |
| FL P.E. #: | 73518 |
| Date: | 02-Jul-12 |
| Address: | 7300 N. Kendall Drive, Suite 400 |

**COMPUTATIONS**

| | | | |
|---|---|---|---|
| Performed By: | Gustavo Llanos | Date: | 02-Jul-12 |
| Checked By: | Chaoxi Ling | Date: | 02-Jul-12 |
| Reviewed By: | Daniel Raymat | Date: | 02-Jul-12 |

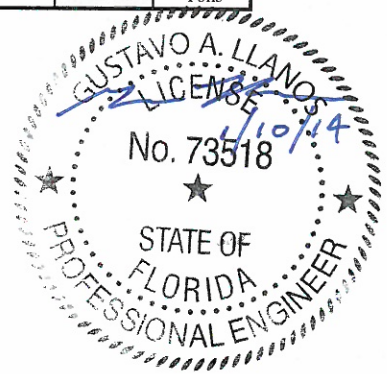


Chart 13

Form Revision: n-07

# BRIDGE LOAD RATING SUMMARY FORM

**BRIDGE DATA**

| | |
|---|---|
| **Bridge Number:** | **871063** |
| Struct. Type Main [Item 43] @: | 502 |
| Struct. Type Appr. [Item 44] @: | 0 |

**POSTING DATA**

**Current Restrictions**

| | |
|---|---|
| Item 41 @: | Open, No Restrictions |
| Is Posting Needed: | No |

**Proposed Restrictions**

| | |
|---|---|
| Item 70 @: | At/Above Legal Loads |

**PROGRAM USED**

CONSPAN VERSION 10.0

**BASIS FOR ANALYSIS**

| | |
|---|---|
| Design Drawings: | Yes |
| As-Built Drawings: | No |
| Shop Drawings: | No |
| Field Measurements: | No |
| Coupon Testing: | No |
| Other: | |

**LIVE LOAD DISTRIBUTION**

| | |
|---|---|
| AASHTO LFD: | |
| AASHTO LRFD: | 0.5600 |
| SALOD: | |
| BRUFEM: | |
| Finite Element on Grillage: | |

**LONGITUDINAL GOVERNING COMPONENT**

| | |
|---|---|
| Main/Approach Span: | Main |
| Description: | Multi-Beam |
| Material: | Concrete |
| Simple/Continuous Span: | Simple |
| Span Length: | 120.68 |
| Flexure, Shear or Principal Tension: | Flexure |

**TRANSVERSE GOVERNING COMPONENT**

| | |
|---|---|
| Main/Approach Span: | |
| Description: | |
| Material: | |
| Deck, Box or Substructure: | |
| Flexure, Shear or Principal Tension: | |

**OTHER SPAN OF INTEREST**
(If Applicable)

**OTHER SPAN OF INTEREST**
(If Applicable)

## PONTIS DATABASE INPUT

### PONTIS APPRAISAL TAB

| Description (NBIS Code) | Value |
|---|---|
| Design Load (31) @ | HL93 |
| HL93, M9 (H10), M13.5 ((H15), M13.5 (HS15), M18 (H20), MS18 (HS20), MS18 (HS20)+Mod, Pedestrian, Railroad, MS22.5 (HS25), Unknown (NBI), Unknown (P), Not Applicable (P) | |
| Operating Type (63) @ | Load & Resistance Factor |
| Unknown, Load Factor, Allowable Stress, Load & Resistance Factor, Load Test, No Rating, Unknown (NBI), Not Applicable (P) | |
| Operating Rating (64)* @ (Interior Beams) | 47.52 (M) Tons |
| Inventory Type (65) @ | Load & Resistance Factor |
| Unknown, Load Factor, Allowable Stress, Load & Resistance Factor, Load Test, No Rating, Unknown (NBI), Not Applicable (P) | |
| Inventory Rating (66)* @ (Interior Beams) | 43.20 (M) Tons |

