K&S/RS&H DESIGN TEAM

CROSSTOWN PARKWAY EXTENSION PROJECT

Dedicated to Quality, Schedule and the City of Port St. Lucie

October 16, 2012

Keith and Schnars, P.A.

K&S/RS&H DESIGN TEAM
CROSSTOWN PARKWAY EXTENSION PROJECT
Dedicated to Quality, Schedule and the City of Port St. Lucie

Organizational Chart

CITY OF PORT ST. LUCIE PROJECT MANAGER
Roxanne Chesser, P.E.

LEGEND
- Keith & Schnars
- RS&H
- GFA International, Inc./Geologistics
- I.F. Rooks & Associates
- Contruction Engineering Consultants
- Electrical Design Associates
- Archeological Consultants, Inc.
- Bernard Kinney Associates
- F.R. Aleman & Associates
- CivilSurv

PRINCIPAL-IN-CHARGE
Michael L. Davis
Vice President

QA/QC DESIGN
Mark Moshier, P.E
Vice President

BRIDGE QA/QC/ PEER REVIEW
Robert Woodruff, P.E.
Richard Wallace, P.E.
Ben Lehr, P.E.
(RS&H)

BRIDGE CONSTRUCTABILITY
Mike Bone, P.E.
(Construction Engineering Consultants)

NEPA COORDINATOR/ FDOT LIAISON
John Krane, P.E.

PROJECT MANAGER
C. Bryan Wilson, P.E.

SPECIAL PROJECTS COORDINATOR
Lisa Lorenzo, P.E.

ENVIRONMENTAL PERMITTING
John Abbott, P.G.
Kristine Stewart, Ph.D.
Joyce Howland

ARCHEOLOGY
Joan Deming, R.P.A.
(Archeological Consultants, Inc.)

LANDSCAPE ARCHITECTURE
Bruce Reed, RLA
Chris Miller, RLA, LEED AP

ROADWAY DESIGN
Mark Kline, P.E.
Carlos Alcantara, P.E.
Matt Neddeff, P.E.
Mark Moshier, Jr., E.I.

BRIDGE DESIGN
Coriann Salas, P.E.
Barbara King-Russell, P.E.
Jonni Joannou, P.E.
Brian Chunn, P.E.
Nicole Axelrod, P.E.

DRAINAGE
Chris Jackson, P.E.
Chandra Raman, P.E.
Hayes Templeton
(RS&H)

SURVEY & MAPPING
Robert K. Krisak, P.L.S.
Eric Wilhjelm, P.S.M.

AERIAL PHOTOGRAPHY
Ike Rooks
(I.F. Rooks & Associates)

HYDROGRAPHIC SURVEY
Jack Breed, P.L.S.
(CivilSurv)

GEOTECHNICAL ENGINEERING
Fred Kaub, P.G.
Paul Denforth, P.E.
(GFA International, Inc.)

GEOTECHNICAL SUPPORT
Mary Kaub
(Geologistics)

SIGNING & PAVEMENT MARKING/UTILITY COORDINATION
Matt Neddeff, P.E.
Mark Moshier, Jr., E.I.

SURFACE UTILITY ENGINEERING
Dennis Stanton
(FRA)

HYDRAULICS
Jeff Glenn, P.E.
Justin Dewey, P.E.
(RS&H)

PUBLIC INVOLVEMENT
Dawn Sonneborn, AICP
Harry Fulwood
Debbie Love, AICP

NOISE IMPACTS
Bernard Kinney
(Bernard Kinney Associates)

LIGHTING
Lillian Reyes, P.E.
(Electrical Design Associates)

Keith and Schnars, P.A.

Team Roles

Keith and Schnars, P.A. (Prime Consultant)
Roadway, Structures, Signing, Marking, Signalization, Landscape, Survey, R/W Mapping, Utility Coordination, Environmental permitting, Public Involvement

Reynolds, Smith and Hills, Inc.
Drainage, Bridge Hydraulics, Structural Peer Review, QA / QC

Electrical Design Associates
Lighting Design

GFA International, Inc / Geologistics
Geotechnical Engineering

CivilSurv Design Group, Inc.
Hydrographic Survey

Team Roles

F.R. Aleman & Associates
Subsurface Utility Engineering (SUE)

I. F. Rook & Associates
Aerial Photogrammetry

Construction Engineering Consultants
Constructability QA/QC

Bernard Kinney Associates
Noise Analysis/Impacts

Archeological Consultants, Inc.
Archeological Investigation

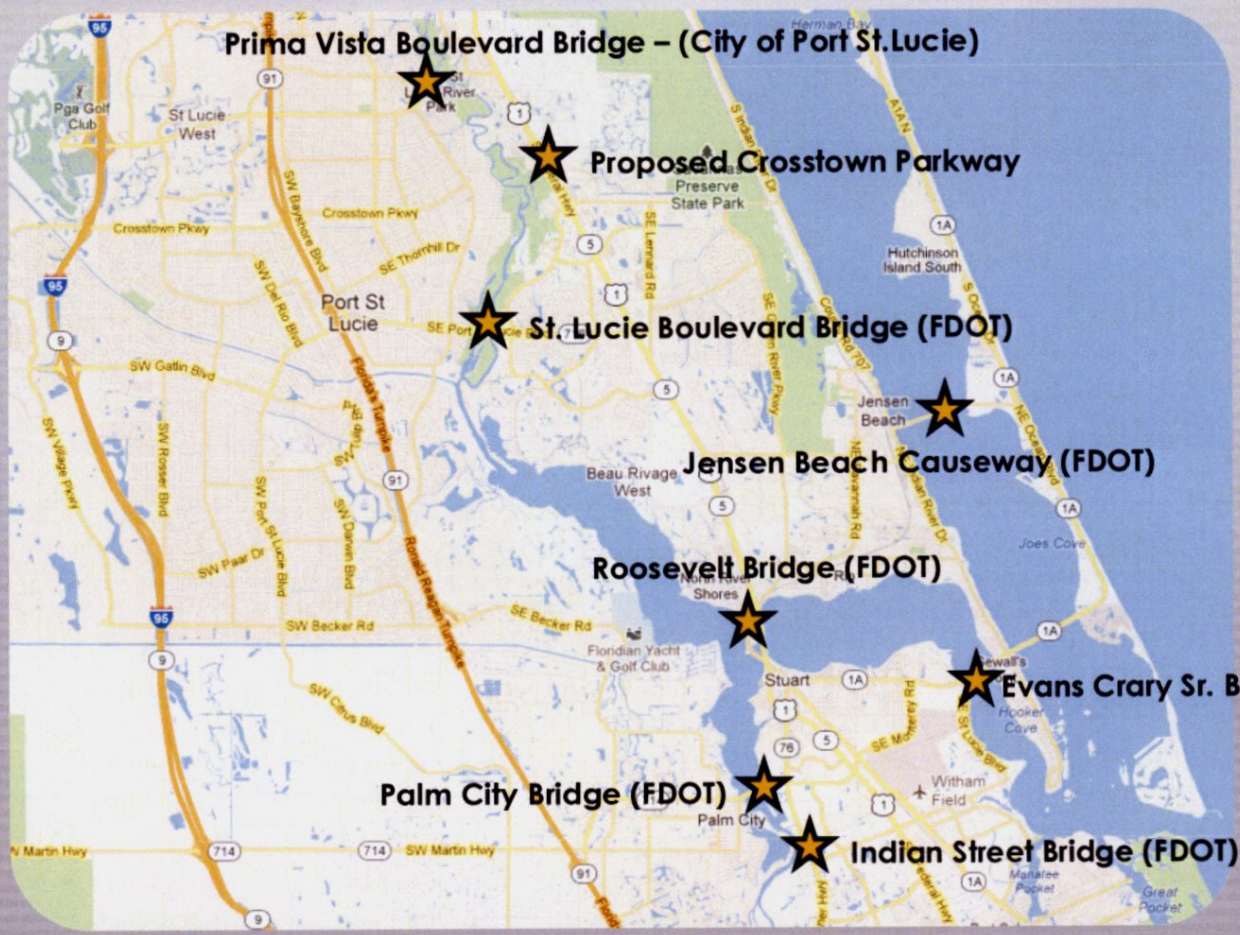
K&S Team – Knowledge of the Project

- **Crosstown Parkway Interchange (PD&E and Final Design)**
- **Crosstown Parkway Extension (PD&E and EIS)**
- **Environmental Commitments**
  - Reduce the bridge cross section from 143 feet to 103 feet.
  - Use a "top-down" construction method.
  - Use driven precast concrete pile-supported bent foundations.
  - Orient the bridge piers parallel to water flow direction.
  - Place bridge abutments outside of natural habitats to extent practicable.
  - On the west side, use retaining walls or MSE walls.
  - On the east side, limit staging areas to the footprint of the bridge approach.
  - Convey stormwater off the bridge to ponds – no scuppers.
  - Locate stormwater ponds within the R/W or within already-developed areas.
  - Use specialized lighting fixtures to reduce light spill over to natural habitats.
  - No overlooks or enlarged seating areas over natural lands.

K&S Team – FDOT Qualifications

FDOT Pre-Qualifications / Team Member		K&S	RS&H	FRA	GFA	IF Rooks
2.0	Project Development and Environmental Studies	X	X	X		
3.1	Minor Highway Design	X	X	X		
3.2	Major Highway Design	X	X			
4.1.1	Miscellaneous Structure	X	X			
4.1.2	Minor Bridge Design	X	X			
4.2.1	Major Bridge Design – Concrete	X	X			
4.2.2	Major Bridge Design – Steel	X	X			
6.1	Traffic Engineering Studies	X	X	X		
6.2	Traffic Signal Timing	X	X	X		
6.3.1	Traffic Systems Analysis and Design	X	X	X		
6.3.2	Traffic Engineering Systems Implementation	X	X	X		
6.3.3	Traffic Engineering Systems Communications			X		
6.3.4	Traffic Engineering Systems Software Development			X		
7.1	Signing, Pavement Marking and Channelization	X	X	X		
7.2	Lighting	X	X	X		
7.3	Signalization	X	X	X		
8.1	Control Surveying	X	X	X		
8.2	Design, Right of Way and Construction Surveying	X		X		
8.3	Photogrammetric Mapping					X
8.4	Right of Way Mapping	X		X		
9.1	Soil Exploration				X	
9.2	Geotechnical Classification Lab Testing				X	
9.3	Highway Materials Testing				X	
9.4.1	Standard Foundations Studies				X	
11.0	Engineering and Contract Administration and Management	X				
15.0	Landscape Architect	X				

K&S Team – Similar Local Bridge Experience



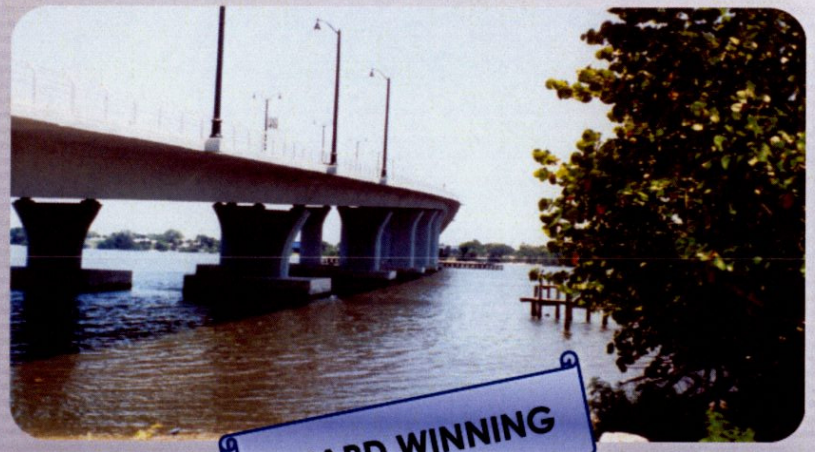
St. Lucie Boulevard over North Fork of St. Lucie River – St. Lucie County

- Just south of the proposed Crosstown Extension
- Crosses the North Fork St. Lucie River

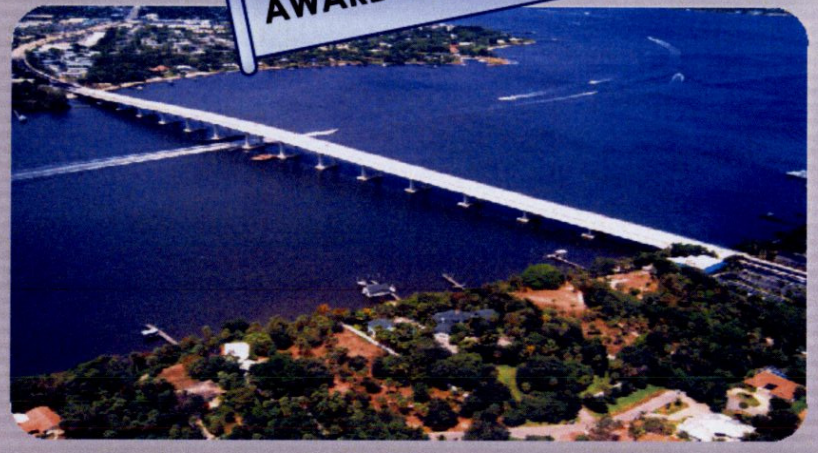
Prima Vista Boulevard over North Fork of St. Lucie River – St. Lucie County

- Just north of the proposed Crosstown Extension
- Crosses the North Fork St. Lucie River

Evans Crary Sr. Bridge – Martin County

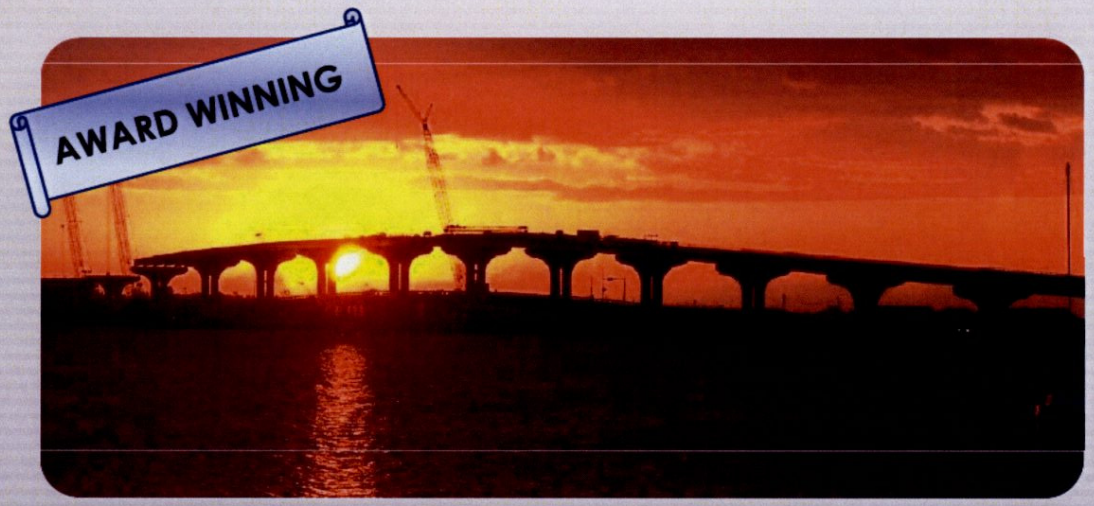


AWARD WINNING



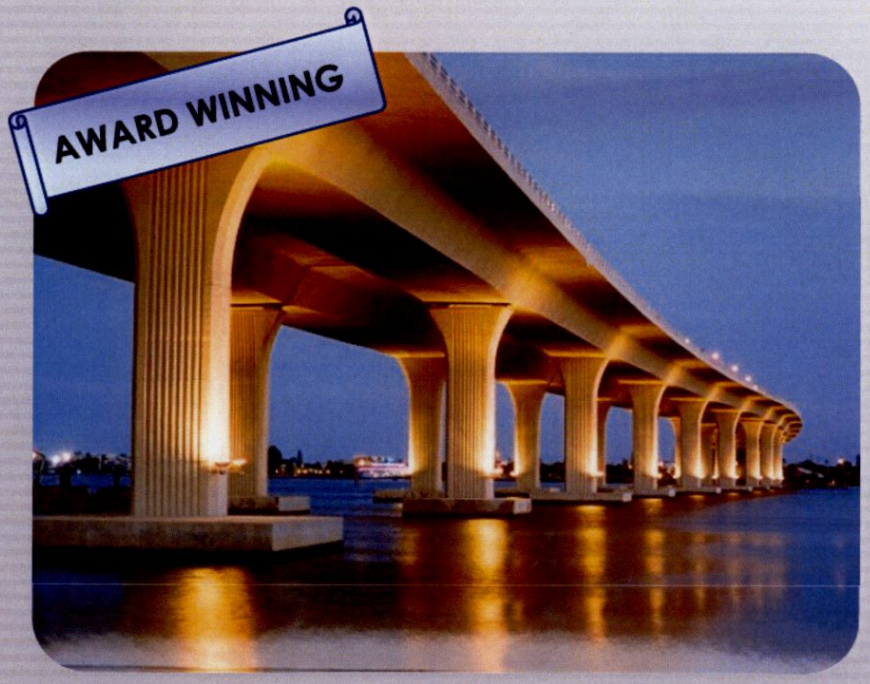
- Top 10 bridge design by Roads and Bridges Magazine
- 2001 FTBA Award
- Crosses the St. Lucie River
- Designed to FDOT Specifications
- Built using top down construction techniques

Jensen Beach Causeway - Frank A. Wacha Bridge - Martin County



- 2006 FTBA Award
- Crosses the ICWW
- Built using top down construction techniques
- Designed to FDOT Specification

Roosevelt Bridge – Martin County



- 1998 FTBA Award
- Crosses the St. Lucie River
- Built using top down construction techniques
- Designed to FDOT Specifications

Indian Street Bridge – Martin County

- Crosses the South Fork St. Lucie River
- Built using top down construction techniques
- Designed to FDOT Specifications

Coral Creek Bridge – Charlotte County

- 2012 APWA Award
- Crosses Coral Creek leading out to Gasparilla Sound
- Environmentally sensitive area

Design Approach

- **Assign the best design team**
  - Experienced with major bridge projects
  - Fully dedicated and available for City
  - Local presence and availability of lead project staff
- **Commitment**
  - Recognition and prioritization of City's desires and concerns
  - Advanced project schedule
  - Minimize costs
  - Highest quality
- **Optimize roadway and bridge design**
  - Balance costs against impacts and constructability
  - Focus on compliance with EIS and regulatory commitments

Design Approach – Drainage Design

- **Capitalize on "fresh eyes" approach to perform a comprehensive and unbiased evaluation of the conceptual drainage plan**
  - Evaluate SHGWT elevations to ensure minimization of right-of-way acquisition for off-site ponds
  - Consider reductions to minimum freeboard requirements
  - Consider impervious nature of bridge footprint in pre-development condition

- **Identify value added drainage improvements towards minimizing construction, right-of-way, and maintenance costs, while maximizing drainage performance**
  - Evaluate use of swales in conjunction with wet ponds to minimize right-of-way acquisition and provide dry pretreatment
  - Evaluate alternative sites for offsite ponds to ensure optimal location and value
  - Evaluate use of joint use pond at Liberty Medical Center to minimize wetland impacts and right-of-way acquisition
  - Evaluate use of Thirsty Duck Buoyant Flow Control Devise to minimize right-of-way acquisition

K&S/RS&H DESIGN TEAM

CROSSTOWN PARKWAY EXTENSION PROJECT

Dedicated to Quality, Schedule and the City of Port St. Lucie

Project Overview

K&S/RS&H DESIGN TEAM

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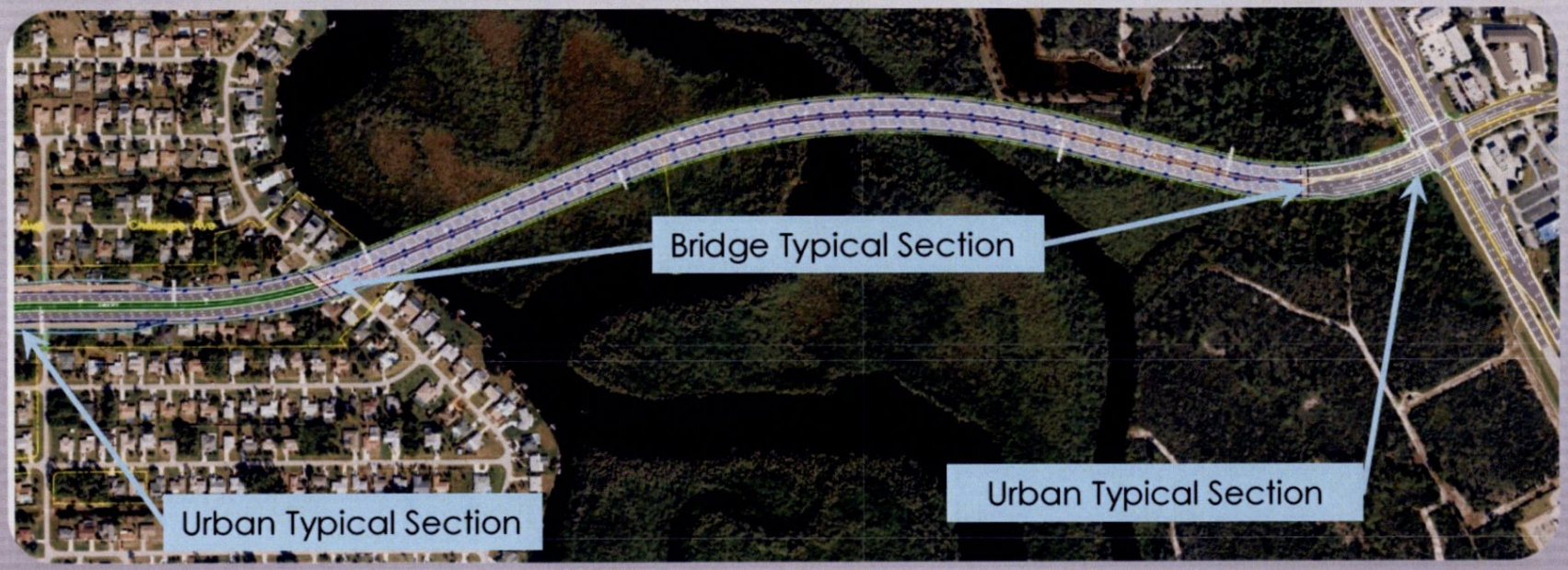
Project Overview

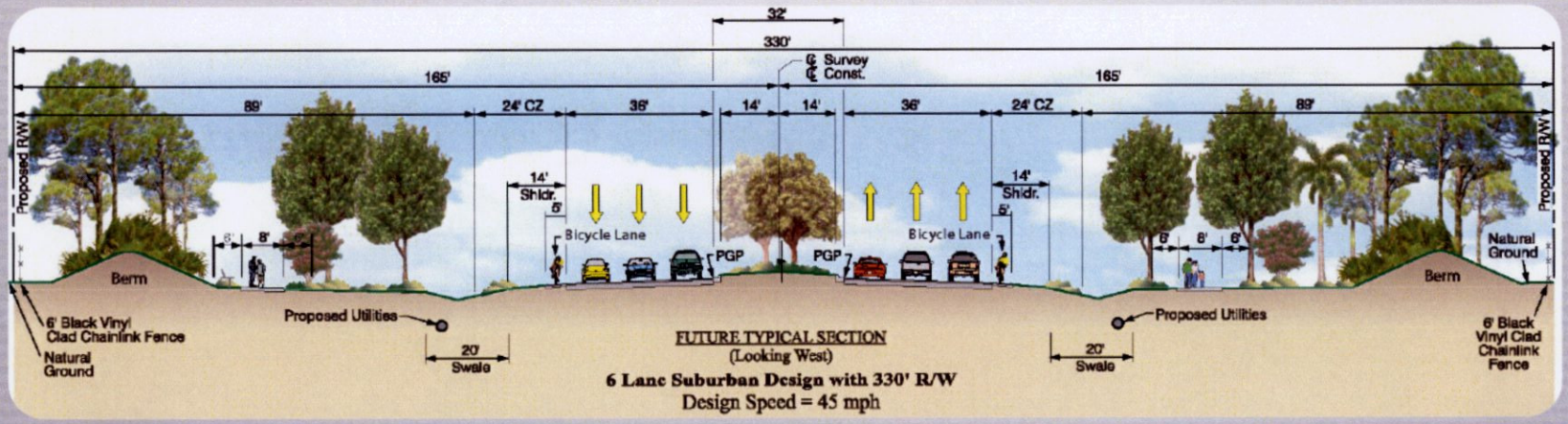


K&S/RS&H DESIGN TEAM

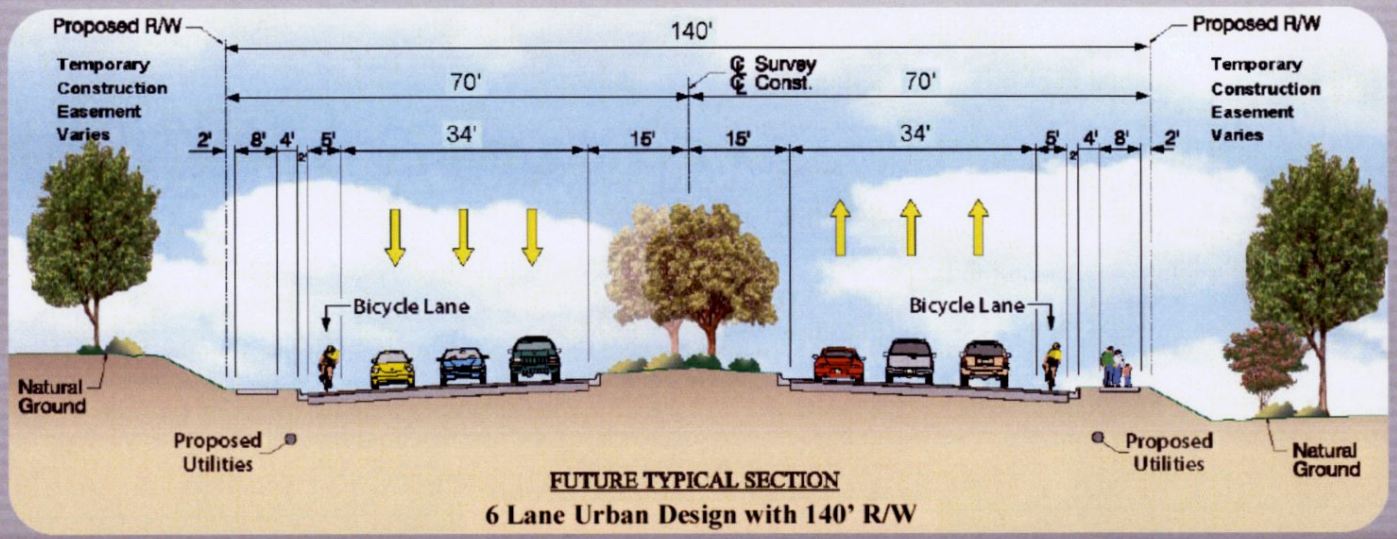
CROSSTOWN PARKWAY EXTENSION PROJECT

Dedicated to Quality, Schedule and the City of Port St. Lucie

Typical Sections



FUTURE TYPICAL SECTION
(Looking West)
6 Lane Suburban Design with 330' R/W
Design Speed = 45 mph



FUTURE TYPICAL SECTION
6 Lane Urban Design with 140' R/W

Keith and Schnars, P.A.

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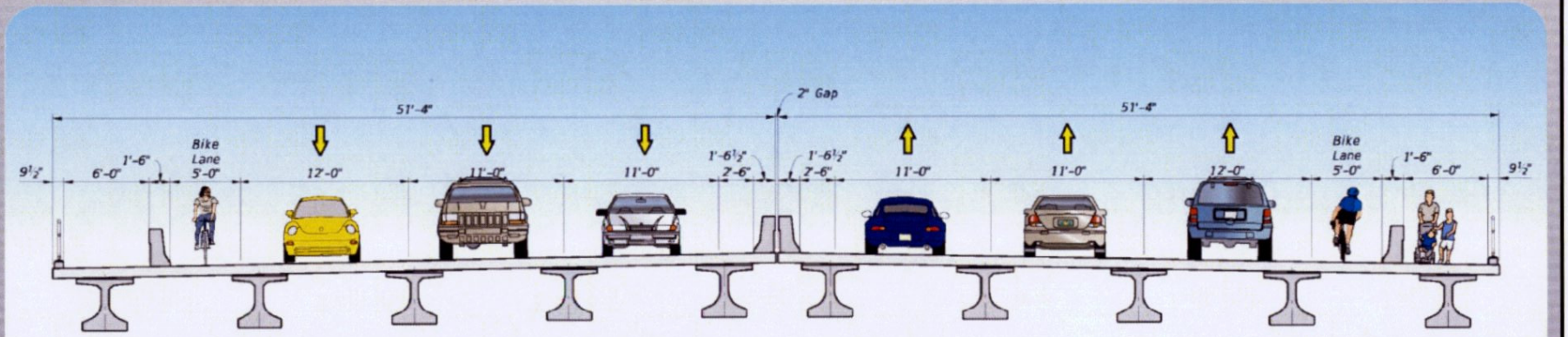
Typical Sections



103' URBAN BRIDGE TYPICAL SECTION

Bridge Design Team

Bridge Design Team –

- Keith and Schnars
- Over 125 years of local experience
- **FDOT Prequalified** 4.1.1, 4.1.2, 4.2.1, 4.2.2

Bridge Review Team – QA/QC

- Reynolds, Smith and Hills
- Over 70 years of experience
- **FDOT Prequalified** 4.1.1, 4.1.2, 4.2.1, 4.2.2

RS&H
IMPROVING YOUR WORLD

Extensive Design Experience – K&S

KEITH and SCHNARS, P.A.
STRUCTURAL ENGINEERING

Coriann Salas, P.E.
Director of Structural Engineering

Joannis Joannou, P.E.
Senior Structural Engineer

Barbara King-Russell, P.E.
Senior Structural Engineer

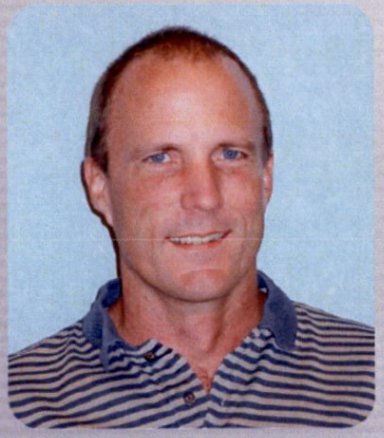
Brian Chunn, P.E.
Senior Structural Engineer

Lisa Lorenzo, P.E.
Senior Structural Engineer

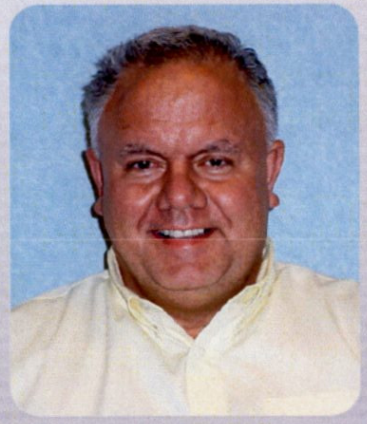
Nicole Axelrod, P.E.
Structural Engineer

Justin Fries, E.I.
Structural Designer

Design Experience Depth – RS&H



Robert Woodruff, P.E.
24 years



Richard Wallace, P.E.
40 years

Ben Lehr, P.E.
10 years

Bridge Design Approach

1. **Phase II: Bridge Development Report & 30% Plans**
   - Bridge Engineering Economic Analysis – Determines the optimum span arrangement and beam size
2. **Phase III: 59% Plans**
3. **Phase IV: Final Plans**

Bridge Engineering Economic Analysis

Four Factors:

1. **Environmental Concerns:** Establish that the preliminary layout maintains the commitments made in the EIS.

2. **Cost:** Evaluate span lengths and pier types to determine the most cost effective layout.

3. **Constructability:** Determine the largest spans while maintaining "Top Down Construction"

4. **Environmental Concerns:** Verifying that the selected layout maintains the commitments made in the EIS.

Span Lengths

- **Cost**
  - Compare different span lengths vs. costs
  - Consider economy of scale
- **Constructability**
  - Utilizes a "top down" method:
    - True Top Down
    - Gantry
    - Trestle

Pier Types

Pile Bent –
A row of driven individual piles with a cap placed on top

Column Bent –
Columns supported on pile cap foundations

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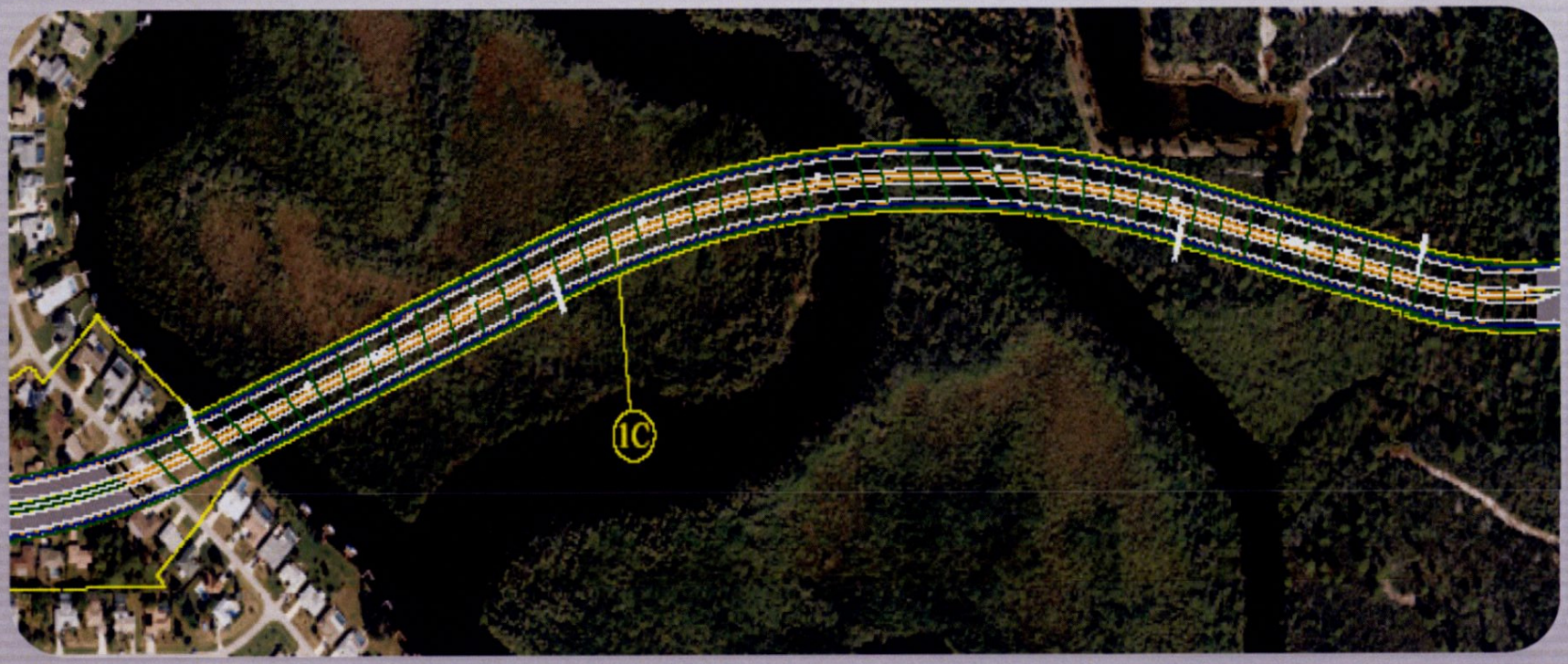
Cost Effective Layout - 80'-0" Spans with FIB 36 and Pile Bents



Cost Efficient Aesthetics

- Bridge Railings - decorative
- Pedestrian Outlooks - on approaches
- Bridge Painting - natural colors
- Lighting - environmentally friendly

Bridge Innovation & Cost Savings

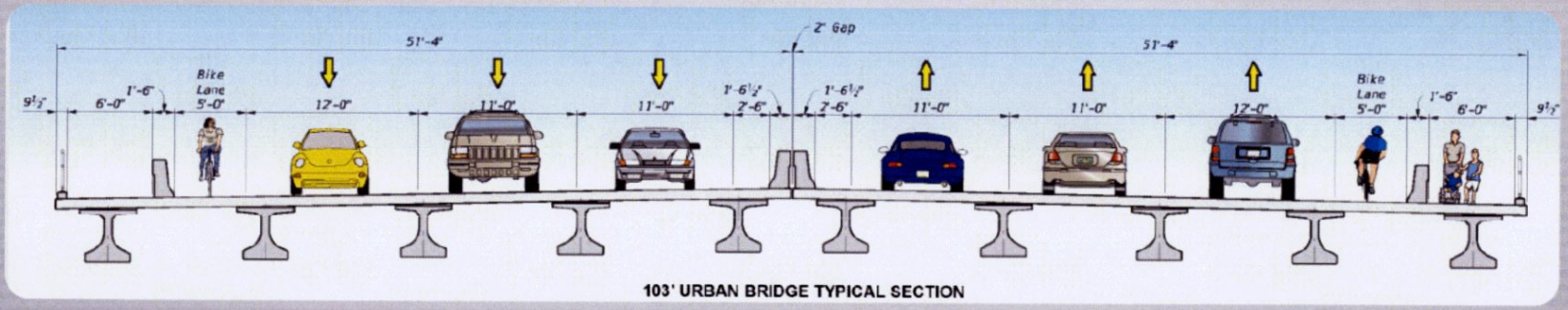
Prefabricated/Precast Bridge Elements

- Bent Caps
- Integrating Barriers with Beams

Reducing Maintenance Costs

- Bearings
- Expansion Joints
- Drainage Systems
- Concrete Additives/Sealants

Cost Savings – Typical Section



103' URBAN BRIDGE TYPICAL SECTION

The modified bridge typical section reduces environmental impacts and construction costs.

- **Based on FDOT LRE bridge costs - $.6 million for every foot of bridge width saved**
  - $1.2 million per foot for both bridges
- **Approximately $18 million saved vs. original bridge width**

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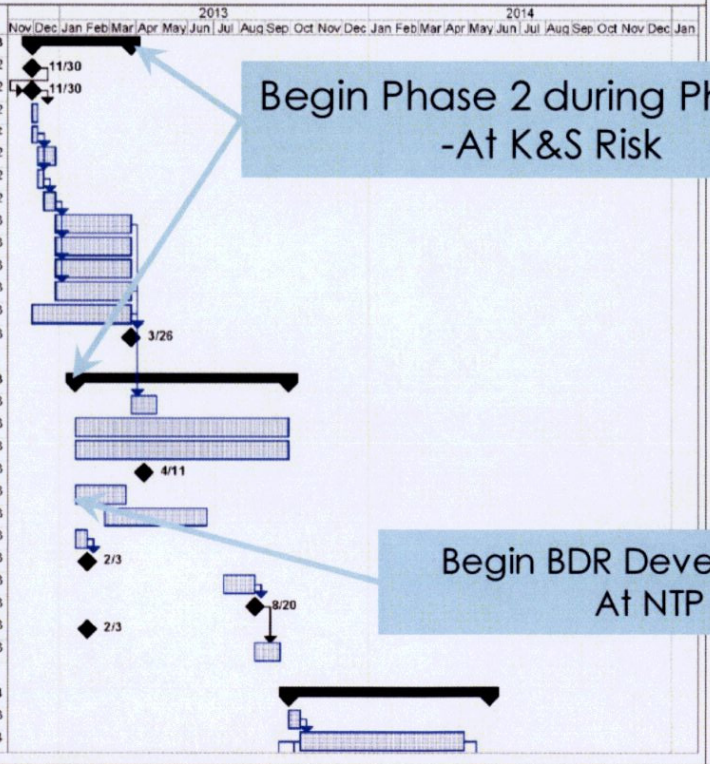
Schedule

Project Schedule
Crosstown Parkway Extension
From Manth Lane to US 1
FPID: 410844-1-A8-01

ID	Task Name	Start	Finish
1	**Phase I - Survey / Mapping / Geotech**	**Fri 11/30/12**	**Tue 3/26/13**
2	Notice To Proceed	Fri 11/30/12	Fri 11/30/12
3	Project Kick-Off Meeting - Scope / Deadlines / Bu	Fri 11/30/12	Fri 11/30/12
4	Prepare / Submit QC Plan & Schedule	Fri 11/30/12	Fri 12/7/12
5	Multi-Discipline Field Visits	Fri 11/30/12	Fri 12/7/12
6	Design Field Visits (Photos, Inventoris, etc.)	Fri 12/7/12	Fri 12/28/12
7	Establish Baseline	Fri 12/7/12	Fri 12/14/12
8	Set Control	Fri 12/14/12	Fri 12/28/12
9	Design Survey	Fri 12/28/12	Tue 3/26/13
10	Right-of-Way Survey	Fri 12/28/12	Tue 3/26/13
11	Hydrologic Survey	Fri 12/28/12	Tue 3/26/13
12	Right-of-Way Mapping	Fri 12/28/12	Tue 3/26/13
13	Geotechnical Investigation and Testing	Fri 11/30/12	Tue 3/26/13
14	Receive Geotech Report	Tue 3/26/13	Tue 3/26/13
15			
16	**Phase II - 30% Plans**	**Sun 1/20/13**	**Sun 9/29/13**
17	Right-of-Way Mapping	Tue 3/26/13	Thu 4/25/13
18	Roadway Design	Sun 1/20/13	Sun 9/29/13
19	Drainage Design	Sun 1/20/13	Sun 9/29/13
20	Drainage Design Meeting	Thu 4/11/13	Thu 4/11/13
21	Bridge Development Report	Sun 1/20/13	Thu 3/21/13
22	Bridge Design	Sun 2/24/13	Mon 6/24/13
23	Community Awareness Plan Development	Sun 1/20/13	Sun 2/3/13
24	Submit Community Awareness Plan	Sun 2/3/13	Sun 2/3/13
25	Quality Control & Constructability Reviews	Sun 7/14/13	Tue 8/20/13
26	Submit Phase II (30%) Plans	Tue 8/20/13	Tue 8/20/13
27	Initial Utility Contact	Sun 2/3/13	Sun 2/3/13
28	Client Review Period	Tue 8/20/13	Thu 9/19/13
29			
30	**Phase III - 59% Plans**	**Sun 9/29/13**	**Mon 5/26/14**
31	Respond to Phase II (30%) Comments	Sun 9/29/13	Sun 10/13/13
32	Roadway Design	Sun 10/13/13	Sat 4/26/14



Begin Phase 2 during Phase 1
-At K&S Risk

Begin BDR Development
At NTP

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Keith and Schnars, P.A.

