
**DRAFT DRAINAGE DESIGN
DOCUMENTATION
(PHASE II SUBMITTAL)**

**SR 865 (SAN CARLOS)
From Estero Boulevard to North of Hurricane Bay Bridge
Town of Fort Myers Beach
Lee County**

**Financial Project ID
433726-2-32-01**

May 2020

**Florida Department of Transportation
District 1
801 N Broadway Ave
Bartow, Florida 33830**

Prepared by:

WGI, Inc.
2910 Maguire Road, Suite 2008
Ocoee, FL 34761
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PROFESSIONAL ENGINEER CERTIFICATION

DRAINAGE DESIGN REPORT

I hereby certify that I am a registered professional engineer in the State of Florida practicing with WGI and that I have prepared or approved the evaluation, findings, opinions, conclusions or technical advice hereby reported for:

Project: SR 865 (San Carlos) from Estero Blvd. to North of Hurricane Bay Bridge

ETDM Number: N/A

Financial Project ID: 433726-2-32-01

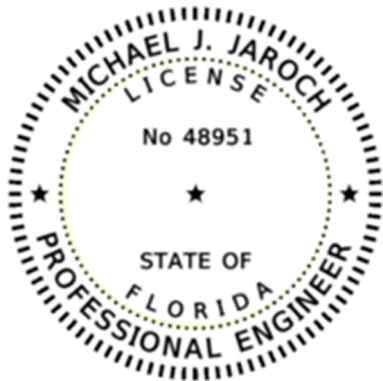
Federal Aid Project Number: N/A

This Drainage Design Report contains detailed engineering information that fulfills the purpose and need for SR 865 (San Carlos) in Lee County, FL. I acknowledge that the procedures and references used to develop the results contained in this report are standard to the professional practice of transportation engineering as applied through professional judgment and experience.

Name: Michael J. Jaroch

P.E. Number: 48951

This item has been electronically signed and sealed by **Michael J. Jaroch, P.E.** on the provided date using a SHA authentication code.



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INTRODUCTION

The Florida Department of Transportation, District One (FDOT-1) proposes the following improvements along SR 865 from Estero Boulevard to North of Hurricane Bay Bridge. The improvements include, but are not limited to the following:

- Widening the Matanzas Pass Bridge (Bridge No. 120088) to provide a shared use path on the west side of the bridge
- Milling and resurfacing SR 865 from Fifth Street to the end of Hurricane Bay Bridge, including the Hurricane Bay Bridge deck.
- Restriping the lanes on the Hurricane Bay Bridge (Bridge No. 120089) and constructing additional barrier wall to provide bike lanes in both directions, and a sidewalk on the west side of the bridge, in addition to the existing sidewalk on the east side of the bridge.
- Modifying the existing signal at SR 865 / Buttonwood Drive, and adding two additional signals – one at SR 865 / Main Street and another at SR 865 / Estero Boulevard.

The project is located in the Town of Fort Myers Beach; it extends from Fifth Street at SR 865 to the end of the Hurricane Bridge. See **Figure 1**, Project Location Map in **Appendix A**.

METHODOLOGY AND DESIGN CRITERIA

Roadway Design:

The roadway design criteria for this project is based on Florida Department of Transportation (FDOT) design standards and criteria. The governing standards are the FY 2020-21 Standard Plans for Road and Bridge Construction and January 2020 Standard Specifications for Road and Bridge Construction.

The primary drainage design effort involves addressing spread along both bridges based on the proposed bridge typical section revisions. This report also addresses the flooding complaints consistent with the scope of the project.

Permits:

The proposed project improvements will not increase pollutant loadings and will not result in a loss of stormwater quality treatment and therefore meets SFWMD Environmental Regulatory Permit (ERP) exemption criteria as noted in Florida Administrative Code (F.A.C.) 62-330.050, and 62-330.051.

EXISTING CONDITIONS

The project is located in the Town of Fort Myers Beach in Lee County, FL. It extends from Estero Boulevard to North of Hurricane Bay Bridge. There are two bridges along the project corridor: the Matanzas Pass Bridge and Hurricane Bay Bridge. See **Figure 1**, Project Location Map in **Appendix A**.

The majority of the stormwater management system is comprised of closed storm drain systems that collect and convey roadway runoff either directly to the Intra-coastal Waterway (Matanzas Pass) or to a permitted stormwater pond located east of San Carlos Boulevard just off of Buttonwood Drive. See **Figure 2**; Detention Pond 1 Detail Sheet (from SFWMD Permit file: Application 930913-1, ERP No. 36-02718-S) in **Appendix A**.

The Matanzas Bridge has a number of drainage and design features that require consideration, these include:

- Super-elevations (S_e) and S_e transitions
- Scuppers that freely discharge to Matanzas Pass, existing
- Barrier wall slots that allow stormwater runoff to drain through the existing barrier wall and into the sidewalk located along the eastbound side of the bridge,
- Bridge deck drainage inlets (to collect stormwater runoff) that drain into vertical drains and discharge directly into (Matanzas Pass)
- Runoff that drains off the bridge towards and into roadway inlets
- Typical section, restriping and revisions

The Hurricane Bay Bridge has a number of drainage and design features that require consideration, these include:

- Super-elevations (S_e) and S_e transitions
- Flat longitudinal profile
- Runoff that drains off the bridge towards and into roadway inlets
- Typical section, restriping and revisions

Flooding problems have been documented by FDOT maintenance staff from the Fort Myers Operations Center, correspondence with FDOT is provided in **Appendix E**. The FDOT identified areas of historical flooding are shown on **Figure 3** in **Appendix E**. Additionally, roadway plan sheets showing the flooding areas are also provided in **Appendix E**. These flooding issues are addressed in Proposed Conditions section of this report.

PROPOSED CONDITIONS

Spread Analysis

Spread analysis for each bridge is required due to the proposed revisions to the typical sections. Both the existing and proposed bridge typical sections (Matanzas and Hurricane Bay Bridges) are provided in **Appendix B**. The spread criteria is based on the a design speed of 45 MPH or less for which half the travel lane is to be clear of stormwater runoff resulting from a rainfall intensity of four inches per hour. After conducting the spread analysis at the Matanzas Pass Bridge and Hurricane Bay Bridge we found that certain locations along the bridge fail spread due to the cross slope transitions along the bridges.

Matanzas Pass Bridge Spread Analysis

The Matanzas Pass Bridge fails spread northbound left of crest from station 29+64.00 to station 29+76.00 due to almost a zero percent cross slope so four inch scuppers will be maintained to drain water along that location. Spread was checked every six feet demonstrating this cross over issue is an existing condition. In the rest of the spread calculations, spread was checked every fourteen feet to account for fifty percent clogging of the existing scuppers and spread was checked every six feet to account for fifty percent clogging of the proposed twelve inch barrier wall slots. The Matanzas Pass Bridge also fails spread southbound right of crest from station 34+78.00 to station 34+84.00 due to almost a zero percent cross slope so twelve inch slots in the barrier wall will be added to help drain water along that location. In the existing condition there were no scuppers or slots at this location so the addition of the twelve inch barrier wall slots will improve the spread conditions. Drain grates will be installed at the beginning of the shared use path and throughout the path on the west end of the Matanzas Pass Bridge in order to capture the storm water runoff. Half the length of the grate was used when calculating spread to account for fifty percent capacity.

Hurricane Bridge Spread Analysis

The Hurricane Bay Bridge fails spread from station 123+19.00 to station 123+25.00 due to almost a zero percent cross slope so scuppers will be added to help drain water from that location and improve the spread conditions. Spread at this location was checked every six feet to account for fifty percent clogging of the three foot spaced proposed scuppers. The remaining water from the bridge will be captured by the existing road inlets along SR 865.

Temporary Drainage Analysis

Spread analysis for each construction phase for both bridges was conducted and the calculations are provided in **Appendix C**. The spread criteria is based on the a design speed of 45 MPH or less for which half the travel lane is to be clear of stormwater runoff resulting from a rainfall intensity of 4.0 inches per hour. Spread criteria is met at all locations except for those mentioned above.

Flooding Problems

The first flooding location involves two curb inlets that flood regularly underneath the north end of the Matanzas Pass Bridge. This should be resolved by replacing the adverse graded 15-inch pipe with a positively graded 18-inch pipe, as shown in the roadway plans. The second flooding location is associated with the storm drain system located along Fisherman's Wharf, just south of Main Street. Fisherman's Wharf should see an improvement with the addition of inlet (S-151) located in the proposed bus bay (station 44+68.61, LT). The proposed improvements will more effectively drain all the Matanzas Pass Bridge runoff into inlet (S-151) located within the limits of the new bus bay; this will eliminate any excess runoff from draining into Fisherman's Wharf.

Optional Material Analysis

Within the project limits, all the pipe materials are concrete (RCP). Given the minor amount of pipe replacement in conjunction with the in-situ soils conditions, RCP will be the only pipe material specified for this project for consistency purposes. An optional materials analysis is not warranted.

RESULTS AND CONCLUSIONS

The spread analysis in **Appendix B** and **Appendix C** provides the necessary documentation to address the anticipated spread along the Matanzas Pass Bridge and Hurricane Bay Bridge for the proposed typical sections and during the construction phases. The analysis demonstrates that the spread will not exceed the allowable limits at any location along the bridges and provides a safe traveling condition for roadway users. The required bridge deck drainage (bridge deck inlets, scupper locations, and bridge barrier wall slots) for the proposed typical sections are detailed in the Bridge Plans.

The flooding concerns along the project corridor have been addressed with the replacement of the adverse graded 15-inch pipe with a positively graded 18- inch pipe connecting the two curb inlets underneath the north end of the Matanzas Pass Bridge and with the addition of an inlet located in the proposed bus bay will more effectively drain all the Matanzas Pass Bridge runoff and eliminate any excess runoff from draining into Fisherman's Wharf.

APPENDIX A

Drainage Exhibits

Figure 1 - Project Location Map

Figure 2 – Detention Pond 1 Detail



Project Location Map
 SR 865 (San Carlos Boulevard) from
 Estero Blvd to North of Hurricane Bay Bridge
 FPID: 433726-2-32-01
 Lee County, Florida

 Project Limits

Figure 1

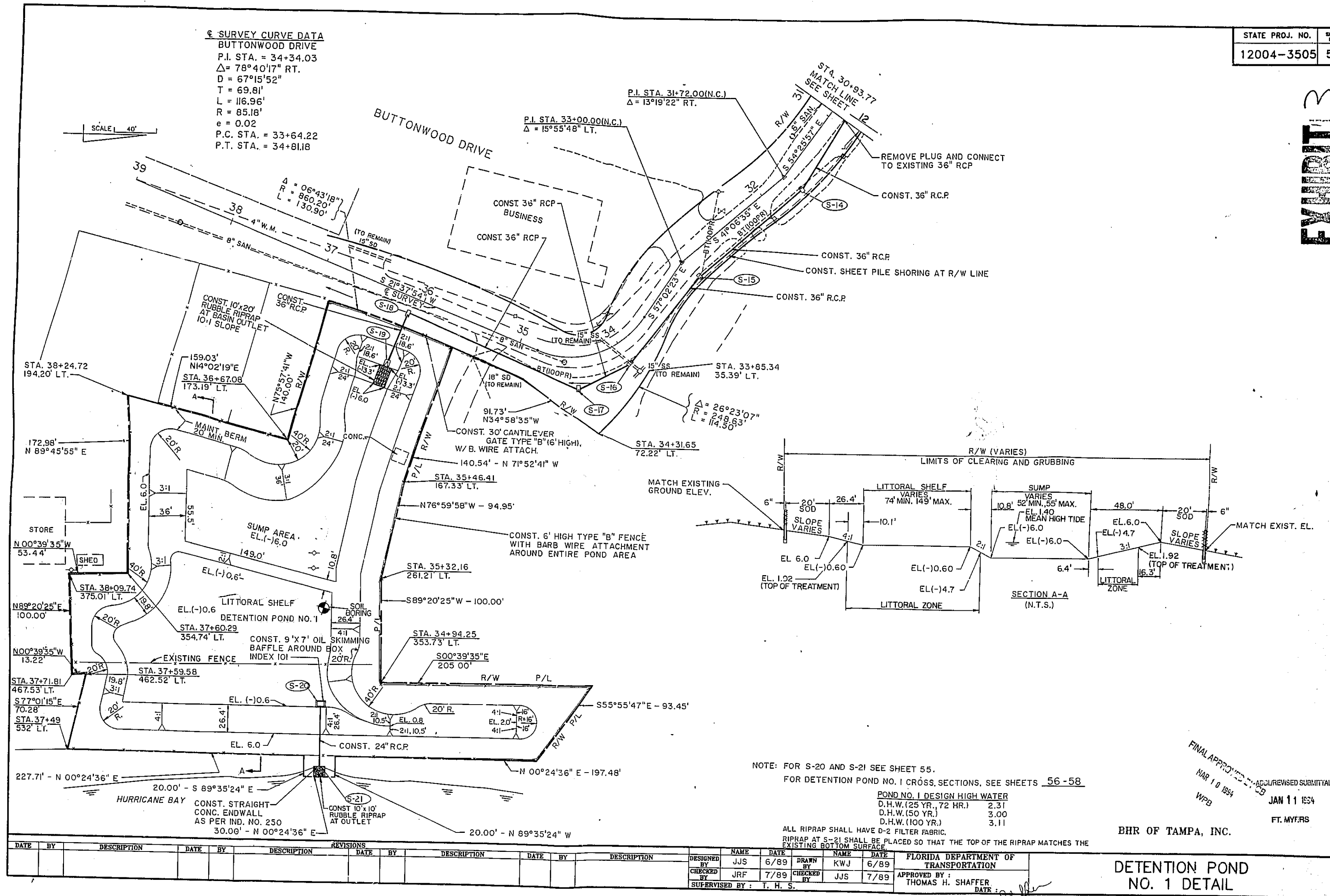
Maps are for graphical purposes only. They do not represent a legal survey. While every effort has been made to ensure that these data are accurate and reliable within the limits of the process, WGI cannot assume liability for any damages caused by any errors or omissions in the data. WGI makes no warranty, expressed or implied, nor does the fact of distribution constitute such a warranty.

Map prepared by WGI, April 21st 2020
 Data Source: Project limits provided by WGI,
 Basemap provided by ESRI Online Services.

Figure 2

Detention Pond 1 Detail Sheet

From SFWMD Permit file: Application 930913-1, ERP No. 36-02718-S)

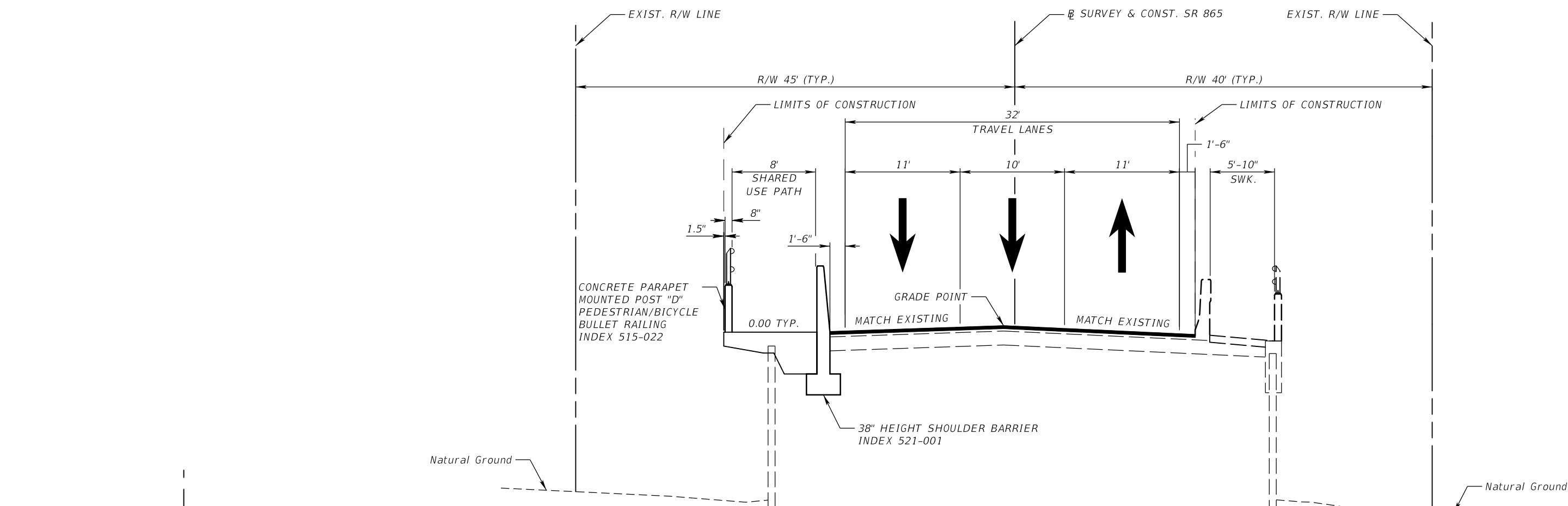


36-02718-5 930913-1

APPENDIX B

Spread Analysis and Calculations

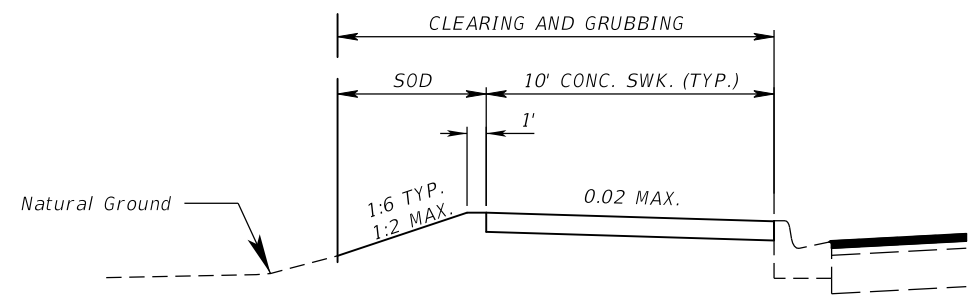
Existing and Proposed Road & Bridge Typical Sections with Supporting Documentation



TYPICAL SECTION 1
SR 865
STA. 15+49.65 TO 19+52.25

TRAVEL LANES

MILL EXISTING ASPHALT PAVT. (2" AVG. DEPTH)
 FRICTION COURSE FC-12.5 (TRAFFIC C) (2") (PG 76-22)



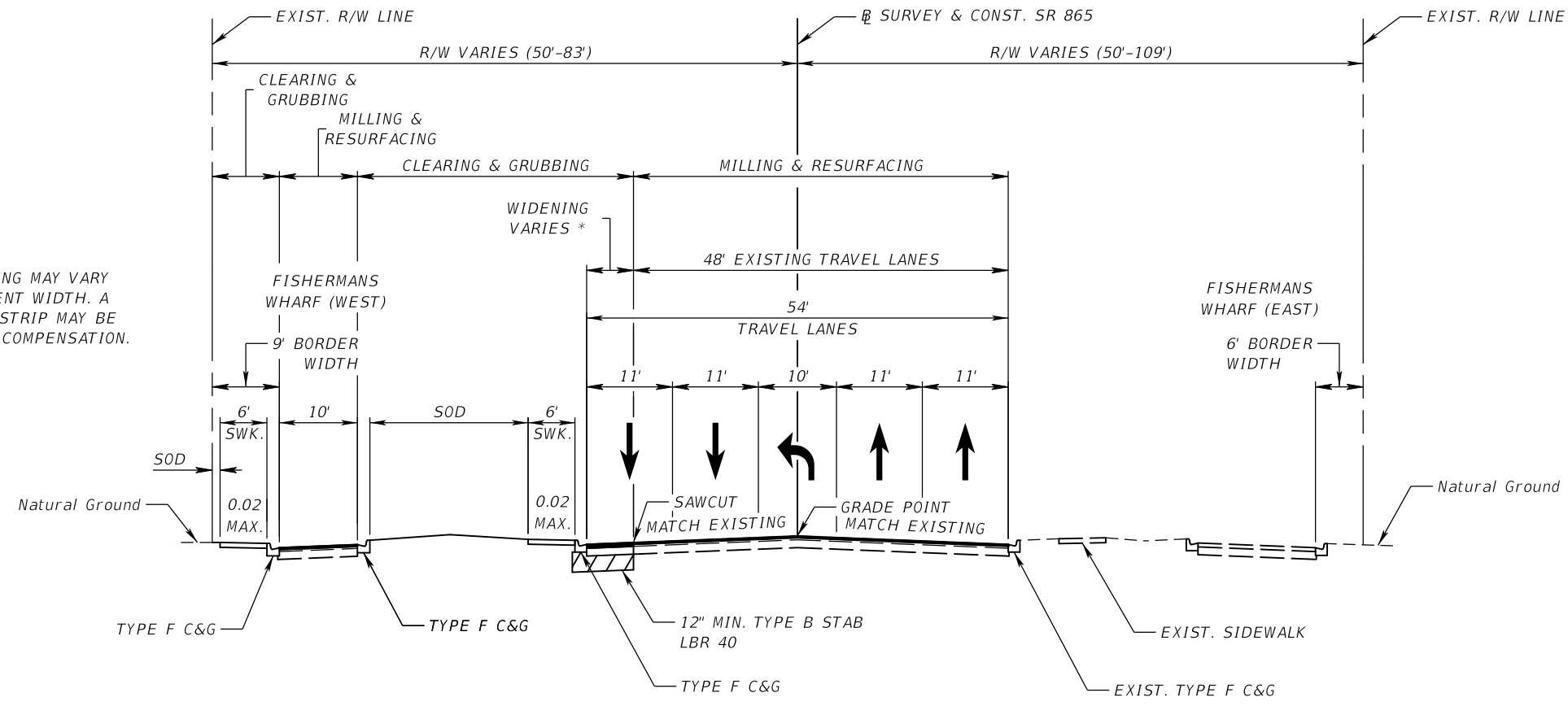
SIDEWALK DETAIL
STA. 15+32.44 TO 16+89.71

TRAFFIC DATA

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 ESTIMATED DESIGN YEAR = 2040 AADT = 24600
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 DESIGN HOUR T = 3%
 DESIGN SPEED = 35 MPH
 POSTED SPEED = 35 MPH

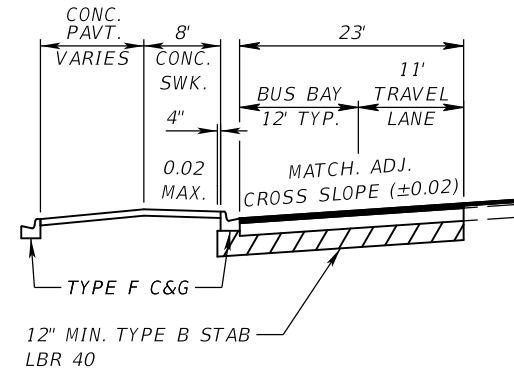
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DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID	
					SR 865	LEE	433726-2-52-01	

* ACTUAL WIDTH OF BASE WIDENING MAY VARY DUE TO ACTUAL EXISTING PAVEMENT WIDTH. A UNIFORM WIDTH BASE WIDENING STRIP MAY BE CONSTRUCTED AT NO ADDITIONAL COMPENSATION.

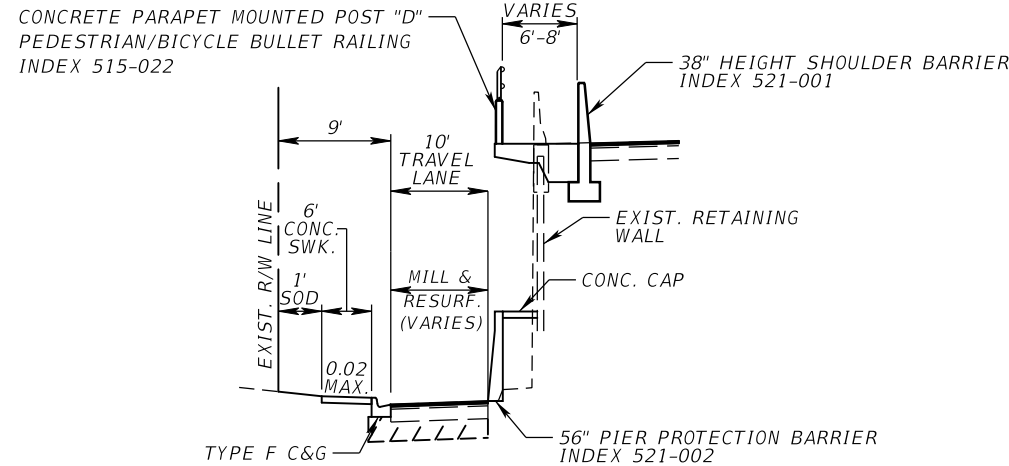


**TYPICAL SECTION 2
SR 865**

STA. 40+54.83 TO STA. 46+22.64



**BUS BAY DETAIL
STA. 44+77.16 TO STA. 45+26.98**



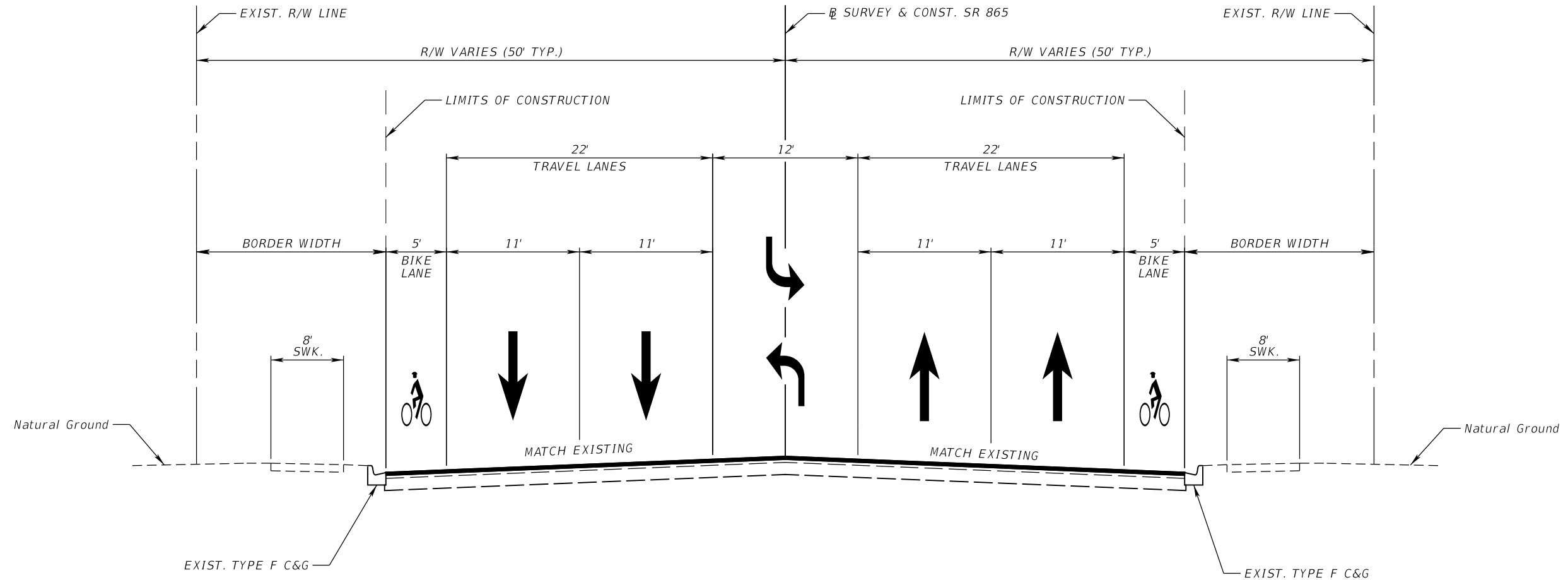
**FISHERMANS WHARF DETAIL
STA. 39+90.00 TO 43+35.85**

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DESIGN HOUR T = 4%
DESIGN SPEED = 35 MPH
POSTED SPEED = 35 MPH

- WIDENING**
OPTIONAL BASE GROUP 11 WITH
TYPE SP STRUCTURAL COURSE (TRAFFIC C) (2")
AND FRICTION COURSE FC-12.5 (TRAFFIC C) (2") (PG 76-22)
- EXISTING TRAVEL LANES**
MILL EXISTING ASPHALT PAVT. (2" AVG. DEPTH)
AND FRICTION COURSE FC-12.5 (TRAFFIC C) (2") (PG 76-22)
- FISHERMANS WHARF WIDENING**
OPTIONAL BASE GROUP 6 (TYPE B-12.5) (5") WITH
TYPE SP STRUCTURAL COURSE (TRAFFIC C) (1 1/2")
FRICTION COURSE FC-12.5 (TRAFFIC C) (1 1/2") (PG 76-22)
- FISHERMANS WHARF (WEST)
EXISTING TRAVEL LANE**
MILL EXISTING ASPHALT PAVT. (1 1/2" AVG. DEPTH)
AND FRICTION COURSE FC-12.5 (TRAFFIC C) (1 1/2") (PG 76-22)

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DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID	
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TYPICAL SECTION 3
SR 865
STA. 105+00.00 TO STA. 121+01.91
STA. 124+52.20 TO STA. 129+01.35

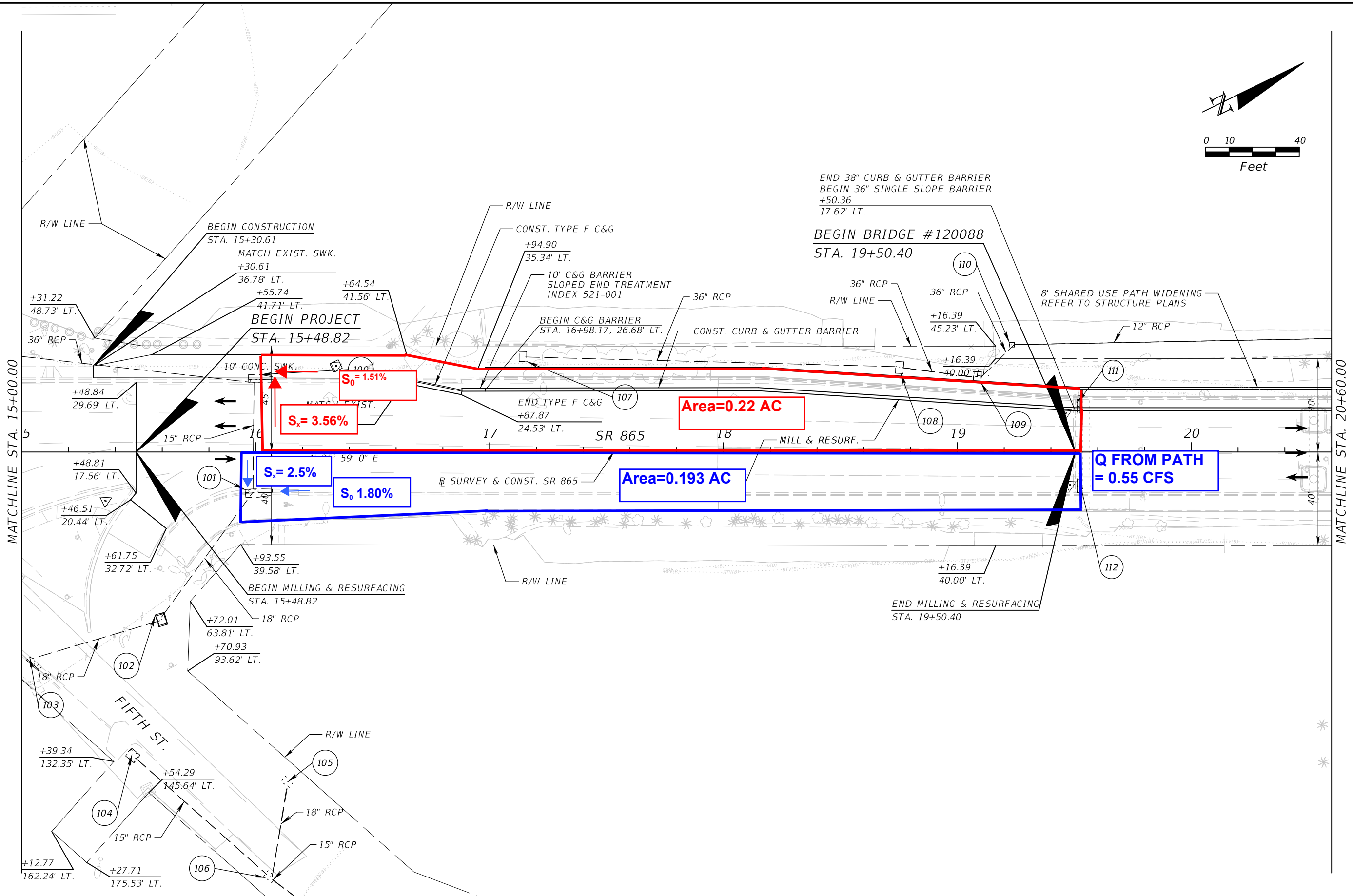
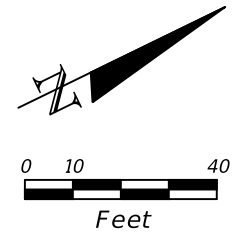
TRAVEL LANES

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 FRICTION COURSE FC-12.5 (TRAFFIC C) (2") (PG 76-22)

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 DESIGN HOUR T = 3%
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 POSTED SPEED = 45 MPH

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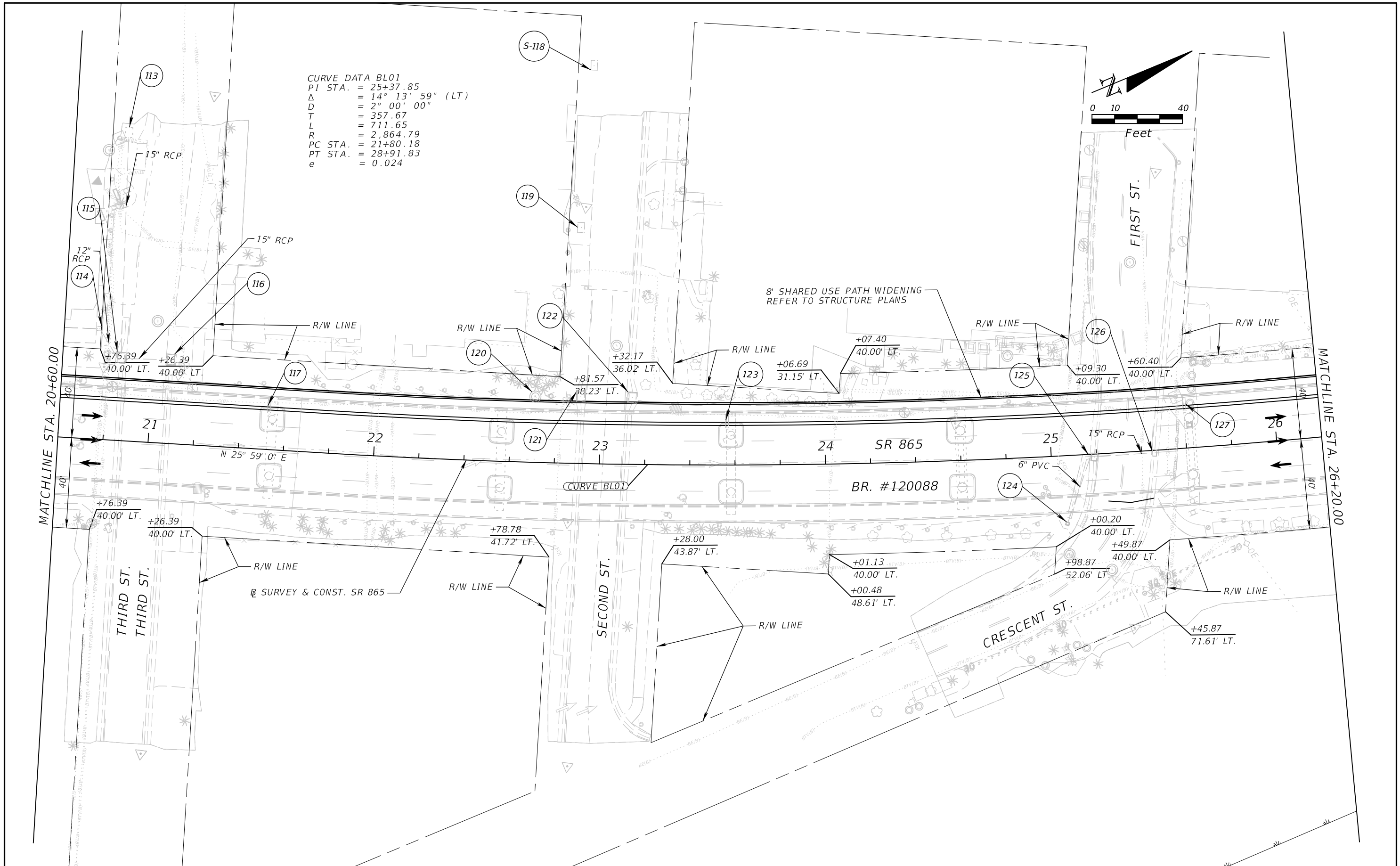
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CHRISTOPHER D. FRANK, P.E.
 P.E. LICENSE NUMBER 64014
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 OCOEE, FL 34761

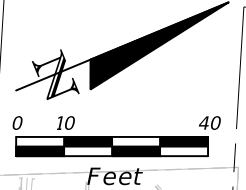
STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 865	LEE	433726-2-52-01

ROADWAY PLAN (02)

SHEET NO.

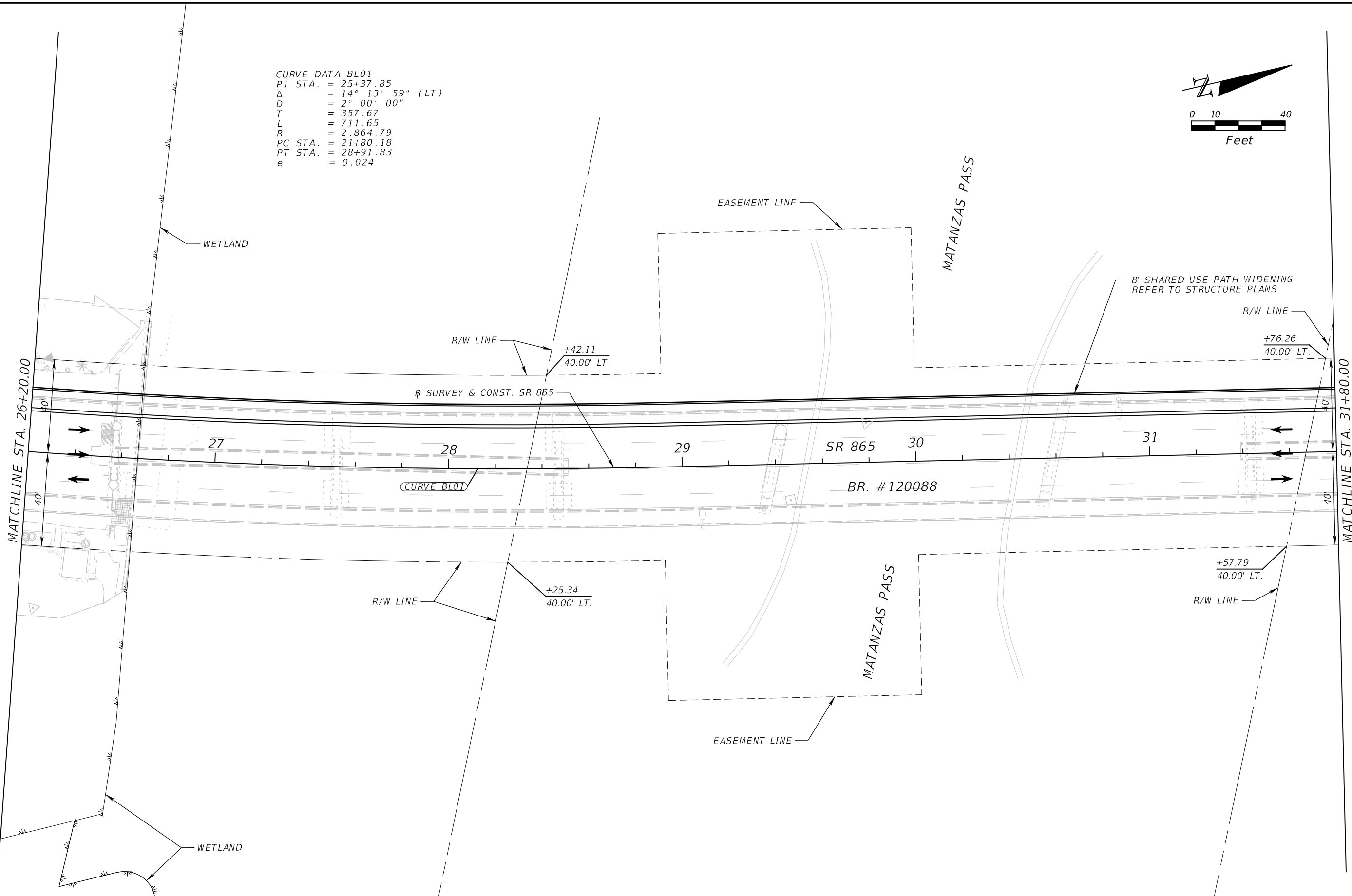
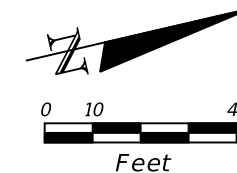


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REVISIONS				CHRISTOPHER D. FRANK, P.E. P.E. LICENSE NUMBER 64014 WGI, INC. 2910 MAGUIRE ROAD, SUITE 2008 OCOEE, FL 34761	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			ROADWAY PLAN (03)	SHEET NO.
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					SR 865	LEE	433726-2-52-01		

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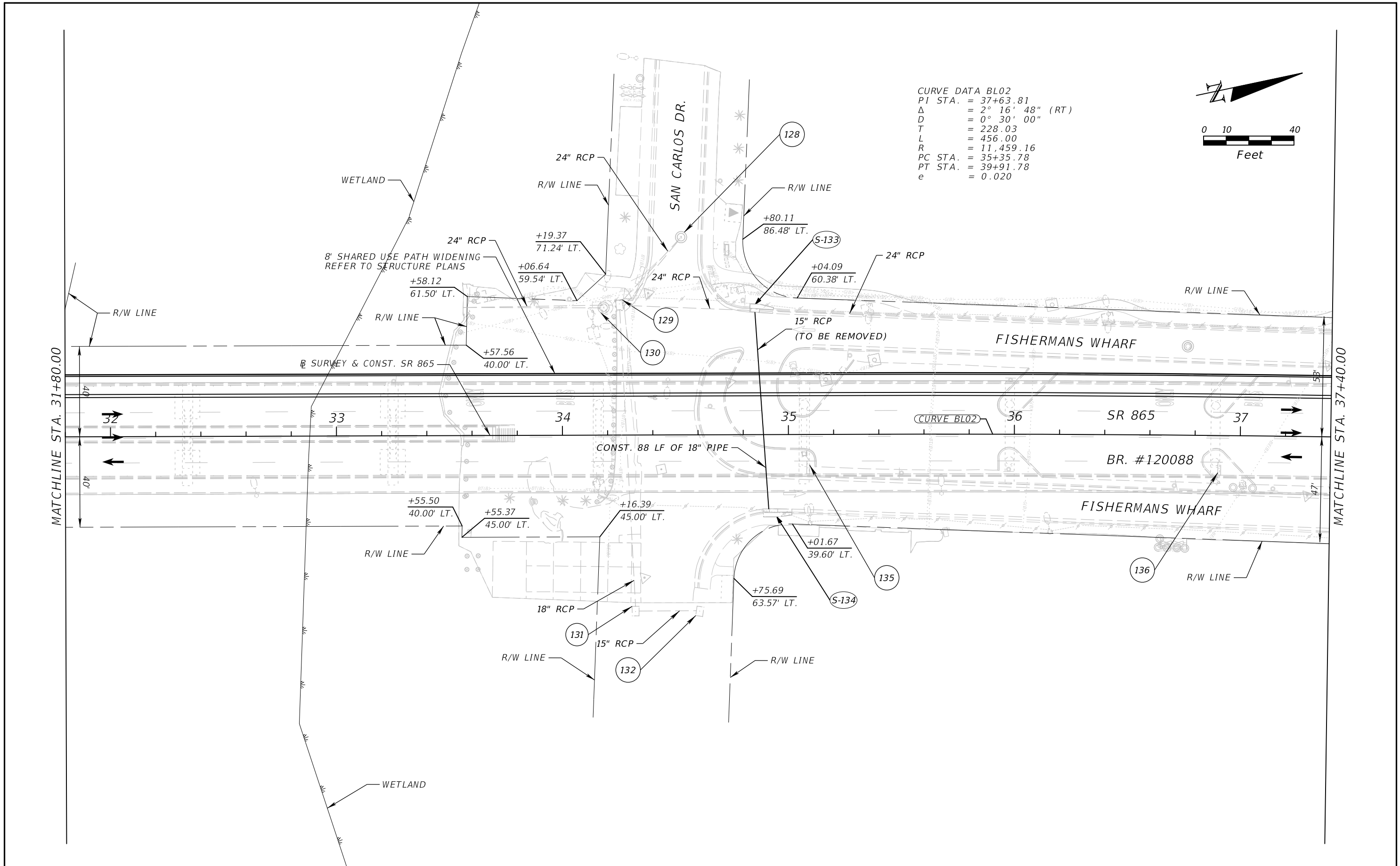
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 P.E. LICENSE NUMBER 64014
 WGI, INC.
 2910 MAGUIRE ROAD, SUITE 2008
 OCOEE, FL 34761

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 865	LEE	433726-2-52-01

ROADWAY PLAN (04)

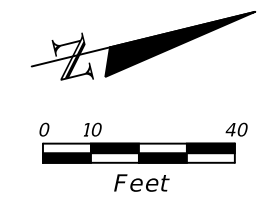
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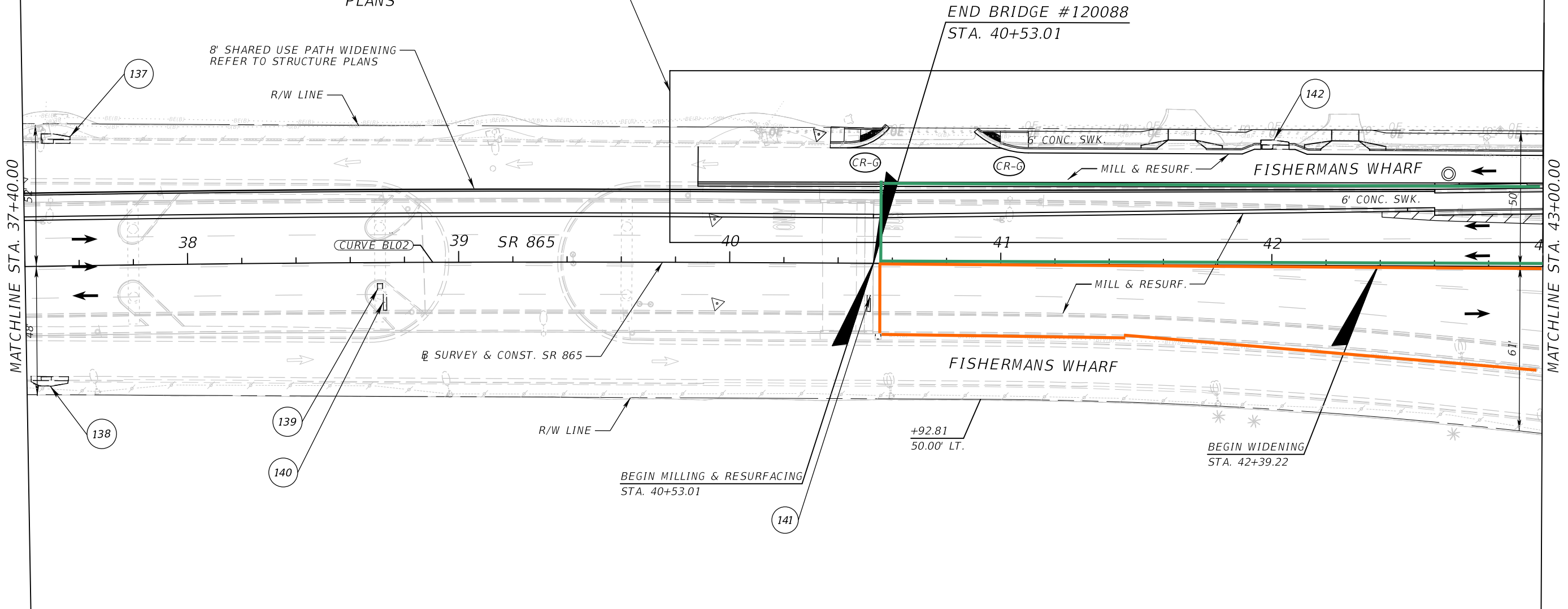
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DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
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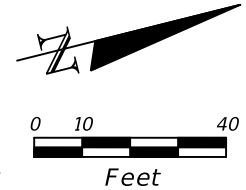


FOR MORE INFORMATION, SEE
 FISHERMANS WHARF ROADWAY
 PLANS



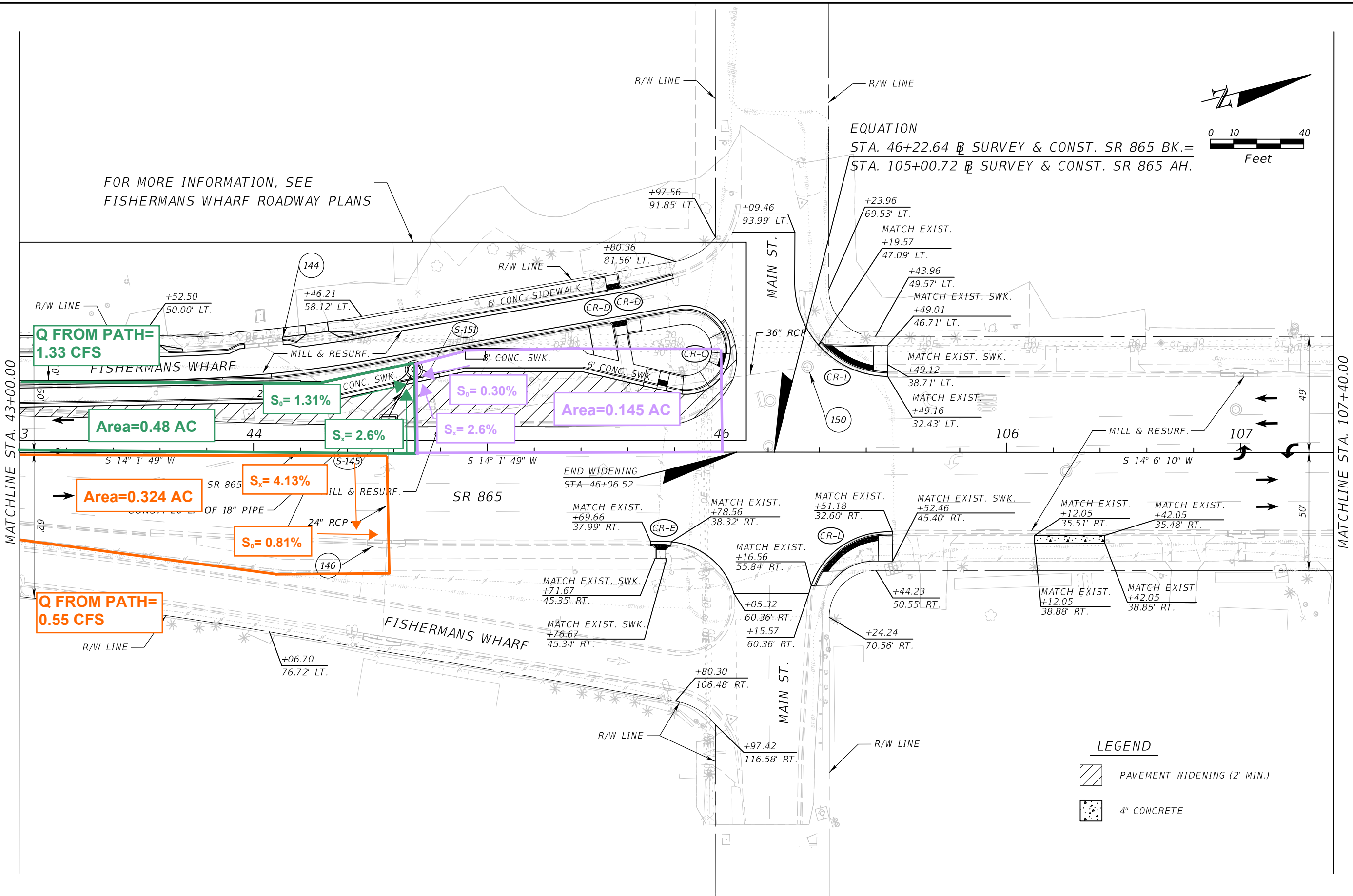
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 PAVEMENT WIDENING (2' MIN.)

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DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					SR 865	LEE	433726-2-52-01		



EQUATION
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FOR MORE INFORMATION, SEE
 FISHERMANS WHARF ROADWAY PLANS

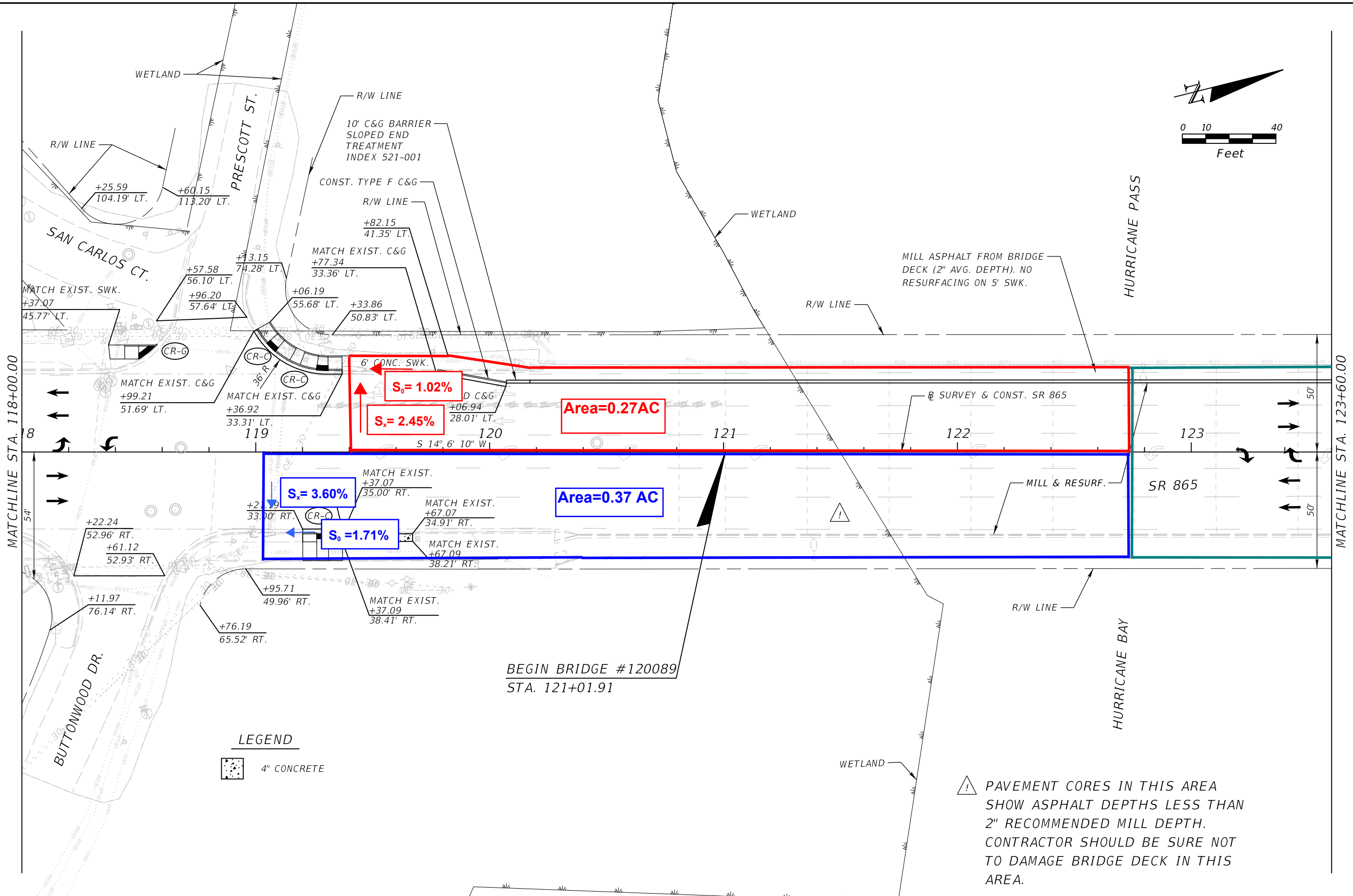
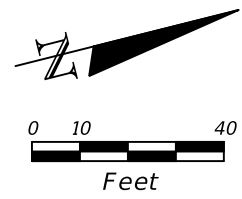


LEGEND

- PAVEMENT WIDENING (2' MIN.)
- 4" CONCRETE

REVISIONS				CHRISTOPHER D. FRANK, P.E. P.E. LICENSE NUMBER 64014 WGI, INC. 2910 MAGUIRE ROAD, SUITE 2008 OCOEE, FL 34761	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			ROADWAY PLAN (07)	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		16
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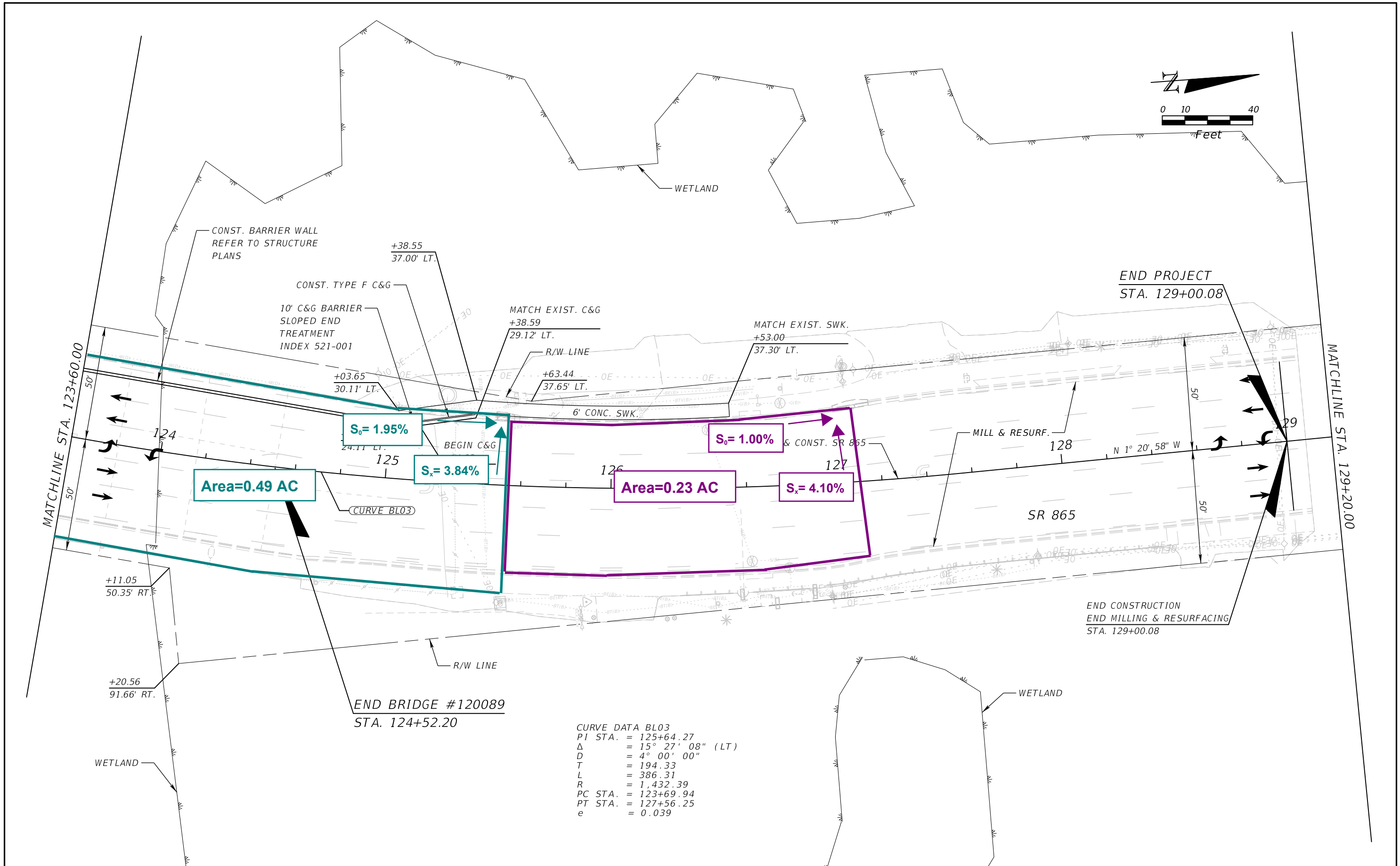


LEGEND

	4" CONCRETE
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! PAVEMENT CORES IN THIS AREA SHOW ASPHALT DEPTHS LESS THAN 2" RECOMMENDED MILL DEPTH. CONTRACTOR SHOULD BE SURE NOT TO DAMAGE BRIDGE DECK IN THIS AREA.