### LEGEND

* If rating is provided as a factor from an LRFR analysis, multiply the rating factor by 36 tons
** If not calculated, enter "-1"
# LRFR Rating Only
## If Posting is not required, enter "99"
@ BMS Coding Manual available on the FDOT Office of Maintenance website
( ) List Controlling Member & (M=moment, V=shear, pt=post-tensioning) for this Rating

### PONTIS LOAD RATING 1 TAB

| Description (NBIS Code) | Value |
|---|---|
| HS 20/HL 93 Governing Span Length | 120.68 FT |
| Load Rating Origination | Design Plans |
| Unknown, Design Plans, As-Built Plans, Field Measurements | |
| Load Rating Date | 19-Jun-12 |
| Method Calculation | AASHTO Formula |
| Unknown, AASHTO Formula, SALOD, BRUFEM, Other | |
| Load Distribution Factor | 0.5600 |
| Impact Factor | 1.33 |
| Design Method | LRFD |
| Unknown, Working Stress, Load Factor, LRFD, Others | |
| Design Measure | English |
| Unknown, English, Systeme International | |

### TRUCK OPERATING RATINGS

| | | | | |
|---|---|---|---|---|
| SU 2** | Enter Contr. Mem. | ( ) | -1.0 | Tons |
| SU 3** | Enter Contr. Mem. | ( ) | -1.0 | Tons |
| SU 4** | Interior Beams | (M) | 65.9 | Tons |
| C 3** | Enter Contr. Mem. | ( ) | -1.0 | Tons |
| C 4** | Enter Contr. Mem. | ( ) | -1.0 | Tons |
| C 5** | Interior Beams | (M) | 72.9 | Tons |
| ST 5** | Interior Beams | (M) | 80.2 | Tons |
| Recommended SU Posting ## | | | 99 | Tons |
| Recommended C Posting ## | | | 99 | Tons |
| Recommended ST Posting ## | | | 99 | Tons |

### PONTIS LOAD RATING 2 TAB

| Description (NBIS Code) | Value |
|---|---|
| FL 120 Longitudinal Governing Span Rating | 79.4 Tons |
| **SEGMENTAL** | |
| FL 120 Transverse Rating (Segmental)** | Tons |
| Single Axle Transverse Rating** | Tons |
| Tandem Axle Transverse Rating** | Tons |
| Wing Span** | FT |
| Web-to-Web Span** | FT |
| **MAXIMUM SPAN** | |
| HS 20 Operating Rating Maximum Span** | Tons |
| FL 120 Longitudinal Maximum Span # | Tons |
| **FLOOR BEAM** | |
| Floor Beam Present | No = Stop / Yes = Continue |
| Governing Floor Beam Span** | FT |
| Governing Floor Beam Spacing** | FT |
| Floor Beam HS 20 Rating** | Tons |
| Floor Beam SU 4 Rating** | Tons |
| Floor Beam Inventory Rating Factor** # | |
| Floor Beam Operating Rating Factor **# | |
| Floor Beam FL 120 Rating # | Tons |

**COMMENTS BY ENGINEER**

Span Length is Measured from CL Bearing to CL Bearing. Controlling Beam: Interior Beams

| | |
|---|---|
| Responsible Engineer: | Gustavo A. Llanos, P.E. |
| FL P.E. #: | 73518 |
| Date: | 19-Jun-12 |
| Address: | 7300 N. Kendall Drive, Suite 400 |

GUSTAVO A. LLANOS LICENSE No. 73518 STATE OF FLORIDA PROFESSIONAL ENGINEER 7/10/14

**COMPUTATIONS**

| | | | |
|---|---|---|---|
| Performed By: | Gustavo Llanos | Date: | 19-Jun-12 |
| Checked By: | Chaoxi Ling | Date: | 19-Jun-12 |
| Reviewed By: | Daniel Raymat | Date: | 19-Jun-12 |

Chart 14

Form Revision: 27-.