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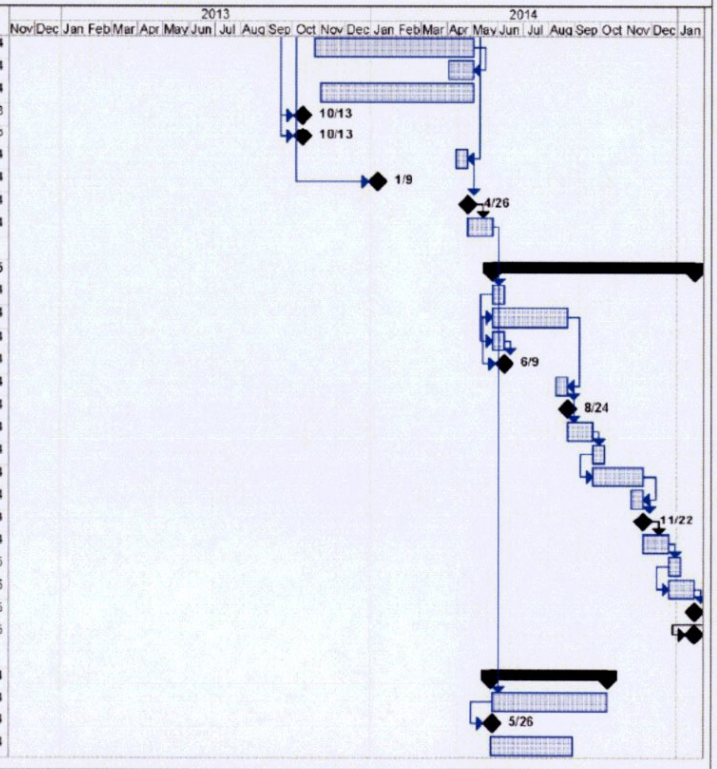
Schedule

Project Schedule
Crosstown Parkway Extension
From Manth Lane to US 1
FPID: 410844-1-A8-01

ID	Task Name	Start	Finish
33	Drainage Design	Sun 10/27/13	Sun 5/4/14
34	Permit Application Preparation	Fri 4/4/14	Sun 5/4/14
35	Bridge Design	Sun 11/3/13	Sun 5/4/14
36	Utility Coordination / Utility Pre-Design Meeting	Sun 10/13/13	Sun 10/13/13
37	Public Meeting #1	Sun 10/13/13	Sun 10/13/13
38	Quality Control & Constructability Reviews	Sat 4/12/14	Sat 4/26/14
39	Submit Plans for TCP Approval	Thu 1/9/14	Thu 1/9/14
40	Submit Phase III (59%) Plans	Sat 4/26/14	Sat 4/26/14
41	Client Review Period	Sat 4/26/14	Mon 5/26/14
42			
43	**Phase IV Option 1- Final Design Development**	**Mon 5/26/14**	**Wed 1/21/15**
44	Respond to Phase III (59%) Comments	Mon 5/26/14	Mon 6/9/14
45	90% Plans & Specs Development	Mon 5/26/14	Sun 8/24/14
46	Utility Coordination / Certification	Mon 5/26/14	Mon 6/9/14
47	Public Meeting #2	Mon 6/9/14	Mon 6/9/14
48	Quality Control and Constructability Reviews	Sun 8/10/14	Sun 8/24/14
49	Submit 90% Plans & Specs	Sun 8/24/14	Sun 8/24/14
50	Client Review Period	Sun 8/24/14	Tue 9/23/14
51	Respond to 90% Plans and Specs Comments	Tue 9/23/14	Tue 10/7/14
52	100% Plans & Specs Development	Tue 9/23/14	Sat 11/22/14
53	Quality control and Constructability Reviews	Sat 11/8/14	Sat 11/22/14
54	Submit 100% Plans & Specs	Sat 11/22/14	Sat 11/22/14
55	Client Review Period	Sat 11/22/14	Mon 12/22/14
56	Respond to 100% Plans and Specs Comments	Mon 12/22/14	Mon 1/5/15
57	Final Plans Development	Mon 12/22/14	Wed 1/21/15
58	Submit Final Plans	Wed 1/21/15	Wed 1/21/15
59	Submit PEDDS Pacakge	Wed 1/21/15	Wed 1/21/15
60			
61	**Phase IV Option 2 - Design Build Project**	**Sun 5/25/14**	**Sat 10/11/14**
62	Prepare RFP / Criteria Package	Mon 5/26/14	Sat 10/11/14
63	Submit Permits	Mon 5/26/14	Mon 5/26/14
64	Concept Plans Development	Sun 5/25/14	Sun 8/31/14



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Why Choose K&S?

K&S/RS&H DESIGN TEAM

CROSSTOWN PARKWAY EXTENSION PROJECT

Dedicated to Quality, Schedule and the City of Port St. Lucie

THANK YOU!

KEITH AND SCHNARS, P.A.

1972 2012

FLORIDA'S BIG LOCAL FIRM

40 Years of Excellence!

QUESTIONNAIRE
E-Bid #20120061
Professional Engineering Design Services for Crosstown Extension from Manth to US1

It is understood and agreed that the following information is to be used by the City of Port St. Lucie to determine the qualifications of personnel and firm as presented in this document. The Proposer waives any claim against the City that might arise with respect to any decision concerning the qualifications of the Proposer or the personnel of the Proposer.

The undersigned attests to the truth and accuracy of all statements made on this questionnaire. Also, the undersigned hereby authorizes any public official, Consultant, Surety, bank material or equipment manufacturer or distributor, or any person, firm or corporation to furnish the City of Port St. Lucie any Pertinent information requested by the City deemed necessary to vary the information on this questionnaire.

Dated this ____**18th**____ day of _____**September**_____, 2012

_____**American Consulting Engineers of Florida, LLC**_____

Name of Organization / Proposer

(This is a word document please add space as needed.)

The response to the total Proposal including all documents shall be limited to **50 pages** and submitted in one electronic file and should be no larger than 1.5 mg. The responses shall be concise and straightforward with emphasis on clarity and understanding of the project. Provide the response within the document below.

(This is a word document please add space as needed.)

1 PROPER INFORMATION

I. ORGANIZATION HISTORY

Organizational History, Years of Providing Engineering Services, Philosophy and Professional Qualifications of Proposer

American Consulting Engineers of Florida, LLC (American) is 100% owned by members actively working for the company providing planning, environmental, civil engineering, consulting, and project and program management services to local, state and federal agencies, as well as private sector clients. Having an employee-owned firm gives owners the unique opportunity to act as professionals who manage our projects. This structure helps us maintain our focus on client service, offers stability among projects, and gives us the ability to react to our client needs.

American, as an employee-owned company has provided services in planning, civil engineering, and environmental consulting. A staff of over 70 employees including urban and transportation planners, traffic, civil, structural, and drainage engineers, environmental scientists, graphics specialists, surveyors, construction engineers, general contractors and project managers, backs our team. In addition to planning and design services, we also provide general construction engineering services.

Since the start of our company over 20 years ago, the majority of our work has been for public sector clients - primarily involving the planning and design of roadways and bridges. Our professionals are anchored in the local communities they serve and are committed to providing innovative solutions, technical competence and professional integrity.

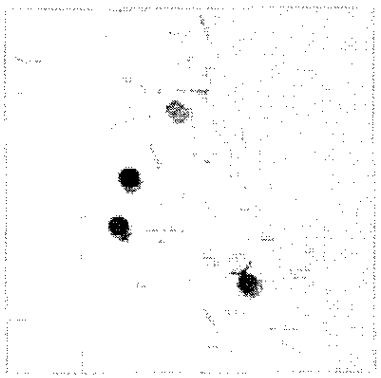
American will respond quickly and produce quality work in a timely manner. We assure that the City of Port St. Lucie will be completely satisfied with our ability to fully serve them from any of our office locations. This determination and level of service is essential to our success and repeat clientele.

Introduction to the Team

To assist the City of Port St. Lucie with the design of the Crosstown Parkway extension, we have brought together top ranked national engineering firms with well-established local engineering companies, providing a synergetic team of experts, experienced in the planning, design and implementation of environmentally sustainable transportation systems. This highly qualified team can draw on the expertise of over 1700 professionals located in 75 offices around the country. Collectively, team members have designed in excess of over a thousand bridges and hundreds of miles of roadway throughout the United States. Our team members are locally anchored in the Treasure Coast area and recognize our responsibility to the community we serve to provide competent, efficient and knowledgeable design services.

To successfully manage a project of this magnitude, it is of the utmost importance to clearly define responsibilities for tasks included in the detail schedule from the onsite of the effort. As such, tasks

TREASURE COAST



LEGEND

- American Consulting Engineers
- Kimley-Horn and Associates
- Culpepper & Terpening
- CAPTEC Engineering
- Ardaman & Associates

have been assigned to team members based on their expertise and availability. The American Team includes a talented group of companies who have experience working directly for the City of Port St. Lucie, or within the City limits through the County, FDOT or other stakeholders. Our team includes:

- **American** will be responsible for the overall project management including any revisions to the corridor master plan. We will perform all the hydrologic studies required for the corridor including the BHR (bridge hydraulic report), American will develop the overall drainage design for the corridor including the design of ponds and will be responsible for all permitting and agency coordination associated with permits. American will produce the BDR (bridge development report) and provide the detailed design of the bridge superstructure. We will also provide the overall TCP design and plans, along with the signalization plans for the Floresta Drive and US-1 intersections. The QA/QC will be developed and managed by American for all task associated with the contract. Should the team be ask to proceed with a Construction Management (CM or Design-Build (DB) criteria package, American will produce the detailed package and provide assistance during the section process as requested.
- **Kimley-Horn and Associates** will take the lead in the development of the roadway plans just east of Floresta Drive to US-1. This will include any modifications required to US-1 north and south of the intersection. Kimley-Horn will also design the drainage conveyance systems, the signing & marking plans, and lighting. Kimley-Horn will also provide the substructure design for the bridge section over the Preserve.
- **Ardaman & Associates** will be responsible for the geotechnical investigations west of Floresta Drive to US-1. This will include soil data for the roadway design, drainage design and the foundation design for the bridge over the preserve.
- **Anderson Andre Consulting** will be responsible for the geotechnical investigations between (Manth Lane to Floresta Drive). This will include soil data for the roadway design, drainage design and the foundation designs for the signals at Floresta Drive and US-1.
- **CAPTEC Engineering** will take the lead in the development of the roadway plans from Manth Lane to just west of Floresta Drive. The will also include any modifications required to Floresta Drive north and south of the intersection. This will also include the drainage conveyance systems and signing & marking plans.
- **Culpepper & Terpening Engineering** will provide the control survey, topographic survey, and mapping including the development of parcel sketches and legal descriptions, they will also provide utility coordination for corridor and provide utility design services should the City wish to install new lines through the corridor.
- **Currie Sowards Aguila Architects** will provide bridge aesthetics, as needed.
- **JCA Engineering** will provide expertise in bridge construction means and methods associated with suggested bridge configurations during the development of the BDR.
- **Cotleur Hearing** will provide the landscape design including plans for the corridor.
- **Massuen Consulting LLC** will provide the irrigation design for the corridor.

II. AMERICAN FDOT PREQUALIFICATIONS

	3.1 – Minor Highway Design	3.2 – Major Highway Design	4.1.1 – Miscellaneous Structures	4.1.2 – Minor Bridge Design	4.2.1 – Major Bridge Design-Concrete	4.2.2 – Major Bridge Design -Steel	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	11.0 – Engineering Contract Administration and Management
	O	O	O	O	O	O	O	O	O	O	O	O

III. LITIGATION HISTORY FOR THE PAST 5 YEARS

Litigation American Consulting Engineers of Florida. LLC has been involved in within the last 5 years. include: *SR 84, W. SW 26th Terrace to SE 4th Avenue.* Michael Mathews and Cynthia Mathews vs. Sascha A. Wlodyka, Weekly Asphalt Paving, Inc., and American Consulting Engineers of Florida, LLC Case No.: CACE 08-058140 (11). This case involved a resurfacing and landscaping project in Broward County. The complaint referenced an accident that was allegedly caused by a clear zone violation. *This case was dismissed.*

2

The organizational chart shown on page 5 details the relationships of key personnel and subconsultants working as a cohesive team.

I. WHY IS THE AMERICAN TEAM THE BEST TEAM FOR THIS PROJECT ?

As a Project Team, American and our subconsultants bring a depth of local and national experience, quality of expertise, personnel / technical resources, quality control commitment and exceptional client services that will best serve the City on this important project. Our team members are locally anchored in the Treasure Coast area. With over 1,700 qualified professionals and support staff, our team has the depth and expertise required to address all facets of this project to meet your schedule.

Many of our team members have provided support to the City for public involvement, environmental permitting, conceptual design, and survey and geotechnical services in relationship to many segments of the Crosstown Parkway, making us well suited to begin this project with no learning curve. During the preliminary engineering and environmental process we served the City in an advisory role; our team is ready to take the lead in the design and provide a fresh approach. Our in-depth knowledge of the Environmental Impact Statement will allow us to develop cost effective solutions without jeopardizing the integrity of the process for this the final segment of the Crosstown Parkway.

3

I. SUBCONSULTANT ORGANIZATION HISTORY

The following demonstrates our subconsultant organizational history, years of providing the service, philosophy and professional qualifications, shown in alphabetical order.

Andersen Andre Consulting Engineers, Inc. (AACE) is a professional consulting engineering firm headquartered in Port St. Lucie, Florida. Formed in 2006 on the simple yet important recipe of superior technical ability, comprehensive local knowledge and unrivaled client service, AACE offers the following engineering and consulting services throughout Florida and in the Caribbean, with their primary focus on local projects on the Treasure Coast of Florida (St. Lucie, Martin and Indian River Counties), Palm Beach County and Okeechobee County.

- Subsurface Soil Explorations
- Geotechnical/Foundation Engineering
- Construction Materials Testing
- Phase 1 and Phase 2 Environmental Site Assessments
- Underground and/or Above-ground Petroleum Storage Tank Closures
- Contamination Site Assessments

Cofounders Peter G. Andersen, P.E. and David P. Andre, P.E. have more than 30 years of combined experience providing geotechnical engineering, construction materials testing and environmental consulting. AACE has been providing geotechnical engineering and construction materials testing services for Port St. Lucie roadways since the company's founding. AACE is recognized by the City of Port St. Lucie as a trusted consultant, and the company has maintained a continuing service contract with the City of Port St. Lucie since 2007. AACE's services have included typical roadway soil surveys during which soils were explored through the performance of auger borings and Standard Penetration Test (SPT) borings, as well as complex groundwater mounding analyses, slurry wall inspections, demucking recommendations, and surcharging programs.

AACE's services have included typical roadway soil surveys during which soils were explored through the performance of auger borings and Standard Penetration Test (SPT) borings, as well as complex groundwater mounding analyses, slurry wall inspections, demucking recommendations, and surcharging programs. AACE is very familiar with this phase of Port St. Lucie's Crosstown Parkway. Our team of experienced Geotechnical Engineers are prepared to perform both, land and water-based soil borings. We will provide the Geotechnical information necessary for the completion our Team's Bridge Development Report (BDR).

Ardaman & Associates, Inc. (Ardaman) is one of Florida's largest geotechnical, materials engineering and environmental consulting firms. Since its founding in Orlando in 1959, the company has grown to over 480 employees, and expanded its scope from Florida to national and international operations. From 12 branch offices located throughout Florida and three branch offices in Louisiana, they conveniently provide local experience and timely response. This broad base of experience enables staff to satisfy the demands of any project, anywhere. Ardaman offers a broad range of professional engineering services including:

- Geotechnical Engineering
- CEI Services / Materials Testing
- Soils and Concrete Testing
- Full-Service Geotechnical Lab
- Pile Driving Inspection/Monitoring
- Drilled Shaft Design and Inspection

At Ardaman, they are committed to providing high-quality services that satisfy the specific needs of both the project and the client. This commitment to quality is supported by their use of the most advanced mechanical and electronic tools available, along with specialized instruments developed by Ardaman professionals for particular applications. These tools are supported by their most important asset – a dedicated and experienced staff. Their five-to-one ratio of support to professional staff is among the best in the field for full-service geotechnical companies and further accents our philosophy of quality service.

PROPOSAL

Professional Engineering Design Services
for Crosstown Parkway Extension Manth to US1

American Consulting Engineers of Florida, LLC (American)
Kimley-Horn and Associates (KHA)
CAPTEC Engineering, Inc. (CEI)
Culpepper Terpening, Inc. (CTI)
Ardaman & Associates, Inc. (Ardaman)
Andersen Andre Consulting Engineers, Inc. (AACE)
Cotleur & Hearing (C&H)
Currie Sowards Aguila Architects (CSAA)
JCA Engineering, LLC (JCA)
Masuen Consulting, LLC (MC)

Project Director
Brian Mirson, PE, AICP (American)

QA/QC
Ryan Forrestel, PE - Roadway (American)
Don Keenan, PE - Structures (American)

Deputy Project Manager
Christopher O'Reilly, PE (American)

Design-Build/CM Criteria Packages
Christopher O'Reilly, PE (American)
Keith Kiesler, PE (KHA)

Geotechnical
Dan Zaliaski, PE (Ardaman)
David Andre, PE (AACE)

Survey/Right-of-Way
Mike Kolodziejczyk, PLS (CTI)
Thomas Klemmer, PSM (CTI)

Public Involvement
Brian Mirson, PE, AICP (American)
Susan Gilmore (American)

Stormwater Management & Hydrologic
William Adams, PE (American)
Will Byrd, PE (American)

Drainage Design
Brian Kiesler, PE (CEI)
Aurora Taylor (CEI)

Roadway Design
Kenneth Jackson, PE (KHA)
Joseph Cagle, PE (CEI)
Keith Kiesler, PE (KHA)

Bridge Design
Scott Korpi, PE, SE (American)
Richard Turner, PE (American)
Tim Simon, PE (CSAA)
Anthony Sewlochan, PE (KHA)

Construction Means and Methods
John Airhart, PE (JCA)
Tom Malaska, PE (American)

Bridge Aesthetics
Tim Sowards, AIA LEED AP (CSAA)

TCP/MOT
Andrew Nunes, PE (American)
Jeff Chase (American)

S&PM/Signalization
Akram Hassan, PE, PTOE (American)
James Vonacker, PE (KHA)
Bahman Bourgeois, PE (CEI)

Landscape Architect
Todd Mowery (Ignition)

Irrigation
Todd Mohler (MC)

Lighting
Matthew Fuhrmann, PE (KHA)

Environmental Permitting
Anne Fitzwilliams, CWD (American)
Greg Massey (American)

Utility Coordination
Stephen Mitchell, PS (CTI)
Steven Dotter, PE (CTI)

The PSL Office has provided geotechnical and environmental engineering and testing services along the Treasure Coast for over 25 years. Throughout this time, they have worked with numerous local private and public-sector clients including the City of Port St. Lucie and FDOT District 4. The PSL office, managed by Mr. Dan Zrallack, P.E., has established strong community relationships with local government agencies and private sector clients. Currently, Ardaman-PSL holds continuing service contracts with St. Lucie County, the City of Port St. Lucie Engineering and Public Works departments, City of Fort Pierce, Martin County Engineering, and Indian River County. Their Port St. Lucie office is less than 15 minutes from the project site.

The resources in their PSL office can easily be supplemented with additional staff and support services from our nearby offices in West Palm Beach, Cocoa and Orlando whenever the need arises.

CAPTEC Engineering, Inc. (CAPTEC) has been providing civil engineering consulting services on the Treasure Coast since 1996. We have been awarded multiple continuing contracts from local municipalities including St. Lucie County, St. Lucie County School Board, the City of Port St. Lucie, and the City of Ft. Pierce. City of Port St. Lucie contracts have included roadway design and permitting for major thoroughfares such as Bayshore Boulevard, Lennard Road, Darwin/Tulip, and Becker Road. Other relevant City projects include the EWIP Stormwater Improvements in the area of the Crosstown project, the Woodstork Trail project in the City's CRA District and St. Lucie North Drainage Improvements.

CAPTEC also provided roadway/stormwater/utility design permitting and CEI services for multiple roadway projects in the Tradition Subdivision totaling over 12 miles in distance and $44,000,000 in construction costs, including Crosstown Parkway. CAPTEC also provided route analysis through CEI services for the Citrus Boulevard project, a new 5.6 mile 4-lane undivided corridor between western Martin and St. Lucie Counties. This new corridor included design of a 64± acre flow-through marsh/STA. In addition, design and permitting services were provided for the Green River Parkway in Martin County from the previous terminus at Jensen Beach Boulevard south to SR 707.

CAPTEC completed many significant projects encompassing water, sewer, gas line improvements and adjustments. CAPTEC is very familiar with local municipal requirements, as well as regulatory agency requirements, such as the South Florida Water Management District (SFWMD), the U.S. Army Corps of Engineers (USACE), the Florida Department of Transportation (FDOT) and the Florida Department of Environmental Protection (FDEP) .

CAPTEC assisted the City of Port St. Lucie in obtaining approximately $39M through the following project funding assistance: FDEP 319h/Florida Forever/TMDL Grant Acquisition, FEMA HMGP Grant Acquisition, SFWMD St. Lucie River Issues Team Grant Acquisition, and NRCS Emergency Watershed Protection/Hurricane Recovery Funding Acquisition.

CAPTEC engineers have extensive relevant experience and are actively involved in the design of their projects and the communities they serve. In a climate of ever changing technology where emails and electronic data submittals provide faster information transfer. CAPTEC also believes in the importance of maintaining hands on, face to face brainstorming, trouble shooting and conflict avoidance/resolution sessions with our clients and design team members.

CAPTEC's goals are to complete projects on-time and within budget and to provide sustainable projects in order to minimize future costs for local municipalities/residents.

Cotleur & Hearing, Inc. (C&H), is made up of founders, Robert Cotleur and Donaldson Hearing who have been practicing landscape architecture in south Florida for over 27 years. Both graduated with honors at the top of their class and have won scholastic and professional awards in their field. In May 1991, they started the firm of Cotleur & Hearing, Inc. (C&H); focusing their expertise and energy on landscape architecture, land planning and the rapidly growing field of environmental design.

Today, the firm provides professional services in the disciplines of landscape architecture, residential landscape DB, land planning and environmental consulting. C&H services a multitude of high-profile clients including, the FDOT, Florida Power & Light, SFWMD, along with counties and municipalities statewide, land developers and many other private sector clients.

Managing complex Landscape Architecture, Land Planning and Environmental projects requires the kind of skill and talent that is developed through experience. Their seasoned staff includes landscape architects, designers, graphic designers, planners and environmental specialists. This dedicated team utilizes a multi-disciplinary approach to problem solving and has produced award-winning results.

Culpepper & Terpening, Inc. (C&T) is one of the region's leading and most progressive engineering and land surveying firms. C&T was established in 1985 and currently has over 30 full-time employees, including 8 licensed Engineering, Surveying and Planning professionals, highly trained CAD, GIS and GPS technicians, and support staff personnel.

C&T staff has extensive experience for over 30 years providing professional services associated with public projects within the Treasure Coast. C&T has provided successful project management and surveying services on some of the most significant projects in St. Lucie County, including: Crosstown Parkway Segments 2, 4 and 5, Village Parkway Phase 1 and Phase 2 (the Biotech Corridor), the Becker Road/Turnpike Interchange. They have a proven track record of consistently completing projects on time and within budget. C&T has successfully managed the design, survey and construction of 140 lane miles of roadway projects, exceeding $1 billion of construction value over the past 10 years.

Currie Sowards Aguila Architects (CSAA) was founded in 1969 by Principal Robert Currie and the firm's work has made a significant impact on the built environment of South Florida. The firm has won more than 60 design awards over the years for such diverse and innovative projects as the Maltz Jupiter Theatre in Jupiter, FL; the Florida Fish and Wildlife Conservation Commission Headquarters in West Palm Beach; and the Ocean Avenue Bridge in Boynton Beach.

With a portfolio ranging from residential buildings and hotels to fire stations and bridges, CSA is committed to elevating architectural design standards and creating special places for people to live, work, and play. In 43 years of business, the firm has never been directly named in a legal action.

For **JCA Engineering, Inc. (JCA)**, the field of practice primarily concerns heavy highway and marine construction with emphasis on engineering for the erection or demolition of highway bridges, particularly water crossings. In addition, they perform limited amounts of other related work such as bulkhead design for ports plus structural design for commercial or recreational marinas. Much of the firm's work relates to representing large heavy and highway contractors with technical and engineering matters that concern the FDOT and other DOT's including Alabama, Georgia, and North Carolina. Typical work includes bridge analysis for construction phases, bridge repair, consulting on construction matters and design of aids to construction such as temporary falsework, temporary access trestles for cranes, cofferdams, shoring towers, and other fabrication required for erection of bridges and heavy structures.

Recent projects in which they have had significant participation are:

- 17th Street Causeway Bascule Bridge in Ft. Lauderdale, FL
- Bridges for the Tampa International Airport/Spruce Street Interchange
- Bridges for the new I-95/I-10 Interchange in Jacksonville, FL
- 17th Street Extension Bridge over I-75/I-85, Atlanta, GA
- MetroRail Extension to the Palmetto, Miami-Dade County, FL

Major projects on which they are currently participating are:

- Bridges for the I-595 Express Project, FL DOT District 4, Broward County, FL
- Highway Bridge Demolition, SR 826/SR 836 Interchange Complex, Miami-Dade County
- Bulkhead Design, Wharves Strengthening Program, Port of Miami., Miami-Dade, FL

Kimley-Horn and Associates, Inc. (KHA) was founded in 1967 as a 3-person traffic engineering specialty firm. Since that time, it has grown to be one of the largest multidisciplinary consulting firms in the nation, with 1,600 employees nationwide and 400 in 16 Florida offices. KHA is currently ranked #16 of the top 20 transportation design firms by Engineering News Record (July 2012). KHA's transportation design professionals have extensive, recent experience on large-scale transportation infrastructure improvements in Florida, including the Dixie Highway Flyover DB (Boca Raton); I-595 Public-Private Partnership DB (Zone 5), (Broward County); Flagler Memorial Bridge DB Criteria Package (Palm Beach County); and the I-4/Fenton Street Flyover DB (Orange County). In addition

Subconsultant FDOT Prequalifications	3.1 – Minor Highway Design	3.2 – Major Highway Design	4.1.1 – Miscellaneous Structures	4.1.2 – Minor Bridge Design	4.2.1 – Major Bridge Design-Concrete	4.2.2 – Major Bridge Design -Steel	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	9.1 – Soil Exploration	9.2 – Geotechnical Classification Laboratory Testing	9.3 Highway Material Testing	9.4.1 – Standard Foundation Studies	9.4.2 – Non-Redundant Drilled Shaft Bridge Foundation Studies	11.0 – Engineering Contract Administration and Management	14.0 – Bridge Architect	15.0 – Landscape Architect
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to project work, each employee is tasked with maintaining the policies, practices, and culture that have helped the firm build and maintain an experienced and stable professional staff, a strong project management system, and a history of close professional rapport with our clients and public officials.

Roadway design and planning is one of the mainstays of KHA's professional practice. Collectively, their engineers have been responsible for designing more than 2,500 miles of roadway, much of it in Florida. KHA provided these services for urban, rural, primary, secondary, and interstate roadways for clients ranging from municipalities and counties to FDOT and private developers. KHA is well equipped to address any aspect of roadway design projects, such as paving, drainage, intersection geometrics, utility relocations, traffic control, signalization, signing and marking, lighting, structural/bridge design, regulatory and permitting issues, and DB criteria packages.

KHA's structures staff includes 50 professional and technical employees who specialize in bridge and structural design. For 45 years, KHA successfully used innovative technologies to design new facilities and implement viable engineering solutions to help preserve our nation's infrastructure assets. KHA's engineers have developed plans and specifications for more than 800 bridges and have inspected more than 5,000 bridges for programs in six states. Their success in the bridge design business stems from a long reputation of providing economical and constructible bridge layout solutions for the gamut of roadway/bridge projects. Their philosophy is that the success of a bridge design is totally dependent on the bridge layout, as the bridge design/detailing is nothing more than a direct reflection of the layout.

Masuen Consulting, LLC (MC) is a water resource and horticultural consulting company comprised of landscape architects, horticulturists, agronomists, irrigation designers, landscape designers, site planners, construction managers, environmental, agricultural, and water resource engineers dedicated to providing their clients with services focused on water conservation, long-term value, operational efficiencies, regulatory compliance, and exemplary service. Everything MC delivers is the result of a critical thinking, 'out of the box', oriented mindset guided by a senior management team with over 99 years of combined experience in the landscape, golf and agricultural industries.

TEAM PROJECTS

	Geotechnical	Survey/Right-of-Way	DB/CM Criteria Packages	TCP/MOT	Roadway Design	S&PM/Signalization	Lighting	Drainage Design	Stormwater Management & Hydrologic	Environmental Permitting	Bridge Aesthetics	Bridge Design	Utility Coordination	Utility Design	Construction Means and Methods
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[illegible]	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
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MC has provided proven solutions to real world challenges for 17 years. MC offers clients the comfort and confidence of knowing they are working with an industry leader who has a long and successful track record in the outdoor water conservation arena.

II. SUBCONSULTANT FDOT PREQUALIFICATIONS

The table on page 7 details FDOT pre-qualifications held by our Subconsultant Team that are applicable to this project.

4 EXPERIENCE ON SIMILAR PROJECTS

The American Team is comprised of individuals who have worked on numerous projects similar in size, complexity and scope to the Crosstown Extension Project. Some of these projects are highlighted in the Matrix, shown on page 8, as well as shown in our SF330, Section F. A couple of projects of special significance include:

Choctawhatchee Bay Crossing, recognizing the critical importance of the US 331 corridor as a hurricane evacuation route and the need for more capacity, the American Team prepared an unsolicited proposal for doubling the capacity of the corridor. American, working closely with seasoned construction professionals, completing the design and also prepared plans to the 60% level for a 15,000 LF long bridge over the environmentally sensitive Choctawhatchee Bay, classified as an Outstanding Florida Waterway. As part of that process, we met with numerous stakeholders and conducted pre-application meetings with the FDEP and other regulators to determine the permitting and mitigation requirements for the project.

Ambassador Bridge Niagra River Crossing, where American prepared environmental documents for the design of a 5000 foot-long high-level bridge over the Niagara River, referred to as the Ambassador Niagara Signature Bridge Project. The project includes numerous permits from federal, state, local and provincial agencies in both the Unites States and Canada; Environmental Assessment and Environmental Impact Statements in both countries; field surveys including wetlands, land use, wildlife, vegetation, and noise impacts; extensive public involvement including walking tours, public meetings and hearings, and communication through a public web site. Environmental documentation for the EIS included assessment of impacts to neighborhoods, land use, environmental justice, growth impacts, visual quality, parklands, stormwater collection, cultural resources, air quality, traffic noise, traffic, energy, ecosystems, hazardous material, and cumulative impacts. Conceptual design plans and artistic renderings of the proposed bridge, roadways, and plazas were created. American also coordinated with utility companies that may require relocation.

SR A1A/Flagler Memorial Bridge Replacement Design-Build Criteria Package and Construction Phase Services, FDOT District Four — Kimley-Horn developed design-build criteria package for $98 million replacement of the existing four-lane bascule bridge across the Intracoastal Waterway. Their team designed the approach roadways, drainage systems, and construction phasing traffic control plans to 90% and included concept development of signing/marking, signalization, lighting, structures and landscape plans. The scope also included extensive public involvement, permitting, and utility coordination efforts. Services also included reviews of design-build plans, construction documents, and additional coordination with stakeholders, permitting agencies, and utilities.

Dixie Highway Flyover Design-Build, FDOT District 4 — Kimley-Horn served as consultant for the design of a new bridge connecting Dixie Highway from north of Hillsboro Road along the west side of Florida East Coast Railroad (FEC RR), over FEC RR and Hillsboro Canal, and into existing Dixie Highway north of Hillsboro Canal and east of the FEC RR tracks. In addition to roadway design and lighting services, Kimley-Horn provided structural design services for an eight-span, s-curved, steel box girder bridge over Hillsboro Canal and FEC RR; a three-span bridge over the canal; and retaining walls. This was a fast-track design-build project with only seven months allotted to complete the design and release the project to construction. It currently is under construction with anticipated completion at the end of 2011.

5 KEY INDIVIDUALS

Brian Mirson, PE, AICP, Project Director, has been the American Team advocate of this project from its inception. Brian has made strides working on this project and assisting the City in the needs during early works. Mr. Mirson takes an active role in regional urban and transportation planning, and has served on the FICE, CADD Committee, and the Greater Miami Chamber of Commerce Downtown Action Committee. He has served as a Director of the Floridians for Better Transportation Organization and as a Trustee for the Miami -Metro Action Plan Authority. He specializes in managing high profile and controversial projects. Brian will continue his role as Project Director and the primary point of contact with the City of Port St. Lucie for the next phase(s) of this project. His involvement in developing public outreach strategies and in the community visioning process will significantly contributed to the successful completion of this project.

[illegible]		
City of Port St. Lucie 121 SW Port St. Lucie Blvd., FL 34584	Patricia Roebling, PE Asst. City Engineer	772-871-5174 patr@cityofpsl.com
FDOT - District 4 3400 W. Commercial Blvd., Ft. Lauderdale, FL	Jim Wolfe	954-777-4110 james.wolf@dot.state.fl.us
Detroit International Bridge Company P O Box 32666, Detroit, MI 48232	Dan Stamper President	586-939-7000 dstamper@ambassadorbridge.com

Christopher O'Reilly, PE, Deputy Project Manager, a Principal of American, provides over 26 years professional experience. His experience includes the management of highway design, specifications, and project management, leading numerous projects throughout the FDOT District 4 area, including Port St. Lucie. His accomplishments range from managing a design team to the computer-generated

design of complete construction plans for roadway projects including roadway, drainage, signing and pavement marking, lighting and signalization plans through construction inspection. For this project, Chris will not only be the Deputy Project Manager, but he will complete DB/CM Criteria Packages where he has fullfilled this role on numerous occasions working for FDOT District 4. Mr. O'Reilly's direct experience in the City of Port City Lucie includes: Crosstown Parkway Corridor Segment 3 (Bridge over Florida's Turnpike); Improvements to Floresta Drive; Gatlin Blvd/Tradition Parkway Interchange On/Off-Ramp and Signalization Improvements; and I-95/Becker Road Interchange Re-Design.

Representative Work Related		
Palm Beach County 3400 W. Commercial Blvd., Ft. Lauderdale, FL	Maroun Azzi	561-684-4156 mazzi@pbcgov.com
FDOT - District 4 3400 W. Commercial Blvd., Ft. Lauderdale, FL	Juan Bowles	954-777-4465 juan.bowles@dot.state.fl.us
FDOT - District 4 3400 W. Commercial Blvd., Ft. Lauderdale, FL	Robert Bostian	954-777-4413 robert.bostian@dot.state.fl.us

Scott Korpi, PE, SE, Lead Structures Engineer, has over 23 years of Project Management, Structural Design, repairs and inspection experience. In addition, Scott has completed extensive research on stability, especially during construction of bridges and other structures. Scott has lead projects that included the planning or design of over 100 new or replacement bridges including post-tensioned segmental concrete bridges, cable stayed bridges, suspension bridges, simple PPC I beam bridges, major continuous steel plate girder bridges, rolled steel beam bridges, PPC box beam bridges, cast-in-place concrete flat slab bridges and timber bridges. He also has considerable construction experience including the supervision of numerous bridge reconstruction projects and has prepared repair plans for numerous structures. Scott has been involved with the Crosstown Extension project from the beginning and will continue to work with the City and the stakeholders to develop a structure the City will embrace.

Representative Work Related		
Charlotte County 7000 Florida St, Punta Gorda, FL 33950	Charles Koons, PE Project Manager	941-575-3660 chuck.koons@charlottefl.com
FDOT - District 3 1074 Hwy 90 E, Chipley, FL 32428	Keith Shores, PE Structures Design Engineer	850-415-9449 keith.shores@dot.state.fl.us
City of Naples 295 Riverside Circle, Naples, FL 34102	George Archibald City Engineer	239-213-5004

Anna Peterfreund, CWB, Environmental and Permitting, has more than 13 years of environmental experience. She has managed and permitted many projects on the state, federal, and local levels, including all water management districts, the GDNR, FDEP, SHPO, FFWCC, USCG, USACE, and many others. In addition, her responsibilities have included wetland inventories and delineation, environmental assessments, Uniform Mitigation Assessment Method (UMAM) applications, Wetland Rapid Assessment Procedure (WRAP) applications, noise and air quality studies, wildlife surveys, coordination with regulatory agencies, the development of scopes and man-hour estimates, and the review of consultant plans and reports. Ms. Peterfreund has been trained to delineate wetlands using both the Florida statewide method and the national method developed by the USACE. Anna has been working with the City on the Crosstown Extension project for a number of years focusing on the environmental and permitting aspects of the project. Her detailed knowledge of this element of work is unsurpassed. She will continue your efforts throughout the next phases of the project.

Representative Work Related		
City of Port St. Lucie 121 SW Port St. Lucie Blvd., FL 34584	Patricia Roebling, PE Asst. City Engineer	772-871-5174 patr@cityofpsl.com
South Florida Water Management District 3301 Gun Club Road, West Palm Beach, FL	Mindy Parrott Lead Environ. Analyst	561-682-6324 mparrott@sfwmd.gov
FDOT - District 7 11201 N. Malcolm McKinley Drive, Tampa, FL	Katasha Cornwell Utility & Permit Admn.	813-975-6784 katasha.cornwell@dot.state.fl.us

William Adams, PE, Stormwater Management & Hydrologic, has over 16 years of experience in design of civil engineering projects specializing in drainage, roadway, site, and utilities design. His diverse experience includes projects for various types of clients and this experience makes him qualified to meet the ever-changing needs of the individual client. Bill has worked on the Crosstown Extension Project since its inception serving as the Senior Drainage Engineer directing all drainage and stormwater management design and analysis for this project. Other project experience for which Mr. Adams has been involved, working within the City of Port St. Lucie includes: : I-95/St. Lucie West Project Management; C-24 Canal Park; Thornhill Park Wetland Mitigation Area; West Virginia Corridor Segment 3 (Bridge Over Florida's Turnpike); I-95/Becker Road Interchange Re-Design; Improvements to Floresta Drive; and Gatlin Blvd/Tradition Parkway Interchange On/Off-Ramp and Signalization Improvements.

Representative Work Related		
FDOT - District 4 3400 W. Commercial Blvd., Ft. Lauderdale, FL	Francis Lewis	954-777-4090 francis.lewis@dot.state.fl.us
FDOT - District 4 3400 W. Commercial Blvd., Ft. Lauderdale, FL	Anson Sonnett	954.777.4090 william.sonnett@dot.state.fl.us
FDOT - District 4 3400 W. Commercial Blvd., Ft. Lauderdale, FL	Vanita Saini	954.777.4090 vanita.saini@dot.state.fl.us

Kenneth W. Jackson, PE, Roadway Design, has more than 25 years of experience, serving as project manager and/or lead designer on many major highway design, reconstruction, and widening projects for all aspects of transportation and transportation-related improvements from planning through

design permitting, and construction. He has served as project manager and lead engineer/designer on numerous FDOT urban and rural roadway design projects including preparation of roadway, traffic operations, and lighting plans. His field experience includes numerous projects supervising the location of wetland jurisdictional boundaries. Ken is also FDOT-certified in the Advanced Work Zone Traffic Control, with experience on complex, major, and minor highways. In addition, he has extensive experience in coordinating multi-phased roadway construction projects involving multiple consultants during design.