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DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID	
					SR 865	LEE	433726-2-52-01	



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PC STA.	= 123+69.94
PT STA.	= 127+56.25
e	= 0.039

REVISIONS				CHRISTOPHER D. FRANK, P.E. P.E. LICENSE NUMBER 64014 WGI, INC. 2910 MAGUIRE ROAD, SUITE 2008 OCOE, FL 34761	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			ROADWAY PLAN (11)	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
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Wantman Group, Inc.
 Engineering • Planning • Surveying • Environmental

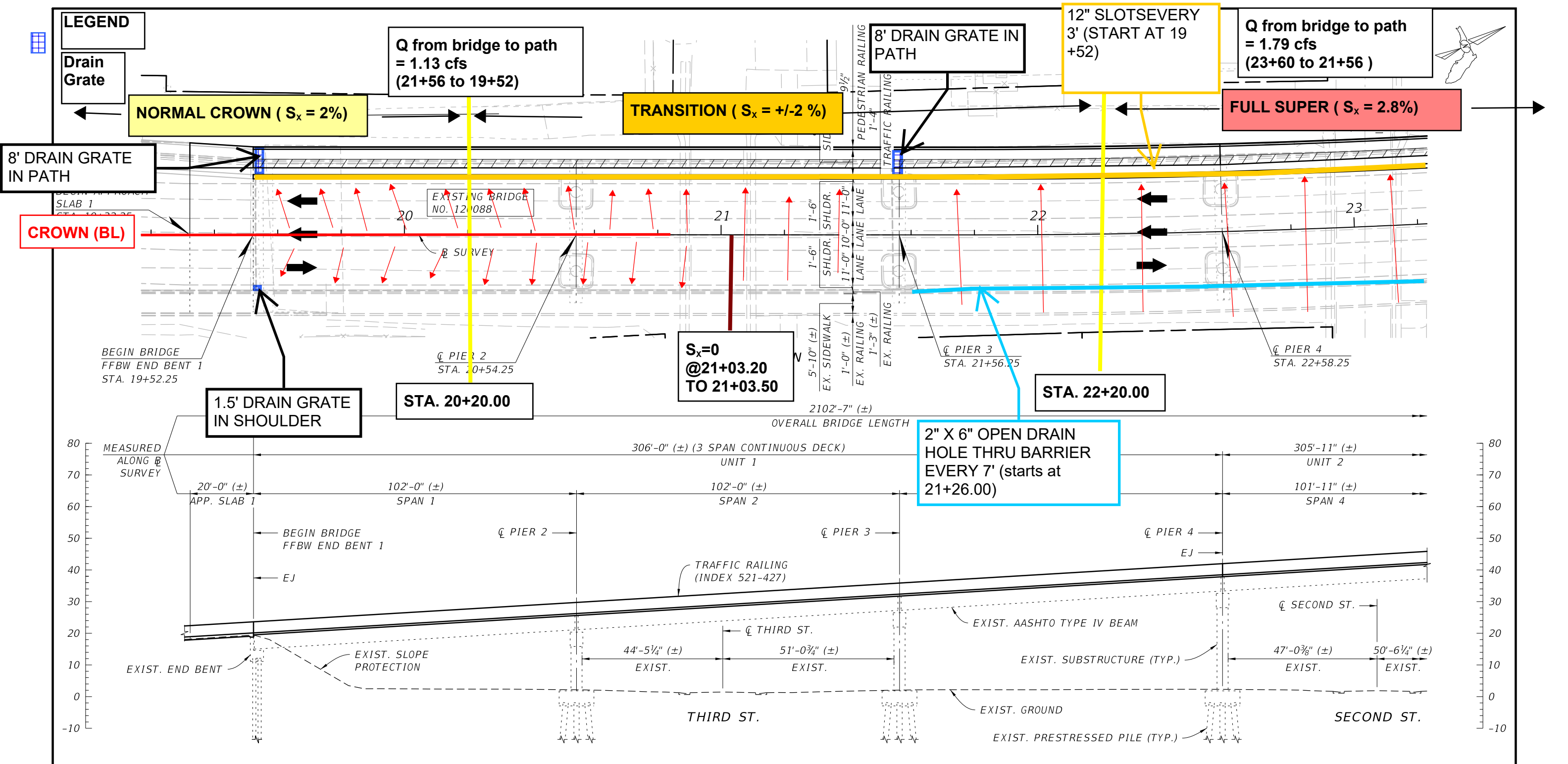
Project Name: SAN CARLOS (SR 865)
 FPID: 433726-01-32-1
 County: LEE

Designer: CJC
 Checked by: ZAK
 Date: 5/5/2020

SAN CARLOS ROAD SPREAD CALCULATIONS

Reference: Section 6.3.2, Chapter 6, FDOT Drainage Design Guide, 2020

STRUCTURE NUMBER	STATION FROM (ft.)	STATION TO (ft.)	SIDE	LONG. SLOPE %	CROSS SLOPE Sx (ft/ft)	WIDTH (ft.)	AREA A (Ac.)	Intensity i (in/hr)	Runoff Coeff. C	FLOW Q (cfs)	BYPASS Upstream Qb (cfs)	TOTAL FLOW Qt (cfs)	SPREAD WIDTH T (ft.)	BYPASS Qb (cfs)	Allowable Spread (ft)	OK	REMARKS
EXISTING P-5	019+52.25	016+03.10	SB	1.51%	0.0356	27.50	0.220	4.00	0.95	0.838	0.00	0.838	4.37	0.00	7.00	OK	
EXISTING P-5	019+52.25	015+95.41	NB	1.80%	0.0250	23.50	0.193	4.00	0.95	0.732	0.55	1.282	6.19	0.00	7.00	OK	*Added total flow from path spread calcs to bypass upstream
PROPOSED TYPE 2	040+39.00	044+69.80	SB	1.31%	0.0260	34.50	0.480	4.00	0.95	1.824	1.33	3.154	8.99	0.00	12.00	OK	*Added total flow from path spread calcs to bypass upstream
EXISTING P-6	040+55.00	044+64.71	NB	0.81%	0.0413	34.50	0.324	4.00	0.95	1.233	0.55	1.783	5.94	0.00	7.00	OK	*Added total flow from path spread calcs to bypass upstream
PROPOSED TYPE 2	046+00.00	044+69.80	SB	0.30%	0.0260	48.50	0.145	4.00	0.95	0.551	0.55	1.101	7.99	0.00	12.00	OK	Sidewalk included in area
EXISTING P-5	122+77.36	119+36.00	SB	1.02%	0.0245	34.50	0.27	4.00	0.95	1.03	0.00	1.03	6.42	0.00	10.50	OK	Sidewalk included in area
EXISTING P-5	122+77.36	119+00.00	NB	1.71%	0.0360	43.00	0.37	4.00	0.95	1.42	0.00	1.42	5.16	0.00	10.50	OK	Sidewalk included in area
EXISTING P-5	122+77.36	125+52.00	SB	1.95%	0.0384	77.75	0.49	4.00	0.95	1.86	0.00	1.86	5.36	0.00	10.50	OK	Sidewalk included in area
EXISTING P-6	125+52.00	127+09.00	SB	1.00%	0.0410	65.00	0.23	4.00	0.95	0.89	0.00	0.89	4.42	0.00	10.50	OK	



LEGEND

Drain Grate

Q from bridge to path = 1.79 cfs (23+60 to 21+56)

FULL SUPER ($S_x = 2.8\%$)

Q from bridge to path = 1.13 cfs (21+56 to 19+52)

NORMAL CROWN ($S_x = 2\%$)

TRANSITION ($S_x = +/- 2\%$)

8' DRAIN GRATE IN PATH

8' DRAIN GRATE IN PATH

12" SLOTSEVERY 3' (START AT 19+52)

CROWN (BL)

1.5' DRAIN GRATE IN SHOULDER

2" X 6" OPEN DRAIN HOLE THRU BARRIER EVERY 7' (starts at 21+26.00)

$S_x = 0$ @ 21+03.20 TO 21+03.50

STA. 22+20.00

ELEVATION
(LOOKING THROUGH BRIDGE)

LEGEND:

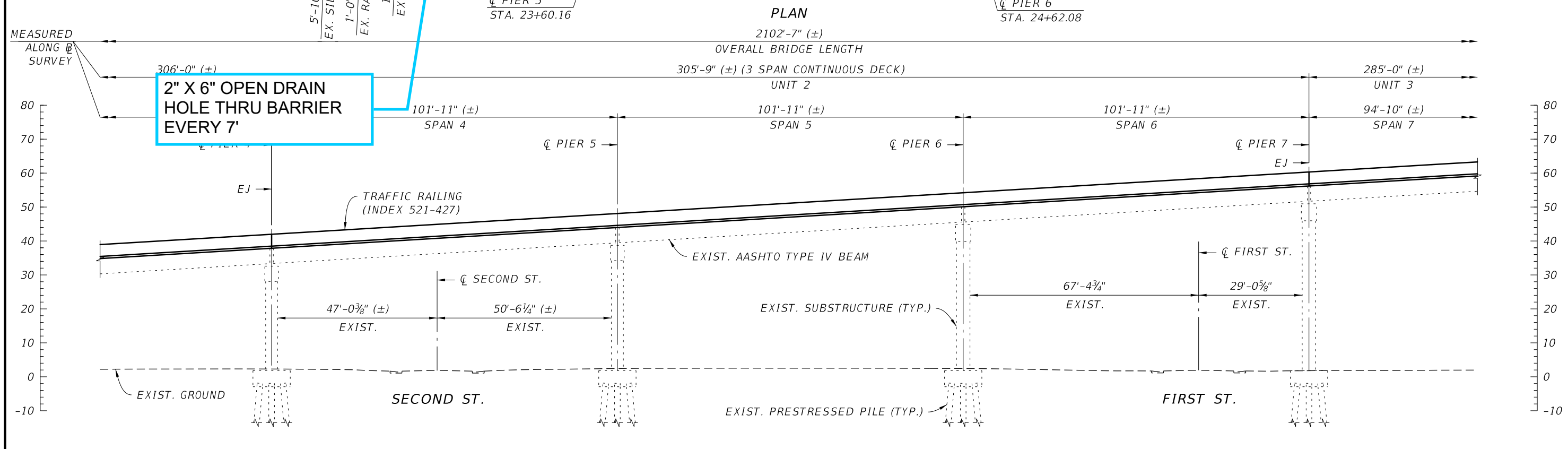
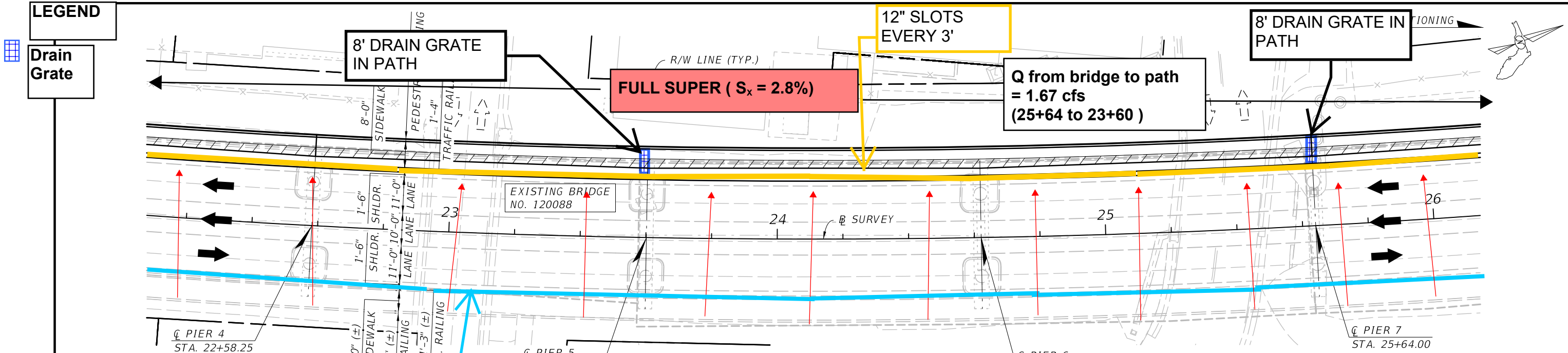
➔ PROPOSED DIRECTION OF TRAFFIC

⇄ EXISTING DIRECTION OF TRAFFIC

▨ EXISTING TO BE REMOVED

BRIDGE NO. 120088

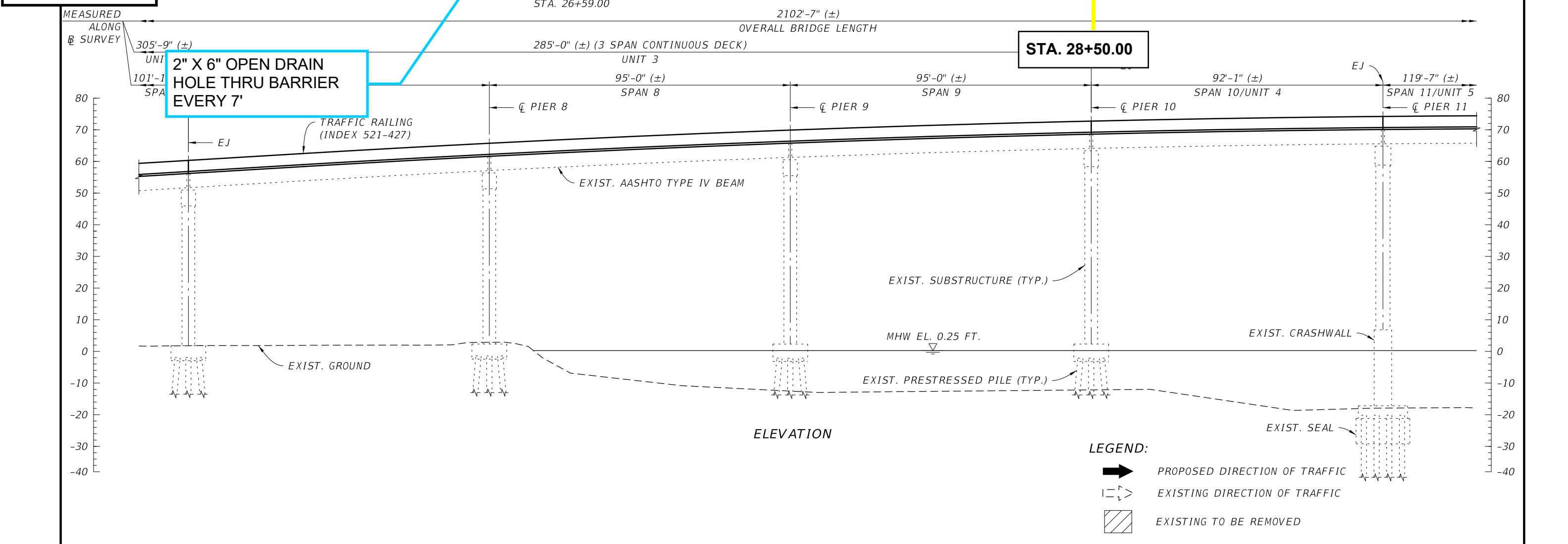
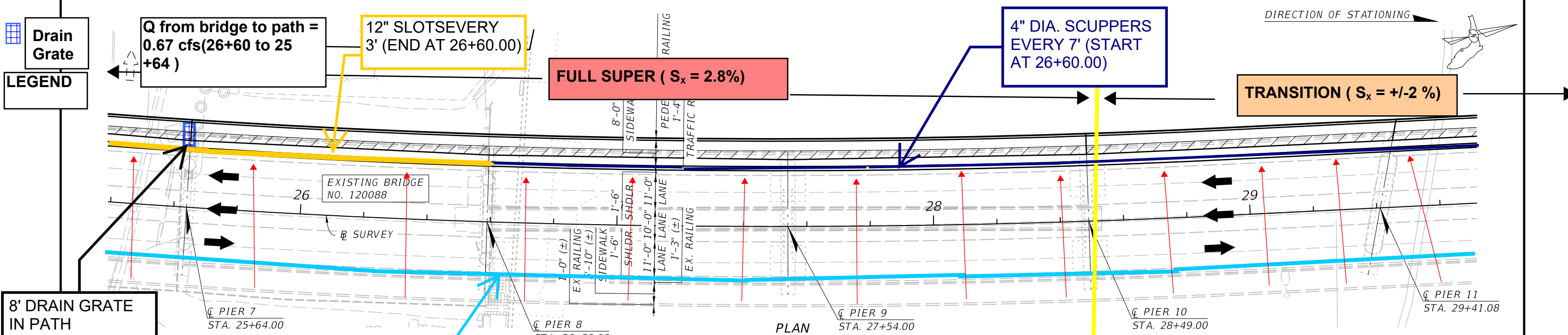
REVISIONS						DRAWN BY: ESK	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET TITLE: PLAN AND ELEVATION (1 OF 6)	REF. DWG. NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
							SR 865	LEE	433726-2-32-01	SR 865 (SAN CARLOS BLVD) FROM ESTERO BLVD TO NORTH OF HURRICANE BAY BRIDGE	B1-1



- LEGEND:**
- PROPOSED DIRECTION OF TRAFFIC
 - EXISTING DIRECTION OF TRAFFIC
 - EXISTING TO BE REMOVED

BRIDGE NO. 120088

REVISIONS						NATHANIEL ALLEN VAN ETEN, P.E. P.E. LICENSE NUMBER 73756 WANTMAN GROUP, INC. 3111 W. MARTIN LUTHER KING JR. BLVD., SUITE 375, TAMPA, FLORIDA 33607 CERTIFICATE OF AUTHORIZATION 00006091	DRAWN BY: ESK CHECKED BY: NVE DESIGNED BY: ESK CHECKED BY: NVE	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET TITLE: PLAN AND ELEVATION (2 OF 6)	REF. DWG. NO. SHEET NO. B1 - 2
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION			ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
						SR 865	LEE	433726-2-32-01	SR 865 (SAN CARLOS BLVD) FROM ESTERO BLVD TO NORTH OF HURRICANE BAY BRIDGE			



LEGEND

Drain Grate

8' DRAIN GRATE IN PATH

4" DIA. SCUPPERS EVERY 7' (START AT 26+60.00)

Q from bridge to path = 0.67 cfs(26+60 to 25+64)

12" SLOTSEVERY 3' (END AT 26+60.00)

FULL SUPER (S_x = 2.8%)

TRANSITION (S_x = +/-2%)

2" X 6" OPEN DRAIN HOLE THRU BARRIER EVERY 7'

STA. 28+50.00

LEGEND:

- PROPOSED DIRECTION OF TRAFFIC
- EXISTING DIRECTION OF TRAFFIC
- EXISTING TO BE REMOVED

BRIDGE NO. 120088

REVISIONS						DRAWN BY: ESK	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET TITLE: PLAN AND ELEVATION (3 OF 6)	REF. DWG. NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
							SR 865	LEE	433726-2-32-01	SR 865 (SAN CARLOS BLVD) FROM ESTERO BLVD TO NORTH OF HURRICANE BAY BRIDGE	B1-3

DIRECTION OF STATIONING

High Point (PVI)
STA. 30+00.00

4" DIA. SCUPPERS
EVERY 7'

NORMAL CROWN (S_x = 2%)

TRANSITION (S_x = +2%)

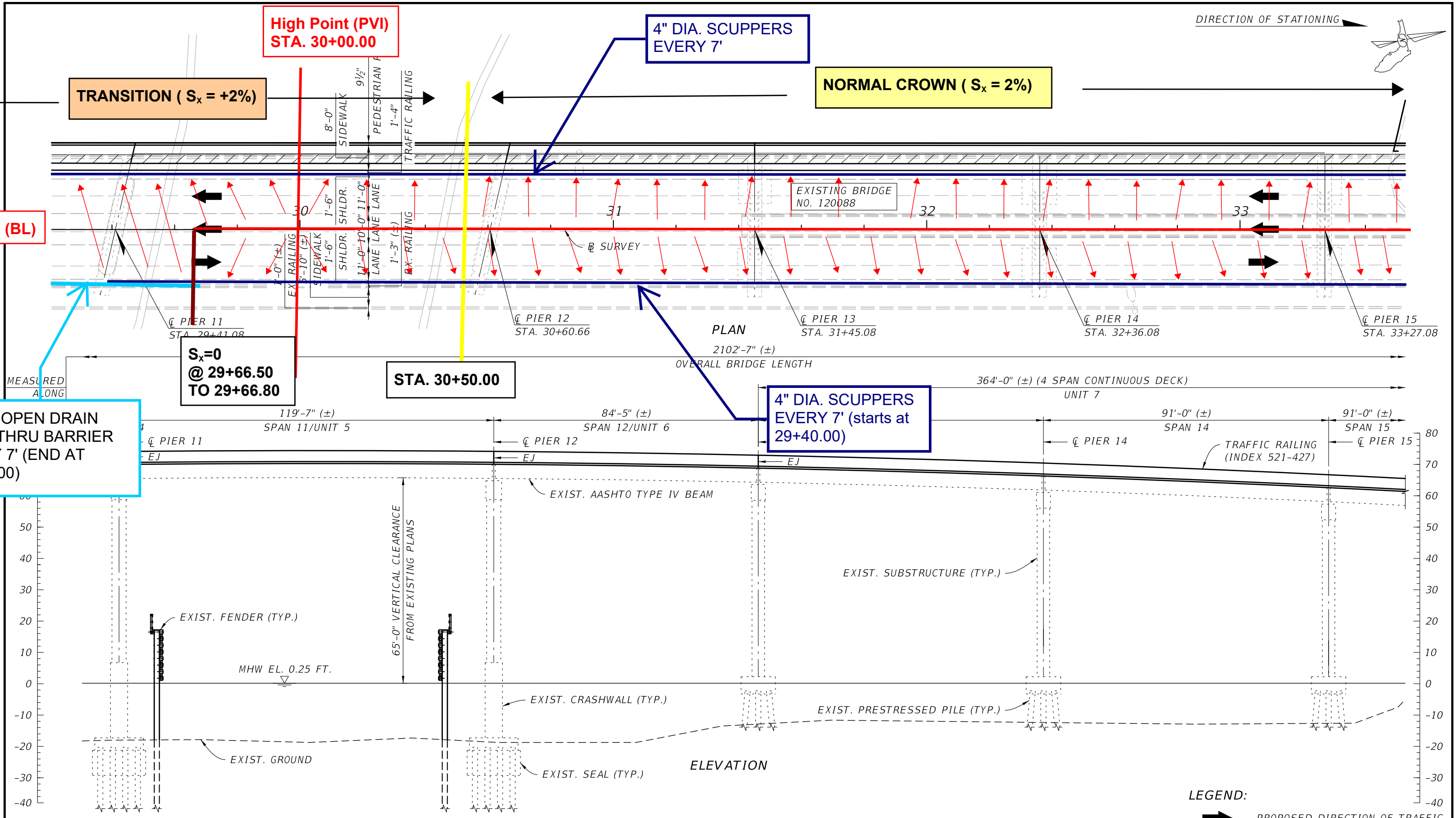
CROWN (BL)

S_x=0
@ 29+66.50
TO 29+66.80

STA. 30+50.00

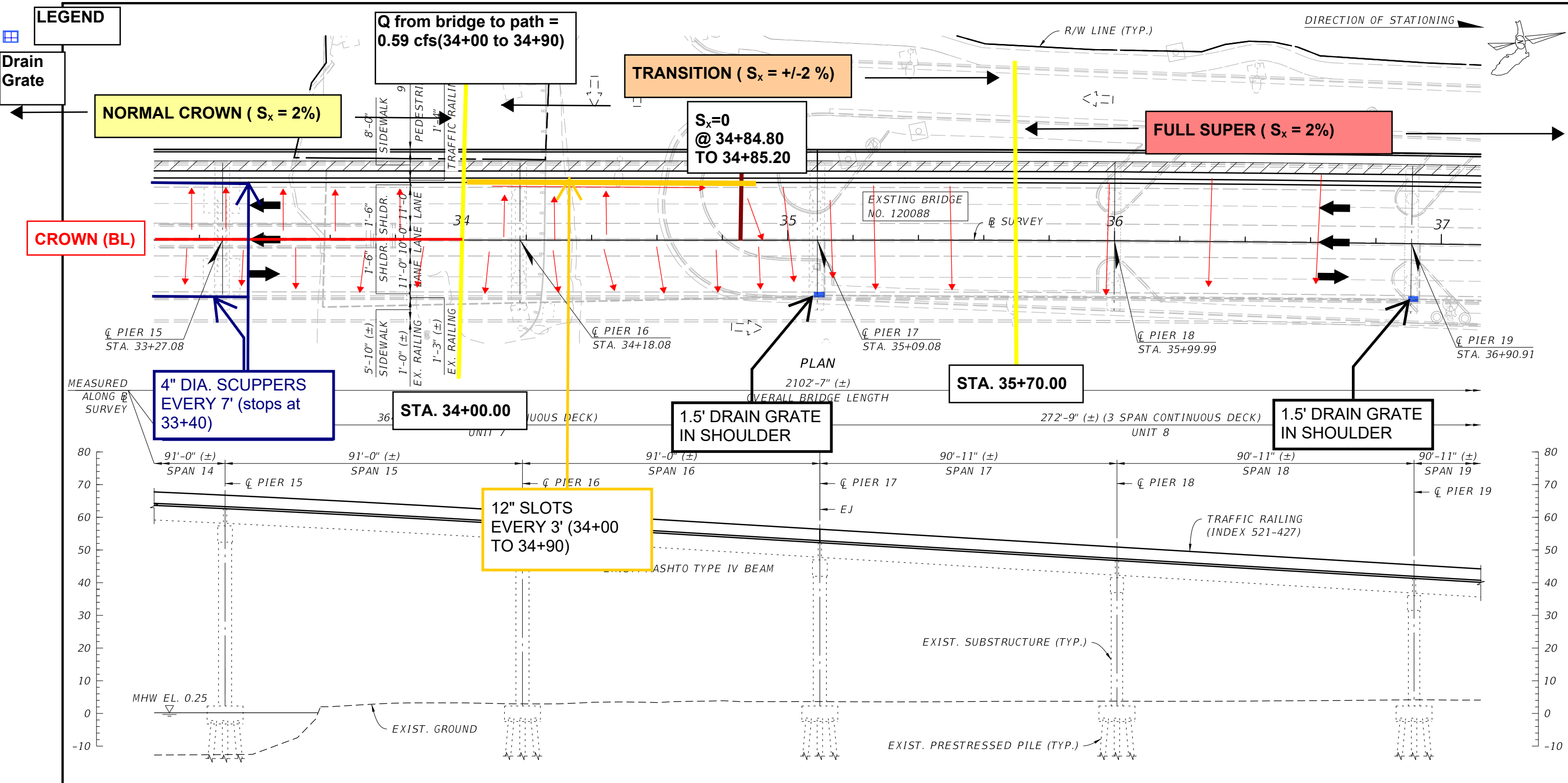
4" DIA. SCUPPERS
EVERY 7' (starts at
29+40.00)

2" X 6" OPEN DRAIN
HOLE THRU BARRIER
EVERY 7' (END AT
29+67.00)



BRIDGE NO. 120088

REVISIONS						NATHANIEL ALLEN VAN ETEN, P.E. P.E. LICENSE NUMBER 73756 WANTMAN GROUP, INC. 3111 W. MARTIN LUTHER KING JR. BLVD., SUITE 375, TAMPA, FLORIDA 33607 CERTIFICATE OF AUTHORIZATION 00006091	DRAWN BY: ESK CHECKED BY: NVE DESIGNED BY: ESK CHECKED BY: NVE	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET TITLE: PLAN AND ELEVATION (4 OF 6)	REF. DWG. NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION			ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
							SR 865	LEE	433726-2-32-01	SR 865 (SAN CARLOS BLVD) FROM ESTERO BLVD TO NORTH OF HURRICANE BAY BRIDGE	B1-4	



CROWN (BL)

NORMAL CROWN ($S_x = 2\%$)

TRANSITION ($S_x = +/- 2\%$)

**$S_x=0$
@ 34+84.80
TO 34+85.20**

FULL SUPER ($S_x = 2\%$)

**4" DIA. SCUPPERS
EVERY 7' (stops at
33+40)**

STA. 34+00.00

**1.5' DRAIN GRATE
IN SHOULDER**

STA. 35+70.00

**1.5' DRAIN GRATE
IN SHOULDER**

**12" SLOTS
EVERY 3' (34+00
TO 34+90)**

MEASURED
ALONG \mathcal{B}
SURVEY

ELEVATION

- LEGEND:**
- PROPOSED DIRECTION OF TRAFFIC
 - EXISTING DIRECTION OF TRAFFIC
 - EXISTING TO BE REMOVED

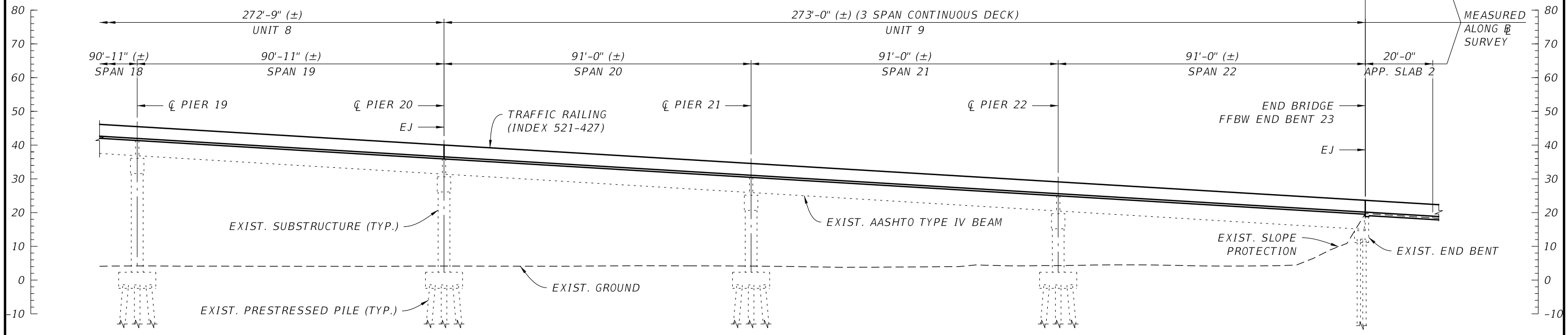
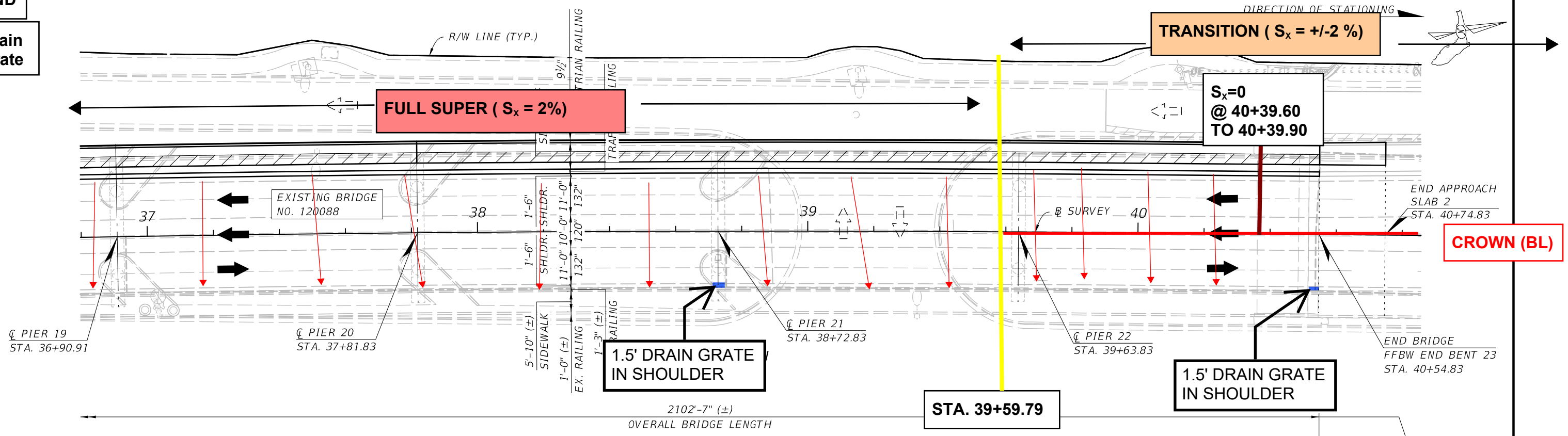
BRIDGE NO. 120088

REVISIONS						NATHANIEL ALLEN VAN ETEN, P.E. P.E. LICENSE NUMBER 73756 WANTMAN GROUP, INC. 3111 W. MARTIN LUTHER KING JR. BLVD., SUITE 375, TAMPA, FLORIDA 33607 CERTIFICATE OF AUTHORIZATION 00006091	DRAWN BY: ESK CHECKED BY: NVE DESIGNED BY: ESK CHECKED BY: NVE	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET TITLE: PLAN AND ELEVATION (5 OF 6)	REF. DWG. NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION			ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
							SR 865	LEE	433726-2-32-01	SR 865 (SAN CARLOS BLVD) FROM ESTERO BLVD TO NORTH OF HURRICANE BAY BRIDGE	B1-5	

LEGEND



Drain Grate



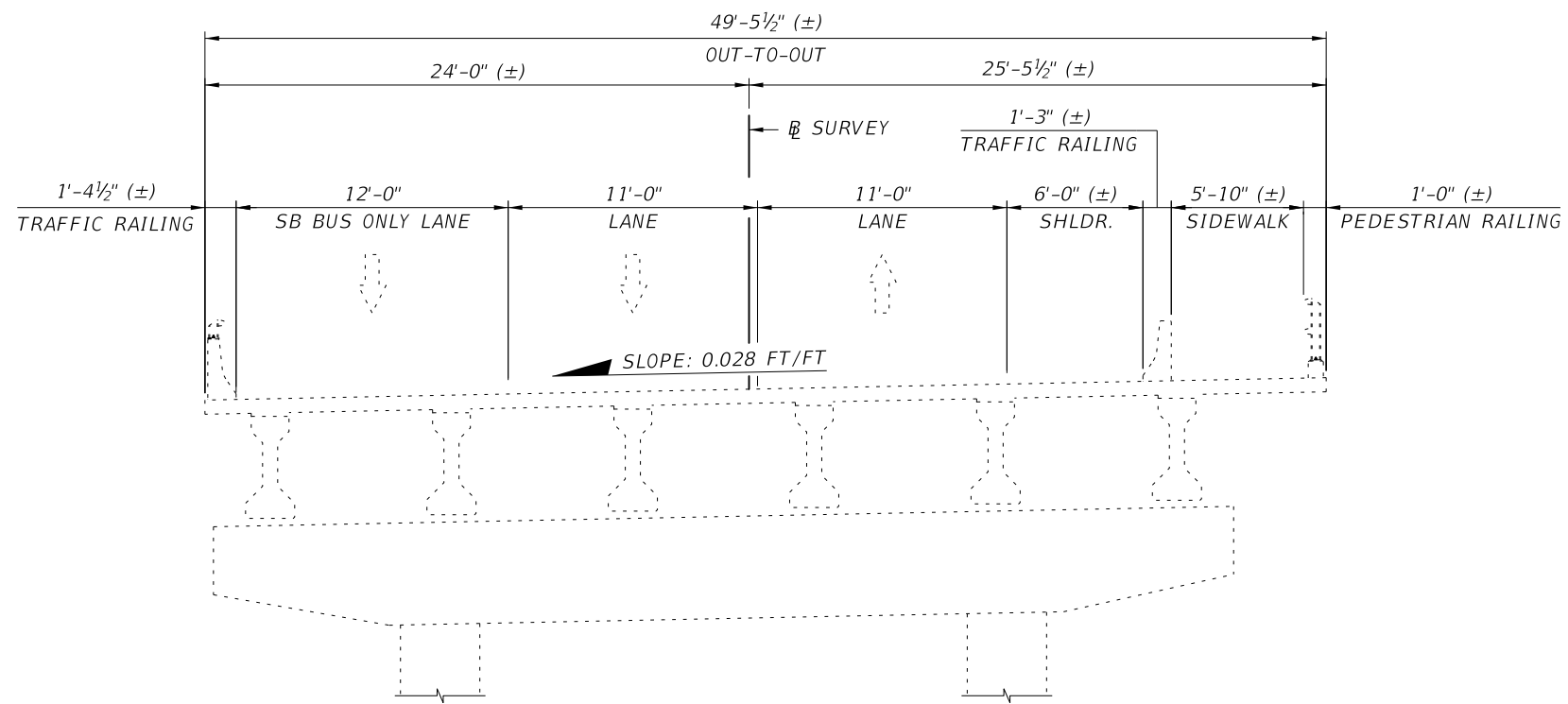
ELEVATION

LEGEND:

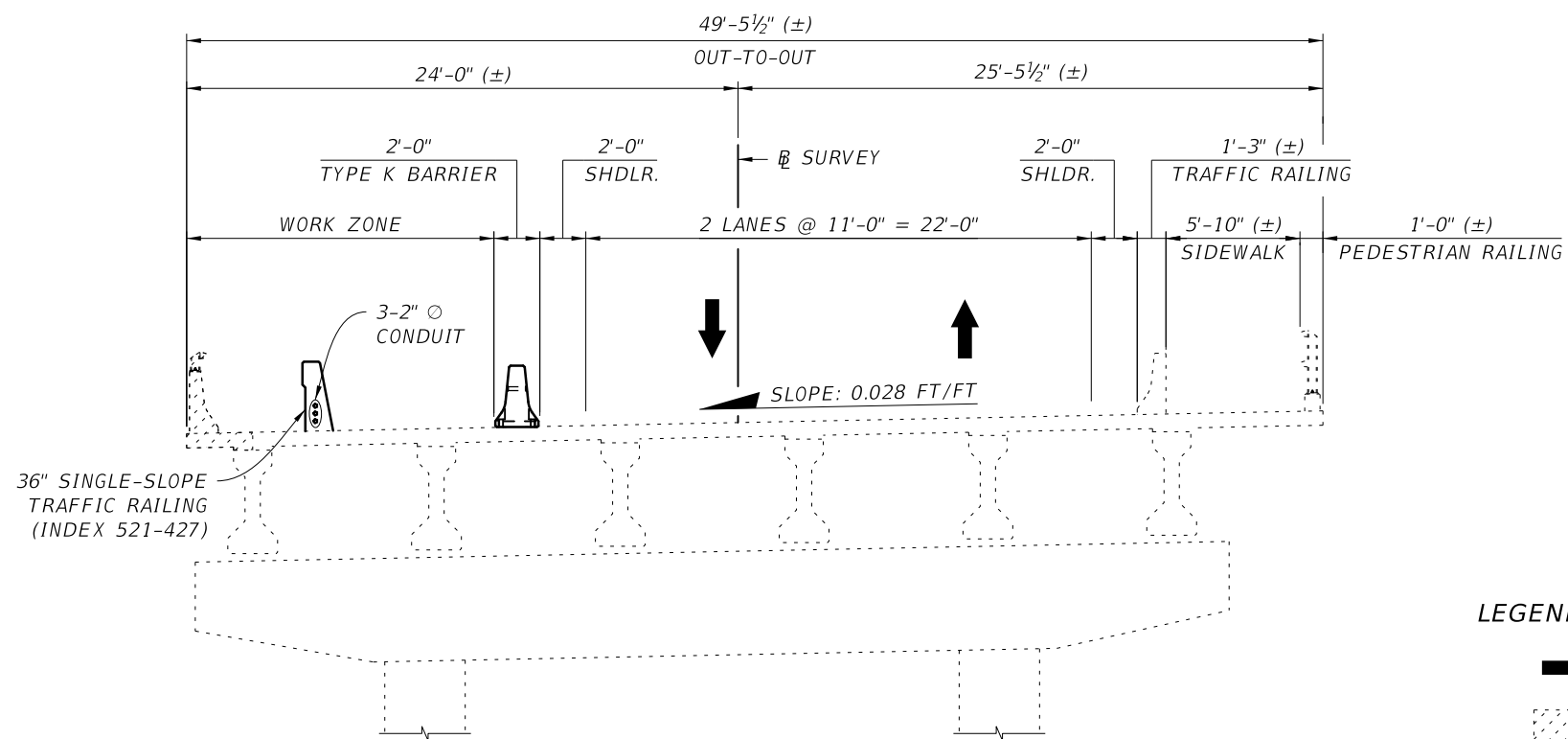
- PROPOSED DIRECTION OF TRAFFIC
- EXISTING DIRECTION OF TRAFFIC
- EXISTING TO BE REMOVED

BRIDGE NO. 120088

REVISIONS						DRAWN BY: ESK	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET TITLE: PLAN AND ELEVATION (6 OF 6)	REF. DWG. NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
							SR 865	LEE	433726-2-32-01	SR 865 (SAN CARLOS BLVD) FROM ESTERO BLVD TO NORTH OF HURRICANE BAY BRIDGE	B1-6



EXISTING BRIDGE TYPICAL
(SPAN 4 SHOWN, OTHER SPANS SIMILAR)



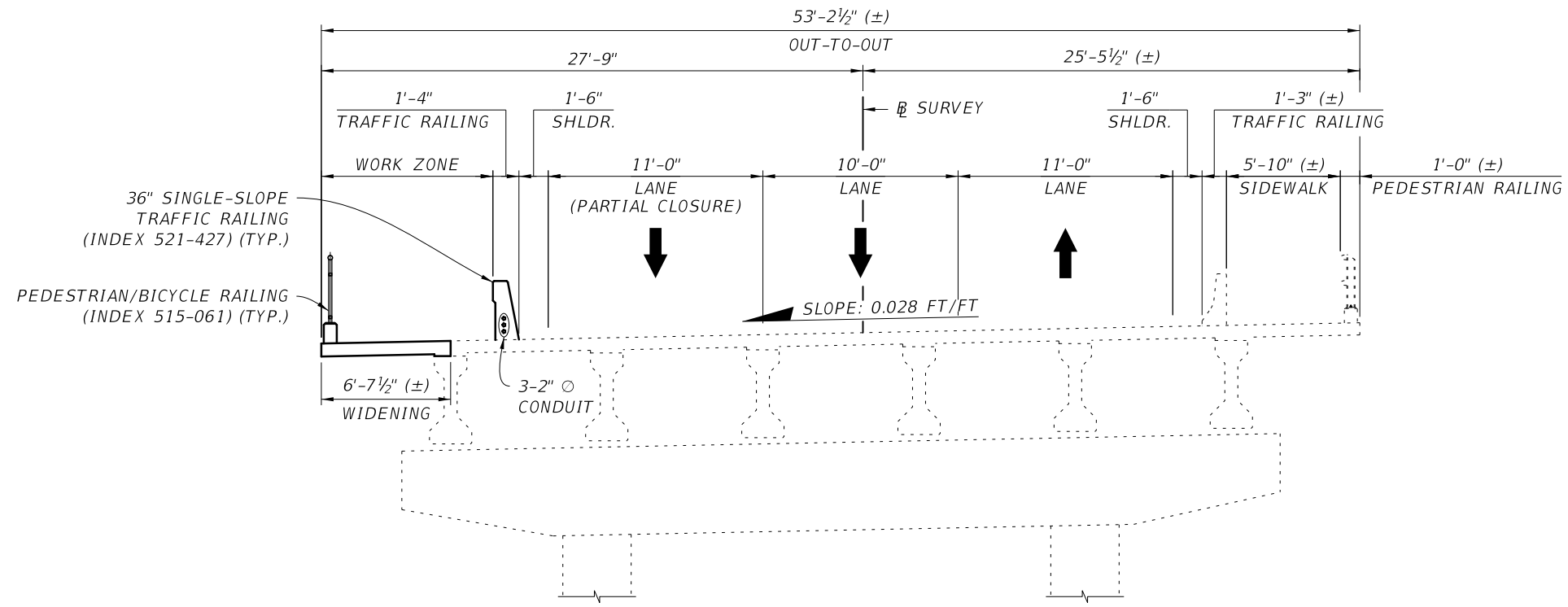
PHASE 1 CONSTRUCTION
(SPAN 4 SHOWN, OTHER SPANS SIMILAR)

LEGEND:

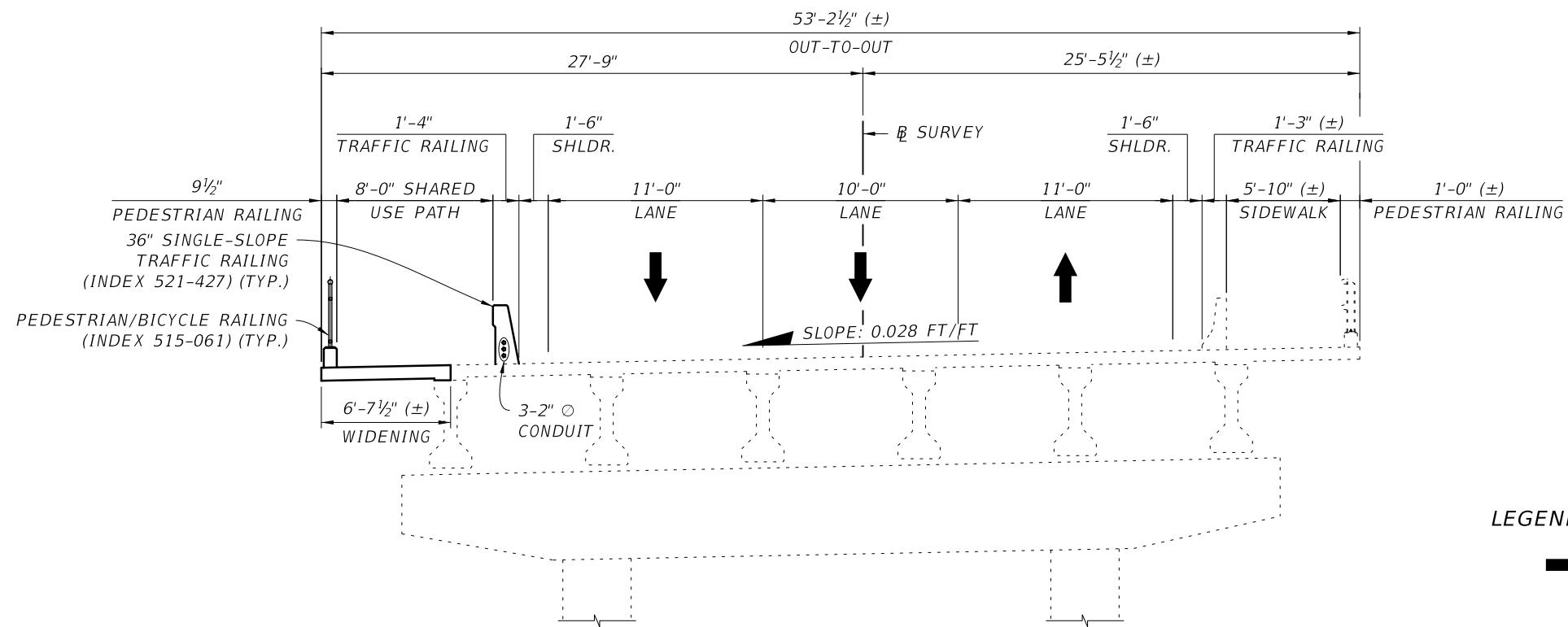
- DIRECTION OF TRAFFIC
- EXISTING TO BE REMOVED
- EXISTING TRAFFIC LANE

BRIDGE NO. 120088

REVISIONS						NATHANIEL ALLEN VAN ETEN, P.E. P.E. LICENSE NUMBER 73756 WANTMAN GROUP, INC. 3111 W. MARTIN LUTHER KING JR. BLVD., SUITE 375, TAMPA, FLORIDA 33607 CERTIFICATE OF AUTHORIZATION 00006091	DRAWN BY: ESK CHECKED BY: NVE DESIGNED BY: ESK CHECKED BY: NVE	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET TITLE: CONSTRUCTION SEQUENCE (1 OF 2)	REF. DWG. NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION			ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
						SR 865	LEE	433726-2-32-01	SR 865 (SAN CARLOS BLVD) FROM ESTERO BLVD TO NORTH OF HURRICANE BAY BRIDGE	B1-7		



PHASE 2 CONSTRUCTION
(SPAN 4 SHOWN, OTHER SPANS SIMILAR)

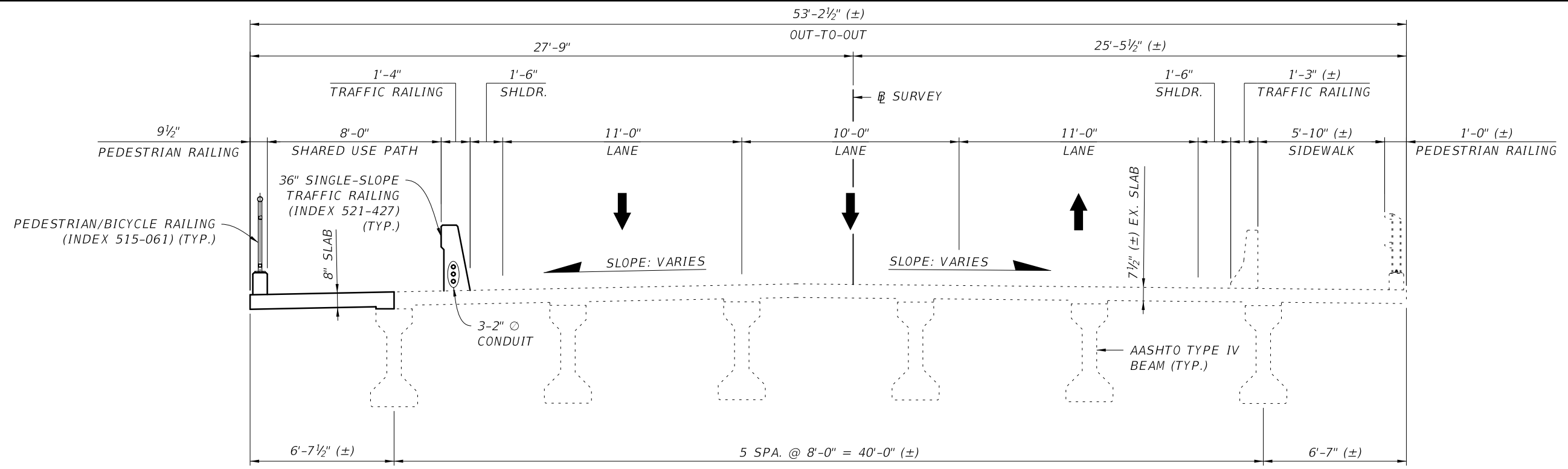


PROPOSED BRIDGE TYPICAL
(SPAN 4 SHOWN, OTHER SPANS SIMILAR)

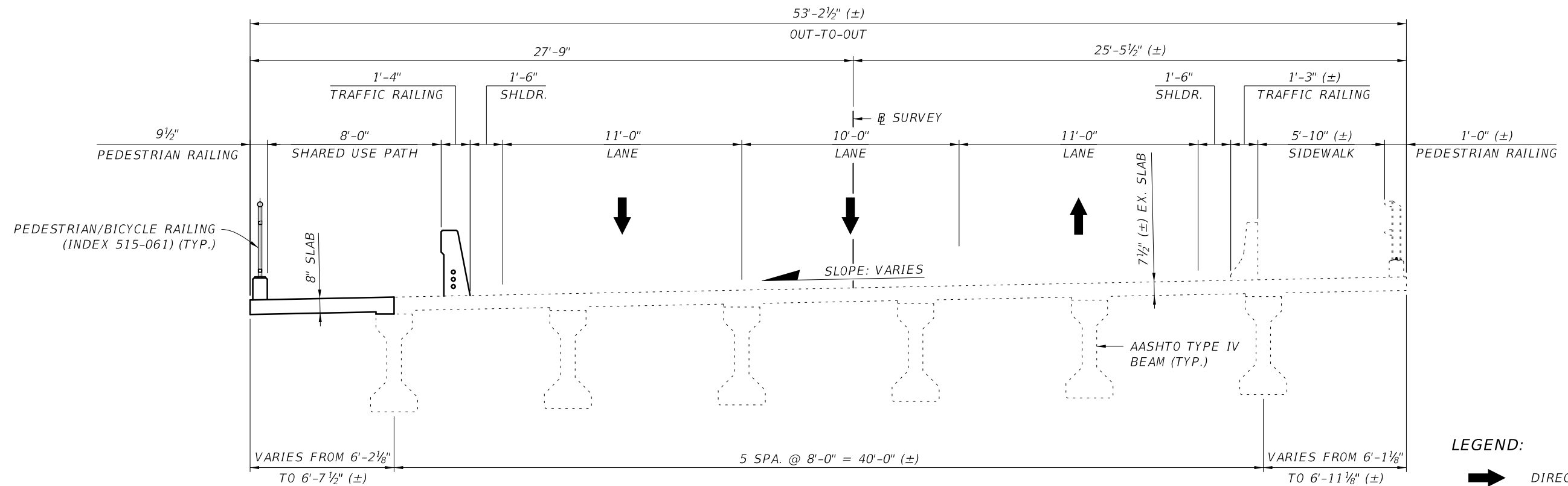
LEGEND:
 DIRECTION OF TRAFFIC

BRIDGE NO. 120088

REVISIONS						NATHANIEL ALLEN VAN ETEN, P.E. P.E. LICENSE NUMBER 73756 WANTMAN GROUP, INC. 3111 W. MARTIN LUTHER KING JR. BLVD., SUITE 375, TAMPA, FLORIDA 33607 CERTIFICATE OF AUTHORIZATION 00006091	DRAWN BY: ESK CHECKED BY: NVE DESIGNED BY: ESK CHECKED BY: NVE	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET TITLE: CONSTRUCTION SEQUENCE (2 OF 2)	REF. DWG. NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION			ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
							SR 865	LEE	433726-2-32-01	SR 865 (SAN CARLOS BLVD) FROM ESTERO BLVD TO NORTH OF HURRICANE BAY BRIDGE	B1-8	



TYPICAL BRIDGE SECTION
 STATION 19+52.00 TO 21+05.00
 STATION 29+70.83 TO 34+90.80
 STATION 40+45.90 TO 40+55.00

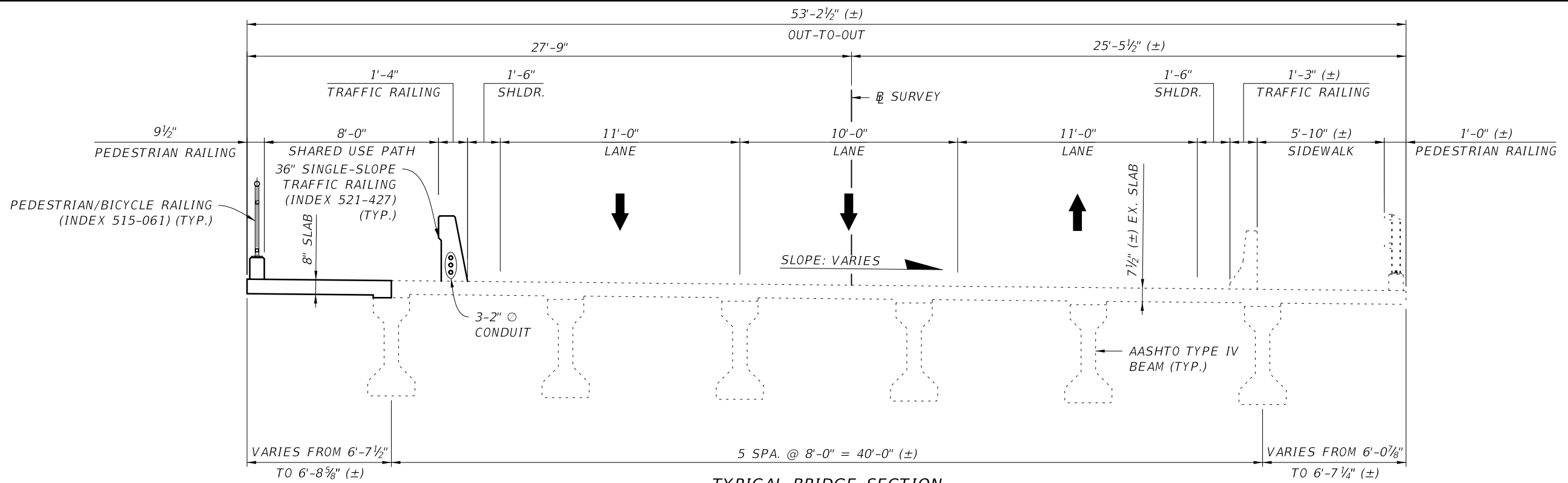


TYPICAL BRIDGE SECTION
 STATION 21+05.00 TO 29+70.83

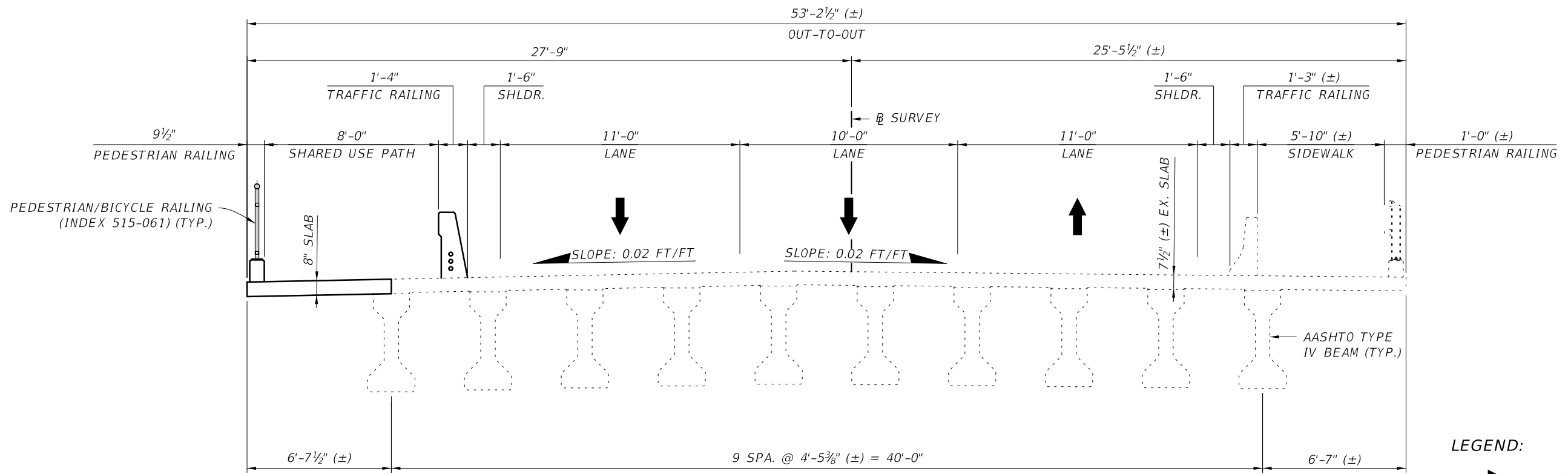
LEGEND:
 DIRECTION OF TRAFFIC

BRIDGE NO. 120088

REVISIONS						DRAWN BY: ESK	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET TITLE: SECTION THROUGH BRIDGE (1 OF 2)	REF. DWG. NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
							SR 865	LEE	433726-2-32-01	SR 865 (SAN CARLOS BLVD) FROM ESTERO BLVD TO NORTH OF HURRICANE BAY BRIDGE	B1-9



TYPICAL BRIDGE SECTION
STATION 34+90.80 TO 40+45.90



TYPICAL BRIDGE SECTION
EXISTING SPAN 11

LEGEND:
➔ DIRECTION OF TRAFFIC

BRIDGE NO. 120088

REVISIONS						NATHANIEL ALLEN VAN ETEN, P.E. P.E. LICENSE NUMBER 73756 WANTMAN GROUP, INC. 3111 W. MARTIN LUTHER KING JR. BLVD., SUITE 375, TAMPA, FLORIDA 33607 CERTIFICATE OF AUTHORIZATION 00006091	DRAWN BY: ESK CHECKED BY: NVE DESIGNED BY: ESK CHECKED BY: NVE	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SECTION THROUGH BRIDGE (2 OF 2)		REF. DWG. NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION			ROAD NO.	COUNTY	FINANCIAL PROJECT ID	PROJECT NAME:	SHEET NO.	
									SR 865	LEE	433726-2-32-01	SR 865 (SAN CARLOS BLVD) FROM ESTERO BLVD TO NORTH OF HURRICANE BAY BRIDGE	B1-10

WGI

Engineering • Planning • Surveying • Environmental

SHARED USE PATH SPREAD CALCULATIONS

Project: San Carlos (SR 865)
 FPID: 433726-2-32-01
 County: LEE

Designer: CJC
 Checked by: ZAK
 Date: 5/4/2020

Reference: Section 6.3.2.4 Chapter 6, FDOT Drainage Design Guide, 2020

Structure Number	Station From (ft.)	Station To (ft.)	Side	Long. Slope S (%)	Cross Slope Sx (ft/ft)	Width (ft.)	Area A (Ac.)	Intensity i (in/hr)	Runoff Coeff. C	Flow Q (cfs)	By-Pass Upstream Qb (cfs)	Total Flow Qt (cfs)	Spread Width T (ft.)	By-Pass Flow Qb (cfs)	Allowable Spread (ft)	Remarks	
MATANZAS BRIDGE																	
PATH	030+00.00	026+60.00	LT	6.00%	0.0200	8.0	0.06	4.00	0.95	0.24	0.00	0.24	3.00	0.24	8.00	OK	*Added flow coming from bridge to bypass upstream
DRAIN GRATE	026+60.00	025+64.00	LT	6.00%	0.0200	8.0	0.02	4.00	0.95	0.07	0.91	0.97	5.10	0.01	8.00	OK	*Added flow coming from bridge to bypass upstream
DRAIN GRATE	025+64.00	023+60.00	LT	6.00%	0.0200	8.0	0.04	4.00	0.95	0.14	1.68	1.82	6.45	0.09	8.00	OK	*Added flow coming from bridge to bypass upstream
DRAIN GRATE	023+60.00	021+56.00	LT	6.00%	0.0200	8.0	0.04	4.00	0.95	0.14	1.88	2.02	6.70	0.11	8.00	OK	*Added flow coming from bridge to bypass upstream
DRAIN GRATE	021+56.00	019+52.00	LT	6.00%	0.0200	8.0	0.04	4.00	0.95	0.14	1.24	1.39	5.82	0.04	8.00	OK	*Added flow coming from bridge to bypass upstream
PATH	030+00.00	019+52.25	RT	6.00%	0.0200	6.0	0.14	4.00	0.95	0.55	0.00	0.55	4.11	0.00	6.00	OK	
PATH	030+00.00	040+55.00	LT	6.00%	0.0200	8.0	0.19	4.00	0.95	0.74	0.59	1.33	5.73	0.03	8.00	OK	*Added flow coming from bridge to bypass upstream
PATH	030+00.00	040+55.00	RT	6.00%	0.0200	6.0	0.15	4.00	0.95	0.55	0.00	0.55	4.12	0.00	6.00	OK	

- *HALF OF DRAIN GRATE LENGTH WAS USED WHEN CALCULATING SPREAD TO ACCOUNT FOR 50% CLOGGING.
- *METHODOLOGY THROUGH DRAIN GRATES ASSUMES WEIR FLOW.
- *DRAIN GRATES ARE ADA COMPLIANT.