# BRIDGE LOAD RATING SUMMARY FORM

**BRIDGE DATA**

| | |
|---|---|
| **Bridge Number:** | **871064** |
| Struct. Type Main [Item 43] @: | 502 |
| Struct. Type Appr. [Item 44] @: | 0 |

**POSTING DATA**

**Current Restrictions**

| | |
|---|---|
| Item 41 @: | Open, No Restrictions |
| Is Posting Needed: | No |

**Proposed Restrictions**

| | |
|---|---|
| Item 70 @: | At/Above Legal Loads |

**PROGRAM USED**

CONSPAN VERSION 9.0

**BASIS FOR ANALYSIS**

| | |
|---|---|
| Design Drawings: | Yes |
| As-Built Drawings: | No |
| Shop Drawings: | No |
| Field Measurements: | No |
| Coupon Testing: | No |
| Other: | |

**LIVE LOAD DISTRIBUTION**

| | |
|---|---|
| AASHTO LFD: | |
| AASHTO LRFD: | 0.5600 |
| SALOD: | |
| BRUFEM: | |
| Finite Element on Grillage: | |

**LONGITUDINAL GOVERNING COMPONENT**

| | |
|---|---|
| Main/Approach Span: | Main |
| Description: | Multi-Beam |
| Material: | Concrete |
| Simple/Continuous Span: | Simple |
| Span Length: | 120.67 |
| Flexure, Shear or Principal Tension: | Flexure |

**TRANSVERSE GOVERNING COMPONENT**

| | |
|---|---|
| Main/Approach Span: | |
| Description: | |
| Material: | |
| Deck, Box or Substructure: | |
| Flexure, Shear or Principal Tension: | |

**OTHER SPAN OF INTEREST**
(If Applicable)

**OTHER SPAN OF INTEREST**
(If Applicable)

## PONTIS DATABASE INPUT

### PONTIS APPRAISAL TAB

| Description (NBIS Code) | Value | |
|---|---|---|
| Design Load (31) @ | HL93 | |
| HL93, M9 (H10), M13.5 ((H15), M13.5 (HS15), M18 (H20), MS18 (HS20), MS18 (HS20)+Mod, Pedestrian, Railroad, MS22.5 (HS25), Unknown (NBI), Unknown (P), Not Applicable (P) | | |
| Operating Type (63) @ | Load & Resistance Factor | |
| Unknown, Load Factor, Allowable Stress, Load & Resistance Factor, Load Test, No Rating, Unknown (NB, Not Applicable (P) | | |
| Operating Rating (64)* @ (Interior Beams) | 47.5 | Tons |
| Inventory Type (65) @ | Load & Resistance Factor | |
| Unknown, Load Factor, Allowable Stress, Load & Resistance Factor, Load Test, No Rating, Unknown (NB, Not Applicable (P) | | |
| Inventory Rating (66)* @ (Interior Beams) | 43.2 | Tons |

**LEGEND**

- * If rating is provided as a factor from an LRFR analysis, multiply the rating factor by 36 tons
- ** If not calculated, enter "-1"
- # LRFR Rating Only
- ## If Posting is not required, enter "99"
- @ BMS Coding Manual available on the FDOT Office of Maintenance website
- ( ) List Controlling Member & (M=moment, V=shear, pt=post-tensioning) for this Rating

### PONTIS LOAD RATING 1 TAB

| Description (NBIS Code) | Value | |
|---|---|---|
| HS 20/HL 93 Governing Span Length | 120.67 | FT |
| Load Rating Origination | Design Plans | |
| Unknown, Design Plans, As-Built Plans, Field Measurements | | |
| Load Rating Date | 11-Jan-11 | |
| Method Calculation | AASHTO Formula | |
| Unknown, AASHTO Formula, SALOD, BRUFEM, Other | | |
| Load Distribution Factor | 0.5600 | |
| Impact Factor | 1.33 | |
| Design Method | LRFD | |
| Unknown, Working Stress, Load Factor, LRFD, Others | | |
| Design Measure | English | |
| Unknown, English, Systeme International | | |