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FDOT - Turnpike P O Box 613069, Ocoee, FL 34761	Peter Kuhne, PE	407-532-3999 peter.kuhne@dot.state.fl.us
FDOT - Turnpike P O Box 613069, Ocoee, FL 34761	Will Sloup	407-532-3999 william.sloup@dot.state.fl.us
FDOT - Turnpike P O Box 613069, Ocoee, FL 34761	Louis Reis, PE Turnpike Design Engineer	407-532-3999 louis.reis@dot.state.fl.us

Thomas W. Farnan, PE, Bridge Design, has 32 years of bridge design, construction, scour analysis, and inspection experience. His specific experience is with the design of large, cast-in-place post-tensioned concrete box girder bridges, and steel-welded plate and box girders, along with precut prestressed bridges, precast prestressed and cast-in-place flat slab bridges, retaining walls, box culverts, and highway sign and signal structures. Tom specializes in structural design, construction and maintenance, bridge scour analyses, and highway geometrics and design.

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FDOT - District 4 3400 W. Commercial Blvd., Ft. Lauderdale, FL	Fred Ochoa, PE Structures Engineer	954-777-4639 fred.ochoa@dot.state.fl.us
FDOT - District 4 3400 W. Commercial Blvd., Ft. Lauderdale, FL	John Danielsen, PE Structures Maint. Engineer	954-777-4644 john.danielsen@dot.state.fl.us
County of Port St. Lucie	Mike Powley, PE County Engineer	772-462-1667 mikep@stlucieco.gov

Joseph W. Capra, PE – Principal, founded CAPTEC in 1996 after working as a project manager for several local consulting engineering firms. He has utilized his depth of local knowledge, insight and experience for Treasure Coast municipalities since that time. He provides project management and QC services for all design/CEI projects and serves as a client liaison, providing representation at public meetings and presentations. CAPTEC currently holds stormwater & civil continuing services contracts with several local municipalities which included the City of Port St. Lucie until the City recently terminated all continuing services contracts without cause. His recent experience includes Becker Road, Port St. Lucie: Design improvements for widening a 2 lane undivided highway section to a 4-lane divided section; Bayshore Blvd. Expansion, Port St. Lucie: design/permitting/CEI services from Port St. Lucie Blvd 3.2 miles north to Prima Vista Blvd.; and Lennard Road Expansion, Port St. Lucie: design/ permitting/CEI of +2 miles 2-lane roadway reconstruction to 4-lane divided curb & gutter section, designed for future 6-lanes.

[illegible]		
Town of Sewall's Point 1 South Sewall's Point Rd., Sewalls Point, FL 34996	Robert Kellogg Town Manager	772-287-2455
Martin County 2401 SE Monterey Rd., Stuart, FL 34996	Greg Nolte Project Manager	772-288-5789 gnolte@martin.fl.us
City of Stuart 121 SW Flagler Ave., Stuart, FL 34994	Samuel Amerson, PE Public Works Director	772-288-5332 samerson@ci.stuart.fl.us

Michael T. Kolodziejczyk, P.L.S. – Survey Manager, a Resident of Port St. Lucie, has over 40 years of surveying experience including transportation surveys, baseline control surveys, design and right-of-way surveys, land development construction surveys, boundary surveys for plat preparation, architectural design surveys, and detailed surveys of vacant or partially developed lands for analysis or design of improvements or additions. Along with an extensive knowledge of surveying, Mr. Kolodziejczyk has experience with research, map preparation, coordination with municipal and state governments, plat preparation, and supervision and preparation of ALTA surveys. He has also successfully performed route surveys for major sanitary sewer trunk lines, water transmission lines, gas, and electric lines. During his 37 years of experience, he has also had the privilege to serve as district surveyor for two local community development projects.

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City of Port St. Lucie 121 SW Port St. Lucie Blvd., FL 34584	James Angstadt, P.E. Assistant City Engineer	772-344-4239 jangstadt@cityofpsl.com
St. Lucie County 2300 Virginia Avenue, Fort Pierce, FL, 34982	Ronald Harris, PLS County Surveyor	772-462-1721 Harrisr@stlucieco.org
Indian River County 1801 27th Street, Vero Beach, FL, 34982	Thomas Croonquist, PSM County Surveyor	772-567-8000 tcroonquist@ircgov.com

Dan Zrallack, PE, Senior Geotechnical Engineer, has been with Ardaman since 1997 and has worked as an engineer in Ardaman's Orlando, Cocoa and Port St. Lucie offices. His experience with Ardaman is unique in that he began his career as a field technician/inspector, and gained significant experience regarding field testing and inspection of soils, concrete, asphalt and other construction materials. He has worked on numerous projects involving geotechnical engineering and pavement exploration and evaluation for the City of Port St. Lucie, FDOT and various other transportation projects. Dan has worked on several relevant projects including a Continuing Service Contract for Geotechnical Engineering Services, St. Lucie County, FL, St. Lucie County Engineering Department and

Becker Road Improvements, St. Lucie County (City of Port St. Lucie), FL, City of Port St. Lucie.

[illegible]		
City of Fort Pierce 100 North US Highway 1, Fort Pierce, FL	Tracy Telle, PE Assistant City Engineer	772-461-2200
City of Port St. Lucie 121 SW Port St. Lucie Boulevard, Port St. Lucie, FL 34984	Steve Jungjohan	772-871-7640
McMahon Associates, Inc. 7741 North Military Trail, St 5, Palm Beach Gardens, FL 33410	Adam Maze, PE Project Manager	561-840-8650

The table on page 13 identifies our team and the percent of time they are available for all phases of this project.

6 LOCATION OF WORK

The American Team has combined resources that are primarily located within minutes of both the City and the project location. American's local office is at 10824 SW Village Parkway, Port St. Lucie, FL 34987. As depicted in the map below, our team is ideally situated to respond to any needs of the project.

7 PROJECT APPROACH

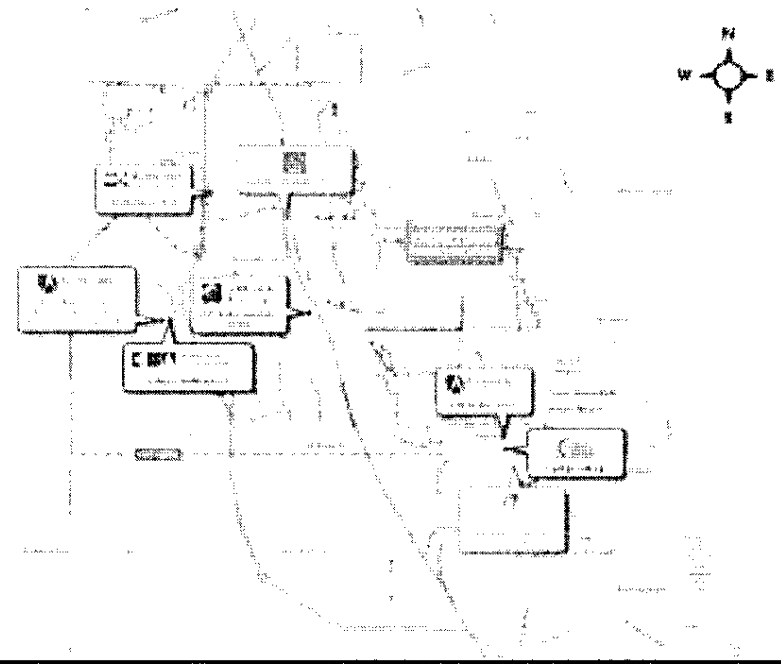
Our proposed team has established experience working with the City of Port St. Lucie and FDOT District 4 projects with accelerated production schedules. We have gone over the scope and researched the project issues extensively. The following details American's awareness and approach to project issues and processes, as well as our innovative and proactive project management approach, control of project schedule, control of project budget, and quality control processes. We have already begun our investment in this project by coordinating with stakeholders and conducting field reviews and are eager to seize this opportunity.

Management Approach

Leadership: American's management team of Brian Mirson, PE (Project Manager) and Chris O'Reilly, PE (Deputy Project Manager) will be the key points of contact for City's PM, the City's in-house staff, regulatory agencies, other external stakeholders such as utilities and property owners, and the project team. Brian and Chris will have the day-to-day decision making authority and will be responsible for the project's success. They will inform City's PM of project status, issues, and progress through timely updates, as well as monthly progress reports. We will update the American FTP site weekly, as needed with information for the Team and City. Invoicing will be done through the City's P-card system after updating the Project Data Checklist and approval of the progress report by City's PM. We will follow through on assignments, remain accountable for our work, present cost effective design solutions, and communicate effectively with City's PM on this contract.

Methodology: Our Management Plan utilizes the following key principles: 1) Milestone management; 2) Close coordination with City Staff; 3) Assigning committed team members; 4) Use of interactive approach with the City to accelerate the work; 5) Identify and resolve critical project issues through early planning; and 6) Documenting important project decisions. These key principles are fundamental to the successful completion of this project.

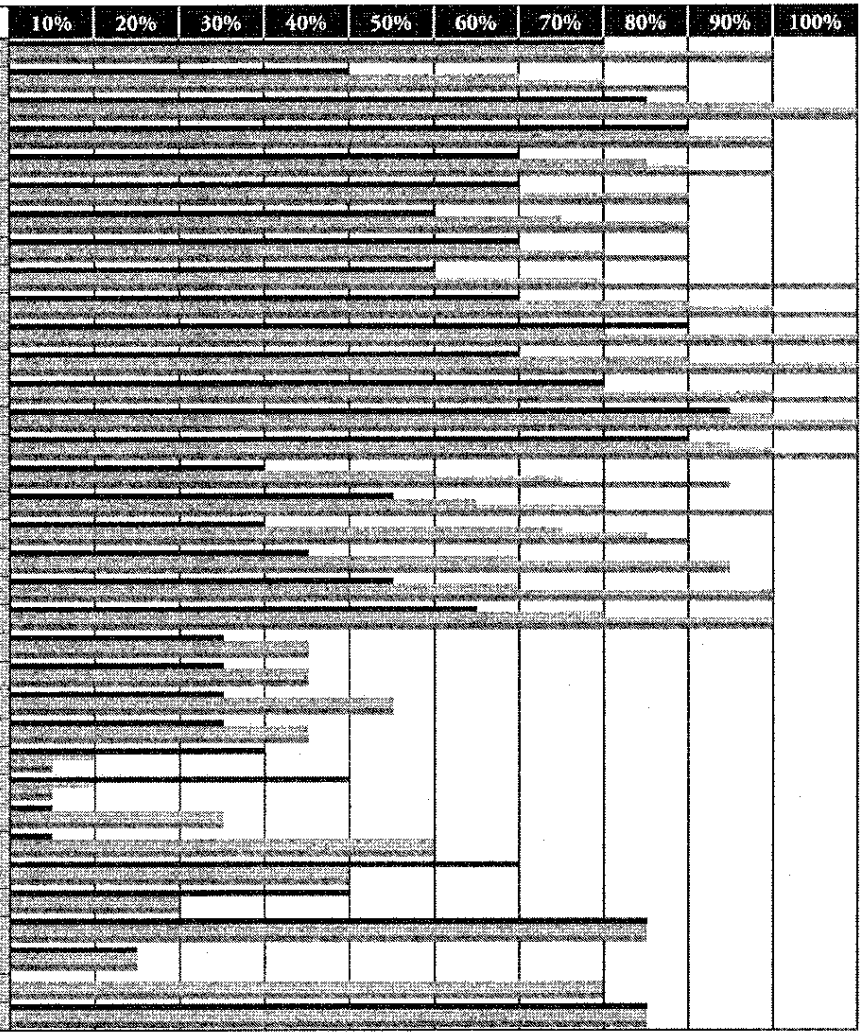
Style of Project Management: American utilizes an interactive approach for all projects. Our experienced management team is proactive and will anticipate and resolve issues quickly. Brian and Chris will return phone calls and emails in hours, not days. We communicate frequently with our subconsultants to assess their progress and quality. Weekly team meetings will be held via teleconference with internal staff and subconsultants to determine progress on the assignments and ensure that issues are resolved and tasks are being accomplished on schedule. The City's project manager and staff are welcome to call into weekly team meetings to verify project status and progress. Meeting summaries/minutes will be prepared and submitted within seven days for all meetings held to document project



KEY STAFF AVAILABILITY

PHASE I (Nov 2012)

NAME	DISCIPLINE
Brian Mirson, PE, AICP	Project Director/Public Involvement
Ryan Forrestel, PE	QA/QC
Don Keenan, PE	QA/QC
Christopher O'Reilly, PE	Deputy Project Manager
William Adams, PE	Stormwater Management & Hydrology
Andrew Nunes, PE	Roadway Design
Scott Korpi, PE, SE	Bridge Design
Richard Hunter, PE	Bridge Design
Tom Muzicka	Construction Means and Methods
Akram Hussein, PE, PTOE	TSM&O Signalization
Anna Peterfreund, CWB	Environmental Permitting
Mike Ryan, EI	Stormwater Management & Hydrology
Chris Salicco	Environmental Permitting
Sarah Freeman	Public Involvement
Jeff Chase	TSM&O
Kenneth Jackson, PE	Roadway Design
Keith Krieger, PE	Roadway Design
Tom Farnan, PE	Bridge Design
Anthony Bevilacqua, PE	Bridge Design
James Vomacka, PE	ITS Misquantization
Matthew Fursetzer, PE	Lighting
Joseph Capra, PE	Roadway Design
Rhett Keene, PE	Drainage Design
Harold Tourjee	Drainage Design
Etienne Bourgeois, PE	ITS Misquantization
Mike Kolodziejczyk, PLS	Survey/Right of Way
Thomas Kiernan, PSM	Survey/Right of Way
Stefan Matthes, PE	Utility Coordination
Steven Doyle, PE	Utility Coordination
Dan Zrallack, PE	Environment
David Andre, PE	Environment
Jack Althoff, PE	Construction Means and Methods
Todd Mowery	Landscape Architect
Todd Mohler	Irrigation
Jess Sowards, AIA, LEED AP	Bridge Architect



issues and resolutions. An e-mail will be sent to City's PM on a weekly basis to document progress and the status of potential issues on the schedule.

Subconsultant Management: As Prime, American is responsible to oversee and manage all subconsultant tasks. American will be fully responsible of our subconsultants and will review their work. We will hold our subconsultants accountable for all tasks and ensure that they provide deliverables on time and of the highest quality.

Control of Project Schedule: American will provide detailed activities/events in the project schedule required to meet the City's schedule. Brian and Chris will track the critical path of the schedule on a weekly basis to ensure: 1) Work has been completed in the previous week; 2) Upcoming work will begin as scheduled; and 3) Outstanding issues have been resolved. We are committed to submit the plans one month ahead of scheduled submittals whenever feasible to allow City's PM to verify that previous comments are addressed satisfactorily.

Control of Project Budget: We will discuss the status of the design budget at weekly team meetings, as well as the estimated effort to complete upcoming tasks. This will ensure that all staff is aware of their budget limitations at all times. Our design budget approach includes: 1) Monitoring our budget through weekly updates from our accounting software, Deltek Vision; 2) Monitoring the scope of services to avoid scope creep; 3) Adhering to strict QC procedures to minimize rework; and 4) Complying with the project schedule to control time charges of staff.

Construction Budget: The construction budget control plan includes: 1) An update of the Cost Estimate at the NTP and major design submittals; 2) Preparation of an accurate computation book; 3) Performance of constructability reviews; and 4) Minimization of utility conflicts.

Project Approach

Understanding of the Scope of Services: The purpose of the project is to provide a cost effective, timely design with the delivery method the City chooses for the Crosstown Parkway Extension from Manth Lane to US-1. This project is the last segment in this historical effort to complete a major east west arterial to the City of Port St. Lucie.

Structures: The American Team will provide the most cost effective conceptual design or final design of the structure over the preserve is consistent with the means and methods, which will be included in the EIS. The project requires either the complete design and preparation of plans for a new six lane structure over the North Fork of the St. Lucie River, or the development of a DB criteria package along with assisting the City in the DB selection process and oversight of the DB project. Given the environmental and permitting constraints along with the commitments made during the PD&E study, construction is limited to methods that will minimize impacts to the Preserve. As such, an integrated approach to the bridge design and construction must be undertaken to minimize environmental impacts and maximize value to the City.

Roadway Analysis & Plans: The American Team will provide refinement of the alignment, typical sections, drainage concepts and design plans for the new roadway corridor minimizing impacts to the preserve and property owners. Additional work will include plan/profile, traffic control plan (TCP), cross section design files, drainage maps along with other required roadway component sheets.

Drainage Analysis: Develop a drainage design to serve the proposed bridge and roadway sections with the least amount of impact to the preserve and surrounding properties and is consistent with the overall improvement plans for this section of the corridor. The drainage design will be a seamless continuation of work already completed by the team. The pond design and construction detail will establish the final stormwater management right-of-way and profile grade requirements.

Permitting: Prepare permit applications for all applicable agencies including the SFWMD, FDEP, FDOT, United States Coast Guard (USCG), USACE and National Pollutant Discharge Elimination System (NPDES). Permitting for surface water management considerations will be an evolution from conceptual to final of the ERP initiative.

Signing and Pavement Marking, Lighting & Signalization: Create a signing marking and signalization designs consistent with the roadway design. Provide lighting and signalization that provides continuity with the corridors image while providing a safe environment for vehicular and pedestrian activities.

The signing and pavement marking design and plans will be prepared to meet the latest MUTCD and begin approximately 900' west of SE Sandia Dr. to remove the existing eastbound through lane transitions. The corridor will have three through lanes varying from 11' to 12' in each direction from west of Manth Lane to US-1 along with a 5' designated bicycle lane within the project limits. Proposed signs will include R4-4 for the right turn key hole for the bicycle lanes and R1-5 series signs for drives to yield to pedestrians in a crosswalk. Guide signs will include "Next Signal" ahead in the median for both Floresta Drive and US-1 intersections.

Utility Coordination: Initiate coordination efforts with the multiple utility entities, identify potential conflicts and provide resolutions, and provide certification that all utilities are clear. Any new utility enhancements identified during early coordination efforts will be integrated into the design.

Landscape Architecture: Consistent with the current corridor an integrated pedestrian space providing recreational trails, pedestrian lighting and landscaping will be developed for the area between the shoulder and adjacent property owners. A buffer area will also be included in this space to segregate this public space from the adjacent properties and to mitigate visual and noise intrusion. The median

will also be enhanced consistent with the current corridor median areas.

Survey, Mapping and Geotechnical

Survey Approach: The ROW and design surveying for the Crosstown Parkway Segment 1 will be completed in accordance with FDOT Standards. Utilizing our knowledge and experience in the way we will provide the essential information required to complete the design of the roadway efficiently and effectively.

The following work efforts will be accomplished between December 2012 and March 2013:

- Field Survey- Right-of-Way (ROW)
- Field Survey- Design
- Parcel Identification, Sketches and Descriptions

Research & Parcel Acquisition Preparation

- Meet with the City of Port St. Lucie and compile any maps, deeds and potential ROW takings on record in the City files.
- Conduct our own research of the public files.
- Conduct a search of our team member's data base for relevant surveys.

Field Survey ROW

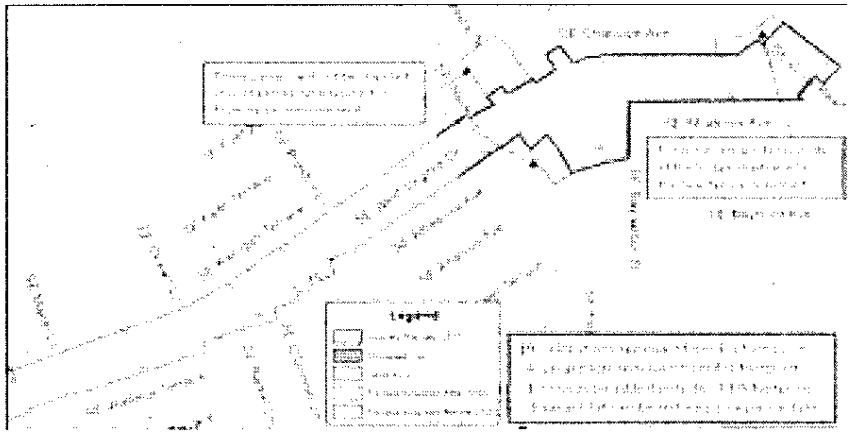
- Establish primary control utilizing GPS technology
- Locate monumentation of PCP's, PRM's and lot corners with GPS or total stations utilizing base maps
- Conduct mean high water surveys where needed.

ROW Requirements: The scope indicates ROW mapping is required however it is our understanding that the City and FDOT are in general agreement that ROW maps will not be required. We agree they are not necessary for us to identify parcels for acquisition. Should the process change and FDOT chooses to require ROW maps, our team is prepared to provide ROW maps in accordance with FDOT Standards. Therefore, the proposed schedules and staffing do not include the effort and resources associated with ROW mapping.

We will analyze field data on a daily basis to address areas of inconsistencies with record information and apply the typical section to identify where full and partial takes are appropriate using the refined Conceptual Plans.

Field Survey – Design

- Design survey can commence concurrent with property parcel identification initiative.
- Locate topographic features both horizontally and vertically.



- Bathometric survey of water body crossings.
- Locate and document areas of offsite drainage to aid in design of roadway drainage.

Parcel Sketch and Legal Descriptions

- This work effort will begin upon the City's approval of the list of parcels targeted for acquisition
- Prepare individual sketches and legal descriptions of required partial or complete takings
- Prepare sketch description of any ROWs or easements that need to be abandoned.
- Prepare sketch and descriptions of any easements that need to be acquired

Parcel Acquisition: prioritized parcel by parcel along Crosstown between Manth Lane and Floresta Drive may provide areas where fill can be stored as the Platts Creek excavation activities are scheduled to begin prior to construction activities along Crosstown. Reduction in the Floresta typical section in accordance with the recently revised master plan should result in taking less property along Floresta. We also believe an adjustment of properties identified for acquisition along the fork of the St. Lucie River may be appropriate. Completion of the parcel sketches and legal descriptions identification will be completed three months prior to FDOT ROW acquisition funding availability. During that time it is suggested appraisals proceed in order to expedite the process using City funds.

Geotechnical Approach

The geotechnical engineering exploration for the Crosstown Parkway roadway extension and bridge crossing over the North Fork of the St. Lucie River will be completed according to FDOT standards, including their latest Soils and Foundations Manual and applicable guidelines and technical indices. Using data acquired along with the extensive experience of our team members with this type of project, the Geotechnical Team will provide the design team with the appropriate subsurface information

required to complete design of the various project elements including the roadway, retention ponds, sign and lighting structures and bridge structures. The field exploration work will be conducted within FDOT guidelines for work zone safety and MOT. Specifically, the following will be accomplished:

- Field investigation for the roadway and associates structures
- Field investigation for the bridge foundations
- Laboratory testing
- Two Geotechnical roadway reports (Manth to Floresta & Floresta to US-1) will provide the city with flexibility to advance the western segment if desired.
- Geotechnical structures report
- Geotechnical report for proposed mast-arm foundations

Field Investigation, Roadway: The primary elements of the roadway investigation are summarized below:

- Conduct a series of shallow (5-feet deep) and intermediate depth (20-feet deep) auger borings along the proposed alignment to assess the near surface soil and groundwater conditions.
- Conduct supplemental auger borings (20-feet deep) and field permeability tests at the locations of the proposed retention ponds as necessary to assess the soil and groundwater conditions within these areas and to estimate the permeability characteristics of the soils.
- Conduct Standard Penetration Test (SPT) borings (approximately 40-feet deep) at the locations of high mast lighting or signal pole foundations as necessary to assess the type and strength of the foundation soils.
- Conduct research and field verification of any anticipated areas of organic or otherwise unsuitable soils.
- Obtain bulk samples of the near surface soils for laboratory testing (LBR, Proctor, Sieve Analysis and corrosion potential).

Field Investigation, Structures: The primary elements of the structures investigation are summarized below:

- Conduct SPT borings at bridge pier locations, within high fill areas or along proposed retaining walls to obtain soil strength and compressibility data required to perform foundation analysis for the various structure types. Due to the limited access of the majority of the bridge alignment, drilling with barge-mounted rigs, all-terrain-mounted and limited access drill rigs will be required to perform borings at many of the locations while minimizing impacts to this sensitive ecosystem. Careful coordination with FDEP and SFWMD will be needed to perform the field investigation services within the waterways and the preserve.
- Coring of rock as necessary.

Laboratory Testing (Roadways and Structures): Laboratory testing will be conducted on samples obtained from the roadway and structures field investigations to determine the characteristics of the soils along with their strength and compressibility. The following tests will be considered:

- Grain size analysis to determine soil gradation for AASHTO classification and to determine D_{50} for scour analysis
- Atterberg limits to determine soil plasticity
- Moisture content
- Organic content
- Specific gravity
- Corrosion classification series (pH, resistivity, chlorides and sulfates)
- Limerock Bearing Ratio of subgrade soils for use in pavement design
- Consolidation tests (if necessary to evaluate compressible soils)
- Triaxial compression (if necessary)
- Unconfined compression tests
- Splitting tension tests
- Perform Standard Penetration Test (SPT) borings for both signalized intersections.
- Perform four Double Ring Infiltrometer (DRI) tests or SFWMD Field Exfiltration Tests to explore drainage characteristics of the pond/swale soils

Geotechnical Roadway Report: The primary elements of the roadway report are summarized below:

- Prepare a Roadway Soil Survey report, and a Soil Survey Sheet for the project plans set. This is a summary of the laboratory test results, grouping of soils according to the AASHTO classification system and construction recommendations.
- Prepare boring logs that include soil descriptions and groundwater information, and plot this information on the plan cross and long sections.
- Prepare a table of permeability parameters for soils in the retention pond areas and report corrosion classification tests and the classifications for alternate drainage structure materials.
- Prepare a narrative description of the site and subsoil conditions, design recommendations and a discussion of any special considerations.
- Review the roadway plans as they relate to the soil and groundwater conditions and delineate the removal limits and depths of unsuitable soils.

Geotechnical Structures Report: The primary elements of the structures report are summarized below.

- Analyze the structure foundations for various alternatives including driven piles, and drilled shafts. Conduct the analysis according to the latest FDOT standards, employing approved analytical software.
- Summarize all soils data and parameters used for the analysis, including the source and/or

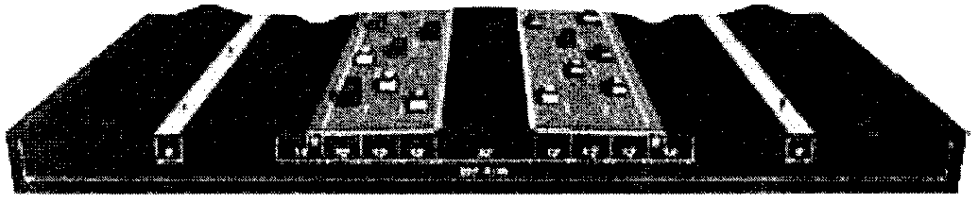
derivation of each parameter.

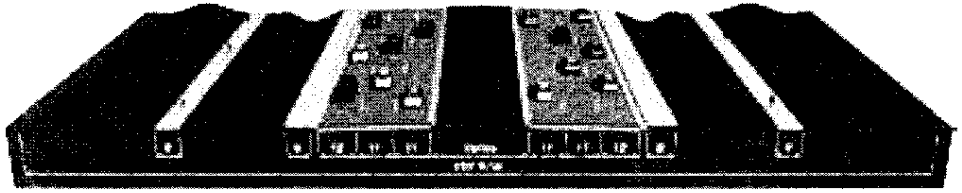
- Prepare a boring standard sheet summarizing the soil borings or CPT soundings, environmental classification and any specialized instruction requirements.
- Prepare a construction information summary that addresses:
  - Recommended quantity, locations, and lengths of test piles and necessary PDA analysis.
  - Provisions for shaft construction.
  - Recommended special provisions for soils related construction considerations.

Phase 1- All Survey, Mapping and Geotechnical work will be completed in Phase 1.

Typical Sections

There are two proposed roadway typical sections being provided for this project. First west of Manth Ln. to Floresta Dr. will have a constant 32'median, inside curb and gutter, three 12' lanes in both directions with a 14' outside shoulder of which 5' is paved and utilized as a designated bike lane. There will be multipurpose path that is 8' wide and meandering outside the conveyance swales. The second roadway typical is from Floresta Dr. to the bridge and will include a variable width median, inside curb and gutter, 11' inside and center lanes, along with a 12' outside lanes. A 5' bike lane with outside curb and gutter has an adjacent 6' sidewalk, variable width grass strip and an 8' wide meandering multipurpose path. The ROW varies from 330' minimum width for both typicals. The lane widths transition from 12' to 11' across the Floresta Drive intersection.



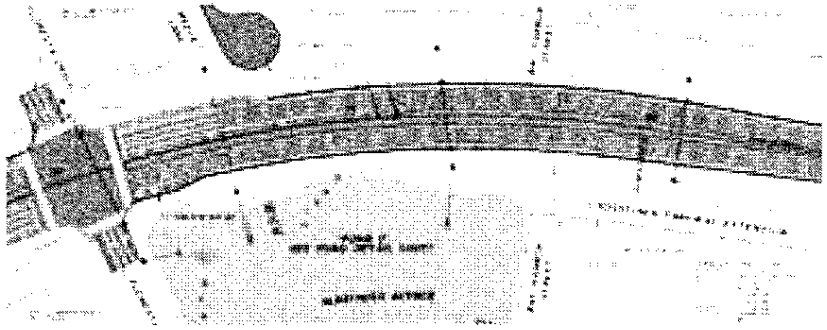


Roadway Design

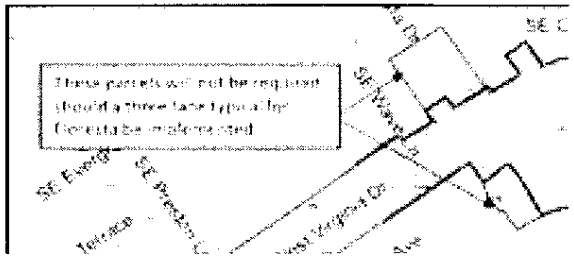
The roadway design will begin following the completion of the project control survey and topographic mapping and issuance of an NTP for Phase 2 services. Our project team proposes to focus on clear identification of project construction limits that begins with final computation of the alignment geometry. Achieving a high confidence level in the final project geometry and construction limits will avoid costly re-surveys and project delays at later phases of project development.

Our project team carefully reviewed the project alignment during our development of this response to the City's RFP. We identified several enhancements that improve safety, enhance constructability, reflect the revised bridge typical section and reduce project costs. Items we propose to incorporate into the final design include:

1) Improve safety and reduce roadway constructions costs through removal of the superelevation along the horizontal curve at the Floresta Drive intersection. This will be accomplished through a minor decrease in curvature from 1500' to 2083'. No change of the proposed ROW corridor is required and the modification still allows adequate roadside buffer zones to maintain the linear park-like features of the roadway. This will substantially improve safety by eliminating the superelevation through the Floresta Drive intersection and reduce construction costs by eliminating the median drainage system and reducing embankment quantities.



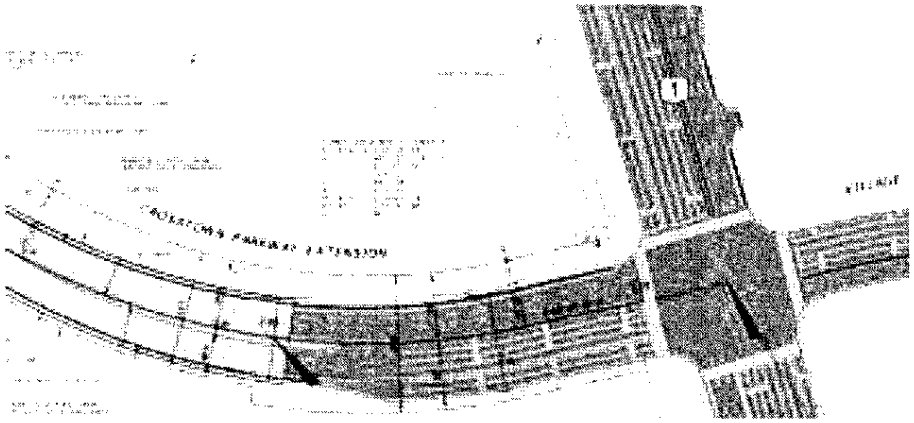
2) Improve project safety with the incorporation of bus bays into the project design alignment. The existing Draft EIS Commitments include the requirement for bus bays to accommodate a future transit route. Far side bus bays are recommended at Floresta Drive. We will verify these proposed locations early in the design process with the City, St. Lucie County and the FDOT District 4 Public Transportation Office.



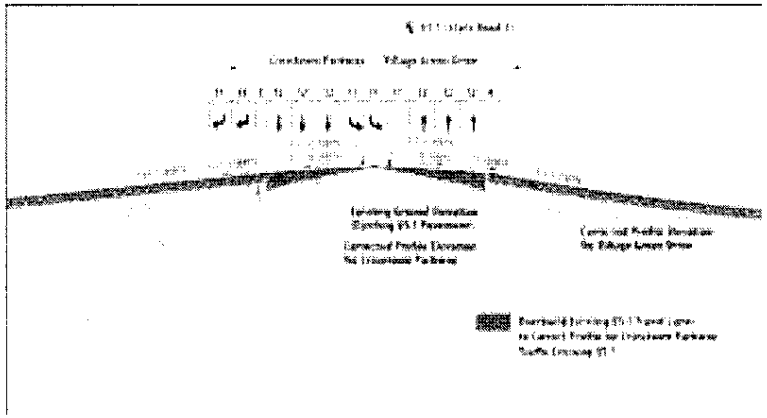
3) The proposed two lane divided section along Floresta Drive

from Thanksgiving to Prima Vista incorporates a context sensitive solution. This reduced typical section allows for a significant reduction in required property acquisitions.

4) Improve safety, enhance constructability and significantly reduce project costs by removing the superelevation transition from the US-1 intersection. By incorporating a minor three degree shift of the bearing and radius (from 1146' to 955') of the horizontal curve immediately west of US-1, the entire superelevation transition can be accomplished outside limits of the US-1 intersection. This shift allows the proposed work on existing US-1 travel lanes to be limited to Milling & Resurfacing that can be accomplished during off peak hours without major lane closures.



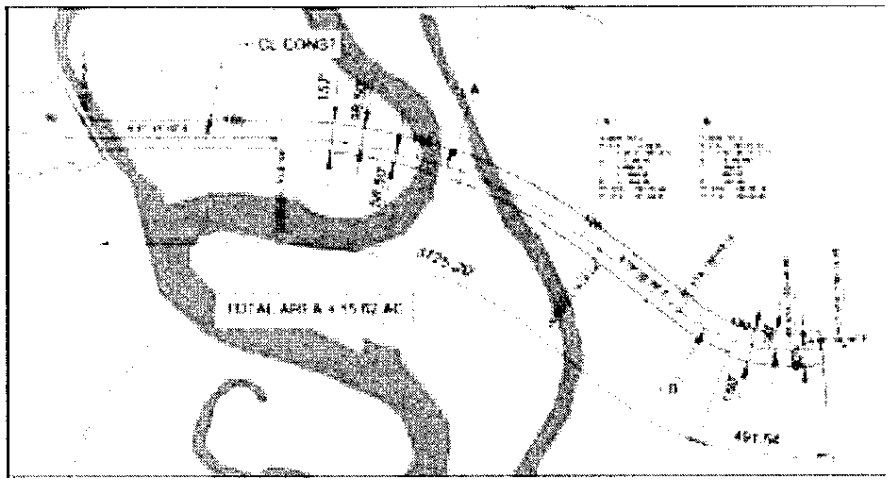
5) Improve safety by constructing a plateau intersection at the east end of the project where the parkway connects to Village Green Drive. The existing intersection of Village Green Drive with US-1 is constructed as a tee intersection. The existing US-1 travel lanes are constructed with cross slopes of 2%-3% that will not allow for a safe crossing movement at design speed when Crosstown Parkway is connected to the west side of the intersection. These cross slopes will need to be flattened through the use of overbuild to allow for a safe crossing maneuver and remove the potential "hump" from the intersection. The profile adjustment will continue on Village Green Drive east of US-1 for approximately 180 feet. A field review of existing grades shows that existing development at the intersection is higher than the existing Village Green Drive and the profile adjustment can be accommodated without adverse impacts to these adjoining parcels or access driveways.



6) At the Parkway's intersection with US-1, we carefully reviewed the required alignment modifications to provide the final project geometry. The connection of Crosstown Parkway to the west side of this intersection will require changes on each of the approaches along US-1 and on Village Green Drive. On the south side of the Parkway, the existing median width of US-1 will be widened to accommodate the triple left turns on northbound US-1. Based on the project traffic projections, these triple left turns require 500 feet of queue length. This queue length when combined with the required deceleration length and median width transition will require milling, resurfacing and widening of US-1 for approximately 1050 feet south of the Parkway. On the north side of the Parkway, the impacts to US-1 will be limited to 800 feet north of the intersection. On Village Green Drive, east of US-1, the roadway will be widened to accommodate the westbound through lanes. This construction will include milling, resurfacing and widening for approximately 560 feet east of US-1. The existing roadside drainage in this segment is through roadside shoulders and open swales which will be converted to curb and gutter with a closed drainage system to accommodate the widening. Existing culvert crossings will be utilized where possible to reduce construction costs and also facilitate maintenance of traffic during construction.

7) Apply 103 foot bridge typical section by adjusting the centerline of construction southward within the proposed FDEP easement and providing the appropriate roadway transitions to accommodate the median adjustments east and west of the proposed structure. We calculated this alignment along with the required roadway transitions for lane widths and median widths on both the east and west sides of the preserve. We propose to adjust the lane widths through the Floresta Drive intersection from three 12-foot lanes to two 11-foot lanes and an outside 12-foot lane consistent with the 103-foot bridge typical and maintain this configuration across the US-1 inter-

section. This allows for a smooth and seamless transition that is transparent to the driver. The median width is transitioned from 32 feet to eight feet wide on the tangent and curve approaching the bridge structure. The transition east of the preserve widens the median width from eight feet to 19 feet at the east end of the bridge to accommodate the left turn lanes in the median at the US-1 intersection. The location and geometric layout over the preserve must be coordinated with the temporary construction requirements to finalize the easement geometry. Since the use of a top-down construction method is required by the EIS Commitments, it is important to evaluate these needs in conjunction with the temporary construction requirements.



Phase 1 -The roadway design members of the team will assist the project surveyors by defining the project limits in order to create a survey that clearly delineates all existing rights-of-way, property boundaries, survey control, baselines and centerlines, topographic information, and existing utility facilities. The project design survey will need to address all areas of roadway improvements, traffic signal improvements, stormwater retention areas, side streets, adjacent properties, and existing finished floor elevations to properly tie the proposed design into the existing ground. The survey will need to provide enough topographic information to clearly define the limits of offsite stormwater runoff that will drain to the Crosstown Parkway drainage system as well as any offsite flows that may drain directly to the proposed stormwater retention areas.

The Team will refine the geotechnical scope needed to properly design the roadway improvements. The geotechnical information will be essential in developing the proposed pavement design, delineating areas of unsuitable soil, determining the seasonal high water table and minimum pavement elevations, and determining the percolation rates of soils in the proposed swale and pond areas.

The American Team will prepare preliminary plans for utility coordination. Initial coordination with utility owners will be performed prior to the preparation of 30% design plans in order to obtain information on the location of existing underground utilities. The process is essential in this phase of design to prevent designing improvements that conflict with existing features that otherwise can be avoided. This coordination will also solicit utility companies for input on where they may prefer to relocate facilities.

A thorough review of all PD&E documents and commitments will be reviewed prior to completion of this phase to ensure all areas of concern are addressed. Pre-application meetings with permitting agencies such as the SFWMD will be held at this time to identify any special concerns prior to commencing geometric and stormwater design.

Phase 2 Option 1 & 2- Our Team will utilize the survey and geotechnical information received to create a horizontal and vertical geometric design of the roadway for incorporation into the 30% plan set. At this stage, the geometric design is preliminary in nature and subject to change. These plans will also include existing utility locations, existing stormwater facilities, a preliminary utility layout, and a preliminary stormwater drainage system that will assist in preliminary construction cost estimating. The 30% plans are an abbreviated plan set that will also serve the purpose of clearly defining the project scope and features with the City of Port St. Lucie, in addition to calculating the proposed construction costs.