WGI

Engineering • Planning • Surveying • Environmental

NORTHBOUND (LEFT OF CREST) SPREAD CALCULATIONS

Project: San Carlos (SR 865)
 FPID: 433726-2-32-01
 County: LEE

Designer: CJC
 Checked by: ZAK
 Date: 5/4/2020

Reference: Section 6.3.2.4 Chapter 6, FDOT Drainage Design Guide, 2020

Structure Number	Station From (ft.)	Station To (ft.)	Side	Long. Slope S (%)	Cross Slope Sx (ft/ft)	Width (ft.)	Area A (Ac.)	Intensity i (in/hr)	Runoff Coeff. C	Flow Q (cfs)	By-Pass Upstream Qb (cfs)	Total Flow Qt (cfs)	Spread Width T (ft.)	By-Pass Flow Qb (cfs)	Allowable Spread (ft)	Remarks
MATANZAS BRIDGE																
4" SCUPPERS	030+00.00	029+94.00	RT	0.09%	0.0066	17.5	0.002	4.00	0.95	0.01	0.00	0.01	3.91	0.00	7.00	OK
4" SCUPPERS	029+94.00	029+88.00	RT	0.18%	0.0051	17.5	0.002	4.00	0.95	0.01	0.00	0.01	4.01	0.00	7.00	OK
4" SCUPPERS	029+88.00	029+82.00	RT	0.27%	0.0037	17.5	0.002	4.00	0.95	0.01	0.00	0.01	4.57	0.00	7.00	OK
4" SCUPPERS	029+82.00	029+76.00	RT	0.36%	0.0022	17.5	0.002	4.00	0.95	0.01	0.00	0.01	6.33	0.01	7.00	OK
4" SCUPPERS	029+76.00	029+70.00	RT	0.45%	0.0008	17.5	0.002	4.00	0.95	0.01	0.01	0.02	13.79	0.02	7.00	Need Additional Inlet *CROSS OVER ISSUE
4" SCUPPERS	029+70.00	029+64.00	RT	0.54%	0.0006	17.5	0.002	4.00	0.95	0.01	0.02	0.03	19.40	0.05	7.00	Need Additional Inlet *CROSS OVER ISSUE
DRAIN GRATE	021+04.00	019+52.00	RT	6.00%	0.0200	17.5	0.061	4.00	0.95	0.23	0.00	0.23	2.98	0.22	7.00	OK

CHECK INLET CAPACITY

Structure Number	Station From (ft.)	Station To (ft.)	T Depth @ Barrier (ft)	Inlet Weir Flow (cfs)	Total Flow Qt (cfs)	Bypass Qb
MATANZAS BRIDGE						
4" SCUPPERS	030+00.00	029+94.00	0.026	0.014	0.01	0.00
4" SCUPPERS	029+94.00	029+88.00	0.021	0.010	0.01	0.00
4" SCUPPERS	029+88.00	029+82.00	0.017	0.007	0.01	0.00
4" SCUPPERS	029+82.00	029+76.00	0.014	0.006	0.01	0.01
4" SCUPPERS	029+76.00	029+70.00	0.011	0.004	0.02	0.01
4" SCUPPERS	029+70.00	029+64.00	0.012	0.005	0.03	0.03

***HALF THE SCUPPER CAPACITY WAS USED WHEN CALCULATING SPREAD TO ACCOUNT FOR 50% CLOGGING.
 *METHODOLOGY THROUGH SCUPPERS ASSUMES WEIR FLOW.**

***SCUPPERS WERE CHECKED EVERY 14' TO ACCOUNT FOR 50% CLOGGING.**
***BARRIER WALL SLOTS WERE CHECKED EVERY 6' TO ACCOUNT FOR 50% CLOGGING.**
***METHODOLOGY THROUGH SCUPPERS AND SLOTS ASSUMES WEIR FLOW.**

WGI

Engineering • Planning • Surveying • Environmental

SOUTHBOUND (LEFT OF CREST) SPREAD CALCULATIONS

Project: San Carlos (SR 865)
 FPID: 433726-2-32-01
 County: LEE

Designer: CJC
 Checked by: ZAK
 Date: 5/1/2020

Reference: Section 6.3.2.4 Chapter 6, FDOT Drainage Design Guide, 2020

Structure Number	Station From (ft.)	Station To (ft.)	Side	Long. Slope S (%)	Cross Slope Sx (ft/ft)	Width (ft.)	Area A (Ac.)	Intensity i (in/hr)	Runoff Coeff. C	Flow Q (cfs)	By-Pass Upstream Qb (cfs)	Total Flow Qt (cfs)	Spread Width T (ft.)	By-Pass Flow Qb (cfs)	Allowable Spread (ft)	Remarks
MATANZAS BRIDGE																
4" SCUPPER	030+00.00	029+86.00	LT	0.21%	0.020	17.5	0.006	4.00	0.95	0.02	0.00	0.02	2.28	0.00	7.00	OK
4" SCUPPER	029+86.00	029+72.00	LT	0.42%	0.020	17.5	0.006	4.00	0.95	0.02	0.00	0.02	2.01	0.00	7.00	OK
4" SCUPPER	029+72.00	029+58.00	LT	0.63%	0.020	41.0	0.013	4.00	0.95	0.05	0.00	0.05	2.56	0.01	7.00	OK
4" SCUPPER	029+58.00	029+44.00	LT	0.84%	0.020	41.0	0.013	4.00	0.95	0.05	0.01	0.06	2.62	0.02	7.00	OK
4" SCUPPER	029+44.00	029+30.00	LT	1.05%	0.020	41.0	0.013	4.00	0.95	0.05	0.02	0.07	2.65	0.03	7.00	OK
4" SCUPPER	029+30.00	029+16.00	LT	1.26%	0.020	41.0	0.013	4.00	0.95	0.05	0.03	0.08	2.68	0.04	7.00	OK
4" SCUPPER	029+16.00	029+02.00	LT	1.47%	0.020	41.0	0.013	4.00	0.95	0.05	0.04	0.09	2.75	0.05	7.00	OK
4" SCUPPER	029+02.00	028+88.00	LT	1.68%	0.020	41.0	0.013	4.00	0.95	0.05	0.05	0.10	2.80	0.07	7.00	OK
4" SCUPPER	028+88.00	028+74.00	LT	1.89%	0.020	41.0	0.013	4.00	0.95	0.05	0.07	0.12	2.85	0.08	7.00	OK
4" SCUPPER	028+74.00	028+60.00	LT	2.10%	0.020	41.0	0.013	4.00	0.95	0.05	0.08	0.13	2.90	0.09	7.00	OK
4" SCUPPER	028+60.00	028+46.00	LT	2.31%	0.028	41.0	0.013	4.00	0.95	0.05	0.09	0.14	2.38	0.08	7.00	OK
4" SCUPPER	028+46.00	028+32.00	LT	2.52%	0.028	41.0	0.013	4.00	0.95	0.05	0.08	0.14	2.32	0.08	7.00	OK
4" SCUPPER	028+32.00	028+18.00	LT	2.73%	0.028	41.0	0.013	4.00	0.95	0.05	0.08	0.13	2.27	0.08	7.00	OK
4" SCUPPER	028+18.00	028+04.00	LT	2.94%	0.028	41.0	0.013	4.00	0.95	0.05	0.08	0.13	2.23	0.08	7.00	OK
4" SCUPPER	028+04.00	027+90.00	LT	3.15%	0.028	41.0	0.013	4.00	0.95	0.05	0.08	0.13	2.20	0.08	7.00	OK
4" SCUPPER	027+90.00	027+76.00	LT	3.36%	0.028	41.0	0.013	4.00	0.95	0.05	0.08	0.13	2.17	0.08	7.00	OK
4" SCUPPER	027+76.00	027+62.00	LT	3.57%	0.028	41.0	0.013	4.00	0.95	0.05	0.08	0.13	2.16	0.08	7.00	OK
4" SCUPPER	027+62.00	027+48.00	LT	3.78%	0.028	41.0	0.013	4.00	0.95	0.05	0.08	0.13	2.14	0.09	7.00	OK
4" SCUPPER	027+48.00	027+34.00	LT	3.99%	0.028	41.0	0.013	4.00	0.95	0.05	0.09	0.14	2.13	0.09	7.00	OK
4" SCUPPER	027+34.00	027+20.00	LT	4.20%	0.028	41.0	0.013	4.00	0.95	0.05	0.09	0.14	2.13	0.09	7.00	OK
4" SCUPPER	027+20.00	027+06.00	LT	4.41%	0.028	41.0	0.013	4.00	0.95	0.05	0.09	0.14	2.12	0.09	7.00	OK
4" SCUPPER	027+06.00	026+92.00	LT	4.62%	0.028	41.0	0.013	4.00	0.95	0.05	0.09	0.14	2.12	0.10	7.00	OK
4" SCUPPER	026+92.00	026+78.00	LT	4.83%	0.028	41.0	0.013	4.00	0.95	0.05	0.10	0.15	2.12	0.10	7.00	OK
4" SCUPPER	026+78.00	026+64.00	LT	5.04%	0.028	41.0	0.013	4.00	0.95	0.05	0.10	0.15	2.12	0.10	7.00	OK
12" BW SLOT	026+60.00	026+58.00	LT	5.13%	0.028	41.0	0.006	4.00	0.95	0.01	0.00	0.01	0.67	0.00	7.00	OK
12" BW SLOT	026+58.00	026+52.00	LT	5.22%	0.028	41.0	0.006	4.00	0.95	0.02	0.00	0.02	1.01	0.01	7.00	OK
12" BW SLOT	026+52.00	026+46.00	LT	5.31%	0.028	41.0	0.006	4.00	0.95	0.02	0.01	0.03	1.13	0.01	7.00	OK
12" BW SLOT	026+46.00	026+40.00	LT	5.40%	0.028	41.0	0.006	4.00	0.95	0.02	0.01	0.03	1.19	0.02	7.00	OK
12" BW SLOT	026+40.00	026+34.00	LT	5.49%	0.028	41.0	0.006	4.00	0.95	0.02	0.02	0.04	1.23	0.02	7.00	OK
12" BW SLOT	026+34.00	026+28.00	LT	5.58%	0.028	41.0	0.006	4.00	0.95	0.02	0.02	0.04	1.25	0.02	7.00	OK
12" BW SLOT	026+28.00	026+22.00	LT	5.67%	0.028	41.0	0.006	4.00	0.95	0.02	0.02	0.04	1.27	0.02	7.00	OK
12" BW SLOT	026+22.00	026+16.00	LT	5.76%	0.028	41.0	0.006	4.00	0.95	0.02	0.02	0.04	1.28	0.02	7.00	OK
12" BW SLOT	026+16.00	026+10.00	LT	5.85%	0.028	41.0	0.006	4.00	0.95	0.02	0.02	0.04	1.29	0.02	7.00	OK
12" BW SLOT	026+10.00	026+04.00	LT	5.94%	0.028	41.0	0.006	4.00	0.95	0.02	0.02	0.04	1.30	0.02	7.00	OK
12" BW SLOT	026+04.00	025+98.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.02	0.04	1.30	0.02	7.00	OK
12" BW SLOT	025+98.00	025+92.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.02	0.05	1.31	0.02	7.00	OK
12" BW SLOT	025+92.00	025+86.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.02	0.05	1.31	0.02	7.00	OK
12" BW SLOT	025+86.00	025+80.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.02	0.05	1.32	0.02	7.00	OK
12" BW SLOT	025+80.00	025+74.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.02	0.05	1.32	0.02	7.00	OK
12" BW SLOT	025+74.00	025+68.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.02	0.05	1.32	0.03	7.00	OK

***BARRIER WALL SLOTS WERE CHECKED EVERY 6' TO ACCOUNT FOR 50% CLOGGING.
 *METHODOLOGY THROUGH SLOTS ASSUMES WEIR FLOW.**

WGI

Engineering • Planning • Surveying • Environmental

SOUTHBOUND (LEFT OF CREST) SPREAD CALCULATIONS

Project: San Carlos (SR 865)
 FPID: 433726-2-32-01
 County: LEE

Designer: CJC
 Checked by: ZAK
 Date: 5/1/2020

Reference: Section 6.3.2.4 Chapter 6, FDOT Drainage Design Guide, 2020

Structure Number	Station From (ft.)	Station To (ft.)	Side	Long. Slope S (%)	Cross Slope Sx (ft/ft)	Width (ft.)	Area A (Ac.)	Intensity i (in/hr)	Runoff Coeff. C	Flow Q (cfs)	By-Pass Upstream Qb (cfs)	Total Flow Qt (cfs)	Spread Width T (ft.)	By-Pass Flow Qb (cfs)	Allowable Spread (ft)	Remarks
MATANZAS BRIDGE																
12" BW SLOT	025+68.00	025+62.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.32	0.03	7.00	OK
12" BW SLOT	025+62.00	025+56.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.32	0.03	7.00	OK
12" BW SLOT	025+56.00	025+50.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.32	0.03	7.00	OK
12" BW SLOT	025+50.00	025+44.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.32	0.03	7.00	OK
12" BW SLOT	025+44.00	025+38.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.32	0.03	7.00	OK
12" BW SLOT	025+38.00	025+32.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.03	7.00	OK
12" BW SLOT	025+32.00	025+26.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.03	7.00	OK
12" BW SLOT	025+26.00	025+20.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.03	7.00	OK
12" BW SLOT	025+20.00	025+14.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.03	7.00	OK
12" BW SLOT	025+14.00	025+08.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.03	7.00	OK
12" BW SLOT	025+08.00	025+02.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.03	7.00	OK
12" BW SLOT	025+02.00	024+96.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.03	7.00	OK
12" BW SLOT	024+96.00	024+90.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.03	7.00	OK
12" BW SLOT	024+90.00	024+84.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.03	7.00	OK
12" BW SLOT	024+84.00	024+78.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.03	7.00	OK
12" BW SLOT	024+78.00	024+72.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.03	7.00	OK
12" BW SLOT	024+72.00	024+66.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.03	7.00	OK
12" BW SLOT	024+66.00	024+60.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.03	7.00	OK
12" BW SLOT	024+60.00	024+54.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.03	7.00	OK
12" BW SLOT	024+54.00	024+48.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.03	7.00	OK
12" BW SLOT	024+48.00	024+42.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.03	7.00	OK
12" BW SLOT	024+42.00	024+36.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.03	7.00	OK
12" BW SLOT	024+36.00	024+30.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.03	7.00	OK
12" BW SLOT	024+30.00	024+24.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.03	7.00	OK
12" BW SLOT	024+24.00	024+18.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.03	7.00	OK
12" BW SLOT	024+18.00	024+12.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.03	7.00	OK
12" BW SLOT	024+12.00	024+06.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.03	7.00	OK
12" BW SLOT	024+06.00	024+00.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.03	7.00	OK
12" BW SLOT	024+00.00	023+94.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.03	7.00	OK
12" BW SLOT	023+94.00	023+88.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.03	7.00	OK
12" BW SLOT	023+88.00	023+82.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.03	7.00	OK
12" BW SLOT	023+82.00	023+76.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.03	7.00	OK
12" BW SLOT	023+76.00	023+70.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.03	7.00	OK
12" BW SLOT	023+70.00	023+64.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.03	7.00	OK
12" BW SLOT	023+64.00	023+58.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.03	7.00	OK
12" BW SLOT	023+58.00	023+52.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.03	7.00	OK
12" BW SLOT	023+52.00	023+46.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.03	7.00	OK
12" BW SLOT	023+46.00	023+40.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.03	7.00	OK
12" BW SLOT	023+40.00	023+34.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.03	7.00	OK
12" BW SLOT	023+34.00	023+28.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.03	7.00	OK
12" BW SLOT	023+28.00	023+22.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.03	7.00	OK

***BARRIER WALL SLOTS WERE CHECKED EVERY 6' TO ACCOUNT FOR 50% CLOGGING.
 *METHODOLOGY THROUGH SLOTS ASSUMES WEIR FLOW.**

WGI

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SOUTHBOUND (LEFT OF CREST) SPREAD CALCULATIONS

Project: San Carlos (SR 865)
 FPID: 433726-2-32-01
 County: LEE

Designer: CJC
 Checked by: ZAK
 Date: 5/1/2020

Reference: Section 6.3.2.4 Chapter 6, FDOT Drainage Design Guide, 2020

Structure Number	Station From (ft.)	Station To (ft.)	Side	Long. Slope S (%)	Cross Slope Sx (ft/ft)	Width (ft.)	Area A (Ac.)	Intensity i (in/hr)	Runoff Coeff. C	Flow Q (cfs)	By-Pass Upstream Qb (cfs)	Total Flow Qt (cfs)	Spread Width T (ft.)	By-Pass Flow Qb (cfs)	Allowable Spread (ft)	Remarks
MATANZAS BRIDGE																
12" BW SLOT	023+22.00	023+16.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.03	7.00	OK
12" BW SLOT	023+16.00	023+10.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.03	7.00	OK
12" BW SLOT	023+10.00	023+04.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.03	7.00	OK
12" BW SLOT	023+04.00	022+98.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.03	7.00	OK
12" BW SLOT	022+98.00	022+92.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.03	7.00	OK
12" BW SLOT	022+92.00	022+86.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.03	7.00	OK
12" BW SLOT	022+86.00	022+80.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.03	7.00	OK
12" BW SLOT	022+80.00	022+74.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.03	7.00	OK
12" BW SLOT	022+74.00	022+68.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.03	7.00	OK
12" BW SLOT	022+68.00	022+62.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.03	7.00	OK
12" BW SLOT	022+62.00	022+56.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.03	7.00	OK
12" BW SLOT	022+56.00	022+50.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.03	7.00	OK
12" BW SLOT	022+50.00	022+44.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.03	7.00	OK
12" BW SLOT	022+44.00	022+38.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.03	7.00	OK
12" BW SLOT	022+38.00	022+32.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.03	7.00	OK
12" BW SLOT	022+32.00	022+26.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.03	7.00	OK
12" BW SLOT	022+26.00	022+20.00	LT	6.00%	0.020	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.64	0.03	7.00	OK
12" BW SLOT	022+20.00	022+14.00	LT	6.00%	0.020	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.68	0.03	7.00	OK
12" BW SLOT	022+14.00	022+08.00	LT	6.00%	0.020	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.72	0.03	7.00	OK
12" BW SLOT	022+08.00	022+02.00	LT	6.00%	0.020	41.0	0.006	4.00	0.95	0.02	0.03	0.06	1.75	0.04	7.00	OK
12" BW SLOT	022+02.00	021+96.00	LT	6.00%	0.020	41.0	0.006	4.00	0.95	0.02	0.04	0.06	1.77	0.04	7.00	OK
12" BW SLOT	021+96.00	021+90.00	LT	6.00%	0.020	41.0	0.006	4.00	0.95	0.02	0.04	0.06	1.79	0.04	7.00	OK
12" BW SLOT	021+90.00	021+84.00	LT	6.00%	0.020	41.0	0.006	4.00	0.95	0.02	0.04	0.06	1.80	0.04	7.00	OK
12" BW SLOT	021+84.00	021+78.00	LT	6.00%	0.020	41.0	0.006	4.00	0.95	0.02	0.04	0.06	1.81	0.04	7.00	OK
12" BW SLOT	021+78.00	021+72.00	LT	6.00%	0.020	41.0	0.006	4.00	0.95	0.02	0.04	0.06	1.82	0.04	7.00	OK
12" BW SLOT	021+72.00	021+66.00	LT	6.00%	0.020	41.0	0.006	4.00	0.95	0.02	0.04	0.06	1.83	0.04	7.00	OK
12" BW SLOT	021+66.00	021+60.00	LT	6.00%	0.020	41.0	0.006	4.00	0.95	0.02	0.04	0.06	1.83	0.04	7.00	OK
12" BW SLOT	021+60.00	021+54.00	LT	6.00%	0.020	41.0	0.006	4.00	0.95	0.02	0.04	0.06	1.84	0.04	7.00	OK
12" BW SLOT	021+54.00	021+48.00	LT	6.00%	0.020	41.0	0.006	4.00	0.95	0.02	0.04	0.06	1.84	0.04	7.00	OK
12" BW SLOT	021+48.00	021+42.00	LT	6.00%	0.020	41.0	0.006	4.00	0.95	0.02	0.04	0.06	1.84	0.04	7.00	OK
12" BW SLOT	021+42.00	021+36.00	LT	6.00%	0.020	41.0	0.006	4.00	0.95	0.02	0.04	0.06	1.85	0.04	7.00	OK
12" BW SLOT	021+36.00	021+30.00	LT	6.00%	0.020	41.0	0.006	4.00	0.95	0.02	0.04	0.06	1.85	0.04	7.00	OK
12" BW SLOT	021+30.00	021+24.00	LT	6.00%	0.020	41.0	0.006	4.00	0.95	0.02	0.04	0.07	1.85	0.04	7.00	OK
12" BW SLOT	021+24.00	021+18.00	LT	6.00%	0.020	41.0	0.006	4.00	0.95	0.02	0.04	0.07	1.85	0.04	7.00	OK
12" BW SLOT	021+18.00	021+12.00	LT	6.00%	0.020	41.0	0.006	4.00	0.95	0.02	0.04	0.07	1.85	0.04	7.00	OK
12" BW SLOT	021+12.00	021+06.00	LT	6.00%	0.020	41.0	0.006	4.00	0.95	0.02	0.04	0.07	1.85	0.04	7.00	OK
12" BW SLOT	021+06.00	021+00.00	LT	6.00%	0.020	17.5	0.002	4.00	0.95	0.01	0.04	0.05	1.72	0.03	7.00	OK
12" BW SLOT	021+00.00	020+94.00	LT	6.00%	0.020	17.5	0.002	4.00	0.95	0.01	0.03	0.04	1.59	0.03	7.00	OK
12" BW SLOT	020+94.00	020+88.00	LT	6.00%	0.020	17.5	0.002	4.00	0.95	0.01	0.03	0.04	1.47	0.02	7.00	OK
12" BW SLOT	020+88.00	020+82.00	LT	6.00%	0.020	17.5	0.002	4.00	0.95	0.01	0.02	0.03	1.37	0.02	7.00	OK
12" BW SLOT	020+82.00	020+76.00	LT	6.00%	0.020	17.5	0.002	4.00	0.95	0.01	0.02	0.03	1.29	0.01	7.00	OK

***BARRIER WALL SLOTS WERE CHECKED EVERY 6' TO ACCOUNT FOR 50% CLOGGING.
 *METHODOLOGY THROUGH SLOTS ASSUMES WEIR FLOW.**

WGI

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SOUTHBOUND (LEFT OF CREST) SPREAD CALCULATIONS

Project: San Carlos (SR 865)
 FPID: 433726-2-32-01
 County: LEE

Designer: CJC
 Checked by: ZAK
 Date: 5/1/2020

Reference: Section 6.3.2.4 Chapter 6, FDOT Drainage Design Guide, 2020

Structure Number	Station From (ft.)	Station To (ft.)	Side	Long. Slope S (%)	Cross Slope Sx (ft/ft)	Width (ft.)	Area A (Ac.)	Intensity i (in/hr)	Runoff Coeff. C	Flow Q (cfs)	By-Pass Upstream Qb (cfs)	Total Flow Qt (cfs)	Spread Width T (ft.)	By-Pass Flow Qb (cfs)	Allowable Spread (ft)	Remarks
MATANZAS BRIDGE																
12" BW SLOT	020+76.00	020+70.00	LT	6.00%	0.020	17.5	0.002	4.00	0.95	0.01	0.01	0.02	1.22	0.01	7.00	OK
12" BW SLOT	020+70.00	020+64.00	LT	6.00%	0.020	17.5	0.002	4.00	0.95	0.01	0.01	0.02	1.17	0.01	7.00	OK
12" BW SLOT	020+64.00	020+58.00	LT	6.00%	0.020	17.5	0.002	4.00	0.95	0.01	0.01	0.02	1.14	0.01	7.00	OK
12" BW SLOT	020+58.00	020+52.00	LT	6.00%	0.020	17.5	0.002	4.00	0.95	0.01	0.01	0.02	1.11	0.01	7.00	OK
12" BW SLOT	020+52.00	020+46.00	LT	6.00%	0.020	17.5	0.002	4.00	0.95	0.01	0.01	0.02	1.09	0.01	7.00	OK
12" BW SLOT	020+46.00	020+40.00	LT	6.00%	0.020	17.5	0.002	4.00	0.95	0.01	0.01	0.02	1.08	0.01	7.00	OK
12" BW SLOT	020+40.00	020+34.00	LT	6.00%	0.020	17.5	0.002	4.00	0.95	0.01	0.01	0.02	1.07	0.01	7.00	OK
12" BW SLOT	020+34.00	020+28.00	LT	6.00%	0.020	17.5	0.002	4.00	0.95	0.01	0.01	0.01	1.06	0.01	7.00	OK
12" BW SLOT	020+28.00	020+22.00	LT	6.00%	0.020	17.5	0.002	4.00	0.95	0.01	0.01	0.01	1.06	0.01	7.00	OK
12" BW SLOT	020+22.00	020+16.00	LT	6.00%	0.020	17.5	0.002	4.00	0.95	0.01	0.01	0.01	1.06	0.01	7.00	OK
12" BW SLOT	020+16.00	020+10.00	LT	6.00%	0.020	17.5	0.002	4.00	0.95	0.01	0.01	0.01	1.06	0.01	7.00	OK
12" BW SLOT	020+10.00	020+04.00	LT	6.00%	0.020	17.5	0.002	4.00	0.95	0.01	0.01	0.01	1.05	0.01	7.00	OK
12" BW SLOT	020+04.00	019+98.00	LT	6.00%	0.020	17.5	0.002	4.00	0.95	0.01	0.01	0.01	1.05	0.01	7.00	OK
12" BW SLOT	019+98.00	019+92.00	LT	6.00%	0.020	17.5	0.002	4.00	0.95	0.01	0.01	0.01	1.05	0.01	7.00	OK
12" BW SLOT	019+92.00	019+86.00	LT	6.00%	0.020	17.5	0.002	4.00	0.95	0.01	0.01	0.01	1.05	0.01	7.00	OK
12" BW SLOT	019+86.00	019+80.00	LT	6.00%	0.020	17.5	0.002	4.00	0.95	0.01	0.01	0.01	1.05	0.01	7.00	OK
12" BW SLOT	019+80.00	019+74.00	LT	6.00%	0.020	17.5	0.002	4.00	0.95	0.01	0.01	0.01	1.05	0.01	7.00	OK
12" BW SLOT	019+74.00	019+68.00	LT	6.00%	0.020	17.5	0.002	4.00	0.95	0.01	0.01	0.01	1.05	0.01	7.00	OK
12" BW SLOT	019+68.00	019+62.00	LT	6.00%	0.020	17.5	0.002	4.00	0.95	0.01	0.01	0.01	1.05	0.01	7.00	OK
12" BW SLOT	019+62.00	019+56.00	LT	6.00%	0.020	17.5	0.002	4.00	0.95	0.01	0.01	0.01	1.05	0.01	7.00	OK
12" BW SLOT	019+56.00	019+52.00	LT	6.00%	0.020	17.5	0.002	4.00	0.95	0.01	0.01	0.01	0.96	0.00	7.00	OK

***SCUPPERS WERE CHECKED EVERY 14' TO ACCOUNT FOR 50% CLOGGING.
 *BARRIER WALL SLOTS WERE CHECKED EVERY 6' TO ACCOUNT FOR 50% CLOGGING.
 *METHODOLOGY THROUGH SCUPPERS AND SLOTS ASSUMES WEIR FLOW.**

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SOUTHBOUND (LEFT OF CREST) SPREAD CALCULATIONS

Project: San Carlos (SR 865)
 FPID: 433726-2-32-01
 County: LEE

Designer: CJC
 Checked by: ZAK
 Date: 5/1/2020

CHECK INLET CAPACITY

Structure Number	Station From (ft.)	Station To (ft.)	T Depth @ Barrier (ft)	Inlet Weir Flow (cfs)	Total Flow Qt (cfs)	Bypass Qb
MATANZAS BRIDGE						
4" SCUPPER	030+00.00	029+86.00	0.046	0.033	0.021	0.00
4" SCUPPER	029+86.00	029+72.00	0.040	0.027	0.021	0.00
4" SCUPPER	029+72.00	029+58.00	0.051	0.039	0.050	0.01
4" SCUPPER	029+58.00	029+44.00	0.052	0.040	0.061	0.02
4" SCUPPER	029+44.00	029+30.00	0.053	0.041	0.071	0.03
4" SCUPPER	029+30.00	029+16.00	0.054	0.042	0.081	0.04
4" SCUPPER	029+16.00	029+02.00	0.055	0.043	0.092	0.05
4" SCUPPER	029+02.00	028+88.00	0.056	0.044	0.104	0.06
4" SCUPPER	028+88.00	028+74.00	0.057	0.046	0.116	0.07
4" SCUPPER	028+74.00	028+60.00	0.058	0.047	0.127	0.08
4" SCUPPER	028+60.00	028+46.00	0.067	0.058	0.139	0.08
4" SCUPPER	028+46.00	028+32.00	0.065	0.055	0.135	0.08
4" SCUPPER	028+32.00	028+18.00	0.063	0.054	0.132	0.08
4" SCUPPER	028+18.00	028+04.00	0.062	0.052	0.131	0.08
4" SCUPPER	028+04.00	027+90.00	0.061	0.051	0.131	0.08
4" SCUPPER	027+90.00	027+76.00	0.061	0.050	0.131	0.08
4" SCUPPER	027+76.00	027+62.00	0.060	0.050	0.132	0.08
4" SCUPPER	027+62.00	027+48.00	0.060	0.049	0.134	0.08
4" SCUPPER	027+48.00	027+34.00	0.060	0.049	0.136	0.09
4" SCUPPER	027+34.00	027+20.00	0.060	0.049	0.139	0.09
4" SCUPPER	027+20.00	027+06.00	0.059	0.048	0.141	0.09
4" SCUPPER	027+06.00	026+92.00	0.059	0.048	0.144	0.10
4" SCUPPER	026+92.00	026+78.00	0.059	0.048	0.147	0.10
4" SCUPPER	026+78.00	026+64.00	0.059	0.048	0.150	0.10
12" BW SLOT	026+60.00	026+58.00	0.019	0.008	0.007	0.00
12" BW SLOT	026+58.00	026+52.00	0.028	0.014	0.021	0.01
12" BW SLOT	026+52.00	026+46.00	0.032	0.017	0.029	0.01
12" BW SLOT	026+46.00	026+40.00	0.033	0.018	0.033	0.02
12" BW SLOT	026+40.00	026+34.00	0.034	0.019	0.036	0.02
12" BW SLOT	026+34.00	026+28.00	0.035	0.020	0.039	0.02
12" BW SLOT	026+28.00	026+22.00	0.036	0.020	0.041	0.02
12" BW SLOT	026+22.00	026+16.00	0.036	0.020	0.042	0.02
12" BW SLOT	026+16.00	026+10.00	0.036	0.021	0.043	0.02
12" BW SLOT	026+10.00	026+04.00	0.036	0.021	0.044	0.02
12" BW SLOT	026+04.00	025+98.00	0.036	0.021	0.045	0.02
12" BW SLOT	025+98.00	025+92.00	0.037	0.021	0.045	0.02
12" BW SLOT	025+92.00	025+86.00	0.037	0.021	0.046	0.02
12" BW SLOT	025+86.00	025+80.00	0.037	0.021	0.046	0.02
12" BW SLOT	025+80.00	025+74.00	0.037	0.021	0.046	0.02
12" BW SLOT	025+74.00	025+68.00	0.037	0.021	0.046	0.03
12" BW SLOT	025+68.00	025+62.00	0.037	0.021	0.047	0.03
12" BW SLOT	025+62.00	025+56.00	0.037	0.021	0.047	0.03

***BARRIER WALL SLOTS WERE CHECKED EVERY 6' TO ACCOUNT FOR 50% CLOGGING.
 *METHODOLOGY THROUGH SLOTS ASSUMES WEIR FLOW.**

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SOUTHBOUND (LEFT OF CREST) SPREAD CALCULATIONS

Project: San Carlos (SR 865)
 FPID: 433726-2-32-01
 County: LEE

Designer: CJC
 Checked by: ZAK
 Date: 5/1/2020

Structure Number	Station From (ft.)	Station To (ft.)	T Depth @ Barrier (ft)	Inlet Weir Flow (cfs)	Total Flow Qt (cfs)	Bypass Qb
MATANZAS BRIDGE						
12" BW SLOT	025+56.00	025+50.00	0.037	0.021	0.047	0.03
12" BW SLOT	025+50.00	025+44.00	0.037	0.021	0.047	0.03
12" BW SLOT	025+44.00	025+38.00	0.037	0.021	0.047	0.03
12" BW SLOT	025+38.00	025+32.00	0.037	0.021	0.047	0.03
12" BW SLOT	025+32.00	025+26.00	0.037	0.021	0.047	0.03
12" BW SLOT	025+26.00	025+20.00	0.037	0.021	0.047	0.03
12" BW SLOT	025+20.00	025+14.00	0.037	0.021	0.047	0.03
12" BW SLOT	025+14.00	025+08.00	0.037	0.021	0.047	0.03
12" BW SLOT	025+08.00	025+02.00	0.037	0.021	0.047	0.03
12" BW SLOT	025+02.00	024+96.00	0.037	0.021	0.047	0.03
12" BW SLOT	024+96.00	024+90.00	0.037	0.021	0.047	0.03
12" BW SLOT	024+90.00	024+84.00	0.037	0.021	0.047	0.03
12" BW SLOT	024+84.00	024+78.00	0.037	0.021	0.047	0.03
12" BW SLOT	024+78.00	024+72.00	0.037	0.021	0.047	0.03
12" BW SLOT	024+72.00	024+66.00	0.037	0.021	0.047	0.03
12" BW SLOT	024+66.00	024+60.00	0.037	0.021	0.047	0.03
12" BW SLOT	024+60.00	024+54.00	0.037	0.021	0.047	0.03
12" BW SLOT	024+54.00	024+48.00	0.037	0.021	0.047	0.03
12" BW SLOT	024+48.00	024+42.00	0.037	0.021	0.047	0.03
12" BW SLOT	024+42.00	024+36.00	0.037	0.021	0.047	0.03
12" BW SLOT	024+36.00	024+30.00	0.037	0.021	0.047	0.03
12" BW SLOT	024+30.00	024+24.00	0.037	0.021	0.047	0.03
12" BW SLOT	024+24.00	024+18.00	0.037	0.021	0.047	0.03
12" BW SLOT	024+18.00	024+12.00	0.037	0.021	0.047	0.03
12" BW SLOT	024+12.00	024+06.00	0.037	0.021	0.047	0.03
12" BW SLOT	024+06.00	024+00.00	0.037	0.021	0.047	0.03
12" BW SLOT	024+00.00	023+94.00	0.037	0.021	0.047	0.03
12" BW SLOT	023+94.00	023+88.00	0.037	0.021	0.047	0.03
12" BW SLOT	023+88.00	023+82.00	0.037	0.021	0.047	0.03
12" BW SLOT	023+82.00	023+76.00	0.037	0.021	0.047	0.03
12" BW SLOT	023+76.00	023+70.00	0.037	0.021	0.047	0.03
12" BW SLOT	023+70.00	023+64.00	0.037	0.021	0.047	0.03
12" BW SLOT	023+64.00	023+58.00	0.037	0.021	0.047	0.03
12" BW SLOT	023+58.00	023+52.00	0.037	0.021	0.047	0.03
12" BW SLOT	023+52.00	023+46.00	0.037	0.021	0.047	0.03
12" BW SLOT	023+46.00	023+40.00	0.037	0.021	0.047	0.03
12" BW SLOT	023+40.00	023+34.00	0.037	0.021	0.047	0.03
12" BW SLOT	023+34.00	023+28.00	0.037	0.021	0.047	0.03
12" BW SLOT	023+28.00	023+22.00	0.037	0.021	0.047	0.03
12" BW SLOT	023+22.00	023+16.00	0.037	0.021	0.047	0.03
12" BW SLOT	023+16.00	023+10.00	0.037	0.021	0.047	0.03
12" BW SLOT	023+10.00	023+04.00	0.037	0.021	0.047	0.03
12" BW SLOT	023+04.00	022+98.00	0.037	0.021	0.047	0.03
12" BW SLOT	022+98.00	022+92.00	0.037	0.021	0.047	0.03

***BARRIER WALL SLOTS WERE CHECKED EVERY 6' TO ACCOUNT FOR 50% CLOGGING.
 *METHODOLOGY THROUGH SLOTS ASSUMES WEIR FLOW.**

WGI

Engineering • Planning • Surveying • Environmental

SOUTHBOUND (LEFT OF CREST) SPREAD CALCULATIONS

Project: San Carlos (SR 865)
 FPID: 433726-2-32-01
 County: LEE

Designer: CJC
 Checked by: ZAK
 Date: 5/1/2020

Structure Number	Station From (ft.)	Station To (ft.)	T Depth @ Barrier (ft)	Inlet Weir Flow (cfs)	Total Flow Qt (cfs)	Bypass Qb
MATANZAS BRIDGE						
12" BW SLOT	022+92.00	022+86.00	0.037	0.021	0.047	0.03
12" BW SLOT	022+86.00	022+80.00	0.037	0.021	0.047	0.03
12" BW SLOT	022+80.00	022+74.00	0.037	0.021	0.047	0.03
12" BW SLOT	022+74.00	022+68.00	0.037	0.021	0.047	0.03
12" BW SLOT	022+68.00	022+62.00	0.037	0.021	0.047	0.03
12" BW SLOT	022+62.00	022+56.00	0.037	0.021	0.047	0.03
12" BW SLOT	022+56.00	022+50.00	0.037	0.021	0.047	0.03
12" BW SLOT	022+50.00	022+44.00	0.037	0.021	0.047	0.03
12" BW SLOT	022+44.00	022+38.00	0.037	0.021	0.047	0.03
12" BW SLOT	022+38.00	022+32.00	0.037	0.021	0.047	0.03
12" BW SLOT	022+32.00	022+26.00	0.037	0.021	0.047	0.03
12" BW SLOT	022+26.00	022+20.00	0.033	0.018	0.047	0.03
12" BW SLOT	022+20.00	022+14.00	0.034	0.019	0.051	0.03
12" BW SLOT	022+14.00	022+08.00	0.034	0.019	0.054	0.03
12" BW SLOT	022+08.00	022+02.00	0.035	0.020	0.056	0.04
12" BW SLOT	022+02.00	021+96.00	0.035	0.020	0.058	0.04
12" BW SLOT	021+96.00	021+90.00	0.036	0.020	0.059	0.04
12" BW SLOT	021+90.00	021+84.00	0.036	0.020	0.061	0.04
12" BW SLOT	021+84.00	021+78.00	0.036	0.021	0.061	0.04
12" BW SLOT	021+78.00	021+72.00	0.036	0.021	0.062	0.04
12" BW SLOT	021+72.00	021+66.00	0.037	0.021	0.063	0.04
12" BW SLOT	021+66.00	021+60.00	0.037	0.021	0.063	0.04
12" BW SLOT	021+60.00	021+54.00	0.037	0.021	0.064	0.04
12" BW SLOT	021+54.00	021+48.00	0.037	0.021	0.064	0.04
12" BW SLOT	021+48.00	021+42.00	0.037	0.021	0.065	0.04
12" BW SLOT	021+42.00	021+36.00	0.037	0.021	0.065	0.04
12" BW SLOT	021+36.00	021+30.00	0.037	0.021	0.065	0.04
12" BW SLOT	021+30.00	021+24.00	0.037	0.021	0.065	0.04
12" BW SLOT	021+24.00	021+18.00	0.037	0.021	0.065	0.04
12" BW SLOT	021+18.00	021+12.00	0.037	0.021	0.065	0.04
12" BW SLOT	021+12.00	021+06.00	0.037	0.021	0.065	0.04
12" BW SLOT	021+06.00	021+00.00	0.034	0.019	0.053	0.03
12" BW SLOT	021+00.00	020+94.00	0.032	0.017	0.043	0.03
12" BW SLOT	020+94.00	020+88.00	0.029	0.015	0.036	0.02
12" BW SLOT	020+88.00	020+82.00	0.027	0.014	0.030	0.02
12" BW SLOT	020+82.00	020+76.00	0.026	0.012	0.025	0.01
12" BW SLOT	020+76.00	020+70.00	0.024	0.012	0.022	0.01
12" BW SLOT	020+70.00	020+64.00	0.023	0.011	0.019	0.01
12" BW SLOT	020+64.00	020+58.00	0.023	0.010	0.018	0.01
12" BW SLOT	020+58.00	020+52.00	0.022	0.010	0.017	0.01
12" BW SLOT	020+52.00	020+46.00	0.022	0.010	0.016	0.01
12" BW SLOT	020+46.00	020+40.00	0.022	0.009	0.015	0.01
12" BW SLOT	020+40.00	020+34.00	0.021	0.009	0.015	0.01
12" BW SLOT	020+34.00	020+28.00	0.021	0.009	0.015	0.01

***BARRIER WALL SLOTS WERE CHECKED EVERY 6' TO ACCOUNT FOR 50% CLOGGING.
 *METHODOLOGY THROUGH SLOTS ASSUMES WEIR FLOW.**

WGI

Engineering • Planning • Surveying • Environmental

SOUTHBOUND (LEFT OF CREST) SPREAD CALCULATIONS

Project: San Carlos (SR 865)
 FPID: 433726-2-32-01
 County: LEE

Designer: CJC
 Checked by: ZAK
 Date: 5/1/2020

Structure Number	Station From (ft.)	Station To (ft.)	T Depth @ Barrier (ft)	Inlet Weir Flow (cfs)	Total Flow Qt (cfs)	Bypass Qb
MATANZAS BRIDGE						
12" BW SLOT	020+28.00	020+22.00	0.021	0.009	0.015	0.01
12" BW SLOT	020+22.00	020+16.00	0.021	0.009	0.015	0.01
12" BW SLOT	020+16.00	020+10.00	0.021	0.009	0.015	0.01
12" BW SLOT	020+10.00	020+04.00	0.021	0.009	0.015	0.01
12" BW SLOT	020+04.00	019+98.00	0.021	0.009	0.015	0.01
12" BW SLOT	019+98.00	019+92.00	0.021	0.009	0.015	0.01
12" BW SLOT	019+92.00	019+86.00	0.021	0.009	0.014	0.01
12" BW SLOT	019+86.00	019+80.00	0.021	0.009	0.014	0.01
12" BW SLOT	019+80.00	019+74.00	0.021	0.009	0.014	0.01
12" BW SLOT	019+74.00	019+68.00	0.021	0.009	0.014	0.01
12" BW SLOT	019+68.00	019+62.00	0.021	0.009	0.014	0.01
12" BW SLOT	019+62.00	019+56.00	0.021	0.009	0.014	0.01
12" BW SLOT	019+56.00	019+52.00	0.019	0.008	0.011	0.00

***SCUPPERS WERE CHECKED EVERY 14' TO ACCOUNT FOR 50% CLOGGING.**
***HALF OF DRAIN GRATE LENGTH WAS USED WHEN CALCULATING SPREAD TO ACCOUNT FOR 50% CLOGGING.**
***METHODOLOGY THROUGH SCUPPERS AND DRAIN GRATES ASSUMES WEIR FLOW.**

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Engineering • Planning • Surveying • Environmental

NORTHBOUND (RIGHT OF CREST) SPREAD CALCULATIONS

Project: San Carlos (SR 865)
 FPID: 433726-2-32-01
 County: LEE

Designer: CJC
 Checked by: ZAK
 Date: 5/4/2020

Reference: Section 6.3.2.4 Chapter 6, FDOT Drainage Design Guide, 2020

Structure Number	Station From (ft.)	Station To (ft.)	Side	Long. Slope S (%)	Cross Slope Sx (ft/ft)	Width (ft.)	Area A (Ac.)	Intensity I (in/hr)	Runoff Coeff. C	Flow Q (cfs)	By-Pass Upstream Qb (cfs)	Total Flow Qt (cfs)	Spread Width T (ft.)	By-Pass Flow Qb (cfs)	Allowable Spread (ft)	Remarks
MATANZAS BRIDGE																
4" SCUPPER	029+40.00	030+14.00	RT	0.21%	0.020	17.5	0.030	4.00	0.95	0.11	0.00	0.11	4.26	0.03	7.00	OK
4" SCUPPER	030+14.00	030+28.00	RT	0.42%	0.020	17.5	0.006	4.00	0.95	0.02	0.03	0.06	2.88	0.01	7.00	OK
4" SCUPPER	030+28.00	030+42.00	RT	0.63%	0.020	17.5	0.006	4.00	0.95	0.02	0.01	0.03	2.22	0.00	7.00	OK
4" SCUPPER	030+42.00	030+56.00	RT	0.84%	0.020	17.5	0.006	4.00	0.95	0.02	0.00	0.02	1.85	0.00	7.00	OK
4" SCUPPER	030+56.00	030+70.00	RT	1.05%	0.020	17.5	0.006	4.00	0.95	0.02	0.00	0.02	1.70	0.00	7.00	OK
4" SCUPPER	030+70.00	030+84.00	RT	1.26%	0.020	17.5	0.006	4.00	0.95	0.02	0.00	0.02	1.66	0.00	7.00	OK
4" SCUPPER	030+84.00	030+98.00	RT	1.47%	0.020	17.5	0.006	4.00	0.95	0.02	0.00	0.02	1.64	0.00	7.00	OK
4" SCUPPER	030+98.00	031+12.00	RT	1.68%	0.020	17.5	0.006	4.00	0.95	0.02	0.00	0.02	1.64	0.01	7.00	OK
4" SCUPPER	031+12.00	031+26.00	RT	1.89%	0.020	17.5	0.006	4.00	0.95	0.02	0.01	0.03	1.64	0.01	7.00	OK
4" SCUPPER	031+26.00	031+40.00	RT	2.10%	0.020	17.5	0.006	4.00	0.95	0.02	0.01	0.03	1.64	0.01	7.00	OK
4" SCUPPER	031+40.00	031+54.00	RT	2.31%	0.020	17.5	0.006	4.00	0.95	0.02	0.01	0.03	1.64	0.01	7.00	OK
4" SCUPPER	031+54.00	031+68.00	RT	2.52%	0.020	17.5	0.006	4.00	0.95	0.02	0.01	0.03	1.65	0.01	7.00	OK
4" SCUPPER	031+68.00	031+82.00	RT	2.73%	0.020	17.5	0.006	4.00	0.95	0.02	0.01	0.03	1.65	0.01	7.00	OK
4" SCUPPER	031+82.00	031+96.00	RT	2.94%	0.020	17.5	0.006	4.00	0.95	0.02	0.01	0.03	1.65	0.01	7.00	OK
4" SCUPPER	031+96.00	032+10.00	RT	3.15%	0.020	17.5	0.006	4.00	0.95	0.02	0.01	0.03	1.65	0.01	7.00	OK
4" SCUPPER	032+10.00	032+24.00	RT	3.36%	0.020	17.5	0.006	4.00	0.95	0.02	0.01	0.04	1.65	0.02	7.00	OK
4" SCUPPER	032+24.00	032+38.00	RT	3.57%	0.020	17.5	0.006	4.00	0.95	0.02	0.02	0.04	1.66	0.02	7.00	OK
4" SCUPPER	032+38.00	032+52.00	RT	3.78%	0.020	17.5	0.006	4.00	0.95	0.02	0.02	0.04	1.66	0.02	7.00	OK
4" SCUPPER	032+52.00	032+66.00	RT	3.99%	0.020	17.5	0.006	4.00	0.95	0.02	0.02	0.04	1.66	0.02	7.00	OK
4" SCUPPER	032+66.00	032+80.00	RT	4.20%	0.020	17.5	0.006	4.00	0.95	0.02	0.02	0.04	1.66	0.02	7.00	OK
4" SCUPPER	032+80.00	032+94.00	RT	4.41%	0.020	17.5	0.006	4.00	0.95	0.02	0.02	0.04	1.66	0.02	7.00	OK
4" SCUPPER	032+94.00	033+08.00	RT	4.62%	0.020	17.5	0.006	4.00	0.95	0.02	0.02	0.04	1.67	0.02	7.00	OK
4" SCUPPER	033+08.00	033+22.00	RT	4.83%	0.020	17.5	0.006	4.00	0.95	0.02	0.02	0.04	1.67	0.02	7.00	OK
4" SCUPPER	033+22.00	033+36.00	RT	5.04%	0.020	17.5	0.006	4.00	0.95	0.02	0.02	0.05	1.67	0.01	7.00	OK
4" SCUPPER	033+36.00	033+40.00	RT	5.15%	0.020	17.5	0.002	4.00	0.95	0.01	0.01	0.01	1.06	0.02	7.00	OK
DRAIN GRATE	033+40.00	035+10.00	RT	6.00%	0.020	35.0	0.137	4.00	0.95	0.52	0.00	0.52	4.03	0.14	7.00	OK
DRAIN GRATE	035+10.00	036+91.00	RT	6.00%	0.020	35.0	0.145	4.00	0.95	0.55	0.14	0.69	4.49	0.22	7.00	OK
DRAIN GRATE	036+91.00	038+73.00	RT	6.00%	0.020	35.0	0.146	4.00	0.95	0.56	0.22	0.78	4.69	0.26	7.00	OK
DRAIN GRATE	038+73.00	040+55.00	RT	6.00%	0.020	35.0	0.146	4.00	0.95	0.56	0.26	0.82	4.78	0.29	7.00	OK

***SCUPPERS WERE CHECKED EVERY 14' TO ACCOUNT FOR 50% CLOGGING.
 *HALF OF DRAIN GRATE LENGTH WAS USED WHEN CALCULATING SPREAD TO ACCOUNT FOR 50% CLOGGING.
 *METHODOLOGY THROUGH SCUPPERS AND DRAIN GRATES ASSUMES WEIR FLOW.**

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NORTHBOUND (RIGHT OF CREST) SPREAD CALCULATIONS

Project: San Carlos (SR 865)
 FPID: 433726-2-32-01
 County: LEE

Designer: CJC
 Checked by: ZAK
 Date: 5/4/2020

CHECK INLET CAPACITY

Structure Number	Station From (ft.)	Station To (ft.)	T Depth @ Barrier (ft)	Inlet Weir Flow (cfs)	Total Flow Qt (cfs)	Bypass Qb
MATANZAS BRIDGE						
4" SCUPPER	029+40.00	030+14.00	0.085	0.078	0.113	0.03
4" SCUPPER	030+14.00	030+28.00	0.058	0.043	0.056	0.01
4" SCUPPER	030+28.00	030+42.00	0.044	0.031	0.034	0.00
4" SCUPPER	030+42.00	030+56.00	0.037	0.024	0.024	0.00
4" SCUPPER	030+56.00	030+70.00	0.034	0.021	0.022	0.00
4" SCUPPER	030+70.00	030+84.00	0.033	0.020	0.022	0.00
4" SCUPPER	030+84.00	030+98.00	0.033	0.020	0.023	0.00
4" SCUPPER	030+98.00	031+12.00	0.033	0.020	0.025	0.01
4" SCUPPER	031+12.00	031+26.00	0.033	0.020	0.026	0.01
4" SCUPPER	031+26.00	031+40.00	0.033	0.020	0.028	0.01
4" SCUPPER	031+40.00	031+54.00	0.033	0.020	0.029	0.01
4" SCUPPER	031+54.00	031+68.00	0.033	0.020	0.031	0.01
4" SCUPPER	031+68.00	031+82.00	0.033	0.020	0.032	0.01
4" SCUPPER	031+82.00	031+96.00	0.033	0.020	0.034	0.01
4" SCUPPER	031+96.00	032+10.00	0.033	0.020	0.035	0.01
4" SCUPPER	032+10.00	032+24.00	0.033	0.020	0.036	0.02
4" SCUPPER	032+24.00	032+38.00	0.033	0.020	0.037	0.02
4" SCUPPER	032+38.00	032+52.00	0.033	0.020	0.039	0.02
4" SCUPPER	032+52.00	032+66.00	0.033	0.020	0.040	0.02
4" SCUPPER	032+66.00	032+80.00	0.033	0.020	0.041	0.02
4" SCUPPER	032+80.00	032+94.00	0.033	0.020	0.042	0.02
4" SCUPPER	032+94.00	033+08.00	0.033	0.020	0.043	0.02
4" SCUPPER	033+08.00	033+22.00	0.033	0.020	0.044	0.02
4" SCUPPER	033+22.00	033+36.00	0.033	0.020	0.028	0.01
4" SCUPPER	033+36.00	033+40.00	0.021	0.010	0.029	0.02
DRAIN GRATE	033+40.00	035+10.00	0.081	0.069	0.039	0.00
DRAIN GRATE	035+10.00	036+91.00	0.090	0.081	0.040	0.00
DRAIN GRATE	036+91.00	038+73.00	0.094	0.086	0.041	0.00
DRAIN GRATE	038+73.00	040+55.00	0.096	0.089	0.042	0.00

***SCUPPERS WERE CHECKED EVERY 14' TO ACCOUNT FOR 50% CLOGGING.**
***BARRIER WALL SLOTS WERE CHECKED EVERY 6' TO ACCOUNT FOR 50% CLOGGING.**
***METHODOLOGY THROUGH SCUPPERS AND SLOTS ASSUMES WEIR FLOW.**

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SOUTHBOUND (RIGHT OF CREST) SPREAD CALCULATIONS

Project: San Carlos (SR 865)
 FPID: 433726-2-32-01
 County: LEE

Designer: CJC
 Checked by: ZAK
 Date: 5/4/2020

Reference: Section 6.3.2.4 Chapter 6, FDOT Drainage Design Guide, 2020

Structure Number	Station From (ft.)	Station To (ft.)	Side	Long. Slope S (%)	Cross Slope Sx (ft/ft)	Width (ft.)	Area A (Ac.)	Intensity I (in/hr)	Runoff Coeff. C	Flow Q (cfs)	By-Pass Upstream Qb (cfs)	Total Flow Qt (cfs)	Spread Width T (ft.)	By-Pass Flow Qb (cfs)	Allowable Spread (ft)	Remarks
MATANZAS BRIDGE																
4" SCUPPER	030+00.00	030+14.00	LT	0.21%	0.011	17.5	0.006	4.00	0.95	0.02	0.00	0.02	3.25	0.00	7.00	OK
4" SCUPPER	030+14.00	030+28.00	LT	0.42%	0.015	17.5	0.006	4.00	0.95	0.02	0.00	0.02	2.43	0.00	7.00	OK
4" SCUPPER	030+28.00	030+42.00	LT	0.63%	0.018	17.5	0.006	4.00	0.95	0.02	0.00	0.02	1.98	0.00	7.00	OK
4" SCUPPER	030+42.00	030+56.00	LT	0.84%	0.020	17.5	0.006	4.00	0.95	0.02	0.00	0.02	1.76	0.00	7.00	OK
4" SCUPPER	030+56.00	030+70.00	LT	1.05%	0.020	17.5	0.006	4.00	0.95	0.02	0.00	0.02	1.69	0.00	7.00	OK
4" SCUPPER	030+70.00	030+84.00	LT	1.26%	0.020	17.5	0.006	4.00	0.95	0.02	0.00	0.02	1.65	0.00	7.00	OK
4" SCUPPER	030+84.00	030+98.00	LT	1.47%	0.020	17.5	0.006	4.00	0.95	0.02	0.00	0.02	1.64	0.00	7.00	OK
4" SCUPPER	030+98.00	031+12.00	LT	1.68%	0.020	17.5	0.006	4.00	0.95	0.02	0.00	0.02	1.64	0.01	7.00	OK
4" SCUPPER	031+12.00	031+26.00	LT	1.89%	0.020	17.5	0.006	4.00	0.95	0.02	0.01	0.03	1.64	0.01	7.00	OK
4" SCUPPER	031+26.00	031+40.00	LT	2.10%	0.020	17.5	0.006	4.00	0.95	0.02	0.01	0.03	1.64	0.01	7.00	OK
4" SCUPPER	031+40.00	031+54.00	LT	2.31%	0.020	17.5	0.006	4.00	0.95	0.02	0.01	0.03	1.64	0.01	7.00	OK
4" SCUPPER	031+54.00	031+68.00	LT	2.52%	0.020	17.5	0.006	4.00	0.95	0.02	0.01	0.03	1.65	0.01	7.00	OK
4" SCUPPER	031+68.00	031+82.00	LT	2.73%	0.020	17.5	0.006	4.00	0.95	0.02	0.01	0.03	1.65	0.01	7.00	OK
4" SCUPPER	031+82.00	031+96.00	LT	2.94%	0.020	17.5	0.006	4.00	0.95	0.02	0.01	0.03	1.65	0.01	7.00	OK
4" SCUPPER	031+96.00	032+10.00	LT	3.15%	0.020	17.5	0.006	4.00	0.95	0.02	0.01	0.03	1.65	0.01	7.00	OK
4" SCUPPER	032+10.00	032+24.00	LT	3.36%	0.020	17.5	0.006	4.00	0.95	0.02	0.01	0.04	1.65	0.02	7.00	OK
4" SCUPPER	032+24.00	032+38.00	LT	3.57%	0.020	17.5	0.006	4.00	0.95	0.02	0.02	0.04	1.66	0.02	7.00	OK
4" SCUPPER	032+38.00	032+52.00	LT	3.78%	0.020	17.5	0.006	4.00	0.95	0.02	0.02	0.04	1.66	0.02	7.00	OK
4" SCUPPER	032+52.00	032+66.00	LT	3.99%	0.020	17.5	0.006	4.00	0.95	0.02	0.02	0.04	1.66	0.02	7.00	OK
4" SCUPPER	032+66.00	032+80.00	LT	4.20%	0.020	17.5	0.006	4.00	0.95	0.02	0.02	0.04	1.66	0.02	7.00	OK
4" SCUPPER	032+80.00	032+94.00	LT	4.41%	0.020	17.5	0.006	4.00	0.95	0.02	0.02	0.04	1.66	0.02	7.00	OK
4" SCUPPER	032+94.00	033+08.00	LT	4.62%	0.020	17.5	0.006	4.00	0.95	0.02	0.02	0.04	1.66	0.02	7.00	OK
4" SCUPPER	033+08.00	033+22.00	LT	4.83%	0.020	17.5	0.006	4.00	0.95	0.02	0.02	0.04	1.66	0.02	7.00	OK
4" SCUPPER	033+22.00	033+36.00	LT	5.04%	0.020	17.5	0.006	4.00	0.95	0.02	0.02	0.05	1.67	0.01	7.00	OK
4" SCUPPER	033+36.00	033+40.00	LT	5.15%	0.020	17.5	0.002	4.00	0.95	0.01	0.01	0.01	1.06	0.02	7.00	OK
12" BW SLOTS	033+40.00	034+12.00	LT	6.00%	0.017	17.5	0.029	4.00	0.95	0.11	0.00	0.11	2.48	0.00	7.00	OK
12" BW SLOTS	034+12.00	034+18.00	LT	6.00%	0.016	17.5	0.002	4.00	0.95	0.01	0.00	0.01	1.17	0.00	7.00	OK
12" BW SLOTS	034+18.00	034+24.00	LT	6.00%	0.014	17.5	0.002	4.00	0.95	0.01	0.00	0.01	1.09	0.00	7.00	OK
12" BW SLOTS	034+24.00	034+30.00	LT	6.00%	0.013	17.5	0.002	4.00	0.95	0.01	0.00	0.01	1.16	0.00	7.00	OK
12" BW SLOTS	034+30.00	034+36.00	LT	6.00%	0.012	17.5	0.002	4.00	0.95	0.01	0.00	0.01	1.25	0.00	7.00	OK
12" BW SLOTS	034+36.00	034+42.00	LT	6.00%	0.010	17.5	0.002	4.00	0.95	0.01	0.00	0.01	1.36	0.00	7.00	OK
12" BW SLOTS	034+42.00	034+48.00	LT	6.00%	0.009	17.5	0.002	4.00	0.95	0.01	0.00	0.01	1.49	0.00	7.00	OK
12" BW SLOTS	034+48.00	034+54.00	LT	6.00%	0.007	17.5	0.002	4.00	0.95	0.01	0.00	0.01	1.67	0.00	7.00	OK
12" BW SLOTS	034+54.00	034+60.00	LT	6.00%	0.006	17.5	0.002	4.00	0.95	0.01	0.00	0.01	1.90	0.00	7.00	OK
12" BW SLOTS	034+60.00	034+66.00	LT	6.00%	0.004	17.5	0.002	4.00	0.95	0.01	0.00	0.01	2.26	0.00	7.00	OK
12" BW SLOTS	034+66.00	034+72.00	LT	6.00%	0.003	17.5	0.002	4.00	0.95	0.01	0.00	0.01	2.88	0.00	7.00	OK
12" BW SLOTS	034+72.00	034+78.00	LT	6.00%	0.002	17.5	0.002	4.00	0.95	0.01	0.00	0.01	4.33	0.00	7.00	OK
12" BW SLOTS	034+78.00	034+84.00	LT	6.00%	0.0002	17.5	0.002	4.00	0.95	0.01	0.00	0.01	15.47	0.01	7.00	Need Additional Inlet *CROSS OVER ISSUE
12" BW SLOTS	034+84.00	034+90.00	LT	6.00%	0.001	17.5	0.002	4.00	0.95	0.01	0.01	0.02	6.60	0.01	7.00	OK

***SCUPPERS WERE CHECKED EVERY 14' TO ACCOUNT FOR 50% CLOGGING.**
***BARRIER WALL SLOTS WERE CHECKED EVERY 6' TO ACCOUNT FOR 50% CLOGGING.**
***METHODOLOGY THROUGH SCUPPERS AND SLOTS ASSUMES WEIR FLOW.**

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SOUTHBOUND (RIGHT OF CREST) SPREAD CALCULATIONS

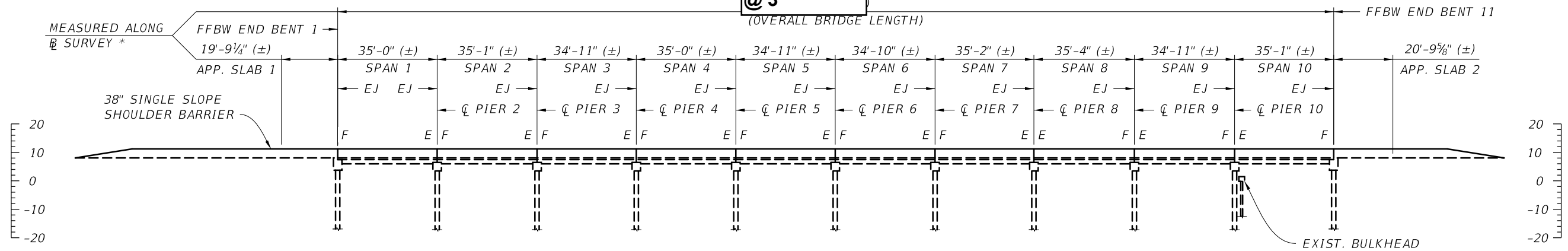
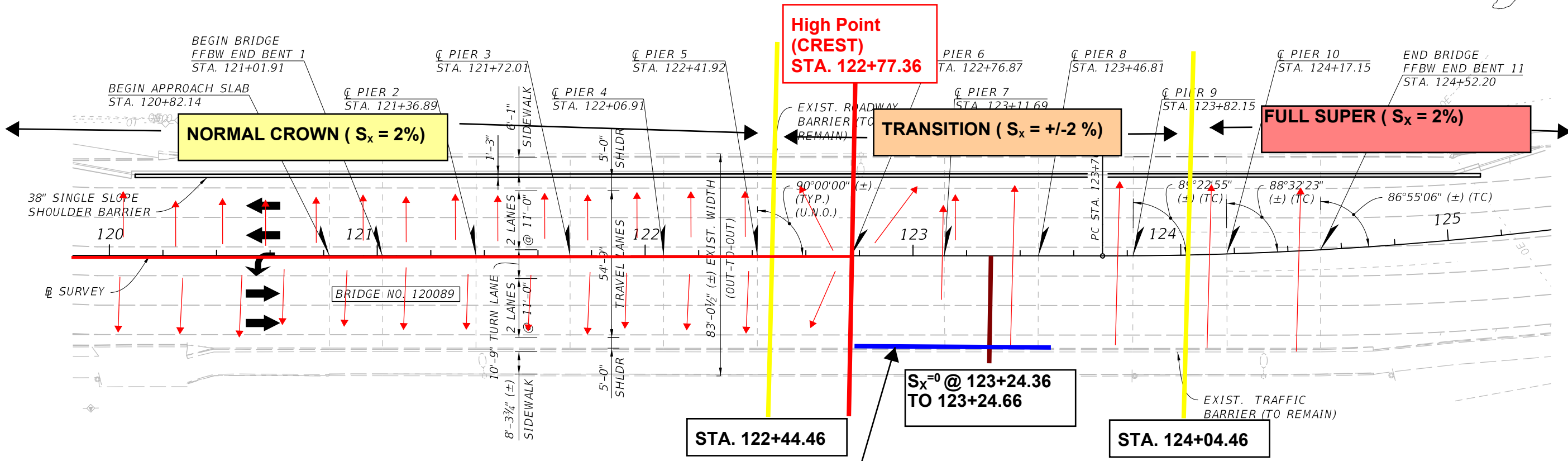
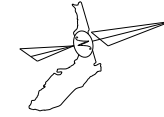
Project: San Carlos (SR 865)
 FPID: 433726-2-32-01
 County: LEE

Designer: CJC
 Checked by: ZAK
 Date: 5/4/2020

CHECK INLET CAPACITY

Structure Number	Station From (ft.)	Station To (ft.)	T Depth @ Barrier (ft)	Inlet Weir Flow (cfs)	Total Flow Qt (cfs)	Bypass Qb
MATANZAS BRIDGE						
4" SCUPPER	030+00.00	030+14.00	0.037	0.022	0.021	0.00
4" SCUPPER	030+14.00	030+28.00	0.036	0.021	0.021	0.00
4" SCUPPER	030+28.00	030+42.00	0.036	0.023	0.022	0.00
4" SCUPPER	030+42.00	030+56.00	0.035	0.022	0.021	0.00
4" SCUPPER	030+56.00	030+70.00	0.034	0.021	0.021	0.00
4" SCUPPER	030+70.00	030+84.00	0.033	0.020	0.022	0.00
4" SCUPPER	030+84.00	030+98.00	0.033	0.020	0.023	0.00
4" SCUPPER	030+98.00	031+12.00	0.033	0.020	0.025	0.01
4" SCUPPER	031+12.00	031+26.00	0.033	0.020	0.026	0.01
4" SCUPPER	031+26.00	031+40.00	0.033	0.020	0.028	0.01
4" SCUPPER	031+40.00	031+54.00	0.033	0.020	0.029	0.01
4" SCUPPER	031+54.00	031+68.00	0.033	0.020	0.031	0.01
4" SCUPPER	031+68.00	031+82.00	0.033	0.020	0.032	0.01
4" SCUPPER	031+82.00	031+96.00	0.033	0.020	0.034	0.01
4" SCUPPER	031+96.00	032+10.00	0.033	0.020	0.035	0.01
4" SCUPPER	032+10.00	032+24.00	0.033	0.020	0.036	0.02
4" SCUPPER	032+24.00	032+38.00	0.033	0.020	0.037	0.02
4" SCUPPER	032+38.00	032+52.00	0.033	0.020	0.039	0.02
4" SCUPPER	032+52.00	032+66.00	0.033	0.020	0.040	0.02
4" SCUPPER	032+66.00	032+80.00	0.033	0.020	0.041	0.02
4" SCUPPER	032+80.00	032+94.00	0.033	0.020	0.042	0.02
4" SCUPPER	032+94.00	033+08.00	0.033	0.020	0.043	0.02
4" SCUPPER	033+08.00	033+22.00	0.033	0.020	0.044	0.02
4" SCUPPER	033+22.00	033+36.00	0.033	0.020	0.028	0.01
4" SCUPPER	033+36.00	033+40.00	0.021	0.010	0.029	0.02
12" BW SLOTS	033+40.00	034+12.00	0.043	0.026	0.037	0.01
12" BW SLOTS	034+12.00	034+18.00	0.018	0.008	0.039	0.03
12" BW SLOTS	034+18.00	034+24.00	0.016	0.006	0.040	0.03
12" BW SLOTS	034+24.00	034+30.00	0.015	0.006	0.041	0.04
12" BW SLOTS	034+30.00	034+36.00	0.014	0.005	0.042	0.04
12" BW SLOTS	034+36.00	034+42.00	0.014	0.005	0.043	0.04
12" BW SLOTS	034+42.00	034+48.00	0.013	0.004	0.044	0.04
12" BW SLOTS	034+48.00	034+54.00	0.012	0.004	0.045	0.04
12" BW SLOTS	034+54.00	034+60.00	0.011	0.004	0.014	0.01
12" BW SLOTS	034+60.00	034+66.00	0.010	0.003	0.000	0.00
12" BW SLOTS	034+66.00	034+72.00	0.009	0.002	0.110	0.11
12" BW SLOTS	034+72.00	034+78.00	0.007	0.002	0.013	0.01
12" BW SLOTS	034+78.00	034+84.00	0.004	0.001	0.009	0.01
12" BW SLOTS	034+84.00	034+90.00	0.008	0.002	0.009	0.01

DIRECTION OF STATIONING



* EXISTING DIMENSIONS BASED ON FIELD SURVEY.

NOTES:

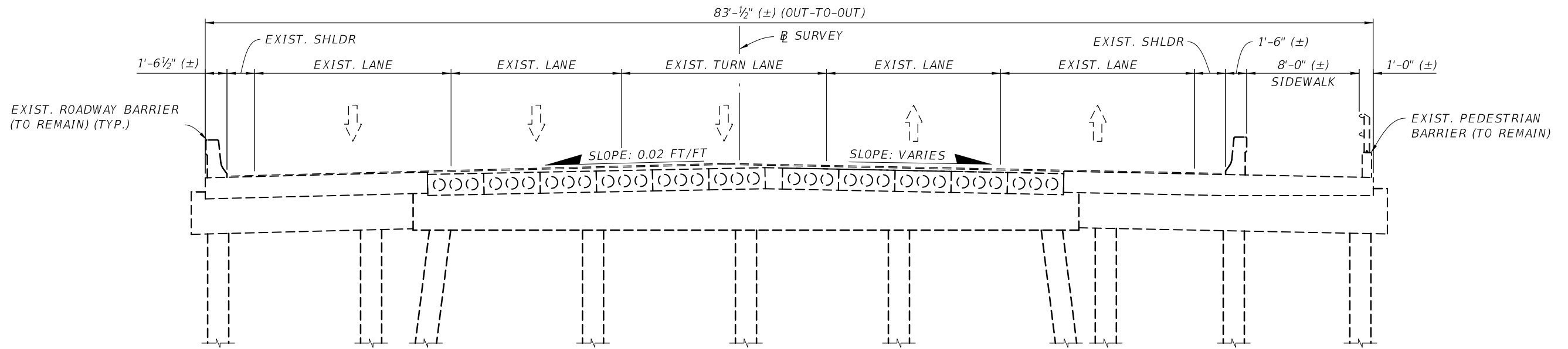
1. STATIONS, OFFSETS, AND DIMENSIONS ARE MEASURED TO ϕ SR 865.
2. FOR HORIZONTAL CURVE DATA, VERTICAL CURVE DATA AND TRAFFIC DATA, SEE SHEET NO. B2-X.