**TRUCK OPERATING RATINGS**

| | | | | |
|---|---|---|---|---|
| SU 2** | Enter Contr. Mem. | ( ) | -1.0 | Tons |
| SU 3** | Enter Contr. Mem. | ( ) | -1.0 | Tons |
| SU 4** | Interior Beams | (M) | 65.9 | Tons |
| C 3** | Enter Contr. Mem. | ( ) | -1.0 | Tons |
| C 4** | Enter Contr. Mem. | ( ) | -1.0 | Tons |
| C 5** | Interior Beams | (M) | 72.9 | Tons |
| ST 5** | Interior Beams | (M) | 80.2 | Tons |
| Recommended SU Posting ## | | | 99 | Tons |
| Recommended C Posting ## | | | 99 | Tons |
| Recommended ST Posting ## | | | 99 | Tons |

### PONTIS LOAD RATING 2 TAB

| Description (NBIS Code) | Value | |
|---|---|---|
| FL 120 Longitudinal Governing Span Rating | 79.5 | Tons |
| **SEGMENTAL** | | |
| FL 120 Transverse Rating (Segmental)** | | Tons |
| Single Axle Transverse Rating** | | Tons |
| Tandem Axle Transverse Rating** | | Tons |
| Wing Span** | | FT |
| Web-to-Web Span** | | FT |
| **MAXIMUM SPAN** | | |
| HS 20 Operating Rating Maximum Span** | | Tons |
| FL 120 Longitudinal Maximum Span # | | Tons |
| **FLOOR BEAM** | | |
| Floor Beam Present | No = Stop / Yes = Continue | |
| Governing Floor Beam Span** | | FT |
| Governing Floor Beam Spacing** | | FT |
| Floor Beam HS 20 Rating** | | Tons |
| Floor Beam SU 4 Rating** | | Tons |
| Floor Beam Inventory Rating Factor** # | | |
| Floor Beam Operating Rating Factor **# | | |
| Floor Beam FL 120 Rating # | | Tons |

**COMMENTS BY ENGINEER**

Span Length is Measured from CL Bearing to CL Bearing. Controlling Beams: Interior Beams

| | |
|---|---|
| Responsible Engineer: | Manuel Benitez, P.E. |
| FL P.E. #: | 45148 |
| Date: | 02-Feb-11 |
| Address: | 7300 N. Kendall Drive, Suite 400 |

MANUEL ANGEL BENITEZ LICENSE No. 45148 STATE OF FLORIDA PROFESSIONAL ENGINEER

8/29/12

**COMPUTATIONS**

| | | | |
|---|---|---|---|
| Performed By: | Alena Lopez | Date: | 11-Jan-11 |
| Checked By: | Chaoxi Ling | Date: | 02-Feb-11 |
| Reviewed By: | Manuel Benitez | Date: | 02-Feb-11 |

*Chart 15*

| | | | |
|---|---|---|---|
| **Bridge No.** | **871036** | **Analysis Method:** | **LRFR-LRFD** |
| **Location** | **0.25 M E/O NW 72nd Ave** | | |
| **Description** | **7 Spans. 2011 Plans. P/S Florida I-45 beams.** | | |

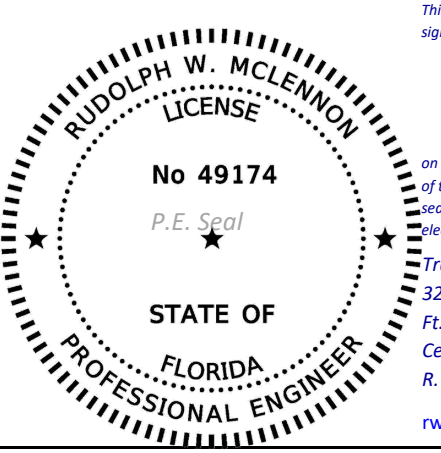
**FDOT Bridge Load Rating Summary Form (Page 1 of 1)**