Phase 3 Option 1 - Our Team will address all comments received following the review of 30% plans by the City of Port St. Lucie into the 59% design plans. The 59% plans will be nearly a complete plan set, with all pertinent sheets included. This plan set will clearly define the horizontal and vertical geometry for the roadway that is expected to be constructed and meets all permitting criteria. Pipe sizing calculations will be completed based on anticipated storm stages calculated in the hydrologic analysis and the stormwater conveyance system will be clearly defined in the plans. Stormwater Management system calculations will be completed, identifying storm stages and nutrient load reductions achieved in the roadside swales and retention areas. The pavement design, signing & pavement marking plans, and proposed typical sections will be completed, and the proposed utility adjustments and relocations will be clearly defined.

We anticipate that the minimum centerline profile grade line elevation of the roadway will be the maximum 10 year/1 day storm stage event (elevation 13.5). A more intense storm event may be required for the design due to Crosstown Parkway's evacuation route status.

Phase 3 Option 2- Option 2 will require the preparation of preliminary bid specifications/bid criteria package in addition to the items required for Option 1. A more detailed cost estimate including estimated design costs should also be included to properly budget an anticipate DB or CM construction process.

Phase 4 Option 1 - Our Team will advance the design from 59% to 90%, completing the plan set for

the pavement, drainage, pavement marking and signage, lighting, utility adjustments and in compliance with the FDOT Plan Preparation Manual. The Team will finalize all design details, prepare the construction cost estimate, Bid Specifications, and the bid schedule. The Team will process all permits through the SFWMD/USACE, FDOT and the City of Port St. Lucie Engineering and Utility Departments. All permit RAI's will be addressed and incorporated into the plans in order to obtain permits. In addition to permitting, the Team will complete utility coordination and adjustments with Florida Power & Light, AT&T, City Gas, City of Port St. Lucie Utilities, and Comcast. Upon receipt of any comments from the 90% submittal, the plans will be advanced to 100% and the bid schedule and specifications will be finalized. The 100 percent plans will be used to bid the project and the team will assist the City in responding to any RFI's received during bidding, will attend the pre-bid meeting, will assist the city in evaluating bids, and will attend the preconstruction meeting.

Phase 4 *Option 2-* Our Team will finalize the Bid/Criteria Package and address any comments received from the 59% submittal. This package will be largely based on FDOT specifications, but will include specific design requirements identified during phases 1 through 3 as well as permitting requirements and anticipated construction schedule. The plans will not be advanced beyond this point as it will be the responsibility of the DB or CM contractor to finalize the plans and value engineer the design. The design team will assist the City in evaluating responses based on a best value approach which will consider the qualifications and cost of the DB team. After a DB team has been selected our team will be available to assist the City in reviewing the submittals during design and construction.

Structures

Numerous bridge superstructure and substructure types are feasible given the conditions at this crossing. The feasible superstructure alternatives to be investigated include:

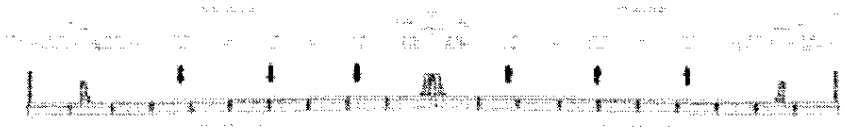
- Cast-in-place concrete flat slab
- Precast concrete flat slab units with a composite cast-in-place concrete bridge deck
- Precast, prestressed concrete AASHTO beams with a composite cast-in-place concrete bridge deck
- Precast, prestressed concrete FL I-beams with a composite cast-in-place concrete bridge deck
- Precast, prestressed concrete FL U-beams, with a composite cast-in-place concrete bridge deck
- Steel plate girders with a composite cast-in-place concrete bridge deck
- Steel box girders with a composite cast-in-place concrete bridge deck
- Post tensioned segmental concrete box girders

Each of these alternatives has advantages and disadvantages with different cost, constructability, durability, environmental, and permitting challenges that will need to be weighed and optimized to allow pursuit of the structure that provides the greatest value.

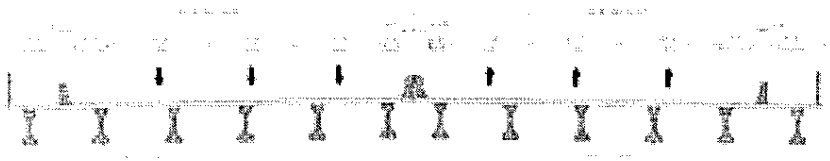
Cast-in-Place Concrete Flat Slab: This superstructure alternative requires the shortest overall span length and therefore the greatest number of substructure elements. The maximum practical span length for this type of bridge is less than 40'. While the overall shorter span length is a disadvantage when compared to the simple footprint on the preserve, there are distinct advantages to building shorter spans. First, this bridge can be constructed almost entirely from the permanent bridge with smaller equipment than it would take to build longer spans. The overall environmental impacts during construction would be among the least of all alternatives since all construction can take place entirely from the new bridge in series as it is constructed and minimal temporary works would be required. The permanent impacts would be slightly greater however due simply to the sheer number of permanent substructure elements required in the preserve. With limited precast concrete elements possible, cast-in-place concrete cure durations will be required in each span and ultimately add up to many additional months of construction time over other alternatives. Also, given the relatively short span length possible with this type of bridge, the two channel crossings would need to be constructed using one of the other alternatives. However, at these locations, the water is deep enough to float barges allowing delivery of materials and construction to occur without impacting the environment.

Precast Concrete Flat Slab Units with a Composite Cast-in-Place Concrete Bridge Deck: This superstructure alternative can span up to about 60'. Approximately 50% fewer substructure elements will be required overall than that necessary for the flat slab alternative. While this alternative does result in fewer substructure elements, construction difficulties are increased due to the greater reach required to install the deep foundations and erect the precast beams. While it is possible to also build this type of structure with no temporary works in the preserve, it will require greater loads and construction durations to complete.

Precast, Prestressed Concrete AASHTO or Florida I Beams (FIBs) with a Composite Cast-in-Place Concrete Bridge Deck: These alternatives allow competitive span lengths ranging from about 60' to 180' and therefore offer the maximum flexibility of all possible alternatives. With AASHTO Beams ranging from a depth of 36" to 54" and FIBs from 36" to 96", the ability to optimize the span length versus the substructure cost is at its maximum. Construction purely from the permanent struc-



ture is difficult with the longer spans for these alternatives since the construction equipment required to reach out more than 100' from the previous span is extremely challenging. In fact, attempting to construct a span more than about 60' long with equipment staged on the previous span would result in far greater loads on the bridge than it would ever experience during its normal life span. As such, attempting to stage construction equipment from the permanent is unlikely to be feasible. Therefore, in order to be competitive, temporary works will likely be necessary to support the construction equipment to build the substructure and erect the beams for the bridge. Fortunately, the regulatory authorities have already approved the construction of a temporary trestle to allow the mobilization of required construction equipment to build this alternative.

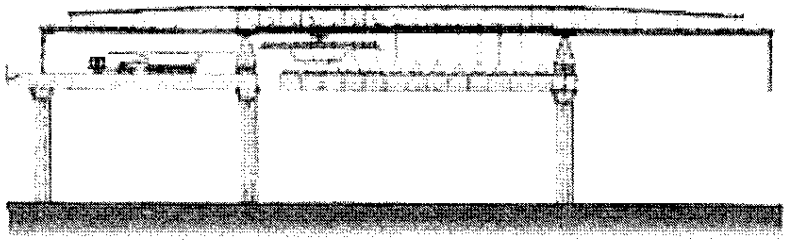


We anticipate that the preservation of these alternatives will maximize the value of the project and allow the most number of qualified builders to be competitive. The design or the DB criteria developed must ensure that any qualified builder capable of building this bridge in a high quality manner is afforded the opportunity to compete for this project. This competition will ensure the City the best possible price and value.

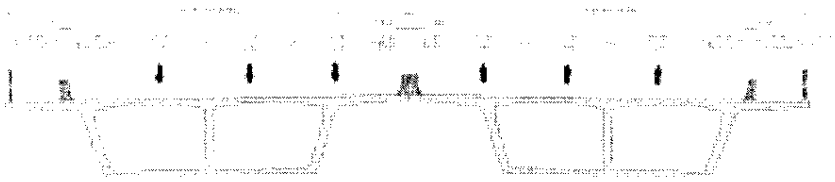
Precast Prestressed Concrete Florida U Beams: These alternatives can span up to about 130'. Since their inception a decade ago, few of these bridge types have been constructed. The primary challenge is the weight of a single beam that requires larger construction equipment to erect than other types of bridges with comparable span length capability. The primary use of these beams have been aesthetics related for a bridge requiring a closed cell superstructure beam rather than a FIB.

Steel Plate or Box Girders with a Composite Cast-in-Place Concrete Bridge Deck: These alternatives allow competitive span lengths ranging from about 150' to over 300'. If the substructure elements prove to be of greater costs, longer span alternatives such as steel plate or box girders may result in the overall best value. Long term durability and maintainability is always a consideration with steel girders, especially over water. However, should the substructure prove to be extremely expensive, a longer span steel superstructure may prove to have the lowest overall initial construction costs and also provide the overall best value for the project depending on the savings in the initial construction cost. The design alternatives investigation and the DB criteria package must allow for consideration of a long span alternative to ensure that the City is afforded with the maximum number of choices in the selection of the most qualified builder. In any case, we have developed a geotechnical exploration program that will allow us to effectively determine the substructure costs and develop an informed BDR or DB Criteria Package that ensures the City's interests are fully observed and protected.

Post Tensioned Segmental Concrete Box Girders: This alternative is a bit unique, however the intent of a DB criteria package is to be inclusive of as many alternatives as possible to ensure the City receives the best value overall. Competitive span lengths range from about 80' to 200' but the costs of the precast concrete segmental formwork needs to be absorbed into the overall costs of the bridge. The longer the bridge and the more segments required results in a lower overall average cost for the formwork per segment. Historical rules of thumb suggest that bridges on the order of 5,000' to 6,000' long may be competitive in normal circumstances. Two different construction methodologies are available for this type of structure; balance cantilever and span by span. In the balanced cantilever method, segments are added alternatively on each side of the pier segment to keep the overall construction in balance until closure can be achieved. In the span by span method, an overhead truss is launched over each span sequentially and the span is constructed and stressed to span from one pier to the next. Although these methodologies appear to offer minimal environmental impacts since they are constructed from above, the delivery of segments and the construction of the piers will require some temporary works in the preserve in a similar fashion to the PPC Beam and Steel Superstructure alternatives discussed above. Since there are historical and ongoing segmental bridge construction



projects in the close proximity to this bridge, it might be possible that the forms are available to one or more builders at limited additional costs. Even though it is unlikely that this alternative will be competitive, the DB criteria package should seek to avoid the exclusion of any alternative that may offer the best value to the City and we will ensure that the criteria developed will be inclusive of all feasible alternatives.



The feasible substructure alternatives to be investigated include:

- 18", 24" or 30" Square FDOT Standard Precast, Prestressed Concrete Piles
- 54" or 60" Diameter Precast, Prestressed Concrete Cylinder Piles
- 54" or 60" Diameter Precast, Post Tensioned Segmented Cylinder Piles
- Steel Pipe Piles
- Steel H-Piles
- 42" Diameter Minimum Drilled Shafts
- Auger Cast Piles

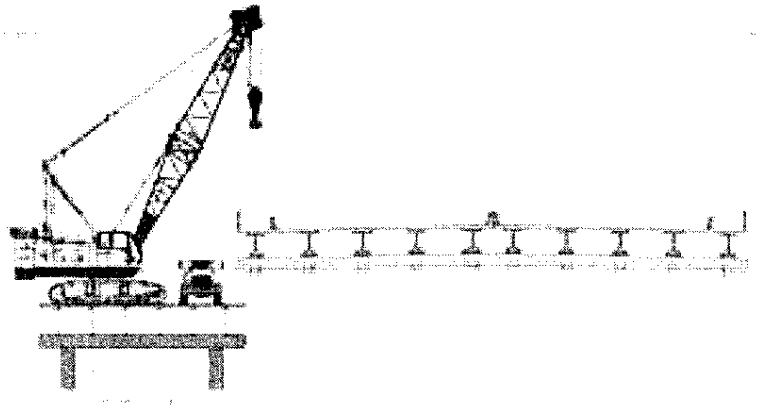
Each of these foundation types has different advantages and disadvantages depending on soil conditions and construction challenges. For example, steel H-Piles will be much lighter than concrete piles allowing smaller construction equipment or ability to reach out further and require less temporary trestle. However, they are not as efficient as concrete piles when load capacity is delivered through side friction as opposed to end bearing on bedrock. The 60" Cylinder Piles have capacities in excess of 6 times that of 18" Square PPC piles and will therefore require far fewer, but they are more difficult to handle during construction due to their larger size.

In order to choose the most favorable overall structure type, we will undertake an optimization analysis. Longer spans are more expensive than shorter spans but shorter spans require more substructure elements. In locations requiring expensive substructure elements, longer spans may prove more cost effective overall. Alternatively, for locations with relatively inexpensive substructure elements, shorter, less expensive spans may prove more cost effective. Consequently, a proper balance must be struck between the span length and the relative cost of the superstructure and substructure.

Constuctability

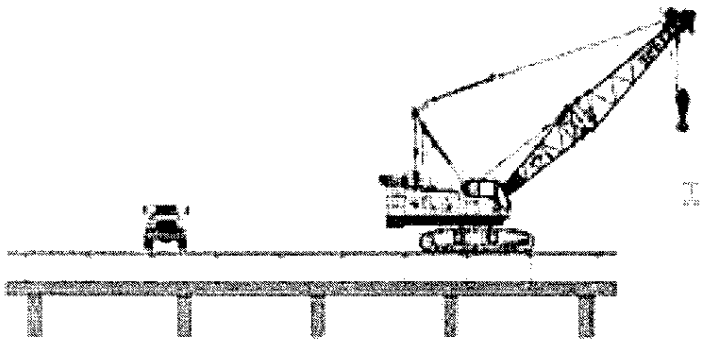
There are two construction methodologies available to be used; 1) construct by staging equipment primarily from a temporary trestle located alongside the proposed bridge or 2) construct primarily using equipment staged on the previously constructed spans. There are variations on each of these methodologies as well as ways to combine them by constructing part of the structure from a trestle and part using an overhead gantry methods staged on the newly constructed spans. The key to the development of the design or the DB criteria package is to ensure all feasible methods remain viable and allow each qualified builder to choose the methodology that bests suits their skills and equipment.

Construct from Adjacent Trestle: Based on most recent discussions between the City and the USACE, we have offset the southern face of the bridge 7' from the southern edge of the proposed 157' easement. This generally allows 47' between the northern face of the bridge to the north easement line. The 47' will be sufficient to allow for the installation of a temporary trestle with sufficient width to allow the simultaneous staging of construction and erection equipment and the delivery of materials needed to build the bridge. In this case, the temporary trestle is recommended to be constructed on the north side as this will be the area most impacted by shading once the bridge is constructed and therefore will be more disturbed regardless of the means and methods of construction.

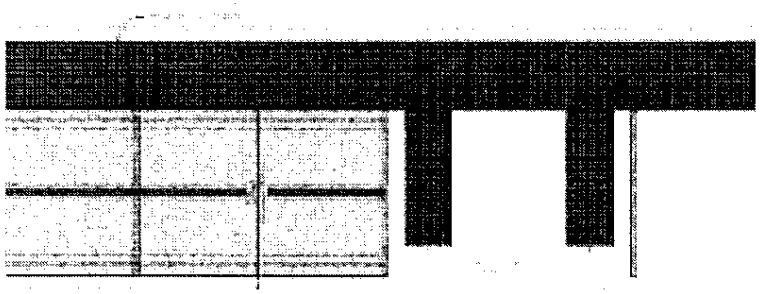


Typically a trestle will have about 12 feet of clearance between the exterior bridge girder and the edge of the trestle to allow adequate turning radius to erect the beams and other elements. A trestle that provides enough width for cranes only will be 28 feet wide since that is the length of a standard crane mat. However, since the overall easement width is 157', there is sufficient room to allow a travel lane to deliver materials so that they will not need to be "hopscotched" across the opening.

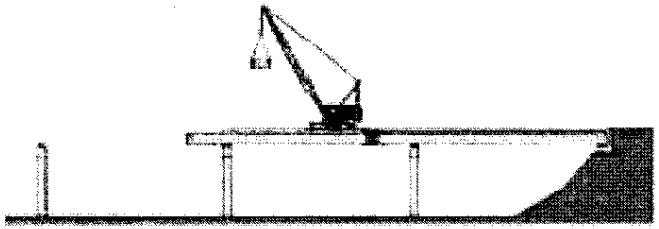
Since the bridge is too wide to permit cranes to reach all the way across, the contractor will have to provide finger trestles adjacent to the piers for access. They must accommodate the crane turning radius as well as the impacts from the differential travel of the tracks.



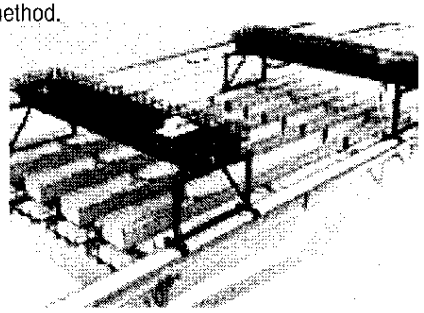
Typically, a trestle is designed to accommodate 200 to 220 ton crawler cranes. Two cranes on the trestle is normal practice to provide peak efficiency in the construction. Two 24" steel pipe piles spaced every 16 feet of trestle length is standard with wider trestles requiring additional piles. Typical bearing vales are about 200 tons based on service loads. Spans lengths of 20-25 feet can also be used with an additional pile per bent. Trestles are built top down, so that the crane will install the forward pile bent, install the trestle beams and crane mats and then advance to install the next pile bent. This will be repeated until the trestle extends as far as necessary to construct the bridge.



Construct from Permanent Structure: There are several construction variations available to choose from when equipment and materials are staged primarily from the permanent structure. For shorter bridge span alternatives up to about 60' in length, all equipment required to install foundations, substructure and superstructure can be staged on the previous span. Once the forward foundation elements are installed, a traveling gantry crane can be used to transport and erect the beams or girders and finish the concrete deck.



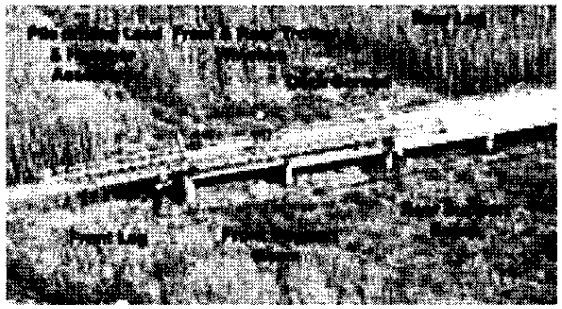
In order to save time related to concrete curing, the builder may elect to use temporary supports spanning between substructure elements to support the crane required for setting and diving piles as well as for setting the beams or girders. By proceeding in this fashion, cast-in-place concrete for the bridge deck will be largely removed from the critical path and there will be less dramatic increase to the construction duration over the trestle construction method.

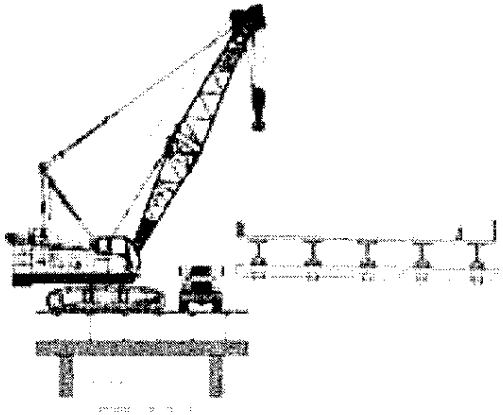


For spans longer than 60', some temporary supports can be installed at midspan to allow construction equipment to extend out into the forward span to install the forward foundation elements. Once the substructure elements are in place, the rails for the traveling gantry crane can be installed to allow the beams or girders to be erected and the rest of the superstructure.

An extension of this concept is an incrementally launched overhead truss system that is advanced forward as the back spans are completed. This overhead launching system is cantilevered out over the advance span to be constructed and is balanced by extending backwards over the previous two spans. Materials needed for the construction, such as piles, drilled shafts, precast concrete bent caps, beams and concrete are then delivered at the back of the truss and transported as needed to the span under construction via an internal traveling gantry. Using this method, essentially three spans can be under construction simultaneously with the foundation for the forward span being installed at the same time girders are being erected in the middle span and the concrete deck being poured and finished in the back span. Drawbacks include the much larger construction loads imposed by the overhead gantry crane and materials and the specialized equipment required. Parts of the system shown in these photos are patented and may result in less competition or royalties required.

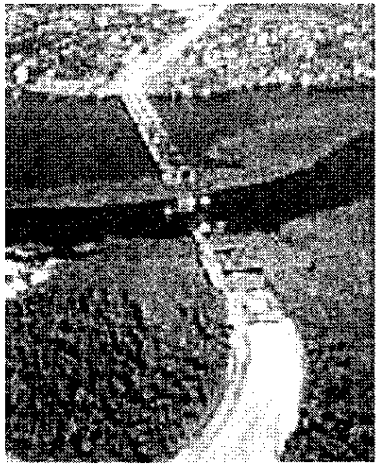
Construct from a Combination of Temporary Works and Permanent Structure: With the overall bridge width in excess of 100', the crane reach is too great for the erection of the opposite side exterior girders and substructure elements from the through trestle. A gantry crane could replace the need for the finger trestles described above to erect the beams and install the foundation elements required that are more than about 50' away from the through trestle. This methodology is currently being employed on the nearby Indian Street Bridge. The gantry would travel the girder to the far side of the bridge and be supported on the substructure on each end of the span. With the trestle on one side of the bridge only, the gantry would have to accommodate both eastbound and westbound spans.





Alternative Construction Method
In order to avoid the need for the finger trestles and the overhead gantry system, another alternative would be to build the entire eastbound bridge from the through trestle along with the foundations for the westbound bridge. The westbound superstructure would then be constructed from the eastbound bridge while lagging about three spans behind the eastbound structure.

Two separate construction operations would be ongoing simultaneously, one for the eastbound bridge and one for the westbound bridge a few spans behind. All materials would be delivered via the eastbound bridge as it progresses across the preserve and careful and meticulous scheduling will be required to avoid conflicts between the two operations occurring simultaneously. The eastbound bridge would need to be designed for the larger construction loads it will experience while it is being built. In order to save time, just as in the other methodologies, construction can take place simultaneously from the east and west side of the preserve and meet near the middle to make closure.



Phase 1: No Structural work in this phase

Phase 2: 30% Design Documents

Option 1: Conventional Design Method – In this phase, a Bridge Development Report (BDR) will be prepared in which all feasible bridge types are evaluated and investigated to determine the most optimal solution that provides the greatest value to the City. The selected bridge type to be carried forward will meet all of the criteria for design, environment, permitting aesthetics and all other items established by the City. We will take an integrated approach to the design and construction process to ensure that any design chosen is fully constructable, serves the needs of the City and provides the most value balanced against short term and long term financial impacts.

In Option 1, 30% bridge plans will be developed based on the bridge type recommended in the BDR and ultimately selected by the City of Port St. Lucie. The bridge plans will be produced in conformance with FDOT procedures for plan production.

Option 2: CM at Risk – For this phase of the project, again a BDR would be developed in collaboration with the Construction Manager at Risk and the City of Port St. Lucie staff. By consulting and collaborating with the Contractor Manager at Risk, all alternatives will be fully vetted through the process and adjusted as feasible to remain within the City's budget and to maximize the overall value of the project.

Phase 2: 59% Design Documents

Option 1: Conventional Design Method – In this phase, the previously prepared 30% plans and documents will advance to the 59% level. Just as in the development of the BDR and 30% plans, all design and plan development will consider and anticipate the challenges that the builder will encounter and mitigate those challenges wherever possible. All elements of the design will focus on maximizing value at each step along the process while remaining in full compliance with all prior commitments made on the project.

Option 2: CM at Risk – In this option, the Construction Manager at Risk will continue to be consulted in all aspects of the design and plan development as the design documents are advanced to the 59% level. This close collaboration will ensure that the design is fully constructable and remains within the budget established for the project by the City.

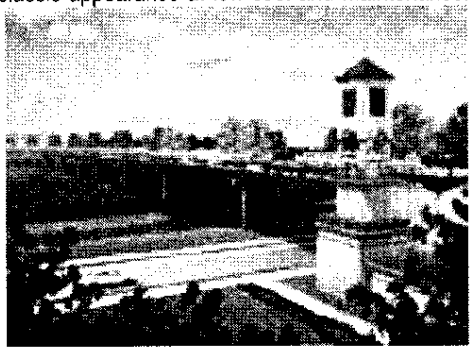
Phase 3: Final Design and Permits or DB Criteria Package

Option 1: 100% Design Documents and Permits – For this option, the bridge design and plans will be finalized along with preparation of quantities, computation book and specifications. In this final design and plans phase, we will finish out the documents and the final detailing. The final detailing can be critically important to the long term durability of the structure and must consider ease of maintenance and inspection to allow the structure to be properly maintained for long term value.

Option 2: DB Criteria Package – Each builder has different specialties and equipment that allow them to provide the greatest value for different types of bridges and construction methodologies. As a result, the objective in developing the DB criteria package is to provide the maximum flexibility and opportunity for the most number of qualified DB teams to compete for the project. That is, all obstacles that a qualified DB team will encounter during the preparation of their proposals should be anticipated and accounted for in the development of the DB criteria to ensure no alternative is screened out that may provide the City with a suitable solution that provides the greatest value. In order to choose the most suitable structure type, each DB team will undertake an optimization analysis. Longer spans are more expensive than shorter spans but shorter spans require more substructure elements. In locations requiring expensive substructure elements, longer spans may prove more cost effective overall. Alternatively, for locations with relatively inexpensive substructure elements, shorter, less expensive spans may prove most cost effective. Consequently, a proper balance must be struck between the span length and the relative cost of the super and substructure. For each builder, this balance will be different and will depend on their specific expertise, equipment, materials and numerous other factors that will be considered in developing an overall design and construction approach to the project by each team. The DB criteria package must consider the various capabilities and possibilities of all qualified teams to ensure the City is ultimately provided with the best value that strikes an optimal balance between environmental impacts, initial costs, durability and life cycle costs, maintainability and all other criteria of importance to the City. A properly prepared criteria package will recognize and appropriately reward project elements that add value for items important to the City while appropriately penalizing items proposed that detract from the value.

Bridge Aesthetics

The features will focus on the structural entry features as the corridor traverses the preserve, highlighting the presence of this pristine ecological jewel. These features will be add-ons, thereby allowing various structural options while presenting a classic appearance at low cost and maintenance. Overlooks located along the corridor with bench seating to provide a resting place for pedestrians are suggested. The bridge aesthetics for the railing, barrier wall and lighting will be complementary of the natural environment. At night, the entry features will be silhouetted by lighting using floodlight luminaires. Watercolor paintings created by local artists such as Harry McVay and transferred to ceramic tiles will adorn the walls of the towers and the lookouts.



Environmental and Permitting

Acquisition of environmental permits is a key component of getting project construction started in a timely manner and keeping the project on schedule. The American Team has been working on the permitting and other environmental work for this project as part of the conceptual ERP initiative. The City and the Water Management District agreed to continue the current initiative by converting the existing permit application from conceptual to final. The USACOE is aware of this strategy and is in agreement however they will treat this package as a new application. Consultations with USCG have provided the necessary envelopes within the two waterway crossings which cannot be breached. The permit application will reflect our compliance with the criteria. All appropriate navigational aids will also be included in the application. Proprietary mitigation efforts associated with FDEP's approval are

continuing under a separate contract.

Phase 1: We understand that approval will be required from the Florida State Parks, Bureau of Cultural and Natural Resources prior to conducting any geotechnical explorations required for the proposed bridge. As soon as the American team receives NTP from the City we will immediately begin coordination with the Bureau of Cultural and Natural Resources for this approval. The approval for the geotechnical work will likely be tied to the Board of Trustees approval of the easement. Once approval is received from the Bureau of Cultural and Natural Resources, the geotechnical work can begin. No other permitting or environmental work is anticipated for this phase.

Phase 2: From an environmental and permitting perspective, the approach for Phase 2 will be the same for both Options 1 and 2. During Phase 2 American will review the changes proposed to the preferred alternative as compared to the construction plans submitted with the Conceptual Environmental Resource Permit (ERP) application. Based on the changes, we will perform any field work necessary to obtain the required permits for the project. We anticipate some minor additional wetland delineation will be required to accommodate the proposed design changes. All wetlands and surface waters will be delineated using the approved method determined by the State of Florida and the method utilized by the USACE that detects the presence of hydrophytic vegetation, hydrology, and hydric soils. Wetlands will be flagged and surveyed by our team and field verified by staff at the SFWMD and USACE during Phase 2. We do not anticipate any additional wetland impacts to those calculated during the Conceptual ERP phase and mitigated through the Platts Creek Compensatory Mitigation site.

Additionally, a 15 percent gopher tortoise survey will be conducted within appropriate habitat during Phase 2 to estimate the number of potential gopher tortoise relocations, if any, that may be required prior to construction.

American will also review the Environmental Impact Statement (EIS) for this project for any commitments that need to be adhered to during the design phase.

Phase 3: From an environmental and permitting perspective, the approach for Phase 3 will be the same for both Options 1 and 2. American will conduct any consultation with federal and state agencies required as part of the EIS commitments. During this phase, American will also hold a pre-application meeting with SFWMD and USACE, as well as other interested agencies that have been involved in permitting to date, including National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (USFWS). This meeting will discuss any proposed changes from the construction plans for the Conceptual ERP. Early coordination will be a key component in keeping the permitting process moving forward.

Throughout the design phase, the American team will continue to review methods to avoid and minimize impacts to wetlands, essential fish habitat, and other natural resources. Per the Draft EIS commitments, a fisheries survey for the mangrove rivulus will be conducted during this phase to be used during the permitting process in Phase 4. A noise re-evaluation will be conducted during Phase 3, per the EIS commitments, to verify the results found within the EIS regarding noise abatement walls. In addition, a barrier wall feasibility review will be conducted and incorporated into the noise re-evaluation.

Depending on the status of the ROW acquisition, the City may want to phase the construction allowing for the early construction of the western segment to Floresta Drive. This would require the City to obtain two permits from the SFWMD, one from Manth Lane to Floresta Drive and one for the remainder of the project. No wetland impacts would result from the section between Manth Lane and Floresta Drive and the FDEP easement would not be required for this segment. Therefore, the overall schedule could be expedited by obtaining this permit first and moving into construction while the second permit is being obtained.

Phase 4: Permits will be required from the SFWMD, USACE, U.S. Coast Guard (USCG), and FDOT. As previously discussed, American developed the Conceptual ERP that was tentatively agreed upon by the SFWMD and USACE and could seamlessly turn the application into a construction permit. Based on previous meetings with the SFWMD, we are aware that the formal issuance of an easement to cross state lands will be required from the FDEP prior to the issuance of a construction permit for this project. FDEP has agreed to issue the easement once all of the projects outlined in the Proprietary Mitigation Plan have been constructed. However, FDEP has stated that they may be willing to issue the easement as long as the proprietary mitigation projects are largely underway.

An ERP permit for the Platts Creek Compensatory Mitigation Site was issued in April 2012 by SFWMD, and public notice was issued by USACE in August 2012. Based on recent conversations with the USACE, the USACE permit is expected to be approved in mid-September, 2012. It is strongly suggested that the Platts Creek site be constructed prior to the permit being submitted as the excavated material from Platts Creek could provide significant cost savings regarding fill material needed for crosstown if sufficient properties along crosstown are available to receive the material.

Option 1: Should the City pursue the project through the conventional design method or the CM at Risk method, the final design and permitting activities will not fall on the critical path.

Wildlife permitting and/or surveying for protected species may be needed prior to and during construction. Permitting and surveying for protected species is species specific and may need to be included during Phase 4 or as part of the construction contract. Our team can provide these services and will coordinate with the City once final design and construction timeframes are known. Species that may require permitting, surveying or monitoring for this project include the gopher tortoise, gopher frog,

Florida sandhill crane, Florida pin snake, and bald eagle, among others.

Option 2: The team would complete the 59 percent plans and prepare the DB criteria package.

Once the selection of the DB team is approved, the preparation of the final design plans and permit applications will become critical path activities. Should the City allow our team to prepare and submit the permits, given our extensive knowledge of the permitting efforts to date, they could be completed during Phase 4. This would allow the permits to be submitted independently of securing the DB team and would remove the permits from the critical path. Our team would work closely with the DB team to ensure the plans accurately reflect the DB team's proposal and see to it that any suggested permit modifications are consistent with the commitments to the state and federal agencies. Additional permits, including dewatering and wildlife permits, will be the responsibility of the DB team. Whether the city pursues CM or DB, the permits need to be in hand prior to construction funding availability.

Stormwater Management and Drainage Design

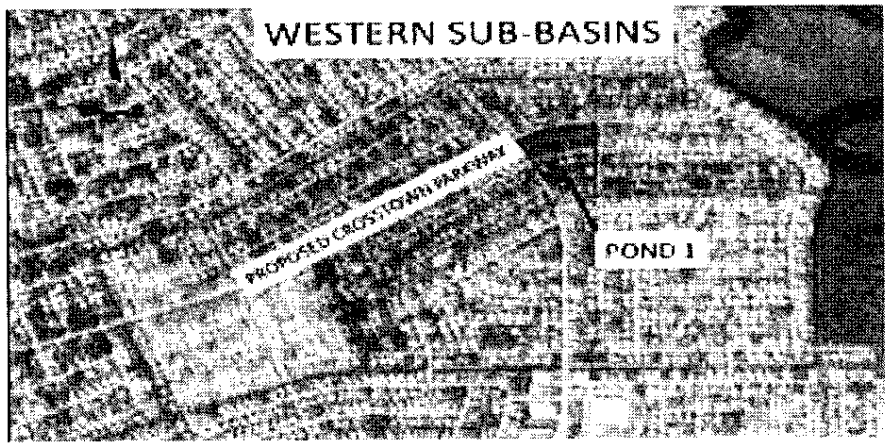
In order to efficiently design the stormwater management and drainage structure to serve the corridor, American will design the stormwater management facilities consisting of ponds, control structures and outfalls. The conveyance design consisting of the ditches, inlets and pipes draining to the pond will be designed by the firm responsible for the respective segment of roadway. This division will streamline coordination and file transfer requirements.

The American Team has an unparalleled overall knowledge of the existing drainage conditions, requirements for the roadway and the existing development, and site specific hydraulic and hydrologic conditions. Whereas the design of the drainage system was divided among the team as indicated, the team has and will continue to meet jointly to discuss the overall design as a group. The focus of the joint discussion and brainstorming is to develop the best, most efficient, least disruptive system that can be provided for this project. The City will benefit from the overall team expertise which is comprised of the experienced drainage professionals with the most comprehensive knowledge of the specific area. After NTP we will meet with the City to discuss the current status of the design and criteria specifics and get the City's input as there has been significant progress since drainage was last discussed in detail with City staff.

Existing Conditions: There are two project basins - western and eastern segments of the corridor. The existing conditions generally include the residential area on the west, the river and floodway in the center, and commercial development on the east.

The project is located in the North St. Lucie Basin. Existing discharge is to the North Fork St. Lucie River. The North Fork St. Lucie River is an aquatic preserve and is classified as an impaired water body by FDEP for reasons that include nutrient content.

The existing drainage system for the western developed section of the project consists of inlets, cross drains, pipes, and roadside swales with no existing environmental resource permit. The eastern portion includes involvement with permitted systems. US-1 includes permitted stormwater management facilities and the connection to US-1 will require replacement of any functional loss in kind. The Liberty Medical Facility development on the east side is permitted and expansion of their pond, for use as a joint use pond, will require a modification of that permit.



The Flood Insurance Study for St. Lucie County and Incorporated Areas, dated February 16, 2012, is the best available information regarding flood stages and flows within the river. At the crossing location the North Fork St. Lucie River has a design flood stage of 6.0' NAVD88 and a design flow of 9,100 for the 1% annual chance (100 year) event.

ERP Application to SFWMD: American submitted an ERP application to SFWMD on behalf of the City in order to establish that stormwater management system and mitigation meeting agency criteria could be provided for the proposed improvements. The detail of the mitigation requirements is discussed in the environmental section. With respect to drainage, American prepared all stormwater management calculations for the application and wrote the report that establishes the stormwater management criteria to be achieved for SFWMD approval. The previously submitted design differs from the current design in that it was for a fictitious greatest needs alignment. For drainage purposes the greatest needs alignment is the one with the most area. The alignment considered was fictitious in that it consisted of the largest areas east and a west of the divide over the river from the different alignment alternatives considered by the PD&E study. A considerable amount of coordination has occurred with SFWMD and other agencies which is well documented and substantially establishes the criteria that must be met. Through our work preparing the calculations and report as well as the

extensive coordination efforts we know what criteria must be met and where there is flexibility in the final design. Therefore, the permit application effort to date has substantially established criteria that must be met. The primary difference in the conceptual work and the current design is that the area being designed is not the PD&E greatest needs area, but the actual drainage area associated with the design alignment and typical sections.

Stormwater Management Criteria: The stormwater management design for this project must provide for water quality treatment, discharge attenuation, and meet impaired water body criteria for nutrient loading.

Discharge attenuation requirements for the project are not to exceed the existing peak discharge for the 25 year 72 hour storm event.

The discharge for the western portion of the project will be to existing drainage canals that ultimately drain to the North Fork St. Lucie River. To ensure that there are no adverse impacts to canal stages peak discharge to the canals will be limited to the existing peak discharge.

The discharge for the eastern portion of the project will be to surface waters of the North Fork St. Lucie River. The receiving surface waters are wetland areas. Spreader swale discharge to the wetland area is proposed in order to simulate a natural flow to the wetlands. Discharges from the proposed stormwater management facility will be required to demonstrate that there are no adverse impacts at the outfall. For the eastern basin, the approach is to utilize the existing outfall from the Liberty Medical Facility development. SFWMD has indicated that some increase in the existing outfall will be accepted, within reason.

Flood stages will be limited for this roadway so that at least two clear through lanes, one in each direction, are provided for the 25-year 72 hour event. 100-year flood protection will also be provided for hydraulically connected residential properties.

Water quality treatment requirements are to provide either 2.5" over the impervious area or 1" over the contributing area, the greater of the two, increased by 50% due to impaired water and aquatic preserve criteria.

Nutrient loading criteria requires that existing nutrient discharges, Nitrogen (N) and Phosphorus (P), are not increased over the existing condition.

Floodplain considerations require that there are no adverse impacts to others within the floodplain. Compensation can be provided "cup-for-cup", which is achieved by the Platts Creek Mitigation area design. Our bridge hydraulics evaluation demonstrates "no-rise" and also meets the requirements.

Proposed Conditions: Stormwater management facilities will be provided to serve the project and will receive discharge from substantially the entirety of the proposed ROW area.

The western portion of the project will include dry swale conveyance a closed system of inlets and pipes draining to a stormwater management pond. Since the existing corridor footprint has discharge to more than one canal, the proposed condition has two outfalls, each with control structures, from the single pond to the canals north and south of the roadway. American has further evaluated the proposed condition and can reduce the pond area, developed for the greatest needs alignment, to only the south side of the roadway. The reduction in pond area comes with an associated approximate one foot increase in peak stage, and minimum profile grade of the roadway, but reduces the number of developed residences being acquired by six homes. Based on the current pond site considered, the minimum recommended profile is 13.5' NAVD88 for this basin.

The eastern portion of the project will include a wet pond as an expansion of the existing Liberty Medical Facility pond permitted under SFWMD Permit No. 56-01489-P. Discharge from the wet pond will be to a spreader swale that will overflow to surface water wetlands in order to distribute the flow. The current proposed area draining to the pond has not changed significantly compared with the concept calculations. The bridge area has decreased but a segment of US-1 will be drained to the pond, in addition to Crosstown Parkway, due to modifications associated with the intersection improvements. The existing US-1 control structure and outfall will be reconstructed, since it falls within the intersection footprint. Sufficient US-1 area will be diverted to drain to the pond that the remaining US-1 system will function as permitted. The current pond site considered is the same size as developed for the conceptual permit. This pond size will result in proposed stages that are 0.1' higher and peak discharges that are 0.3 cfs greater than what occurs under the existing permitted conditions. The noted minor increases are acceptable to SFWMD and are acceptable in terms of flood protection. The Liberty Medical Facility site does include a wide range of parking area elevation, from 6.5 to 12 feet and an option may be to raise the lowest developed portions of the site and existing top of berm for the pond to allow for increased flood stages and reduction of the pond footprint. This is not necessarily an advantage since cures related to building footprint and parking requirements would be required, construction costs would also increase. The issues are better left to discuss with the City. Again, the current plan will work with the existing development, leaves enough parking for the existing buildings and should not require significant cures.