LEGEND:

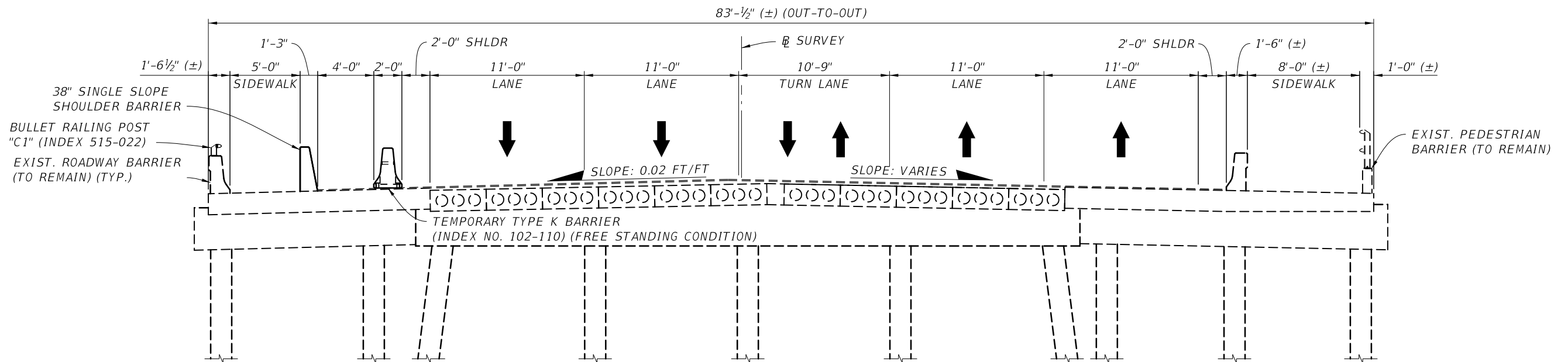
- EXIST. LIGHTING
- GENERAL PURPOSE LANE
- TURN LANE

BRIDGE NO. 120089

REVISIONS						NATHANIEL ALLEN VAN ETEN, P.E. P.E. LICENSE NUMBER 73756 WANTMAN GROUP, INC. 3111 W. MARTIN LUTHER KING JR. BLVD., SUITE 375, TAMPA, FLORIDA 33607 CERTIFICATE OF AUTHORIZATION 00006091	DRAWN BY: NHN CHECKED BY: NVE DESIGNED BY: NHN CHECKED BY: NVE	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET TITLE: PLAN AND ELEVATION	REF. DWG. NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION			ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
							SR 865	LEE	433726-2-32-01	SR 865 (SAN CARLOS BLVD) FROM ESTERO BLVD TO NORTH OF HURRICANE BAY BRIDGE	B2-X	



EXISTING BRIDGE TYPICAL
(STATION 121+01.91 TO 123+26.69 SHOWN, OTHERS SIMILAR)

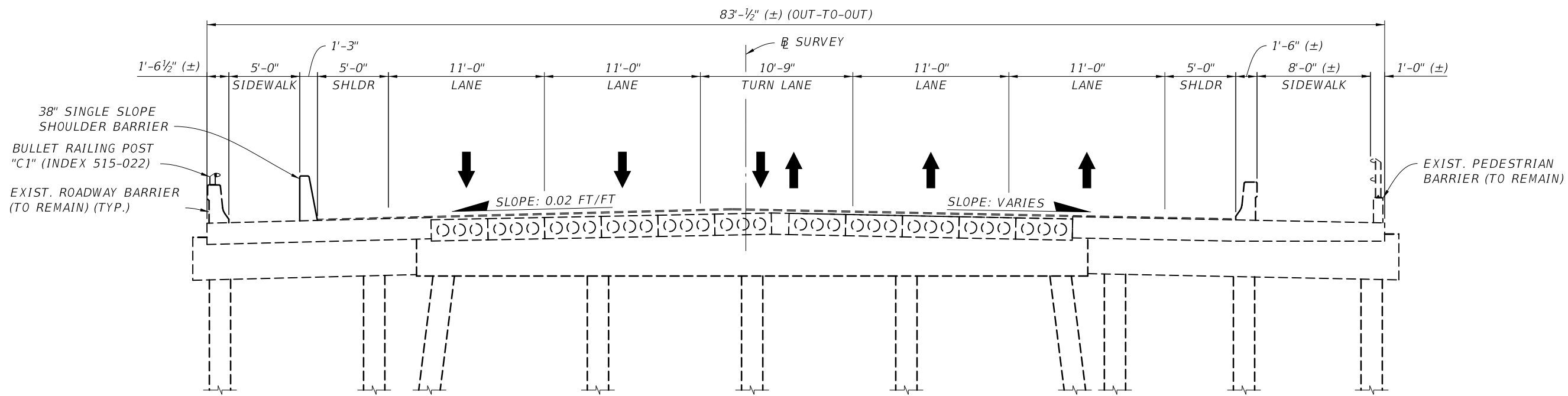


PHASE 1 CONSTRUCTION
(CONSTRUCT PROPOSED ROADWAY BARRIER)
(STATION 121+01.91 TO 123+26.69 SHOWN, OTHERS SIMILAR)

- LEGEND:**
- EXISTING GENERAL USE LANE
 - RELOCATED GENERAL USE LANE

BRIDGE NO. 120089

REVISIONS						NATHANIEL ALLEN VAN ETEN, P.E. P.E. LICENSE NUMBER 73756 WANTMAN GROUP, INC. 3111 W. MARTIN LUTHER KING JR. BLVD., SUITE 375, TAMPA, FLORIDA 33607 CERTIFICATE OF AUTHORIZATION 00006091	DRAWN BY: NHN CHECKED BY: NVE DESIGNED BY: NHN CHECKED BY: NVE	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET TITLE: CONSTRUCTION SEQUENCE (1 OF 2)		REF. DWG. NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION			ROAD NO.	COUNTY	FINANCIAL PROJECT ID	PROJECT NAME:	SHEET NO.	
							SR 865	LEE	433726-2-32-01	SR 865 (SAN CARLOS BLVD) FROM ESTERO BLVD TO NORTH OF HURRICANE BAY BRIDGE		B2 - X	

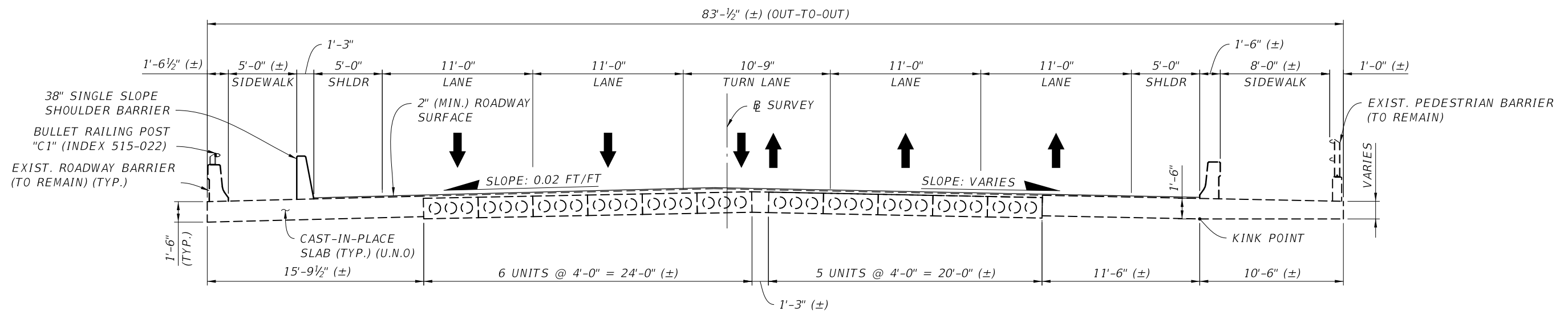


PROPOSED BRIDGE TYPICAL
 (STATION 121+01.91 TO 123+26.69 SHOWN, OTHERS SIMILAR)

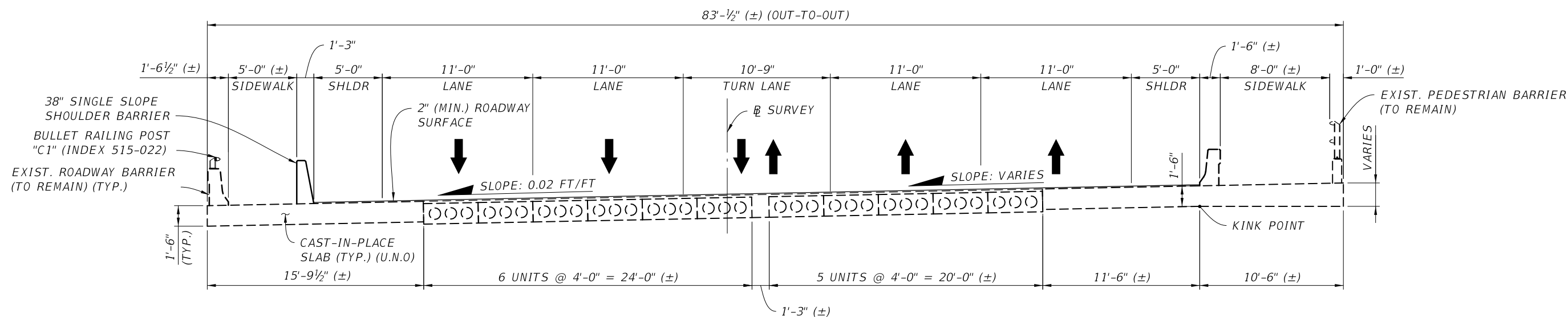
LEGEND:
 GENERAL USE LANE

BRIDGE NO. 120089

REVISIONS						NATHANIEL ALLEN VAN ETEN, P.E. P.E. LICENSE NUMBER 73756 WANTMAN GROUP, INC. 3111 W. MARTIN LUTHER KING JR. BLVD., SUITE 375, TAMPA, FLORIDA 33607 CERTIFICATE OF AUTHORIZATION 00006091	DRAWN BY: <i>NHN</i> CHECKED BY: <i>NVE</i> DESIGNED BY: <i>NHN</i> CHECKED BY: <i>NVE</i>	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET TITLE: CONSTRUCTION SEQUENCE (2 OF 2)	REF. DWG. NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION			ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
							SR 865	LEE	433726-2-32-01	SR 865 (SAN CARLOS BLVD) FROM ESTERO BLVD TO NORTH OF HURRICANE BAY BRIDGE	B2 - X	



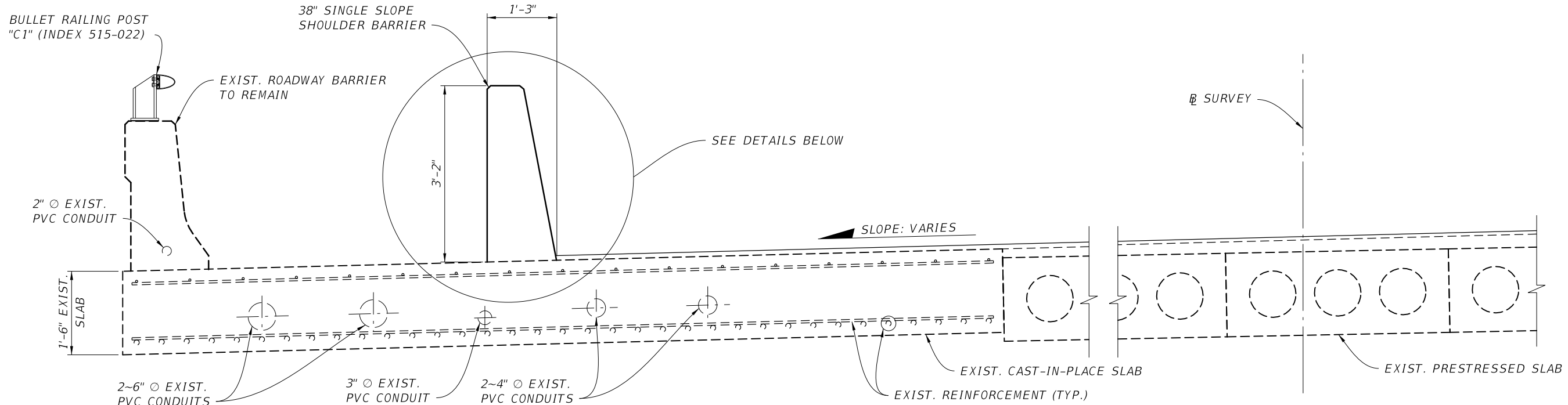
TYPICAL BRIDGE SECTION
STATION 121+01.91 TO 123+26.69



TYPICAL BRIDGE SECTION
STATION 123+26.69 TO 124+52.20

BRIDGE NO. 120089

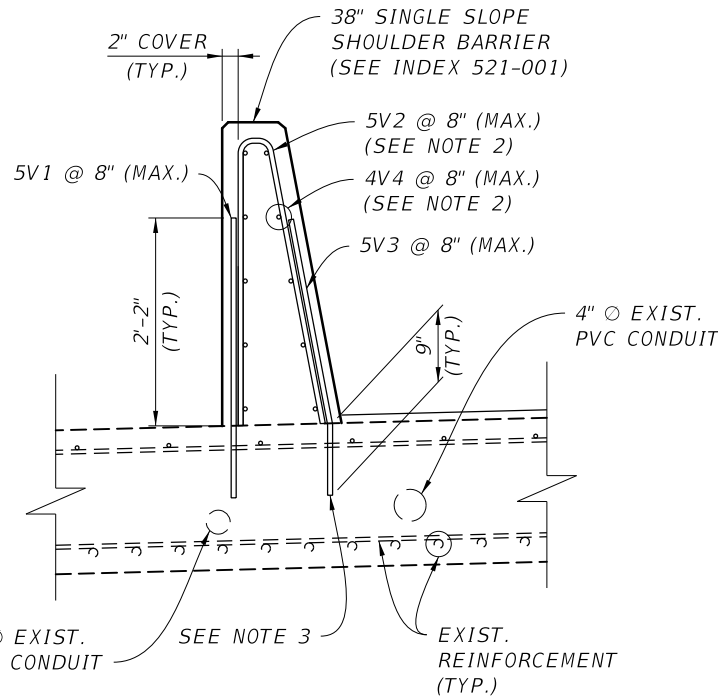
REVISIONS						NATHANIEL ALLEN VAN ETEN, P.E. P.E. LICENSE NUMBER 73756 WANTMAN GROUP, INC. 3111 W. MARTIN LUTHER KING JR. BLVD., SUITE 375, TAMPA, FLORIDA 33607 CERTIFICATE OF AUTHORIZATION 00006091	DRAWN BY: NHN CHECKED BY: NVE DESIGNED BY: NHN CHECKED BY: NVE	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET TITLE: TYPICAL SECTION THROUGH BRIDGE DECK	REF. DWG. NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION			ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
							SR 865	LEE	433726-2-32-01	SR 865 (SAN CARLOS BLVD) FROM ESTERO BLVD TO NORTH OF HURRICANE BAY BRIDGE	B2 - X	



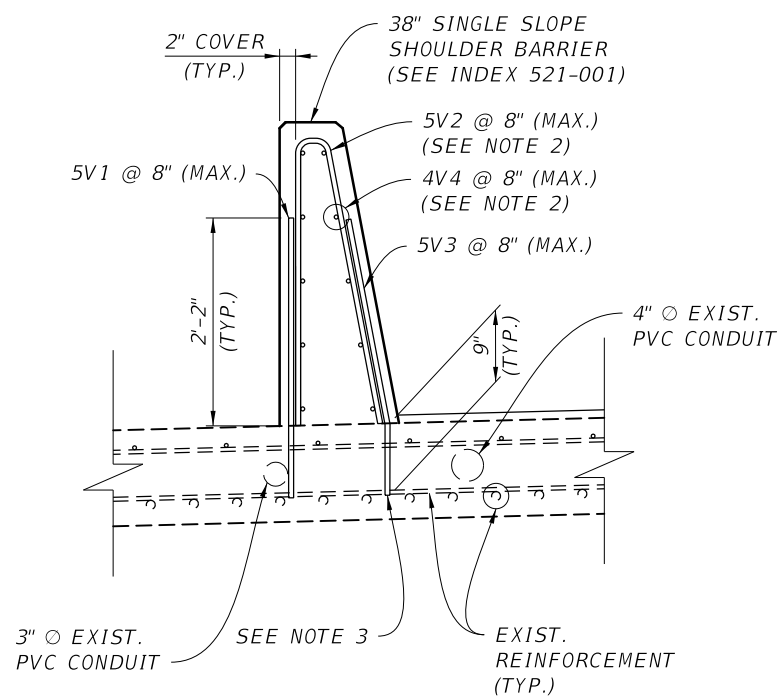
PARTIAL SECTION THRU DECK
(TYPICAL AT ALL SPANS) (PEDESTRIAN RAILING NOT SHOWN FOR CLARITY)

BILL OF REINFORCING STEEL		
BAR MARK	SIZE	LENGTH
5V1	5	2'-11"
5V2	5	6'-3"
5V3	5	2'-11"
4V4	4	34'-10"

- NOTES:
- IF TRANSVERSE REBAR IS ENCOUNTERED DURING DRILLING REDRILL IN-LINE LONGITUDINALLY. SPACING SHALL NOT BE EXCEEDED FILL ABANDONED HOLES WITH HSHV ADHESIVE OR TYPE I EPOXY.
 - SEE INDEX 521-001 FOR ADDITIONAL BAR DETAILS.
 - DRILL HOLE PER ADHESIVE BONDING MATERIAL MANUFACTURER'S RECOMMENDATIONS AND SET #5 DOWELS WITH HSHV ADHESIVE.
 - CONTRACTOR SHOULD VERIFY THE LOCATION OF THE UTILITIES AT APPROACH SLABS.



38" SINGLE SLOPE BARRIER DETAIL - ON BRIDGE
(PEDESTRIAN RAILING NOT SHOWN FOR CLARITY)



38" SINGLE SLOPE BARRIER DETAIL - ON APPROACH SLABS
(PEDESTRIAN RAILING NOT SHOWN FOR CLARITY)

BRIDGE NO. 120089

REVISIONS						NATHANIEL ALLEN VAN ETEN, P.E. P.E. LICENSE NUMBER 73756 WANTMAN GROUP, INC. 3111 W. MARTIN LUTHER KING JR. BLVD., SUITE 375, TAMPA, FLORIDA 33607 CERTIFICATE OF AUTHORIZATION 00006091	DRAWN BY: NHN CHECKED BY: NVE DESIGNED BY: NHN CHECKED BY: NVE	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET TITLE: 38" SINGLE SLOPE BARRIER DETAILS	REF. DWG. NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION			ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
							SR 865	LEE	433726-2-32-01	SR 865 (SAN CARLOS BLVD) FROM ESTERO BLVD TO NORTH OF HURRICANE BAY BRIDGE	B2 - X	

***HALF THE SCUPPER CAPACITY WAS USED WHEN CALCULATING SPREAD TO ACCOUNT FOR 50% CLOGGING.
 *METHODOLOGY THROUGH SCUPPERS ASSUMES WEIR FLOW.**

WGI

Engineering • Planning • Surveying • Environmental

HURRICANE BAY BRIDGE SPREAD CALCULATIONS

Project: San Carlos (SR 865)
 FPID: 433726-2-32-01
 County: LEE

Designer: CJC
 Checked by: ZAK
 Date: 4/23/2020

Reference: Section 6.3.2, Chapter 6, FDOT Drainage Design Guide, 2020

Structure Number	Station From (ft.)	Station To (ft.)	Side	Long. Slope S (%)	Cross Slope Sx (ft/ft)	Width (ft.)	Area A (Ac.)	Intensity i (in/hr)	Runoff Coeff. C	Flow Q (cfs)	By-Pass Upstream Qb (cfs)	Total Flow Qt (cfs)	Spread Width T (ft.)	By-Pass Flow Qb (cfs)	Allowable Spread (ft)	Remarks	
HURRICANE BRIDGE																	
Existing P-5	122+77.36	119+36.00	SB	1.02%	0.0245	34.5	0.27	4.00	0.95	1.03	0.00	1.03	6.39	0.38	10.50	OK	Sidewalk included in area
Existing P-5	122+77.36	119+00.00	NB	1.71%	0.0360	43.0	0.37	4.00	0.95	1.42	0.00	1.42	5.14	0.41	10.50	OK	Sidewalk included in area
Existing P-5	122+77.36	125+52.00	SB	1.95%	0.0384	77.8	0.49	4.00	0.95	1.86	0.00	1.86	5.34	0.59	10.50	OK	Sidewalk included in area
4" SCUPPERS	122+77.36	122+83.00	NB	1.00%	0.0103	35.0	0.005	4.00	0.95	0.02	0.00	0.02	2.38	0.00	10.50	OK	
4" SCUPPERS	122+83.00	122+89.00	NB	1.00%	0.0088	35.0	0.005	4.00	0.95	0.02	0.00	0.02	2.69	0.00	10.50	OK	
4" SCUPPERS	122+89.00	122+95.00	NB	1.00%	0.0073	35.0	0.005	4.00	0.95	0.02	0.00	0.02	3.03	0.00	10.50	OK	
4" SCUPPERS	122+95.00	123+01.00	NB	1.00%	0.0058	35.0	0.005	4.00	0.95	0.02	0.00	0.02	3.50	0.00	10.50	OK	
4" SCUPPERS	123+01.00	123+07.00	NB	1.00%	0.0043	35.0	0.005	4.00	0.95	0.02	0.00	0.02	4.22	0.00	10.50	OK	
4" SCUPPERS	123+07.00	123+13.00	NB	1.00%	0.0028	35.0	0.005	4.00	0.95	0.02	0.00	0.02	5.53	0.01	10.50	OK	
4" SCUPPERS	123+13.00	123+19.00	NB	1.00%	0.0013	35.0	0.005	4.00	0.95	0.02	0.00	0.02	8.99	0.01	10.50	OK	
4" SCUPPERS	123+19.00	123+25.00	NB	1.00%	0.0002	35.0	0.005	4.00	0.95	0.02	0.00	0.02	26.57	0.01	10.50	Need Additional Inlet	*CROSS OVER ISSUE

CHECK INLET CAPACITY

Structure Number	Station From (ft.)	Station To (ft.)	T Depth @ Barrier (ft)	Inlet Weir Flow (cfs)	Total Flow Qt (cfs)	Bypass Qb
HURRICANE BRIDGE						
4" SCUPPERS	122+77.36	122+83.00	0.024	0.012	0.017	0.01
4" SCUPPERS	122+83.00	122+89.00	0.024	0.011	0.018	0.01
4" SCUPPERS	122+89.00	122+95.00	0.022	0.010	0.018	0.01
4" SCUPPERS	122+95.00	123+01.00	0.020	0.009	0.018	0.01
4" SCUPPERS	123+01.00	123+07.00	0.018	0.008	0.018	0.01
4" SCUPPERS	123+07.00	123+13.00	0.015	0.006	0.018	0.01
4" SCUPPERS	123+13.00	123+19.00	0.011	0.004	0.018	0.01
4" SCUPPERS	123+19.00	123+25.00	0.006	0.001	0.018	0.02

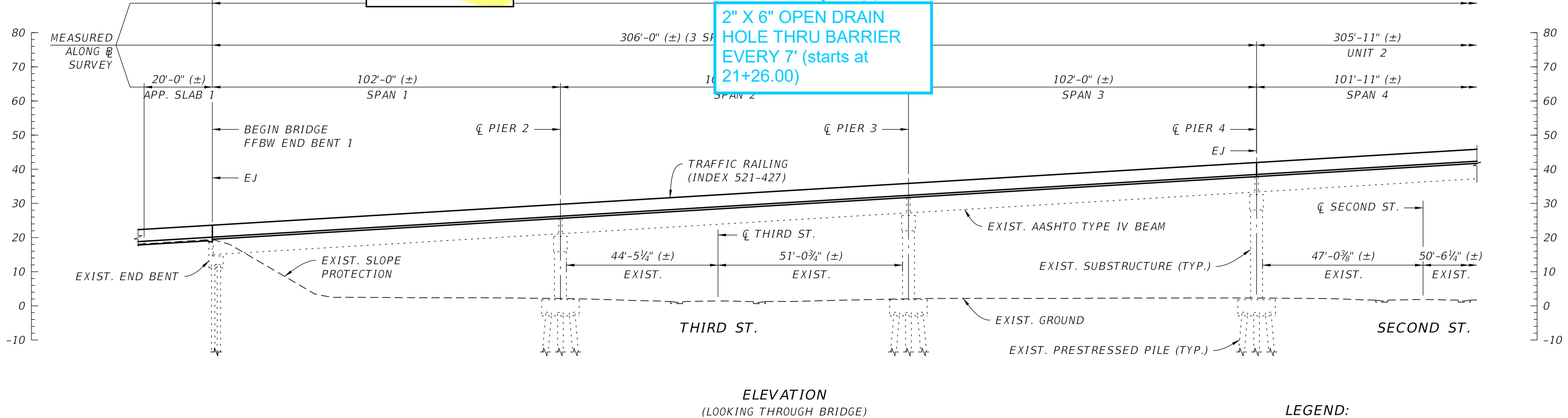
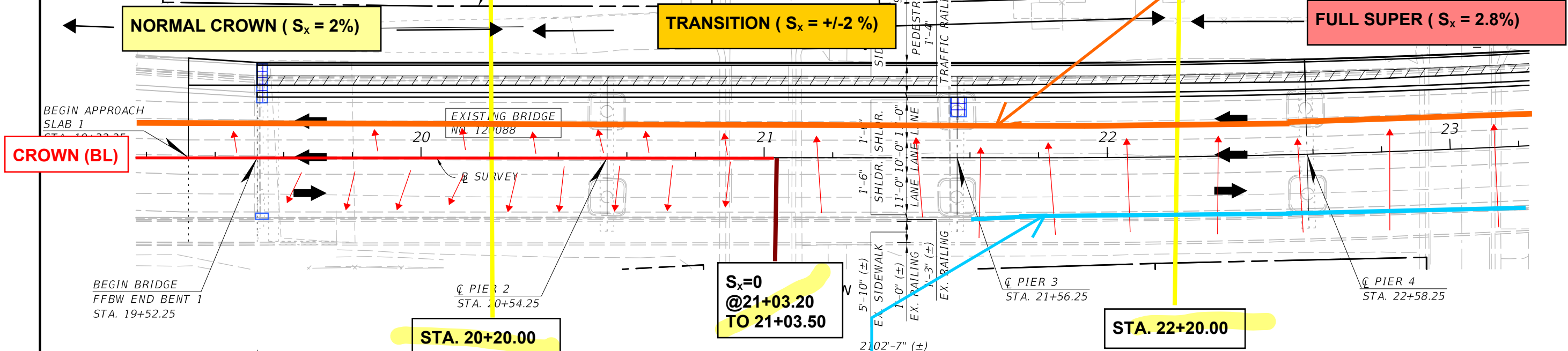
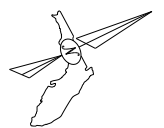
APPENDIX C

Temporary Drainage Analysis

LEGEND

drain grate

DIRECTION OF STATIONING



LEGEND:
 PROPOSED DIRECTION OF TRAFFIC
 EXISTING DIRECTION OF TRAFFIC
 EXISTING TO BE REMOVED

BRIDGE NO. 120088

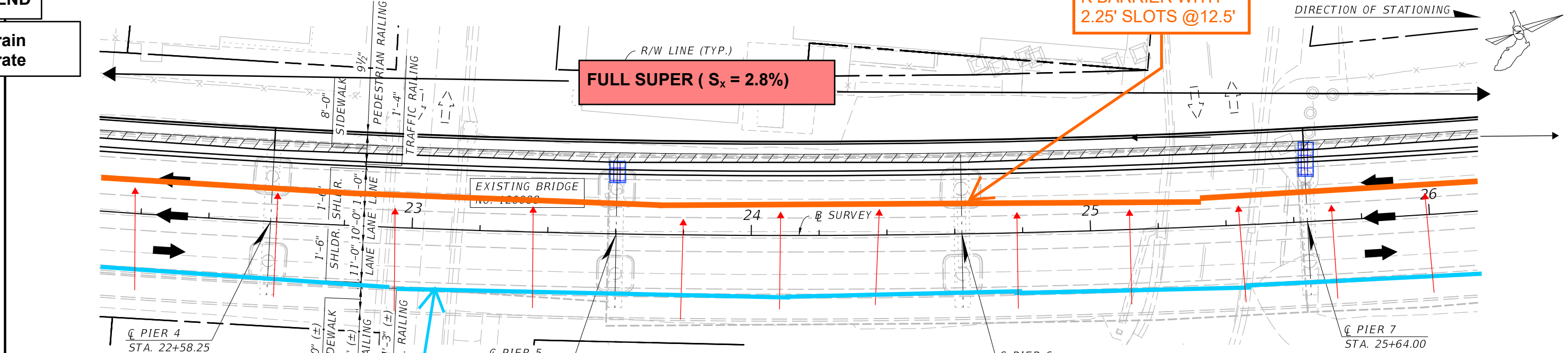
REVISIONS						NATHANIEL ALLEN VAN ETTEN, P.E. P.E. LICENSE NUMBER 73756 WANTMAN GROUP, INC. 3111 W. MARTIN LUTHER KING JR. BLVD., SUITE 375, TAMPA, FLORIDA 33607 CERTIFICATE OF AUTHORIZATION 00006091	DRAWN BY: ESK CHECKED BY: NVE DESIGNED BY: ESK CHECKED BY: NVE	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET TITLE: PLAN AND ELEVATION (1 OF 6)	REF. DWG. NO. SHEET NO. B1 - 1
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION			ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
							SR 865	LEE	433726-2-32-01	SR 865 (SAN CARLOS BLVD) FROM ESTERO BLVD TO NORTH OF HURRICANE BAY BRIDGE		

LEGEND

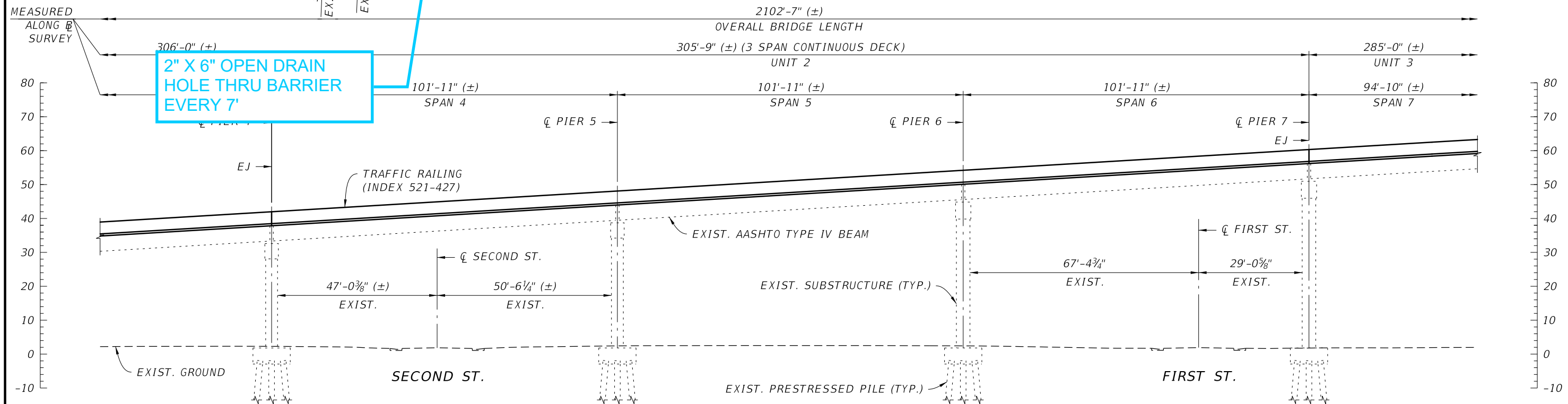
drain grate

K BARRIER WITH 2.25' SLOTS @12.5'

FULL SUPER (S_x = 2.8%)



PLAN



ELEVATION

- LEGEND:**
- PROPOSED DIRECTION OF TRAFFIC
 - EXISTING DIRECTION OF TRAFFIC
 - EXISTING TO BE REMOVED

BRIDGE NO. 120088

REVISIONS						NATHANIEL ALLEN VAN ETEN, P.E. P.E. LICENSE NUMBER 73756 WANTMAN GROUP, INC. 3111 W. MARTIN LUTHER KING JR. BLVD., SUITE 375, TAMPA, FLORIDA 33607 CERTIFICATE OF AUTHORIZATION 00006091	DRAWN BY: ESK CHECKED BY: NVE DESIGNED BY: ESK CHECKED BY: NVE	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET TITLE: PLAN AND ELEVATION (2 OF 6)	REF. DWG. NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION			ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
							SR 865	LEE	433726-2-32-01	SR 865 (SAN CARLOS BLVD) FROM ESTERO BLVD TO NORTH OF HURRICANE BAY BRIDGE	B1 - 2	

LEGEND

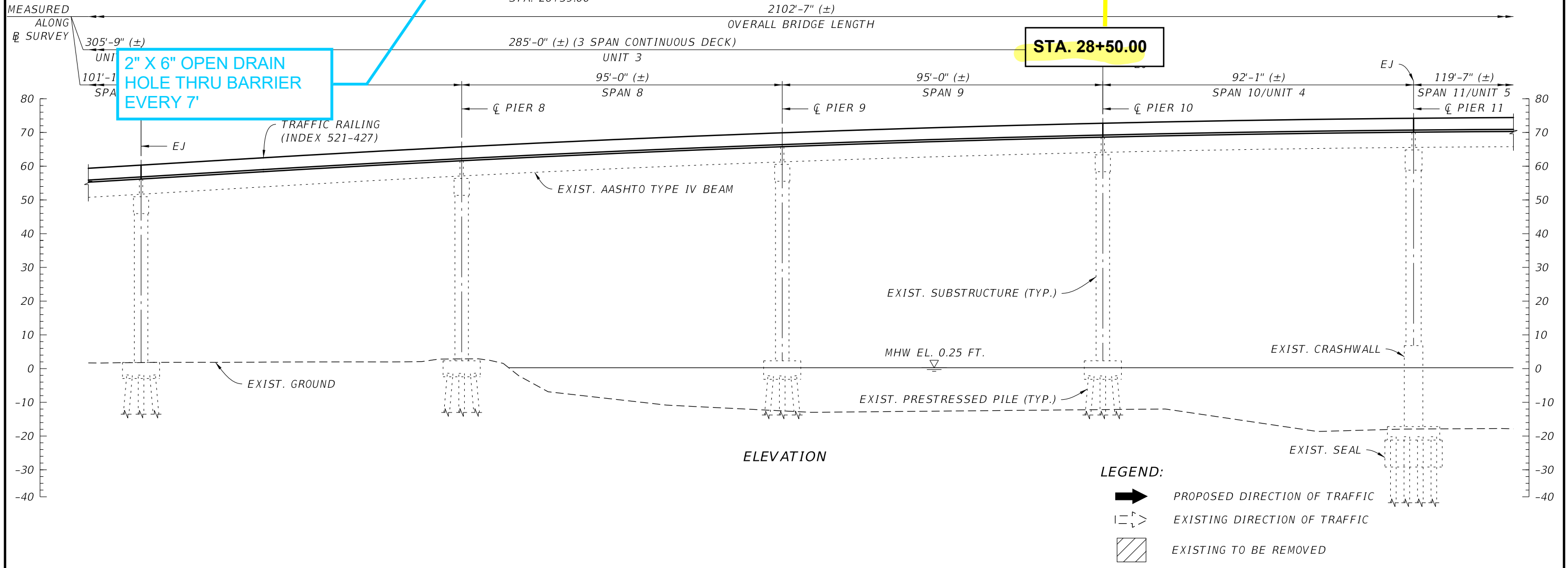
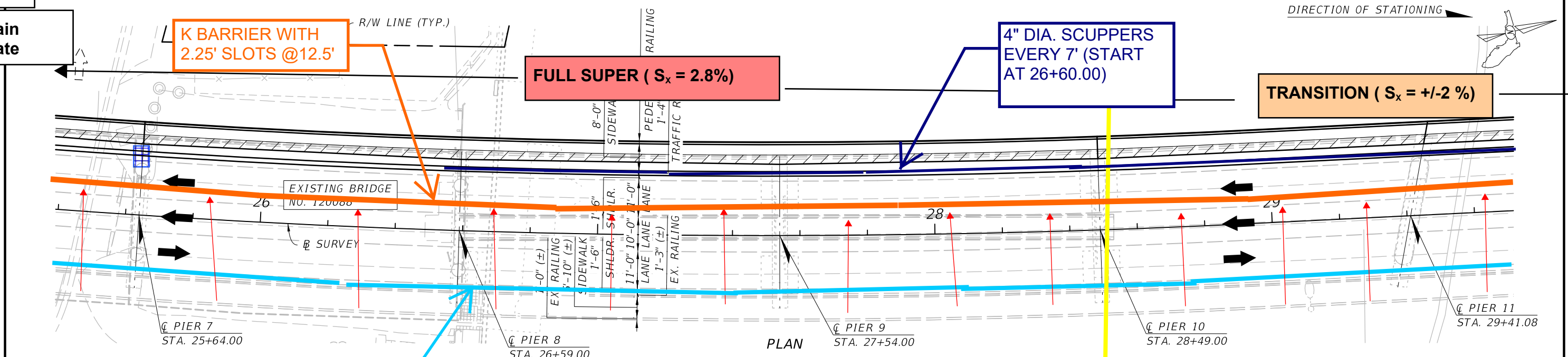
drain grate

K BARRIER WITH 2.25' SLOTS @12.5'

FULL SUPER ($S_x = 2.8\%$)

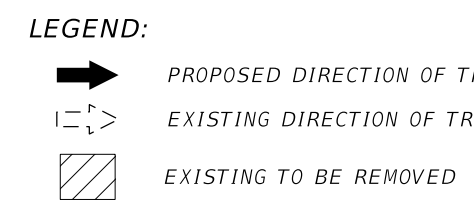
4" DIA. SCUPPERS EVERY 7' (START AT 26+60.00)

TRANSITION ($S_x = +/-2\%$)



2" X 6" OPEN DRAIN HOLE THRU BARRIER EVERY 7'

STA. 28+50.00



BRIDGE NO. 120088

REVISIONS						NATHANIEL ALLEN VAN ETEN, P.E. P.E. LICENSE NUMBER 73756 WANTMAN GROUP, INC. 3111 W. MARTIN LUTHER KING JR. BLVD., SUITE 375, TAMPA, FLORIDA 33607 CERTIFICATE OF AUTHORIZATION 00006091	DRAWN BY: ESK CHECKED BY: NVE DESIGNED BY: ESK CHECKED BY: NVE	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET TITLE: PLAN AND ELEVATION (3 OF 6)	REF. DWG. NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION			ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
							SR 865	LEE	433726-2-32-01	SR 865 (SAN CARLOS BLVD) FROM ESTERO BLVD TO NORTH OF HURRICANE BAY BRIDGE	B1 - 3	



CROWN (BL)

**High Point (PVI)
STA. 30+00.00**

**K BARRIER WITH
2.25' SLOTS @12.5'**

**4" DIA. SCUPPERS
EVERY 7'**

NORMAL CROWN (S_x = 2%)

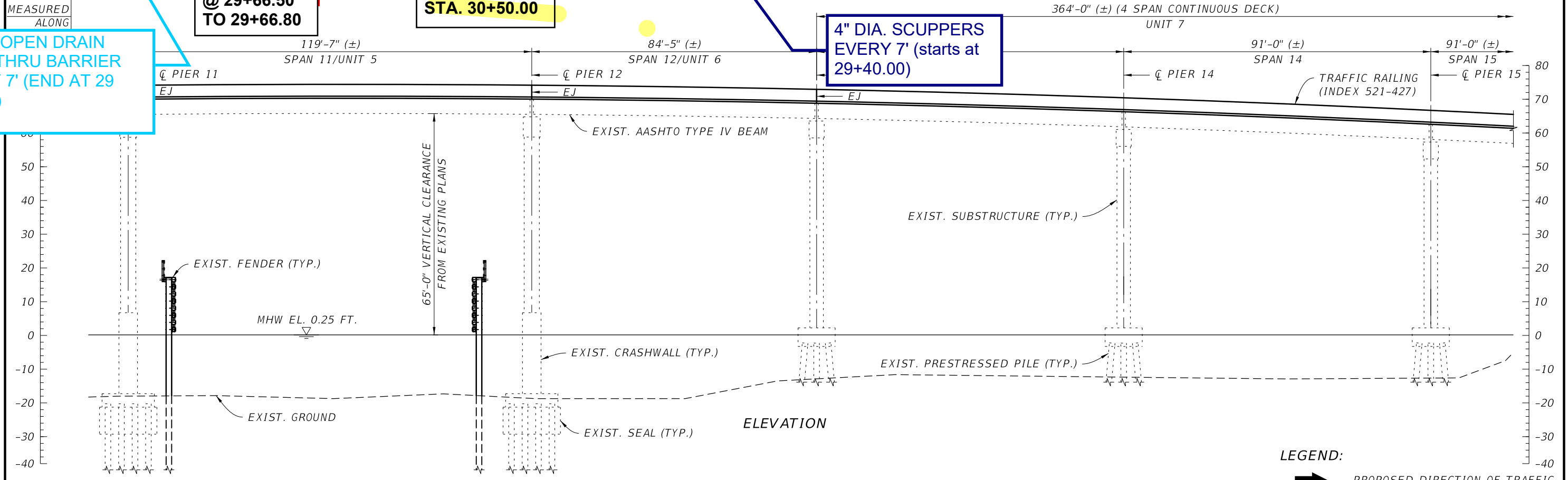
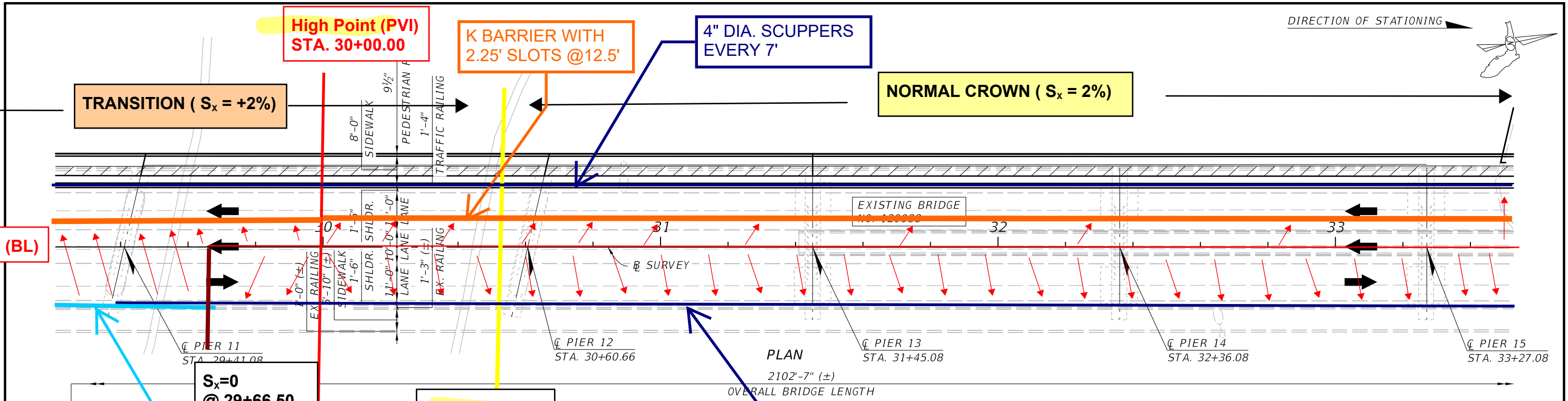
TRANSITION (S_x = +2%)

**S_x=0
@ 29+66.50
TO 29+66.80**

STA. 30+50.00

**4" DIA. SCUPPERS
EVERY 7' (starts at
29+40.00)**

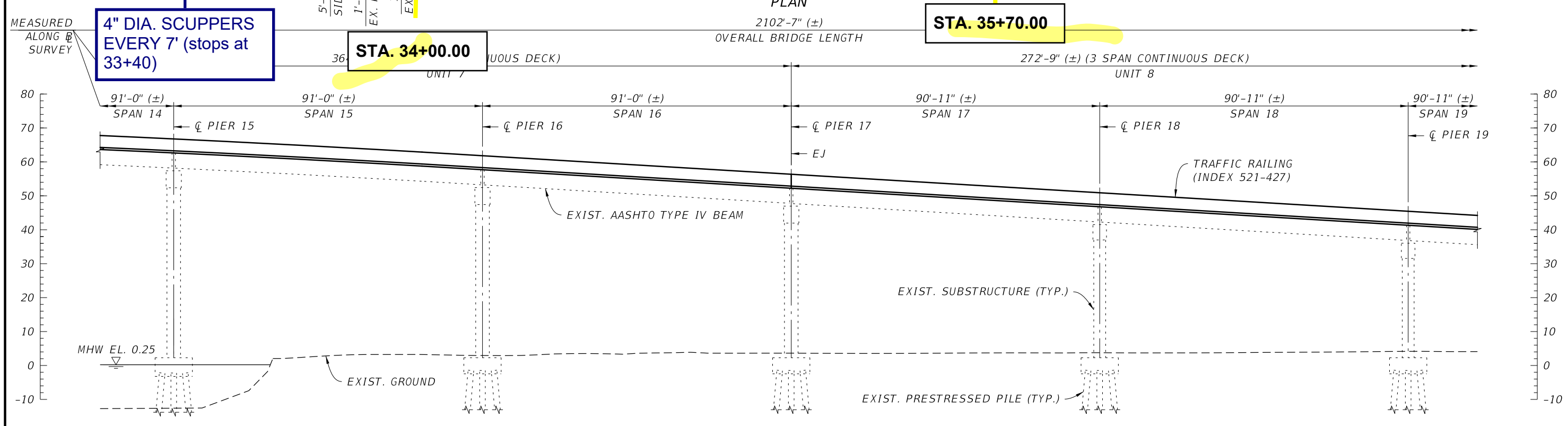
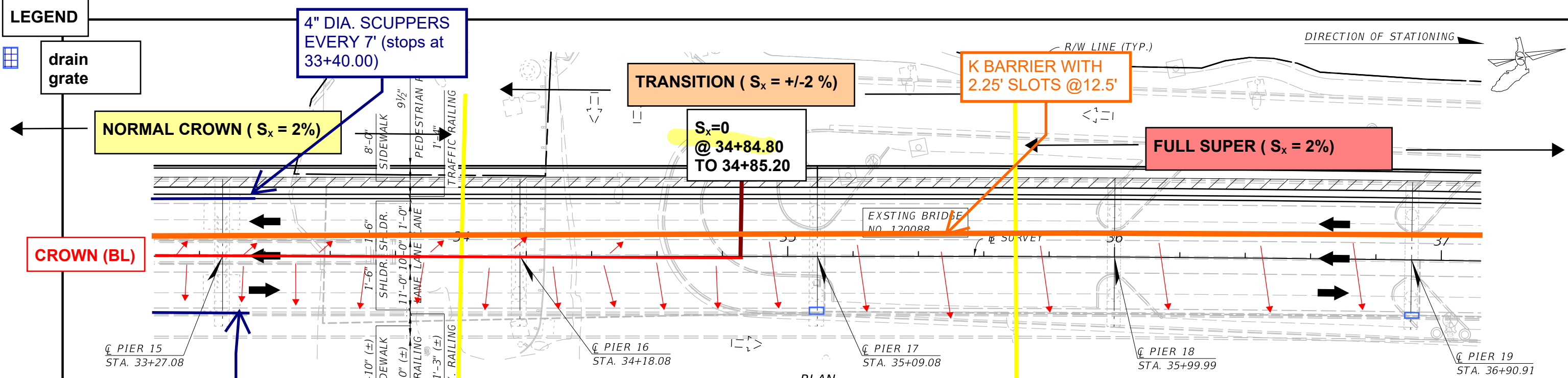
**2" X 6" OPEN DRAIN
HOLE THRU BARRIER
EVERY 7' (END AT 29
+67.00)**



LEGEND:
 PROPOSED DIRECTION OF TRAFFIC
 EXISTING TO BE REMOVED

BRIDGE NO. 120088

REVISIONS						DRAWN BY: ESK	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET TITLE: PLAN AND ELEVATION (4 OF 6)	REF. DWG. NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
							SR 865	LEE	433726-2-32-01	SR 865 (SAN CARLOS BLVD) FROM ESTERO BLVD TO NORTH OF HURRICANE BAY BRIDGE	B1-4



ELEVATION

- LEGEND:**
- PROPOSED DIRECTION OF TRAFFIC
 - EXISTING DIRECTION OF TRAFFIC
 - EXISTING TO BE REMOVED

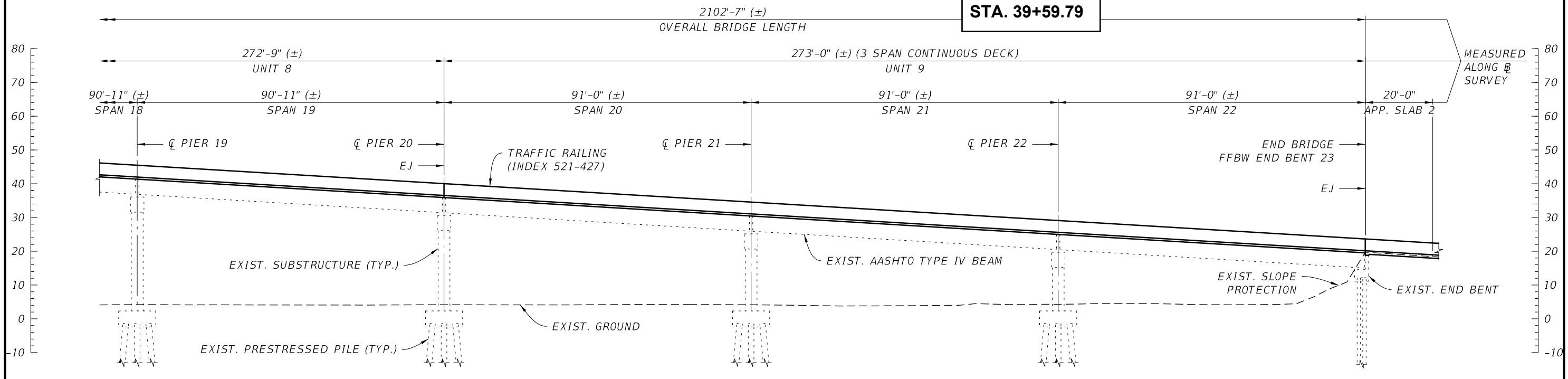
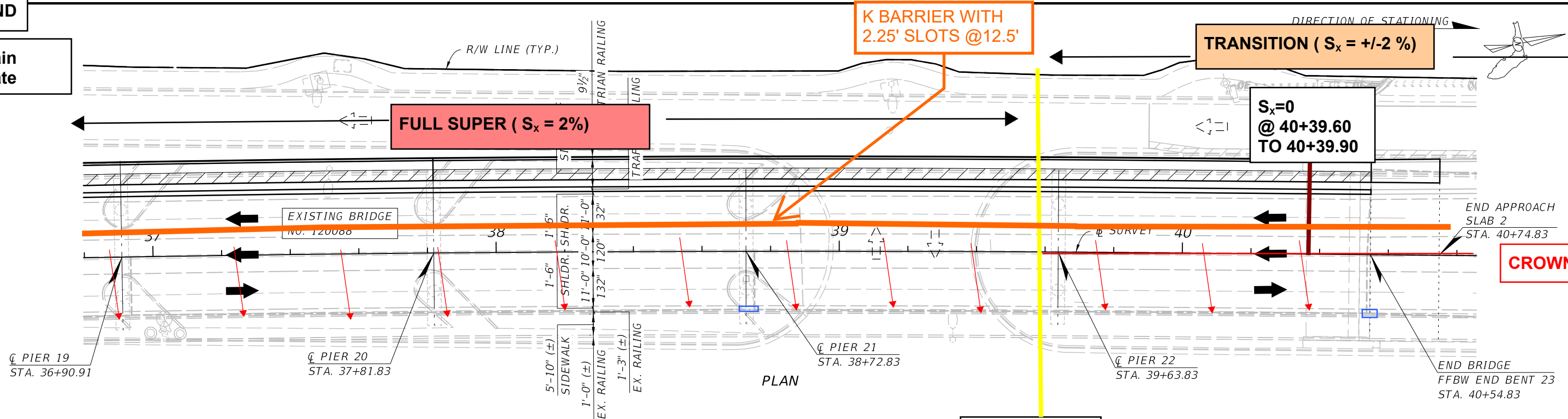
BRIDGE NO. 120088

REVISIONS						NATHANIEL ALLEN VAN ETEN, P.E. P.E. LICENSE NUMBER 73756 WANTMAN GROUP, INC. 3111 W. MARTIN LUTHER KING JR. BLVD., SUITE 375, TAMPA, FLORIDA 33607 CERTIFICATE OF AUTHORIZATION 00006091	DRAWN BY: ESK CHECKED BY: NVE DESIGNED BY: ESK CHECKED BY: NVE	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET TITLE: PLAN AND ELEVATION (5 OF 6)	REF. DWG. NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION			ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
							SR 865	LEE	433726-2-32-01	SR 865 (SAN CARLOS BLVD) FROM ESTERO BLVD TO NORTH OF HURRICANE BAY BRIDGE	B1-5	

LEGEND



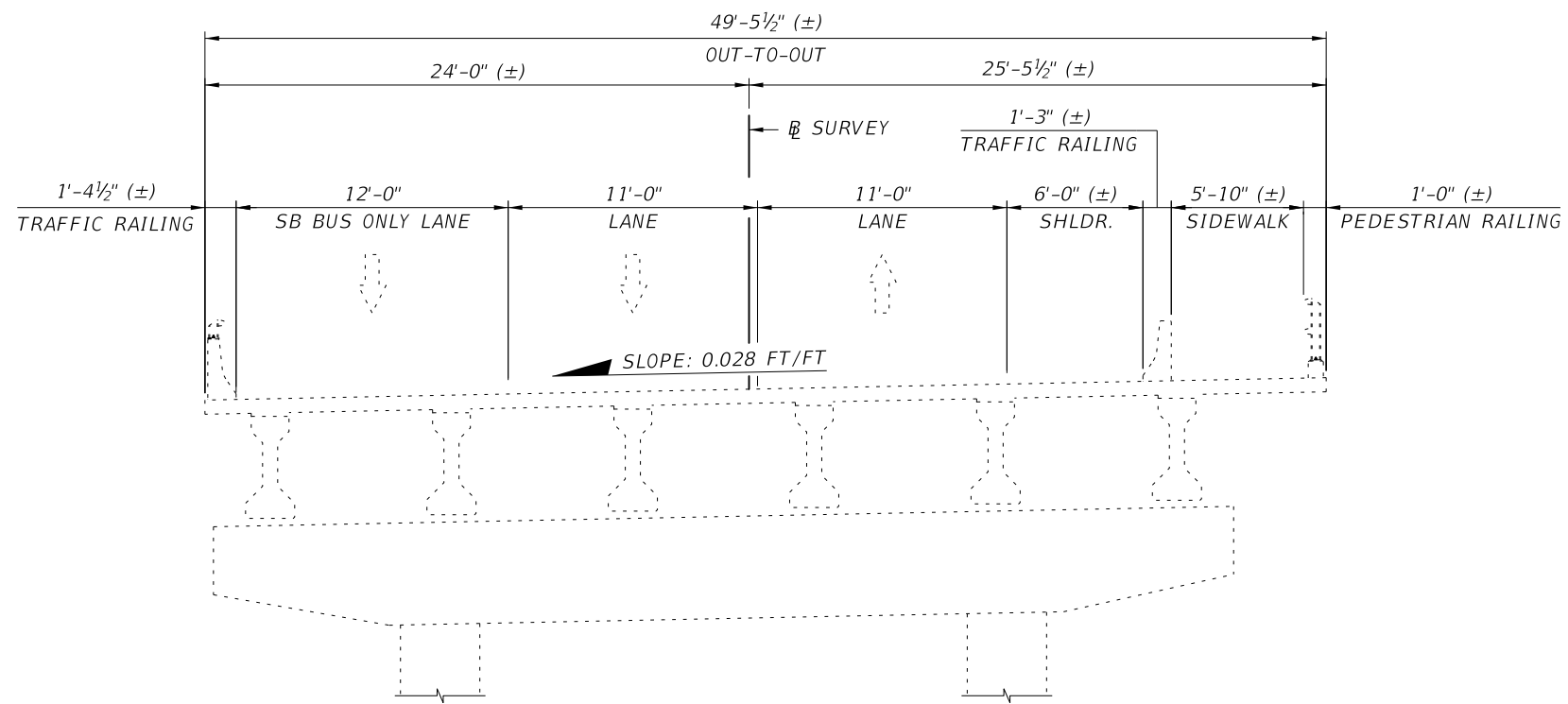
drain grate



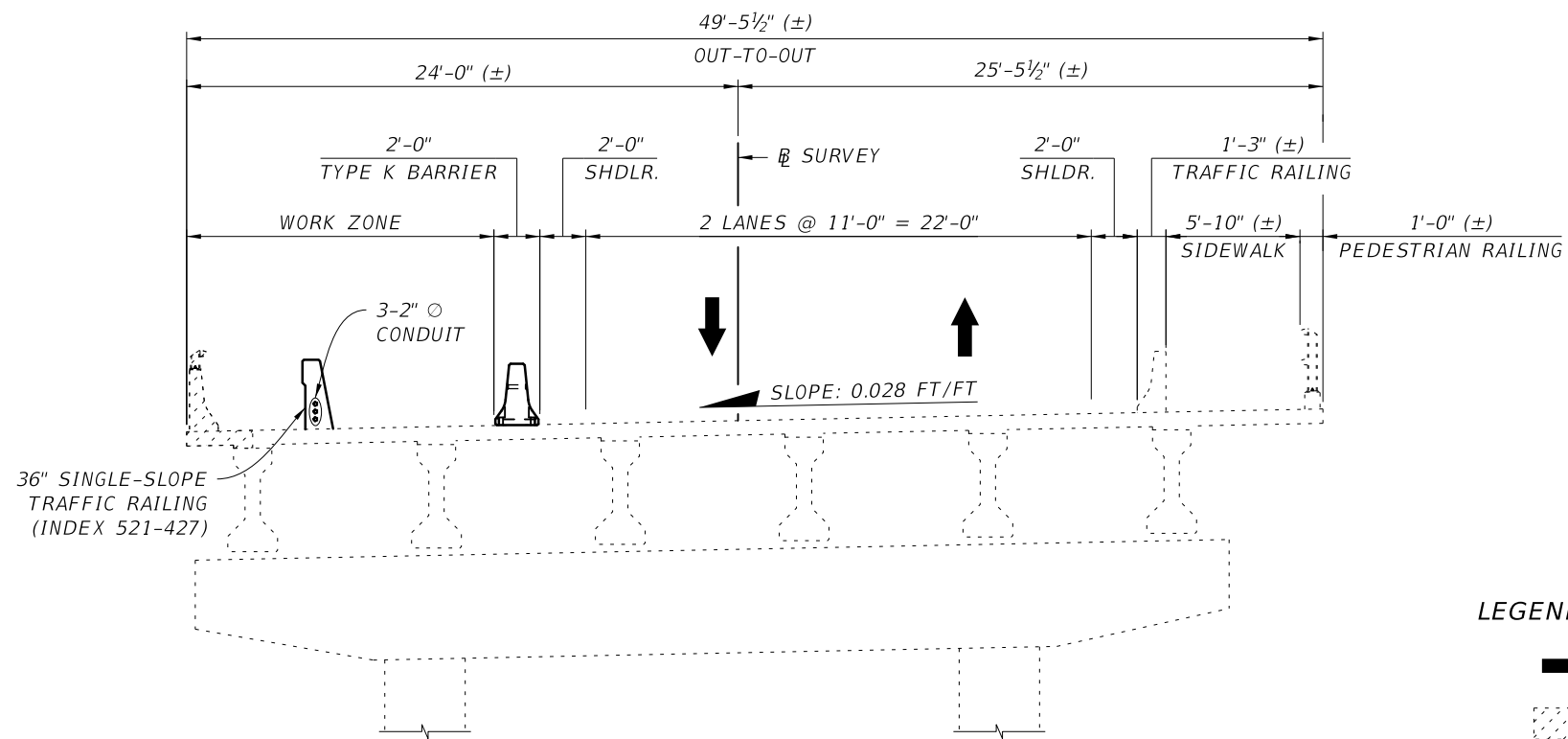
- LEGEND:**
- PROPOSED DIRECTION OF TRAFFIC
 - EXISTING DIRECTION OF TRAFFIC
 - EXISTING TO BE REMOVED

BRIDGE NO. 120088

REVISIONS						NATHANIEL ALLEN VAN ETEN, P.E. P.E. LICENSE NUMBER 73756 WANTMAN GROUP, INC. 3111 W. MARTIN LUTHER KING JR. BLVD., SUITE 375, TAMPA, FLORIDA 33607 CERTIFICATE OF AUTHORIZATION 00006091	DRAWN BY: ESK CHECKED BY: NVE DESIGNED BY: ESK CHECKED BY: NVE	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET TITLE: PLAN AND ELEVATION (6 OF 6)	REF. DWG. NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION			ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
							SR 865	LEE	433726-2-32-01	SR 865 (SAN CARLOS BLVD) FROM ESTERO BLVD TO NORTH OF HURRICANE BAY BRIDGE	B1-6	






EXISTING BRIDGE TYPICAL
(SPAN 4 SHOWN, OTHER SPANS SIMILAR)



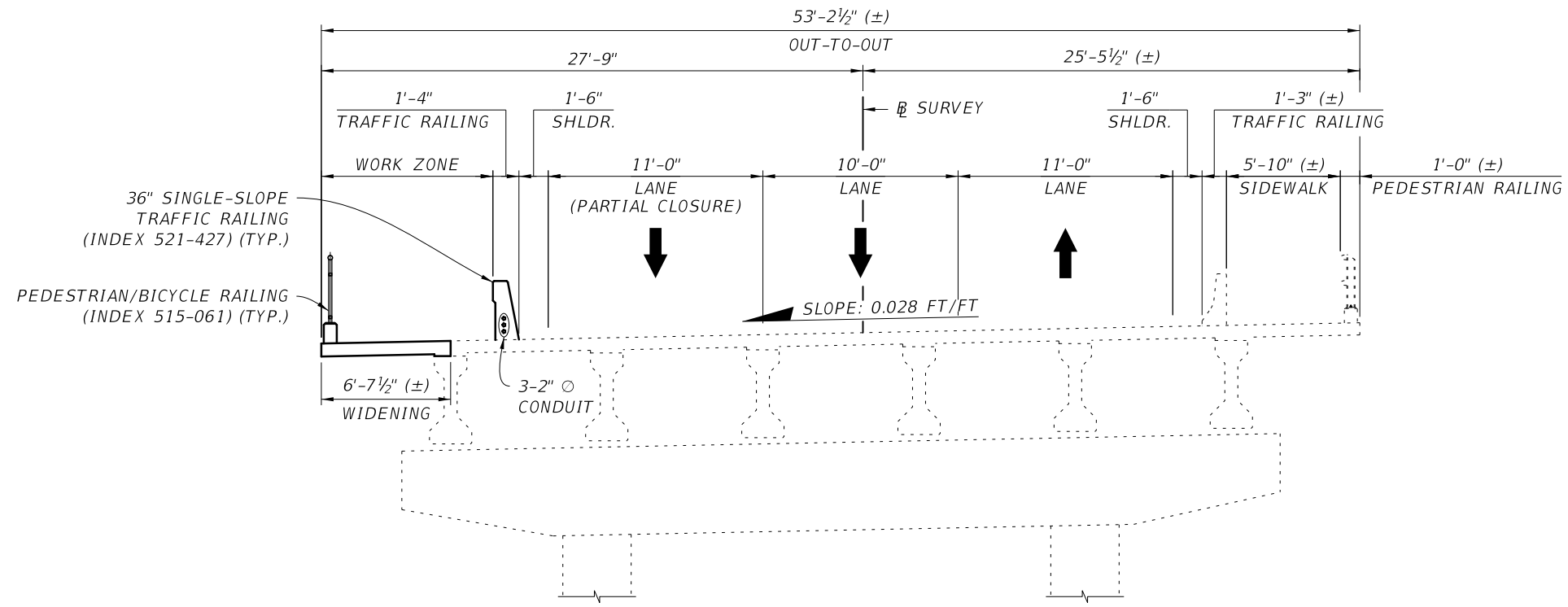
PHASE 1 CONSTRUCTION
(SPAN 4 SHOWN, OTHER SPANS SIMILAR)

LEGEND:

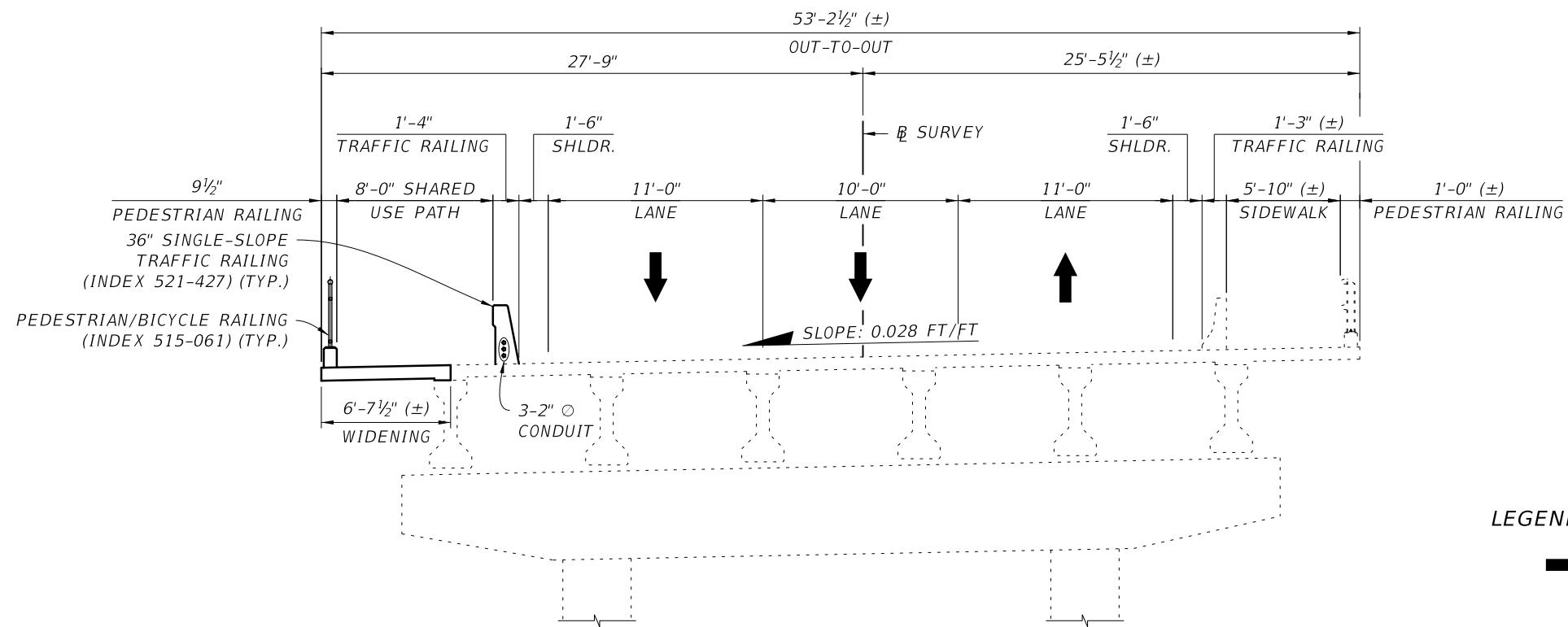
-  DIRECTION OF TRAFFIC
-  EXISTING TO BE REMOVED
-  EXISTING TRAFFIC LANE

BRIDGE NO. 120088

REVISIONS						NATHANIEL ALLEN VAN ETEN, P.E. P.E. LICENSE NUMBER 73756 WANTMAN GROUP, INC. 3111 W. MARTIN LUTHER KING JR. BLVD., SUITE 375, TAMPA, FLORIDA 33607 CERTIFICATE OF AUTHORIZATION 00006091	DRAWN BY: ESK CHECKED BY: NVE DESIGNED BY: ESK CHECKED BY: NVE	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET TITLE: CONSTRUCTION SEQUENCE (1 OF 2)	REF. DWG. NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION			ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
							SR 865	LEE	433726-2-32-01	SR 865 (SAN CARLOS BLVD) FROM ESTERO BLVD TO NORTH OF HURRICANE BAY BRIDGE	B1-7	



PHASE 2 CONSTRUCTION
(SPAN 4 SHOWN, OTHER SPANS SIMILAR)

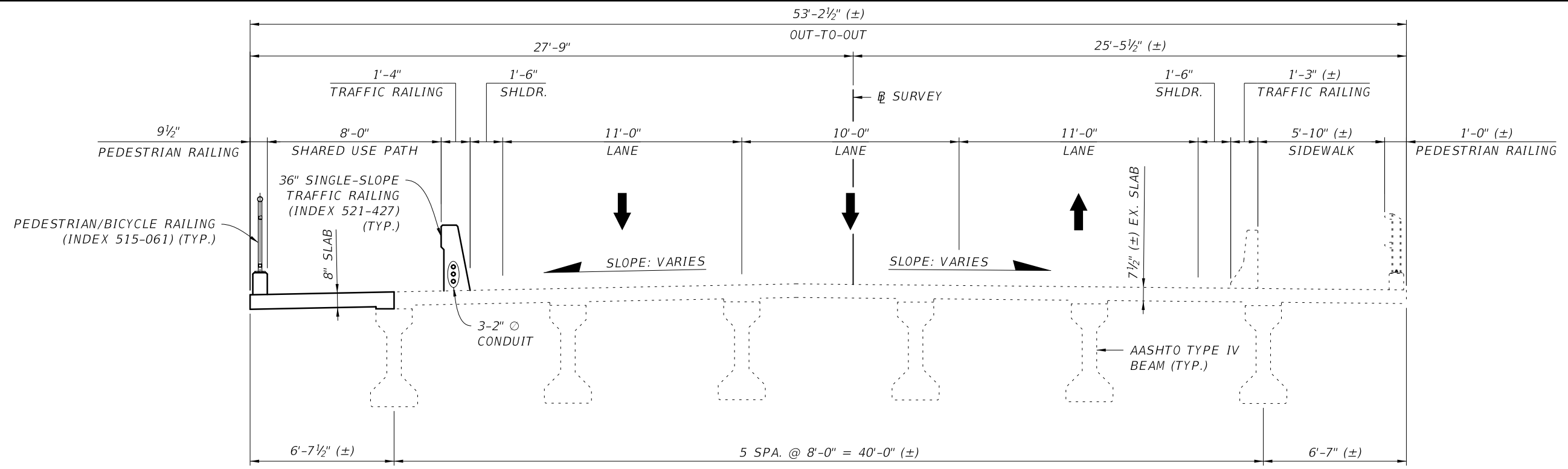


PROPOSED BRIDGE TYPICAL
(SPAN 4 SHOWN, OTHER SPANS SIMILAR)

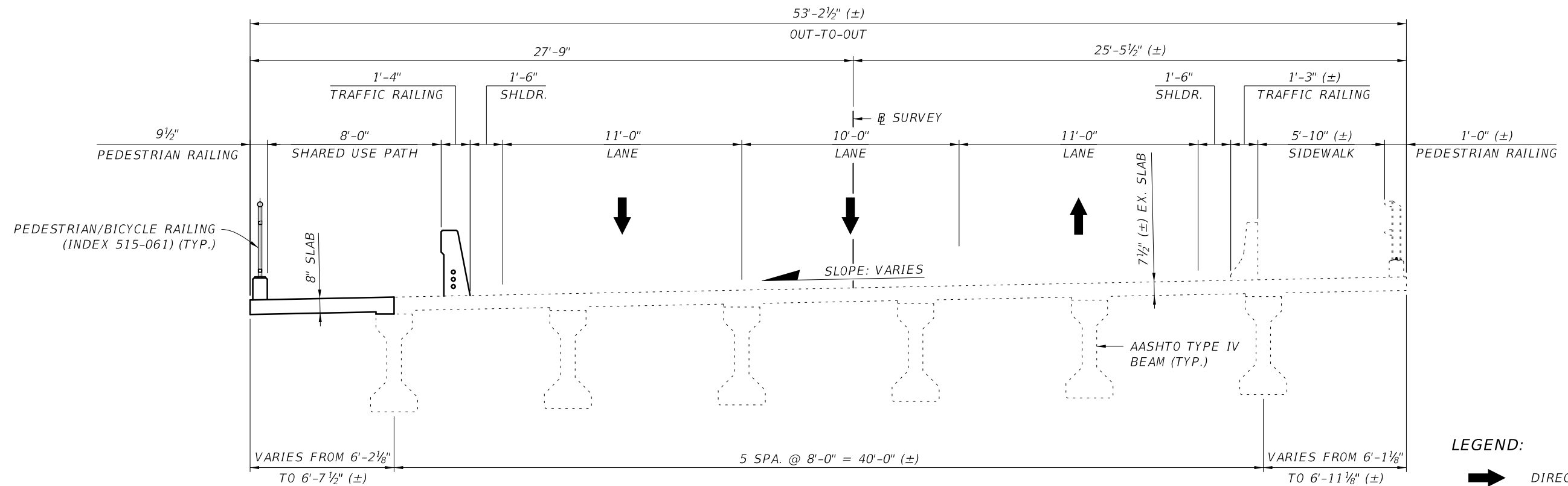
LEGEND:
 DIRECTION OF TRAFFIC

BRIDGE NO. 120088

REVISIONS						NATHANIEL ALLEN VAN ETEN, P.E. P.E. LICENSE NUMBER 73756 WANTMAN GROUP, INC. 3111 W. MARTIN LUTHER KING JR. BLVD., SUITE 375, TAMPA, FLORIDA 33607 CERTIFICATE OF AUTHORIZATION 00006091	DRAWN BY: ESK CHECKED BY: NVE DESIGNED BY: ESK CHECKED BY: NVE	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET TITLE: CONSTRUCTION SEQUENCE (2 OF 2)	REF. DWG. NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION			ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
							SR 865	LEE	433726-2-32-01	SR 865 (SAN CARLOS BLVD) FROM ESTERO BLVD TO NORTH OF HURRICANE BAY BRIDGE	B1-8	