| Rating Type | Rating Type | Gross Axle Weight (tons) | Moment/Shear/Service | | Dead Load Factor | Live Load Factor | Live Load Distrib. Factor (axles) | Rating Factor | Span No. - Girder No., Interior/Exterior, %Span Length | RF·Weight (tons) |
|---|---|---|---|---|---|---|---|---|---|---|
| **Level** | **Vehicle** | **Weight** | **Member Type** | **Limit** | **DC** | **LL** | **LLDF** | **RF** | **Governing Location** | **RATING** |
| Inventory | HL93 | 36 | Prestressed | Service | 1.00 | 0.80 | 0.606 | 1.014 | Span 6, Exterior Girders, 0.5L | 36.5 |
| Operating | HL93 | 36 | Prestressed | Strength, Shear | 1.25/0.90 | 1.35 | 0.721 | 1.625 | Span 2, Interior Girders, 0.2L | 58.5 |
| Permit | FL120 | 60 | Prestressed | Strength, Moment | 1.25/0.90 | 1.35 | 0.721 | 1.680 | Span 3, Exterior Girders, 0.5L | 100.8 |
| Permit Max Span | FL120 | 60 | Prestressed | Strength, Shear | 1.25/0.90 | 1.35 | 0.721 | 1.810 | Span 6, Exterior Girders, 0.14L | 108.6 |
| Legal | SU2 | 17 | Prestressed | Strength, Shear | 1.25/0.90 | 1.35 | 0.721 | 4.185 | Span 2, Interior Girders, 0.2L | 71.1 |
| | SU3 | 33 | Prestressed | Strength, Shear | 1.25/0.90 | 1.35 | 0.721 | 2.211 | Span 2, Interior Girders, 0.2L | 73.0 |
| | SU4 | 35 | Prestressed | Strength, Shear | 1.25/0.90 | 1.35 | 0.721 | 2.096 | Span 2, Interior Girders, 0.2L | 73.4 |
| | C3 | 28 | Prestressed | Strength, Shear | 1.25/0.90 | 1.35 | 0.721 | 2.922 | Span 2, Interior Girders, 0.2L | 81.8 |
| | C4 | 36.7 | Prestressed | Strength, Shear | 1.25/0.90 | 1.35 | 0.721 | 2.177 | Span 2, Interior Girders, 0.2L | 79.8 |
| | C5 | 40 | Prestressed | Strength, Shear | 1.25/0.90 | 1.35 | 0.721 | 2.143 | Span 2, Interior Girders, 0.2L | 85.7 |
| | ST5 | 40 | Prestressed | Strength, Shear | 1.25/0.90 | 1.35 | 0.721 | 2.298 | Span 2, Interior Girders, 0.2L | 91.9 |
| Emergency Vehicle (EV) | EV2 | 28.75 | Prestressed | NA | NA | NA | | | | -1 |
| | EV3 | 43 | Prestressed | NA | NA | NA | | | | -1 |

| | | |
|---|---|---|
| *Original* Design Load | HL93 | |
| Rating Type, *Analysis* | LRFR-LRFD | |
| Distribution Method | AASHTO Formula | |
| Impact Factor | 33.0% | (axle loading) |
| FL120 Gov. Span Length | 117.5 | (feet) |
| Minimum Span Length | 83.0 | (feet) |
| Recommended Posting | At/Above legal loads. Posting Not Required. | |
| Recommended SU Posting | 99 | (tons) |
| Recommended C Posting | 99 | (tons) |
| Recommended ST5 Posting | 99 | (tons) |
| Owner | 31 State Toll Authority | |
| Location | Neither interstate traffic nor within 1 mile reasonable access to an interstate | |
| EV Posting | No. EV posting is not recommended. The FAST Act does not apply | |
| Floor Beam Present? | No | |
| Segmental Bridge? | No | |
| Project No. & Reason | NA | Update |
| Plans Status | Built | |

Performed by: Walter I Salcedo Date: 05/13/22

Checked by: Eric Reid Date: 05/17/22




*This item has been digitally signed and sealed by*

*on the date adjacent to the seal. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.*

*TranSystems Corporation*
*3230 W Commercial Blvd #450*
*Ft. Lauderdale, FL 33309*
*Certificate of Auth: 7503*
*R. W. McLennon, PE No. 49174*

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This 01-01-2021 summary follows the FDOT Bridge Load Rating Manual (BLRM), and the FDOT BMS Coding Guide.
*Recommended SU Posting levels for Florida SU trucks adequately restricts AASHTO SU trucks; see BLRM Chapter 7.