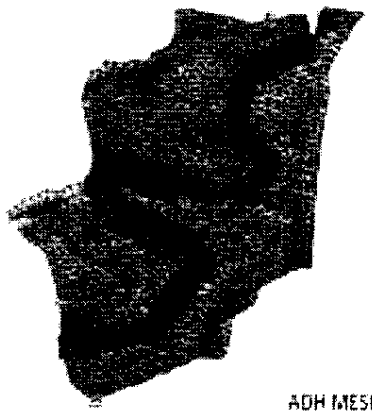
We have evaluated the use of the "Thirsty Duck" control structure. The general goal is to discharge at the peak rate for the entirety of a storm event. American coordinated with the Thirsty Duck designers, providing our ICPR files and data to them. Designers at Thirsty Duck indicated that their product would not be recommended for Crosstown Parkway. The reasons being that the structures are expensive, $30,000 to $50,000, and it will not result in any savings in the required pond size. This is partially due to our current control structure design approach where, we are proposing to use wide weir slots in the

control structure. In either case, Thirsty Duck or conventional weir, the water quality treatment volume bleed down must conform to a slower rate. With conventional fixed structures the peak discharge only occurs at the same instance as the peak stage. A conventional control structure costs $5,000.

Nutrient loading is an important aspect of the project. The proposed pond systems work due to the proposed condition redeveloping area that is currently untreated residential development with relatively high existing nutrient discharges to the river. There will be a reduction in nutrient discharge from the west basin and an increase from the east basin, with a net reduction for the project.

Bridge Hydraulics: A bridge hydraulics evaluation is required for the crossing of the North Fork St. Lucie River. Due to the meandering river channel and extensive overbank flow areas a two dimensional model is recommended. For the two dimensional hydrodynamic modeling, we are utilizing the USACE Adaptive Hydraulics modeling system (ADH) computation engine. We utilized LiDAR elevation data provided by FDEP as the base digital elevation model for the river. This LiDAR data was provided by FDEP to American for the evaluation of the water quality projects along the North Fork St. Lucie River. This data was supplemented by FEMA data for the channel based on cross sections G, H and I. The flood profile through this section is substantially flat with a regulatory elevation of 6.0, NAVD88. The mean velocity of the low with a range of 2 to 3 feet per second and the total conveyance is approximately 9,100 cfs. The bridge hydraulics evaluation will establish that the bridge will result in "no-rise" of flood stages within the river, and therefore no floodplain impact. Additionally flow velocities and scour protection requirements will be established for piers. Long-term scour and potential channel migration considerations will be further considered. The overall evaluation will be utilized to establish design parameters for piers in the water such as low member elevations.

NORTH FORK ST LUCIE RIVER



ADH MESH

Phase 1: No drainage work is anticipated in this phase, as the preliminary drainage computations were completed for the conceptual ERP initiative.

Phase 2: 30% Design Documents

Option 1: Conventional Design Method – For this phase of the project a Bridge Hydraulics Report (BHR) will be prepared to calculate flows, stages, scour and evaluate bridge deck drainage. The stormwater management analysis design would commence in preparation for the next phase of the design.

Option 2: CM at Risk – The Bridge Hydraulics Report (BHR) could be deferred to the DB firm. The Scope of Services Section 6.14 indicates that the BHR is an Option 1 task. However, it may be prudent to go ahead and complete a bridge hydraulics evaluation in order to identify any issues with pier placement requirements. Likewise, stormwater management design would not necessarily be required however to better define land acquisition requirements and grading it may be practical to proceed with a sufficient level of evaluation to define requirements.

Phase 3: 59% Design Documents

Option 1: Conventional Design Method – The Stormwater Management Design including ponds and control structure details will be finalized during this phase. All pavement hydraulics, inlet design, pipe hydraulics, and ditch hydraulics would be completed during this phase as well.

Option 2: CM at Risk – In this option, no drainage work effort is anticipated from Phase 2, Option 2.

Phase 4: Final Design and Permits or DB Criteria Package

Option 1: 100% Design Documents and Permits – For this option, the drainage effort will include coordination with SFWMD, submittal of the permit application, responding to comments, and making adjustments to the previously completed design if appropriate, for the purpose of securing permits for construction.

Option 2: DB Criteria Package - In this option the stormwater management and drainage criteria will be prepared for the DB Criteria Package. DB team submittals would be reviewed for compliance with criteria.

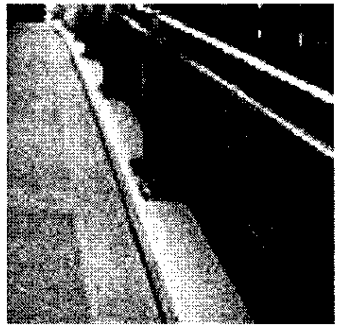
Signing & Pavement Markings

The signing and pavement marking design and plans will be prepared to meet the latest MUTCD. The signing and pavement marking plans will begin approximately 900' west of SE Sandia Drive to remove the existing eastbound thru lane transitions. The corridor will have three thru lanes varying from 11' to 12' in each direction from west of Manth Lane to US-1 along with a 5' designated bike lane for the project limits. Proposed signs will include R4-4 for the right turn key hole for the bike lanes and R1-5 series signs for drives to yield to pedestrians in a crosswalk. Guide signs will include "Next Signal" ahead in the median for both Floresta Drive & US-1 intersections.

Lighting

Based on discussions with the police department it is our understanding roadway lighting is desired as a safety precaution on the structure crossing the preserve. It is suggested this lighting be installed within the median barrier down the center to minimize light intrusion in the preserve. Fixtures will

be complementary to those installed previously over the Turnpike structure. It is also suggested lighting be provided at the intersection with Floresta Drive. These luminaires will be integrated into the signal installations. Pedestrian lighting will be developed for the recreational trail consistent with the lighting installed throughout the corridor previously. Pedestrian luminaires will also be provided for the sidewalk adjacent to the roadway between Floresta Drive and US-1 where roadway lighting is not provided. Lighted bollards or LED luminaries within the railings are suggested along the sidewalks on the bridge to illuminate the sidewalks and minimize intrusion in the preserve. These lights will be integrated into the railing. The existing FDOT lighting system on US-1 will be impacted and upgraded with the proposed improvements.



Phase 1: No proposed work.

Phase 2 **Option 1 & 2–** Our team will carefully inventory and analyze existing lighting within the project limits including the existing lighting being affected by the intersection modifications at US-1. We will develop a Lighting Justification Report and submit a Lighting Design Analysis Report along with the preliminary plans at a 30% level of completion. The recommended lighting schemes will be detailed as part of the report for review and approval by the City prior to completion of final lighting design and plans preparation.

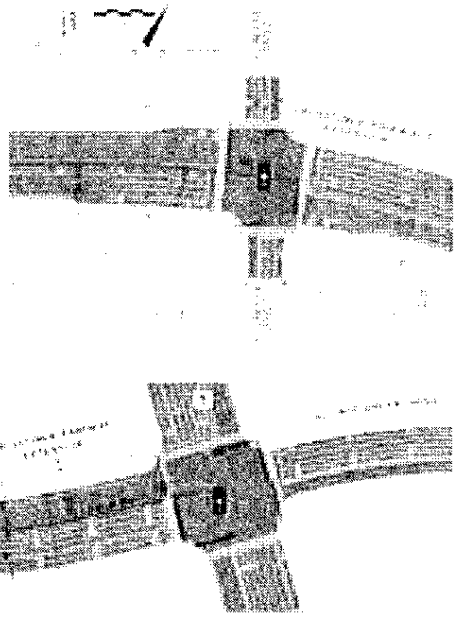
Phase 3 **Option 1 & 2–** The existing and proposed roadway lighting will be analyzed during Phase 3 for development of the preliminary lighting design. The existing lighting scheme for Crosstown Parkway west of Manth Lane will be continued for the proposed project to the bridge crossing of the preserve. This scheme includes placement of pedestrian lighting on each side of the roadway with decorative pedestals primarily adjacent to the multi-use paths. The bridge lighting and landscape lighting schemes will be finalized as developed during Phase 2 after approval and acceptance by the City. Modifications to the impacted lighting on US-1 will be detailed in the 59% plans. The Lighting Design Analysis Report will be updated with all analysis and resubmitted along with the 59% plans

Phase 4 **Option 1-** The Team will advance the lighting design from 59% to 100% including all quantities and specs to bid the proposed lighting improvements.

Phase 4 **Option 2-** The Team will address all comments received from the 59% submittal then; develop a final Bid/Criteria Package. Provide support and reviews during the selection, design and construction phases.

Signalization

The signal installation utilizing mast arms at Floresta Drive will generally emulate the current signal installations along the corridor in configuration, operation and image. The installation at US-1 will also use mast arms conveying the same color and style of the other signals in the corridor. However a split east west phase is suggested at US-1. By introducing a split phase, one can provide two lefts, one left and through, one through and two rights for the east bound roadway, rather than three lefts of which two are traps and just one through lane. Preliminary analysis indicates this operation will provide better flow of traffic. The lengths of the mast arms are within allowable 180 ft for the Floresta intersection but the US-1 intersection doesn't meet the maximum spacing from stop bars to the signal heads and supplemental near side signal heads will be required for the east west movements.



Phase 1 & 2 No proposed work.

Phase 3 **Option 1 & 2–** Preliminary signalization plans at 59% will be developed for both Floresta Drive and US-1 intersections. The proposed scheme will include luminaries on the Floresta Drive mast arms, illuminated street name signs and video detectors at both. Modifications to the impacted mast arms on US-1 will be detailed in the 59% plans and included in the FDOT permit.

Phase 4 **Option 1-** Our Team will advance the signal design from 59% to 100% including all quantities and specs to bid the proposed signalization improvements.

Phase 4 **Option 2-** Our Team will address all comments received from the 59% submittal. Then we will develop a final Bid/Criteria Package, provide support and reviews during the selection, design and construction phases.

Utility Coordination Process

Identify Existing UAO's: The American team will identify all existing/proposed utilities in the corridor, obtain a Sunshine one call design ticket, check all subsurface utility engineering (SUE) reports, check Design Location Survey, and gather all existing construction plans.

Make Utility Contacts: The American team will send standard letters and two sets of plans to each utility identified along the project corridor. American will contact each utility by phone for meeting coordination, request type, size, location, easements, cost for compensable relocation, and justification for any utility exceptions. At a minimum of four weeks prior to the meeting the American team will transmit two complete sets of Preliminary plans to each UAO having facilities located within the project limits. American will identify agreements and assemble packages. Then American will send agreements, letters, and two sets of plans to the UAOs including all component sets.

Preliminary Utility Meeting: The American team will schedule, notify participants, and conduct a preliminary utility meeting with all affected UAO(s) for the purpose of presenting the project, review the current design schedule, evaluate the utility information collected, provide follow up information on compensable interest requests.

Individual /Field Meetings: The American team will meet with each UAO separately throughout the project design duration to provide guidance in the interpretation of plans, review changes to the plans and schedules, optional clearing and grubbing work, and assist in the development of the UAO's plans and work schedules.

Collect and Review Plans and Data from UAO(s): American will make determinations (compensable interest, easements, coordinate, analyze).

Utility Design Meeting: American will transmit two complete sets of preliminary plans to each UAO having facilities located within the project limits. The American team shall schedule, notify participants, and conduct a utility meeting with all affected UAO's. American will be prepared to discuss drainage, traffic signalization, maintenance of traffic, review the current design schedule, evaluate the utility information collected, provide follow-up information on compensable interest requests. This meeting shall identify and resolve conflicts between utilities and proposed construction prior to completion of the plans, including utility adjustment details. The American team will recommend resolution between known utility conflicts with proposed construction plans as practical.

Review Utility Markups and Work Schedules and Processing of Schedules and Agreements: The American team will review the utility's marked up plans individually as they are received for content and coordinate review with the designer.

Utility Coordination/Follow-up: This includes follow-up, interpreting plans, and assisting the completion of the UAO's work schedule, agreements, phone calls, face-to-face meetings, etc., to motivate and ensure the UAO(s) complete and return the required documents in accordance with the project schedule. American will ensure the resolution of all known conflicts.

Utility Constructability Review: The American team will review utility schedules against construction contract time for phasing compatibility.

Landscape Architecture

Our proposed landscape design will use native species for: better survivability; more resistant to infestation; ensure setback from guardrail and structures; Provide Maintenance Clearance Radius around all plantings; avoid planting in swales and obstructions to signage. Our proposed landscape design along the mainline is relatively consistent with the concepts west of this project as far as the location and type of landscape material. We are proposing drifts of native landscaping. We will ensure proper setbacks from utility lines, from the existing R/W fence for maintenance of the landscaping and access for mowers.

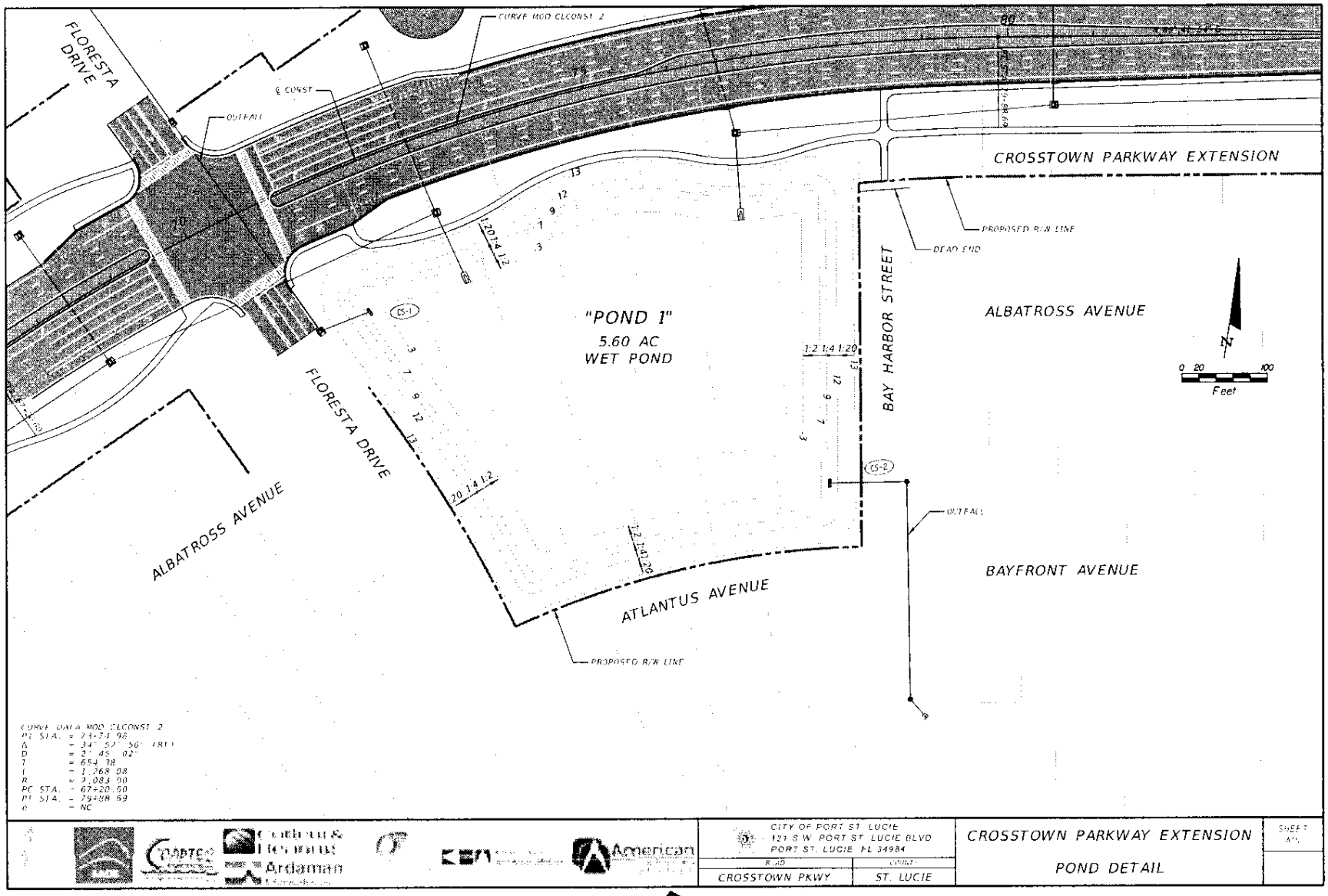
We are proposing that our landscape palette consists of Slash Pine, Cabbage Palms, Live Oaks, and Bald Cypress. The understory will include Florida Privet, Florida Gamma Grass, Walter's Viburnum, Fakahatchee Grass, Saw Palmetto and Sand Cordgrass. These materials are native to Florida and this particular area. All materials are very low maintenance. We are proposing Cabbage Palms and Florida Slash Pine as the predominate tree species along the berms, but have included Florida Privet, Muhly Grass, Walter's Viburnum and Saw Palmetto to the plant palette in addition to the Fakahatchee Grass for the underplantings. Our drainage design does introduce stormwater detention facilities within the corridor which will impact the existing vegetation in the area. Our landscape design incorporates clusters of Bald Cypress and Sand Cordgrass along the edges of the detention areas to blend those facilities into the landscape. We are proposing Live Oak Trees along the sides of Crosstown from US-1 to instill a gesture for entering the City of Port St. Lucie.

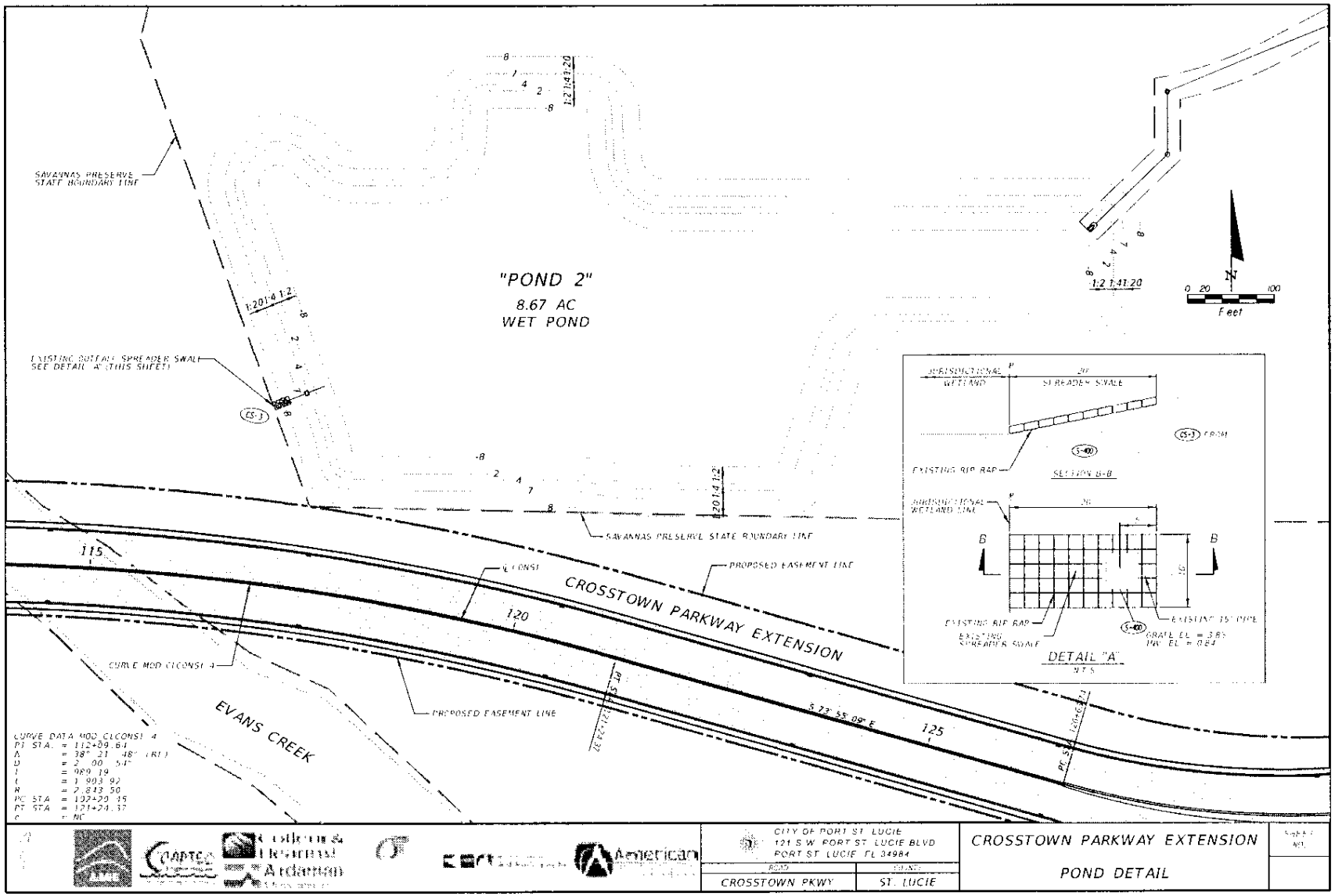
Quality Assurance/Quality Control (QA/QC)

American believes QA/QC is an integral part of a successful project work plan and have worked diligently to thoroughly integrate QC into the fabric of our daily operations. The success of our program is reflected in the QA audits conducted by FDOT that have resulted in no significant comments or issues and have generated positive feedback such as the following comment made by FDOT District One: "The consultant is in conformance with their QA/QC procedures, which follows the FDOT quality control procedures. American Consulting Engineers has the best quality control records and filing system that District One has seen to date."

The cornerstone of our QA/QC process is our firm-wide QA and QC Program. Our QA/QC program sets the frame work, expectations, and minimum requirements for quality control on all projects, regardless of type or size. The Program clearly states that falsifying QA/QC documents can lead to immediate dismissal from our firm. Our program is reviewed annually and updated as appropriate.

Chris O'Reilly, PE, our Deputy Project Manager, will prepare and submit a project specific QA/QC


FLORESTA DRIVE
CURVE MOD CLCONST 2
℄ CONST
OUTFALL
CROSSTOWN PARKWAY EXTENSION
PROPOSED R/W LINE
DEAD END
BAY HARBOR STREET
ALBATROSS AVENUE
"POND 1"
5.60 AC
WET POND
FLORESTA DRIVE
ALBATROSS AVENUE
ATLANTUS AVENUE
BAYFRONT AVENUE
OUTFALL
PROPOSED R/W LINE
0 20 100
Feet
CURVE DATA MOD CLCONST 2
PI STA. = 74+74.96
Δ = 34° 57' 50" (RT)
D = 2° 45' 02"
T = 654.38
L = 1,268.08
R = 2,083.00
PC STA. = 67+20.50
PT STA. = 79+88.69
e = NC
CITY OF PORT ST. LUCIE
121 S.W. PORT ST. LUCIE BLVD
PORT ST. LUCIE FL 34984
ROAD
CROSSTOWN PKWY
COUNTY
ST. LUCIE
CROSSTOWN PARKWAY EXTENSION
POND DETAIL
SHEET NO.

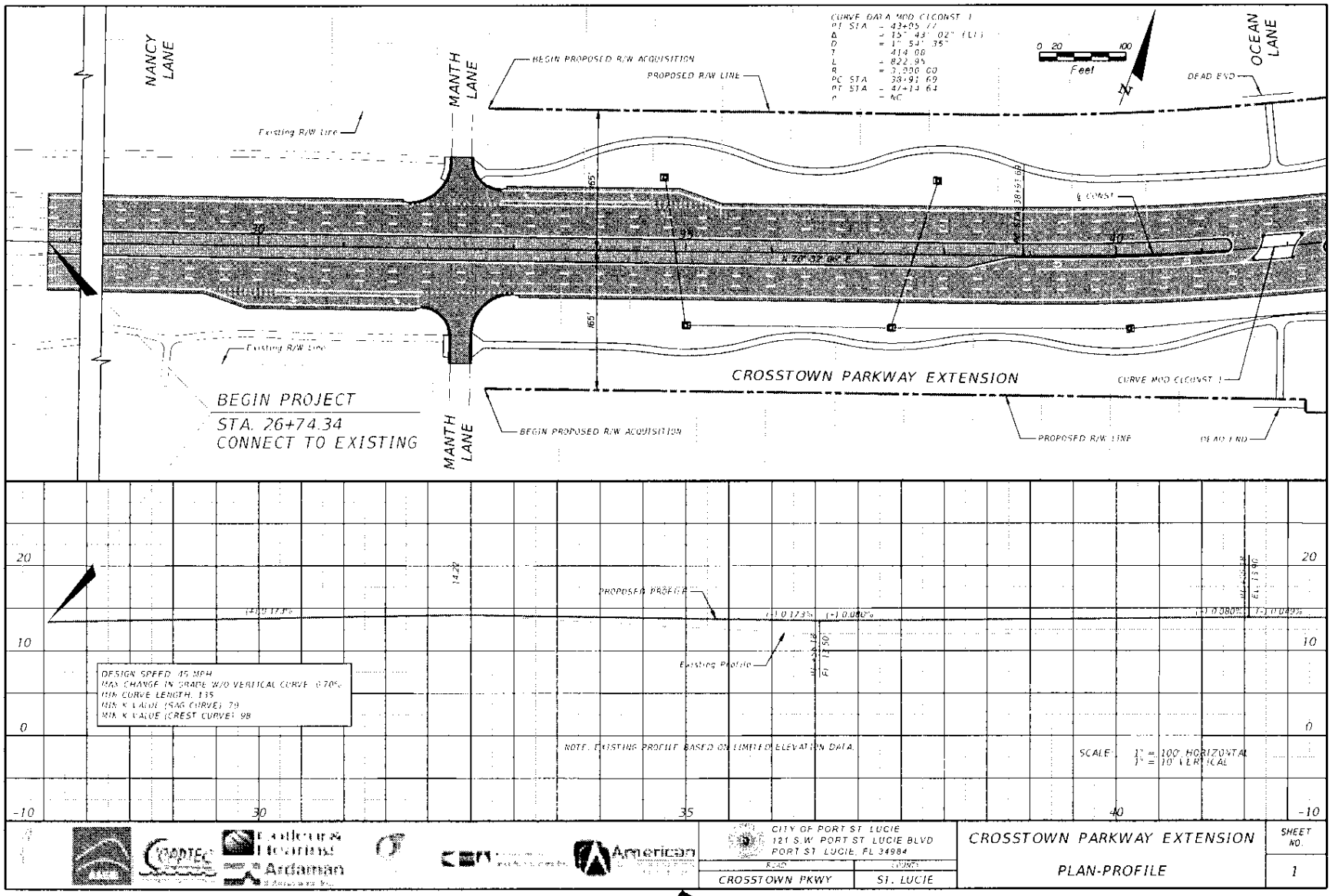


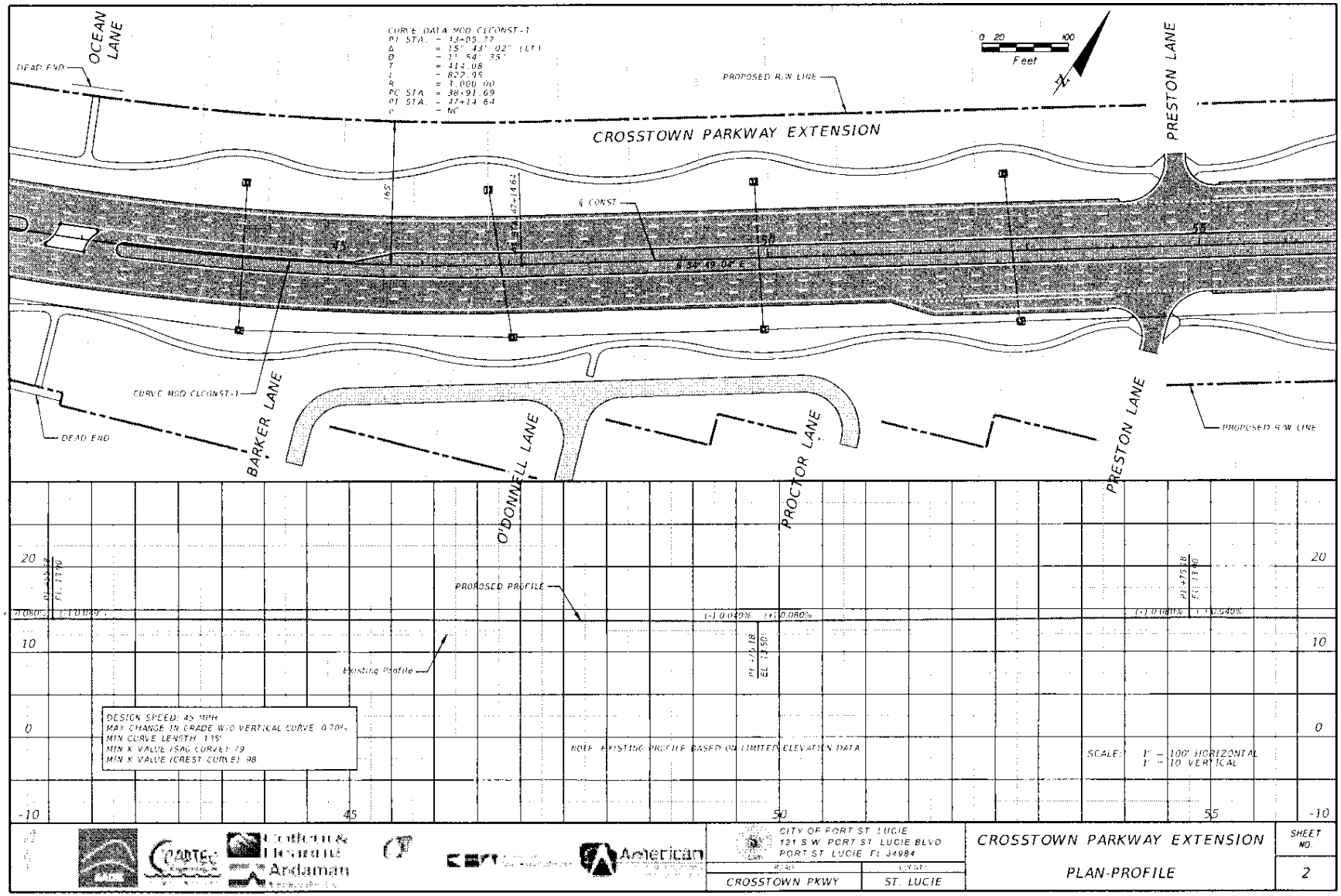
CITY OF PORT ST. LUCIE
121 S.W. PORT ST. LUCIE BLVD
PORT ST. LUCIE, FL 34984

ROAD	COUNTY
CROSSTOWN PKWY	ST. LUCIE

CROSSTOWN PARKWAY EXTENSION

POND DETAIL


NANCY LANE
MANTH LANE
OCEAN LANE
BEGIN PROPOSED R/W ACQUISITION
PROPOSED R/W LINE
DEAD END
Existing R/W Line
CURVE DATA MOD (CONST.)
PI STA = 43+05.77
Δ = 15° 43' 02" (LT)
D = 1° 54' 35"
T = 414.06
L = 822.95
R = 3,000.00
PC STA = 38+91.69
PT STA = 47+14.64
e = NC
0 20 100
Feet
N
℄ CONST.
N 70° 32' 00" E
165'
CROSSTOWN PARKWAY EXTENSION
CURVE MOD (CONST.)
BEGIN PROJECT
STA. 26+74.34
CONNECT TO EXISTING
PROPOSED PROFILE
Existing Profile
DESIGN SPEED: 45 MPH
MAX CHANGE IN GRADE W/O VERTICAL CURVE: 0.70%
MIN CURVE LENGTH: 135
MIN K VALUE (SAG CURVE): 79
MIN K VALUE (CREST CURVE): 98
NOTE: EXISTING PROFILE BASED ON LIMITED ELEVATION DATA.
SCALE: 1" = 100' HORIZONTAL
1" = 10' VERTICAL
CITY OF PORT ST. LUCIE
121 S.W. PORT ST. LUCIE BLVD
PORT ST. LUCIE, FL 34984
ROAD
CROSSTOWN PKWY
COUNTY
ST. LUCIE
CROSSTOWN PARKWAY EXTENSION
PLAN-PROFILE
SHEET NO.
1


OCEAN LANE
DEAD END
CURVE DATA MOD CLCONST-1
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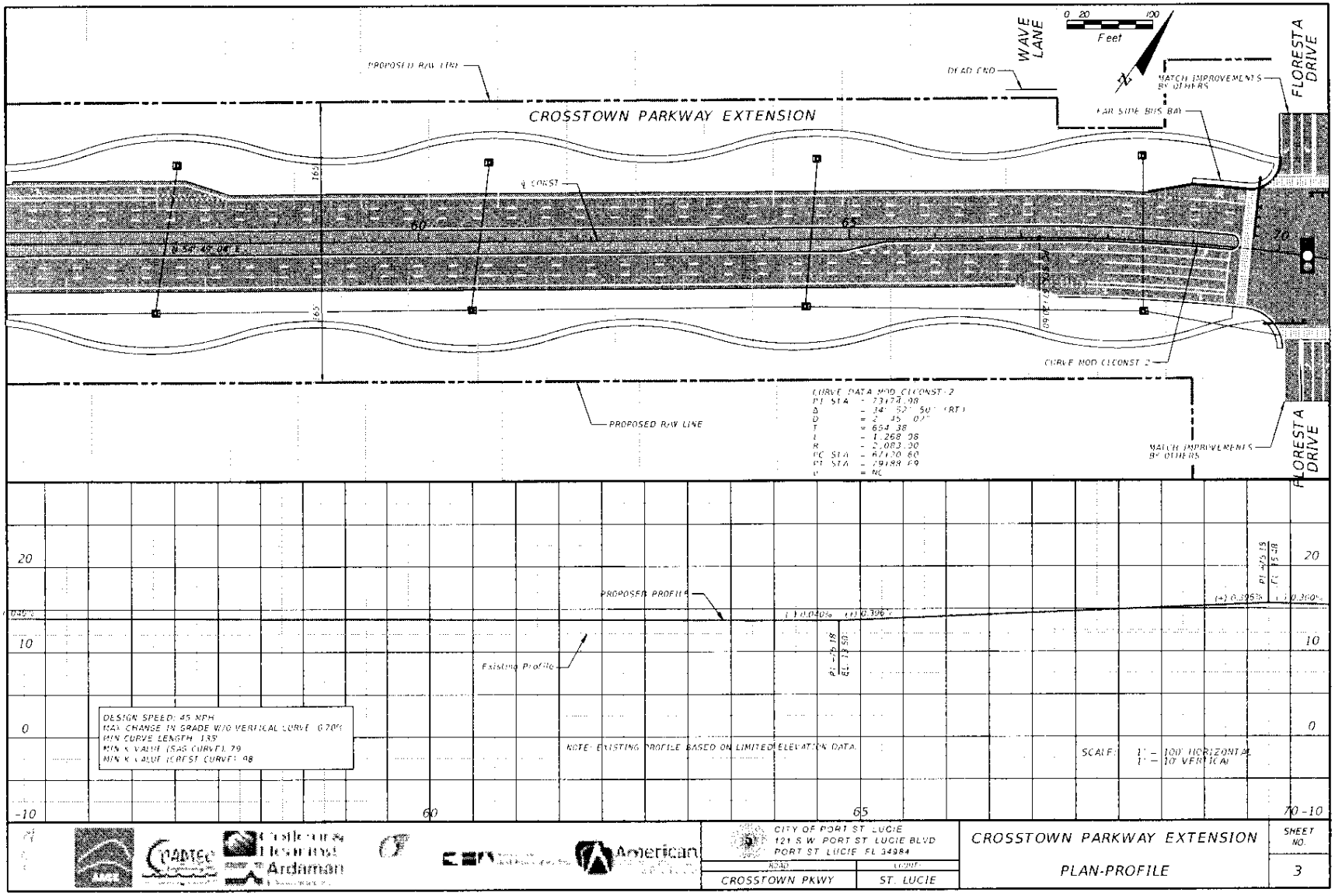
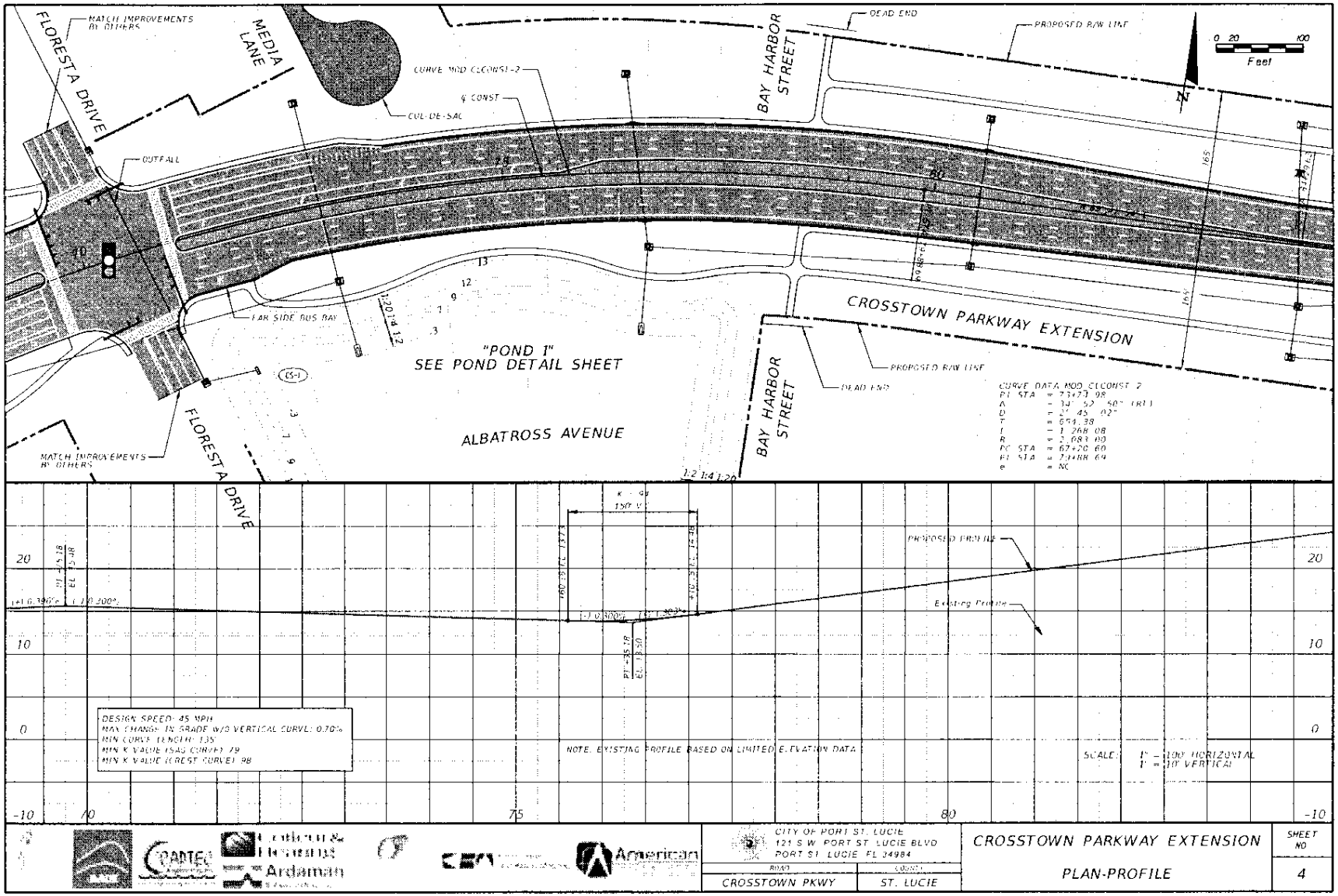
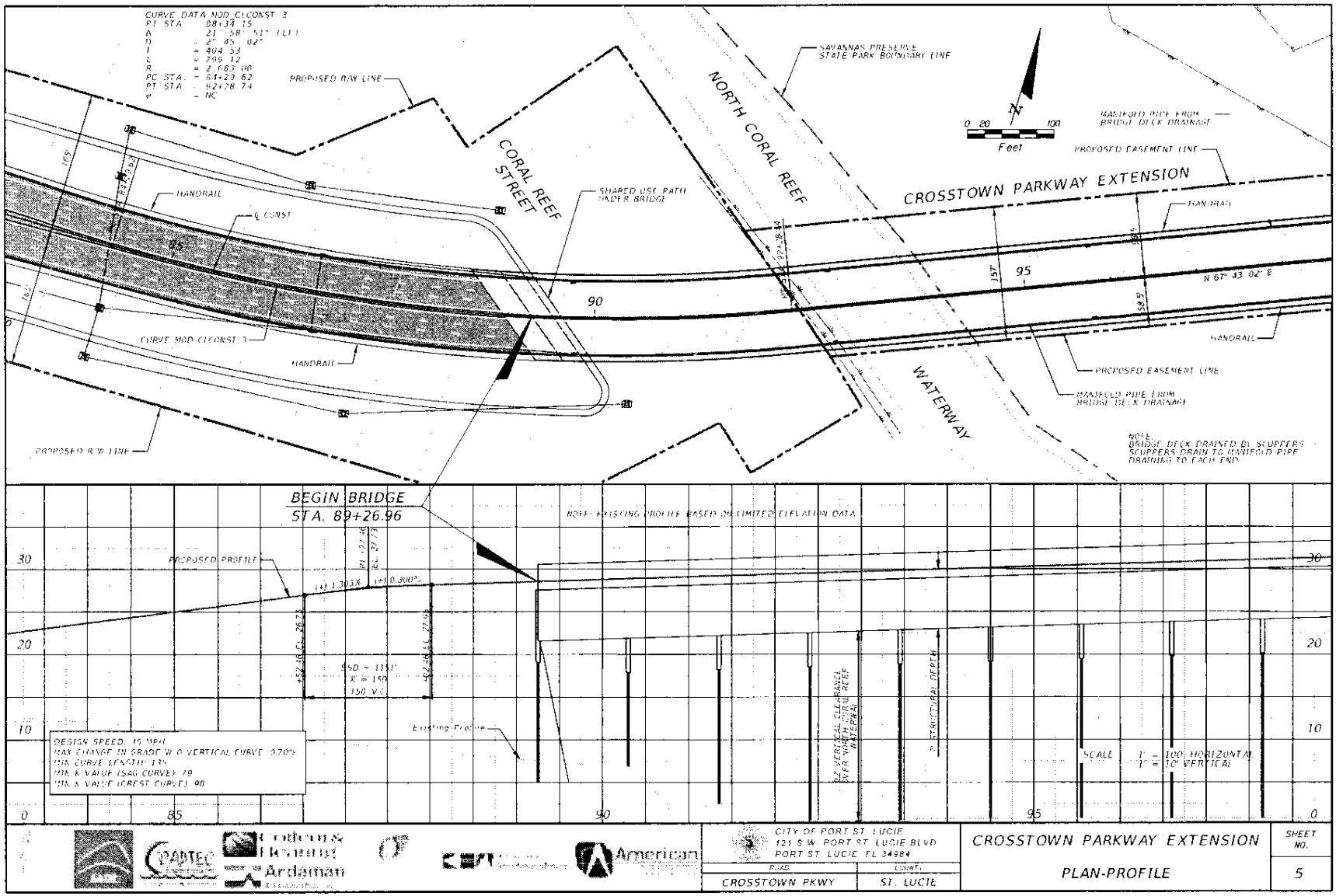
D = 1° 54' 35"
T = 414.08
L = 822.95
R = 3,000.00
PC STA. = 38+91.69
PT STA. = 47+14.64
e = NC
PROPOSED R/W LINE
0 20 100
Feet
CROSSTOWN PARKWAY EXTENSION
PRESTON LANE
℄ CONST
CURVE MOD CLCONST-1
BARKER LANE
O'DONNELL LANE
PROCTOR LANE
PRESTON LANE
PROPOSED R/W LINE
PROPOSED PROFILE
Existing Profile
(-) 0.049%
(+) 0.080%
DESIGN SPEED: 45 MPH
MAX CHANGE IN GRADE W/O VERTICAL CURVE 0.70%
MIN CURVE LENGTH 135'
MIN K VALUE (SAG CURVE) 79
MIN K VALUE (CREST CURVE) 98
NOTE: EXISTING PROFILE BASED ON LIMITED ELEVATION DATA
SCALE: 1" = 100' HORIZONTAL
1" = 10' VERTICAL
20
10
0
-10
45
50
55
CITY OF PORT ST. LUCIE
121 S.W. PORT ST. LUCIE BLVD
PORT ST. LUCIE, FL 34984
ROAD
CROSSTOWN PKWY
COUNTY
ST. LUCIE
CROSSTOWN PARKWAY EXTENSION
PLAN-PROFILE
SHEET NO.
2