TYPICAL BRIDGE SECTION
 STATION 19+52.00 TO 21+05.00
 STATION 29+70.83 TO 34+90.80
 STATION 40+45.90 TO 40+55.00

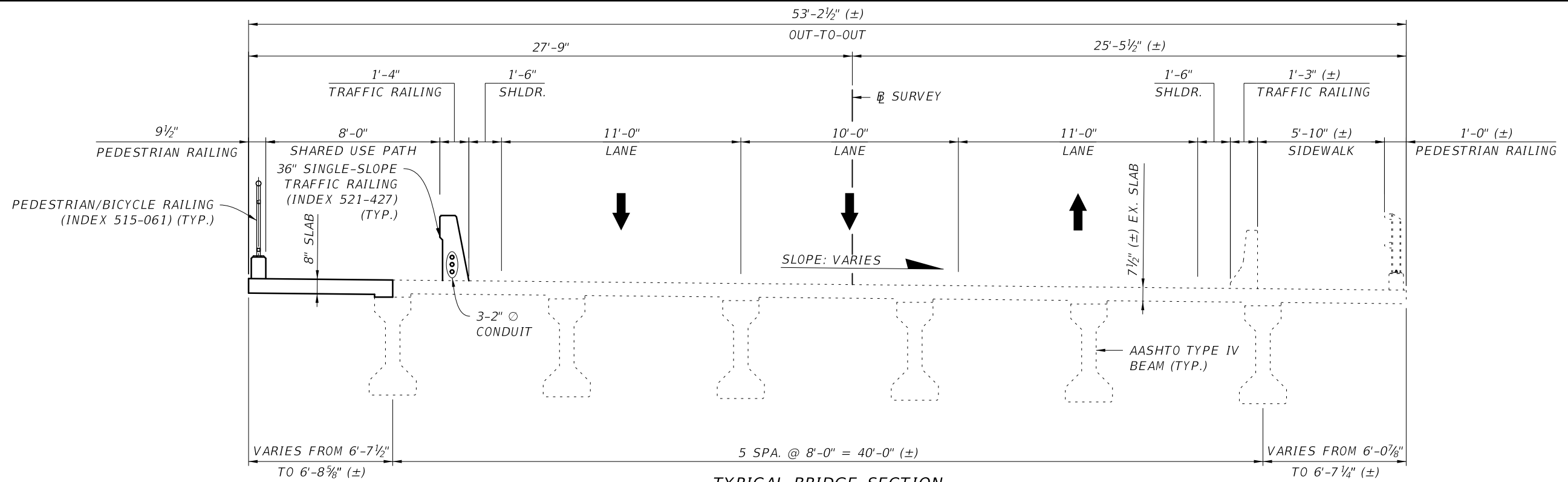


TYPICAL BRIDGE SECTION
 STATION 21+05.00 TO 29+70.83

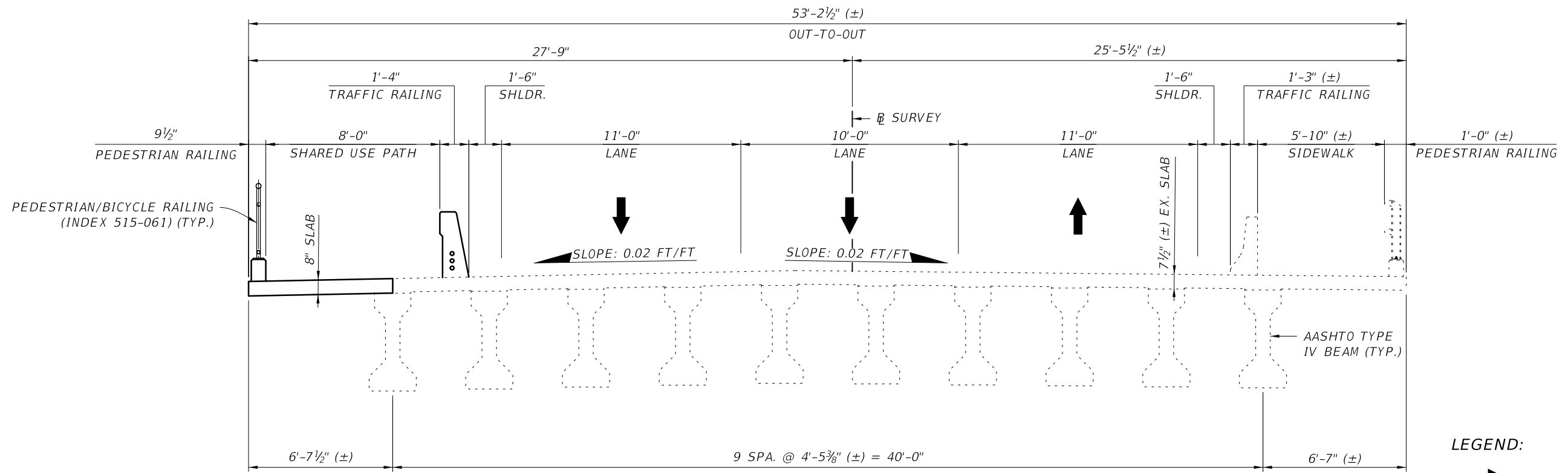
LEGEND:
 DIRECTION OF TRAFFIC

BRIDGE NO. 120088

REVISIONS						NATHANIEL ALLEN VAN ETEN, P.E. P.E. LICENSE NUMBER 73756 WANTMAN GROUP, INC. 3111 W. MARTIN LUTHER KING JR. BLVD., SUITE 375, TAMPA, FLORIDA 33607 CERTIFICATE OF AUTHORIZATION 00006091	DRAWN BY: ESK CHECKED BY: NVE DESIGNED BY: ESK CHECKED BY: NVE	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET TITLE: SECTION THROUGH BRIDGE (1 OF 2)	REF. DWG. NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION			ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
							SR 865	LEE	433726-2-32-01	SR 865 (SAN CARLOS BLVD) FROM ESTERO BLVD TO NORTH OF HURRICANE BAY BRIDGE	B1-9	



TYPICAL BRIDGE SECTION
STATION 34+90.80 TO 40+45.90



TYPICAL BRIDGE SECTION
EXISTING SPAN 11

LEGEND:
➔ DIRECTION OF TRAFFIC

BRIDGE NO. 120088

REVISIONS						NATHANIEL ALLEN VAN ETEN, P.E. P.E. LICENSE NUMBER 73756 WANTMAN GROUP, INC. 3111 W. MARTIN LUTHER KING JR. BLVD., SUITE 375, TAMPA, FLORIDA 33607 CERTIFICATE OF AUTHORIZATION 00006091	DRAWN BY: ESK CHECKED BY: NVE DESIGNED BY: ESK CHECKED BY: NVE	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SECTION THROUGH BRIDGE (2 OF 2)		REF. DWG. NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION			ROAD NO.	COUNTY	FINANCIAL PROJECT ID	PROJECT NAME:	SHEET NO.	
									SR 865	LEE	433726-2-32-01	SR 865 (SAN CARLOS BLVD) FROM ESTERO BLVD TO NORTH OF HURRICANE BAY BRIDGE	B1-10

***HALF THE SCUPPER CAPACITY WAS USED WHEN CALCULATING SPREAD TO ACCOUNT FOR 50% CLOGGING.
 *METHODOLOGY THROUGH SCUPPERS ASSUMES WEIR FLOW.**

WGI

Engineering • Planning • Surveying • Environmental

TCP PHASE 1 - NORTHBOUND (LEFT OF CREST) SPREAD CALCULATIONS

Project: San Carlos (SR 865)
 FPID: 433726-2-32-01
 County: LEE

Designer: CJC
 Checked by: MJJ
 Date: 3/26/2020

Reference: Section 6.3.2.4 Chapter 6, FDOT Drainage Design Guide, 2020

Structure Number	Station From (ft.)	Station To (ft.)	Side	Long. Slope S (%)	Cross Slope Sx (ft/ft)	Width (ft.)	Area A (Ac.)	Intensity i (in/hr)	Runoff Coeff. C	Flow Q (cfs)	By-Pass Upstream Qb (cfs)	Total Flow Qt (cfs)	Spread Width T (ft.)	By-Pass Flow Qb (cfs)	Allowable Spread (ft)	Remarks
MATANZAS BRIDGE																
4" SCUPPERS	030+00.00	029+94.00	RT	0.09%	0.0066	17.5	0.002	4.00	0.95	0.01	0.00	0.01	3.91	0.000	7.00	OK
4" SCUPPERS	029+94.00	029+88.00	RT	0.18%	0.0051	17.5	0.002	4.00	0.95	0.01	0.00	0.01	4.01	0.000	7.00	OK
4" SCUPPERS	029+88.00	029+82.00	RT	0.27%	0.0037	17.5	0.002	4.00	0.95	0.01	0.00	0.01	4.57	0.002	7.00	OK
4" SCUPPERS	029+82.00	029+76.00	RT	0.36%	0.0022	17.5	0.002	4.00	0.95	0.01	0.00	0.01	6.33	0.008	7.00	OK
4" SCUPPERS	029+76.00	029+70.00	RT	0.45%	0.0008	17.5	0.002	4.00	0.95	0.01	0.01	0.02	13.67	0.023	7.00	Need Additional Inlet *CROSS SLOPE ISSUE
4" SCUPPERS	029+70.00	029+64.00	RT	0.54%	0.0006	17.5	0.002	4.00	0.95	0.01	0.02	0.03	19.13	0.021	7.00	Need Additional Inlet *CROSS SLOPE ISSUE
DRAIN GRATE	021+04.00	019+52.25	RT	6.00%	0.020	17.5	0.061	4.00	0.95	0.23	0.00	0.23	2.98	0.203	7.00	OK

CHECK INLET CAPACITY

Structure Number	Station From (ft.)	Station To (ft.)	T Depth @ Barrier (ft)	Inlet Weir Flow (cfs)	Total Flow Qt (cfs)	Bypass Qb
MATANZAS BRIDGE						
4" SCUPPERS	030+00.00	029+94.00	0.026	0.014	0.009	0.000
4" SCUPPERS	029+94.00	029+88.00	0.021	0.010	0.009	0.000
4" SCUPPERS	029+88.00	029+82.00	0.017	0.007	0.009	0.002
4" SCUPPERS	029+82.00	029+76.00	0.014	0.006	0.011	0.005
4" SCUPPERS	029+76.00	029+70.00	0.011	0.004	0.017	0.013
4" SCUPPERS	029+70.00	029+64.00	0.012	0.005	0.032	0.027
DRAIN GRATE	021+04.00	019+52.25	0.060	0.049	0.232	0.183

***BARRIER WALL SLOTS WERE CHECKED EVERY 12.5' TO ACCOUNT FOR 50% CLOGGING.
 *METHODOLOGY THROUGH SLOTS ASSUMES WEIR FLOW.**

WGI

Engineering • Planning • Surveying • Environmental

TCP PHASE 1 - SOUTHBOUND (LEFT OF CREST) SPREAD CALCULATIONS

Project: San Carlos (SR 865)
 FPID: 433726-2-32-01
 County: LEE

Designer: CJC
 Checked by: MJJ
 Date: 4/23/2020

Reference: Section 6.3.2.4 Chapter 6, FDOT Drainage Design Guide, 2020

Structure Number	Station From (ft.)	Station To (ft.)	Side	Long. Slope S (%)	Cross Slope Sx (ft/ft)	Width (ft.)	Area A (Ac.)	Intensity i (in/hr)	Runoff Coeff. C	Flow Q (cfs)	By-Pass Upstream Qb (cfs)	Total Flow Qt (cfs)	Spread Width T (ft.)	By-Pass Flow Qb (cfs)	Allowable Spread (ft)	Remarks
MATANZAS BRIDGE																
K BARRIER 2' 3" SLOT	030+00.00	029+87.50	LT	0.19%	0.020	8.0	0.002	4.00	0.95	0.01	0.00	0.01	1.67	0.000	5.00	OK
K BARRIER 2' 3" SLOT	029+87.50	029+75.00	LT	0.38%	0.020	8.0	0.002	4.00	0.95	0.01	0.00	0.01	1.46	0.000	5.00	OK
K BARRIER 2' 3" SLOT	029+75.00	029+62.50	LT	0.56%	0.020	30.5	0.009	4.00	0.95	0.03	0.00	0.03	2.24	0.000	5.00	OK
K BARRIER 2' 3" SLOT	029+62.50	029+50.00	LT	0.75%	0.020	30.5	0.009	4.00	0.95	0.03	0.00	0.03	2.12	0.000	5.00	OK
K BARRIER 2' 3" SLOT	029+50.00	029+37.50	LT	0.94%	0.020	30.5	0.009	4.00	0.95	0.03	0.00	0.03	2.04	0.000	5.00	OK
K BARRIER 2' 3" SLOT	029+37.50	029+25.00	LT	1.13%	0.020	30.5	0.009	4.00	0.95	0.03	0.00	0.03	1.97	0.000	5.00	OK
K BARRIER 2' 3" SLOT	029+25.00	029+12.50	LT	1.31%	0.020	30.5	0.009	4.00	0.95	0.03	0.00	0.03	1.91	0.000	5.00	OK
K BARRIER 2' 3" SLOT	029+12.50	029+00.00	LT	1.50%	0.020	30.5	0.009	4.00	0.95	0.03	0.00	0.03	1.86	0.000	5.00	OK
K BARRIER 2' 3" SLOT	029+00.00	028+87.50	LT	1.69%	0.020	30.5	0.009	4.00	0.95	0.03	0.00	0.03	1.82	0.000	5.00	OK
K BARRIER 2' 3" SLOT	028+87.50	028+75.00	LT	1.88%	0.020	30.5	0.009	4.00	0.95	0.03	0.00	0.03	1.79	0.000	5.00	OK
K BARRIER 2' 3" SLOT	028+75.00	028+62.50	LT	2.06%	0.028	30.5	0.009	4.00	0.95	0.03	0.00	0.03	1.42	0.000	5.00	OK
K BARRIER 2' 3" SLOT	028+62.50	028+50.00	LT	2.25%	0.028	30.5	0.009	4.00	0.95	0.03	0.00	0.03	1.40	0.000	5.00	OK
K BARRIER 2' 3" SLOT	028+50.00	028+37.50	LT	2.44%	0.028	30.5	0.009	4.00	0.95	0.03	0.00	0.03	1.38	0.000	5.00	OK
K BARRIER 2' 3" SLOT	028+37.50	028+25.00	LT	2.63%	0.028	30.5	0.009	4.00	0.95	0.03	0.00	0.03	1.36	0.000	5.00	OK
K BARRIER 2' 3" SLOT	028+25.00	028+12.50	LT	2.81%	0.028	30.5	0.009	4.00	0.95	0.03	0.00	0.03	1.34	0.000	5.00	OK
K BARRIER 2' 3" SLOT	028+12.50	028+00.00	LT	3.00%	0.028	30.5	0.009	4.00	0.95	0.03	0.00	0.03	1.33	0.000	5.00	OK
K BARRIER 2' 3" SLOT	028+00.00	027+87.50	LT	3.19%	0.028	30.5	0.009	4.00	0.95	0.03	0.00	0.03	1.31	0.000	5.00	OK
K BARRIER 2' 3" SLOT	027+87.50	027+75.00	LT	3.38%	0.028	30.5	0.009	4.00	0.95	0.03	0.00	0.03	1.30	0.000	5.00	OK
K BARRIER 2' 3" SLOT	027+75.00	027+62.50	LT	3.56%	0.028	30.5	0.009	4.00	0.95	0.03	0.00	0.03	1.28	0.000	5.00	OK
K BARRIER 2' 3" SLOT	027+62.50	027+50.00	LT	3.75%	0.028	30.5	0.009	4.00	0.95	0.03	0.00	0.03	1.27	0.000	5.00	OK
K BARRIER 2' 3" SLOT	027+50.00	027+37.50	LT	3.94%	0.028	30.5	0.009	4.00	0.95	0.03	0.00	0.03	1.26	0.000	5.00	OK
K BARRIER 2' 3" SLOT	027+37.50	027+25.00	LT	4.13%	0.028	30.5	0.009	4.00	0.95	0.03	0.00	0.03	1.25	0.000	5.00	OK
K BARRIER 2' 3" SLOT	027+25.00	027+12.50	LT	4.31%	0.028	30.5	0.009	4.00	0.95	0.03	0.00	0.03	1.24	0.000	5.00	OK
K BARRIER 2' 3" SLOT	027+12.50	027+00.00	LT	4.50%	0.028	30.5	0.009	4.00	0.95	0.03	0.00	0.03	1.23	0.000	5.00	OK
K BARRIER 2' 3" SLOT	027+00.00	026+87.50	LT	4.69%	0.028	30.5	0.009	4.00	0.95	0.03	0.00	0.03	1.22	0.000	5.00	OK
K BARRIER 2' 3" SLOT	026+87.50	026+75.00	LT	4.88%	0.028	30.5	0.009	4.00	0.95	0.03	0.00	0.03	1.21	0.000	5.00	OK
K BARRIER 2' 3" SLOT	026+75.00	026+62.50	LT	5.06%	0.028	30.5	0.009	4.00	0.95	0.03	0.00	0.03	1.20	0.000	5.00	OK
K BARRIER 2' 3" SLOT	026+62.50	026+50.00	LT	5.25%	0.028	30.5	0.009	4.00	0.95	0.03	0.00	0.03	1.19	0.000	5.00	OK
K BARRIER 2' 3" SLOT	026+50.00	026+37.50	LT	5.44%	0.028	30.5	0.009	4.00	0.95	0.03	0.00	0.03	1.19	0.000	5.00	OK
K BARRIER 2' 3" SLOT	026+37.50	026+25.00	LT	5.63%	0.028	30.5	0.009	4.00	0.95	0.03	0.00	0.03	1.18	0.000	5.00	OK
K BARRIER 2' 3" SLOT	026+25.00	026+12.50	LT	5.81%	0.028	30.5	0.009	4.00	0.95	0.03	0.00	0.03	1.17	0.000	5.00	OK
K BARRIER 2' 3" SLOT	026+12.50	026+00.00	LT	6.00%	0.028	30.5	0.009	4.00	0.95	0.03	0.00	0.03	1.16	0.000	5.00	OK
K BARRIER 2' 3" SLOT	026+00.00	025+87.50	LT	6.00%	0.028	30.5	0.009	4.00	0.95	0.03	0.00	0.03	1.16	0.000	5.00	OK
K BARRIER 2' 3" SLOT	025+87.50	025+75.00	LT	6.00%	0.028	30.5	0.009	4.00	0.95	0.03	0.00	0.03	1.16	0.000	5.00	OK
K BARRIER 2' 3" SLOT	025+75.00	025+62.50	LT	6.00%	0.028	30.5	0.009	4.00	0.95	0.03	0.00	0.03	1.16	0.000	5.00	OK
K BARRIER 2' 3" SLOT	025+62.50	025+50.00	LT	6.00%	0.028	30.5	0.009	4.00	0.95	0.03	0.00	0.03	1.16	0.000	5.00	OK
K BARRIER 2' 3" SLOT	025+50.00	025+37.50	LT	6.00%	0.028	30.5	0.009	4.00	0.95	0.03	0.00	0.03	1.16	0.000	5.00	OK
K BARRIER 2' 3" SLOT	025+37.50	025+25.00	LT	6.00%	0.028	30.5	0.009	4.00	0.95	0.03	0.00	0.03	1.16	0.000	5.00	OK
K BARRIER 2' 3" SLOT	025+25.00	025+12.50	LT	6.00%	0.028	30.5	0.009	4.00	0.95	0.03	0.00	0.03	1.16	0.000	5.00	OK
K BARRIER 2' 3" SLOT	025+12.50	025+00.00	LT	6.00%	0.028	30.5	0.009	4.00	0.95	0.03	0.00	0.03	1.16	0.000	5.00	OK
K BARRIER 2' 3" SLOT	025+00.00	024+87.50	LT	6.00%	0.028	30.5	0.009	4.00	0.95	0.03	0.00	0.03	1.16	0.000	5.00	OK
K BARRIER 2' 3" SLOT	024+87.50	024+75.00	LT	6.00%	0.028	30.5	0.009	4.00	0.95	0.03	0.00	0.03	1.16	0.000	5.00	OK
K BARRIER 2' 3" SLOT	024+75.00	024+62.50	LT	6.00%	0.028	30.5	0.009	4.00	0.95	0.03	0.00	0.03	1.16	0.000	5.00	OK
K BARRIER 2' 3" SLOT	024+62.50	024+50.00	LT	6.00%	0.028	30.5	0.009	4.00	0.95	0.03	0.00	0.03	1.16	0.000	5.00	OK
K BARRIER 2' 3" SLOT	024+50.00	024+37.50	LT	6.00%	0.028	30.5	0.009	4.00	0.95	0.03	0.00	0.03	1.16	0.000	5.00	OK

***BARRIER WALL SLOTS WERE CHECKED EVERY 12.5' TO ACCOUNT FOR 50% CLOGGING.
 *METHODOLOGY THROUGH SLOTS ASSUMES WEIR FLOW.**

WGI

Engineering • Planning • Surveying • Environmental

TCP PHASE 1 - SOUTHBOUND (LEFT OF CREST) SPREAD CALCULATIONS

Project: San Carlos (SR 865)
 FPID: 433726-2-32-01
 County: LEE

Designer: CJC
 Checked by: MJJ
 Date: 4/23/2020

K BARRIER 2' 3" SLOT	024+37.50	024+25.00	LT	6.00%	0.028	30.5	0.009	4.00	0.95	0.03	0.00	0.03	1.16	0.000	5.00	OK
K BARRIER 2' 3" SLOT	024+25.00	024+12.50	LT	6.00%	0.028	30.5	0.009	4.00	0.95	0.03	0.00	0.03	1.16	0.000	5.00	OK
K BARRIER 2' 3" SLOT	024+12.50	024+00.00	LT	6.00%	0.028	30.5	0.009	4.00	0.95	0.03	0.00	0.03	1.16	0.000	5.00	OK
K BARRIER 2' 3" SLOT	024+00.00	023+87.50	LT	6.00%	0.028	30.5	0.009	4.00	0.95	0.03	0.00	0.03	1.16	0.000	5.00	OK
K BARRIER 2' 3" SLOT	023+87.50	023+75.00	LT	6.00%	0.028	30.5	0.009	4.00	0.95	0.03	0.00	0.03	1.16	0.000	5.00	OK
K BARRIER 2' 3" SLOT	023+75.00	023+62.50	LT	6.00%	0.028	30.5	0.009	4.00	0.95	0.03	0.00	0.03	1.16	0.000	5.00	OK
K BARRIER 2' 3" SLOT	023+62.50	023+50.00	LT	6.00%	0.028	30.5	0.009	4.00	0.95	0.03	0.00	0.03	1.16	0.000	5.00	OK
K BARRIER 2' 3" SLOT	023+50.00	023+37.50	LT	6.00%	0.028	30.5	0.009	4.00	0.95	0.03	0.00	0.03	1.16	0.000	5.00	OK
K BARRIER 2' 3" SLOT	023+37.50	023+25.00	LT	6.00%	0.028	30.5	0.009	4.00	0.95	0.03	0.00	0.03	1.16	0.000	5.00	OK
K BARRIER 2' 3" SLOT	023+25.00	023+12.50	LT	6.00%	0.028	30.5	0.009	4.00	0.95	0.03	0.00	0.03	1.16	0.000	5.00	OK
K BARRIER 2' 3" SLOT	023+12.50	023+00.00	LT	6.00%	0.028	30.5	0.009	4.00	0.95	0.03	0.00	0.03	1.16	0.000	5.00	OK
K BARRIER 2' 3" SLOT	023+00.00	022+87.50	LT	6.00%	0.028	30.5	0.009	4.00	0.95	0.03	0.00	0.03	1.16	0.000	5.00	OK
K BARRIER 2' 3" SLOT	022+87.50	022+75.00	LT	6.00%	0.028	30.5	0.009	4.00	0.95	0.03	0.00	0.03	1.16	0.000	5.00	OK
K BARRIER 2' 3" SLOT	022+75.00	022+62.50	LT	6.00%	0.028	30.5	0.009	4.00	0.95	0.03	0.00	0.03	1.16	0.000	5.00	OK
K BARRIER 2' 3" SLOT	022+62.50	022+50.00	LT	6.00%	0.028	30.5	0.009	4.00	0.95	0.03	0.00	0.03	1.16	0.000	5.00	OK
K BARRIER 2' 3" SLOT	022+50.00	022+37.50	LT	6.00%	0.028	30.5	0.009	4.00	0.95	0.03	0.00	0.03	1.16	0.000	5.00	OK
K BARRIER 2' 3" SLOT	022+37.50	022+25.00	LT	6.00%	0.028	30.5	0.009	4.00	0.95	0.03	0.00	0.03	1.16	0.000	5.00	OK
K BARRIER 2' 3" SLOT	022+25.00	022+12.50	LT	6.00%	0.020	30.5	0.009	4.00	0.95	0.03	0.00	0.03	1.44	0.000	5.00	OK
K BARRIER 2' 3" SLOT	022+12.50	022+00.00	LT	6.00%	0.020	30.5	0.009	4.00	0.95	0.03	0.00	0.03	1.44	0.000	5.00	OK
K BARRIER 2' 3" SLOT	022+00.00	021+87.50	LT	6.00%	0.020	30.5	0.009	4.00	0.95	0.03	0.00	0.03	1.44	0.000	5.00	OK
K BARRIER 2' 3" SLOT	021+87.50	021+75.00	LT	6.00%	0.020	30.5	0.009	4.00	0.95	0.03	0.00	0.03	1.44	0.000	5.00	OK
K BARRIER 2' 3" SLOT	021+75.00	021+62.50	LT	6.00%	0.020	30.5	0.009	4.00	0.95	0.03	0.00	0.03	1.44	0.000	5.00	OK
K BARRIER 2' 3" SLOT	021+62.50	021+50.00	LT	6.00%	0.020	30.5	0.009	4.00	0.95	0.03	0.00	0.03	1.44	0.000	5.00	OK
K BARRIER 2' 3" SLOT	021+50.00	021+37.50	LT	6.00%	0.020	30.5	0.009	4.00	0.95	0.03	0.00	0.03	1.44	0.000	5.00	OK
K BARRIER 2' 3" SLOT	021+37.50	021+25.00	LT	6.00%	0.020	30.5	0.009	4.00	0.95	0.03	0.00	0.03	1.44	0.000	5.00	OK
K BARRIER 2' 3" SLOT	021+25.00	021+12.50	LT	6.00%	0.020	30.5	0.009	4.00	0.95	0.03	0.00	0.03	1.44	0.000	5.00	OK
K BARRIER 2' 3" SLOT	021+12.50	021+00.00	LT	6.00%	0.020	8.0	0.002	4.00	0.95	0.01	0.00	0.01	0.87	0.000	5.00	OK
K BARRIER 2' 3" SLOT	021+00.00	020+87.50	LT	6.00%	0.020	8.0	0.002	4.00	0.95	0.01	0.00	0.01	0.87	0.000	5.00	OK
K BARRIER 2' 3" SLOT	020+87.50	020+75.00	LT	6.00%	0.020	8.0	0.002	4.00	0.95	0.01	0.00	0.01	0.87	0.000	5.00	OK
K BARRIER 2' 3" SLOT	020+75.00	020+62.50	LT	6.00%	0.020	8.0	0.002	4.00	0.95	0.01	0.00	0.01	0.87	0.000	5.00	OK
K BARRIER 2' 3" SLOT	020+62.50	020+50.00	LT	6.00%	0.020	8.0	0.002	4.00	0.95	0.01	0.00	0.01	0.87	0.000	5.00	OK
K BARRIER 2' 3" SLOT	020+50.00	020+37.50	LT	6.00%	0.020	8.0	0.002	4.00	0.95	0.01	0.00	0.01	0.87	0.000	5.00	OK
K BARRIER 2' 3" SLOT	020+37.50	020+25.00	LT	6.00%	0.020	8.0	0.002	4.00	0.95	0.01	0.00	0.01	0.87	0.000	5.00	OK
K BARRIER 2' 3" SLOT	020+25.00	020+12.50	LT	6.00%	0.020	8.0	0.002	4.00	0.95	0.01	0.00	0.01	0.87	0.000	5.00	OK
K BARRIER 2' 3" SLOT	020+12.50	020+00.00	LT	6.00%	0.020	8.0	0.002	4.00	0.95	0.01	0.00	0.01	0.87	0.000	5.00	OK
K BARRIER 2' 3" SLOT	020+00.00	019+87.50	LT	6.00%	0.020	8.0	0.002	4.00	0.95	0.01	0.00	0.01	0.87	0.000	5.00	OK
K BARRIER 2' 3" SLOT	019+87.50	019+75.00	LT	6.00%	0.020	8.0	0.002	4.00	0.95	0.01	0.00	0.01	0.87	0.000	5.00	OK
K BARRIER 2' 3" SLOT	019+75.00	019+62.50	LT	6.00%	0.020	8.0	0.002	4.00	0.95	0.01	0.00	0.01	0.87	0.000	5.00	OK
K BARRIER 2' 3" SLOT	019+62.50	019+50.00	LT	6.00%	0.020	8.0	0.002	4.00	0.95	0.01	0.00	0.01	0.87	0.000	5.00	OK

***BARRIER WALL SLOTS WERE CHECKED EVERY 12.5' TO ACCOUNT FOR 50% CLOGGING.
 *METHODOLOGY THROUGH SLOTS ASSUMES WEIR FLOW.**

WGI

Engineering • Planning • Surveying • Environmental

TCP PHASE 1 - SOUTHBOUND (LEFT OF CREST) SPREAD CALCULATIONS

Project: San Carlos (SR 865)
 FPID: 433726-2-32-01
 County: LEE

Designer: CJC
 Checked by: MJJ
 Date: 4/23/2020

CHECK INLET CAPACITY

Structure Number	Station From (ft.)	Station To (ft.)	T Depth @ Barrier (ft)	Inlet Weir Flow (cfs)	Total Flow Qt (cfs)	Bypass Qb
MATANZAS BRIDGE						
K BARRIER 2' 3" SLOT	030+00.00	029+87.50	0.033	0.041	0.009	0.000
K BARRIER 2' 3" SLOT	029+87.50	029+75.00	0.029	0.034	0.009	0.000
K BARRIER 2' 3" SLOT	029+75.00	029+62.50	0.045	0.064	0.033	0.000
K BARRIER 2' 3" SLOT	029+62.50	029+50.00	0.042	0.059	0.033	0.000
K BARRIER 2' 3" SLOT	029+50.00	029+37.50	0.041	0.055	0.033	0.000
K BARRIER 2' 3" SLOT	029+37.50	029+25.00	0.039	0.053	0.033	0.000
K BARRIER 2' 3" SLOT	029+25.00	029+12.50	0.038	0.050	0.033	0.000
K BARRIER 2' 3" SLOT	029+12.50	029+00.00	0.037	0.049	0.033	0.000
K BARRIER 2' 3" SLOT	029+00.00	028+87.50	0.036	0.047	0.033	0.000
K BARRIER 2' 3" SLOT	028+87.50	028+75.00	0.036	0.046	0.033	0.000
K BARRIER 2' 3" SLOT	028+75.00	028+62.50	0.040	0.054	0.033	0.000
K BARRIER 2' 3" SLOT	028+62.50	028+50.00	0.039	0.052	0.033	0.000
K BARRIER 2' 3" SLOT	028+50.00	028+37.50	0.039	0.051	0.033	0.000
K BARRIER 2' 3" SLOT	028+37.50	028+25.00	0.038	0.050	0.033	0.000
K BARRIER 2' 3" SLOT	028+25.00	028+12.50	0.038	0.049	0.033	0.000
K BARRIER 2' 3" SLOT	028+12.50	028+00.00	0.037	0.048	0.033	0.000
K BARRIER 2' 3" SLOT	028+00.00	027+87.50	0.037	0.048	0.033	0.000
K BARRIER 2' 3" SLOT	027+87.50	027+75.00	0.036	0.047	0.033	0.000
K BARRIER 2' 3" SLOT	027+75.00	027+62.50	0.036	0.046	0.033	0.000
K BARRIER 2' 3" SLOT	027+62.50	027+50.00	0.036	0.045	0.033	0.000
K BARRIER 2' 3" SLOT	027+50.00	027+37.50	0.035	0.045	0.033	0.000
K BARRIER 2' 3" SLOT	027+37.50	027+25.00	0.035	0.044	0.033	0.000
K BARRIER 2' 3" SLOT	027+25.00	027+12.50	0.035	0.044	0.033	0.000
K BARRIER 2' 3" SLOT	027+12.50	027+00.00	0.034	0.043	0.033	0.000
K BARRIER 2' 3" SLOT	027+00.00	026+87.50	0.034	0.043	0.033	0.000
K BARRIER 2' 3" SLOT	026+87.50	026+75.00	0.034	0.042	0.033	0.000
K BARRIER 2' 3" SLOT	026+75.00	026+62.50	0.034	0.042	0.033	0.000
K BARRIER 2' 3" SLOT	026+62.50	026+50.00	0.033	0.041	0.033	0.000
K BARRIER 2' 3" SLOT	026+50.00	026+37.50	0.033	0.041	0.033	0.000
K BARRIER 2' 3" SLOT	026+37.50	026+25.00	0.033	0.040	0.033	0.000
K BARRIER 2' 3" SLOT	026+25.00	026+12.50	0.033	0.040	0.033	0.000
K BARRIER 2' 3" SLOT	026+12.50	026+00.00	0.033	0.040	0.033	0.000
K BARRIER 2' 3" SLOT	026+00.00	025+87.50	0.033	0.040	0.033	0.000
K BARRIER 2' 3" SLOT	025+87.50	025+75.00	0.033	0.040	0.033	0.000
K BARRIER 2' 3" SLOT	025+75.00	025+62.50	0.033	0.040	0.033	0.000
K BARRIER 2' 3" SLOT	025+62.50	025+50.00	0.033	0.040	0.033	0.000
K BARRIER 2' 3" SLOT	025+50.00	025+37.50	0.033	0.040	0.033	0.000
K BARRIER 2' 3" SLOT	025+37.50	025+25.00	0.033	0.040	0.033	0.000
K BARRIER 2' 3" SLOT	025+25.00	025+12.50	0.033	0.040	0.033	0.000
K BARRIER 2' 3" SLOT	025+12.50	025+00.00	0.033	0.040	0.033	0.000
K BARRIER 2' 3" SLOT	025+00.00	024+87.50	0.033	0.040	0.033	0.000
K BARRIER 2' 3" SLOT	024+87.50	024+75.00	0.033	0.040	0.033	0.000
K BARRIER 2' 3" SLOT	024+75.00	024+62.50	0.033	0.040	0.033	0.000
K BARRIER 2' 3" SLOT	024+62.50	024+50.00	0.033	0.040	0.033	0.000
K BARRIER 2' 3" SLOT	024+50.00	024+37.50	0.033	0.040	0.033	0.000
K BARRIER 2' 3" SLOT	024+37.50	024+25.00	0.033	0.040	0.033	0.000
K BARRIER 2' 3" SLOT	024+25.00	024+12.50	0.033	0.040	0.033	0.000

***BARRIER WALL SLOTS WERE CHECKED EVERY 12.5' TO ACCOUNT FOR 50% CLOGGING.
 *METHODOLOGY THROUGH SLOTS ASSUMES WEIR FLOW.**

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TCP PHASE 1 - SOUTHBOUND (LEFT OF CREST) SPREAD CALCULATIONS

Project: San Carlos (SR 865)
 FPID: 433726-2-32-01
 County: LEE

Designer: CJC
 Checked by: MJJ
 Date: 4/23/2020

K BARRIER 2' 3" SLOT	024+12.50	024+00.00	0.033	0.040	0.033	0.000
K BARRIER 2' 3" SLOT	024+00.00	023+87.50	0.033	0.040	0.033	0.000
K BARRIER 2' 3" SLOT	023+87.50	023+75.00	0.033	0.040	0.033	0.000
K BARRIER 2' 3" SLOT	023+75.00	023+62.50	0.033	0.040	0.033	0.000
K BARRIER 2' 3" SLOT	023+62.50	023+50.00	0.033	0.040	0.033	0.000
K BARRIER 2' 3" SLOT	023+50.00	023+37.50	0.033	0.040	0.033	0.000
K BARRIER 2' 3" SLOT	023+37.50	023+25.00	0.033	0.040	0.033	0.000
K BARRIER 2' 3" SLOT	023+25.00	023+12.50	0.033	0.040	0.033	0.000
K BARRIER 2' 3" SLOT	023+12.50	023+00.00	0.033	0.040	0.033	0.000
K BARRIER 2' 3" SLOT	023+00.00	022+87.50	0.033	0.040	0.033	0.000
K BARRIER 2' 3" SLOT	022+87.50	022+75.00	0.033	0.040	0.033	0.000
K BARRIER 2' 3" SLOT	022+75.00	022+62.50	0.033	0.040	0.033	0.000
K BARRIER 2' 3" SLOT	022+62.50	022+50.00	0.033	0.040	0.033	0.000
K BARRIER 2' 3" SLOT	022+50.00	022+37.50	0.033	0.040	0.033	0.000
K BARRIER 2' 3" SLOT	022+37.50	022+25.00	0.033	0.040	0.033	0.000
K BARRIER 2' 3" SLOT	022+25.00	022+12.50	0.029	0.033	0.033	0.000
K BARRIER 2' 3" SLOT	022+12.50	022+00.00	0.029	0.033	0.033	0.000
K BARRIER 2' 3" SLOT	022+00.00	021+87.50	0.029	0.033	0.033	0.000
K BARRIER 2' 3" SLOT	021+87.50	021+75.00	0.029	0.033	0.033	0.000
K BARRIER 2' 3" SLOT	021+75.00	021+62.50	0.029	0.033	0.033	0.000
K BARRIER 2' 3" SLOT	021+62.50	021+50.00	0.029	0.033	0.033	0.000
K BARRIER 2' 3" SLOT	021+50.00	021+37.50	0.029	0.033	0.033	0.000
K BARRIER 2' 3" SLOT	021+37.50	021+25.00	0.029	0.033	0.033	0.000
K BARRIER 2' 3" SLOT	021+25.00	021+12.50	0.029	0.033	0.033	0.000
K BARRIER 2' 3" SLOT	021+12.50	021+00.00	0.017	0.016	0.009	0.000
K BARRIER 2' 3" SLOT	021+00.00	020+87.50	0.017	0.016	0.009	0.000
K BARRIER 2' 3" SLOT	020+87.50	020+75.00	0.017	0.016	0.009	0.000
K BARRIER 2' 3" SLOT	020+75.00	020+62.50	0.017	0.016	0.009	0.000
K BARRIER 2' 3" SLOT	020+62.50	020+50.00	0.017	0.016	0.009	0.000
K BARRIER 2' 3" SLOT	020+50.00	020+37.50	0.017	0.016	0.009	0.000
K BARRIER 2' 3" SLOT	020+37.50	020+25.00	0.017	0.016	0.009	0.000
K BARRIER 2' 3" SLOT	020+25.00	020+12.50	0.017	0.016	0.009	0.000
K BARRIER 2' 3" SLOT	020+12.50	020+00.00	0.017	0.016	0.009	0.000
K BARRIER 2' 3" SLOT	020+00.00	019+87.50	0.017	0.016	0.009	0.000
K BARRIER 2' 3" SLOT	019+87.50	019+75.00	0.017	0.016	0.009	0.000
K BARRIER 2' 3" SLOT	019+75.00	019+62.50	0.017	0.016	0.009	0.000
K BARRIER 2' 3" SLOT	019+62.50	019+50.00	0.017	0.016	0.009	0.000

***SCUPPERS WERE CHECKED EVERY 14' TO ACCOUNT FOR 50% CLOGGING.
 *HALF OF DRAIN GRATE LENGTH WAS USED TO ACCOUNT FOR 50% CLOGGING.
 *METHODOLOGY THROUGH SCUPPERS AND GRATES ASSUMES WEIR FLOW.**

WGI

Engineering • Planning • Surveying • Environmental

TCP PHASE 1 - NORTHBOUND (RIGHT OF CREST) SPREAD CALCULATIONS

Project: San Carlos (SR 865)
 FPID: 433726-2-32-01
 County: LEE

Designer: CJC
 Checked by: MJJ
 Date: 4/23/2020

Reference: Section 6.3.2.4 Chapter 6, FDOT Drainage Design Guide, 2020

Structure Number	Station From (ft.)	Station To (ft.)	Side	Long. Slope S (%)	Cross Slope Sx (ft/ft)	Width (ft.)	Area A (Ac.)	Intensity I (in/hr)	Runoff Coeff. C	Flow Q (cfs)	By-Pass Upstream Qb (cfs)	Total Flow Qt (cfs)	Spread Width T (ft.)	By-Pass Flow Qb (cfs)	Allowable Spread (ft)	Remarks
MATANZAS BRIDGE																
4" SCUPPER	030+00.00	030+14.00	RT	0.21%	0.020	17.5	0.006	4.00	0.95	0.02	0.00	0.02	2.28	0.000	7.00	OK
4" SCUPPER	030+14.00	030+28.00	RT	0.42%	0.020	17.5	0.006	4.00	0.95	0.02	0.00	0.02	2.01	0.000	7.00	OK
4" SCUPPER	030+28.00	030+42.00	RT	0.63%	0.020	17.5	0.006	4.00	0.95	0.02	0.00	0.02	1.86	0.000	7.00	OK
4" SCUPPER	030+42.00	030+56.00	RT	0.84%	0.020	17.5	0.006	4.00	0.95	0.02	0.00	0.02	1.76	0.000	7.00	OK
4" SCUPPER	030+56.00	030+70.00	RT	1.05%	0.020	17.5	0.006	4.00	0.95	0.02	0.00	0.02	1.69	0.001	7.00	OK
4" SCUPPER	030+70.00	030+84.00	RT	1.26%	0.020	17.5	0.006	4.00	0.95	0.02	0.00	0.02	1.65	0.002	7.00	OK
4" SCUPPER	030+84.00	030+98.00	RT	1.47%	0.020	17.5	0.006	4.00	0.95	0.02	0.00	0.02	1.64	0.003	7.00	OK
4" SCUPPER	030+98.00	031+12.00	RT	1.68%	0.020	17.5	0.006	4.00	0.95	0.02	0.00	0.02	1.64	0.005	7.00	OK
4" SCUPPER	031+12.00	031+26.00	RT	1.89%	0.020	17.5	0.006	4.00	0.95	0.02	0.01	0.03	1.64	0.007	7.00	OK
4" SCUPPER	031+26.00	031+40.00	RT	2.10%	0.020	17.5	0.006	4.00	0.95	0.02	0.01	0.03	1.64	0.008	7.00	OK
4" SCUPPER	031+40.00	031+54.00	RT	2.31%	0.020	17.5	0.006	4.00	0.95	0.02	0.01	0.03	1.64	0.010	7.00	OK
4" SCUPPER	031+54.00	031+68.00	RT	2.52%	0.020	17.5	0.006	4.00	0.95	0.02	0.01	0.03	1.65	0.011	7.00	OK
4" SCUPPER	031+68.00	031+82.00	RT	2.73%	0.020	17.5	0.006	4.00	0.95	0.02	0.01	0.03	1.65	0.012	7.00	OK
4" SCUPPER	031+82.00	031+96.00	RT	2.94%	0.020	17.5	0.006	4.00	0.95	0.02	0.01	0.03	1.65	0.014	7.00	OK
4" SCUPPER	031+96.00	032+10.00	RT	3.15%	0.020	17.5	0.006	4.00	0.95	0.02	0.01	0.03	1.65	0.015	7.00	OK
4" SCUPPER	032+10.00	032+24.00	RT	3.36%	0.020	17.5	0.006	4.00	0.95	0.02	0.01	0.04	1.65	0.016	7.00	OK
4" SCUPPER	032+24.00	032+38.00	RT	3.57%	0.020	17.5	0.006	4.00	0.95	0.02	0.02	0.04	1.66	0.017	7.00	OK
4" SCUPPER	032+38.00	032+52.00	RT	3.78%	0.020	17.5	0.006	4.00	0.95	0.02	0.02	0.04	1.66	0.018	7.00	OK
4" SCUPPER	032+52.00	032+66.00	RT	3.99%	0.020	17.5	0.006	4.00	0.95	0.02	0.02	0.04	1.66	0.020	7.00	OK
4" SCUPPER	032+66.00	032+80.00	RT	4.20%	0.020	17.5	0.006	4.00	0.95	0.02	0.02	0.04	1.66	0.021	7.00	OK
4" SCUPPER	032+80.00	032+94.00	RT	4.41%	0.020	17.5	0.006	4.00	0.95	0.02	0.02	0.04	1.66	0.022	7.00	OK
4" SCUPPER	032+94.00	033+08.00	RT	4.62%	0.020	17.5	0.006	4.00	0.95	0.02	0.02	0.04	1.66	0.023	7.00	OK
4" SCUPPER	033+08.00	033+22.00	RT	4.83%	0.020	17.5	0.006	4.00	0.95	0.02	0.02	0.04	1.66	0.024	7.00	OK
4" SCUPPER	033+22.00	033+36.00	RT	5.04%	0.020	17.5	0.006	4.00	0.95	0.02	0.02	0.05	1.67	0.008	7.00	OK
4" SCUPPER	033+36.00	033+50.00	RT	5.25%	0.020	17.5	0.006	4.00	0.95	0.02	0.01	0.03	1.40	0.014	7.00	OK
4" SCUPPER	033+50.00	033+64.00	RT	5.46%	0.020	17.5	0.006	4.00	0.95	0.02	0.01	0.04	1.49	0.014	7.00	OK
4" SCUPPER	033+64.00	033+78.00	RT	5.67%	0.020	17.5	0.006	4.00	0.95	0.02	0.01	0.03	1.48	0.015	7.00	OK
4" SCUPPER	033+78.00	033+92.00	RT	5.88%	0.020	17.5	0.006	4.00	0.95	0.02	0.02	0.04	1.50	0.016	7.00	OK
4" SCUPPER	033+92.00	034+06.00	RT	6.00%	0.020	17.5	0.006	4.00	0.95	0.02	0.02	0.04	1.51	0.019	7.00	OK
DRAIN GRATE	034+06.00	035+10.00	RT	6.00%	0.020	28.5	0.068	4.00	0.95	0.26	0.00	0.26	3.10	0.026	7.00	OK
DRAIN GRATE	035+10.00	036+91.00	RT	6.00%	0.020	28.5	0.118	4.00	0.95	0.45	0.03	0.48	3.90	0.091	7.00	OK
DRAIN GRATE	036+91.00	038+73.00	RT	6.00%	0.020	28.5	0.119	4.00	0.95	0.45	0.09	0.54	4.10	0.116	7.00	OK
DRAIN GRATE	038+73.00	040+55.00	RT	6.00%	0.020	28.5	0.119	4.00	0.95	0.45	0.12	0.57	4.17	0.126	7.00	OK

***SCUPPERS WERE CHECKED EVERY 14' TO ACCOUNT FOR 50% CLOGGING.
 *HALF OF DRAIN GRATE LENGTH WAS USED TO ACCOUNT FOR 50% CLOGGING.
 *METHODOLOGY THROUGH SCUPPERS AND GRATES ASSUMES WEIR FLOW.**

WGI

Engineering • Planning • Surveying • Environmental

TCP PHASE 1 - NORTHBOUND (RIGHT OF CREST) SPREAD CALCULATIONS

Project: San Carlos (SR 865)
 FPID: 433726-2-32-01
 County: LEE

Designer: CJC
 Checked by: MJJ
 Date: 4/23/2020

CHECK INLET CAPACITY

Structure Number	Station From (ft.)	Station To (ft.)	T Depth @ Barrier (ft)	Inlet Weir Flow (cfs)	Total Flow Qt (cfs)	Bypass Qb
MATANZAS BRIDGE						
4" SCUPPER	030+00.00	030+14.00	0.046	0.031	0.021	0.000
4" SCUPPER	030+14.00	030+28.00	0.040	0.025	0.021	0.000
4" SCUPPER	030+28.00	030+42.00	0.037	0.024	0.021	0.000
4" SCUPPER	030+42.00	030+56.00	0.035	0.022	0.021	0.000
4" SCUPPER	030+56.00	030+70.00	0.034	0.021	0.021	0.001
4" SCUPPER	030+70.00	030+84.00	0.033	0.020	0.022	0.002
4" SCUPPER	030+84.00	030+98.00	0.033	0.020	0.023	0.003
4" SCUPPER	030+98.00	031+12.00	0.033	0.020	0.025	0.005
4" SCUPPER	031+12.00	031+26.00	0.033	0.020	0.026	0.007
4" SCUPPER	031+26.00	031+40.00	0.033	0.020	0.028	0.008
4" SCUPPER	031+40.00	031+54.00	0.033	0.020	0.029	0.010
4" SCUPPER	031+54.00	031+68.00	0.033	0.020	0.031	0.011
4" SCUPPER	031+68.00	031+82.00	0.033	0.020	0.032	0.012
4" SCUPPER	031+82.00	031+96.00	0.033	0.020	0.034	0.014
4" SCUPPER	031+96.00	032+10.00	0.033	0.020	0.035	0.015
4" SCUPPER	032+10.00	032+24.00	0.033	0.020	0.036	0.016
4" SCUPPER	032+24.00	032+38.00	0.033	0.020	0.037	0.017
4" SCUPPER	032+38.00	032+52.00	0.033	0.020	0.039	0.018
4" SCUPPER	032+52.00	032+66.00	0.033	0.020	0.040	0.020
4" SCUPPER	032+66.00	032+80.00	0.033	0.020	0.041	0.021
4" SCUPPER	032+80.00	032+94.00	0.033	0.020	0.042	0.022
4" SCUPPER	032+94.00	033+08.00	0.033	0.020	0.043	0.023
4" SCUPPER	033+08.00	033+22.00	0.033	0.020	0.044	0.024
4" SCUPPER	033+22.00	033+36.00	0.033	0.020	0.028	0.008
4" SCUPPER	033+36.00	033+50.00	0.028	0.016	0.029	0.014
4" SCUPPER	033+50.00	033+64.00	0.030	0.017	0.031	0.014
4" SCUPPER	033+64.00	033+78.00	0.030	0.017	0.032	0.015
4" SCUPPER	033+78.00	033+92.00	0.030	0.017	0.034	0.016
4" SCUPPER	033+92.00	034+06.00	0.030	0.018	0.036	0.019
DRAIN GRATE	034+06.00	035+10.00	0.062	0.046	0.039	0.000
DRAIN GRATE	035+10.00	036+91.00	0.078	0.098	0.040	0.000
DRAIN GRATE	036+91.00	038+73.00	0.082	0.106	0.041	0.000
DRAIN GRATE	038+73.00	040+55.00	0.083	0.108	0.042	0.000

***BARRIER WALL SLOTS WERE CHECKED EVERY 12.5' TO ACCOUNT FOR 50% CLOGGING.
 *METHODOLOGY THROUGH SLOTS ASSUMES WEIR FLOW.**

WGI

Engineering • Planning • Surveying • Environmental

TCP PHASE 1 - SOUTHBOUND (RIGHT OF CREST) SPREAD CALCULATIONS

Project: San Carlos (SR 865)
 FPID: 433726-2-32-01
 County: LEE

Designer: CJC
 Checked by: MJJ
 Date: 4/23/2020

Reference: Section 6.3.2.4 Chapter 6, FDOT Drainage Design Guide, 2020

Structure Number	Station From (ft.)	Station To (ft.)	Side	Long. Slope S (%)	Cross Slope Sx (ft/ft)	Width (ft.)	Area A (Ac.)	Intensity i (in/hr)	Runoff Coeff. C	Flow Q (cfs)	By-Pass Upstream Qb (cfs)	Total Flow Qt (cfs)	Spread Width T (ft.)	By-Pass Flow Qb (cfs)	Allowable Spread (ft)	Remarks
MATANZAS BRIDGE																
K BARRIER 2' 3" SLOT	030+00.00	030+12.50	LT	0.19%	0.011	8.0	0.002	4.00	0.95	0.01	0.00	0.01	2.42	0.000	5.00	OK
K BARRIER 2' 3" SLOT	030+12.50	030+25.00	LT	0.38%	0.014	8.0	0.002	4.00	0.95	0.01	0.00	0.01	1.83	0.000	5.00	OK
K BARRIER 2' 3" SLOT	030+25.00	030+37.50	LT	0.56%	0.017	8.0	0.002	4.00	0.95	0.01	0.00	0.01	1.50	0.000	5.00	OK
K BARRIER 2' 3" SLOT	030+37.50	030+50.00	LT	0.75%	0.020	8.0	0.002	4.00	0.95	0.01	0.00	0.01	1.29	0.000	5.00	OK
K BARRIER 2' 3" SLOT	030+50.00	030+62.50	LT	0.94%	0.020	8.0	0.002	4.00	0.95	0.01	0.00	0.01	1.23	0.000	5.00	OK
K BARRIER 2' 3" SLOT	030+62.50	030+75.00	LT	1.13%	0.020	8.0	0.002	4.00	0.95	0.01	0.00	0.01	1.19	0.000	5.00	OK
K BARRIER 2' 3" SLOT	030+75.00	030+87.50	LT	1.31%	0.020	8.0	0.002	4.00	0.95	0.01	0.00	0.01	1.16	0.000	5.00	OK
K BARRIER 2' 3" SLOT	030+87.50	031+00.00	LT	1.50%	0.020	8.0	0.002	4.00	0.95	0.01	0.00	0.01	1.13	0.000	5.00	OK
K BARRIER 2' 3" SLOT	031+00.00	031+12.50	LT	1.69%	0.020	8.0	0.002	4.00	0.95	0.01	0.00	0.01	1.10	0.000	5.00	OK
K BARRIER 2' 3" SLOT	031+12.50	031+25.00	LT	1.88%	0.020	8.0	0.002	4.00	0.95	0.01	0.00	0.01	1.08	0.000	5.00	OK
K BARRIER 2' 3" SLOT	031+25.00	031+37.50	LT	2.06%	0.020	8.0	0.002	4.00	0.95	0.01	0.00	0.01	1.06	0.000	5.00	OK
K BARRIER 2' 3" SLOT	031+37.50	031+50.00	LT	2.25%	0.020	8.0	0.002	4.00	0.95	0.01	0.00	0.01	1.05	0.000	5.00	OK
K BARRIER 2' 3" SLOT	031+50.00	031+62.50	LT	2.44%	0.020	8.0	0.002	4.00	0.95	0.01	0.00	0.01	1.03	0.000	5.00	OK
K BARRIER 2' 3" SLOT	031+62.50	031+75.00	LT	2.63%	0.020	8.0	0.002	4.00	0.95	0.01	0.00	0.01	1.02	0.000	5.00	OK
K BARRIER 2' 3" SLOT	031+75.00	031+87.50	LT	2.81%	0.020	8.0	0.002	4.00	0.95	0.01	0.00	0.01	1.00	0.000	5.00	OK
K BARRIER 2' 3" SLOT	031+87.50	032+00.00	LT	3.00%	0.020	8.0	0.002	4.00	0.95	0.01	0.00	0.01	0.99	0.000	5.00	OK
K BARRIER 2' 3" SLOT	032+00.00	032+12.50	LT	3.19%	0.020	8.0	0.002	4.00	0.95	0.01	0.00	0.01	0.98	0.000	5.00	OK
K BARRIER 2' 3" SLOT	032+12.50	032+25.00	LT	3.38%	0.020	8.0	0.002	4.00	0.95	0.01	0.00	0.01	0.97	0.000	5.00	OK
K BARRIER 2' 3" SLOT	032+25.00	032+37.50	LT	3.56%	0.020	8.0	0.002	4.00	0.95	0.01	0.00	0.01	0.96	0.000	5.00	OK
K BARRIER 2' 3" SLOT	032+37.50	032+50.00	LT	3.75%	0.020	8.0	0.002	4.00	0.95	0.01	0.00	0.01	0.95	0.000	5.00	OK
K BARRIER 2' 3" SLOT	032+50.00	032+62.50	LT	3.94%	0.020	8.0	0.002	4.00	0.95	0.01	0.00	0.01	0.94	0.000	5.00	OK
K BARRIER 2' 3" SLOT	032+62.50	032+75.00	LT	4.13%	0.020	8.0	0.002	4.00	0.95	0.01	0.00	0.01	0.93	0.000	5.00	OK
K BARRIER 2' 3" SLOT	032+75.00	032+87.50	LT	4.31%	0.020	8.0	0.002	4.00	0.95	0.01	0.00	0.01	0.93	0.000	5.00	OK
K BARRIER 2' 3" SLOT	032+87.50	033+00.00	LT	4.50%	0.020	8.0	0.002	4.00	0.95	0.01	0.00	0.01	0.92	0.000	5.00	OK
K BARRIER 2' 3" SLOT	033+00.00	033+12.50	LT	4.69%	0.020	8.0	0.002	4.00	0.95	0.01	0.00	0.01	0.91	0.000	5.00	OK
K BARRIER 2' 3" SLOT	033+12.50	033+25.00	LT	4.88%	0.020	8.0	0.002	4.00	0.95	0.01	0.00	0.01	0.90	0.000	5.00	OK
K BARRIER 2' 3" SLOT	033+25.00	033+37.50	LT	5.06%	0.020	8.0	0.002	4.00	0.95	0.01	0.00	0.01	0.90	0.000	5.00	OK
K BARRIER 2' 3" SLOT	033+37.50	033+50.00	LT	5.25%	0.020	8.0	0.002	4.00	0.95	0.01	0.00	0.01	0.89	0.000	5.00	OK
K BARRIER 2' 3" SLOT	033+50.00	033+62.50	LT	5.44%	0.020	8.0	0.002	4.00	0.95	0.01	0.00	0.01	0.89	0.000	5.00	OK
K BARRIER 2' 3" SLOT	033+62.50	033+75.00	LT	5.63%	0.020	8.0	0.002	4.00	0.95	0.01	0.00	0.01	0.88	0.000	5.00	OK
K BARRIER 2' 3" SLOT	033+75.00	033+87.50	LT	5.81%	0.020	8.0	0.002	4.00	0.95	0.01	0.00	0.01	0.88	0.000	5.00	OK
K BARRIER 2' 3" SLOT	033+87.50	034+00.00	LT	6.00%	0.020	8.0	0.002	4.00	0.95	0.01	0.00	0.01	0.87	0.000	5.00	OK
K BARRIER 2' 3" SLOT	034+00.00	034+12.50	LT	6.00%	0.017	8.0	0.002	4.00	0.95	0.01	0.00	0.01	0.96	0.000	5.00	OK
K BARRIER 2' 3" SLOT	034+12.50	034+25.00	LT	6.00%	0.014	8.0	0.002	4.00	0.95	0.01	0.00	0.01	1.08	0.000	5.00	OK
K BARRIER 2' 3" SLOT	034+25.00	034+37.50	LT	6.00%	0.011	8.0	0.002	4.00	0.95	0.01	0.00	0.01	1.25	0.000	5.00	OK
K BARRIER 2' 3" SLOT	034+37.50	034+50.00	LT	6.00%	0.008	8.0	0.002	4.00	0.95	0.01	0.00	0.01	1.52	0.000	5.00	OK
K BARRIER 2' 3" SLOT	034+50.00	034+62.50	LT	6.00%	0.005	8.0	0.002	4.00	0.95	0.01	0.00	0.01	2.00	0.000	5.00	OK
K BARRIER 2' 3" SLOT	034+62.50	034+75.00	LT	6.00%	0.002	8.0	0.002	4.00	0.95	0.01	0.00	0.01	3.32	0.001	5.00	OK
K BARRIER 2' 3" SLOT	034+75.00	034+84.80	LT	6.00%	0.00005	8.0	0.002	4.00	0.95	0.01	0.00	0.01	36.83	0.007	5.00	Need Additional Inlet *CROSS SLOPE ISSUE

***BARRIER WALL SLOTS WERE CHECKED EVERY 12.5' TO ACCOUNT FOR 50% CLOGGING.
 *METHODOLOGY THROUGH SLOTS ASSUMES WEIR FLOW.**

WGI

Engineering • Planning • Surveying • Environmental

TCP PHASE 1 - SOUTHBOUND (RIGHT OF CREST) SPREAD CALCULATIONS

Project: San Carlos (SR 865)
 FPID: 433726-2-32-01
 County: LEE

Designer: CJC
 Checked by: MJJ
 Date: 4/23/2020

CHECK INLET CAPACITY

Structure Number	Station From (ft.)	Station To (ft.)	T Depth @ Barrier (ft)	Inlet Weir Flow (cfs)	Total Flow Qt (cfs)	Bypass Qb
MATANZAS BRIDGE						
K BARRIER 2' 3" SLOT	030+00.00	030+12.50	0.027	0.029	0.009	0.000
K BARRIER 2' 3" SLOT	030+12.50	030+25.00	0.026	0.028	0.009	0.000
K BARRIER 2' 3" SLOT	030+25.00	030+37.50	0.026	0.028	0.009	0.000
K BARRIER 2' 3" SLOT	030+37.50	030+50.00	0.026	0.028	0.009	0.000
K BARRIER 2' 3" SLOT	030+50.00	030+62.50	0.025	0.026	0.009	0.000
K BARRIER 2' 3" SLOT	030+62.50	030+75.00	0.024	0.025	0.009	0.000
K BARRIER 2' 3" SLOT	030+75.00	030+87.50	0.023	0.024	0.009	0.000
K BARRIER 2' 3" SLOT	030+87.50	031+00.00	0.023	0.023	0.009	0.000
K BARRIER 2' 3" SLOT	031+00.00	031+12.50	0.022	0.022	0.009	0.000
K BARRIER 2' 3" SLOT	031+12.50	031+25.00	0.022	0.022	0.009	0.000
K BARRIER 2' 3" SLOT	031+25.00	031+37.50	0.021	0.021	0.009	0.000
K BARRIER 2' 3" SLOT	031+37.50	031+50.00	0.021	0.020	0.009	0.000
K BARRIER 2' 3" SLOT	031+50.00	031+62.50	0.021	0.020	0.009	0.000
K BARRIER 2' 3" SLOT	031+62.50	031+75.00	0.020	0.020	0.009	0.000
K BARRIER 2' 3" SLOT	031+75.00	031+87.50	0.020	0.019	0.009	0.000
K BARRIER 2' 3" SLOT	031+87.50	032+00.00	0.020	0.019	0.009	0.000
K BARRIER 2' 3" SLOT	032+00.00	032+12.50	0.020	0.019	0.009	0.000
K BARRIER 2' 3" SLOT	032+12.50	032+25.00	0.019	0.018	0.009	0.000
K BARRIER 2' 3" SLOT	032+25.00	032+37.50	0.019	0.018	0.009	0.000
K BARRIER 2' 3" SLOT	032+37.50	032+50.00	0.019	0.018	0.009	0.000
K BARRIER 2' 3" SLOT	032+50.00	032+62.50	0.019	0.017	0.009	0.000
K BARRIER 2' 3" SLOT	032+62.50	032+75.00	0.019	0.017	0.009	0.000
K BARRIER 2' 3" SLOT	032+75.00	032+87.50	0.019	0.017	0.009	0.000
K BARRIER 2' 3" SLOT	032+87.50	033+00.00	0.018	0.017	0.009	0.000
K BARRIER 2' 3" SLOT	033+00.00	033+12.50	0.018	0.017	0.009	0.000
K BARRIER 2' 3" SLOT	033+12.50	033+25.00	0.018	0.016	0.009	0.000
K BARRIER 2' 3" SLOT	032+87.50	033+00.00	0.018	0.017	0.009	0.000
K BARRIER 2' 3" SLOT	033+00.00	033+12.50	0.018	0.017	0.009	0.000
K BARRIER 2' 3" SLOT	033+12.50	033+25.00	0.018	0.016	0.009	0.000
K BARRIER 2' 3" SLOT	033+25.00	033+37.50	0.018	0.016	0.009	0.000
K BARRIER 2' 3" SLOT	033+37.50	033+50.00	0.018	0.016	0.009	0.000
K BARRIER 2' 3" SLOT	033+50.00	033+62.50	0.018	0.016	0.009	0.000
K BARRIER 2' 3" SLOT	034+00.00	034+12.50	0.016	0.014	0.009	0.000
K BARRIER 2' 3" SLOT	034+12.50	034+25.00	0.015	0.013	0.009	0.000
K BARRIER 2' 3" SLOT	034+25.00	034+37.50	0.014	0.011	0.009	0.000
K BARRIER 2' 3" SLOT	034+37.50	034+50.00	0.012	0.009	0.009	0.000
K BARRIER 2' 3" SLOT	034+50.00	034+62.50	0.011	0.007	0.009	0.001
K BARRIER 2' 3" SLOT	034+62.50	034+75.00	0.008	0.005	0.009	0.004
K BARRIER 2' 3" SLOT	034+75.00	034+84.80	0.002	0.000	0.009	0.008

LEGEND



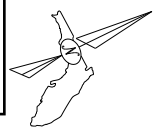
Drain Grate

Q from bridge to path
= 1.13 cfs
(21+56 to 19+52)

8' DRAIN GRATE
IN PATH

12" SLOTS
EVERY 3'
(START AT
19+52)

Q from bridge to path
= 1.79 cfs
(23+60 to 21+56)