WAVE LANE
0 20 100
Feet
FLORESTA DRIVE
PROPOSED R/W LINE
DEAD END
MATCH IMPROVEMENTS BY OTHERS
CROSSTOWN PARKWAY EXTENSION
FAR SIDE BUS BAY
℄ CONST
CURVE MOD CLCONST 2
PROPOSED R/W LINE
CURVE DATA MOD CLCONST-2
PROPOSED PROFILE
Existing Profile
DESIGN SPEED: 45 MPH
MAX CHANGE IN GRADE W/O VERTICAL CURVE 0.70%
MIN CURVE LENGTH 135'
MIN K VALUE (SAG CURVE) 79
MIN K VALUE (CREST CURVE) 98
NOTE: EXISTING PROFILE BASED ON LIMITED ELEVATION DATA.
SCALE: 1" = 100' HORIZONTAL
1" = 10' VERTICAL
CITY OF PORT ST. LUCIE
121 S.W. PORT ST. LUCIE BLVD
PORT ST. LUCIE, FL 34984
ROAD
CROSSTOWN PKWY
COUNTY
ST. LUCIE
CROSSTOWN PARKWAY EXTENSION
PLAN-PROFILE
SHEET NO.
3


FLORESTA DRIVE
MATCH IMPROVEMENTS BY OTHERS
MEDIA LANE
CURVE MOD CLCONST-2
℄ CONST
CUL-DE-SAC
OUTFALL
BAY HARBOR STREET
DEAD END
PROPOSED R/W LINE
0 20 100
Feet
N
FAR SIDE BUS BAY
"POND 1"
SEE POND DETAIL SHEET
ALBATROSS AVENUE
CROSSTOWN PARKWAY EXTENSION
PROPOSED R/W LINE
DEAD END
BAY HARBOR STREET
FLORESTA DRIVE
MATCH IMPROVEMENTS BY OTHERS
CURVE DATA MOD CLCONST 2
PI STA = 73+73.98
A = 34° 52' 50" (RT)
D = 2° 45' 02"
T = 654.38
L = 1,268.08
R = 2,083.00
PC STA = 67+20.60
PI STA = 79+88.69
e = NC
PROPOSED PROFILE
Existing Profile
DESIGN SPEED: 45 MPH
MAX CHANGE IN GRADE W/O VERTICAL CURVE: 0.70%
MIN CURVE LENGTH: 135
MIN K VALUE (SAG CURVE) 79
MIN K VALUE (CREST CURVE) 98
NOTE: EXISTING PROFILE BASED ON LIMITED ELEVATION DATA
SCALE: 1" = 100' HORIZONTAL
1" = 10' VERTICAL
20
10
0
-10
70
75
80
CITY OF PORT ST. LUCIE
121 S.W. PORT ST. LUCIE BLVD
PORT ST. LUCIE, FL 34984
ROAD
COUNTY
CROSSTOWN PKWY
ST. LUCIE
CROSSTOWN PARKWAY EXTENSION
PLAN-PROFILE
SHEET NO
4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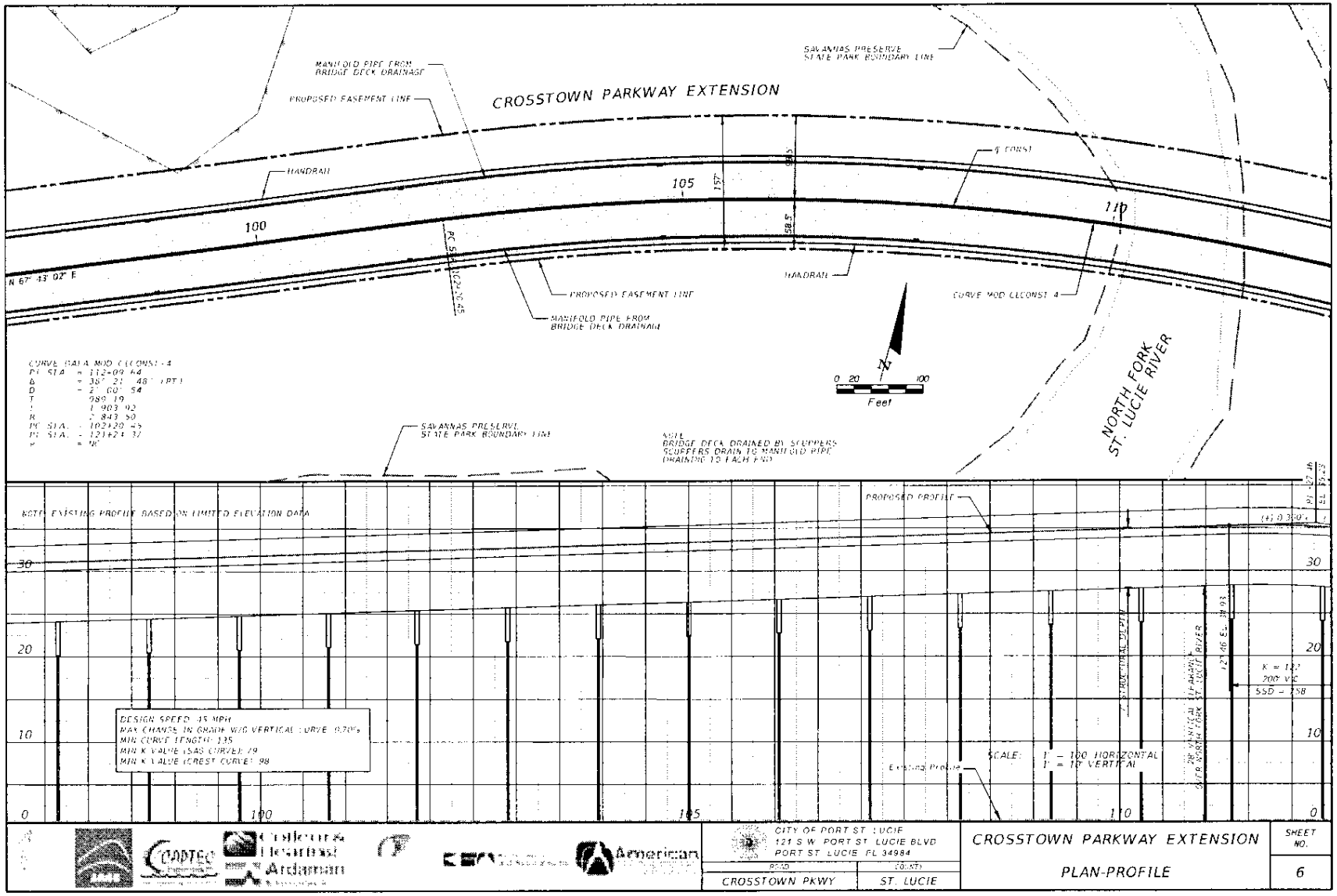
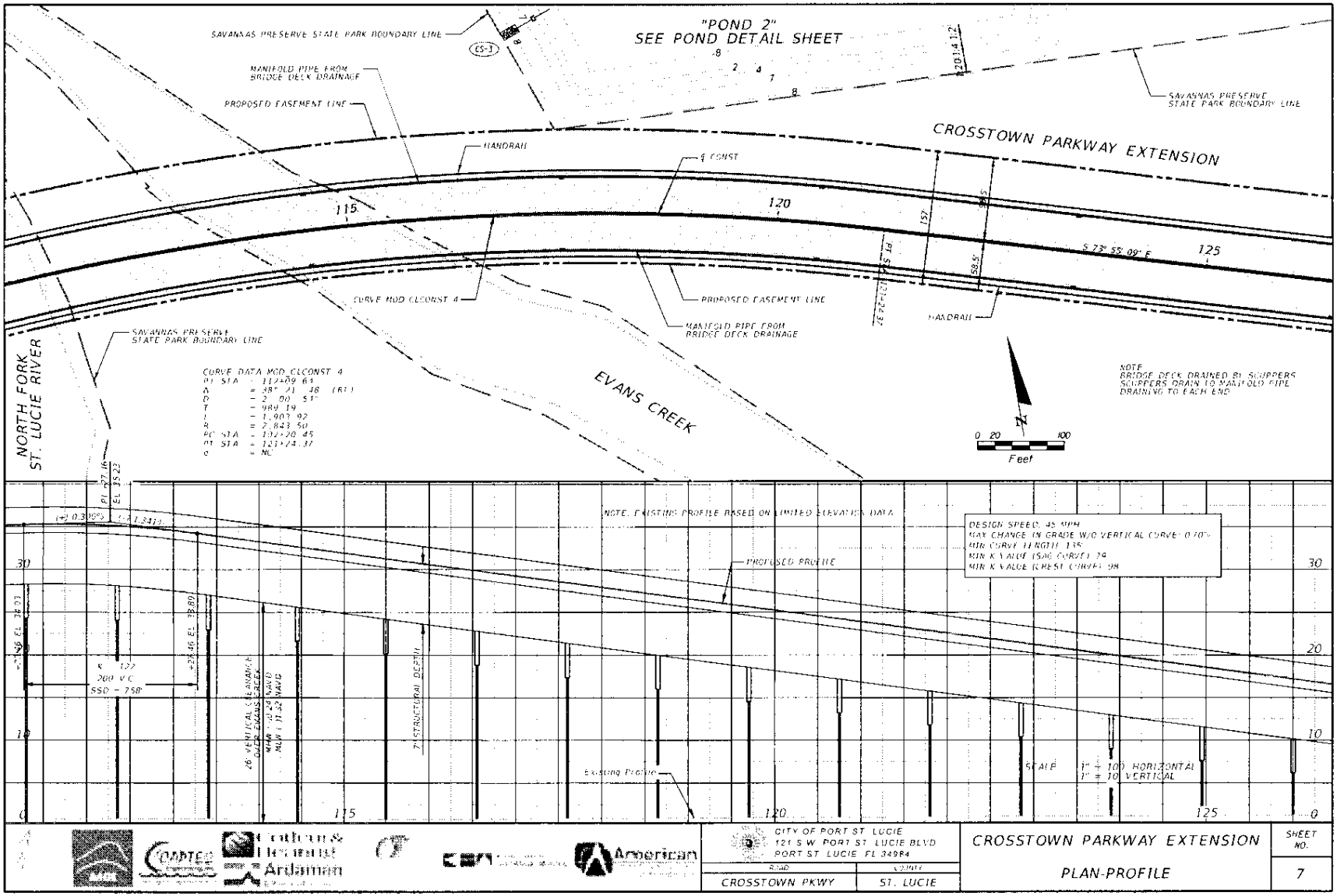
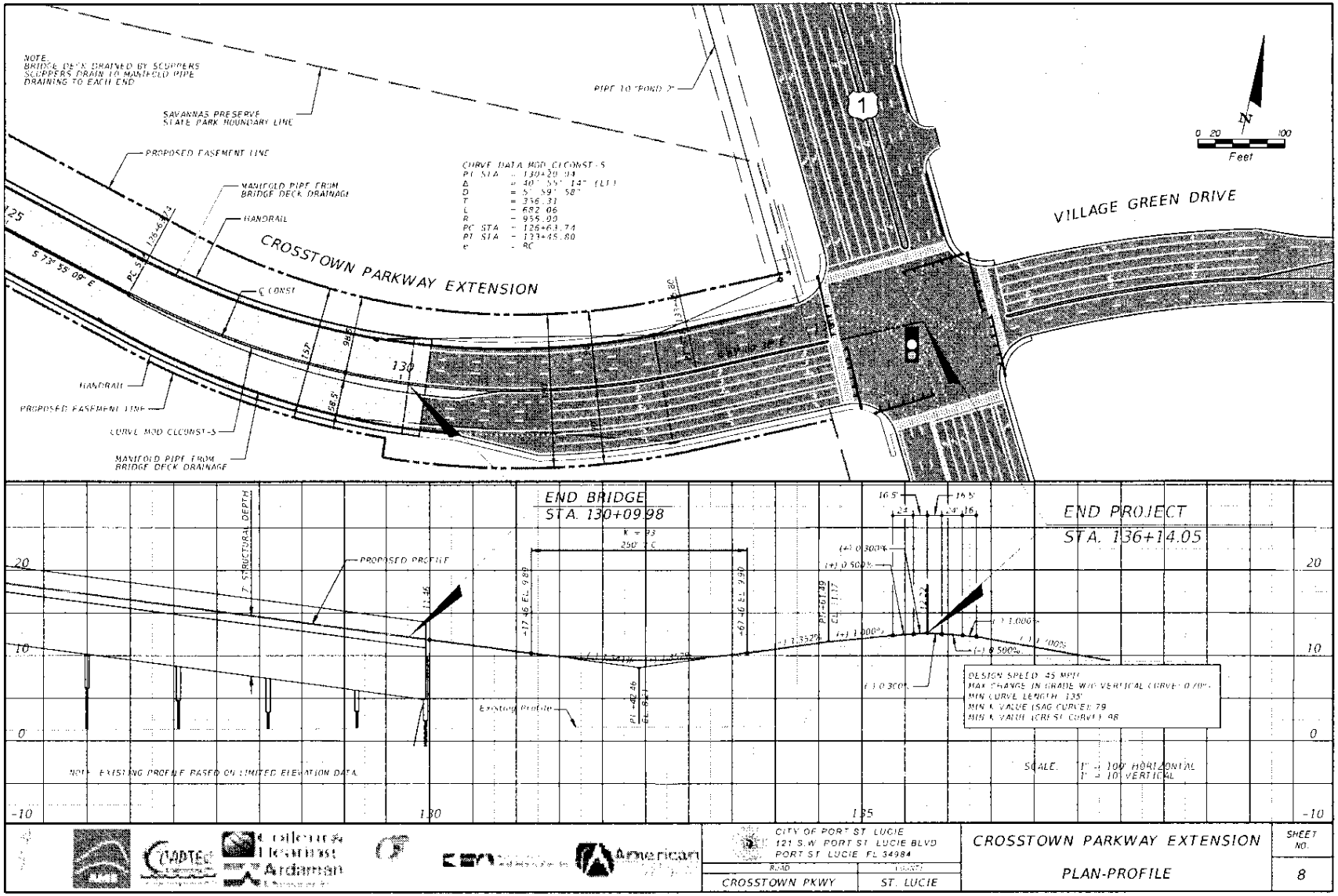
Δ 21° 58' 51" (LT)
D = 2° 45' 02"
T = 404.53
L = 799.12
R = 2,683.00
PC STA. = 84+29.62
PT STA = 92+28.74
e = NC
PROPOSED R/W LINE
SAVANNAS PRESERVE STATE PARK BOUNDARY LINE
NORTH CORAL REEF
CORAL REEF STREET
SHARED USE PATH UNDER BRIDGE
CROSSTOWN PARKWAY EXTENSION
WATERWAY
MANIFOLD PIPE FROM BRIDGE DECK DRAINAGE
PROPOSED EASEMENT LINE
HANDRAIL
℄ CONST
CURVE MOD CLCONST 3
N 67° 43' 02" E
0 20 100
Feet
NOTE: BRIDGE DECK DRAINED BY SCUPPERS SCUPPERS DRAIN TO MANIFOLD PIPE DRAINING TO EACH END
BEGIN BRIDGE
STA. 89+26.96
NOTE: EXISTING PROFILE BASED ON LIMITED ELEVATION DATA
PROPOSED PROFILE
(+) 1.303%
(+) 0.300%
SSD = 1151'
X = 150
150 V.C.
Existing Profile
DESIGN SPEED: 45 MPH
MAX CHANGE IN GRADE W/O VERTICAL CURVE: 0.70%
MIN CURVE LENGTH: 135
MIN K VALUE (SAG CURVE): 79
MIN K VALUE (CREST CURVE): 90
SCALE 1" = 100' HORIZONTAL
1" = 10' VERTICAL
CITY OF PORT ST. LUCIE
121 S.W. PORT ST. LUCIE BLVD
PORT ST. LUCIE, FL 34984
ROAD
COUNTY
CROSSTOWN PKWY
ST. LUCIE
CROSSTOWN PARKWAY EXTENSION
PLAN-PROFILE
SHEET NO.
5



CITY OF PORT ST. LUCIE 121 S.W. PORT ST. LUCIE BLVD PORT ST. LUCIE, FL 34984	CROSSTOWN PARKWAY EXTENSION PLAN-PROFILE	SHEET NO. 6
ROAD: CROSSTOWN PKWY	COUNTY: ST. LUCIE	


"POND 2"
SEE POND DETAIL SHEET
SAVANNAS PRESERVE STATE PARK BOUNDARY LINE
MANIFOLD PIPE FROM BRIDGE DECK DRAINAGE
PROPOSED EASEMENT LINE
HANDRAIL
℄ CONST
CROSSTOWN PARKWAY EXTENSION
115
120
125
S 73° 55' 09" E
CURVE MOD CLCONST 4
NORTH FORK ST. LUCIE RIVER
EVANS CREEK
CURVE DATA MOD_CLCONST 4
NOTE
BRIDGE DECK DRAINED BY SCUPPERS
SCUPPERS DRAIN TO MANIFOLD PIPE DRAINING TO EACH END
0 20 100
Feet
NOTE: EXISTING PROFILE BASED ON LIMITED ELEVATION DATA
DESIGN SPEED: 45 MPH
MAX CHANGE IN GRADE W/O VERTICAL CURVE: 0.10%
MIN CURVE LENGTH: 135
MIN K VALUE (SAG CURVE): 79
MIN K VALUE (CREST CURVE): 98
PROPOSED PROFILE
Existing Profile
SCALE 1" = 100' HORIZONTAL
1" = 10' VERTICAL
CITY OF PORT ST. LUCIE
121 S.W. PORT ST. LUCIE BLVD
PORT ST. LUCIE, FL 34984
ROAD
CROSSTOWN PKWY
COUNTY
ST. LUCIE
CROSSTOWN PARKWAY EXTENSION
PLAN-PROFILE
SHEET NO.
7



CITY OF PORT ST. LUCIE 121 S.W. PORT ST. LUCIE BLVD PORT ST. LUCIE, FL 34984		CROSSTOWN PARKWAY EXTENSION	SHEET NO.
ROAD	COUNTY	PLAN-PROFILE	8
CROSSTOWN PKWY	ST. LUCIE		

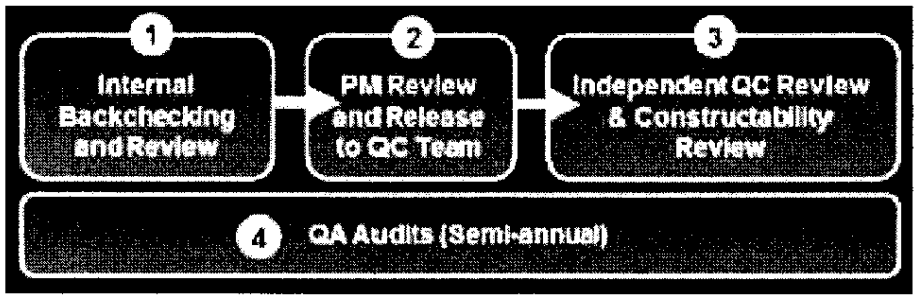
Plan for review within 10 days after receiving NTP. The plan will present the specific QC procedures to be used on this project and identify the specific staff to perform quality control reviews. We have prepared a draft plan based on the current Scope of Services.

American will be fully responsible for the quality of the work prepared by our staff and the work prepared by our subconsultants. Each of our subconsultants will be required to either have their own project specific QA/QC plan or follow our plan. American will perform QA reviews of all submittals prepared by our subconsultants to verify their QC procedures follow their QC plan and are adequate.

Proposed QA/QC Process

Our overall QC process will be overseen by Ryan Forrestel, PE. Ryan has 35 years of experience and is a senior engineer in our Wesley Chapel (Tampa) Office. He will perform quality control reviews on all submittals to the City. He will ensure adequate time and budget is allocated to perform appropriate QC reviews. Ryan has performed QC reviews on numerous widening projects over the last 10 years. He is currently managing the widening of SR 54 from two to four and six lanes in Pasco County and the widening of I-75 from four to six lanes in Collier County. Ryan will also perform QA audits of subconsultant submittals to verify the adequacies of their QC reviews. He is a senior Principal with American. Don Keenan, PE will review all structural elements of the project. Don has over 40 years of experience, including 33 years with FDOT and is a Principal with American. Jeff Novotny, PE, AICP, will review environmental and public involvement documentation. Jeff has 24 years of experience and is a Senior Principal with American. Constructability and Bidablility Reviews will be performed by Tom Muzicka, PE, who has 31 years of construction inspection experience.

We use a four-step QA/QC process throughout the duration of the project as illustrated in the following graphic. The four steps are summarized below.



Step 1 - Internal Backchecking and Review: As work is completed on an ongoing basis, Originators of the work are required to backcheck their own work to verify it is complete and accurate. Once the Originator is satisfied their work is complete, the Task Leader will review the work and will sign off on it with their initials. This backchecking and review is done daily. This ensures subsequent work is based on quality, accurate design and analysis.

Step 2 – Management Team Review and Release to QC Team: At phase submittals, our Deputy Project Manager, Chris O'Reilly, will review all plan sets for completeness. If the plans are complete, he will release the plans for independent review. If not, the plans will be sent back to the Task Leaders for corrective actions.

Step 3 - Internal QC Review and Constructability Review: Each deliverable to the City of Port St. Lucie will be reviewed by an appropriate independent senior staff member(s). To the greatest extent possible, reviews will be conducted by staff in remote offices. In all cases, staff reviewing deliverables ***have not*** been involved in the preparation of the work product. These reviews will be conducted prior to submittal to the City. Documents reviewed by the QC Team will be stamped with our official firm QC stamp and initialed in accordance with our QC Plan. Comments will be formally addressed by the design team. Reviewers will stay connected to the project through completion. Reviewers will include Ryan Forrestel, PE (Lead Reviewer, Roadway, 35 years of experience, Tracy Boutwell, PE (S&PM, 16 years of experience), Don Keenan, PE (Structures, 43 years of experience), Shelly Saunders, PE, (Drainage, 19 years of experience), and Tom Muzika, PE (Constructability, 31 years of experience).

Constructability reviews will be performed at Phase 2 and Phase 3 and will focus on consistency between component sets, identification of utility conflicts, and drainage verifying there is no work performed outside the ROW, plan clarity, non-onstructable elements, MOT, and equipment access and staging areas. Bidability Reviews will be performed at Phase 3 and Phase 4 and will focus on proper use of pay items, all work is covered by appropriate pay items, and pay item footnotes. Quantities will be checked using a four way checklist.

Step 4 - Semi-Annual QA Audits: In fall of 2006, American began a unique QA program on all active projects. Jim Cunningham has been conducting semi-annual QA audits, reviewing all projects. Jim conducted similar audits while working for FDOT in the Central Office. The QA audits focus on two aspects of a project – QC and Project Documentation. Each project is formally reviewed and measured against 38 criteria worth a maximum of 147 points. Jim reviews the completed score sheet with the project manager. During this meeting, Jim also discusses our QA/QC processes to identify any areas for improvement. Scores are compiled firm-wide and summarized in a report upon completion of each review cycle. The report also contains a summary of any issues arising during the reviews or issues identified by our project managers. The report is shared with senior managers and all principals. Upon completion of a review cycle, Jim reviews our QA/QC program, documents and makes recommendations for changes to our senior managers.

Checklists
We have compiled 172 pages of checklists for use on every project. The checklists cover design in all disciplines as well as plan production for each phase submittal of each component plan set. Checklists are initialized by Originators and Reviewers to indicate the checklist has been used. At the start of each project, the project manager identifies which checklist is to be used during the design and review process.

QC Procedures (Checking): All submittal items will be checked by our internal, independent review team prior to submission to District 1. Prior to checking, all submittal items shall be affixed with a check stamp (either rubber-stamped or computer generated) on each sheet. The originator, checker and backchecker are provided a place to sign and date to indicate that the intended function has been completed.

For multi-page documents and design computations such as written reports, specifications, permitting documents, the stamp may be affixed to the front page only. The stamp shall also provide for identification of the purpose of review; i.e., horizontal alignment, vertical alignment, or 30% submittal.

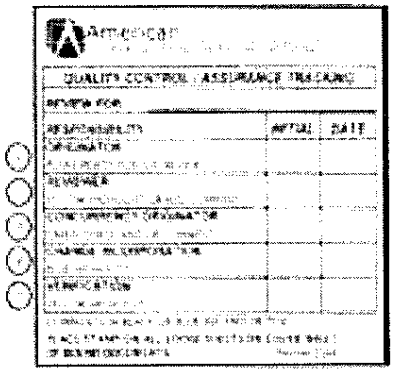
1. *Originator – The originator is the lead technical professional or designer. The originator makes sure the plans are completed and has done their own review before QC begins.*

2. *Reviewer – The reviewer performs detailed checking. The reviewer will highlight all correct information in yellow and mark any changes or corrections in red. The reviewer is also to check for incorporation of review comments and responses.*

3. *Concurrency Originator – The originator will review all proposed changes or corrections and mark them with a green check mark when they agree. The originator may make additional comments in green if they disagree with the reviewer.*

4. *Change Incorporation – The support staff makes all changes or corrections. Each change or correction is highlighted in blue as they are made.*

5. *Change Verification – The reviewer or the originator will review the changes or corrections made by the support staff. The reviewer or the originator will highlight all correctly made changes or corrections in yellow.*



QC of Subconsultant Work Efforts: Each subconsultant will be required to submit a QA/QC Plan to our project manager at the start of this project. The subconsultant's plan will be reviewed for completeness. As submittals are provided to us, we will require the subconsultant to submit copies of their QC'd documents. We will conduct an audit of the submittal to ensure they follow their QC plan. Appropriate American staff will also review the work submitted by our subconsultants.

QC and Project Documentation: Within our Port St. Lucie office, we will file all project documentation as well as in-house review sets of plans, design calculations, quantity computations, reports, and specifications. All files will also be stored electronically and access will be provided to City staff. Filing is to be performed in accordance with American's standard filing codes. The project files will include separate file folders for QC documents (QA/QC Plan, QC sets of plans, etc.). This file will have a log of QA/QC items that have been completed. This log will contain as a minimum: Item of work completed, Originator, Checker and Backchecker.

We have established strict guidelines on project documentation. Hardcopies of all design analyses are printed for filing in the central project files. All design analyses include the name of the project, project number, date, initials of the originator and reviewer. All design analyses shall be reviewed prior to filing. Examples of design analyses to be printed, reviewed and filed include, but not limited to:

Horizontal alignment	Geotechnical results	Pond design calculations
Vertical alignment	Structural calculations	Noise wall analysis
Determination of SHWE	Drainage basin delineations	Quantity calculations

To facilitate QA/QC reviews of this project, American will initiate a "Project Design Documentation" file at the onset of work.

The purpose of the Project Design Documentation is to set forth a clear understanding of project objectives, design criteria, and procedural approaches. This document confirms that American is in conformance with the City's objectives. The Project Design Documentation will be kept in a three ring binder. The project design documentation will be updated as additional criteria are established during the project and will also serve as the basis for reports, design analyses, and plan preparation. The design documentation will include the following items:

Design Standards used for the project	Calculations for drainage & structures
Geometric design calculations for horizontal and vertical alignments	Documentation of decisions resulting from meetings, telephone conversations or site visits
Noise wall analysis	Final quantities list

Project Schedule Impacts of a Poor Quality Submittal: We understand that quality may conflict with meeting schedule commitments and that poor quality work will eventually result in a project delay. American will never compromise quality to meet a schedule. If a quality issue arises, we will correct the issue immediately to ensure we meet both quality and schedule objectives through the addition of resources to the team.

EIS COMMITMENTS: The following are the EIS commitments that will be met and addressed during the design phase:

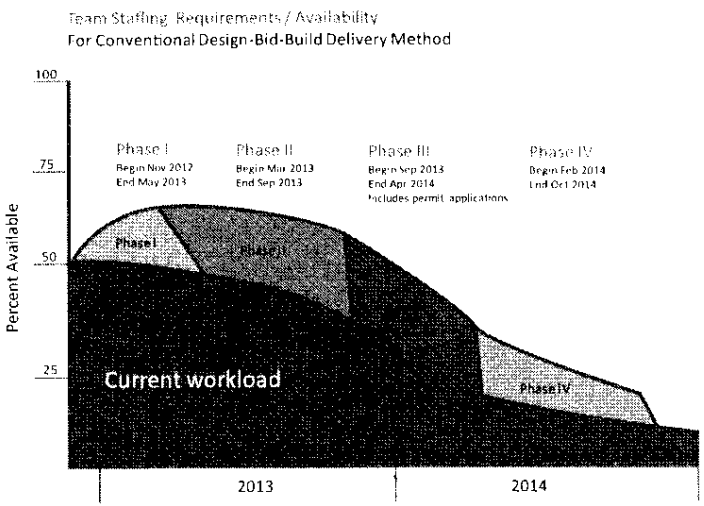
- Address visual impacts of the bridge
- Coordination with the USCG
- Vertical clearance over the NFSLR will meet or exceed that provided at Port St. Lucie Blvd.
- Orient bridge piers to avoid restriction of water movement and maximize the river's hydraulic section.
- Use the latest edition of FDOT's standard specifications
- Minimize traffic delays and maintain access to all businesses and residences during construction
- Continue bicycle and pedestrian facilities from Manth Lane to US-1.
- Provide a multi-use path along both sides of the parkway
- Landscaping within the ROW will be incorporated where space and safety allow.
- A new signalized crosswalk will be constructed at Floresta Drive.
- Provide ADA compliant bus bays for a future transit route
- Appraisals are to conform with federal and state regulations
- Acquired properties after federalization will retroactively meet federal requirements
- A ROW and relocation program will be in accordance with federal and state requirements
- The stormwater management design will include 150% of the required water quality treatment volume
- A SWPPP will be provided as required by FDEP
- Prevent silt-laden construction runoff from leaving the construction site
- Conduct surveys for protected species prior to construction as required by regulatory agencies
- Perform a fisheries survey of the project area to ascertain the presence of mangrove rivulus.
- Perform a site-specific bald eagle nest survey in coordination with the USFWS and the FWC
- Perform a site survey for gopher within 25 feet of any other construction-related activity
- Perform a site survey to determine if Florida pine snakes are present
- Perform a site survey to determine if gopher frogs are present
- Continually avoid and minimize impacts to Essential Fish Habitat where possible
- "Sea Turtle and Smalltooth Sawfish Construction Conditions" will be followed
- Coordinate with the National Marine Fisheries Service for the preparation of Essential Fish Habitat Conservation Recommendations
- Follow the USFWS guidance for protection of the Eastern Indigo Snake
- Standard manatee protection measures will be enforced during bridge construction.
- Specialized geotechnical equipment will be used in sensitive areas to minimize impacts of drilling rigs
- A detailed compensatory mitigation plan will be developed to compensate for unavoidable impacts.
- The mitigation plan will address the loss of any wood stork core foraging area.
- The mitigation measures and other provisions described in the Memorandum of Understanding dated April 26, 2010, and the Memorandum of Agreement dated July 27, 2010, will be employed.
- Construction will avoid and minimize potential impacts to environmentally-sensitive resources.
- If necessary, control vibration at vibration sensitive sites
- A noise study will be performed to analyze noise abatement

8 FIRM COMMITMENT AND AGREEMENTS

Commitment of Key Staff

As a Project Team, we bring a depth of experience, quality of expertise, personnel / technical resources, and quality control commitment that will best serve the City on this important project. With over 1,700 qualified professionals and support staff to draw on, our team has the depth and expertise required to address all facets of this project.

Many of our team members have been involved with the environmental, design, survey and geotechnical services on several segments of the Crosstown Parkway, making us very well suited with no learning curve.



Our involvement with the planning and environmental phases provides us a solid understanding of the coordination challenges the project will face. By serving in supporting roles during the EIS process for the river crossing, rather than leading, our team can bring a fresh approach during the design phase without jeopardizing the integrity of the process for this final segment of the Crosstown Parkway.

Budget vs Cost A comparison of the most recent project cost estimate and current available funding results in a reduced funding shortfall of $4 million. The cost of the engineering, ROW acquisition,

construction and construction inspection services is estimated to be $123.5 million. A reduction of $4 million to get the project within the current budget represents about 3 percent. We believe this is achievable by minimizing ROW where possible and allowing the contracting community to offer their most cost effective means and methods. Federal funding for ROW is currently programmed for FY 13/14 and FHWA construction funds are programmed for FY 15/16.

Critical Path Multiple schedules have been developed based on various construction delivery strategies. In all cases, the critical path passes through the issuance of the Record of Decision (ROD), acquisition of the ROW, permitting, and construction of the bridge over the preserve. Focus must remain on these critical path items to ensure the schedule does not slip.

Schedule

American developed three detailed master schedules for the project. All three schedules have segregated the project into two segments to show how each segment might move forward and how plans preparation, permitting and ROW impact the construction of each segment. The first segment begins at SE Manth Lane and ends just west of SE Floresta Drive and includes the pond on the corner of Floresta Drive and Crosstown Parkway. The second segment begins just west of Floresta Drive and ends east of US-1 and includes the improvements to the US-1 intersection.

Our first schedule assumes a CM team is hired following the completion of the 30% plans under a Phase 1 contract. It then assumes the CM comes to an agreement with the City on a guaranteed maximum price following the completion of the 59% plans and proceeds under a Phase 2 contract. Our second schedule assumes the project goes forward as DB following the completion of the 59% plans. Our third schedule assumes the project proceeds as a convention design-bid-build project.

All three schedules show the following key milestones:

- November 30, 2012 - Design team begins survey, mapping and geotechnical exploration tasks upon assurance of the NTP. However, it is assumed exploration in the preserve will begin once the trustees approve the easement.
- March 25, 2013 - Completion of the parcel sketches and legal descriptions being complete by March 25, 2013 - All schedules also show geotechnical exploration beginning at NTP.
- July 1, 2013 - The earliest the ROW acquisition tasks can begin to reflect when funding has been programmed.
- July 20, 2015 - The earliest construction of the segment from Floresta Drive to US-1 is allowed to begin which reflects funding constraints. However, we allowed the segment from Manth Lane to Floresta Drive to begin as early as the schedule allows assuming the City may wish to proceed with this segment using local funds. The schedules for the other phases have been scheduled based on early start dates.

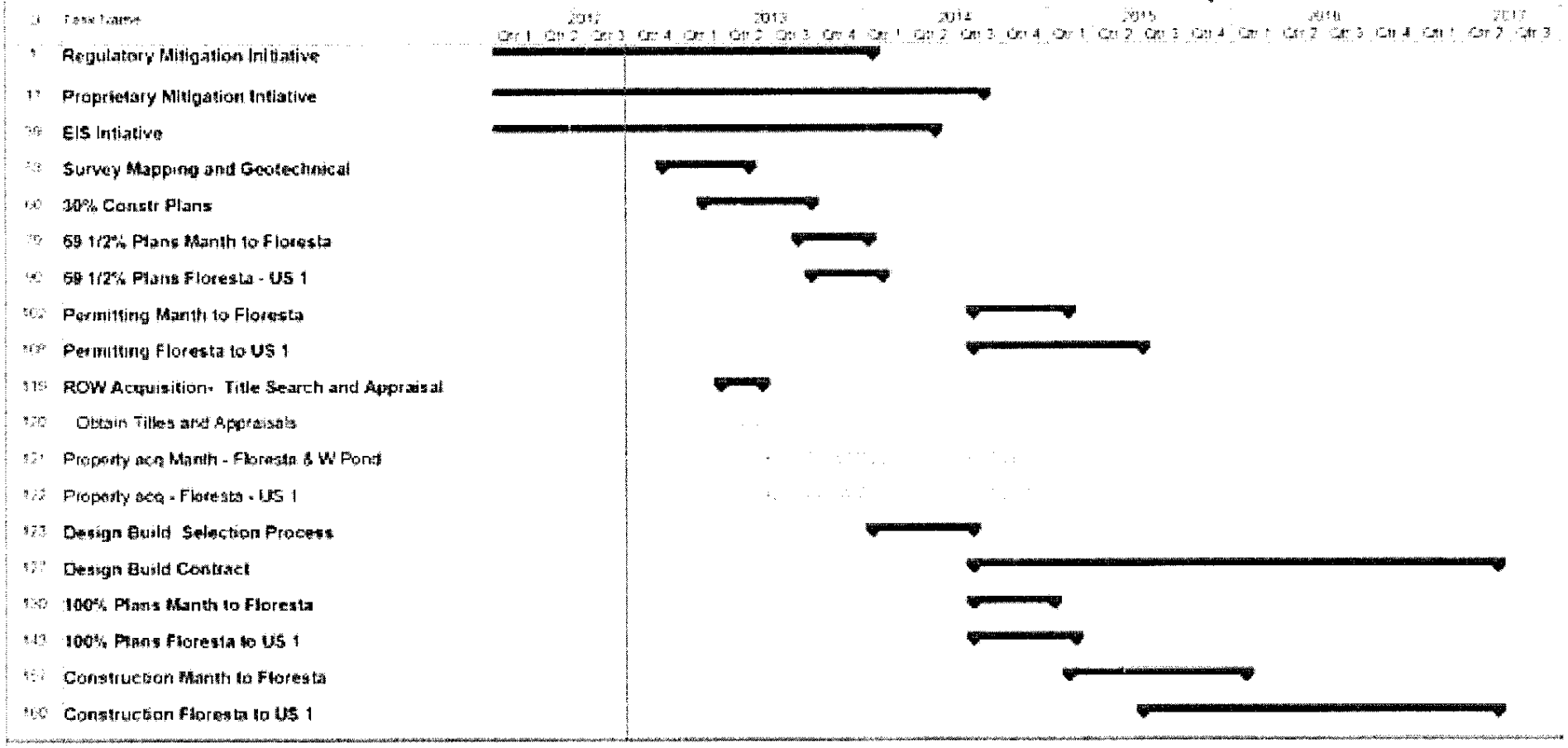
CM at Risk: Should the City pursue a phased CM at Risk approach, the final design and permitting activities will not fall on the critical path provided the City can convince FDOT/FHWA to allow them to proceed with the CM Phase 1 services immediately following the development of the 30% plans and the issuance of the ROD, and to negotiate Phase 2 prior to the ROW being fully acquired. MAP-21 provides this strategy as a viable alternative. FHWA will be providing more detailed direction in October with the guidelines associated with this delivery method which are expected to be published in early 2013. Current direction from FHWA to agencies concerning the process prior to the issuance of guidelines is to submit a SEP-14 work plan based on previous initiatives; FHWA will expedite review. Our team will prepare the SEP-14 plan and develop the phased CM at Risk criteria package. Phase 1 CM services and development of 59% plans will proceed in tandem. Should a final GMP contract be approved, our team will proceed with final design and permitting once authorized to do so.

DB: Should the City choose to not pursue the CM delivery process or fail to negotiate a GMP, our team will complete the 59% plans and prepare the DB criteria package for selection of a DB team prior to completion of ROW acquisition. Depending on the status of the ROW acquisition, the City may want to phase the construction allowing for the early construction of the western segment to Floresta Drive. Either way, once the selection of the DB team is approved, the preparation of the final design plans and permit applications will become critical path activities. Should the City allow our team to prepare and submit the permits, they could be included in the design criteria package and be removed from the critical path. Our team will work closely with the DB team to ensure the plans accurately reflect the DB team's proposal and ensure suggested permit modifications are consistent with the commitments from state and federal agencies. Whether the City pursues CM or DB, the permits need to be in hand prior to construction funding availability.

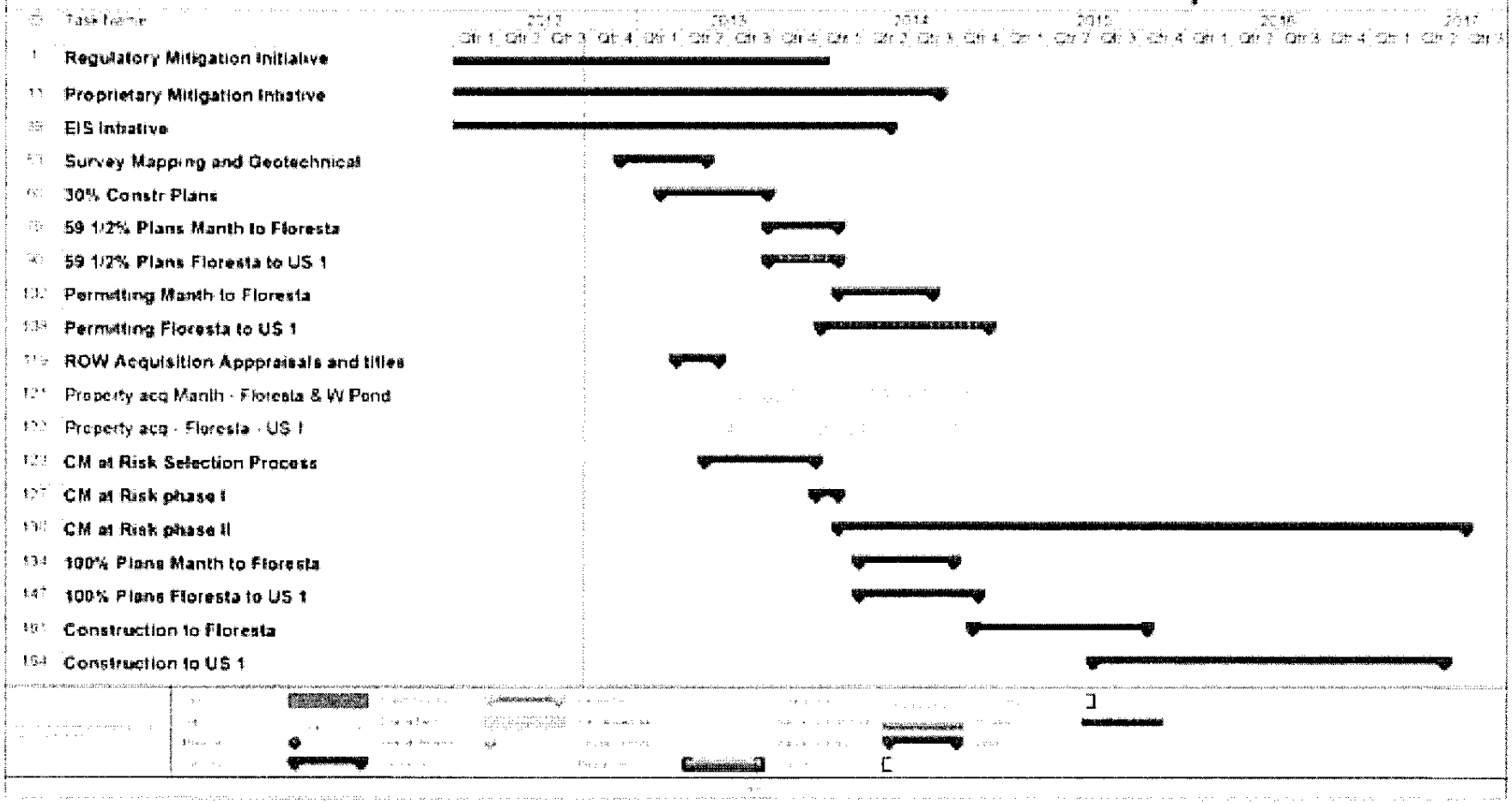
Conventional Design-Bid-Build: The schedule associated with this conventional approach is similar with the CM at Risk schedule, however our design team will not wait for the CM to come on board to proceed with 59% design after the 30% plans are approved. Our design team will also not wait for the CM to negotiate a GMP after the 59% plans are completed to proceed with 100% plans. The schedule shows a 90-day period between ROW being fully acquired and permits in hand to account for the bid and award process for the construction contract(s).

Oversight of Master Schedule: The integration of the multiple mitigation initiatives, property acquisitions, numerous permit applications, and roadway and bridge plans preparation are interdependent on one another with several critical paths to completion. The team included all these tasks into the master schedule. We propose to provide the City oversight of the master schedules thus ensuring all members of the City's team are on the same page throughout the duration of this design, permitting, ROW acquisition, and construction effort. We look forward to discussing the details of the master schedules associated with the alternate processes the City is considering during the question and answer session. Critical Milestones for each of the three schedules include:

Crosstown Master Schedule -- D/B after 59 percent

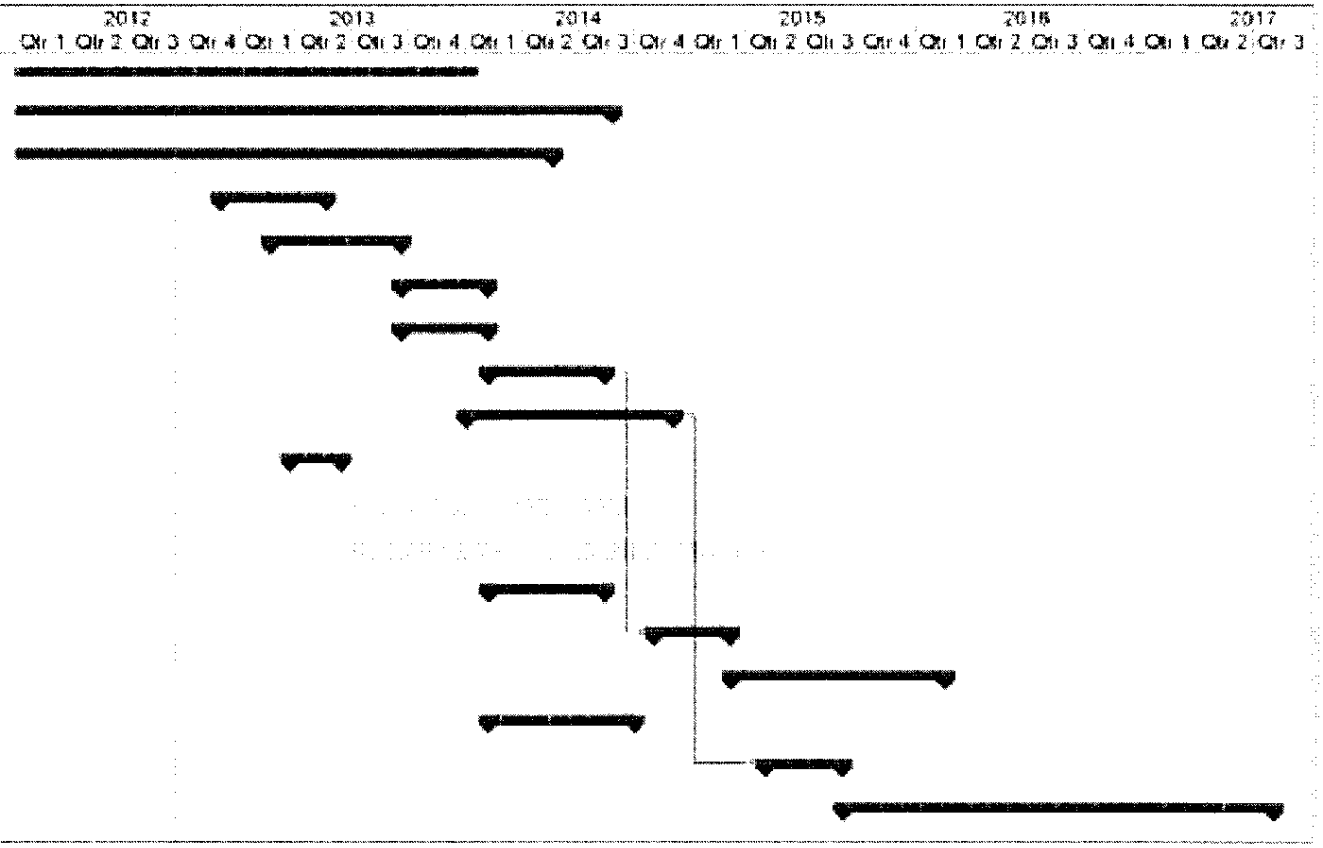


Crosstown Master Schedule -- CM after 30 percent



Crosstown Master Schedule -- Design Bid Build

ID	Task Name
1	
11	**Proprietary Mitigation Intiative**
39	**EIS Intiative**
53	**Survey Mapping and Geotechnical**
60	**30% Constr Plans**
79	**59 1/2% Plans Manth to Floresta**
90	**59 1/2% Plans Floresta to US 1**
102	**Permitting Manth to Floresta**
108	**Permitting Floresta to US 1**
119	**ROW Acquisition Appprailsals and tilles**
121	Property acq Manth - Floresta & W Pond
122	Property acq - Floresta - US 1
123	**100% Plans Manth to Floresta**
136	**Bid and Award Contr Manth to Floresta**
139	**Construction to Floresta**
142	**100% Plans Floresta to US 1**
156	**Bid and Award Contr Floresta to US 1**
159	**Construction to US 1**



	CM after 30%	DB after 59%	Design-Bid-Build
Authorization 1			
Begin survey and mapping	Nov 2012	Nov 2012	Nov 2012
Completion of parcel sketches	Mar 2013	Mar 2013	Mar 2013
Begin ROW acquisition process	Mar 2013	Mar 2013	Mar 2013
Access to Preserve	Jan 2013	Jan 2013	Jan 2013
ROW Acq Complete Manth to Floresta	Oct 2014	Oct 2014	Oct 2014
ROW Acq Complete Floresta to US-1	May 2015	May 2015	May 2015
Authorization 2			
Refinement of alignment and typicals	Mar 2013	Mar 2013	Mar 2013
ROD	Mar 2013	Mar 2013	Mar 2013
Prepare 30% roadway design plans	Feb 2013	Feb 2013	Feb 2013
Prepare CM criteria package	May 2013		
Draft BDR complete	Aug 2013	Aug 2013	Aug 2013
30 percent plans complete	Sep 2013	Sep 2013	Sep 2013
Selection of CM	Dec 2013		
Authorization 3			
Begin preparation of 59% plans	Sep 2013	Sep 2013	Sep 2013
59% Plans Complete	Feb 2014	Feb 2014	Feb 2014
Finalize GMP	Feb 2014		
Prepare DB Criteria Package		Jan 2014	
Selection of DB Team		Aug 2014**	
Prepare permit packages	Feb 2014	Aug 2014	Feb 2014
Acquire permits Manth to Floresta	Aug 2014	Feb 2015	Aug 2014
Acquire permits Floresta to US-1	Nov 2014	May 2015	Nov 2014
Authorization 4			
Preparation of 90 & 100% plans	Mar 2014	Aug 2014	Feb 2014
Complete final plans Manth to Floresta	Sep 2014	Jan 2015	Aug 2014
Complete final plans Floresta to US-1	Nov 2014	Feb 2015	Oct 2014
Commence constr Manth to Floresta	Nov 2014***	Feb 2015***	Mar 2015*
Commence constr Floresta to US-1	Jul 2015	Jul 2015	Sep 2015*
Complete Construction	May 2017	Jun 2017	Aug 2017

* Reflects bid process beginning after ROW and permits in place
** Assumes D/B contract can be awarded with NTP prior to ROW being clear

*** Construction could begin with 30 days of the ROW being clear, plans being complete and WMD permit received should the city choose to segregate the project and proceed to construct the segment west of Floresta using City funds

Yellow reflects critical path activities. Items underlined can be removed from critical path if design team prepares and submits permit packages.

9 DID PROPOSER ATTEND THE PROPOSAL MEETING?

Yes, several members of the American Team attended the pre-proposal meeting including:

- Brian Mirson, American Consulting Engineers of Florida, LLC
- Marcia Feldman, Kimley-Horn & Associates, Inc.
- Jason Matson, Kimley-Horn & Associates, Inc.
- Ken Jackson, Kimley-Horn & Associates, Inc.
- Joe Capra, CAPTEC
- Michael Kolodziejczyk, Culpepper & Terpening
- Dan Zrallack, Ardaman & Associates

10 DOES YOUR FIRM ACCEPT PAYMENT BY PCARD

Yes

11 IS YOUR FIRM CERTIFIED AS A MINORITY BUSINESS?

American Consulting Engineers of Florida, LLC is not a Minority Business, however, our team does include Minority Business Firms.

ADDENDUM ACKNOWLEDGMENT - Proposer acknowledges that the following addenda have been received and are included in his/her proposal:

Addendum Number	Date Issued
Addendum No. 1	September 5, 2012

CERTIFICATION:

This E-Bid is submitted by: Name (print) Brian Mirson who is an officer of the above firm duly authorized to sign proposals and enter into contracts. I certify that this E-Bid is made without prior understanding, agreement, or connection with any corporation, firm, or person submitting a proposal for the same materials, supplies, or equipment, and is in all respects fair and without collusion or fraud. I understand collusive bidding is a violation of State and Federal law and can result in fines, prison sentences, and civil damage awards. I agree to abide by all conditions of this E-Bid.

Signature _____ Title Principal

If a corporation renders this E-Bid, the corporate seal attested by the secretary shall be affixed below. Any agent signing this E-Bid shall attach to this form evidence of legal authority.

Witnesses:

_____

_____

_____

_____

If Partnership:

_____
Print Name of Firm

By: _____
(General Partner)

If Corporation:

_____
Print Name of Corporation

By: _____
(President)

Attest: _____
(Secretary)

If Individual:

_____
Signature

_____
Print Name

ARCHITECT – ENGINEER QUALIFICATIONS

PART I - CONTRACT-SPECIFIC QUALIFICATIONS

A. CONTRACT INFORMATION

1. TITLE AND LOCATION *(City and State)*
CROSSTOWN PARKWAY EXTENSION, MANTH TO US1
Port St. Lucie, Florida

2. PUBLIC NOTICE DATE	3. SOLICITATION OR PROJECT NUMBER
August 20, 2012	**20120061**

B. ARCHITECT-ENGINEER POINT OF CONTACT

4. NAME AND TITLE
Brian Mirson, PE, AICP, Principal-in-Charge

5. NAME OF FIRM
American Consulting Engineers of Florida, LLC

6. TELEPHONE NUMBER	7. FAX NUMBER	8. E-MAIL ADDRESS
(772) 403-5835	**(561) 253-9551**	**BMirson@acp-fl.com**

C. PROPOSED TEAM

(Complete this section for the prime contractor and all key subcontractors.)

	(Check) PRIME	J-V PARTNER	SUBCONTRACTOR	9. FIRM NAME	10. ADDRESS	11. ROLE IN THIS CONTRACT
a.	X			**American Consulting Engineers of Florida, LLC** ☒ CHECK IF BRANCH OFFICE	850 NW Federal Highway, St. 433 Stuart, FL 34994	Project Management, corridor master plan, criteria package, hydrologic studies, SWM (ponds) design, permitting, BDR, bridge superstructure design, signalization, lighting, QC
b.			X	**Kimley-Horne and Associates** ☐ CHECK IF BRANCH OFFICE	10521 SW Village Center Drive Suite 103 Port St. Lucie, FL 34987	Roadway plans, signing & marking plans (Floresta to US1), bridge substructure design, SWM conveyance system design
c.			X	**CAPTEC Engineering, Inc.** ☐ CHECK IF BRANCH OFFICE	301 NW Flagler Ave. Stuart, FL 34994	Roadway plans, signing & marking plans (Manth to Floresta), SWM conveyance system design
d.			X	**Culpepper Terpening, Inc.** ☐ CHECK IF BRANCH OFFICE	151 SW Flagler Avenue Stuart, FL 34994	Control survey, topographic survey, mapping, and utility coordination
e.			X	**Ardaman & Associates, Inc.** ☐ CHECK IF BRANCH OFFICE	460 NW Concourse Place, Unit #1 Port St. Lucie, FL 34986	Geotech (Floresta to US 1)
f.			X	**Andersen Andre Consulting Engineers, Inc.** ☐ CHECK IF BRANCH OFFICE	573 SW Biltmore Street Port St. Lucie, Florida 34983	Geotech (Manth to Floresta)

g.			X	**Cotleur & Hearing** ☐ CHECK IF BRANCH OFFICE	462 SW Port St. Lucie Blvd. Suite 113 Port St. Lucie, FL 34953	Landscape Architecture
h.			X	**Masuen Consulting LLC** ☐ CHECK IF BRANCH OFFICE	The Forum, Suite 710, 1655 Palm beach Lakes Boulevard, West Palm Beach, FL 33401	Irrigation Design
i.			X	**JCA Engineering, LLC** ☐ CHECK IF BRANCH OFFICE	8120 Pasadena Boulevard Pembroke Pines, Florida 33024	Bridge Construction Means and Methods
j.			X	**Currie Sowards Aguila Architects** ☐ CHECK IF BRANCH OFFICE	Delray Beach, FL	Bridge Aesthetics

D. ORGANIZATIONAL CHART OF PROPOSED TEAM ☒ *(Attached)*

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME	13. ROLE IN THIS CONTRACT	14. YEARS EXPERIENCE a. TOTAL	b. WITH CURRENT FIRM
William Adams, PE	**Stormwater Management/Hydrologic**	**16**	**8**

15. FIRM NAME AND LOCATION (City and State)

American Consulting Engineering of Florida, LLC, Stuart, FL

16. EDUCATION (DEGREE AND SPECIALIZATION)

Bachelors of Civil Engineering (BCE), Honors, Georgia Institute of Technology, 1996

17. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE)

Florida PE 57950 **Tennessee PE 113246**
Georgia PE 034258

18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations. Training, Awards, etc.)

William Adams has over 16 years of experience in design of civil engineering projects specializing in drainage, roadway, site, and utilities design. His diverse experience includes projects for various types of clients and this experience makes him qualified to meet the ever-changing needs of the individual client.

SOFTWARE SKILLS

Geopak	HEC-2	TDS	FORTRAN	Primavera Sure Track & P3	
MicroStation	HEC-RASHEC-1	RC4	AGTEK	WSPRO	
ICPR	HEC-5	XP-SWMM	HEC-HMS	ASAD	Inroads

19. RELEVANT PROJECTS

a.

(1) TITLE AND LOCATION (City and State)
Crosstown Parkway Corridor Extension
Port St. Lucie, Florida

(2) YEAR COMPLETED
PROFESSIONAL SERVICES: **2009**
CONSTRUCTION (If applicable):

(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE

☒ Check if project performed with current firm

Mr. Adams served as Senior Drainage Engineer directing all drainage and stormwater management design and analysis. This project represents the final segment in a new 10 mile parkway that was planned, designed and constructed by the City of Port St Lucie. This final eastern 1.5 mile segment between Math Lane and US 1 includes an elevated one mile causeway that crosses an environmentally sensitive state preserve. American was tasked with obtaining a conceptual environmental resource permit (ERP) from South Florida Water Management District (SFWMD) and an easement from Florida Department of Environmental Protection (FDEP) over state sovereign submerged lands and state park (aquatic preserve). Due to federal funding and an EIS underway, careful coordination with FHWA was necessary to ensure no action undertaken during this advanced permitting initiative compromises the EIS process in any way, including most importantly the selection of a preferred corridor. Specific work elements included: Wetland delineation for six alternate river crossing corridors and coordination with the SFWMD and ACOE, etc. regarding wetland line verification; Investigation and documentation of alternative methods of bridge construction to minimize impacts to wetlands and other sensitive environmental lands; Preparation of conceptual design plans for a "representative corridor" river crossing; Developing stormwater management concepts and drainage conceptual design; Coordination with DEP, SFWMD, etc. to develop potential mitigation strategies and enhancement projects for impacts to wetlands and other natural areas and Investigation of potential parcels for acquisition to offset future approval of an easement over the Savannas Preserve State Park and sovereign submerged lands within the Park.

b.

(1) TITLE AND LOCATION (City and State)
I-95/St. Lucie West Project Management
St. Lucie County, Florida

(2) YEAR COMPLETED
PROFESSIONAL SERVICES: **2007**
CONSTRUCTION (If applicable):

(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE

☒ Check if project performed with current firm

Mr. Adams served as the Senior Drainage Engineer leading all drainage design activities associated with the drainage design and permit applications for this project. American was selected to provide project management services for the construction of additional lanes on St. Lucie West Boulevard over I-95 in the City of Port St. Lucie. The project includes the widening of the existing roadway and structure as well as construction of a new structure over I-95, including realignment of the interchange ramps with construction of additional turn lanes, traffic signals and lighting.

c.

(1) TITLE AND LOCATION (City and State)
I-95/Becker Road Interchange Re-Design
St. Lucie County, Florida

(2) YEAR COMPLETED
PROFESSIONAL SERVICES: **2007**
CONSTRUCTION (If applicable):

(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE

☒ Check if project performed with current firm

Mr. Adams served as the Senior Drainage Engineer leading all drainage design activities associated with the drainage design and permit applications for this project. American was selected to provide design revision services for 1.3 miles of Becker Road and the I-95 Northbound and Southbound Exist Ramps. Services provided on this project include plan modification of the westbound direction of Becker Road at the intersection with Village Parkway. The new configuration will have dual left turn lanes, three thru lanes, and one right turn lane. The current design configuration only provides for a single left turn lane, three thru lanes and dual right lane. Additional design plans include roadway, structures, traffic, drainage, lighting, signalization and signing & marking.

d.

(1) TITLE AND LOCATION (City and State)
Improvements to Floresta Drive
Port St. Lucie, Florida

(2) YEAR COMPLETED
PROFESSIONAL SERVICES: **2007**
CONSTRUCTION (If applicable):

(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE

☒ Check if project performed with current firm

Mr. Adams served as the Senior Drainage Engineer leading all drainage design activities associated with the drainage design and permit applications for this project. American provided design services for widening the existing two-lane, undivided Floresta Drive to a four-lane divided roadway, primarily within the existing 80-ft right-of-way including property acquisition at intersections for auxiliary lanes. The location of the project was identified as being within the City of Port St Lucie, from the C-24 (Southbend) Canal to the Elkcam canal. SYNCHRO was used to analyze the alternatives, coordinate signals and provide signal timings at the interchange. The project also included minor lighting improvements and signalization upgrades. Additionally, American produced a 3-D animated fly through with narrative which effectively outlined the concepts of the proposed roadway improvements and changes.

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

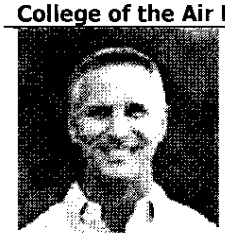
(Complete one Section E for each key person.)

12. NAME	13. ROLE IN THIS CONTRACT	14. YEARS EXPERIENCE	
		a. TOTAL	b. WITH CURRENT FIRM
Jeffrey C. Chase	**TCP/MOT/Roadway**	**25**	**21**

15. FIRM NAME AND LOCATION (City and State)

American Consulting Engineers of Florida, LLC, Stuart, FL

16. EDUCATION (DEGREE AND SPECIALIZATION)	17. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE)
Architecture & Architectural Design, University of Oklahoma **A.S. Industrial Arts & Aerospace Technology, Community College of the Air Force, 1986**	



18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations. Training, Awards, etc.)

Jeffrey Chase has over 25 years of experience involving civil engineering design and preparation of roadway and structural construction plans. He has computer-aided design and drafting (CADD) experience with various systems and design software including GEOPAK. His technical design experience includes application of standards and criteria for roadway design, certified traffic control plan designer, signing and pavement marking design, geometric calculations, roadway and structures computation books, design documentation, cost estimates, contract estimating system (LRE/PES), plans review, shop drawing review, certified DOT NET user, comment review, (ERC), Quality Assurance / Quality Control and CADD management.

19. RELEVANT PROJECTS

a.

(1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED	
Improvements to Floresta Drive **Port St. Lucie, Florida**	PROFESSIONAL SERVICES **2007**	CONSTRUCTION (If applicable)
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	☒ Check if project performed with current firm	

Mr. Chase served as Senior Designer for this project. American provided design services for widening the existing two-lane, undivided Floresta Drive to a four-lane divided roadway, primarily within the existing 80-ft right-of-way including property acquisition at intersections for auxiliary lanes. The location of the project was identified as being within the City of Port St Lucie, from the C-24 (Southbend) Canal to the Elkcam canal. SYNCHRO was used to analyze the alternatives, coordinate signals and provide signal timings at the interchange. The project also included minor lighting improvements and signalization upgrades. Additionally, American produced a 3-D animated fly through with narrative which effectively outlined the concepts of the proposed roadway improvements and changes.

b.

(1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED	
I-95/Becker Road Interchange Re-Design **St. Lucie County, Florida**	PROFESSIONAL SERVICES **2007**	CONSTRUCTION (If applicable)
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	☒ Check if project performed with current firm	

Mr. Chase provided Design services for this project. American was selected to provide design revision services for 1.3 miles of Becker Road and the I-95 Northbound and Southbound Exist Ramps. Services provided on this project include plan modification of the westbound direction of Becker Road at the intersection with Village Parkway. The new configuration will have dual left turn lanes, three thru lanes, and one right turn lane. The current design configuration only provides for a single left turn lane, three thru lanes and dual right lane. Additional design plans include roadway, structures, traffic, drainage, lighting, signalization and signing and marking.

c.

(1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED	
Green River Parkway Alternatives Re-evaluation **Martin County, Florida**	PROFESSIONAL SERVICES **2002**	CONSTRUCTION (If applicable)
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	☒ Check if project performed with current firm	

Mr. Chase serves as Senior Designer for the project. American was responsible for evaluating alternative alignments and associated environmental impacts for two miles of new roadway along the Green River Parkway corridor. The report refined the selected alternative from a previous study, taking into account environmental and community concerns, including traffic, right of way, and environmental impacts. Two refined alignments and typical sections were analyzed in consideration of existing issues and the ability to mitigate impacts caused by the new corridor.

d.

(1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED	
Gatlin Blvd/Tradition Parkway Interchange On/Off-Ramp and Signalization Improvements, Port St Lucie, Florida	PROFESSIONAL SERVICES **2007**	CONSTRUCTION (If applicable)
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	☒ Check if project performed with current firm	

Mr. Chase served as Senior Designer for this project. American conducted a study for the City of Port St. Lucie to assist them in choosing the appropriate interchange improvements of Gatlin Boulevard and State Road 9 (I-95). American provided data and analyses that aided the City in evaluating alternative design improvements. The study provided analysis and recommendations for the projected future years to maintain acceptable Levels of Service "E" as adopted by the City as well as improvements to operation along the ramps.

e.

(1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED	
West Virginia Corridor Segment 3 (Bridge Over Florida's Turnpike), Port St. Lucie, Florida	PROFESSIONAL SERVICES **2005**	CONSTRUCTION (If applicable
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	☒ Check if project performed with current firm	

Mr. Chase served as a Senior Designer responsible for the design and preparation of roadway plans for this project. The scope included field survey, design permitting, construction inspection and certification services for stormwater, bridge, and roadway improvements. This project also included a four-lane divided roadway section and a six-lane bridge section from Avila Street (just west of Cashmere Boulevard) spanning Florida's Turnpike and Macedo Drive to Empire Street.

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME	13. ROLE IN THIS CONTRACT	14. YEARS EXPERIENCE a. TOTAL	b. WITH CURRENT FIRM
Ryan Forrestel, PE	**QA/QC - Roadway**	**35**	**12**

15. FIRM NAME AND LOCATION (City and State)

American Consulting Professionals, LLC, West Palm Beach, FL

16. EDUCATION (DEGREE AND SPECIALIZATION)	17. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE)
Master of Science / Civil Engineering / Transportation **Bachelor of Science / Civil Engineering / Transportation**	**Professional Engineer - Florida / New York / Michigan**

18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)

Ryan Forrestel, a principal in the firm, has over 34 years experience in the project management and engineering of major highway design, site design and traffic engineering projects. These projects range in size from small to high-profile, multimillion-dollar projects for state agencies, municipalities and counties throughout the United States. The successful completion of these projects have required a broad range of knowledge in highway and local street design, the design of rural and urban facilities, reconstruction projects, resurfacing, restoration and rehabilitation (RRR) improvements and corridor studies. Mr. Forrestel's site/civil project experience includes office parks and facilities, commercial development, and landfills. His traffic engineering experience includes preparation of traffic studies, signal plans and signing and marking plans.

CONTINUING EDUCATION: Project Management Certification Program 2006; FDOT Design Conference, 2004, 2002, 2000, 1996; FDOT: Mutual Gains Approach to Negotiations, 2002; FES: Advanced Work Zone Traffic Control, 2002 & 2006; FDOT Specifications Training, 2001; FDOT/FICE: "Excellence & Quality in Project Management "A Program for Production Enhancement, Modules I-IV

PROFESSIONAL AFFILIATIONS: Florida Institute of Consulting Engineers (FICE), since 1998; American Society of Civil Engineers (ASCE), since 1976; American Society of Highway Engineers (ASHE), since 2001

AWARDS: Davis Productivity Award, 2002; FDOT Standard Scope and Staff Hour Estimation Task Team

COMMITTEES: FDOT/FICE Production Committee; FDOT/FICE Transportation Sub-committee

19. RELEVANT PROJECTS

a.

(1) TITLE AND LOCATION (City and State)
Crosstown Parkway Segment 3 (Bridge Over Florida's Turnpike), Port St. Lucie, Florida

(2) YEAR COMPLETED
PROFESSIONAL SERVICES **2005**
CONSTRUCTION (If applicable) **2007**

(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE

☒ Check if project performed with current firm

Mr. Forrestel was the QA/QC manager for this project. The scope included field survey, design permitting, construction inspection and certification services for stormwater, bridge, and roadway improvements. This project also included a four-lane divided roadway section and a six-lane bridge section from Avila Street (just west of Cashmere Boulevard) spanning Florida's Turnpike and Macedo Drive to Empire Street.

b.

(1) TITLE AND LOCATION (City and State)
Traffic Engineering and Parking Services Palm Beach County, Florida

(2) YEAR COMPLETED
PROFESSIONAL SERVICES **2007**

(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE

☒ Check if project performed with current firm

American was selected to conduct this PD&E study and design to evaluate the alternatives for widening approximately 3.7 miles of the Florida's Turnpike from six to eight lanes. These improvements provide for the milling, resurfacing, and widening of the Turnpike, geometric revisions to the Griffin Road Interchange, replacement of the Sheridan Street overpass bridge, revisions to signing and pavement markings, lighting, retaining walls, noise walls and drainage design. Extensive utility coordination was required in areas of new bridge construction, drainage, and retaining wall placement in areas involving several high pressure gas transmission lines. Permits were obtained from the South Florida Water Management District. A State Environmental Impact Report (SEIR) was prepared and approved by the Turnpike.

c.

(1) TITLE AND LOCATION (City and State)
SR 80, Forest Hill Boulevard to 105th Avenue, Palm Beach County, Florida

(2) YEAR COMPLETED
PROFESSIONAL SERVICES **2003**
CONSTRUCTION (If applicable) **2005**

(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE

☒ Check if project performed with current firm

Mr. Forrestel provided QC reviews on the project. This project included reconstruction and widening of a four-lane divided and five lane undivided roadway to a six and eight-lane divided roadway. The project included signalization, signing and pavement marking, lighting, landscaping, and a complete drainage system with retention ponds. Joint use ponds were developed with the Village of Royal Palm Beach. Off-site remote ponds were also used to minimize land costs. A permit was obtained from South Florida Water Management District.

e.

(1) TITLE AND LOCATION (City and State)
SR-714 (Monterey Road); Palm City Road To East of CR A1A Stuart, Florida

(2) YEAR COMPLETED
PROFESSIONAL SERVICES **2005**

(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE

☒ Check if project performed with current firm

American provided 3R improvements including roadway and intersection design, surveys, drainage, signing and pavement marking, signalization, utility coordination, maintenance of traffic, cost estimates, environmental permits, and quantity computation booklets.

f.

(1) TITLE AND LOCATION (City and State)
General Consultant for Plans Review and Design Support Services, FDOT District 4, Florida

(2) YEAR COMPLETED
PROFESSIONAL SERVICES **Ongoing**
CONSTRUCTION (If applicable)

(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE

☒ Check if project performed with current firm

This is a district-wide general services contract to conduct constructability, biddability, and quality control reviews related to transportation facilities for the Department. The reviews include roadway and bridge design projects, highway and bridge rehabilitation projects, resurfacing projects, and other public transportation projects. Minor roadway and landscaping design task work orders have also been assigned under this contract.

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME	13. ROLE IN THIS CONTRACT	14. YEARS EXPERIENCE a. TOTAL	b. WITH CURRENT FIRM
Richard Hunter, PE	**Bridge Design**	**20**	**12**

15. FIRM NAME AND LOCATION (City and State)

American Consulting Engineers of Florida, LLC, Stuart, FL

16. EDUCATION (DEGREE AND SPECIALIZATION)	17. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE)
Master of Science / Structural Engineering **Bachelor of Science / Aerospace Engineering**	**Florida / Georgia / Michigan/ Professional Engineer**

18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)

Richard Hunter has over 20 years of structural experience - including a decade with the FDOT in District 7. While working as a Structures Design Engineer, Mr. Hunter designed numerous bridges and miscellaneous structures. In addition, his responsibilities have included the production and coordination of calculations and plans, the development of scopes and man-hour estimates, and the review of consultant plans, shop drawings, and reports. For the last 4 years, he has worked in the consultant industry where he has been responsible for leading structural design projects on more than 9 bridges.

SOFTWARE SKILLS

Mathcad	Microstation	ATLAS	Conspan RC-Pier	PIER	SmartBridge SA
Merlin-Dash	BDGS	BASIC	Fortran	Pascal	Georgia Skew

19. RELEVANT PROJECTS

a.

(1) TITLE AND LOCATION (City and State)
Crosstown Parkway
Port St. Lucie, FL

(2) YEAR COMPLETED
PROFESSIONAL SERVICES: **2008**
CONSTRUCTION (If applicable):

(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE
☒ Check if project performed with current firm

Mr. Hunter served as Senior Structural Engineer on this project which consisted of a typical section along with a complete palette of materials conveying the community image was developed for this new ten mile corridor upgrading a local two lane roadway into a six lane urban arterial through a residential neighborhood. The typical section developed with community assistance provided landscaped buffers, multipurpose trails pedestrian lighting and bike lanes. Pond sites where converted into recreational areas with pedestrian amenities surrounding them.

b.

(1) TITLE AND LOCATION (City and State)
Turnpike Mainline Widening, North of Johnson St To Griffin Rd. Broward County

(2) YEAR COMPLETED
PROFESSIONAL SERVICES: **2008**
CONSTRUCTION (If applicable):

(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE
☒ Check if project performed with current firm

Mr. Hunter served as Senior Structural Engineer on this project to conduct and PD&E study and design to evaluate the alternatives for widening approximately 3.7 miles of the Florida's Turnpike from six to eight lanes. These improvements provide for the milling, resurfacing, and widening of the Turnpike, geometric revisions to the Griffin Road Interchange, replacement of the Sheridan Street overpass bridge, revisions to signing and pavement markings, lighting, retaining walls, noise walls and drainage design. Extensive utility coordination was required in areas of new bridge construction, drainage, and retaining wall placement in areas involving several high pressure gas transmission lines. Permits were obtained from the South Florida Water Management District. A State Environmental Impact Report (SEIR) was prepared and approved by the Turnpike.

c.

(1) TITLE AND LOCATION (City and State)
SR76 (Kanner Hwy) PD&E Study, west of CR 711 to east of Cove Road, Martin County

(2) YEAR COMPLETED
PROFESSIONAL SERVICES: **2011**
CONSTRUCTION (If applicable):

(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE
☒ Check if project performed with current firm

Mr. Hunter served as Senior Structural Engineer for this project that extends from west of CR 711 to east of Cove Road, approximately 2.4 miles in length and includes the I-95 interchange. FHWA determined a Type 2 CE as the class of action for this project through the FDOT's ETDM Programming Screen. American has been evaluating widening SR 76 from 2 to 4-lanes between CR 711 to SW Locks Road and from 4 to 6-lanes up to Cove Road. Eight different interchange configurations were evaluated at the I-95 interchange, with 3 alternatives studied further. Extensive coordination has occurred with Martin County for short term concurrency improvements they are planning as well as with Martin MPO on the long term improvements. American has prepared the draft Design Traffic Technical Memorandum, Methodology Letter of Understanding approved by FHWA, and draft Interchange Modification Report all in close coordination with the District Interchange Review Committee.

d.

(1) TITLE AND LOCATION (City and State)
Crosstown Parkway over Florida's Turnpike
St. Lucie County, Florida

(2) YEAR COMPLETED
PROFESSIONAL SERVICES: **2005**
CONSTRUCTION (If applicable):

(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE
☒ Check if project performed with current firm

Mr. Hunter served as Lead Structural Engineer for the design and preparation of contract documents for this six-span bridge with a length of almost 600 ft. PPC beams spanning almost 128 ft were supported by decorative arch and column piers were used to carry traffic over Florida's Turnpike and South Macedo Blvd. Varied skew angles were required to accommodate the Turnpike lanes as they approached the nearby service plaza. Both end bents were wrapped in MSE retaining walls to minimize fill and R/W requirements.

e.

(1) TITLE AND LOCATION (City and State)
Lyons Road over LWDD L-30 Canal
Palm Beach County, Florida

(2) YEAR COMPLETED
PROFESSIONAL SERVICES: **2008**
CONSTRUCTION (If applicable):

(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE
☒ Check if project performed with current firm

Mr. Hunter served as Structural Engineer of Record for the design and preparation of contract documents for this single 70'-0" span bridge. The superstructure consists of AASHTO Type II beams which are supported by pile bents.

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME	13. ROLE IN THIS CONTRACT	14. YEARS EXPERIENCE	
		a. TOTAL	b. WITH CURRENT FIRM
Akram Hussein, PE, PTOE	**Signing & Pavement Marketing/Signalization**	**23**	**7**

15. FIRM NAME AND LOCATION (City and State)

American Consulting Engineers of Florida, LLC, Stuart, FL

16. EDUCATION (DEGREE AND SPECIALIZATION)	17. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE)
Bachelor of Science / Civil Engineering	**Professional Engineer - Florida** **Professional Traffic Operations Engineer (PTOE)**

18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)

Akram Hussein serves as a project manager/principal for transportation engineering design, operations, and planning projects. He has over 23 years of experience in transportation and civil engineering services including traffic operations analysis and design, transportation systems planning, land use planning, project development, and highway design. His assignments have spanned a broad range of facilities including roadway and land development for the public and private sectors.