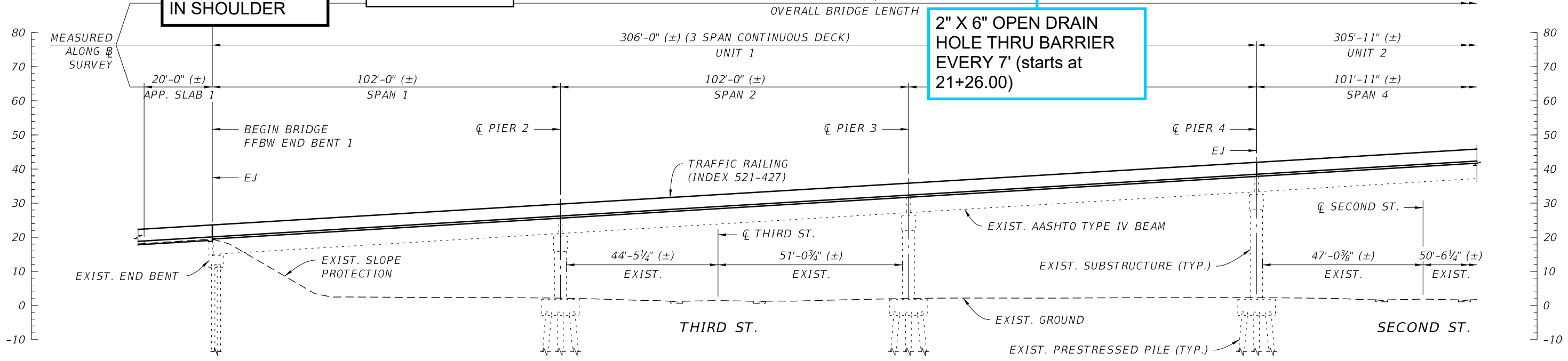
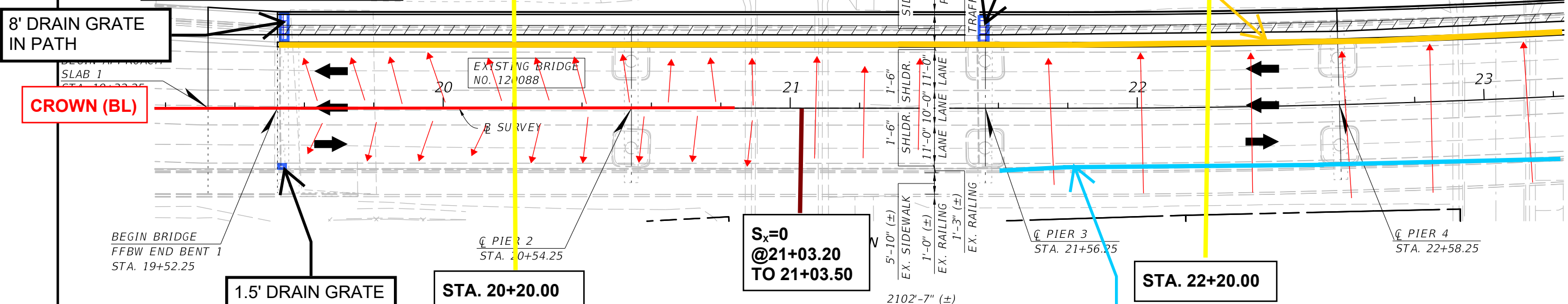
NORMAL CROWN (S_x = 2%)

TRANSITION (S_x = +/- 2%)

FULL SUPER (S_x = 2.8%)

8' DRAIN GRATE
IN PATH

CROWN (BL)

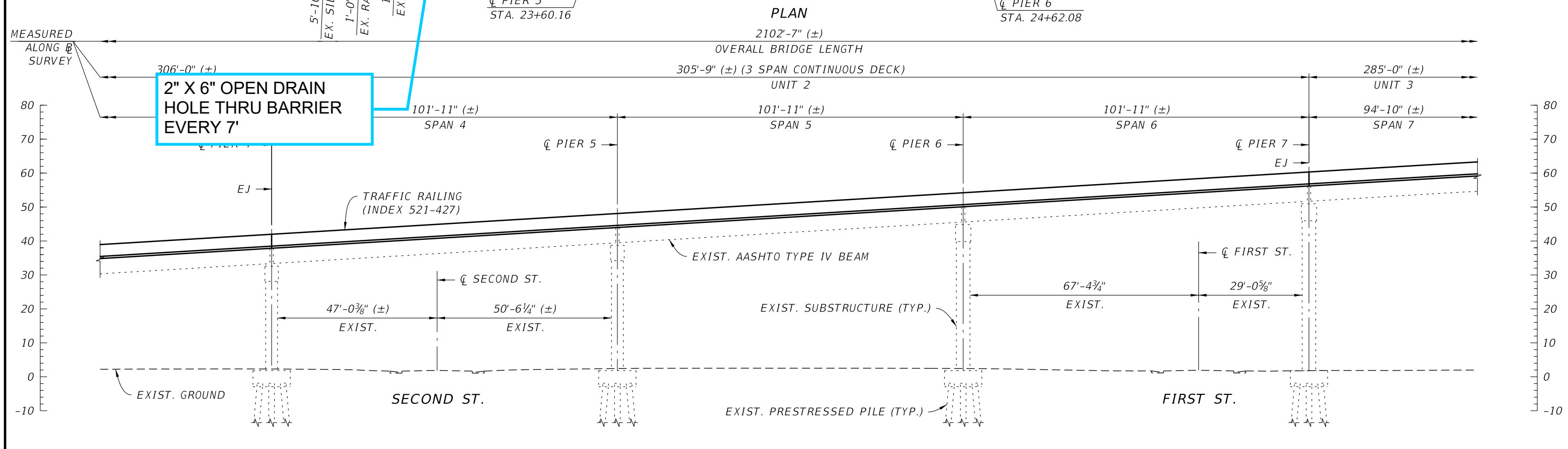
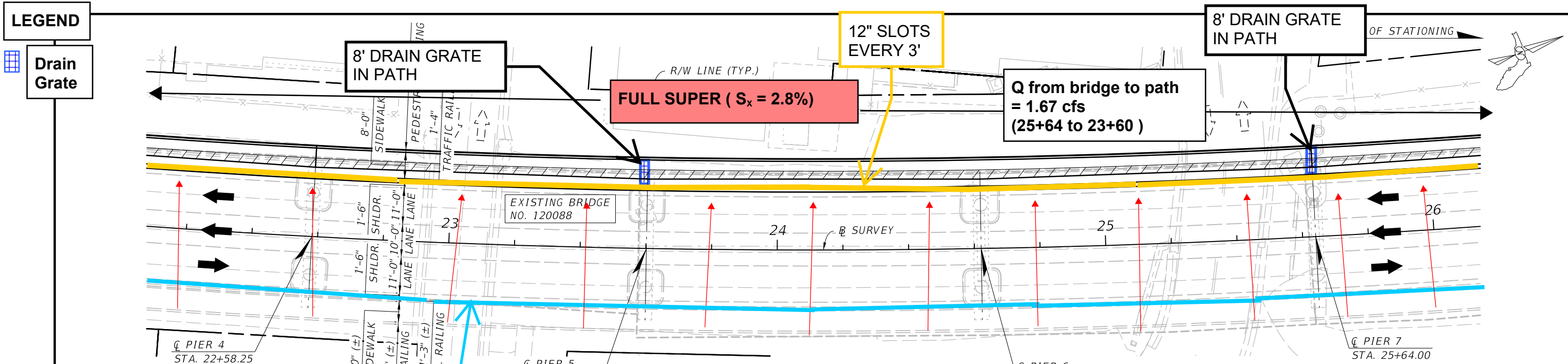


2" X 6" OPEN DRAIN
HOLE THRU BARRIER
EVERY 7' (starts at
21+26.00)

- LEGEND:**
- PROPOSED DIRECTION OF TRAFFIC
 - EXISTING DIRECTION OF TRAFFIC
 - EXISTING TO BE REMOVED

BRIDGE NO. 120088

REVISIONS						DRAWN BY: ESK	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET TITLE: PLAN AND ELEVATION (1 OF 6)	REF. DWG. NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
							SR 865	LEE	433726-2-32-01	SR 865 (SAN CARLOS BLVD) FROM ESTERO BLVD TO NORTH OF HURRICANE BAY BRIDGE	B1-1

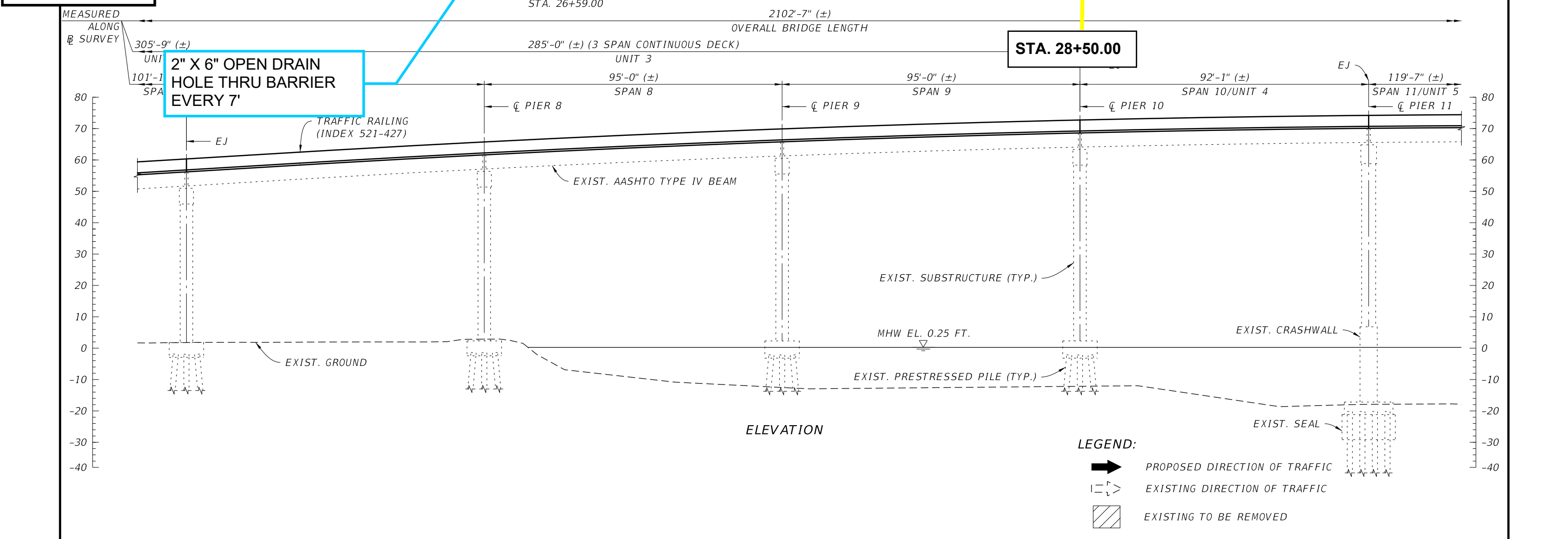
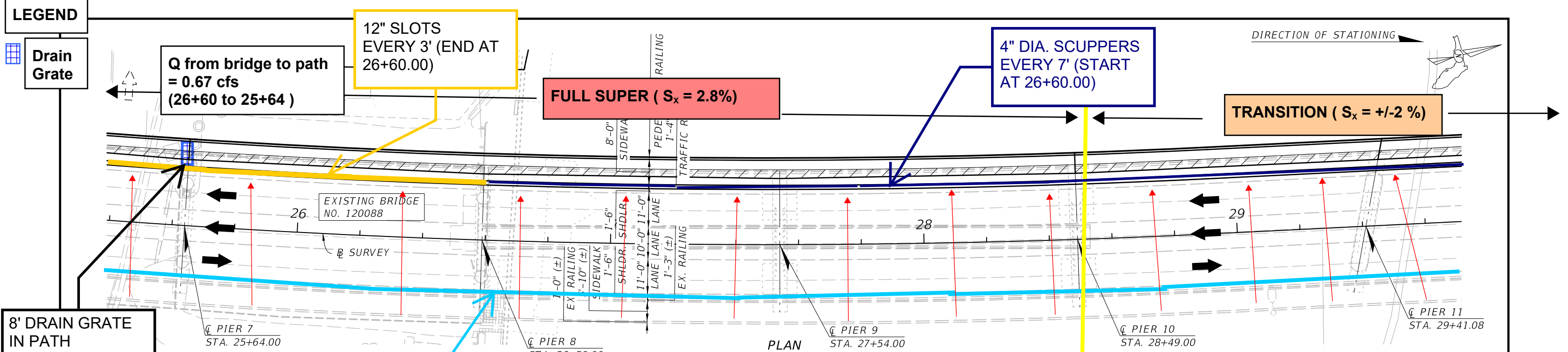


LEGEND:

- PROPOSED DIRECTION OF TRAFFIC
- EXISTING DIRECTION OF TRAFFIC
- EXISTING TO BE REMOVED

BRIDGE NO. 120088

REVISIONS						NATHANIEL ALLEN VAN ETEN, P.E. P.E. LICENSE NUMBER 73756 WANTMAN GROUP, INC. 3111 W. MARTIN LUTHER KING JR. BLVD., SUITE 375, TAMPA, FLORIDA 33607 CERTIFICATE OF AUTHORIZATION 00006091	DRAWN BY: ESK CHECKED BY: NVE DESIGNED BY: ESK CHECKED BY: NVE	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET TITLE: PLAN AND ELEVATION (2 OF 6)	REF. DWG. NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION			ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
						SR 865	LEE	433726-2-32-01	SR 865 (SAN CARLOS BLVD) FROM ESTERO BLVD TO NORTH OF HURRICANE BAY BRIDGE	B1 - 2		



LEGEND

Drain Grate

Q from bridge to path = 0.67 cfs (26+60 to 25+64)

8' DRAIN GRATE IN PATH

LEGEND:

PROPOSED DIRECTION OF TRAFFIC

EXISTING DIRECTION OF TRAFFIC

EXISTING TO BE REMOVED

BRIDGE NO. 120088

REVISIONS						DRAWN BY: ESK	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET TITLE: PLAN AND ELEVATION (3 OF 6)	REF. DWG. NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
							SR 865	LEE	433726-2-32-01	SR 865 (SAN CARLOS BLVD) FROM ESTERO BLVD TO NORTH OF HURRICANE BAY BRIDGE	B1-3



**High Point (PVI)
STA. 30+00.00**

**4" DIA. SCUPPERS
EVERY 7'**

NORMAL CROWN (S_x = 2%)

TRANSITION (S_x = +2%)

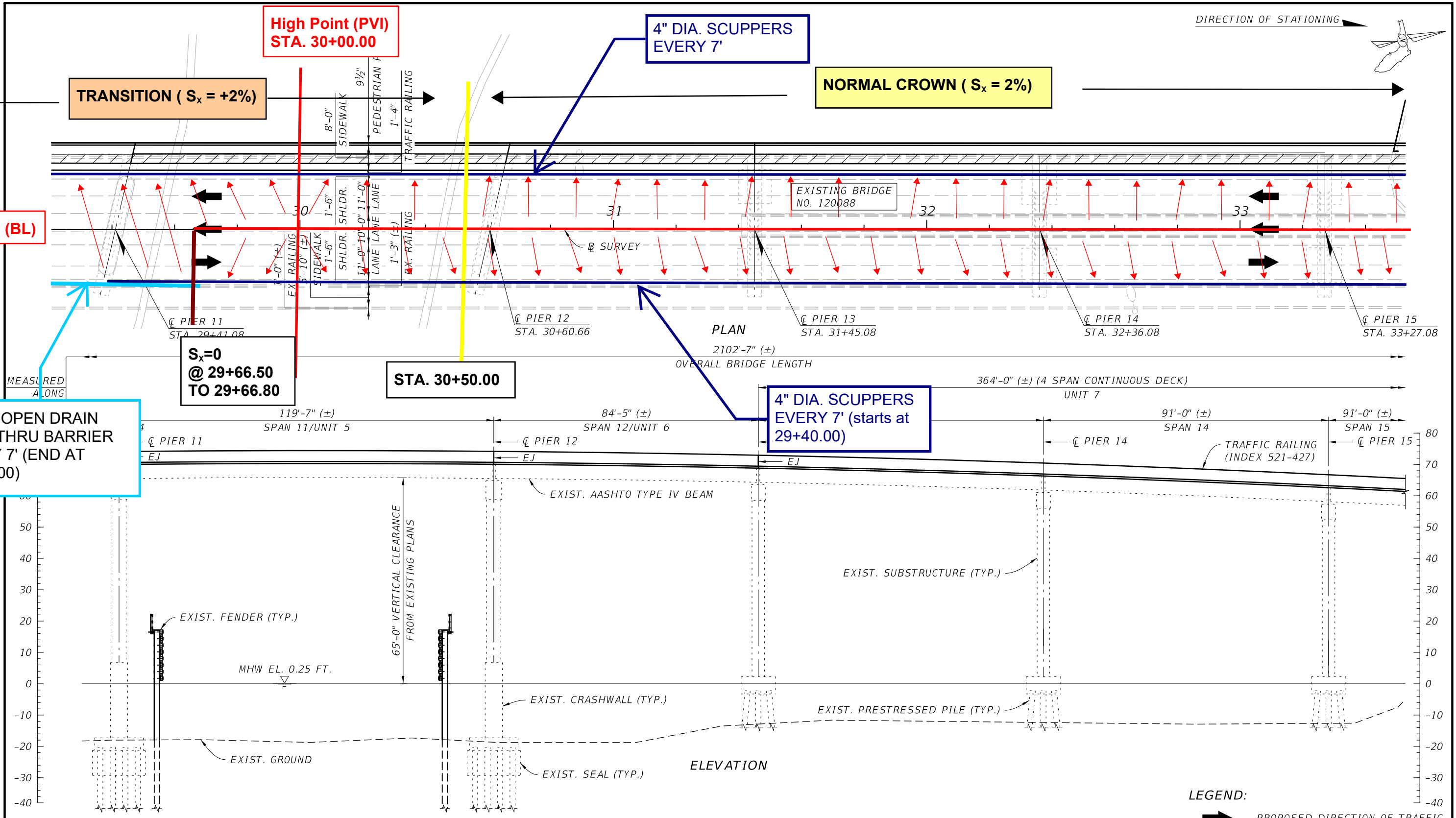
CROWN (BL)

**S_x=0
@ 29+66.50
TO 29+66.80**

STA. 30+50.00

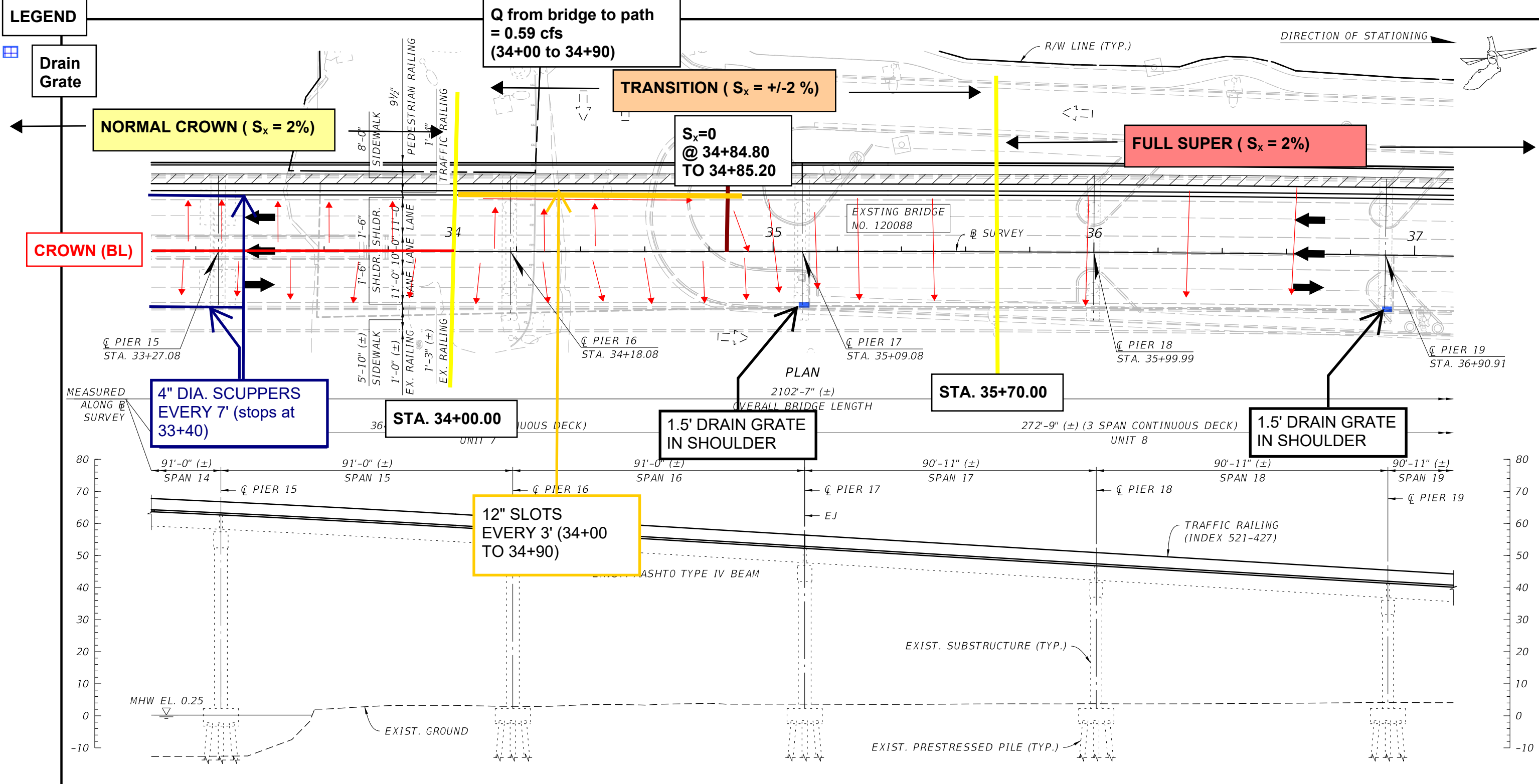
**4" DIA. SCUPPERS
EVERY 7' (starts at
29+40.00)**

**2" X 6" OPEN DRAIN
HOLE THRU BARRIER
EVERY 7' (END AT
29+67.00)**



BRIDGE NO. 120088

REVISIONS						NATHANIEL ALLEN VAN ETEN, P.E. P.E. LICENSE NUMBER 73756 WANTMAN GROUP, INC. 3111 W. MARTIN LUTHER KING JR. BLVD., SUITE 375, TAMPA, FLORIDA 33607 CERTIFICATE OF AUTHORIZATION 00006091	DRAWN BY: ESK CHECKED BY: NVE DESIGNED BY: ESK CHECKED BY: NVE	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET TITLE: PLAN AND ELEVATION (4 OF 6)	REF. DWG. NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION			ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
							SR 865	LEE	433726-2-32-01	SR 865 (SAN CARLOS BLVD) FROM ESTERO BLVD TO NORTH OF HURRICANE BAY BRIDGE	B1-4	



LEGEND

Drain Grate

NORMAL CROWN ($S_x = 2\%$)

Q from bridge to path = 0.59 cfs (34+00 to 34+90)

TRANSITION ($S_x = +/- 2\%$)

$S_x=0$ @ 34+84.80 TO 34+85.20

FULL SUPER ($S_x = 2\%$)

CROWN (BL)

4" DIA. SCUPPERS EVERY 7' (stops at 33+40)

STA. 34+00.00

1.5' DRAIN GRATE IN SHOULDER

STA. 35+70.00

1.5' DRAIN GRATE IN SHOULDER

12" SLOTS EVERY 3' (34+00 TO 34+90)

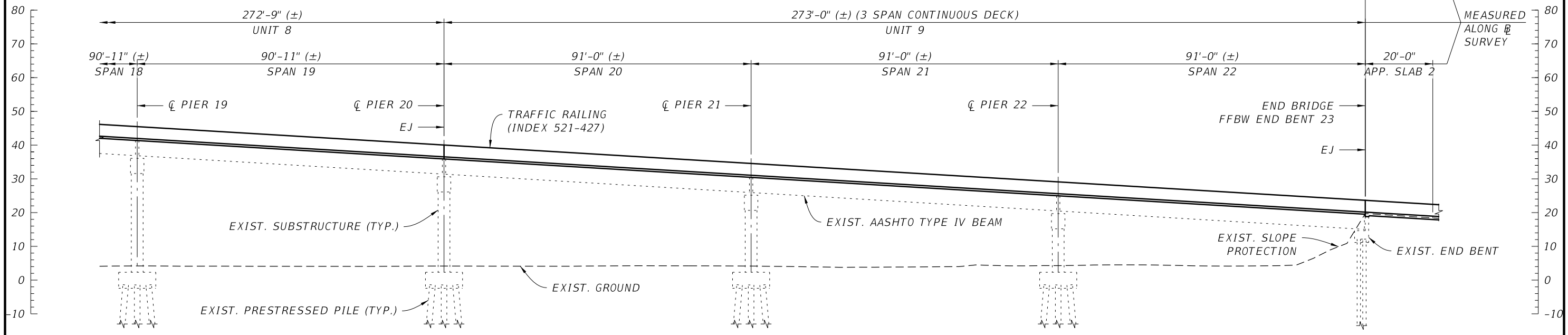
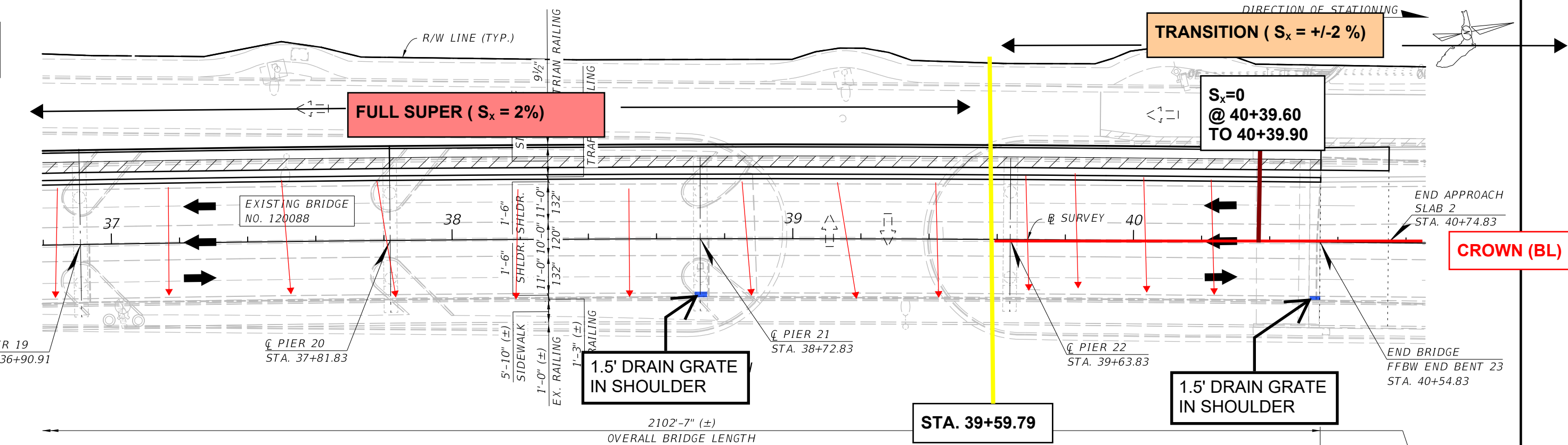
- LEGEND:**
- PROPOSED DIRECTION OF TRAFFIC
 - EXISTING DIRECTION OF TRAFFIC
 - EXISTING TO BE REMOVED

BRIDGE NO. 120088

REVISIONS						NATHANIEL ALLEN VAN ETEN, P.E. P.E. LICENSE NUMBER 73756 WANTMAN GROUP, INC. 3111 W. MARTIN LUTHER KING JR. BLVD., SUITE 375, TAMPA, FLORIDA 33607 CERTIFICATE OF AUTHORIZATION 00006091	DRAWN BY: ESK CHECKED BY: NVE DESIGNED BY: ESK CHECKED BY: NVE	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET TITLE: PLAN AND ELEVATION (5 OF 6)	REF. DWG. NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION			ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
							SR 865	LEE	433726-2-32-01	SR 865 (SAN CARLOS BLVD) FROM ESTERO BLVD TO NORTH OF HURRICANE BAY BRIDGE	B1-5	

LEGEND

Drain Grate

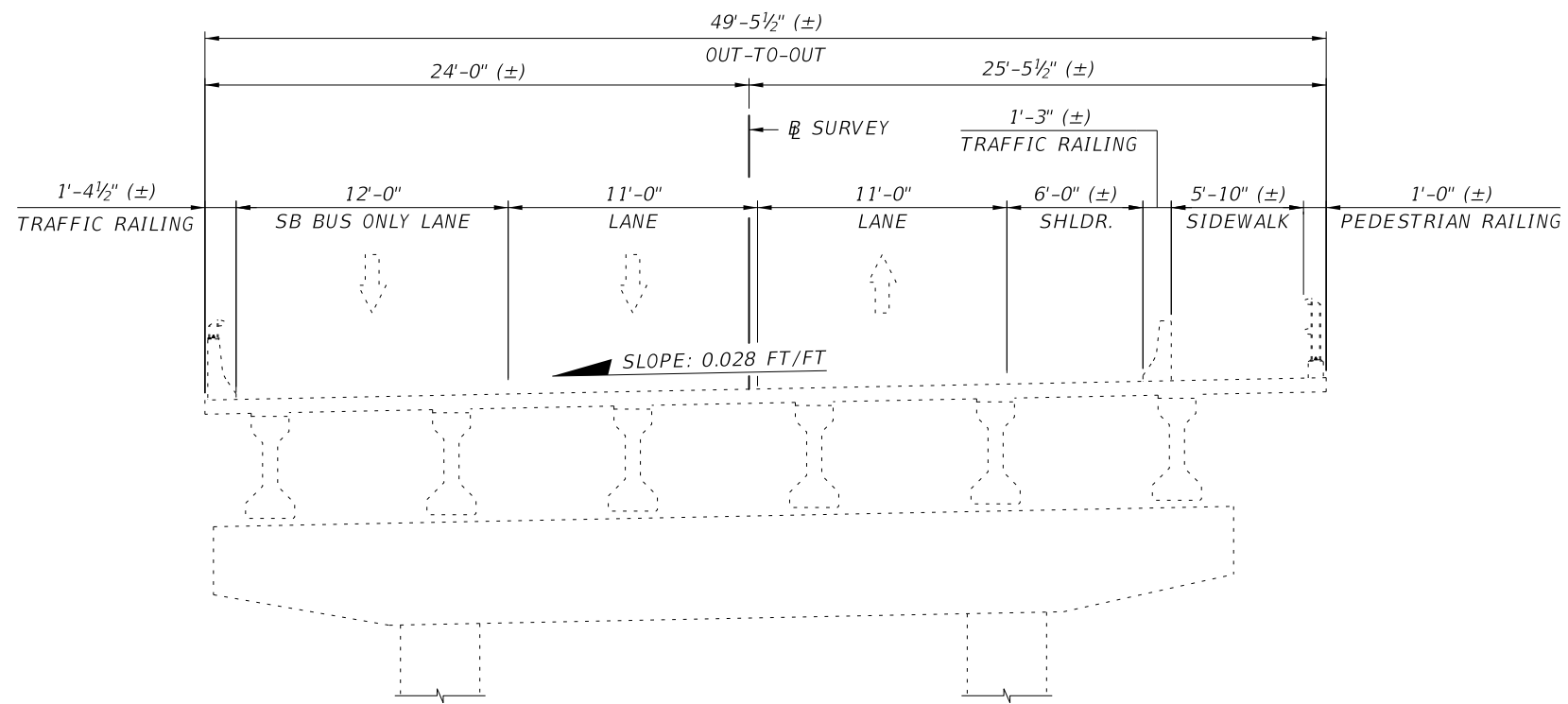


ELEVATION

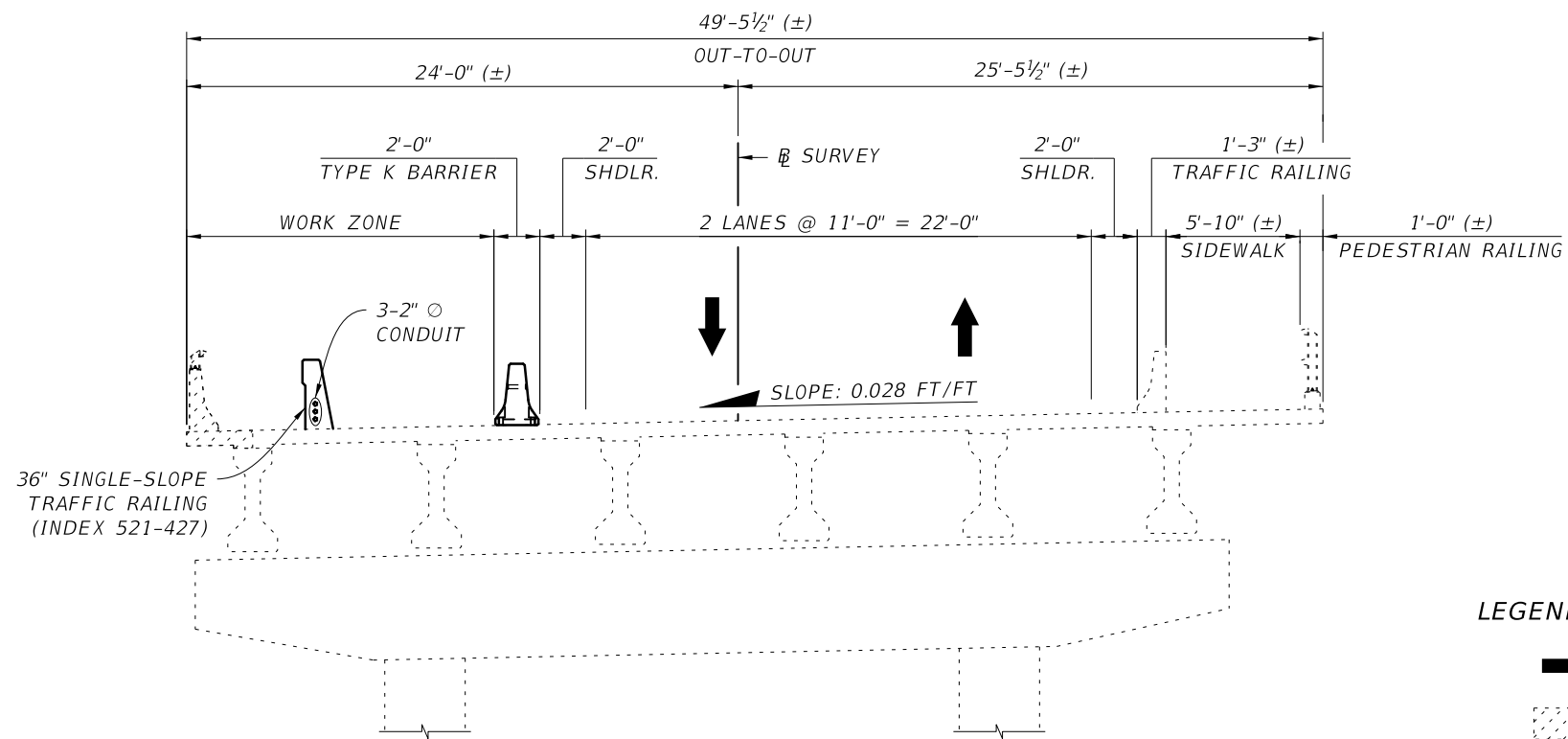
LEGEND:
 PROPOSED DIRECTION OF TRAFFIC
 EXISTING DIRECTION OF TRAFFIC
 EXISTING TO BE REMOVED

BRIDGE NO. 120088

REVISIONS						DRAWN BY: ESK	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET TITLE: PLAN AND ELEVATION (6 OF 6)	REF. DWG. NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
							SR 865	LEE	433726-2-32-01	SR 865 (SAN CARLOS BLVD) FROM ESTERO BLVD TO NORTH OF HURRICANE BAY BRIDGE	B1-6



EXISTING BRIDGE TYPICAL
(SPAN 4 SHOWN, OTHER SPANS SIMILAR)



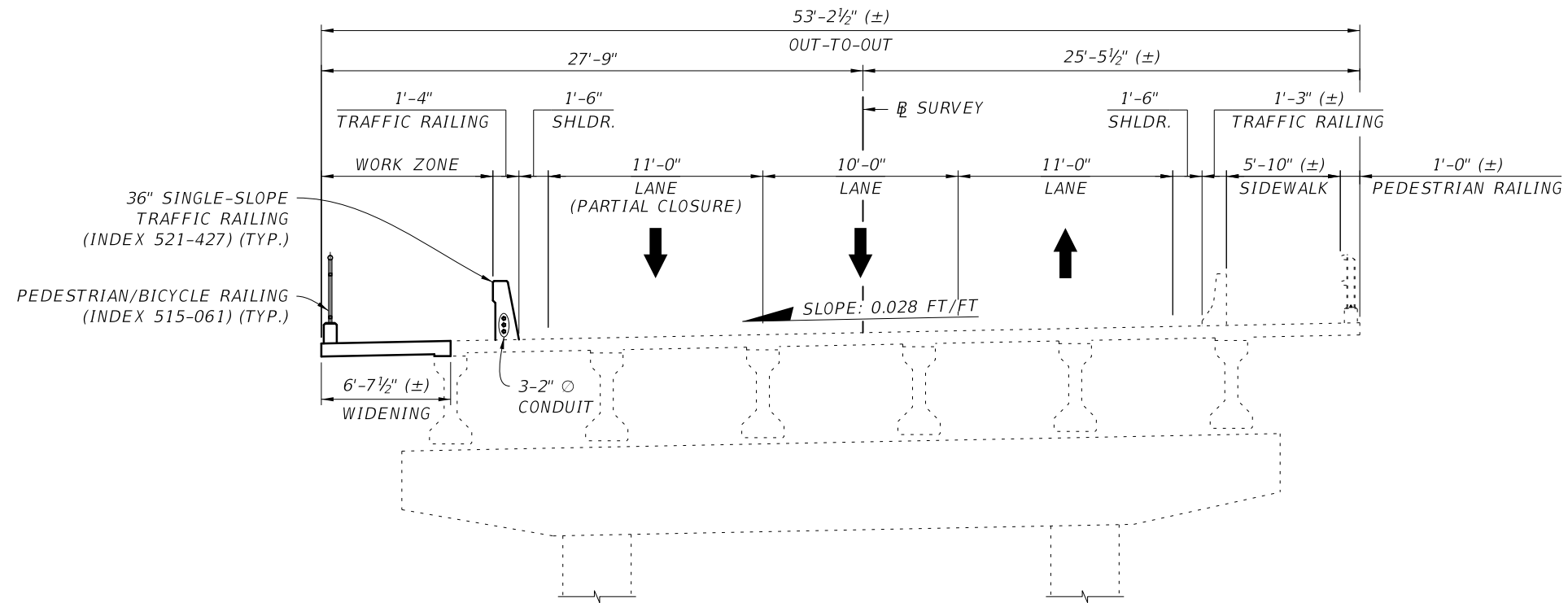
PHASE 1 CONSTRUCTION
(SPAN 4 SHOWN, OTHER SPANS SIMILAR)

LEGEND:

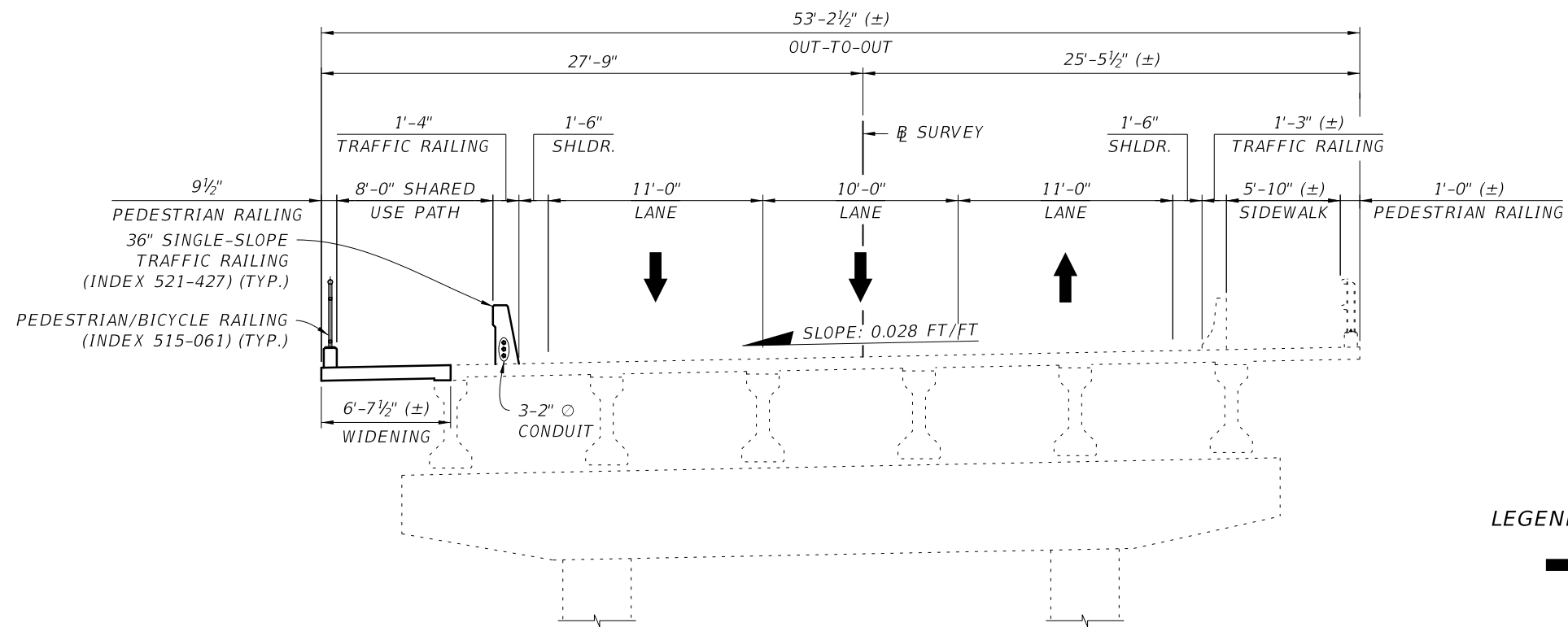
- DIRECTION OF TRAFFIC
- EXISTING TO BE REMOVED
- EXISTING TRAFFIC LANE

BRIDGE NO. 120088

REVISIONS						NATHANIEL ALLEN VAN ETEN, P.E. P.E. LICENSE NUMBER 73756 WANTMAN GROUP, INC. 3111 W. MARTIN LUTHER KING JR. BLVD., SUITE 375, TAMPA, FLORIDA 33607 CERTIFICATE OF AUTHORIZATION 00006091	DRAWN BY: ESK CHECKED BY: NVE DESIGNED BY: ESK CHECKED BY: NVE	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET TITLE: CONSTRUCTION SEQUENCE (1 OF 2)	REF. DWG. NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION			ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
							SR 865	LEE	433726-2-32-01	SR 865 (SAN CARLOS BLVD) FROM ESTERO BLVD TO NORTH OF HURRICANE BAY BRIDGE	B1-7	



PHASE 2 CONSTRUCTION
(SPAN 4 SHOWN, OTHER SPANS SIMILAR)

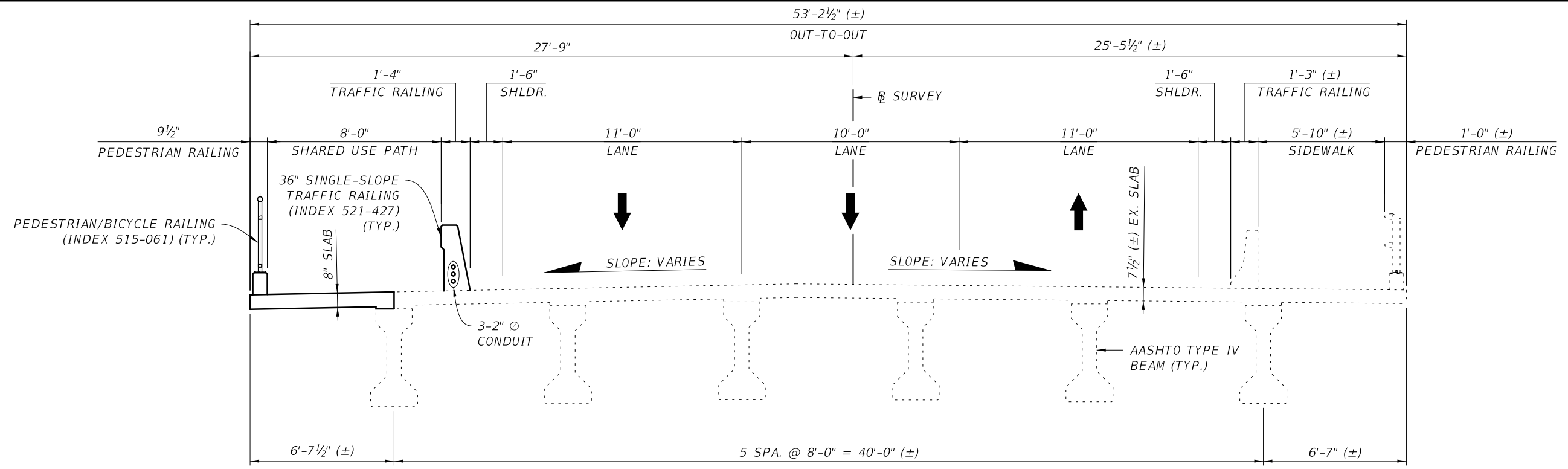


PROPOSED BRIDGE TYPICAL
(SPAN 4 SHOWN, OTHER SPANS SIMILAR)

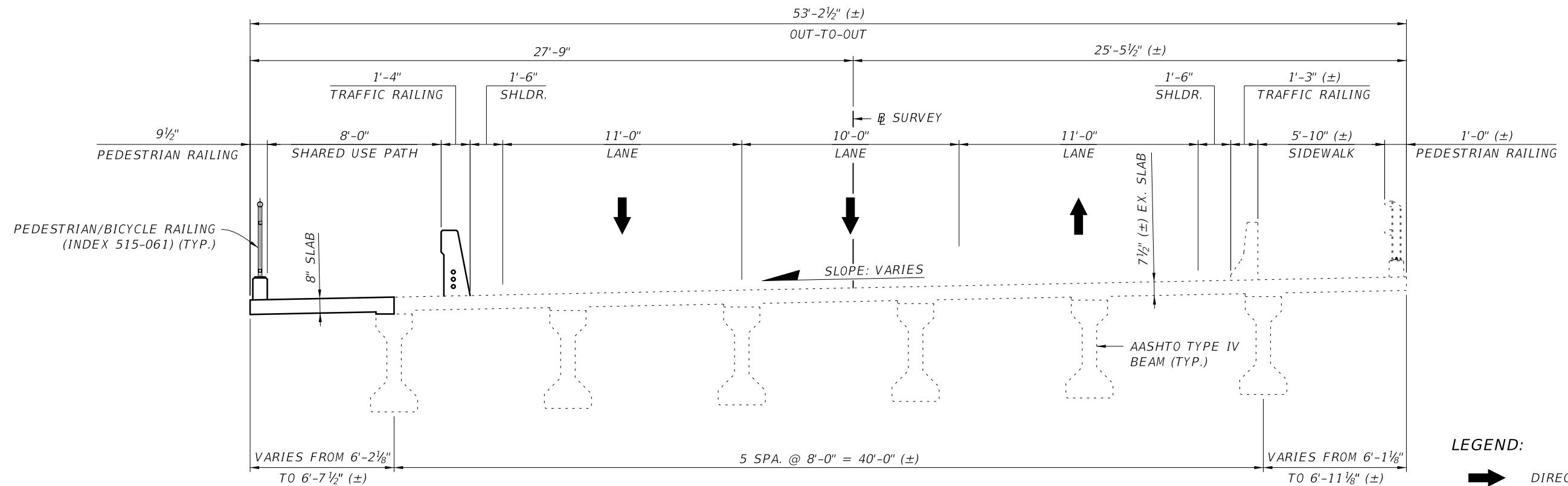
LEGEND:
 DIRECTION OF TRAFFIC

BRIDGE NO. 120088

REVISIONS						NATHANIEL ALLEN VAN ETEN, P.E. P.E. LICENSE NUMBER 73756 WANTMAN GROUP, INC. 3111 W. MARTIN LUTHER KING JR. BLVD., SUITE 375, TAMPA, FLORIDA 33607 CERTIFICATE OF AUTHORIZATION 00006091	DRAWN BY: ESK CHECKED BY: NVE DESIGNED BY: ESK CHECKED BY: NVE	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET TITLE: CONSTRUCTION SEQUENCE (2 OF 2)	REF. DWG. NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION			ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
							SR 865	LEE	433726-2-32-01	SR 865 (SAN CARLOS BLVD) FROM ESTERO BLVD TO NORTH OF HURRICANE BAY BRIDGE	B1-8	



TYPICAL BRIDGE SECTION
 STATION 19+52.00 TO 21+05.00
 STATION 29+70.83 TO 34+90.80
 STATION 40+45.90 TO 40+55.00

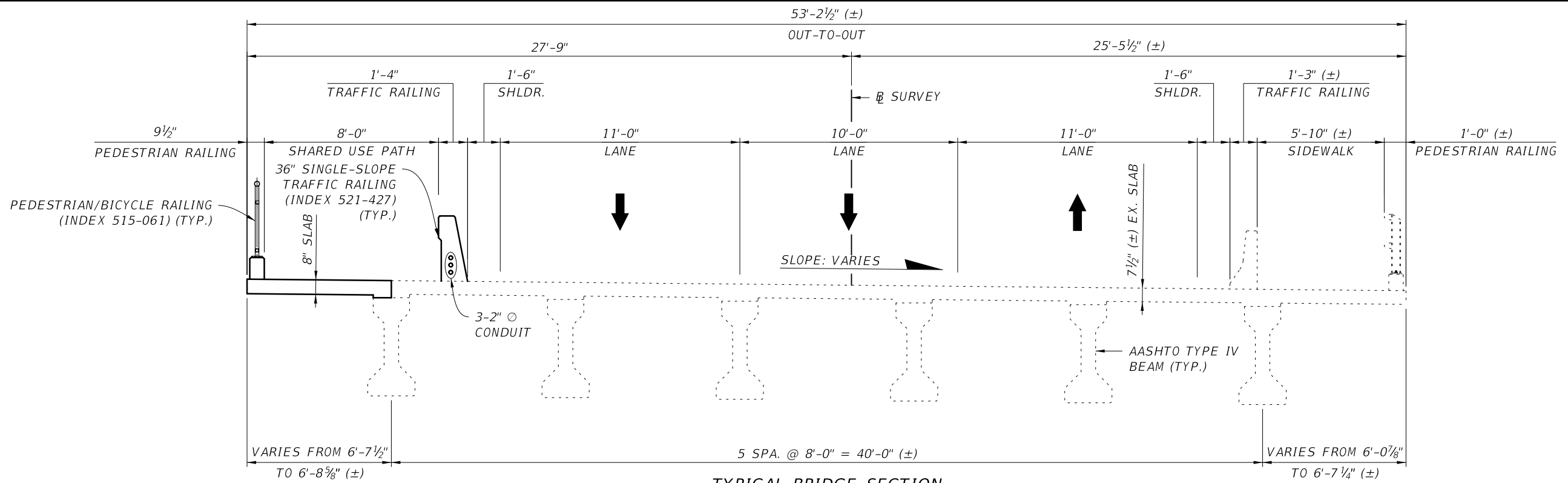


TYPICAL BRIDGE SECTION
 STATION 21+05.00 TO 29+70.83

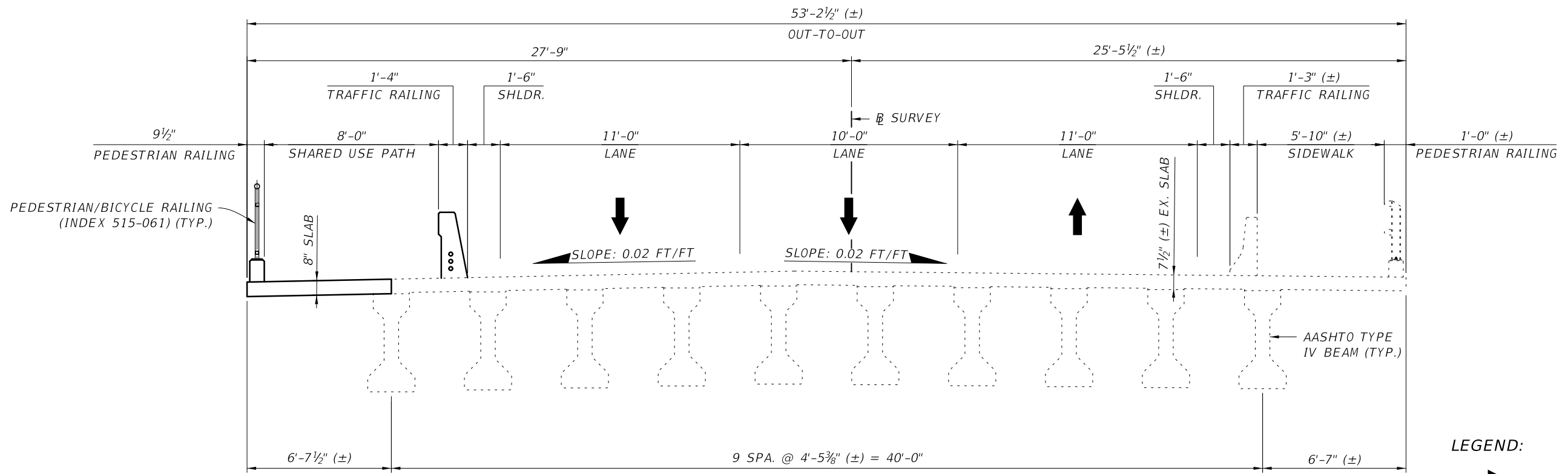
LEGEND:
 DIRECTION OF TRAFFIC

BRIDGE NO. 120088

REVISIONS						DRAWN BY: ESK	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET TITLE: SECTION THROUGH BRIDGE (1 OF 2)	REF. DWG. NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
							SR 865	LEE	433726-2-32-01	SR 865 (SAN CARLOS BLVD) FROM ESTERO BLVD TO NORTH OF HURRICANE BAY BRIDGE	B1-9



TYPICAL BRIDGE SECTION
STATION 34+90.80 TO 40+45.90



TYPICAL BRIDGE SECTION
EXISTING SPAN 11

LEGEND:
➔ DIRECTION OF TRAFFIC

BRIDGE NO. 120088

REVISIONS						NATHANIEL ALLEN VAN ETEN, P.E. P.E. LICENSE NUMBER 73756 WANTMAN GROUP, INC. 3111 W. MARTIN LUTHER KING JR. BLVD., SUITE 375, TAMPA, FLORIDA 33607 CERTIFICATE OF AUTHORIZATION 00006091	DRAWN BY: ESK CHECKED BY: NVE DESIGNED BY: ESK CHECKED BY: NVE	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SECTION THROUGH BRIDGE (2 OF 2)		REF. DWG. NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION			ROAD NO.	COUNTY	FINANCIAL PROJECT ID	PROJECT NAME:	SHEET NO.	
									SR 865	LEE	433726-2-32-01	SR 865 (SAN CARLOS BLVD) FROM ESTERO BLVD TO NORTH OF HURRICANE BAY BRIDGE	B1-10

***HALF THE SCUPPER CAPACITY WAS USED WHEN CALCULATING SPREAD TO ACCOUNT FOR 50% CLOGGING.
 *METHODOLOGY THROUGH SCUPPERS ASSUMES WEIR FLOW.**

WGI

Engineering • Planning • Surveying • Environmental

TCP PHASE 2 - NORTHBOUND (LEFT OF CREST) SPREAD CALCULATIONS

Project: San Carlos (SR 865)
 FPID: 433726-2-32-01
 County: LEE

Designer: CJC
 Checked by: ZAK
 Date: 5/4/2020

Reference: Section 6.3.2.4 Chapter 6, FDOT Drainage Design Guide, 2020

Structure Number	Station From (ft.)	Station To (ft.)	Side	Long. Slope S (%)	Cross Slope Sx (ft/ft)	Width (ft.)	Area A (Ac.)	Intensity i (in/hr)	Runoff Coeff. C	Flow Q (cfs)	By-Pass Upstream Qb (cfs)	Total Flow Qt (cfs)	Spread Width T (ft.)	By-Pass Flow Qb (cfs)	Allowable Spread (ft)	Remarks
MATANZAS BRIDGE																
4" SCUPPERS	030+00.00	029+94.00	RT	0.09%	0.0066	17.5	0.002	4.00	0.95	0.01	0.00	0.01	3.91	0.000	7.00	OK
4" SCUPPERS	029+94.00	029+88.00	RT	0.18%	0.0051	17.5	0.002	4.00	0.95	0.01	0.00	0.01	4.01	0.000	7.00	OK
4" SCUPPERS	029+88.00	029+82.00	RT	0.27%	0.0037	17.5	0.002	4.00	0.95	0.01	0.00	0.01	4.57	0.002	7.00	OK
4" SCUPPERS	029+82.00	029+76.00	RT	0.36%	0.0022	17.5	0.002	4.00	0.95	0.01	0.00	0.01	6.33	0.009	7.00	OK
4" SCUPPERS	029+76.00	029+70.00	RT	0.45%	0.0008	17.5	0.002	4.00	0.95	0.01	0.01	0.02	13.79	0.024	7.00	Need Additional Inlet *CROSS OVER ISSUE
4" SCUPPERS	029+70.00	029+64.00	RT	0.54%	0.0006	17.5	0.002	4.00	0.95	0.01	0.02	0.03	19.40	0.052	7.00	Need Additional Inlet *CROSS OVER ISSUE
DRAIN GRATE	021+04.00	019+52.00	RT	6.00%	0.0200	17.5	0.061	4.00	0.95	0.23	0.00	0.23	2.98	0.216	7.00	OK

CHECK INLET CAPACITY

Structure Number	Station From (ft.)	Station To (ft.)	T Depth @ Barrier (ft)	Inlet Weir Flow (cfs)	Total Flow Qt (cfs)	Bypass Qb
MATANZAS BRIDGE						
4" SCUPPERS	030+00.00	029+94.00	0.026	0.014	0.009	0.000
4" SCUPPERS	029+94.00	029+88.00	0.021	0.010	0.009	0.000
4" SCUPPERS	029+88.00	029+82.00	0.017	0.007	0.009	0.002
4" SCUPPERS	029+82.00	029+76.00	0.014	0.006	0.011	0.005
4" SCUPPERS	029+76.00	029+70.00	0.011	0.004	0.018	0.014
4" SCUPPERS	029+70.00	029+64.00	0.012	0.005	0.033	0.029

***SCUPPERS WERE CHECKED EVERY 14' TO ACCOUNT FOR 50% CLOGGING.**
***BARRIER WALL SLOTS WERE CHECKED EVERY 6' TO ACCOUNT FOR 50% CLOGGING.**
***METHODOLOGY THROUGH SCUPPERS AND SLOTS ASSUMES WEIR FLOW.**

WGI

Engineering • Planning • Surveying • Environmental

TCP PHASE 2 - SOUTHBOUND (LEFT OF CREST) SPREAD CALCULATIONS

Project: San Carlos (SR 865)
 FPID: 433726-2-32-01
 County: LEE

Designer: CJC
 Checked by: ZAK
 Date: 5/1/2020

Reference: Section 6.3.2.4 Chapter 6, FDOT Drainage Design Guide, 2020

Structure Number	Station From (ft.)	Station To (ft.)	Side	Long. Slope S (%)	Cross Slope Sx (ft/ft)	Width (ft.)	Area A (Ac.)	Intensity i (in/hr)	Runoff Coeff. C	Flow Q (cfs)	By-Pass Upstream Qb (cfs)	Total Flow Qt (cfs)	Spread Width T (ft.)	By-Pass Flow Qb (cfs)	Allowable Spread (ft)	Remarks
MATANZAS BRIDGE																
4" SCUPPER	030+00.00	029+86.00	LT	0.21%	0.020	17.5	0.006	4.00	0.95	0.02	0.00	0.02	2.28	0.000	7.00	OK
4" SCUPPER	029+86.00	029+72.00	LT	0.42%	0.020	17.5	0.006	4.00	0.95	0.02	0.00	0.02	2.01	0.000	7.00	OK
4" SCUPPER	029+72.00	029+58.00	LT	0.63%	0.020	41.0	0.013	4.00	0.95	0.05	0.00	0.05	2.56	0.011	7.00	OK
4" SCUPPER	029+58.00	029+44.00	LT	0.84%	0.020	41.0	0.013	4.00	0.95	0.05	0.01	0.06	2.62	0.021	7.00	OK
4" SCUPPER	029+44.00	029+30.00	LT	1.05%	0.020	41.0	0.013	4.00	0.95	0.05	0.02	0.07	2.65	0.030	7.00	OK
4" SCUPPER	029+30.00	029+16.00	LT	1.26%	0.020	41.0	0.013	4.00	0.95	0.05	0.03	0.08	2.68	0.042	7.00	OK
4" SCUPPER	029+16.00	029+02.00	LT	1.47%	0.020	41.0	0.013	4.00	0.95	0.05	0.04	0.09	2.75	0.054	7.00	OK
4" SCUPPER	029+02.00	028+88.00	LT	1.68%	0.020	41.0	0.013	4.00	0.95	0.05	0.05	0.10	2.80	0.066	7.00	OK
4" SCUPPER	028+88.00	028+74.00	LT	1.89%	0.020	41.0	0.013	4.00	0.95	0.05	0.07	0.12	2.85	0.077	7.00	OK
4" SCUPPER	028+74.00	028+60.00	LT	2.10%	0.020	41.0	0.013	4.00	0.95	0.05	0.08	0.13	2.90	0.089	7.00	OK
4" SCUPPER	028+60.00	028+46.00	LT	2.31%	0.028	41.0	0.013	4.00	0.95	0.05	0.09	0.14	2.38	0.085	7.00	OK
4" SCUPPER	028+46.00	028+32.00	LT	2.52%	0.028	41.0	0.013	4.00	0.95	0.05	0.08	0.14	2.32	0.082	7.00	OK
4" SCUPPER	028+32.00	028+18.00	LT	2.73%	0.028	41.0	0.013	4.00	0.95	0.05	0.08	0.13	2.27	0.081	7.00	OK
4" SCUPPER	028+18.00	028+04.00	LT	2.94%	0.028	41.0	0.013	4.00	0.95	0.05	0.08	0.13	2.23	0.081	7.00	OK
4" SCUPPER	028+04.00	027+90.00	LT	3.15%	0.028	41.0	0.013	4.00	0.95	0.05	0.08	0.13	2.20	0.081	7.00	OK
4" SCUPPER	027+90.00	027+76.00	LT	3.36%	0.028	41.0	0.013	4.00	0.95	0.05	0.08	0.13	2.17	0.082	7.00	OK
4" SCUPPER	027+76.00	027+62.00	LT	3.57%	0.028	41.0	0.013	4.00	0.95	0.05	0.08	0.13	2.16	0.084	7.00	OK
4" SCUPPER	027+62.00	027+48.00	LT	3.78%	0.028	41.0	0.013	4.00	0.95	0.05	0.08	0.13	2.14	0.086	7.00	OK
4" SCUPPER	027+48.00	027+34.00	LT	3.99%	0.028	41.0	0.013	4.00	0.95	0.05	0.09	0.14	2.13	0.089	7.00	OK
4" SCUPPER	027+34.00	027+20.00	LT	4.20%	0.028	41.0	0.013	4.00	0.95	0.05	0.09	0.14	2.13	0.091	7.00	OK
4" SCUPPER	027+20.00	027+06.00	LT	4.41%	0.028	41.0	0.013	4.00	0.95	0.05	0.09	0.14	2.12	0.094	7.00	OK
4" SCUPPER	027+06.00	026+92.00	LT	4.62%	0.028	41.0	0.013	4.00	0.95	0.05	0.09	0.14	2.12	0.097	7.00	OK
4" SCUPPER	026+92.00	026+78.00	LT	4.83%	0.028	41.0	0.013	4.00	0.95	0.05	0.10	0.15	2.12	0.100	7.00	OK
4" SCUPPER	026+78.00	026+64.00	LT	5.04%	0.028	41.0	0.013	4.00	0.95	0.05	0.10	0.15	2.12	0.103	7.00	OK
12" BW SLOT	026+64.00	026+58.00	LT	5.13%	0.028	41.0	0.006	4.00	0.95	0.02	0.00	0.02	1.02	0.007	7.00	OK
12" BW SLOT	026+58.00	026+52.00	LT	5.22%	0.028	41.0	0.006	4.00	0.95	0.02	0.01	0.03	1.13	0.012	7.00	OK
12" BW SLOT	026+52.00	026+46.00	LT	5.31%	0.028	41.0	0.006	4.00	0.95	0.02	0.01	0.03	1.19	0.015	7.00	OK
12" BW SLOT	026+46.00	026+40.00	LT	5.40%	0.028	41.0	0.006	4.00	0.95	0.02	0.01	0.04	1.23	0.017	7.00	OK
12" BW SLOT	026+40.00	026+34.00	LT	5.49%	0.028	41.0	0.006	4.00	0.95	0.02	0.02	0.04	1.25	0.019	7.00	OK
12" BW SLOT	026+34.00	026+28.00	LT	5.58%	0.028	41.0	0.006	4.00	0.95	0.02	0.02	0.04	1.27	0.020	7.00	OK
12" BW SLOT	026+28.00	026+22.00	LT	5.67%	0.028	41.0	0.006	4.00	0.95	0.02	0.02	0.04	1.28	0.021	7.00	OK
12" BW SLOT	026+22.00	026+16.00	LT	5.76%	0.028	41.0	0.006	4.00	0.95	0.02	0.02	0.04	1.29	0.022	7.00	OK
12" BW SLOT	026+16.00	026+10.00	LT	5.85%	0.028	41.0	0.006	4.00	0.95	0.02	0.02	0.04	1.30	0.023	7.00	OK
12" BW SLOT	026+10.00	026+04.00	LT	5.94%	0.028	41.0	0.006	4.00	0.95	0.02	0.02	0.04	1.30	0.024	7.00	OK
12" BW SLOT	026+04.00	025+98.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.02	0.04	1.30	0.024	7.00	OK
12" BW SLOT	025+98.00	025+92.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.02	0.05	1.31	0.024	7.00	OK
12" BW SLOT	025+92.00	025+86.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.02	0.05	1.31	0.025	7.00	OK
12" BW SLOT	025+86.00	025+80.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.02	0.05	1.32	0.025	7.00	OK
12" BW SLOT	025+80.00	025+74.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.02	0.05	1.32	0.025	7.00	OK
12" BW SLOT	025+74.00	025+68.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.32	0.025	7.00	OK

***BARRIER WALL SLOTS WERE CHECKED EVERY 6' TO ACCOUNT FOR 50% CLOGGING.
 *METHODOLOGY THROUGH SCUPPERS AND SLOTS ASSUMES WEIR FLOW.**

WGI

Engineering • Planning • Surveying • Environmental

TCP PHASE 2 - SOUTHBOUND (LEFT OF CREST) SPREAD CALCULATIONS

Project: San Carlos (SR 865)
 FPID: 433726-2-32-01
 County: LEE

Designer: CJC
 Checked by: ZAK
 Date: 5/1/2020

12" BW SLOT	025+68.00	025+62.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.32	0.025	7.00	OK
12" BW SLOT	025+62.00	025+56.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.32	0.025	7.00	OK
12" BW SLOT	025+56.00	025+50.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.32	0.025	7.00	OK
12" BW SLOT	025+50.00	025+44.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.32	0.025	7.00	OK
12" BW SLOT	025+44.00	025+38.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.32	0.025	7.00	OK
12" BW SLOT	025+38.00	025+32.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.025	7.00	OK
12" BW SLOT	025+32.00	025+26.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.025	7.00	OK
12" BW SLOT	025+26.00	025+20.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.025	7.00	OK
12" BW SLOT	025+20.00	025+14.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.025	7.00	OK
12" BW SLOT	025+14.00	025+08.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.025	7.00	OK
12" BW SLOT	025+08.00	025+02.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.025	7.00	OK
12" BW SLOT	025+02.00	024+96.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.025	7.00	OK
12" BW SLOT	024+96.00	024+90.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.025	7.00	OK
12" BW SLOT	024+90.00	024+84.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.026	7.00	OK
12" BW SLOT	024+84.00	024+78.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.026	7.00	OK
12" BW SLOT	024+78.00	024+72.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.026	7.00	OK
12" BW SLOT	024+72.00	024+66.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.026	7.00	OK
12" BW SLOT	024+66.00	024+60.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.026	7.00	OK
12" BW SLOT	024+60.00	024+54.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.026	7.00	OK
12" BW SLOT	024+54.00	024+48.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.026	7.00	OK
12" BW SLOT	024+48.00	024+42.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.026	7.00	OK
12" BW SLOT	024+42.00	024+36.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.026	7.00	OK
12" BW SLOT	024+36.00	024+30.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.026	7.00	OK
12" BW SLOT	024+30.00	024+24.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.026	7.00	OK
12" BW SLOT	024+24.00	024+18.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.026	7.00	OK
12" BW SLOT	024+18.00	024+12.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.026	7.00	OK
12" BW SLOT	024+12.00	024+06.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.026	7.00	OK
12" BW SLOT	024+06.00	024+00.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.026	7.00	OK
12" BW SLOT	024+00.00	023+94.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.026	7.00	OK
12" BW SLOT	023+94.00	023+88.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.026	7.00	OK
12" BW SLOT	023+88.00	023+82.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.026	7.00	OK
12" BW SLOT	023+82.00	023+76.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.026	7.00	OK
12" BW SLOT	023+76.00	023+70.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.026	7.00	OK
12" BW SLOT	023+70.00	023+64.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.026	7.00	OK
12" BW SLOT	023+64.00	023+58.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.026	7.00	OK
12" BW SLOT	023+58.00	023+52.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.026	7.00	OK
12" BW SLOT	023+52.00	023+46.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.026	7.00	OK
12" BW SLOT	023+46.00	023+40.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.026	7.00	OK
12" BW SLOT	023+40.00	023+34.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.026	7.00	OK
12" BW SLOT	023+34.00	023+28.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.026	7.00	OK
12" BW SLOT	023+28.00	023+22.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.026	7.00	OK
12" BW SLOT	023+22.00	023+16.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.026	7.00	OK
12" BW SLOT	023+16.00	023+10.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.026	7.00	OK
12" BW SLOT	023+10.00	023+04.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.026	7.00	OK
12" BW SLOT	023+04.00	022+98.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.026	7.00	OK
12" BW SLOT	022+98.00	022+92.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.026	7.00	OK
12" BW SLOT	022+92.00	022+86.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.026	7.00	OK
12" BW SLOT	022+86.00	022+80.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.026	7.00	OK
12" BW SLOT	022+80.00	022+74.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.026	7.00	OK

***BARRIER WALL SLOTS WERE CHECKED EVERY 6' TO ACCOUNT FOR 50% CLOGGING.
*METHODOLOGY THROUGH SCUPPERS AND SLOTS ASSUMES WEIR FLOW.**

WGI

Engineering • Planning • Surveying • Environmental

TCP PHASE 2 - SOUTHBOUND (LEFT OF CREST) SPREAD CALCULATIONS

Project: San Carlos (SR 865)
FPID: 433726-2-32-01
County: LEE

Designer: CJC
Checked by: ZAK
Date: 5/1/2020

12" BW SLOT	022+74.00	022+68.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.026	7.00	OK
12" BW SLOT	022+68.00	022+62.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.026	7.00	OK
12" BW SLOT	022+62.00	022+56.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.026	7.00	OK
12" BW SLOT	022+56.00	022+50.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.026	7.00	OK
12" BW SLOT	022+50.00	022+44.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.026	7.00	OK
12" BW SLOT	022+44.00	022+38.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.026	7.00	OK
12" BW SLOT	022+38.00	022+32.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.026	7.00	OK
12" BW SLOT	022+32.00	022+26.00	LT	6.00%	0.028	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.33	0.026	7.00	OK
12" BW SLOT	022+26.00	022+20.00	LT	6.00%	0.020	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.64	0.029	7.00	OK
12" BW SLOT	022+20.00	022+14.00	LT	6.00%	0.020	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.68	0.032	7.00	OK
12" BW SLOT	022+14.00	022+08.00	LT	6.00%	0.020	41.0	0.006	4.00	0.95	0.02	0.03	0.05	1.72	0.034	7.00	OK
12" BW SLOT	022+08.00	022+02.00	LT	6.00%	0.020	41.0	0.006	4.00	0.95	0.02	0.03	0.06	1.75	0.036	7.00	OK
12" BW SLOT	022+02.00	021+96.00	LT	6.00%	0.020	41.0	0.006	4.00	0.95	0.02	0.04	0.06	1.77	0.038	7.00	OK
12" BW SLOT	021+96.00	021+90.00	LT	6.00%	0.020	41.0	0.006	4.00	0.95	0.02	0.04	0.06	1.79	0.039	7.00	OK
12" BW SLOT	021+90.00	021+84.00	LT	6.00%	0.020	41.0	0.006	4.00	0.95	0.02	0.04	0.06	1.80	0.040	7.00	OK
12" BW SLOT	021+84.00	021+78.00	LT	6.00%	0.020	41.0	0.006	4.00	0.95	0.02	0.04	0.06	1.81	0.041	7.00	OK
12" BW SLOT	021+78.00	021+72.00	LT	6.00%	0.020	41.0	0.006	4.00	0.95	0.02	0.04	0.06	1.82	0.041	7.00	OK
12" BW SLOT	021+72.00	021+66.00	LT	6.00%	0.020	41.0	0.006	4.00	0.95	0.02	0.04	0.06	1.83	0.042	7.00	OK
12" BW SLOT	021+66.00	021+60.00	LT	6.00%	0.020	41.0	0.006	4.00	0.95	0.02	0.04	0.06	1.83	0.042	7.00	OK
12" BW SLOT	021+60.00	021+54.00	LT	6.00%	0.020	41.0	0.006	4.00	0.95	0.02	0.04	0.06	1.84	0.043	7.00	OK
12" BW SLOT	021+54.00	021+48.00	LT	6.00%	0.020	41.0	0.006	4.00	0.95	0.02	0.04	0.06	1.84	0.043	7.00	OK
12" BW SLOT	021+48.00	021+42.00	LT	6.00%	0.020	41.0	0.006	4.00	0.95	0.02	0.04	0.06	1.84	0.043	7.00	OK
12" BW SLOT	021+42.00	021+36.00	LT	6.00%	0.020	41.0	0.006	4.00	0.95	0.02	0.04	0.06	1.85	0.044	7.00	OK
12" BW SLOT	021+36.00	021+30.00	LT	6.00%	0.020	41.0	0.006	4.00	0.95	0.02	0.04	0.06	1.85	0.044	7.00	OK
12" BW SLOT	021+30.00	021+24.00	LT	6.00%	0.020	41.0	0.006	4.00	0.95	0.02	0.04	0.07	1.85	0.044	7.00	OK
12" BW SLOT	021+24.00	021+18.00	LT	6.00%	0.020	41.0	0.006	4.00	0.95	0.02	0.04	0.07	1.85	0.044	7.00	OK
12" BW SLOT	021+18.00	021+12.00	LT	6.00%	0.020	41.0	0.006	4.00	0.95	0.02	0.04	0.07	1.85	0.044	7.00	OK
12" BW SLOT	021+12.00	021+06.00	LT	6.00%	0.020	41.0	0.006	4.00	0.95	0.02	0.04	0.07	1.85	0.044	7.00	OK
12" BW SLOT	021+06.00	021+00.00	LT	6.00%	0.020	17.5	0.002	4.00	0.95	0.01	0.04	0.05	1.72	0.034	7.00	OK
12" BW SLOT	021+00.00	020+94.00	LT	6.00%	0.020	17.5	0.002	4.00	0.95	0.01	0.03	0.04	1.59	0.026	7.00	OK
12" BW SLOT	020+94.00	020+88.00	LT	6.00%	0.020	17.5	0.002	4.00	0.95	0.01	0.03	0.04	1.47	0.020	7.00	OK
12" BW SLOT	020+88.00	020+82.00	LT	6.00%	0.020	17.5	0.002	4.00	0.95	0.01	0.02	0.03	1.37	0.016	7.00	OK
12" BW SLOT	020+82.00	020+76.00	LT	6.00%	0.020	17.5	0.002	4.00	0.95	0.01	0.02	0.03	1.29	0.013	7.00	OK
12" BW SLOT	020+76.00	020+70.00	LT	6.00%	0.020	17.5	0.002	4.00	0.95	0.01	0.01	0.02	1.22	0.010	7.00	OK
12" BW SLOT	020+70.00	020+64.00	LT	6.00%	0.020	17.5	0.002	4.00	0.95	0.01	0.01	0.02	1.17	0.009	7.00	OK
12" BW SLOT	020+64.00	020+58.00	LT	6.00%	0.020	17.5	0.002	4.00	0.95	0.01	0.01	0.02	1.14	0.007	7.00	OK
12" BW SLOT	020+58.00	020+52.00	LT	6.00%	0.020	17.5	0.002	4.00	0.95	0.01	0.01	0.02	1.11	0.007	7.00	OK
12" BW SLOT	020+52.00	020+46.00	LT	6.00%	0.020	17.5	0.002	4.00	0.95	0.01	0.01	0.02	1.09	0.006	7.00	OK
12" BW SLOT	020+46.00	020+40.00	LT	6.00%	0.020	17.5	0.002	4.00	0.95	0.01	0.01	0.02	1.08	0.006	7.00	OK
12" BW SLOT	020+40.00	020+34.00	LT	6.00%	0.020	17.5	0.002	4.00	0.95	0.01	0.01	0.02	1.07	0.006	7.00	OK
12" BW SLOT	020+34.00	020+28.00	LT	6.00%	0.020	17.5	0.002	4.00	0.95	0.01	0.01	0.01	1.06	0.006	7.00	OK
12" BW SLOT	020+28.00	020+22.00	LT	6.00%	0.020	17.5	0.002	4.00	0.95	0.01	0.01	0.01	1.06	0.005	7.00	OK
12" BW SLOT	020+22.00	020+16.00	LT	6.00%	0.020	17.5	0.002	4.00	0.95	0.01	0.01	0.01	1.06	0.005	7.00	OK
12" BW SLOT	020+16.00	020+10.00	LT	6.00%	0.020	17.5	0.002	4.00	0.95	0.01	0.01	0.01	1.06	0.005	7.00	OK
12" BW SLOT	020+10.00	020+04.00	LT	6.00%	0.020	17.5	0.002	4.00	0.95	0.01	0.01	0.01	1.05	0.005	7.00	OK
12" BW SLOT	020+04.00	019+98.00	LT	6.00%	0.020	17.5	0.002	4.00	0.95	0.01	0.01	0.01	1.05	0.005	7.00	OK
12" BW SLOT	019+98.00	019+92.00	LT	6.00%	0.020	17.5	0.002	4.00	0.95	0.01	0.01	0.01	1.05	0.005	7.00	OK
12" BW SLOT	019+92.00	019+86.00	LT	6.00%	0.020	17.5	0.002	4.00	0.95	0.01	0.01	0.01	1.05	0.005	7.00	OK
12" BW SLOT	019+86.00	019+80.00	LT	6.00%	0.020	17.5	0.002	4.00	0.95	0.01	0.01	0.01	1.05	0.005	7.00	OK

***SCUPPERS WERE CHECKED EVERY 14' TO ACCOUNT FOR 50% CLOGGING.
 *BARRIER WALL SLOTS WERE CHECKED EVERY 6' TO ACCOUNT FOR 50% CLOGGING.
 *METHODOLOGY THROUGH SCUPPERS AND SLOTS ASSUMES WEIR FLOW.**

WGI

Engineering • Planning • Surveying • Environmental

TCP PHASE 2 - SOUTHBOUND (LEFT OF CREST) SPREAD CALCULATIONS

Project: San Carlos (SR 865)
 FPID: 433726-2-32-01
 County: LEE

Designer: CJC
 Checked by: ZAK
 Date: 5/1/2020

12" BW SLOT	019+80.00	019+74.00	LT	6.00%	0.020	17.5	0.002	4.00	0.95	0.01	0.01	0.01	1.05	0.005	7.00	OK
12" BW SLOT	019+74.00	019+68.00	LT	6.00%	0.020	17.5	0.002	4.00	0.95	0.01	0.01	0.01	1.05	0.005	7.00	OK
12" BW SLOT	019+68.00	019+62.00	LT	6.00%	0.020	17.5	0.002	4.00	0.95	0.01	0.01	0.01	1.05	0.005	7.00	OK
12" BW SLOT	019+62.00	019+56.00	LT	6.00%	0.020	17.5	0.002	4.00	0.95	0.01	0.01	0.01	1.05	0.005	7.00	OK
12" BW SLOT	019+56.00	019+52.00	LT	6.00%	0.020	17.5	0.002	4.00	0.95	0.01	0.01	0.01	0.96	0.003	7.00	OK

CHECK INLET CAPACITY

Structure Number	Station From (ft.)	Station To (ft.)	T Depth @ Barrier (ft)	Inlet Weir Flow (cfs)	Total Flow Qt (cfs)	Bypass Qb
MATANZAS BRIDGE						
4" SCUPPER	030+00.00	029+86.00	0.046	0.033	0.021	0.000
4" SCUPPER	029+86.00	029+72.00	0.040	0.027	0.021	0.000
4" SCUPPER	029+72.00	029+58.00	0.051	0.039	0.050	0.011
4" SCUPPER	029+58.00	029+44.00	0.052	0.040	0.061	0.021
4" SCUPPER	029+44.00	029+30.00	0.053	0.041	0.071	0.030
4" SCUPPER	029+30.00	029+16.00	0.054	0.042	0.081	0.039
4" SCUPPER	029+16.00	029+02.00	0.055	0.043	0.092	0.049
4" SCUPPER	029+02.00	028+88.00	0.056	0.044	0.104	0.060
4" SCUPPER	028+88.00	028+74.00	0.057	0.046	0.116	0.070
4" SCUPPER	028+74.00	028+60.00	0.058	0.047	0.127	0.081
4" SCUPPER	028+60.00	028+46.00	0.067	0.058	0.139	0.082
4" SCUPPER	028+46.00	028+32.00	0.065	0.055	0.135	0.080
4" SCUPPER	028+32.00	028+18.00	0.063	0.054	0.132	0.079
4" SCUPPER	028+18.00	028+04.00	0.062	0.052	0.131	0.079
4" SCUPPER	028+04.00	027+90.00	0.061	0.051	0.131	0.080
4" SCUPPER	027+90.00	027+76.00	0.061	0.050	0.131	0.081
4" SCUPPER	027+76.00	027+62.00	0.060	0.050	0.132	0.083
4" SCUPPER	027+62.00	027+48.00	0.060	0.049	0.134	0.085
4" SCUPPER	027+48.00	027+34.00	0.060	0.049	0.136	0.087
4" SCUPPER	027+34.00	027+20.00	0.060	0.049	0.139	0.090
4" SCUPPER	027+20.00	027+06.00	0.059	0.048	0.141	0.093
4" SCUPPER	027+06.00	026+92.00	0.059	0.048	0.144	0.096
4" SCUPPER	026+92.00	026+78.00	0.059	0.048	0.147	0.098
4" SCUPPER	026+78.00	026+64.00	0.059	0.048	0.150	0.101
12" BW SLOT	026+64.00	026+58.00	0.029	0.014	0.021	0.007
12" BW SLOT	026+58.00	026+52.00	0.032	0.017	0.028	0.012
12" BW SLOT	026+52.00	026+46.00	0.033	0.018	0.033	0.015
12" BW SLOT	026+46.00	026+40.00	0.034	0.019	0.036	0.017
12" BW SLOT	026+40.00	026+34.00	0.035	0.020	0.039	0.019
12" BW SLOT	026+34.00	026+28.00	0.036	0.020	0.040	0.020
12" BW SLOT	026+28.00	026+22.00	0.036	0.020	0.042	0.021
12" BW SLOT	026+22.00	026+16.00	0.036	0.021	0.043	0.022
12" BW SLOT	026+16.00	026+10.00	0.036	0.021	0.044	0.023
12" BW SLOT	026+10.00	026+04.00	0.036	0.021	0.044	0.024

***BARRIER WALL SLOTS WERE CHECKED EVERY 6' TO ACCOUNT FOR 50% CLOGGING.
 *METHODOLOGY THROUGH SCUPPERS AND SLOTS ASSUMES WEIR FLOW.**

WGI

Engineering • Planning • Surveying • Environmental

TCP PHASE 2 - SOUTHBOUND (LEFT OF CREST) SPREAD CALCULATIONS

Project: San Carlos (SR 865)
 FPID: 433726-2-32-01
 County: LEE

Designer: CJC
 Checked by: ZAK
 Date: 5/1/2020

12" BW SLOT	026+04.00	025+98.00	0.037	0.021	0.045	0.024
12" BW SLOT	025+98.00	025+92.00	0.037	0.021	0.045	0.024
12" BW SLOT	025+92.00	025+86.00	0.037	0.021	0.046	0.025
12" BW SLOT	025+86.00	025+80.00	0.037	0.021	0.046	0.025
12" BW SLOT	025+80.00	025+74.00	0.037	0.021	0.046	0.025
12" BW SLOT	025+74.00	025+68.00	0.037	0.021	0.047	0.025
12" BW SLOT	025+68.00	025+62.00	0.037	0.021	0.047	0.025
12" BW SLOT	025+62.00	025+56.00	0.037	0.021	0.047	0.025
12" BW SLOT	025+56.00	025+50.00	0.037	0.021	0.047	0.025
12" BW SLOT	025+50.00	025+44.00	0.037	0.021	0.047	0.025
12" BW SLOT	025+44.00	025+38.00	0.037	0.021	0.047	0.025
12" BW SLOT	025+38.00	025+32.00	0.037	0.021	0.047	0.025
12" BW SLOT	025+32.00	025+26.00	0.037	0.021	0.047	0.025
12" BW SLOT	025+26.00	025+20.00	0.037	0.021	0.047	0.025
12" BW SLOT	025+20.00	025+14.00	0.037	0.021	0.047	0.025
12" BW SLOT	025+14.00	025+08.00	0.037	0.021	0.047	0.025
12" BW SLOT	025+08.00	025+02.00	0.037	0.021	0.047	0.025
12" BW SLOT	025+02.00	024+96.00	0.037	0.021	0.047	0.025
12" BW SLOT	024+96.00	024+90.00	0.037	0.021	0.047	0.025
12" BW SLOT	024+90.00	024+84.00	0.037	0.021	0.047	0.026
12" BW SLOT	024+84.00	024+78.00	0.037	0.021	0.047	0.026
12" BW SLOT	024+78.00	024+72.00	0.037	0.021	0.047	0.026
12" BW SLOT	024+72.00	024+66.00	0.037	0.021	0.047	0.026
12" BW SLOT	024+66.00	024+60.00	0.037	0.021	0.047	0.026
12" BW SLOT	024+60.00	024+54.00	0.037	0.021	0.047	0.026
12" BW SLOT	024+54.00	024+48.00	0.037	0.021	0.047	0.026
12" BW SLOT	024+48.00	024+42.00	0.037	0.021	0.047	0.026
12" BW SLOT	024+42.00	024+36.00	0.037	0.021	0.047	0.026
12" BW SLOT	024+36.00	024+30.00	0.037	0.021	0.047	0.026
12" BW SLOT	024+30.00	024+24.00	0.037	0.021	0.047	0.026
12" BW SLOT	024+24.00	024+18.00	0.037	0.021	0.047	0.026
12" BW SLOT	024+18.00	024+12.00	0.037	0.021	0.047	0.026
12" BW SLOT	024+12.00	024+06.00	0.037	0.021	0.047	0.026
12" BW SLOT	024+06.00	024+00.00	0.037	0.021	0.047	0.026
12" BW SLOT	024+00.00	023+94.00	0.037	0.021	0.047	0.026
12" BW SLOT	023+94.00	023+88.00	0.037	0.021	0.047	0.026
12" BW SLOT	023+88.00	023+82.00	0.037	0.021	0.047	0.026
12" BW SLOT	023+82.00	023+76.00	0.037	0.021	0.047	0.026
12" BW SLOT	023+76.00	023+70.00	0.037	0.021	0.047	0.026
12" BW SLOT	023+70.00	023+64.00	0.037	0.021	0.047	0.026
12" BW SLOT	023+64.00	023+58.00	0.037	0.021	0.047	0.026
12" BW SLOT	023+58.00	023+52.00	0.037	0.021	0.047	0.026
12" BW SLOT	023+52.00	023+46.00	0.037	0.021	0.047	0.026
12" BW SLOT	023+46.00	023+40.00	0.037	0.021	0.047	0.026
12" BW SLOT	023+40.00	023+34.00	0.037	0.021	0.047	0.026
12" BW SLOT	023+34.00	023+28.00	0.037	0.021	0.047	0.026
12" BW SLOT	023+28.00	023+22.00	0.037	0.021	0.047	0.026
12" BW SLOT	023+22.00	023+16.00	0.037	0.021	0.047	0.026
12" BW SLOT	023+16.00	023+10.00	0.037	0.021	0.047	0.026

***BARRIER WALL SLOTS WERE CHECKED EVERY 6' TO ACCOUNT FOR 50% CLOGGING.
 *METHODOLOGY THROUGH SCUPPERS AND SLOTS ASSUMES WEIR FLOW.**

WGI

Engineering • Planning • Surveying • Environmental

TCP PHASE 2 - SOUTHBOUND (LEFT OF CREST) SPREAD CALCULATIONS

Project: San Carlos (SR 865)
 FPID: 433726-2-32-01
 County: LEE

Designer: CJC
 Checked by: ZAK
 Date: 5/1/2020

12" BW SLOT	023+10.00	023+04.00	0.037	0.021	0.047	0.026
12" BW SLOT	023+04.00	022+98.00	0.037	0.021	0.047	0.026
12" BW SLOT	022+98.00	022+92.00	0.037	0.021	0.047	0.026
12" BW SLOT	022+92.00	022+86.00	0.037	0.021	0.047	0.026
12" BW SLOT	022+86.00	022+80.00	0.037	0.021	0.047	0.026
12" BW SLOT	022+80.00	022+74.00	0.037	0.021	0.047	0.026
12" BW SLOT	022+74.00	022+68.00	0.037	0.021	0.047	0.026
12" BW SLOT	022+68.00	022+62.00	0.037	0.021	0.047	0.026
12" BW SLOT	022+62.00	022+56.00	0.037	0.021	0.047	0.026
12" BW SLOT	022+56.00	022+50.00	0.037	0.021	0.047	0.026
12" BW SLOT	022+50.00	022+44.00	0.037	0.021	0.047	0.026
12" BW SLOT	022+44.00	022+38.00	0.037	0.021	0.047	0.026
12" BW SLOT	022+38.00	022+32.00	0.037	0.021	0.047	0.026
12" BW SLOT	022+32.00	022+26.00	0.037	0.021	0.047	0.026
12" BW SLOT	022+26.00	022+20.00	0.033	0.018	0.047	0.029
12" BW SLOT	022+20.00	022+14.00	0.034	0.019	0.051	0.032
12" BW SLOT	022+14.00	022+08.00	0.034	0.019	0.054	0.034
12" BW SLOT	022+08.00	022+02.00	0.035	0.020	0.056	0.036
12" BW SLOT	022+02.00	021+96.00	0.035	0.020	0.058	0.038
12" BW SLOT	021+96.00	021+90.00	0.036	0.020	0.059	0.039
12" BW SLOT	021+90.00	021+84.00	0.036	0.020	0.061	0.040
12" BW SLOT	021+84.00	021+78.00	0.036	0.021	0.061	0.041
12" BW SLOT	021+78.00	021+72.00	0.036	0.021	0.062	0.041
12" BW SLOT	021+72.00	021+66.00	0.037	0.021	0.063	0.042
12" BW SLOT	021+66.00	021+60.00	0.037	0.021	0.063	0.042
12" BW SLOT	021+60.00	021+54.00	0.037	0.021	0.064	0.043
12" BW SLOT	021+54.00	021+48.00	0.037	0.021	0.064	0.043
12" BW SLOT	021+48.00	021+42.00	0.037	0.021	0.065	0.043
12" BW SLOT	021+42.00	021+36.00	0.037	0.021	0.065	0.044
12" BW SLOT	021+36.00	021+30.00	0.037	0.021	0.065	0.044
12" BW SLOT	021+30.00	021+24.00	0.037	0.021	0.065	0.044
12" BW SLOT	021+24.00	021+18.00	0.037	0.021	0.065	0.044
12" BW SLOT	021+18.00	021+12.00	0.037	0.021	0.065	0.044
12" BW SLOT	021+12.00	021+06.00	0.037	0.021	0.065	0.044
12" BW SLOT	021+06.00	021+00.00	0.034	0.019	0.053	0.034
12" BW SLOT	021+00.00	020+94.00	0.032	0.017	0.043	0.026
12" BW SLOT	020+94.00	020+88.00	0.029	0.015	0.036	0.020
12" BW SLOT	020+88.00	020+82.00	0.027	0.014	0.030	0.016
12" BW SLOT	020+82.00	020+76.00	0.026	0.012	0.025	0.013
12" BW SLOT	020+76.00	020+70.00	0.024	0.012	0.022	0.010
12" BW SLOT	020+70.00	020+64.00	0.023	0.011	0.019	0.009
12" BW SLOT	020+64.00	020+58.00	0.023	0.010	0.018	0.007
12" BW SLOT	020+58.00	020+52.00	0.022	0.010	0.017	0.007
12" BW SLOT	020+52.00	020+46.00	0.022	0.010	0.016	0.006
12" BW SLOT	020+46.00	020+40.00	0.022	0.009	0.015	0.006
12" BW SLOT	020+40.00	020+34.00	0.021	0.009	0.015	0.006
12" BW SLOT	020+34.00	020+28.00	0.021	0.009	0.015	0.006
12" BW SLOT	020+28.00	020+22.00	0.021	0.009	0.015	0.005
12" BW SLOT	020+22.00	020+16.00	0.021	0.009	0.015	0.005

***BARRIER WALL SLOTS WERE CHECKED EVERY 6' TO ACCOUNT FOR 50% CLOGGING.
 *METHODOLOGY THROUGH SCUPPERS AND SLOTS ASSUMES WEIR FLOW.**

WGI

Engineering • Planning • Surveying • Environmental

TCP PHASE 2 - SOUTHBOUND (LEFT OF CREST) SPREAD CALCULATIONS

Project: San Carlos (SR 865)
 FPID: 433726-2-32-01
 County: LEE

Designer: CJC
 Checked by: ZAK
 Date: 5/1/2020

12" BW SLOT	020+16.00	020+10.00	0.021	0.009	0.015	0.005
12" BW SLOT	020+10.00	020+04.00	0.021	0.009	0.015	0.005
12" BW SLOT	020+04.00	019+98.00	0.021	0.009	0.015	0.005
12" BW SLOT	019+98.00	019+92.00	0.021	0.009	0.015	0.005
12" BW SLOT	019+92.00	019+86.00	0.021	0.009	0.014	0.005
12" BW SLOT	019+86.00	019+80.00	0.021	0.009	0.014	0.005
12" BW SLOT	019+80.00	019+74.00	0.021	0.009	0.014	0.005
12" BW SLOT	019+74.00	019+68.00	0.021	0.009	0.014	0.005
12" BW SLOT	019+68.00	019+62.00	0.021	0.009	0.014	0.005
12" BW SLOT	019+62.00	019+56.00	0.021	0.009	0.014	0.005
12" BW SLOT	019+56.00	019+52.00	0.019	0.008	0.011	0.003

***SCUPPERS WERE CHECKED EVERY 14' TO ACCOUNT FOR 50% CLOGGING.
 *HALF OF DRAIN GRATE LENGTH WAS USED TO ACCOUNT FOR 50% CLOGGING.
 *METHODOLOGY THROUGH SCUPPERS AND GRATES ASSUMES WEIR FLOW.**

WGI

Engineering • Planning • Surveying • Environmental

TCP PHASE 2 - NORTHBOUND (RIGHT OF CREST) SPREAD CALCULATIONS

Project: San Carlos (SR 865)
 FPID: 433726-2-32-01
 County: LEE

Designer: CJC
 Checked by: ZAK
 Date: 5/4/2020

Reference: Section 6.3.2.4 Chapter 6, FDOT Drainage Design Guide, 2020

Structure Number	Station From (ft.)	Station To (ft.)	Side	Long. Slope S (%)	Cross Slope Sx (ft/ft)	Width (ft.)	Area A (Ac.)	Intensity I (in/hr)	Runoff Coeff. C	Flow Q (cfs)	By-Pass Upstream Qb (cfs)	Total Flow Qt (cfs)	Spread Width T (ft.)	By-Pass Flow Qb (cfs)	Allowable Spread (ft)	Remarks
MATANZAS BRIDGE																
4" SCUPPER	030+00.00	030+14.00	RT	0.21%	0.020	17.5	0.006	4.00	0.95	0.02	0.00	0.02	2.28	0.000	7.00	OK
4" SCUPPER	030+14.00	030+28.00	RT	0.42%	0.020	17.5	0.006	4.00	0.95	0.02	0.00	0.02	2.01	0.000	7.00	OK
4" SCUPPER	030+28.00	030+42.00	RT	0.63%	0.020	17.5	0.006	4.00	0.95	0.02	0.00	0.02	1.86	0.000	7.00	OK
4" SCUPPER	030+42.00	030+56.00	RT	0.84%	0.020	17.5	0.006	4.00	0.95	0.02	0.00	0.02	1.76	0.000	7.00	OK
4" SCUPPER	030+56.00	030+70.00	RT	1.05%	0.020	17.5	0.006	4.00	0.95	0.02	0.00	0.02	1.69	0.001	7.00	OK
4" SCUPPER	030+70.00	030+84.00	RT	1.26%	0.020	17.5	0.006	4.00	0.95	0.02	0.00	0.02	1.65	0.002	7.00	OK
4" SCUPPER	030+84.00	030+98.00	RT	1.47%	0.020	17.5	0.006	4.00	0.95	0.02	0.00	0.02	1.64	0.003	7.00	OK
4" SCUPPER	030+98.00	031+12.00	RT	1.68%	0.020	17.5	0.006	4.00	0.95	0.02	0.00	0.02	1.64	0.005	7.00	OK
4" SCUPPER	031+12.00	031+26.00	RT	1.89%	0.020	17.5	0.006	4.00	0.95	0.02	0.01	0.03	1.64	0.007	7.00	OK
4" SCUPPER	031+26.00	031+40.00	RT	2.10%	0.020	17.5	0.006	4.00	0.95	0.02	0.01	0.03	1.64	0.008	7.00	OK
4" SCUPPER	031+40.00	031+54.00	RT	2.31%	0.020	17.5	0.006	4.00	0.95	0.02	0.01	0.03	1.64	0.010	7.00	OK
4" SCUPPER	031+54.00	031+68.00	RT	2.52%	0.020	17.5	0.006	4.00	0.95	0.02	0.01	0.03	1.65	0.011	7.00	OK
4" SCUPPER	031+68.00	031+82.00	RT	2.73%	0.020	17.5	0.006	4.00	0.95	0.02	0.01	0.03	1.65	0.012	7.00	OK
4" SCUPPER	031+82.00	031+96.00	RT	2.94%	0.020	17.5	0.006	4.00	0.95	0.02	0.01	0.03	1.65	0.014	7.00	OK
4" SCUPPER	031+96.00	032+10.00	RT	3.15%	0.020	17.5	0.006	4.00	0.95	0.02	0.01	0.03	1.65	0.015	7.00	OK
4" SCUPPER	032+10.00	032+24.00	RT	3.36%	0.020	17.5	0.006	4.00	0.95	0.02	0.01	0.04	1.65	0.016	7.00	OK
4" SCUPPER	032+24.00	032+38.00	RT	3.57%	0.020	17.5	0.006	4.00	0.95	0.02	0.02	0.04	1.66	0.017	7.00	OK
4" SCUPPER	032+38.00	032+52.00	RT	3.78%	0.020	17.5	0.006	4.00	0.95	0.02	0.02	0.04	1.66	0.018	7.00	OK
4" SCUPPER	032+52.00	032+66.00	RT	3.99%	0.020	17.5	0.006	4.00	0.95	0.02	0.02	0.04	1.66	0.020	7.00	OK
4" SCUPPER	032+66.00	032+80.00	RT	4.20%	0.020	17.5	0.006	4.00	0.95	0.02	0.02	0.04	1.66	0.021	7.00	OK
4" SCUPPER	032+80.00	032+94.00	RT	4.41%	0.020	17.5	0.006	4.00	0.95	0.02	0.02	0.04	1.66	0.022	7.00	OK
4" SCUPPER	032+94.00	033+08.00	RT	4.62%	0.020	17.5	0.006	4.00	0.95	0.02	0.02	0.04	1.67	0.023	7.00	OK
4" SCUPPER	033+08.00	033+22.00	RT	4.83%	0.020	17.5	0.006	4.00	0.95	0.02	0.02	0.04	1.67	0.024	7.00	OK
4" SCUPPER	033+22.00	033+36.00	RT	5.04%	0.020	17.5	0.006	4.00	0.95	0.02	0.02	0.05	1.67	0.008	7.00	OK
4" SCUPPER	033+36.00	033+50.00	RT	5.25%	0.020	17.5	0.006	4.00	0.95	0.02	0.01	0.03	1.40	0.014	7.00	OK
4" SCUPPER	033+50.00	033+64.00	RT	5.46%	0.020	17.5	0.006	4.00	0.95	0.02	0.01	0.04	1.49	0.014	7.00	OK
4" SCUPPER	033+64.00	033+78.00	RT	5.67%	0.020	17.5	0.006	4.00	0.95	0.02	0.01	0.03	1.48	0.015	7.00	OK
4" SCUPPER	033+78.00	033+92.00	RT	5.88%	0.020	17.5	0.006	4.00	0.95	0.02	0.02	0.04	1.50	0.016	7.00	OK
4" SCUPPER	033+92.00	034+06.00	RT	6.00%	0.020	17.5	0.006	4.00	0.95	0.02	0.02	0.04	1.51	0.019	7.00	OK
DRAIN GRATE	034+06.00	035+10.00	RT	6.00%	0.020	35.0	0.084	4.00	0.95	0.32	0.00	0.32	3.35	0.061	7.00	OK
DRAIN GRATE	035+10.00	036+91.00	RT	6.00%	0.020	35.0	0.145	4.00	0.95	0.55	0.06	0.61	4.29	0.184	7.00	OK
DRAIN GRATE	036+91.00	038+73.00	RT	6.00%	0.020	35.0	0.146	4.00	0.95	0.56	0.18	0.74	4.60	0.245	7.00	OK
DRAIN GRATE	038+73.00	040+55.00	RT	6.00%	0.020	35.0	0.146	4.00	0.95	0.56	0.25	0.80	4.74	0.276	7.00	OK

CHECK INLET CAPACITY

Structure Number	Station From (ft.)	Station To (ft.)	T Depth @ Barrier (ft)	Inlet Weir Flow (cfs)	Total Flow Qt (cfs)	Bypass Qb
MATANZAS BRIDGE						
4" SCUPPER	030+00.00	030+14.00	0.046	0.031	0.021	0.000
4" SCUPPER	030+14.00	030+28.00	0.040	0.025	0.021	0.000
4" SCUPPER	030+28.00	030+42.00	0.037	0.024	0.021	0.000

***SCUPPERS WERE CHECKED EVERY 14' TO ACCOUNT FOR 50% CLOGGING.
 *METHODOLOGY THROUGH SCUPPERS ASSUMES WEIR FLOW.**

WGI

Engineering • Planning • Surveying • Environmental

TCP PHASE 2 - NORTHBOUND (RIGHT OF CREST) SPREAD CALCULATIONS

Project: San Carlos (SR 865)
 FPID: 433726-2-32-01
 County: LEE

Designer: CJC
 Checked by: ZAK
 Date: 5/4/2020

4" SCUPPER	030+42.00	030+56.00	0.035	0.022	0.021	0.000
4" SCUPPER	030+56.00	030+70.00	0.034	0.021	0.021	0.001
4" SCUPPER	030+70.00	030+84.00	0.033	0.020	0.022	0.002
4" SCUPPER	030+84.00	030+98.00	0.033	0.020	0.023	0.003
4" SCUPPER	030+98.00	031+12.00	0.033	0.020	0.025	0.005
4" SCUPPER	031+12.00	031+26.00	0.033	0.020	0.026	0.007
4" SCUPPER	031+26.00	031+40.00	0.033	0.020	0.028	0.008
4" SCUPPER	031+40.00	031+54.00	0.033	0.020	0.029	0.010
4" SCUPPER	031+54.00	031+68.00	0.033	0.020	0.031	0.011
4" SCUPPER	031+68.00	031+82.00	0.033	0.020	0.032	0.012
4" SCUPPER	031+82.00	031+96.00	0.033	0.020	0.034	0.014
4" SCUPPER	031+96.00	032+10.00	0.033	0.020	0.035	0.015
4" SCUPPER	032+10.00	032+24.00	0.033	0.020	0.036	0.016
4" SCUPPER	032+24.00	032+38.00	0.033	0.020	0.037	0.017
4" SCUPPER	032+38.00	032+52.00	0.033	0.020	0.039	0.018
4" SCUPPER	032+52.00	032+66.00	0.033	0.020	0.040	0.020
4" SCUPPER	032+66.00	032+80.00	0.033	0.020	0.041	0.021
4" SCUPPER	032+80.00	032+94.00	0.033	0.020	0.042	0.022
4" SCUPPER	032+94.00	033+08.00	0.033	0.020	0.043	0.023
4" SCUPPER	033+08.00	033+22.00	0.033	0.020	0.044	0.024
4" SCUPPER	033+22.00	033+36.00	0.033	0.020	0.028	0.008
4" SCUPPER	033+36.00	033+50.00	0.028	0.016	0.029	0.014
4" SCUPPER	033+50.00	033+64.00	0.030	0.017	0.031	0.014
4" SCUPPER	033+64.00	033+78.00	0.030	0.017	0.032	0.015
4" SCUPPER	033+78.00	033+92.00	0.030	0.017	0.034	0.016
4" SCUPPER	033+92.00	034+06.00	0.030	0.018	0.036	0.019

***SCUPPERS WERE CHECKED EVERY 14' TO ACCOUNT FOR 50% CLOGGING.
 *HALF OF DRAIN GRATE LENGTH WAS USED TO ACCOUNT FOR 50% CLOGGING.
 *METHODOLOGY THROUGH SCUPPERS AND GRATES ASSUMES WEIR FLOW.**

WGI

Engineering • Planning • Surveying • Environmental

TCP PHASE 2 - SOUTHBOUND (RIGHT OF CREST) SPREAD CALCULATIONS

Project: San Carlos (SR 865)
 FPID: 433726-2-32-01
 County: LEE

Designer: CJC
 Checked by: ZAK
 Date: 5/4/2020

Reference: Section 6.3.2.4 Chapter 6, FDOT Drainage Design Guide, 2020

Structure Number	Station From (ft.)	Station To (ft.)	Side	Long. Slope S (%)	Cross Slope Sx (ft/ft)	Width (ft.)	Area A (Ac.)	Intensity I (in/hr)	Runoff Coeff. C	Flow Q (cfs)	By-Pass Upstream Qb (cfs)	Total Flow Qt (cfs)	Spread Width T (ft.)	By-Pass Flow Qb (cfs)	Allowable Spread (ft)	Remarks
MATANZAS BRIDGE																
4" SCUPPER	030+00.00	030+14.00	LT	0.21%	0.011	17.5	0.006	4.00	0.95	0.02	0.00	0.02	3.25	0.000	7.00	OK
4" SCUPPER	030+14.00	030+28.00	LT	0.42%	0.015	17.5	0.006	4.00	0.95	0.02	0.00	0.02	2.43	0.000	7.00	OK
4" SCUPPER	030+28.00	030+42.00	LT	0.63%	0.018	17.5	0.006	4.00	0.95	0.02	0.00	0.02	1.98	0.000	7.00	OK
4" SCUPPER	030+42.00	030+56.00	LT	0.84%	0.020	17.5	0.006	4.00	0.95	0.02	0.00	0.02	1.76	0.000	7.00	OK
4" SCUPPER	030+56.00	030+70.00	LT	1.05%	0.020	17.5	0.006	4.00	0.95	0.02	0.00	0.02	1.69	0.001	7.00	OK
4" SCUPPER	030+70.00	030+84.00	LT	1.26%	0.020	17.5	0.006	4.00	0.95	0.02	0.00	0.02	1.65	0.002	7.00	OK
4" SCUPPER	030+84.00	030+98.00	LT	1.47%	0.020	17.5	0.006	4.00	0.95	0.02	0.00	0.02	1.64	0.003	7.00	OK
4" SCUPPER	030+98.00	031+12.00	LT	1.68%	0.020	17.5	0.006	4.00	0.95	0.02	0.00	0.02	1.64	0.005	7.00	OK
4" SCUPPER	031+12.00	031+26.00	LT	1.89%	0.020	17.5	0.006	4.00	0.95	0.02	0.01	0.03	1.64	0.007	7.00	OK
4" SCUPPER	031+26.00	031+40.00	LT	2.10%	0.020	17.5	0.006	4.00	0.95	0.02	0.01	0.03	1.64	0.008	7.00	OK
4" SCUPPER	031+40.00	031+54.00	LT	2.31%	0.020	17.5	0.006	4.00	0.95	0.02	0.01	0.03	1.64	0.010	7.00	OK
4" SCUPPER	031+54.00	031+68.00	LT	2.52%	0.020	17.5	0.006	4.00	0.95	0.02	0.01	0.03	1.65	0.011	7.00	OK
4" SCUPPER	031+68.00	031+82.00	LT	2.73%	0.020	17.5	0.006	4.00	0.95	0.02	0.01	0.03	1.65	0.012	7.00	OK
4" SCUPPER	031+82.00	031+96.00	LT	2.94%	0.020	17.5	0.006	4.00	0.95	0.02	0.01	0.03	1.65	0.014	7.00	OK
4" SCUPPER	031+96.00	032+10.00	LT	3.15%	0.020	17.5	0.006	4.00	0.95	0.02	0.01	0.03	1.65	0.015	7.00	OK
4" SCUPPER	032+10.00	032+24.00	LT	3.36%	0.020	17.5	0.006	4.00	0.95	0.02	0.01	0.04	1.65	0.016	7.00	OK
4" SCUPPER	032+24.00	032+38.00	LT	3.57%	0.020	17.5	0.006	4.00	0.95	0.02	0.02	0.04	1.66	0.017	7.00	OK
4" SCUPPER	032+38.00	032+52.00	LT	3.78%	0.020	17.5	0.006	4.00	0.95	0.02	0.02	0.04	1.66	0.018	7.00	OK
4" SCUPPER	032+52.00	032+66.00	LT	3.99%	0.020	17.5	0.006	4.00	0.95	0.02	0.02	0.04	1.66	0.020	7.00	OK
4" SCUPPER	032+66.00	032+80.00	LT	4.20%	0.020	17.5	0.006	4.00	0.95	0.02	0.02	0.04	1.66	0.021	7.00	OK
4" SCUPPER	032+80.00	032+94.00	LT	4.41%	0.020	17.5	0.006	4.00	0.95	0.02	0.02	0.04	1.66	0.022	7.00	OK
4" SCUPPER	032+94.00	033+08.00	LT	4.62%	0.020	17.5	0.006	4.00	0.95	0.02	0.02	0.04	1.66	0.023	7.00	OK
4" SCUPPER	033+08.00	033+22.00	LT	4.83%	0.020	17.5	0.006	4.00	0.95	0.02	0.02	0.04	1.66	0.024	7.00	OK
4" SCUPPER	033+22.00	033+36.00	LT	5.04%	0.020	17.5	0.006	4.00	0.95	0.02	0.02	0.05	1.67	0.008	7.00	OK
4" SCUPPER	033+36.00	033+50.00	LT	5.25%	0.020	17.5	0.006	4.00	0.95	0.02	0.01	0.03	1.40	0.014	7.00	OK
4" SCUPPER	033+50.00	033+64.00	LT	5.46%	0.020	17.5	0.006	4.00	0.95	0.02	0.01	0.04	1.49	0.014	7.00	OK
4" SCUPPER	033+64.00	033+78.00	LT	5.67%	0.020	17.5	0.006	4.00	0.95	0.02	0.01	0.03	1.48	0.008	7.00	OK
4" SCUPPER	033+78.00	033+92.00	LT	5.88%	0.020	17.5	0.006	4.00	0.95	0.02	0.01	0.03	1.37	0.014	7.00	OK
4" SCUPPER	033+92.00	034+06.00	LT	6.00%	0.020	17.5	0.006	4.00	0.95	0.02	0.01	0.04	1.47	0.014	7.00	OK
12" BW SLOTS	034+06.00	034+12.00	LT	6.00%	0.017	17.5	0.002	4.00	0.95	0.01	0.00	0.01	0.97	0.018	7.00	OK
12" BW SLOTS	034+12.00	034+18.00	LT	6.00%	0.016	17.5	0.002	4.00	0.95	0.01	0.02	0.03	1.56	0.018	7.00	OK
12" BW SLOTS	034+18.00	034+24.00	LT	6.00%	0.014	17.5	0.002	4.00	0.95	0.01	0.02	0.03	1.64	0.000	7.00	OK
12" BW SLOTS	034+24.00	034+30.00	LT	6.00%	0.013	17.5	0.002	4.00	0.95	0.01	0.00	0.01	1.16	0.031	7.00	OK
12" BW SLOTS	034+30.00	034+36.00	LT	6.00%	0.012	17.5	0.002	4.00	0.95	0.01	0.03	0.04	2.18	0.028	7.00	OK
12" BW SLOTS	034+36.00	034+42.00	LT	6.00%	0.010	17.5	0.002	4.00	0.95	0.01	0.03	0.04	2.28	0.030	7.00	OK
12" BW SLOTS	034+42.00	034+48.00	LT	6.00%	0.009	17.5	0.002	4.00	0.95	0.01	0.03	0.04	2.56	0.037	7.00	OK
12" BW SLOTS	034+48.00	034+54.00	LT	6.00%	0.007	17.5	0.002	4.00	0.95	0.01	0.04	0.05	3.05	0.034	7.00	OK
12" BW SLOTS	034+54.00	034+60.00	LT	6.00%	0.006	17.5	0.002	4.00	0.95	0.01	0.03	0.04	3.42	0.038	7.00	OK
12" BW SLOTS	034+60.00	034+66.00	LT	6.00%	0.004	17.5	0.002	4.00	0.95	0.01	0.04	0.05	4.19	0.045	7.00	OK
12" BW SLOTS	034+66.00	034+72.00	LT	6.00%	0.003	17.5	0.002	4.00	0.95	0.01	0.04	0.05	5.56	0.054	7.00	OK
12" BW SLOTS	034+72.00	034+78.00	LT	6.00%	0.002	17.5	0.002	4.00	0.95	0.01	0.05	0.06	8.69	0.054	7.00	Need Additional Inlet *CROSS OVER ISSUE
12" BW SLOTS	034+78.00	034+84.00	LT	6.00%	0.0002	17.5	0.002	4.00	0.95	0.01	0.05	0.06	29.30	0.080	7.00	Need Additional Inlet *CROSS OVER ISSUE
12" BW SLOTS	034+84.00	034+90.00	LT	6.00%	0.001	17.5	0.002	4.00	0.95	0.01	0.08	0.09	12.22	0.086	7.00	Need Additional Inlet *CROSS OVER ISSUE

***SCUPPERS WERE CHECKED EVERY 14' TO ACCOUNT FOR 50% CLOGGING.
 *HALF OF DRAIN GRATE LENGTH WAS USED TO ACCOUNT FOR 50% CLOGGING.
 *METHODOLOGY THROUGH SCUPPERS AND GRATES ASSUMES WEIR FLOW.**

WGI

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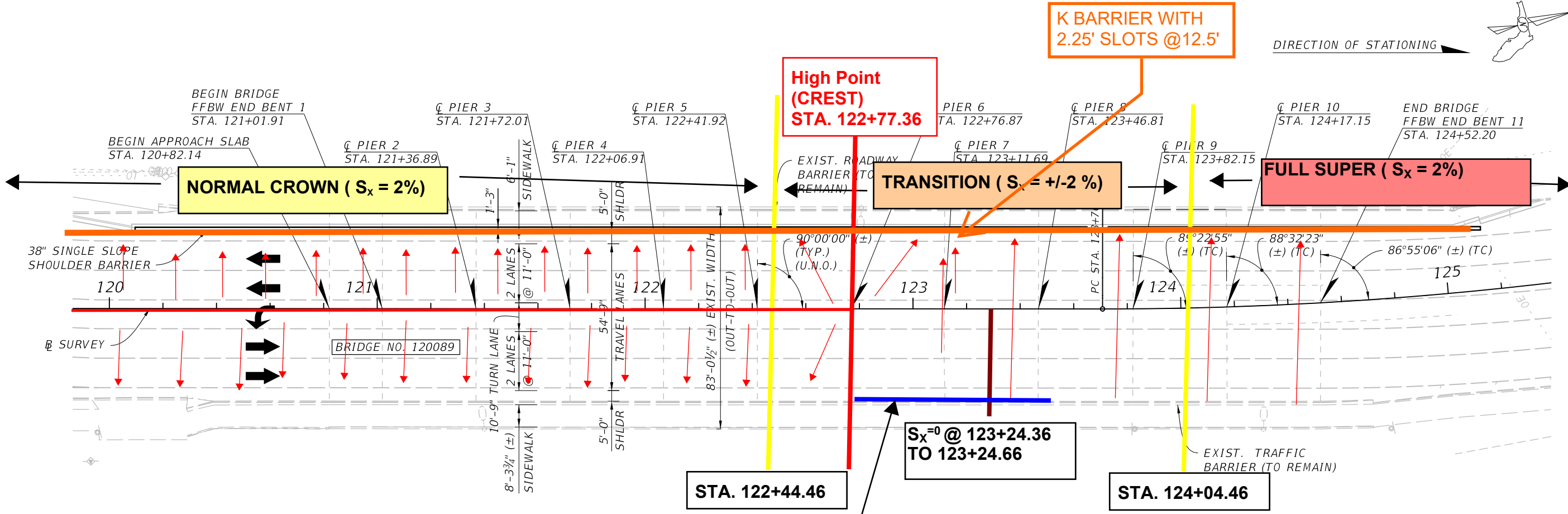
TCP PHASE 2 - SOUTHBOUND (RIGHT OF CREST) SPREAD CALCULATIONS

Project: San Carlos (SR 865)
 FPID: 433726-2-32-01
 County: LEE

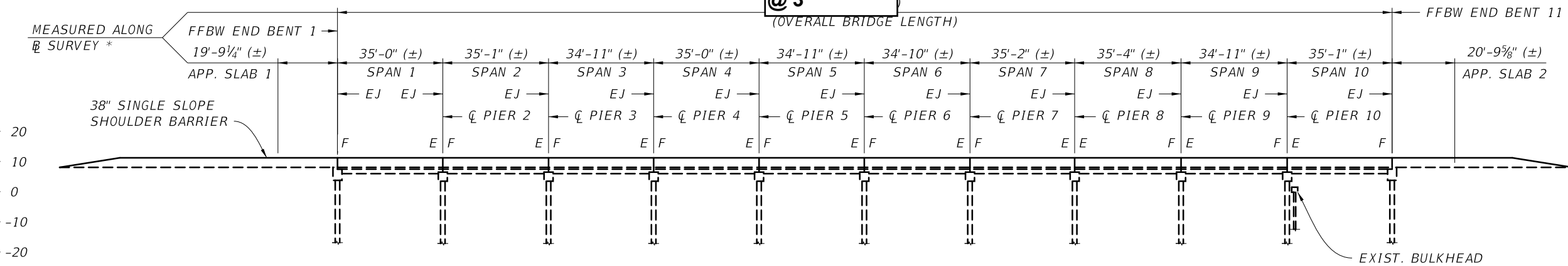
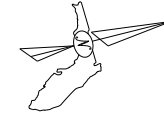
Designer: CJC
 Checked by: ZAK
 Date: 5/4/2020

CHECK INLET CAPACITY

Structure Number	Station From (ft.)	Station To (ft.)	T Depth @ Barrier (ft)	Inlet Weir Flow (cfs)	Total Flow Qt (cfs)	Bypass Qb
MATANZAS BRIDGE						
4" SCUPPER	030+00.00	030+14.00	0.037	0.022	0.021	0.000
4" SCUPPER	030+14.00	030+28.00	0.036	0.021	0.021	0.000
4" SCUPPER	030+28.00	030+42.00	0.036	0.023	0.022	0.000
4" SCUPPER	030+42.00	030+56.00	0.035	0.022	0.021	0.000
4" SCUPPER	030+56.00	030+70.00	0.034	0.021	0.021	0.001
4" SCUPPER	030+70.00	030+84.00	0.033	0.020	0.022	0.002
4" SCUPPER	030+84.00	030+98.00	0.033	0.020	0.023	0.003
4" SCUPPER	030+98.00	031+12.00	0.033	0.020	0.025	0.005
4" SCUPPER	031+12.00	031+26.00	0.033	0.020	0.026	0.007
4" SCUPPER	031+26.00	031+40.00	0.033	0.020	0.028	0.008
4" SCUPPER	031+40.00	031+54.00	0.033	0.020	0.029	0.010
4" SCUPPER	031+54.00	031+68.00	0.033	0.020	0.031	0.011
4" SCUPPER	031+68.00	031+82.00	0.033	0.020	0.032	0.012
4" SCUPPER	031+82.00	031+96.00	0.033	0.020	0.034	0.014
4" SCUPPER	031+96.00	032+10.00	0.033	0.020	0.035	0.015
4" SCUPPER	032+10.00	032+24.00	0.033	0.020	0.036	0.016
4" SCUPPER	032+24.00	032+38.00	0.033	0.020	0.037	0.017
4" SCUPPER	032+38.00	032+52.00	0.033	0.020	0.039	0.018
4" SCUPPER	032+52.00	032+66.00	0.033	0.020	0.040	0.020
4" SCUPPER	032+66.00	032+80.00	0.033	0.020	0.041	0.021
4" SCUPPER	032+80.00	032+94.00	0.033	0.020	0.042	0.022
4" SCUPPER	032+94.00	033+08.00	0.033	0.020	0.043	0.023
4" SCUPPER	033+08.00	033+22.00	0.033	0.020	0.044	0.024
4" SCUPPER	033+22.00	033+36.00	0.033	0.020	0.028	0.008
4" SCUPPER	033+36.00	033+50.00	0.028	0.016	0.029	0.014
4" SCUPPER	033+50.00	033+64.00	0.030	0.017	0.031	0.014
4" SCUPPER	033+64.00	033+78.00	0.030	0.017	0.032	0.015
4" SCUPPER	033+78.00	033+92.00	0.027	0.015	0.034	0.018
4" SCUPPER	033+92.00	034+06.00	0.029	0.017	0.035	0.018
12" BW SLOTS	034+06.00	034+12.00	0.017	0.007	0.037	0.031
12" BW SLOTS	034+12.00	034+18.00	0.025	0.012	0.039	0.027
12" BW SLOTS	034+18.00	034+24.00	0.024	0.011	0.040	0.029
12" BW SLOTS	034+24.00	034+30.00	0.015	0.006	0.041	0.035
12" BW SLOTS	034+30.00	034+36.00	0.025	0.012	0.042	0.030
12" BW SLOTS	034+36.00	034+42.00	0.023	0.011	0.043	0.033
12" BW SLOTS	034+42.00	034+48.00	0.022	0.010	0.044	0.034
12" BW SLOTS	034+48.00	034+54.00	0.022	0.010	0.045	0.035
12" BW SLOTS	034+54.00	034+60.00	0.020	0.009	0.029	0.020
12" BW SLOTS	034+60.00	034+66.00	0.019	0.008	0.035	0.027
12" BW SLOTS	034+66.00	034+72.00	0.017	0.007	0.035	0.028
12" BW SLOTS	034+72.00	034+78.00	0.014	0.005	0.029	0.024
12" BW SLOTS	034+78.00	034+84.00	0.007	0.002	0.035	0.033
12" BW SLOTS	034+84.00	034+90.00	0.014	0.005	0.000	0.000



DIRECTION OF STATIONING →



ELEVATION
(ALONG \mathcal{B} SURVEY, LOOKING WEST)

* EXISTING DIMENSIONS BASED ON FIELD SURVEY.

NOTES:

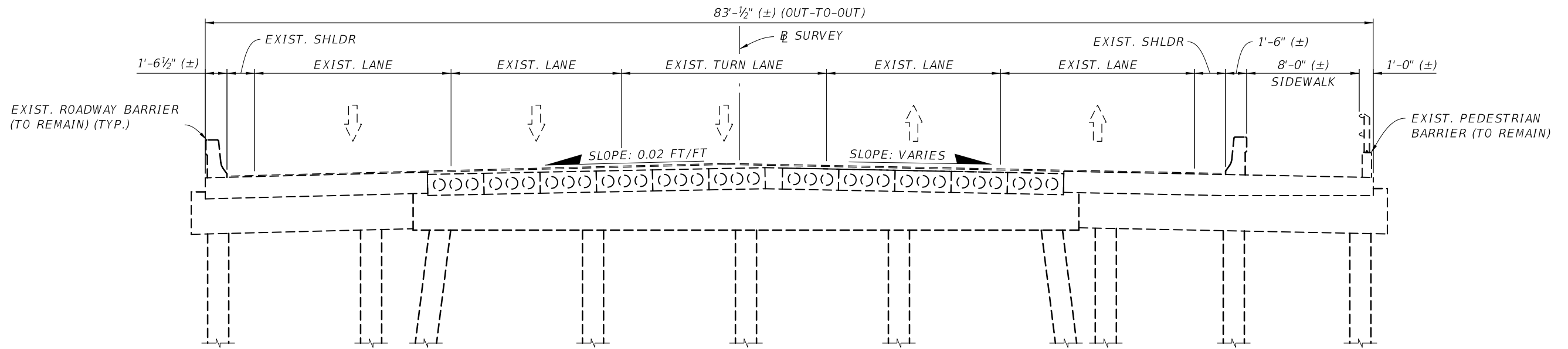
1. STATIONS, OFFSETS, AND DIMENSIONS ARE MEASURED TO \mathcal{C} SR 865.
2. FOR HORIZONTAL CURVE DATA, VERTICAL CURVE DATA AND TRAFFIC DATA, SEE SHEET NO. B2-X.

LEGEND:

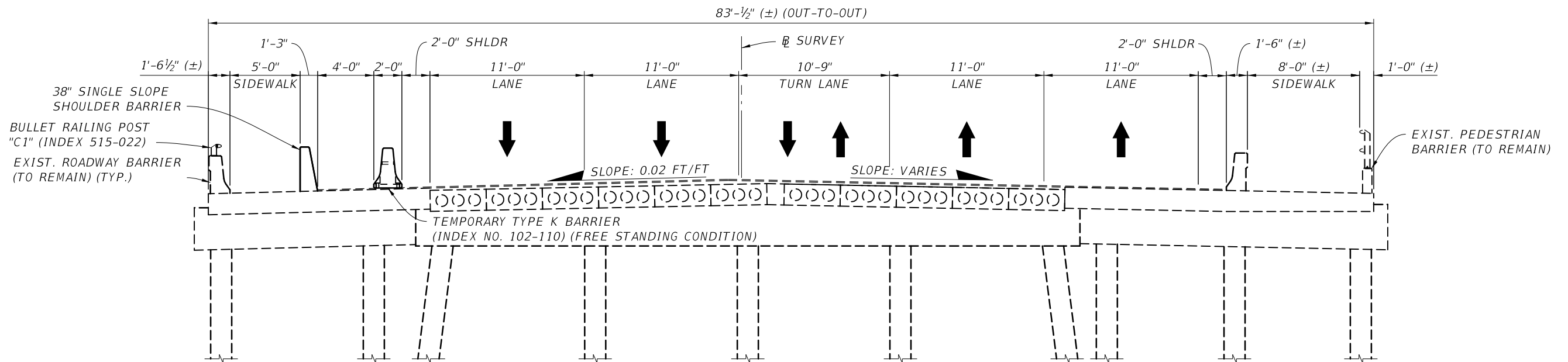
- EXIST. LIGHTING
- GENERAL PURPOSE LANE
- TURN LANE

BRIDGE NO. 120089

REVISIONS						DRAWN BY: NHN CHECKED BY: NVE DESIGNED BY: NHN CHECKED BY: NVE	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET TITLE: PLAN AND ELEVATION		REF. DWG. NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID	PROJECT NAME: SR 865 (SAN CARLOS BLVD) FROM ESTERO BLVD TO NORTH OF HURRICANE BAY BRIDGE		SHEET NO. B2 - X
						SR 865	LEE	433726-2-32-01				



EXISTING BRIDGE TYPICAL
(STATION 121+01.91 TO 123+26.69 SHOWN, OTHERS SIMILAR)

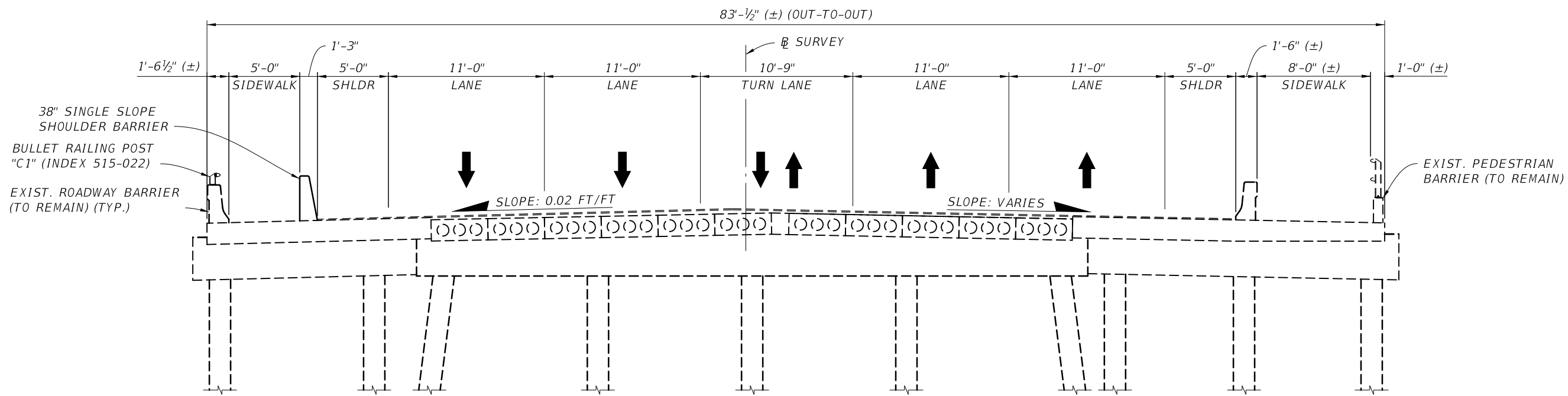


PHASE 1 CONSTRUCTION
(CONSTRUCT PROPOSED ROADWAY BARRIER)
(STATION 121+01.91 TO 123+26.69 SHOWN, OTHERS SIMILAR)

LEGEND:
 EXISTING GENERAL USE LANE
 RELOCATED GENERAL USE LANE

BRIDGE NO. 120089

REVISIONS						NATHANIEL ALLEN VAN ETEN, P.E. P.E. LICENSE NUMBER 73756 WANTMAN GROUP, INC. 3111 W. MARTIN LUTHER KING JR. BLVD., SUITE 375, TAMPA, FLORIDA 33607 CERTIFICATE OF AUTHORIZATION 00006091	DRAWN BY: NHN CHECKED BY: NVE DESIGNED BY: NHN CHECKED BY: NVE	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET TITLE: CONSTRUCTION SEQUENCE (1 OF 2)		REF. DWG. NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION			ROAD NO.	COUNTY	FINANCIAL PROJECT ID	PROJECT NAME:	SHEET NO.	
							SR 865	LEE	433726-2-32-01	SR 865 (SAN CARLOS BLVD) FROM ESTERO BLVD TO NORTH OF HURRICANE BAY BRIDGE		B2 - X	

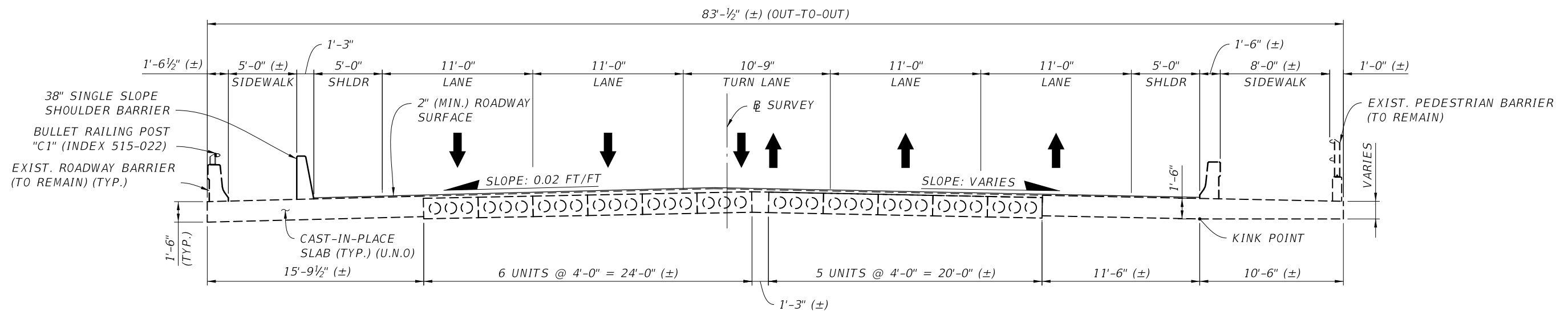


PROPOSED BRIDGE TYPICAL
 (STATION 121+01.91 TO 123+26.69 SHOWN, OTHERS SIMILAR)

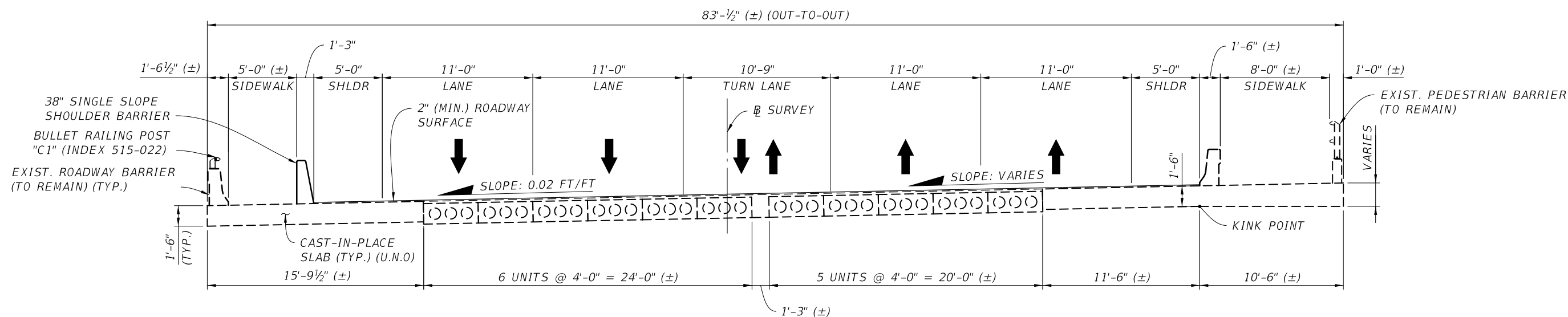
LEGEND:
 GENERAL USE LANE

BRIDGE NO. 120089

REVISIONS						NATHANIEL ALLEN VAN ETEN, P.E. P.E. LICENSE NUMBER 73756 WANTMAN GROUP, INC. 3111 W. MARTIN LUTHER KING JR. BLVD., SUITE 375, TAMPA, FLORIDA 33607 CERTIFICATE OF AUTHORIZATION 00006091	DRAWN BY: <i>NHN</i> CHECKED BY: <i>NVE</i> DESIGNED BY: <i>NHN</i> CHECKED BY: <i>NVE</i>	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET TITLE: CONSTRUCTION SEQUENCE (2 OF 2) PROJECT NAME: SR 865 (SAN CARLOS BLVD) FROM ESTERO BLVD TO NORTH OF HURRICANE BAY BRIDGE	REF. DWG. NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION			ROAD NO.	COUNTY	FINANCIAL PROJECT ID		SHEET NO.
						SR 865	LEE	433726-2-32-01	B2 - X			



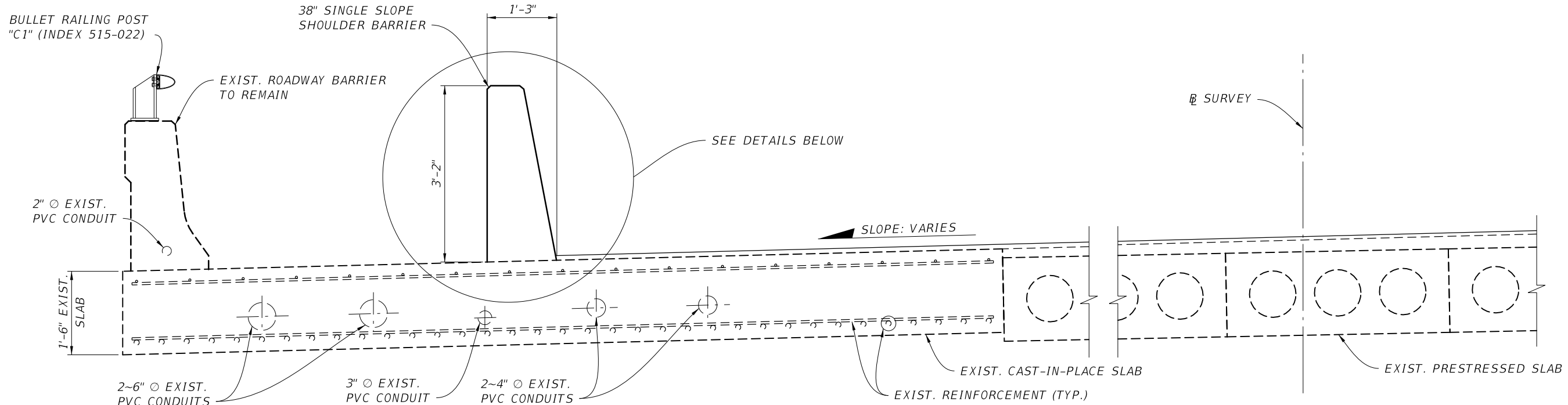
TYPICAL BRIDGE SECTION
STATION 121+01.91 TO 123+26.69



TYPICAL BRIDGE SECTION
STATION 123+26.69 TO 124+52.20

BRIDGE NO. 120089

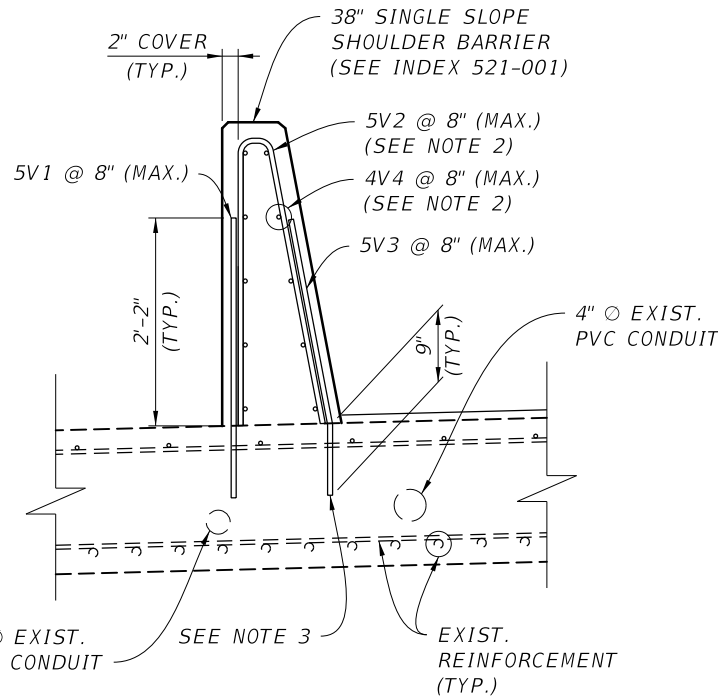
REVISIONS						NATHANIEL ALLEN VAN ETEN, P.E. P.E. LICENSE NUMBER 73756 WANTMAN GROUP, INC. 3111 W. MARTIN LUTHER KING JR. BLVD., SUITE 375, TAMPA, FLORIDA 33607 CERTIFICATE OF AUTHORIZATION 00006091	DRAWN BY: NHN CHECKED BY: NVE DESIGNED BY: NHN CHECKED BY: NVE	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET TITLE: TYPICAL SECTION THROUGH BRIDGE DECK	REF. DWG. NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION			ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
							SR 865	LEE	433726-2-32-01	SR 865 (SAN CARLOS BLVD) FROM ESTERO BLVD TO NORTH OF HURRICANE BAY BRIDGE	B2 - X	



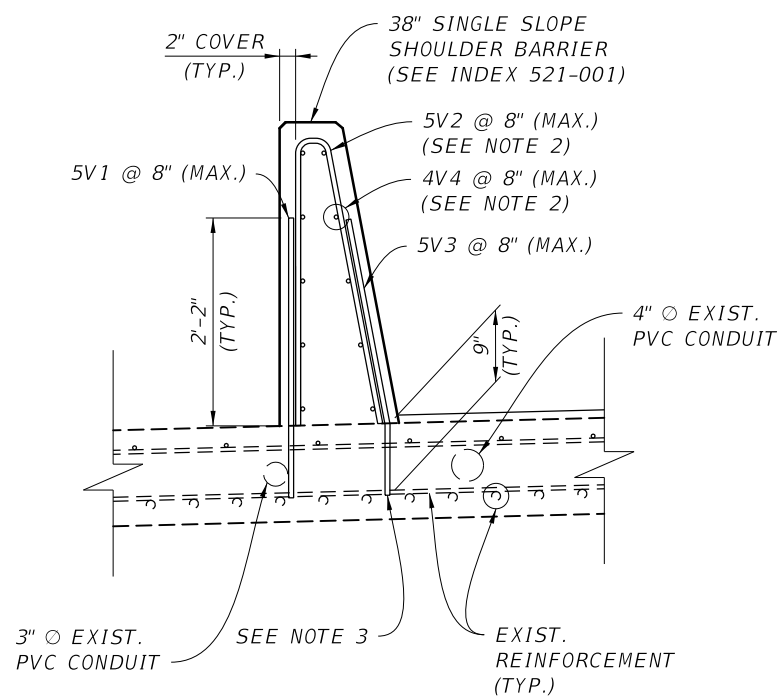
PARTIAL SECTION THRU DECK
(TYPICAL AT ALL SPANS) (PEDESTRIAN RAILING NOT SHOWN FOR CLARITY)

BILL OF REINFORCING STEEL		
BAR MARK	SIZE	LENGTH
5V1	5	2'-11"
5V2	5	6'-3"
5V3	5	2'-11"
4V4	4	34'-10"

- NOTES:
- IF TRANSVERSE REBAR IS ENCOUNTERED DURING DRILLING REDRILL IN-LINE LONGITUDINALLY. SPACING SHALL NOT BE EXCEEDED FILL ABANDONED HOLES WITH HSHV ADHESIVE OR TYPE I EPOXY.
 - SEE INDEX 521-001 FOR ADDITIONAL BAR DETAILS.
 - DRILL HOLE PER ADHESIVE BONDING MATERIAL MANUFACTURER'S RECOMMENDATIONS AND SET #5 DOWELS WITH HSHV ADHESIVE.
 - CONTRACTOR SHOULD VERIFY THE LOCATION OF THE UTILITIES AT APPROACH SLABS.



38" SINGLE SLOPE BARRIER DETAIL - ON BRIDGE
(PEDESTRIAN RAILING NOT SHOWN FOR CLARITY)



38" SINGLE SLOPE BARRIER DETAIL - ON APPROACH SLABS
(PEDESTRIAN RAILING NOT SHOWN FOR CLARITY)

BRIDGE NO. 120089

REVISIONS						DRAWN BY: NHN CHECKED BY: NVE DESIGNED BY: NHN CHECKED BY: NVE	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET TITLE: 38" SINGLE SLOPE BARRIER DETAILS		REF. DWG. NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID	PROJECT NAME:	SHEET NO.	
						SR 865	LEE	433726-2-32-01	SR 865 (SAN CARLOS BLVD) FROM ESTERO BLVD TO NORTH OF HURRICANE BAY BRIDGE	B2 - X		

***BARRIER WALL SLOTS WERE CHECKED EVERY 12.5' TO ACCOUNT FOR 50% CLOGGING.
 *METHODOLOGY THROUGH SLOTS ASSUMES WEIR FLOW.**

WGI

Engineering • Planning • Surveying • Environmental

TCP PHASE 1 -HURRICANE BAY BRIDGE SPREAD CALCULATIONS

Project: San Carlos (SR 865) Hurricane Bridge
 FPID: 433726-2-32-01
 County: LEE

Designer: CJC
 Checked by: MJJ
 Date: 4/24/2020

Reference: Section 6.3.2, Chapter 6, FDOT Drainage Design Guide, 2020

Structure Number	Station From (ft.)	Station To (ft.)	Side	Long. Slope S (%)	Cross Slope Sx (ft/ft)	Width (ft.)	Area A (Ac.)	Intensity i (in/hr)	Runoff Coeff. C	Flow Q (cfs)	By-Pass Upstream Qb (cfs)	Total Flow Qt (cfs)	Spread Width T (ft.)	By-Pass Flow Qb (cfs)	Allowable Spread (ft)	Remarks
K BARRIER 2'3" SLOT	122+77.36	122+64.86	SB	1.00%	0.0200	24.0	0.007	4.00	0.95	0.03	0.00	0.03	1.84	0.000	7.50	OK
K BARRIER 2'3" SLOT	122+64.86	122+52.36	SB	1.00%	0.0200	24.0	0.007	4.00	0.95	0.03	0.00	0.03	1.84	0.000	7.50	OK
K BARRIER 2'3" SLOT	122+52.36	122+39.86	SB	1.00%	0.0200	24.0	0.007	4.00	0.95	0.03	0.00	0.03	1.84	0.000	7.50	OK
K BARRIER 2'3" SLOT	122+39.86	122+27.36	SB	1.00%	0.0200	24.0	0.007	4.00	0.95	0.03	0.00	0.03	1.84	0.000	7.50	OK
K BARRIER 2'3" SLOT	122+27.36	122+14.86	SB	1.00%	0.0200	24.0	0.007	4.00	0.95	0.03	0.00	0.03	1.84	0.000	7.50	OK
K BARRIER 2'3" SLOT	122+14.86	122+02.36	SB	1.00%	0.0200	24.0	0.007	4.00	0.95	0.03	0.00	0.03	1.84	0.000	7.50	OK
K BARRIER 2'3" SLOT	122+02.36	121+89.86	SB	1.00%	0.0200	24.0	0.007	4.00	0.95	0.03	0.00	0.03	1.84	0.000	7.50	OK
K BARRIER 2'3" SLOT	121+89.86	121+77.36	SB	1.00%	0.0200	24.0	0.007	4.00	0.95	0.03	0.00	0.03	1.84	0.000	7.50	OK
K BARRIER 2'3" SLOT	121+77.36	121+64.86	SB	1.00%	0.0200	24.0	0.007	4.00	0.95	0.03	0.00	0.03	1.84	0.000	7.50	OK
K BARRIER 2'3" SLOT	121+64.86	121+52.36	SB	1.00%	0.0200	24.0	0.007	4.00	0.95	0.03	0.00	0.03	1.84	0.000	7.50	OK
K BARRIER 2'3" SLOT	121+52.36	121+39.86	SB	1.00%	0.0200	24.0	0.007	4.00	0.95	0.03	0.00	0.03	1.84	0.000	7.50	OK
K BARRIER 2'3" SLOT	121+39.86	121+27.36	SB	1.00%	0.0200	24.0	0.007	4.00	0.95	0.03	0.00	0.03	1.84	0.000	7.50	OK
K BARRIER 2'3" SLOT	121+27.36	121+14.86	SB	1.00%	0.0200	24.0	0.007	4.00	0.95	0.03	0.00	0.03	1.84	0.000	7.50	OK
K BARRIER 2'3" SLOT	121+14.86	121+02.36	SB	1.00%	0.0200	24.0	0.007	4.00	0.95	0.03	0.00	0.03	1.84	0.000	7.50	OK
Existing P-5	121+02.36	119+36.00	SB	1.02%	0.0245	34.5	0.13	4.00	0.95	0.50	0.00	0.50	4.88	0.125	10.50	OK
Existing P-5	122+77.36	119+00.00	NB	1.71%	0.0360	43.0	0.37	4.00	0.95	1.42	0.00	1.42	5.14	0.415	10.50	OK Sidewalk included in area
4" SCUPPERS	122+77.36	122+83.00	NB	1.00%	0.0103	35.0	0.005	4.00	0.95	0.02	0.00	0.02	2.38	0.000	10.50	OK
K BARRIER 2'3" SLOT	122+77.36	122+89.86	SB	1.00%	0.0200	24.0	0.007	4.00	0.95	0.03	0.00	0.03	1.84	0.000	10.50	OK
K BARRIER 2'3" SLOT	122+89.86	123+02.36	SB	1.00%	0.0200	24.0	0.007	4.00	0.95	0.03	0.00	0.03	1.84	0.000	10.50	OK
K BARRIER 2'3" SLOT	123+02.36	123+14.86	SB	1.00%	0.0200	24.0	0.007	4.00	0.95	0.03	0.00	0.03	1.84	0.000	10.50	OK
K BARRIER 2'3" SLOT	123+14.86	123+27.36	SB	1.00%	0.0200	24.0	0.007	4.00	0.95	0.03	0.00	0.03	1.84	0.000	10.50	OK
K BARRIER 2'3" SLOT	123+27.36	123+39.86	SB	1.00%	0.0200	24.0	0.007	4.00	0.95	0.03	0.00	0.03	1.84	0.000	10.50	OK
K BARRIER 2'3" SLOT	123+39.86	123+52.36	SB	1.00%	0.0200	24.0	0.007	4.00	0.95	0.03	0.00	0.03	1.84	0.000	10.50	OK
K BARRIER 2'3" SLOT	123+52.36	123+64.86	SB	1.00%	0.0200	24.0	0.007	4.00	0.95	0.03	0.00	0.03	1.84	0.000	10.50	OK
K BARRIER 2'3" SLOT	123+64.86	123+77.36	SB	1.00%	0.0200	24.0	0.007	4.00	0.95	0.03	0.00	0.03	1.84	0.000	10.50	OK
K BARRIER 2'3" SLOT	123+77.36	123+89.86	SB	1.00%	0.0200	24.0	0.007	4.00	0.95	0.03	0.00	0.03	1.84	0.000	10.50	OK
K BARRIER 2'3" SLOT	123+89.86	124+02.36	SB	1.00%	0.0200	24.0	0.007	4.00	0.95	0.03	0.00	0.03	1.84	0.000	10.50	OK
K BARRIER 2'3" SLOT	124+02.36	124+14.86	SB	1.00%	0.0200	24.0	0.007	4.00	0.95	0.03	0.00	0.03	1.84	0.000	10.50	OK
K BARRIER 2'3" SLOT	124+14.86	124+27.36	SB	1.00%	0.0200	24.0	0.007	4.00	0.95	0.03	0.00	0.03	1.84	0.000	10.50	OK
K BARRIER 2'3" SLOT	124+27.36	124+39.86	SB	1.00%	0.0200	24.0	0.007	4.00	0.95	0.03	0.00	0.03	1.84	0.000	10.50	OK
K BARRIER 2'3" SLOT	124+39.86	124+52.36	SB	1.00%	0.0200	24.0	0.007	4.00	0.95	0.03	0.00	0.03	1.84	0.000	10.50	OK
Existing P-5	124+52.36	125+52.00	SB	2.00%	0.0384	77.8	0.18	4.00	0.95	0.68	0.00	0.68	3.64	0.101	10.50	OK

***BARRIER WALL SLOTS WERE CHECKED EVERY 12.5' TO ACCOUNT FOR 50% CLOGGING.**
***METHODOLOGY THROUGH SLOTS ASSUMES WEIR FLOW.**

WGI

Engineering • Planning • Surveying • Environmental

TCP PHASE 1 -HURRICANE BAY BRIDGE SPREAD CALCULATIONS

Project: San Carlos (SR 865) Hurricane Bridge
 FPID: 433726-2-32-01
 County: LEE

Designer: CJC
 Checked by: MJJ
 Date: 4/24/2020

CHECK INLET CAPACITY

Structure Number	Station From (ft.)	Station To (ft.)	T Depth @ Barrier (ft)	Inlet Weir Flow (cfs)	Total Flow Qt (cfs)	Bypass Qb
HURRICANE BRIDGE						
K BARRIER 2'3" SLOT	122+77.36	122+64.86	0.037	0.048	0.026	0.00
K BARRIER 2'3" SLOT	122+64.86	122+52.36	0.037	0.048	0.026	0.00
K BARRIER 2'3" SLOT	122+52.36	122+39.86	0.037	0.048	0.026	0.00
K BARRIER 2'3" SLOT	122+39.86	122+27.36	0.037	0.048	0.026	0.00
K BARRIER 2'3" SLOT	122+27.36	122+14.86	0.037	0.048	0.026	0.00
K BARRIER 2'3" SLOT	122+14.86	122+02.36	0.037	0.048	0.026	0.00
K BARRIER 2'3" SLOT	122+02.36	121+89.86	0.037	0.048	0.026	0.00
K BARRIER 2'3" SLOT	121+89.86	121+77.36	0.037	0.048	0.026	0.00
K BARRIER 2'3" SLOT	121+77.36	121+64.86	0.037	0.048	0.026	0.00
K BARRIER 2'3" SLOT	121+64.86	121+52.36	0.037	0.048	0.026	0.00
K BARRIER 2'3" SLOT	121+52.36	121+39.86	0.037	0.048	0.026	0.00
K BARRIER 2'3" SLOT	121+39.86	121+27.36	0.037	0.048	0.026	0.00
K BARRIER 2'3" SLOT	121+27.36	121+14.86	0.037	0.048	0.026	0.00
K BARRIER 2'3" SLOT	121+14.86	121+02.36	0.037	0.048	0.026	0.00
K BARRIER 2'3" SLOT						
K BARRIER 2'3" SLOT	122+77.36	122+89.86	0.037	0.048	0.026	0.00
K BARRIER 2'3" SLOT	122+89.86	123+02.36	0.037	0.048	0.026	0.00
K BARRIER 2'3" SLOT	123+02.36	123+14.86	0.037	0.048	0.026	0.00
K BARRIER 2'3" SLOT	123+14.86	123+27.36	0.037	0.048	0.026	0.00
K BARRIER 2'3" SLOT	123+27.36	123+39.86	0.037	0.048	0.026	0.00
K BARRIER 2'3" SLOT	123+39.86	123+52.36	0.037	0.048	0.026	0.00
K BARRIER 2'3" SLOT	123+52.36	123+64.86	0.037	0.048	0.026	0.00
K BARRIER 2'3" SLOT	123+64.86	123+77.36	0.037	0.048	0.026	0.00
K BARRIER 2'3" SLOT	123+77.36	123+89.86	0.037	0.048	0.501	0.45
K BARRIER 2'3" SLOT	123+89.86	124+02.36	0.037	0.048	0.000	0.00
K BARRIER 2'3" SLOT	124+02.36	124+14.86	0.037	0.048	1.416	1.37
K BARRIER 2'3" SLOT	124+14.86	124+27.36	0.037	0.048	0.000	0.00
K BARRIER 2'3" SLOT	124+27.36	124+39.86	0.037	0.048	0.017	0.00
K BARRIER 2'3" SLOT	124+39.86	124+52.36	0.037	0.048	0.000	0.00

APPENDIX D (NOT USED)

Optional Pipe Material Calculations

APPENDIX E

Flooding History Correspondence

Figure 3 – Flooding Locations Map

Roadway Plan Sheets with Flooding Locations

From: Christian Cardoza <Christian.Cardoza@wginc.com>
Sent: Friday, March 27, 2020 2:57 PM
To: Carrillo, Rolando <Rolando.Carrillo@dot.state.fl.us>; Teets, Michael <Michael.Teets@dot.state.fl.us>
Cc: Mike Jaroch <Mike.Jaroch@wginc.com>; Zachary Keller <Zachary.Keller@wginc.com>
Subject: San Carlos Project - Roadway Drainage Flooding Concerns

EXTERNAL SENDER: Use caution with links and attachments.

Good afternoon Rolando & Scott,

I am one of drainage designers with WGI and I am emailing you in regards to the San Carlos Project (FPID 433726-2-32-01). The project consist of milling and resurfacing SR 865, widening the Matanza bridge to include a shared use path along the west side, restriping the lanes on the Hurricane Pass Bridge as well as improvements to Fishermans Wharf Southbound. I was wondering if there were any roadway drainage flooding concerns along the corridor of the project? As of now we only know **of an existing pipe to be replaced along Fishermans Wharf under the Matanza Bridge**. I look forward to hearing back from you. If you need additional information feel free to contact me.

Thank you



Christian Cardoza
Drainage Designer
2910 Maguire Road, Suite 2008
Ocoee, FL 34761
407.581.1221





Mon 3/30/2020 1:27 PM

Teets, Michael <Michael.Teets@dot.state.fl.us>

[EXTERNAL] RE: San Carlos Project - Roadway Drainage Flooding Concerns

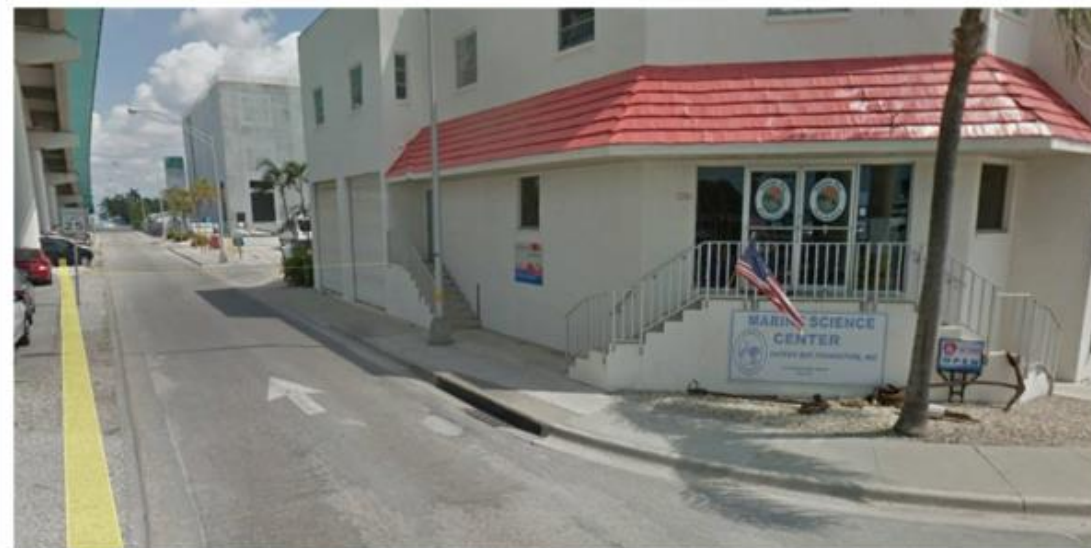
To Carrillo, Rolando; Christian Cardoza

Cc Mike Jaroch; Zachary Keller

You replied to this message on 3/30/2020 1:40 PM.

[Bing Maps](#)

Christian,
Is this the pipe location you are referring to? If so, this is the only drainage issue I know of in your project unless Rolando knows of others.





Mon 3/30/2020 5:25 PM

Carrillo, Rolando <Rolando.Carrillo@dot.state.fl.us>

[EXTERNAL] RE: San Carlos Project - Roadway Drainage Flooding Concerns

To Christian Cardoza

Cc Mike Jaroch; Zachary Keller; Teets, Michael

Follow up. Start by Thursday, April 2, 2020. Due by Thursday, April 2, 2020.
You replied to this message on 3/31/2020 8:07 AM.

Message Flooding Issues Fishermans Wharf.jpg (422 KB)

[Bing Maps](#)

Get more apps

Christian

See the attached

We've had some issue/s with the south bound lane during the last raining season the lane stay under 8 inches of water for several weeks, we jetted the pipes, removed the debris from the boxes it still did not help with reducing the water. I know that this area may be a low-lying area, but there must be something that can be done other than in-house sitting at the same location with large pumps with hoses trying to drain the roadway.

The location is on the west side of the Matanzas Pass Bridge in front of San Carlos Lodge Mobile Home Park.

Thank you

Rolando Carrillo

Maintenance Program Manager-Field Operations

2981 NE Pine Island Road

Cape Coral, FL 33909

PHONE: 239-985-7885

FAX: 239-656-7737

Rolando.carrillo@dot.state.fl.us



Tue 3/31/2020 7:24 AM

Mike Jaroch

RE: [EXTERNAL] RE: San Carlos Project - Roadway Drainage Flooding Concerns

To: Christian Cardoza

[Action Items](#) [Bing Maps](#)

[+ Get more](#)

Please ask Mr. Carrillo if they have as-builts, for the section of road (and drainage) where the flooding is occurring, that they could send to us?

Thanks!



Mike Jaroch, PE

Director, Drainage

3111 W. Dr. Martin Luther King Jr. Boulevard, Suite 375
Tampa, FL 33607

813.574.3190 | 813.739.7411 (direct)



From: Christian Cardoza

Sent: Monday, March 30, 2020 1:40 PM

To: Teets, Michael <Michael.Teets@dot.state.fl.us>; Carrillo, Rolando <Rolando.Carrillo@dot.state.fl.us>

Cc: Mike Jaroch <Mike.Jaroch@wginc.com>; Zachary Keller <Zachary.Keller@wginc.com>

Subject: RE: [EXTERNAL] RE: San Carlos Project - Roadway Drainage Flooding Concerns

Scott,

That is correct, that is the pipe location I am referring to.

Thank you



Christian Cardoza

Drainage Designer

2910 Maguire Road, Suite 2008
Ocoee, FL 34761

407.581.1221






Tue 3/31/2020 1:39 PM

Carrillo, Rolando <Rolando.Carrillo@dot.state.fl.us>

RE: [EXTERNAL] RE: San Carlos Project - Roadway Drainage Flooding Concerns

To  Christian Cardoza

i Follow up. Start by Thursday, April 2, 2020. Due by Thursday, April 2, 2020.

This message is part of a tracked conversation. [Click here to find all related messages or to open the original flagged message.](#)

[Bing Maps](#)

I do not but I'll see if I can get them.

Thank you

Rolando Carrillo

Maintenance Program Manager-Field Operations

2981 NE Pine Island Road

Cape Coral, FL 33909

PHONE: 239-985-7885

FAX: 239-656-7737

Rolando.carrillo@dot.state.fl.us

From: Christian Cardoza <Christian.Cardoza@wginc.com>

Sent: Tuesday, March 31, 2020 8:08 AM

To: Carrillo, Rolando <Rolando.Carrillo@dot.state.fl.us>

Subject: RE: [EXTERNAL] RE: San Carlos Project - Roadway Drainage Flooding Concerns

Rolando,

Do you have as-builts for the section of road (and drainage) where the flooding is occurring?



Christian Cardoza

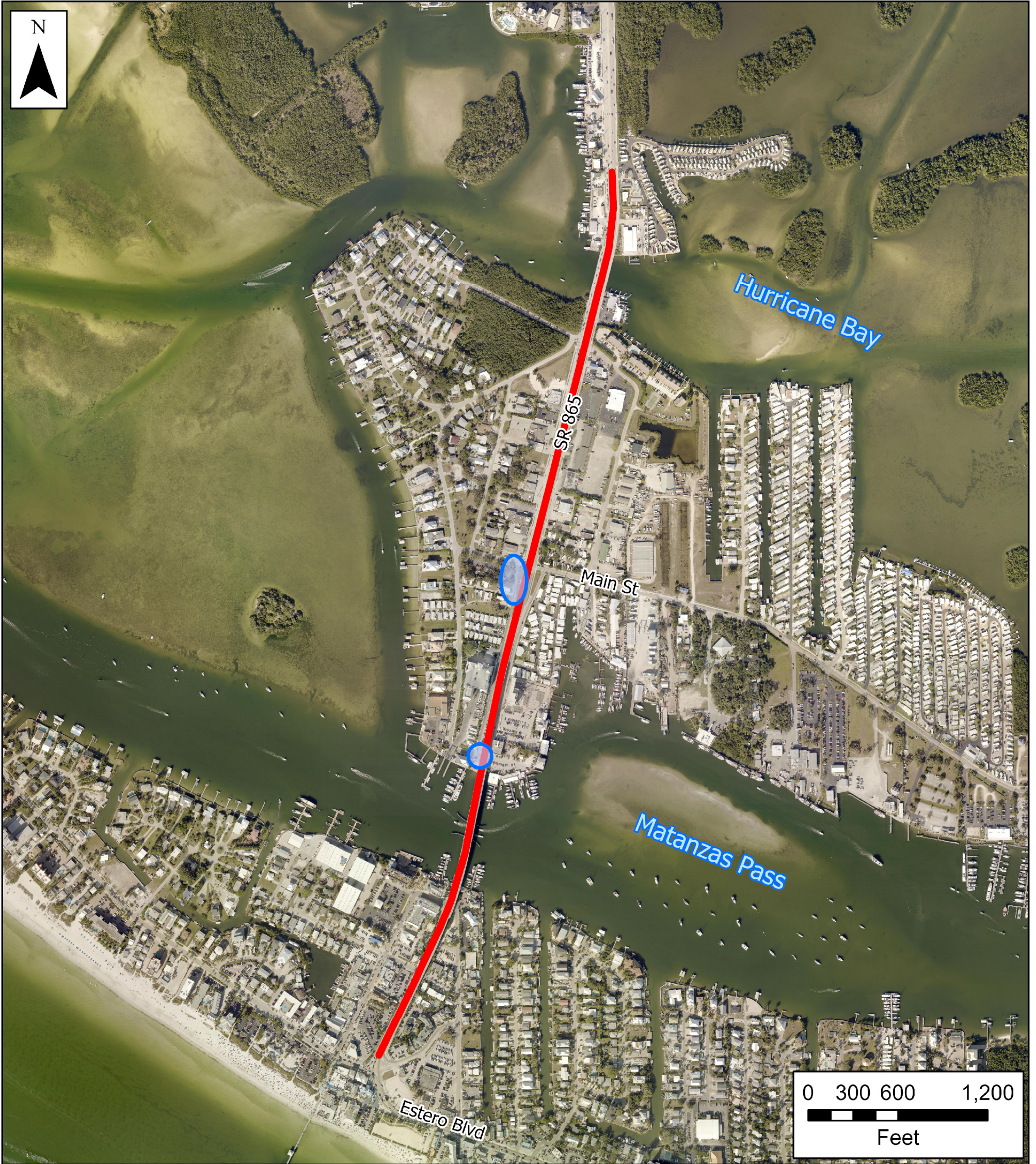
Drainage Designer

2910 Maguire Road, Suite 2008

Ocoee, FL 34761

407.581.1221





Flooding Issues Overview Map

SR 865 (San Carlos Boulevard) from
Estero Blvd to North of Hurricane Bay Bridge

FPID: 433726-2-32-01

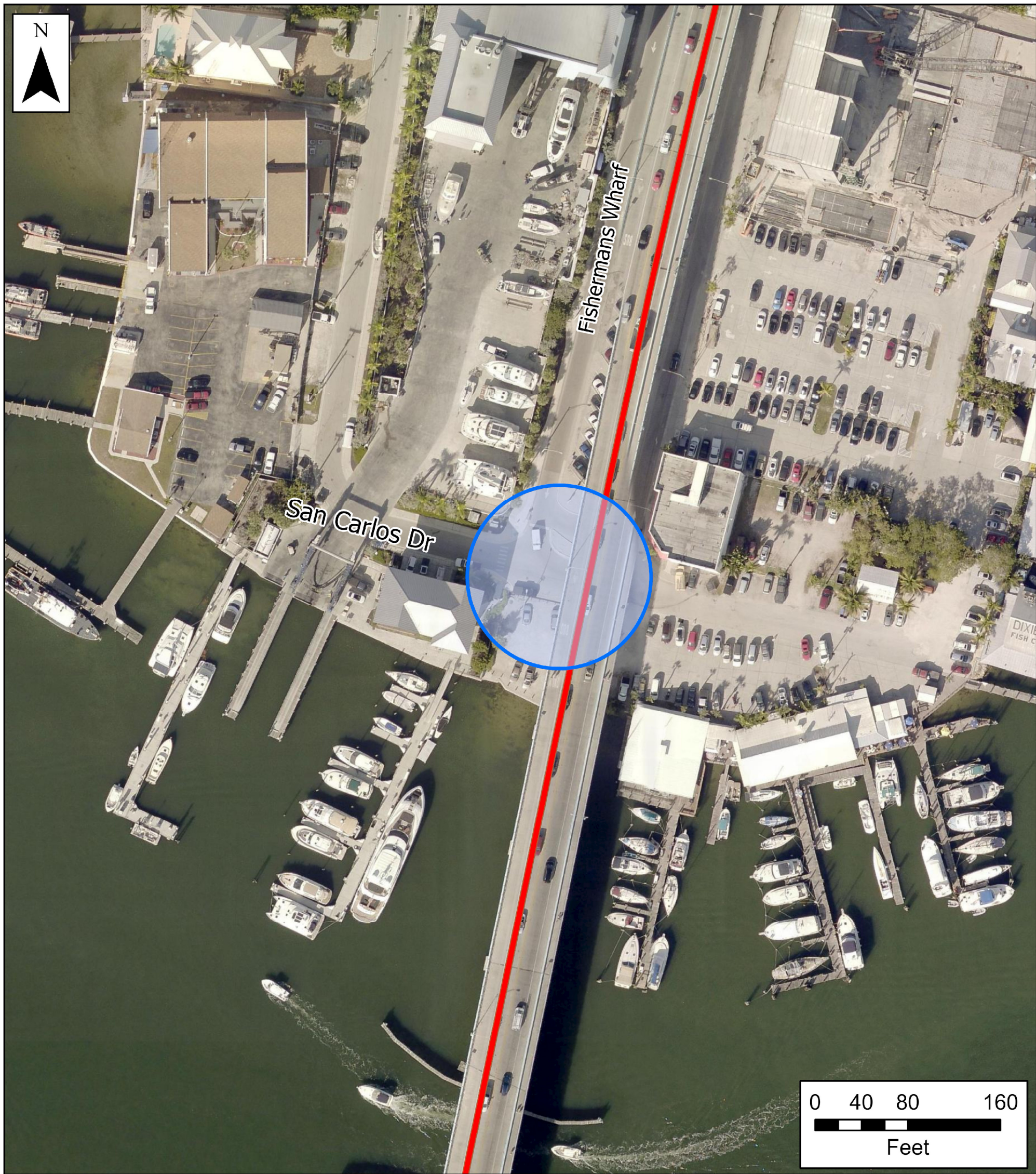
Lee County, Florida

- Project Limits
- Flooding Issues

Figure 3
Sheet 1

Map prepared by WGI, April 23rd 2020
Data Source: Project limits and flooding issues provided by WGI, Basemap provided by ESRI Online Services.

Maps are for graphical purposes only. They do not represent a legal survey. While every effort has been made to ensure that these data are accurate and reliable within the limits of the process, WGI cannot assume liability for any damages caused by any errors or omissions in the data. WGI makes no warranty, expressed or implied, nor does the fact of distribution constitute such a warranty.



Flooding Issues Map
 San Carlos Dr & Fishermans Wharf
 SR 865 (San Carlos Boulevard) from
 Estero Blvd to North of Hurricane Bay Bridge
 FPID: 433726-2-32-01
 Lee County, Florida

- Project limits
- Flooding Issues

Figure 3
 Sheet 2

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Map prepared by WGI, April 23rd 2020
 Data Source: Project limits and flooding issues provided by WGI, Basemap provided by ESRI Online Services.



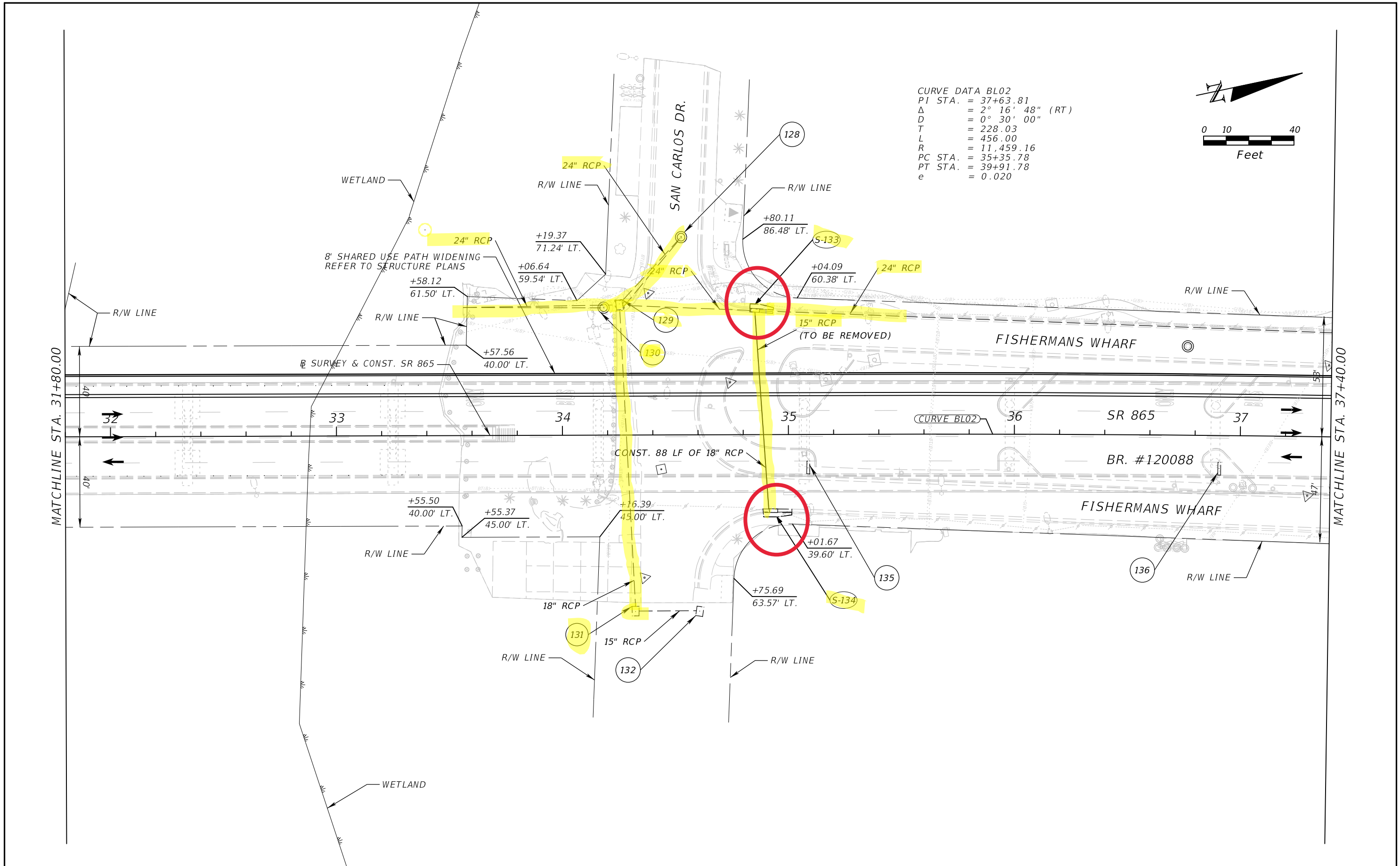
Flooding Issues Map
 Main St & Fishermans Wharf
 SR 865 (San Carlos Boulevard) from
 Estero Blvd to North of Hurricane Bay Bridge
 FPID: 433726-2-32-01
 Lee County, Florida

- Project limits
- Flooding Issues

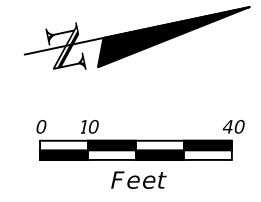
Figure 3
 Sheet 3

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Map prepared by WGI, April 23rd 2020
 Data Source: Project limits and flooding issues provided by WGI, Basemap provided by ESRI Online Services.



CURVE DATA BLO2
 PI STA. = 37+63.81
 Δ = 2° 16' 48" (RT)
 D = 0° 30' 00"
 T = 228.03
 L = 456.00
 R = 11,459.16
 PC STA. = 35+35.78
 PT STA. = 39+91.78
 e = 0.020

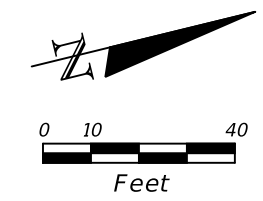


MATCHLINE STA. 31+80.00

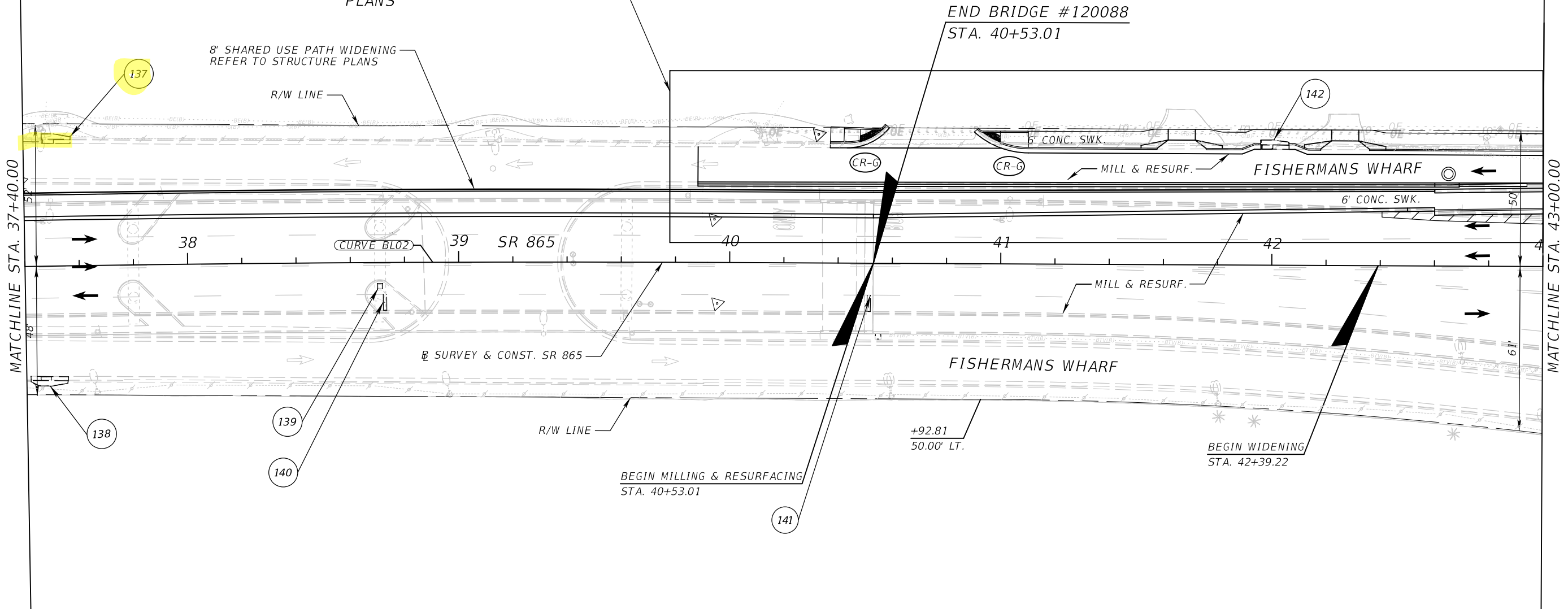
MATCHLINE STA. 37+40.00

REVISIONS				CHRISTOPHER D. FRANK, P.E. P.E. LICENSE NUMBER 64014 WGI, INC. 2910 MAGUIRE ROAD, SUITE 2008 OCOEE, FL 34761	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			ROADWAY PLAN (05)	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					SR 865	LEE	433726-2-52-01		

CURVE DATA BLO2
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 PT STA. = 39+91.78
 e = 0.020



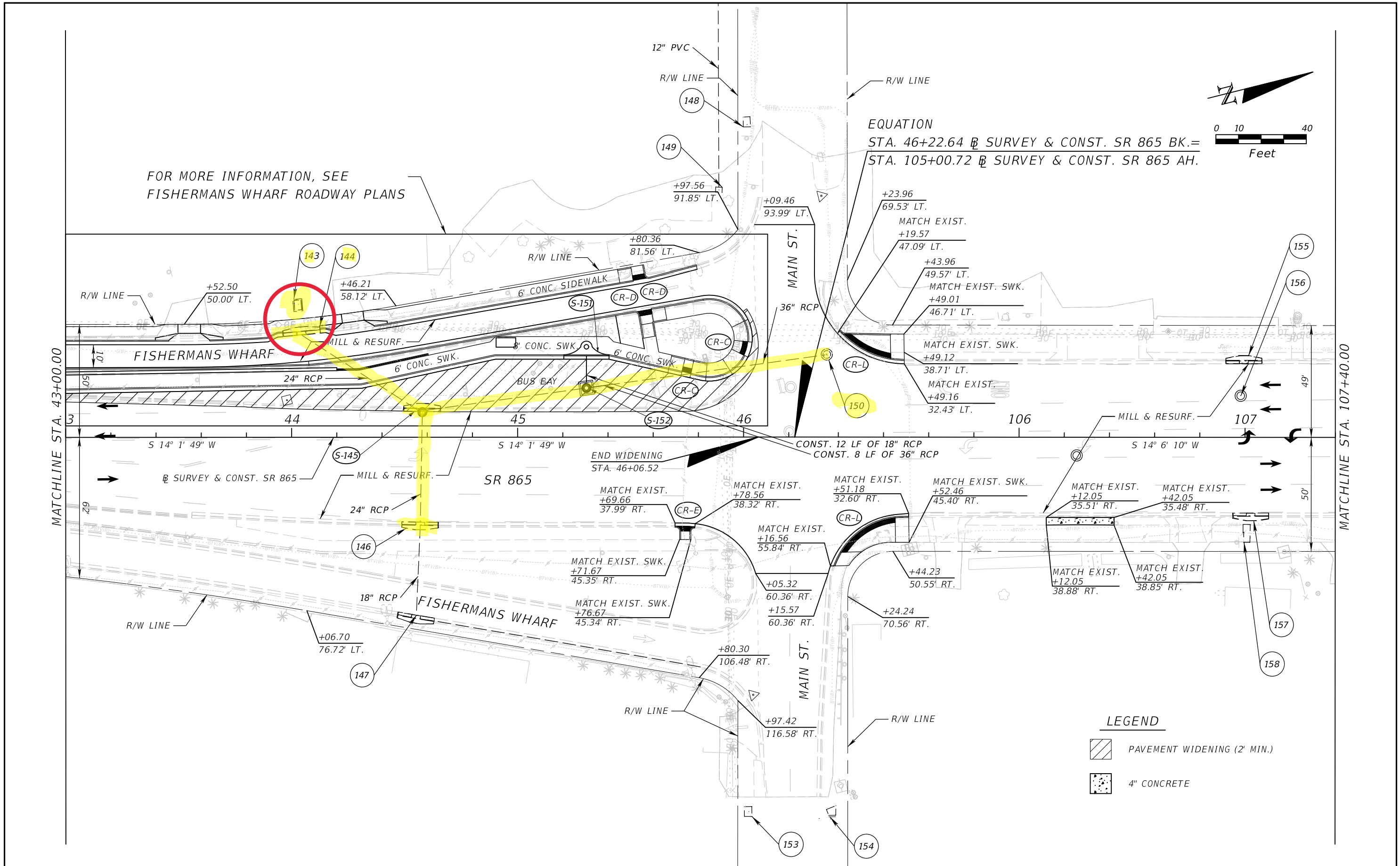
FOR MORE INFORMATION, SEE
 FISHERMANS WHARF ROADWAY
 PLANS



LEGEND

PAVEMENT WIDENING (2' MIN.)

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DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					SR 865	LEE	433726-2-52-01		



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DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					SR 865	LEE	433726-2-52-01		

APPENDIX F

Drainage Scope

MAY 2019

EXHIBIT "A"



SCOPE OF SERVICES

FOR

SR 865 (SAN CARLOS) FROM ESTERO BLVD TO CR 869 (SUMMERLIN RD)

FINANCIAL PROJECT ID(S). 433726 2 32 01

DISTRICT ONE

LEE COUNTY

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**SCOPE OF SERVICES FOR CONSULTING ENGINEERING SERVICES
HIGHWAY AND BRIDGE/STRUCTURAL DESIGN**

This Exhibit forms an integral part of the agreement between the State of Florida Department of Transportation (hereinafter referred to as the DEPARTMENT or FDOT) and WANTMAN GROUP, INC. (hereinafter referred to as the CONSULTANT) relative to the transportation facility described as follows:

Financial Project ID: **433726 2 32 01**

Federal Aid Project No.: **D119 051 B**

County Section No.: **12004**

Description: **SR 865 (San Carlos) from Estero Blvd to CR 869 (Summerlin Rd)**

Bridge No(s): **120088, 120089**

Rail Road Crossing No: **N/A**

1 PURPOSE

The purpose of this Exhibit is to describe the scope of work and the responsibilities of the CONSULTANT and the DEPARTMENT in connection with the design and preparation of a complete set of construction contract documents and incidental engineering services, as necessary, for improvements to the transportation facility described herein.

Major work mix includes: **0025 Bridge – Rehabilitate and Add Lanes**

Major work groups include: **3.1 Minor Highway Design; 4.2.1 Major Bridge Design**

Minor work groups include: **2.0 – PD&E Studies; 4.1.1 Miscellaneous Structures; 4.1.2 Minor Bridge Design; 5.4 Bridge Load Rating; 6.1 Traffic Engineering Studies; 6.2 Traffic Signal Timing; 6.3.1 ITS Analysis and Design; 6.3.2 ITS Implementation; 6.3.3 ITS Traffic Engineering Systems; 7.1 Signing, Pavement Marking and Channelization; 7.2 Lighting; 7.3 Signalization; 8.1 Control Surveying; 8.2 Design, Right-of-way & Construction Surveying; 8.3 Photogrammetric Mapping; 8.4 Right-of-Way Mapping; 15.0 Landscape Architect**

Known alternative construction contracting methods include: **TBD**

The general objective is for the CONSULTANT to prepare a set of contract documents including plans, specifications, supporting engineering analysis, calculations and other technical documents in accordance with FDOT policy, procedures and requirements. These Contract documents will be used by the contractor to build the project and test the project components. These Contract documents will be used by the DEPARTMENT or its Construction Engineering Inspection (CEI) representatives for inspection and final acceptance of the project. The CONSULTANT shall follow a systems engineering process to ensure that all required project components are included in the

1 PURPOSE

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development of the Contract documents and the project can be built as designed and to specifications.

The Scope of Services establishes which items of work in the *Florida Design* Manual and other pertinent manuals are specifically prescribed to accomplish the work included in this contract, and also indicate which items of work will be the responsibility of the CONSULTANT and/or the DEPARTMENT.

The CONSULTANT shall be aware that as a project is developed, certain modifications and/or improvements to the original concepts may be required. The CONSULTANT shall incorporate these refinements into the design and consider such refinements to be an anticipated and integral part of the work. This shall not be a basis for any supplemental fee request(s).

The CONSULTANT shall demonstrate good project management practices while working on this project. These include communication with the DEPARTMENT and others as necessary, management of time and resources, and documentation. The CONSULTANT shall set up and maintain throughout the design of the project a contract file in accordance with DEPARTMENT procedures. CONSULTANTS are expected to know the laws and rules governing their professions and are expected to provide services in accordance with current regulations, codes and ordinances and recognized standards applicable to such professional services. The Consultant shall provide qualified technical and professional personnel to perform to Department standards and procedures, the duties and responsibilities assigned under the terms of this agreement. The Consultant shall minimize to the maximum extent possible the Department's need to apply its own resources to assignments authorized by the Department.

The DEPARTMENT will provide contract administration, management services, and technical reviews of all work associated with the development and preparation of contract documents, including Construction documents. The Department's technical reviews are for high-level conformance and are not meant to be comprehensive reviews. The CONSULTANT shall be fully responsible for all work performed and work products developed under this Scope of Services. The DEPARTMENT may provide job-specific information and/or functions as outlined in this contract, if favorable.

1 PURPOSE

2 PROJECT DESCRIPTION

The CONSULTANT shall investigate the status of the project and become familiar with concepts and commitments (typical sections, alignments, etc.) developed from prior studies and/or activities. If a Preliminary Engineering Report is available from a prior or current Project Development and Environmental (PD&E) study, the CONSULTANT shall use the approved concepts as a basis for the design unless otherwise directed by the DEPARTMENT.

The project includes multiple improvements along SR 865 from Estero Boulevard to CR 869 (Summerlin Road). The improvements include, but are not limited to the following:

** Widening the Matanzas Pass Bridge (Bridge No. 120088) to provide a shared use path on the west side of the bridge*

** Restriping the lanes on the Hurricane Pass Bridge (Bridge No. 120089) and constructing additional barrier wall to provide bike lanes in both directions, and a sidewalk on the west side of the bridge, in addition to the existing sidewalk on the east side of the bridge.*

** Modifying the existing signal at SR 865 / Buttonwood Drive, and adding two additional signals – one at SR 865 / Main Street and another at SR 865 / Estero Boulevard.*

2.1 Project General and Roadway (Activities 3, 4, and 5)

Public Involvement: CAP level 3, One Public meeting / workshop, provide support on preparation for and attendance at one Public Hearing

Other Agency Presentations/Meetings: Multiple presentations to Town of Fort Myers Beach, Lee County, Lee County MPO, CAC, TAC, and bicycle / pedestrian group

Joint Project Agreements: TBD

Specification Package Preparation: One

Value Engineering: N/A

Risk Assessment Workshop: N/A

Plan Type: Plan only

Typical Section: Two Typical Sections – one for each bridge. Provide the following roadway typical sections:

- SR 865 from Estero Boulevard to Matanzas Pass Bridge

2 PROJECT DESCRIPTION

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- SR 865 from Matanzas Pass Bridge to Main Street
- SR 865 from Main Street to Hurricane Bay Bridge
- Fishermans Wharf, southbound frontage road

Pavement Design: Provide three pavement designs:

- ***SR 865 milling and resurfacing***
- ***SR 865 widening from Mantanzas Pass Bridge to Main Street***
- ***Fishermans Wharf, southbound frontage road***

Pavement Type Selection Report(s): N/A

Cross Slope: N/A

Access Management Classification: Four and Seven

Transit Route Features: No additional features proposed with this project.

Major Intersections/Interchanges: Signal modifications at SR 865 / Buttonwood Drive. New Signals at SR 865 / Main Street and SR 865 / Estero Boulevard.

Roadway Alternative Analysis: N/A

Level of TCP Plans: Level 2

Temporary Lighting: N/A

Temporary Signals: Provide a temporary pedestrian crosswalk signal at Main Street

Temporary Drainage: TBD

Design Variations/Exceptions: Provide variations for:

- ***Auxiliary lane width***
- ***Shared use path width***
- ***Bicycle lane width***
- ***Sidewalk width***

Back of Sidewalk Profiles: Not anticipated

2.2 Drainage (Activities 6a and 6b)

2 PROJECT DESCRIPTION

System Type: Existing closed stormwater management system shall remain in place. Additional stormwater inlets and pipe will be required for the Matanzas Pass bridge widening.

All existing cross drains that are to remain shall be videoed and analyzed for structural sufficiency. Prior to videoing pipes, the CONSULTANT shall coordinate with the local Operation Center to verify if any existing pipe video is available. The CONSULTANT shall be responsible for desilting the cross drains prior to video inspection. The CONSULTANT shall check the condition of all existing cross-drain pipes for possible lining or replacement. The CONSULTANT shall provide an electronic copy of the new pipe video, inspection report, and a kmz file of the pipe video location, to the local Operation Center once it is complete.

2.3 Utilities Coordination (Activity 7)

The CONSULTANT is responsible to certify that all necessary arrangements for utility work on this project have been made and will not conflict with the physical construction schedule. The CONSULTANT should coordinate with DEPARTMENT personnel to coordinate transmittals to Utility Companies and meet production schedules.

The CONSULTANT shall ensure FDOT standards, policies, procedures, practices, and design criteria are followed concerning utility coordination.

The CONSULTANT may employ more than one individual or utility engineering consultant to provide utility coordination and engineering design expertise. The CONSULTANT shall identify a dedicated person responsible for managing all utility coordination activities. This person shall be contractually referred to as the Utility Coordination Manager and shall be identified in the CONSULTANT proposal. The Utility Coordination Manager shall be required to satisfactorily demonstrate to the FDOT District Utilities Administrator that they have the following knowledge, skills, and expertise:

A minimum of 4 years of experience performing utility coordination in accordance with FDOT, Federal Highway Administration (FHWA), and American Association of State Highway and Transportation Officials (AASHTO) standards, policies, and procedures.

A thorough knowledge of the FDOT plans production process and District utility coordination process.

A thorough knowledge of FDOT agreements, standards, policies, and procedures.

The Utility Coordination Manager shall be responsible for managing all utility coordination, including the following:

Assuring that Utility Coordination and accommodation is in accordance to the FDOT, FHWA, and AASHTO standards, policies, procedures, and design criteria.

2 PROJECT DESCRIPTION

6a DRAINAGE ANALYSIS

The CONSULTANT shall analyze and document Drainage Tasks in accordance with all applicable manuals, guidelines, standards, handbooks, procedures, and current design memorandums.

The CONSULTANT shall be responsible for designing a drainage and stormwater management system. All design work shall comply with the requirements of the appropriate regulatory agencies and the DEPARTMENT's Drainage Manual *and Stormwater Management Facility Handbook*.

The CONSULTANT shall coordinate fully with the appropriate permitting agencies and the DEPARTMENT's staff. All activities and submittals should be coordinated through the DEPARTMENT's Project Manager. The work will include the engineering analyses for any or all of the following:

6a.1 Drainage Map Hydrology

Accurately delineate drainage basin boundaries to be used in defining the system hydrology. Basin delineation shall incorporate existing survey and/or LiDAR and shall be supplemented, as necessary, with other appropriate data sources (such as permitted site plans) and field observations. Basin delineations shall also include any existing collection systems in a logical manner to aid in the development of the hydraulic model. Prepare the Drainage Maps in accordance with the Florida Design Manual.

6a.2 Base Clearance Report – N/A

Analyze, determine, and document high water elevations per basin which will be used to set roadway profile grade and roadway materials. Determine surface water elevations at cross drains, floodplains, outfalls and adjacent stormwater ponds. Determine groundwater elevations at intervals between the above-mentioned surface waters. Document findings in a Base Clearance Report.

6a.3 Pond Siting Analysis and Report – Not Applicable

Evaluate pond sites using a preliminary hydrologic analysis. Document the results and coordination for all of the project's pond site analyses. The Drainage Manual and Stormwater Management Facility Handbook provides specific documentation requirements.

If applicable, this report shall also address the potential for regional stormwater management alternatives. Additional stormwater management strategies shall be identified within the adjoining project watersheds that can serve as permissible alternatives as compared to traditional stormwater ponds. The design approach should consider, at a minimum, two (2) adjoining roadway basins in an attempt to minimize the number of stormwater ponds while accomplishing the environmental permitting needs for this roadway project.

6a DRAINAGE ANALYSIS

Concurrent to the submittal of the Pond Siting Report, the CONSULTANT shall provide an electronic copy of the report that does not include any right-of-way cost estimates.

6a.4 Design of Cross Drains – N/A

Analyze the hydraulic design and performance of cross drains. Check existing cross drains to determine if they are structurally sound and can be extended. Document the design as required. Determine and provide flood data as required.

6a.5 Design of Ditches – Not Applicable

Design roadway conveyance and outfall ditches. This task includes capacity calculations, longitudinal grade adjustments, flow changes, additional adjustments for ditch convergences, selection of suitable channel lining, design of side drain pipes, and documentation. (Design of linear stormwater management facilities in separate task.)

6a.6 Design of Stormwater Management Facility (Offsite or Infield Pond) – Not Applicable

Design stormwater management facilities to meet requirements for stormwater quality treatment and attenuation. Develop proposed pond layout (contributing drainage basin, shape, contours, slopes, volumes, tie-ins, etc.), perform routing, pollutant loading calculations, recovery calculations, design the outlet control structure and buoyancy calculations for pond liners when necessary.

6a.7 Design of Stormwater Management Facility (Roadside Ditch as Linear Pond) – Not Applicable

Design stormwater management facilities to meet requirements for stormwater quality treatment and attenuation. Develop proposed pond layout (contributing drainage basin, shape, contours, slopes, volumes, tie-ins, etc.), perform routing, pollutant loading calculations, recovery calculations and design the outlet control structure.

6a.8 Design of Floodplain Compensation – N/A

Determine floodplain encroachments, coordinate with regulatory agencies, and develop proposed compensation area layout (shape, contours, slopes, volumes, etc.). Document the design following the requirements of the regulatory agency.

6a.9 Design of Storm Drains

Develop a “working drainage map”, determine runoff, inlet locations, and spread. Calculate hydraulic losses (friction, utility conflict and, if necessary, minor losses). Determine design tailwater and, if necessary, outlet scour protection.

6a.10 Optional Culvert Material

6a DRAINAGE ANALYSIS

Determine acceptable options for pipe materials using the Culvert Service Life Estimator.

6a.11 French Drain Systems – Not Applicable

Design French Drain Systems to provide stormwater treatment and attenuation. Identify location for percolation tests and review these, determine the size and length of French Drains, design the control structure/weir, and model the system of inlets, conveyances, French Drains, and other outfalls using a routing program.

6a.12 Drainage Wells – Not Applicable

Design the discharge into deep wells to comply with regulatory requirements. Identify the location of the well, design the control structure/weir, and model the system using a routing program.

6a.13 Drainage Design Documentation Report

Compile drainage design documentation into report format. Include documentation for all the drainage design tasks and associated meetings and decisions, except for stand-alone reports, such as the Pond Siting Analysis Report and Bridge Hydraulics Report.

6a.14 Bridge Hydraulic Report – N/A

Calculate the watershed hydrology and bridge hydraulics for each waterway crossing that requires a structure having a minimum length of twenty (20) feet. The report shall address all design criteria outlined in the current edition of the FDOT Bridge Hydraulics Handbook. Additionally, this standalone report shall include the Bridge Hydraulics Recommendation Sheets (BHRS), which summarize both the physical properties of the bridge along with the pertinent hydrology and hydraulic information associated with this waterway crossing.

Calculate hydrology, hydraulics, deck drainage, scour, and appropriate counter measures. Prepare report and the information for the Bridge Hydraulics Recommendation Sheet.

6a.15 Temporary Drainage Analysis

Evaluate and address drainage to adequately drain the road and maintain existing offsite drainage during all construction phases. Provide documentation.

6a.16 Cost Estimate

*Provide computations to summarize the drainage quantities necessary for the Long Range Estimate (LRE) and Trans*Port cost estimates.*

6a.17 Technical Special Provisions

6a DRAINAGE ANALYSIS

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As needed to document the use of specialty products related to erosion control and the proposed drainage systems.

6a.18 Other Drainage Analysis

6a.19 Field Reviews

Video inspection shall be limited to east of Fishermans Wharf under Matanzas Pass Bridge, at the corner of the Marine Science Center. The CONSULTANT shall investigate and resolve drainage issues at this location.

Prior to videoing pipes, the CONSULTANT shall coordinate with the local Operation Center to verify if any existing pipe video is available. The CONSULTANT shall be responsible for desilting the cross drains prior to video inspection. The CONSULTANT shall provide an electronic copy of the new pipe video, inspection report, and a kmz file of the pipe video location, to the local Operation Center once it is complete.

The CONSULTANT should be aware that Water Management District permit reviewers routinely request survey information up to 100-ft outside of the Right-of-Way line. The CONSULTANT shall be prepared to provide this information through means other than additional field survey work (i.e. either aerial contour maps or LiDAR topography, where available).

6a.20 Technical Meetings

6a.21 Environmental Look-Around Meetings

6a.22 Quality Assurance/Quality Control

6a.23 Independent Peer Review – N/A

6a.24 Supervision

6a.25 Coordination

6a DRAINAGE ANALYSIS

STAGE III SOS
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6b DRAINAGE PLANS

The CONSULTANT shall prepare Drainage plan sheets, notes, and details. The plans shall include the following sheets necessary to convey the intent and scope of the project for the purposes of construction.

- 6b.1 Drainage Map (Including Interchanges) – N/A**
- 6b.2 Bridge Hydraulics Recommendation Sheets – N/A**
- 6b.3 Summary of Drainage Structures**
- 6b.4 Optional Pipe/Culvert Material**
- 6b.5 Drainage Structure Sheet(s) (Per Structure)**
- 6b.6 Miscellaneous Drainage Detail Sheets**
- 6b.7 Lateral Ditch Plan/Profile – *Not Applicable***
- 6b.8 Lateral Ditch Cross Sections – *Not Applicable***
- 6b.9 Retention/Detention Pond Detail Sheet(s) – *Not Applicable***
- 6b.10 Retention Pond Cross Sections – *Not Applicable***
- 6b.11 Erosion Control Plan Sheet(s)**

Erosion Control Plan sheets do not have to be prepared for projects permitted with the South Florida Water Management District, however erosion control quantities need to be prepared.
- 6b.12 SWPPP Sheet(s)**
- 6b.13 Quality Assurance/Quality Control**
- 6b.14 Supervision**