CONTINUING EDUCATION

Corridor Access Management, 2002
Low Cost Road Safety Review, 2007
Highway Capacity Manual Training Update, 2008
VISSIM Simulation Model, 2002
Designing Streets for Pedestrian Safety, 2007
ASCE Modern Roundabout, 2007
FICE Basic Highway Lighting, 2007
Level of Service FDOT, 2007

TECHNICAL SKILLS

Freeway and Network Simulation / Modeling CORSIM (FRESIM and NETSIM), VISSIM
Arterial Analysis Progression (TRANSYT-7F, SYNCHRO and PASSERII)
Intersection Capacity Analyses (HCS, SOAP, and SIGNAL)
Interchange Analysis (PASSERIII)
Roundabout Analysis (SIDRA, Rodel)

19. RELEVANT PROJECTS

	(1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED	
		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)
a.	**Cross-Town Parkway Corridor Segment 3 (Bridge over Florida's Turnpike), Port St. Lucie, Florida**	**2005**	**2007**
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	☒ Check if project performed with current firm	

Mr. Hussein served as the Senior Traffic Engineer for the project. American completed design and assisted in construction inspection for this 1.3-mile project that included field survey, design, permitting, construction inspection and certification services for stormwater, bridge and roadway improvements. This project included a six-lane divided roadway section and a six-lane bridge. Precast prestressed concrete beams spanning almost 128 ft supported by decorative arch and column piers were used to carry traffic over Florida's Turnpike and South Macedo Blvd. Varied skew angles were required to accommodate the Turnpike lanes as they approached the nearby service plaza. Both end bents were wrapped in MSE retaining walls to minimize fill and right-of-way requirements. Multi-use trails were incorporated into both the north and south sides of the roadway corridor with eight-foot wide concrete paths lined with native trees and shrubs. The project included wetland delineation, wildlife surveys and permitting with South Florida Water Management District, Army Corps of Engineers and Environmental Protection Agency. Involvement also included completing a Wetland Rapid Assessment Procedure to assess the quality of the wetlands.

	(1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED	
		PROFESSIONAL SERVICES	
b.	**Improvements to Floresta Drive,** *(from the C-24 (Southbend) Canal to the Elkcam Canal)*, **St. Lucie County, Florida**	**2007**	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	☒ Check if project performed with current firm	

Mr. Hussein served as the Senior Traffic Engineer for this project. American provided design services for widening the existing two-lane undivided Floresta Drive to a four-lane divided roadway, primarily within the existing 80-ft right-of-way including property acquisition at intersections for auxiliary lanes. SYNCHRO was used to analyze the alternatives, coordinate signals and provide signal timings at the interchange. The project also included minor lighting improvements and signalization upgrades. Additionally, American produced a 3-D animated fly-through with narrative which effectively outlined the concepts of the proposed roadway improvements and changes.

	(1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED	
		PROFESSIONAL SERVICES	
c.	**I-95/Becker Road Interchange Re-Design St. Lucie County, Florida**	**2007**	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	☒ Check if project performed with current firm	

Mr. Hussein served as the Senior Traffic Engineer for this project. His role was to provide an Interchange Operation Analysis Report (IOAR). He is also the Engineer of Record for the signal and signing and pavement markings. American was selected to provide design revision services for 1.3 miles of Becker Road and the I-95 NB/SB exit ramps. Services provided on this project include plan modification of the westbound direction of Becker Road at the intersection with Village Parkway. The new configuration provided dual left turn lanes, three thru lanes and one right turn lane. The original design configuration provided for a single left turn lane, three thru lanes and dual right lane. Additional design plans include roadway, structures, traffic, drainage, lighting, signalization and signing and marking.

	(1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED	
		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)
d.	**Gatlin Blvd/Tradition Parkway Interchange On/Off-Ramp and Signalization Improvements, Port St. Lucie, Florida**	**2008**	**2009**
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	☒ Check if project performed with current firm	

Mr. Hussein served as the Senior Traffic Engineer. American conducted a study to assist the City of Port St. Lucie on the appropriate improvements to the interchange of Gatlin Boulevard and SR 9 (I-95). American provided data and analyses for evaluating alternative design improvements using SYNCHRO, ranging from revision of signal timings, changes in phasing and lane additions. The study provided analysis and recommendations for projected future years to maintain acceptable Level of Service (LOS) "E" as adopted by the city and to improve operation along the ramps.

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME	13. ROLE IN THIS CONTRACT	14. YEARS EXPERIENCE a. TOTAL	b. WITH CURRENT FIRM
Scott Korpi, PE, SE	**Bridge Design Lead**	**23**	**16**

15. FIRM NAME AND LOCATION (City and State)

American Consulting Engineers of Florida, LLC, Stuart, FL

16. EDUCATION (DEGREE AND SPECIALIZATION)	17. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE)
Master of Science / Civil Engineering **Bachelor of Science / Civil Engineering** **Ph.D. Candidate / Structures**	**Professional Engineer – Florida / Illinois / Alabama / Georgia / Michigan / South Carolina /New York / Virginia** **Structural Engineer - Illinois**

18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)

Scott Korpi has over 21 years of Project Management, Structural Design, repairs and inspection experience. In addition, Scott has completed extensive research on stability, especially during construction of bridges and other structures. Scott has lead projects that included the planning or design of over 100 new or replacement bridges including post-tensioned segmental concrete bridges, cable stayed bridges, suspension bridges, simple PPC I beam bridges, major continuous steel plate girder bridges, rolled steel beam bridges, PPC box beam bridges, cast-in-place concrete flat slab bridges and timber bridges. He also has considerable construction experience including the supervision of numerous bridge reconstruction projects and has prepared repair plans for numerous structures.

AWARDS

Consulting Engineers Council of Illinois Eminent Conceptor Award (1994)
American Council of Engineering Companies, Honor Award (1994)
Davis Productivity Award (2002)
TeamFL Chairman's Award (2004)
Florida Institute of Consulting Engineers Grand Award (2004)
American Council of Engineering Companies, Honor Award (2005)

PROFESSIONAL AFFILIATIONS

LRFD Training (2004)
New Directions for Florida Post Tensioned Bridges (2002)
Cable Stayed Bridges (2002)
Bridge Scour Analysis (2000)
5th International Bridge Design Conference (2000)
FDOT Steel Bridge Forum (1988)
District III Design Conference (1997 & 1998)

19. RELEVANT PROJECTS

a.

(1) TITLE AND LOCATION (City and State)
Crosstown Parkway Corridor Extension
Port St. Lucie, Florida

(2) YEAR COMPLETED
PROFESSIONAL SERVICES: **2009**
CONSTRUCTION (If applicable):

(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE
☒ Check if project performed with current firm

Mr. Korpi served as Lead Structures Engineer overseeing all aspects of bridge, which represents the final segment in a new 10 mile parkway that was planned, designed and constructed by the City of Port St Lucie. This final eastern 1.5 mile segment between Math Lane and US 1 includes an elevated one mile causeway that crosses an environmentally sensitive state preserve.

b.

(1) TITLE AND LOCATION (City and State)
West Virginia over Florida's Turnpike
St. Lucie County, Florida

(2) YEAR COMPLETED
PROFESSIONAL SERVICES: **2007**
CONSTRUCTION (If applicable):

(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE
☒ Check if project performed with current firm

Mr. Korpi served as Structural Engineer for the design and preparation of contract documents for this six-span bridge with a length of almost 600 ft. PPC beams spanning almost 128 ft were supported by decorative arch and column piers were used to carry traffic over Florida's Turnpike and South Macedo Blvd. Varied skew angles were required to accommodate the Turnpike lanes as they approached the nearby service plaza. Both end bents were wrapped in MSE retaining walls to minimize fill and R/W requirements.

c.

(1) TITLE AND LOCATION (City and State)
Tampa Hillsborough County Expressway Authority: Downtown Viaduct Improvement, Hillsborough County, Florida

(2) YEAR COMPLETED
PROFESSIONAL SERVICES: **2011**
CONSTRUCTION (If applicable):

(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE
☒ Check if project performed with current firm

Mr. Korpi served as Lead Structural Engineer for this PD&E study to increase capacity of the Lee Roy Selmon Crosstown Expressway from Florida Ave. to 22nd Street. The entire length of the project is an elevated four-lane facility approximately 1.2 miles long consisting of variable span lengths and beam arrangements including PPC AASHTO beams and steel plate girders. A preliminary design of the preferred alternative with widening to the median was completed including a complete framing plan and beam designs for the new Florida I beams for each of the 170 spans.

d.

(1) TITLE AND LOCATION (City and State)
Regional Transit Corridor Evaluations and PD&E Study – Howard Frankland Bridge, Hillsborough County, Florida

(2) YEAR COMPLETED
PROFESSIONAL SERVICES: **Ongoing**
CONSTRUCTION (If applicable

(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE
☒ Check if project performed with current firm

Mr. Korpi served as Structural Engineer for this project. American is preparing a PD&E study to evaluate replacement of the eastbound I-275/Howard Frankland Bridge. The Howard Frankland Bridge is one of three crossings over Tampa Bay connecting Tampa to Pinellas County. This bridge measures roughly three miles in length and carries over 125,000 vehicles per day. The study will also entail a regional transit corridor evaluation and preliminary alternatives analysis work to identify and win approval of a preliminary locally preferred alternative consistent with the Tampa Bay Area Regional Transportation Authority Master Plan and the MPO's Long Range Transportation Plans (LRTPs). The recommended alternative will provide a preferred transit connection from Pinellas County via the Howard Frankland Bridge to the planned High Speed Rail (HSR) line and the proposed local light rail system being developed in Tampa. A New Starts report may need to be submitted to FTA for project evaluation and rating if this study evolves into a formal New Starts Alternative Analysis. The PD&E study will include evaluation and documentation requirements needed to secure federal approval for the planned replacement of the 50+ year old eastbound Howard Frankland Bridge structure.

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME	13. ROLE IN THIS CONTRACT	14. YEARS EXPERIENCE	
		a. TOTAL	b. WITH CURRENT FIRM
Brian Mirson, PE, AICP	**Project Director**	**36**	**12**

15. FIRM NAME AND LOCATION (City and State)

American Consulting Engineers of Florida, LLC, Stuart, FL

16. EDUCATION (DEGREE AND SPECIALIZATION)	17. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE)
Bachelor of Science / Civil Engineering	**Michigan / Professional Engineer** **Florida / Professional Engineer** **American Institute of Certified Planners**

18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)

Brian Mirson takes an active role in regional urban and transportation planning, and has served on the FICE, CADD Committee, and the Greater Miami Chamber of Commerce Downtown Action Committee. He has served as a Director of the Floridians for Better Transportation Organization and as a Trustee for the Miami -Metro Action Plan Authority. Mr. Mirson specializes in managing high profile and controversial projects. He has served as the project manager for the US-1 Busway Project, the district-wide corridor master plan, and the SW 120th St/HEFT PD&E Study for the Florida Dept. of Transportation. Mr. Mirson also served as the lead on the development and implementation of the Miami Dade County Network '86 bus reconfiguration program and was the architect of the 'One City, One Future' strategic master plan for the city of Clearwater, Fl. His involvement in developing public outreach strategies and in the community visioning process significant contributed to the successful completion of these projects.

19. RELEVANT PROJECTS

a.

(1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
Crosstown Parkway Corridor Extension **Port St. Lucie, Florida**	**2009**	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	☒ Check if project performed with current firm	

Mr. Mirson served as Project Director overseeing all aspects of this project, which represents the final segment in a new 10 mile parkway that was planned, designed and constructed by the City of Port St Lucie. This final eastern 1.5 mile segment between Math Lane and US 1 includes an elevated one mile causeway that crosses an environmentally sensitive state preserve. American was tasked with obtaining a conceptual environmental resource permit (ERP) from South Florida Water Management District (SFWMD) and an easement from Florida Department of Environmental Protection (FDEP) over state sovereign submerged lands and state park (aquatic preserve). Due to federal funding and an EIS underway, careful coordination with FHWA was necessary to ensure no action undertaken during this advanced permitting initiative compromises the EIS process in any way, including most importantly the selection of a preferred corridor. Specific work elements included: Wetland delineation for six alternate river crossing corridors and coordination with the SFWMD and ACOE, etc. regarding wetland line verification; Investigation and documentation of alternative methods of bridge construction to minimize impacts to wetlands and other sensitive environmental lands; Preparation of conceptual design plans for a "representative corridor" river crossing; Developing stormwater management concepts and drainage conceptual design; Coordination with DEP, SFWMD, etc. to develop potential mitigation strategies and enhancement projects for impacts to wetlands and other natural areas and Investigation of potential parcels for acquisition to offset future approval of an easement over the Savannas Preserve State Park and sovereign submerged lands within the Park.

a.

(1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
Lyons Road north of West Atlantic Ave. to South of Boynton Beach Blvd., Palm Beach County, Florida	**2009**	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	☒ Check if project performed with current firm	

Mr. Mirson serves as Principal-in-Charge for the project. American is providing the design for this new construction project with a two-lane undivided typical section for over three miles. This project includes two 12-ft. lanes, 5-ft. outside shoulders and open drainage swales. Design tasks include development of the roadway plans, and signing and pavement markings plans. Additionally, this project includes development of bridge plans for a proposed bridge over the LWDD L-30 canal and includes permitting with SFWMD, LWDD, PBC DERM, and USACOE.

c.

(1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
Crosstown Parkway Extension Proprietary Mitigation Plan **Port St. Lucie, Florida**	**2011**	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	☒ Check if project performed with current firm	

Mr. Mirson served as Principal-in-Charge for this project. This project involved the design, permitting and environmental services related to the Proprietary Mitigation Plan for the proposed crossing of state lands on the Crosstown Parkway Extension project. The proprietary mitigation plan was developed together with the Florida Department of Environmental Protection (DEP). The projects within the proprietary mitigation plan were incorporated into a Memorandum of Understanding (MOU) between the City of Port St. Lucie and DEP to be conducted in exchange for an easement across state lands. Specifically projects include four oxbow reconnections within the North Fork of the St. Lucie River, purchase of and removal of exotics off of 110 acres of land adjacent to the Savannas Preserve State Park, ultimately incorporated into the state park, construction of the Savannas Area Recreation Trail, improvements to and relocation of the Halpatiokee Canoe Launch, and improvements to the Savannas Preserve State Park Education Center.

c.

(1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
I-95/Becker Road Interchange Re-Design **St. Lucie County, Florida**	**2007**	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	☒ Check if project performed with current firm	

Mr. Mirson served as the principal-in-charge for this project. American was selected to provide design revision services for 1.3 miles of Becker Road and the I-95 Northbound and Southbound Exist Ramps. Services provided on this project include plan modification of the westbound direction of Becker Road at the intersection with Village Parkway. The new configuration will have dual left turn lanes, three thru lanes, and one right turn lane. The current design configuration only provides for a single left turn lane, three thru lanes and dual right lane. Additional design plans include roadway, structures, traffic, drainage, lighting, signalization and signing & marking.

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME	13. ROLE IN THIS CONTRACT	14. YEARS EXPERIENCE a. TOTAL	b. WITH CURRENT FIRM
Thomas Muzicka	**QA/QC**	**34**	**4**

15. FIRM NAME AND LOCATION (City and State)

American Consulting Engineers of Florida, LLC, Stuart, FL

16. EDUCATION (DEGREE AND SPECIALIZATION)	17. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE)
Bachelor of Science / Construction Management	**N/A**

18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations. Training, Awards, etc.)

Tom Muzicka has over 29 years of experience as a Project Manager for construction and maintenance programs, with over 25 years of FDOT expertise. He recently served as Construction Director with the MDX General Engineering Consultant. He has served as a General Engineering Consultant for I-595 and Miami's Metrorail complementing his FDOT experience with vertical and municipal construction.

QUALIFICATIONS

Florida Advanced Maintenance of Traffic
Nuclear Safety Certification
ACI Concrete Field Testing Technician Grade 1
Trench Safety Competent Person Training
CTQP Asphalt Paving Level 1 and Level 2
CTQP Earthwork Construction Inspection Level 1 and Level 2
CTQP Pile Driving Inspection
CTQP Drill Shaft Inspection
CTQP Final Estimates Level I and II
CTQP QC Manager

19. RELEVANT PROJECTS

a.

(1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
I-95 Becker Road Interchange Port St. Lucie, Florida	**2009**	**2009**

(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE — ☒ Check if project performed with current firm

Mr. Muzicka served as Project Manger on this project. American was selected to provide CEI services for the construction of a new interchange at I-95 and Becker Road. This project includes bridge and roadway construction, bridge widening, lighting, traffic signalization, signing, markings, and utility construction and adjustments. American's responsibilities include utility relocation and preconstruction conference with the City of Port St. Lucie, utility agencies, permitting agencies, FDOT and the Contractor, administration of construction contracts, maintenance of a project diary, contractor's schedule review and recommendations, maintenance of shop drawing logs, evaluate and prepare responses for requests for information, review and recommendation on the acceptance of the contractor's monthly estimate, inspection of construction assembly, coordinate and witness material testing, conduct maintenance of traffic and compliance reviews, process claims and changes, process notice of substantial completion, and compile punch list.

b.

(1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
I-95 / Crosstown Parkway Interchange CEI Services Port St Lucie, Florida	**2009**	**2009**

(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE — ☒ Check if project performed with current firm

Mr. Muzicka served as Project Manger on this project. American provided CEI services for the construction of a new tight diamond urban interchange connecting the City of Port St Lucie's Crosstown Parkway with I-95. This project includes; MSE wall, new bridge structure, bridge widening, utility construction, asphalt pavement, sidewalk, curb, drainage, treatment ponds, pavement marking, signalization, lighting. This project includes a utility relocation/preconstruction conference with the City of Port St. Lucie, utility agencies, permitting agencies, FDOT and the Contractor. Project responsibilities also include administration of construction contracts, maintenance of a project diary, contractor's schedule review and recommendations, maintenance of shop drawing logs, evaluation and preparation of responses for requests for information, review and recommendation on the acceptance of the contractor's monthly estimate, inspection of construction assembly, coordination and witness material testing, conducting maintenance of traffic and compliance reviews, processing claims and changes, processing notice of substantial completion, and compilation of punch list.

c.

(1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
Crosstown Parkway Segment 3 Port St. Lucie, Florida	**2007**	**2007**

(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE — ☒ Check if project performed with current firm

Mr. Muzicka served as Project Manger on this project. American provided CEI services for the construction of a new bridge for Crosstown Parkway over Florida's Turnpike at Mile Post 142. This project includes; MSE wall, new bridge structure, bridge widening, utility construction, asphalt pavement, sidewalk, curb, drainage, treatment ponds, pavement marking, signalization, lighting. Responsibilities include utility relocation \ preconstruction conference with the City of Port St. Lucie, utility agencies, permitting agencies, FDOT and the Contractor, administration of construction contracts, maintenance of a project diary, contractor's schedule review and recommendations, maintenance of shop drawing logs, evaluate and prepare responses for requests for information, review and recommendation on the acceptance of the contractor's monthly estimate, inspection of construction assembly, coordinate and witness material testing, conduct maintenance of traffic and compliance reviews, process claims and changes, process notice of substantial completion, and compile punch list.

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

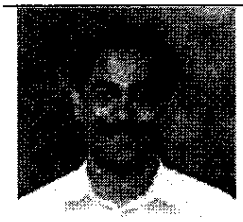
(Complete one Section E for each key person.)

12. NAME	13. ROLE IN THIS CONTRACT	14. YEARS EXPERIENCE a. TOTAL	b. WITH CURRENT FIRM
Andrew C. Nunes, PE	**Roadway Design Lead**	**22**	**4**

15. FIRM NAME AND LOCATION (City and State)

American Consulting Engineers of Florida, LLC, Stuart, FL

16. EDUCATION (DEGREE AND SPECIALIZATION)	17. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE)
B.S. Civil Engineering, Florida International University, 1990	**Florida / Professional Engineer**



18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)

Andrew Nunes has over 21 years of experience as a Roadway Project Manager responsible for the roadway design and management of roadway projects. His past assignments have involved preliminary engineering studies, final design projects and construction administration projects for clients that include the Miami-Dade Aviation Department (MDAD), Florida Department of Transportation (FDOT) Districts 1, 3, 4 and 6, Miami-Dade County Public Works Department (MDCPWD), Palm Beach County Public Works, and local municipalities. He is familiar with the standards and requirements of the FDOT, and other municipalities and is proficient in the use of MicroStation and Geopak. Other past projects have involved right-of-way map preparation and design, horizontal and vertical geometric design, signing and pavement markings, utility coordination, traffic control plan design, construction inspections, and coordination with environmental permitting agencies including the SFWMD, Miami-Dade DERM, Palm Beach County DERM, and LWDD.

CONTINUING EDUCATION

A FDOT Specifications Training, 2007
FES: Advanced Work Zone Traffic Control, 2001
FES: Advanced Work Zone Traffic Control Refresher Course 2009 (Exp. 6/4/13)
Certificate of Achievement (Concrete Pavements 101), 2006
OSHA 10-hour Construction Safety Training, 2002

AWARDS

Intergraph's Highest Rated Instructor (MicroStation), 1991
Excellence in Service – Florida International University, 1992

19. RELEVANT PROJECTS

a.

(1) TITLE AND LOCATION (City and State)
SR 76 (Kanner Hwy) PD&E Study, west of CR 711 to east of Cove Road, Martin County, Florida

(2) YEAR COMPLETED
PROFESSIONAL SERVICES: **2011**
CONSTRUCTION (If applicable):

(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE
☒ Check if project performed with current firm

Mr. Nunes serves as Deputy Project Manager and lead engineer for the project. The project extends from west of CR 711 to east of Cove Road, approximately 2.4 miles in length and includes the I-95 interchange. FHWA determined a Type 2 CE as the class of action for this project through the FDOT's ETDM Programming Screen. American has been evaluating widening SR 76 from two to four lanes between CR 711 to SW Locks Road and from four to six lanes up to Cove Road. Eight interchange configurations were evaluated at the I-95 interchange. In addition to developing long term solutions to meet year 2040 traffic demand, midterm improvements were developed along SR 76 and the I-95 ramps to minimize throw-away costs when expanding the long term improvements. Extensive coordination occurred with Martin County for short term concurrency improvements they planned, as well as with Martin Metropolitan Planning Organization (MPO) on the long term improvements. American prepared the draft Design Traffic Technical Memorandum, Methodology Letter of Understanding approved by FHWA, and draft Interchange Modification Report all in close coordination with FDOT. Bridge widenings include SR 76 over the Florida's Turnpike and South Fork of the St Lucie River and the I-95 overpass bridges. Stormwater pond and floodplain compensation sites were screened and evaluated within the seven drainage basins. A Section 4(f) Determination of Applicability document was prepared for the Hosgrove Park to determine the impact of a proposed floodplain compensation site. The study included environmental analyses related to noise, cultural resources, wetlands, endangered species, contamination, and essential fish habitat impacts.

b.

(1) TITLE AND LOCATION (City and State)
I-95/Becker Road Interchange Re-Design Port St. Lucie, Florida

(2) YEAR COMPLETED
PROFESSIONAL SERVICES: **2007**
CONSTRUCTION (If applicable

(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE
☒ Check if project performed with current firm

Mr. Nunes serves as Roadway Engineer for this project. American was selected to provide design revision services for 1.3 miles of Becker Road and the I-95 northbound and southbound exit ramps. Services provided on this project include plan modification of the westbound direction of Becker Road at the intersection with Village Parkway. The new configuration will have dual left turn lanes, three thru lanes, and one right turn lane. The current design configuration only provides for a single left turn lane, three thru lanes and dual right lane. Additional design plans include roadway, structures, traffic, drainage, lighting, signalization and signing and marking.

c.

(1) TITLE AND LOCATION (City and State)
Improvements to Floresta Drive *(from the C-24 (Southbend) Canal to the Elkcam canal)*, **Port St. Lucie, Florida**

(2) YEAR COMPLETED
PROFESSIONAL SERVICES: **Ongoing**
CONSTRUCTION (If applicable):

(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE
☒ Check if project performed with current firm

Mr. Nunes served as Roadway Engineer for this project. American provided design services for widening the existing two-lane, undivided Floresta Drive to a four-lane divided roadway, primarily within the existing 80-ft right-of-way including property acquisition at intersections for auxiliary lanes. SYNCHRO was used to analyze the alternatives, coordinate signals and provide signal timings at the interchange. The project also included minor lighting improvements and signalization upgrades. Additionally, American produced a 3-D animated fly-through with narrative which effectively outlined the concepts of the proposed roadway improvements and changes.

d.

(1) TITLE AND LOCATION (City and State)
Gatlin Blvd/Tradition Parkway Interchange On/Off-Ramp and Signalization Improvements, Port St Lucie, Florida

(2) YEAR COMPLETED
PROFESSIONAL SERVICES: **2008**
CONSTRUCTION (If applicable): **2009**

(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE
☒ Check if project performed with current firm

Mr. Nunes served as Roadway Engineer for this two-phase construction project. Phase I included the improvements to the I-95 off ramps at Gatlin Blvd. while Phase II included the widening of the I-95 on ramps along with the widening of Gatlin Blvd to six lanes. The project included a study to assist the City of Port St. Lucie in making a decision on the appropriate improvements to the interchange of Gatlin Boulevard and SR 9 (I-95).

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME	13. ROLE IN THIS CONTRACT	14. YEARS EXPERIENCE	
		a. TOTAL	b. WITH CURRENT FIRM
Christopher N. O'Reilly, PE	**Deputy Project Manager/DB&CM Criteria Pkgs.**	**26**	**11**

15. FIRM NAME AND LOCATION (City and State)

American Consulting Engineers of Florida, LLC, Stuart, FL

16. EDUCATION (DEGREE AND SPECIALIZATION)	17. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE)
Bachelor of Science / Civil Engineering	**Florida / Professional Engineer**

18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)

Christopher O'Reilly provides over 26 years professional experience in South Florida. His experience includes the management of highway design, specifications, and project management, leading numerous projects for the FDOT District 4. His accomplishments range from managing a design team to the computer-generated design of complete construction plans for roadway projects including roadway, drainage, signing and pavement marking, lighting and signalization plans through construction inspection.

PROFESSIONAL AFFILIATIONS

Florida Engineering Society

CONTINUING EDUCATION

Advanced Work Zone Traffic Control, 2001

FDOT Specifications Training, 2001

19. RELEVANT PROJECTS

a.

(1) TITLE AND LOCATION (City and State)

Crosstown Parkway Corridor Segment 3 (Bridge over Florida's Turnpike), Port St. Lucie, Florida

(2) YEAR COMPLETED

PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
2005	

(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE

☒ Check if project performed with current firm

Mr. O'Reilly served as the Project Manager and EOR for the project. American completed design and assisted in construction inspection for this 1.3 mile project that includes field survey, design, permitting, construction inspection and certification services for stormwater, bridge and roadway improvements. This project included a six-lane divided roadway section and a six-lane bridge. Precast prestressed concrete beams spanning almost 128 ft supported by decorative arch and column piers were used to carry traffic over Florida's Turnpike and South Macedo Blvd. Varied skew angles were required to accommodate the Turnpike lanes as they approached the nearby service plaza. Both end bents were wrapped in MSE retaining walls to minimize fill and R/W requirements. Multi-use trails were incorporated into both the north and south sides of the roadway corridor with 8-foot wide concrete paths lined with native trees and shrubs. The project also included wetland delineation, wildlife surveys, and permitting with South Florida Water Management District, Army Corps of Engineers and Environmental Protection Agency. Involvement also included completing a Wetland Rapid Assessment Procedure to assess the quality of the wetlands.

b.

(1) TITLE AND LOCATION (City and State)

Improvements to Floresta Drive *(from the C-24 (Southbend) Canal to the Elkcam canal)*, **Port St. Lucie, Florida**

(2) YEAR COMPLETED

PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
2007	

(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE

☒ Check if project performed with current firm

Mr. O'Reilly served as the Project Manager and EOR for this project. American provided design services for widening the existing two-lane, undivided Floresta Drive to a four-lane divided roadway, primarily within the existing 80-ft right-of-way including property acquisition at intersections for auxiliary lanes. SYNCHRO was used to analyze the alternatives, coordinate signals and provide signal timings at the interchange. The project also included minor lighting improvements and signalization upgrades. Additionally, American produced a 3-D animated fly-through with narrative which effectively outlined the concepts of the proposed roadway improvements and changes.

c.

(1) TITLE AND LOCATION (City and State)

Gatlin Blvd/Tradition Parkway Interchange On/Off-Ramp and Signalization Improvements, Port St Lucie, Florida

(2) YEAR COMPLETED

PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
2007	

(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE

☒ Check if project performed with current firm

Mr. O'Reilly served as the Project Manager and EOR for this two-phase construction project. Phase I included the improvements to the I-95 off ramps at Gatlin Blvd. while Phase II included the widening of the I-95 on ramps along with the widening of Gatlin Blvd to six lanes. The project included a study to assist the City of Port St. Lucie in making a decision on the appropriate improvements to the interchange of Gatlin Boulevard and State Road 9 (I-95).

d.

(1) TITLE AND LOCATION (City and State)

I-95/Becker Road Interchange Re-Design Port St. Lucie, Florida

(2) YEAR COMPLETED

PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
2007	

(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE

☒ Check if project performed with current firm

Mr. O'Reilly serves as the Project Manager and EOR for this project. American was selected to provide design revision services for 1.3 miles of Becker Road and the I-95 Northbound and Southbound Exist Ramps. Services provided on this project include plan modification of the westbound direction of Becker Road at the intersection with Village Parkway. The new configuration has dual left turn lanes, three thru lanes, and one right turn lane. The original configuration provided for a single left turn lane, three thru lanes and dual right lane. Additional design plans include roadway, structures, traffic, drainage, lighting, signalization and signing and marking.

e.

(1) TITLE AND LOCATION (City and State)

SR76 (Kanner Hwy) PD&E Study, west of CR 711 to east of Cove Road, Martin County, Florida

(2) YEAR COMPLETED

PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
Ongoing	

(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE

☒ Check if project performed with current firm

Mr. O'Reilly served as the Senior Roadway Engineer of this project. American was selected by the FDOT to prepare a Project Development and Environment (PD&E) Study to consider proposed improvements. This project extends from west of CR 711 to east of Cove Road, approximately 2.4 miles in length and also involves evaluation of the I-95 interchange. The purpose for this project is to enhance overall safety, capacity, truck movement, and emergency evacuation within the County, since SR 76 serves as an evacuation route in Martin County.

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME	13. ROLE IN THIS CONTRACT	14. YEARS EXPERIENCE a. TOTAL	b. WITH CURRENT FIRM
Anna L. Peterfreund, MS	**Environmental Permitting**	**13**	**8**

15. FIRM NAME AND LOCATION (City and State)

American Consulting Engineering of Florida, LLC, Stuart, FL

16. EDUCATION (DEGREE AND SPECIALIZATION)	17. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE)
Master of Science / Zoology **Bachelor of Science / Forestry, Wildlife & Fisheries Science**	**N/A**

18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)

Anna Peterfreund is our lead environmental scientist. She has managed and permitted many projects on the state, federal, and local levels, including all water management districts, the GDNR, FDEP, SHPO, FFWCC, USCG, USACE, and many others. Her responsibilities have included wetland inventories and delineation, environmental assessments, Uniform Mitigation Assessment Method (UMAM) applications, Wetland Rapid Assessment Procedure (WRAP) applications, noise and air quality studies, wildlife surveys, coordination with regulatory agencies, and the review of consultant plans and reports.

CONTINUING EDUCATION

NPI, Section 106: An Introduction (Certified Course), 2010, NHI, NEPA and Transportation Decision Making (Certified Course No. 142005), 2009, Richard Chinn Environmental Training: Army Corps of Engineers Wetland Delineation and Management (Certified Course), 2004, Florida Statewide (62-340 FAC) Wetland Delineation (Certified Course), 2004, Environmental Resource Permitting (Certified Course), 2003, Georgia Partnership for Transportation Quality - Intermittent and Perennial Stream Identification, (Certified Course), 2008, FDOT Environmental Management Office – Traffic Noise Analysis (Certified Course), 2003, Traffic Noise Model (TNM Version 2.5) HMMH 2004, NHI Highway Traffic Noise (Certified Course No. 142051A), 2006, Florida Interagency Prescribed Fire Training – Multiagency, 2002, Prescribed Burning Certificate No. 023210, Florida Dept. of Agriculture and Consumer Services, 2002

19. RELEVANT PROJECTS

a.

(1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
Crosstown Parkway Corridor Extension **Port St. Lucie, Florida**	**2009**	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	☒ Check if project performed with current firm	

Ms. Peterfreund served as Lead Environmental Scientist. This project represents the final segment in a new 10 mile parkway that was planned, designed and constructed by the City of Port St Lucie. This final eastern 1.5 mile segment between Math Lane and US 1 includes an elevated one mile causeway that crosses an environmentally sensitive state preserve. American was tasked with obtaining a conceptual environmental resource permit (ERP) from South Florida Water Management District (SFWMD) and an easement from Florida Department of Environmental Protection (FDEP) over state sovereign submerged lands and state park (aquatic preserve). Due to federal funding and an EIS underway, careful coordination with FHWA was necessary to ensure no action undertaken during this advanced permitting initiative compromises the EIS process in any way, including most importantly the selection of a preferred corridor. Specific work elements included: Wetland delineation for six alternate river crossing corridors and coordination with the SFWMD and ACOE, etc. regarding wetland line verification; Investigation and documentation of alternative methods of bridge construction to minimize impacts to wetlands and other sensitive environmental lands; Preparation of conceptual design plans for a "representative corridor" river crossing; Coordination with DEP, SFWMD, etc. to develop potential mitigation strategies and enhancement projects for impacts to wetlands and other natural areas and Investigation of potential parcels for acquisition to offset future approval of an easement over the Savannas Preserve State Park and sovereign submerged lands within the Park.

b.

(1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED PROFESSIONAL SERVICES	
Crosstown Parkway Extension Proprietary Mitigation Plan **Port St. Lucie, Florida**	**2011**	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	☒ Check if project performed with current firm	

Ms. Peterfreund served as Project Manager and Lead Environmental Scientist for this project. This project involved the design, permitting and environmental services related to the Proprietary Mitigation Plan for the proposed crossing of state lands on the Crosstown Parkway Extension project. The proprietary mitigation plan was developed together with the Florida Department of Environmental Protection (DEP). The projects within the proprietary mitigation plan were incorporated into a Memorandum of Understanding (MOU) between the City of Port St. Lucie and DEP to be conducted in exchange for an easement across state lands. Specifically projects include four oxbow reconnections within the North Fork of the St. Lucie River, purchase of and removal of exotics off of 110 acres of land adjacent to the Savannas Preserve State Park, ultimately incorporated into the state park, construction of the Savannas Area Recreation Trail, improvements to and relocation of the Halpatiokee Canoe Launch, and improvements to the Savannas Preserve State Park Education Center.

c.

(1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
Improvements to Floresta Drive **Port St. Lucie, Florida**	**2007**	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	☒ Check if project performed with current firm	

Ms. Peterfreund served as an Environmental Scientist for design services in widening the existing two-lane, undivided Floresta Drive to a four-lane divided roadway, primarily within the existing 80-ft right-of-way including property acquisition at intersections for auxiliary lanes. SYNCHRO was used to analyze the alternatives, coordinate signals and provide signal timings at the interchange. The project also included minor lighting improvements and signalization upgrades. Additionally, 3-D animated fly throughs were developed, which outlined the concepts of the proposed roadway improvements and changes.

d.

(1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
Gatlin Blvd/Tradition Parkway Interchange On/Off-Ramp and Signalization Improvements, Port St Lucie, Florida	**2007**	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	☒ Check if project performed with current firm	

As an Environmental Scientist, Ms. Peterfreund provided wetland delineations, permitting assistance, and Programmatic Categorical Exclusion (PCE) documentation for Phases I & II. American provided data and analyses that aided the City in evaluating alternative design improvements. The study provided analysis and recommendations for the projected future years to maintain acceptable Levels of Service (LOS) "E" as adopted by the City, as well as improvements to operation along the ramps.

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME	13. ROLE IN THIS CONTRACT	14. YEARS EXPERIENCE a. TOTAL	b. WITH CURRENT FIRM
Michael Ryan, EI	**Stormwater Management/Hydrologic**	**9**	**4**

15. FIRM NAME AND LOCATION (City and State)

American Consulting Engineers of Florida, LLC, Stuart, FL

16. EDUCATION (DEGREE AND SPECIALIZATION)

B.S. Civil Engineering, Florida Institute of Technology, 2001
U.S. Navy Basic Underwater Construction School, 1992
Heavy Equipment Operator School, Port Hueneme, CA, 1992

17. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE)

18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)

Michael Ryan has over nine years of experience in engineering, design, plans preparation, supervising, evaluation, construction management and permitting relating to stormwater hydrology, hydraulics, groundwater usage, transportation, commercial and residential site development.

PROFESSIONAL AFFILIATIONS

American Society of Civil Engineers (ASCE), since 1999
Florida Engineering Society (FES), since 2005
Chi Epsilon, Civil Engineering Honor Society, April 2000

19. RELEVANT PROJECTS

a.

(1) TITLE AND LOCATION (City and State)
Crosstown Parkway Corridor Extension
St. Lucie County, Florida

(2) YEAR COMPLETED
PROFESSIONAL SERVICES: **2009**
CONSTRUCTION (If applicable):

(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE

☒ Check if project performed with current firm

Mr. Ryan served as Drainage Designer for this project. This project represents the final segment in a new 10-mile parkway that was planned, designed and constructed by the City of Port St Lucie. This final eastern 1.5-mile segment between Math Lane and US 1 includes an elevated one-mile causeway that crosses an environmentally sensitive state preserve. American was tasked with obtaining a conceptual environmental resource permit (ERP) from South Florida Water Management District (SFWMD) and an easement from Florida Department of Environmental Protection (FDEP) over state sovereign submerged lands and state park (aquatic preserve). The strategy was to quantify the impacts for multiple corridors under consideration and develop a worst case scenario for which a mitigation plan would be developed. Federal funding is involved and EIS is underway, therefore careful coordination with FHWA has been necessary to ensure no action undertaken during this advanced permitting initiative compromises the EIS process in any way, including most importantly the selection of a preferred corridor.

c.

(1) TITLE AND LOCATION (City and State)
Crosstown Parkway Corridor Segment 3 (Bridge over Florida's Turnpike), Port St. Lucie, Florida

(2) YEAR COMPLETED
PROFESSIONAL SERVICES: **2005**
CONSTRUCTION (If applicable): **2006**

(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE

☒ Check if project performed with current firm

Mr. Ryan served as a Drainage Designer for this project. He was responsible for the preparation of a drainage report and stormwater management system calculations. American completed design and assisted in construction inspection for this 1.3 mile project that includes field survey, design, permitting, construction inspection and certification services for stormwater, bridge and roadway improvements. This project included a six-lane divided roadway section and a six-lane bridge. Precast prestressed concrete beams spanning almost 128 ft supported by decorative arch and column piers were used to carry traffic over Florida's Turnpike and South Macedo Blvd. Varied skew angles were required to accommodate the Turnpike lanes as they approached the nearby service plaza. Both end bents were wrapped in MSE retaining walls to minimize fill and R/W requirements. Multi-use trails were incorporated into both the north and south sides of the roadway corridor with eight-foot wide concrete paths lined with native trees and shrubs. The project included wetland delineation, wildlife surveys and permitting with South Florida Water Management District, Army Corps of Engineers and Environmental Protection Agency. Involvement also included completing a Wetland Rapid Assessment Procedure to assess the quality of the wetlands.

f.

(1) TITLE AND LOCATION (City and State)
I-95/Becker Road Interchange Re-Design
Port St. Lucie, Florida

(2) YEAR COMPLETED
PROFESSIONAL SERVICES: **2007**
CONSTRUCTION (If applicable

(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE

☒ Check if project performed with current firm

Mr. Ryan serves as a Drainage Designer responsible for shop drawing reviews on this project. American was selected to provide design revision services for 1.3 miles of Becker Road and the I-95 northbound and southbound exit ramps. Services provided on this project include plan modification of the westbound direction of Becker Road at the intersection with Village Parkway. The new configuration will have dual left turn lanes, three thru lanes and one right turn lane. The current design configuration only provides for a single left turn lane, three thru lanes and dual right lane. Additional design plans include roadway, structures, traffic, drainage, lighting, signalization and signing and marking.

g.

(1) TITLE AND LOCATION (City and State)
Floresta Drive widening from Southbend Bridge to Elkcam
St. Lucie County, Florida

(2) YEAR COMPLETED
PROFESSIONAL SERVICES: **2007**
CONSTRUCTION (If applicable):

(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE

☒ Check if project performed with current firm

Mr. Ryan served as Drainage Designer for this project. American provided design services for widening the existing two-lane, undivided Floresta Drive to a four-lane divided roadway, primarily within the existing 80-ft right-of-way including property acquisition at intersections for auxiliary lanes. SYNCHRO was used to analyze the alternatives, coordinate signals and provide signal timings at the interchange. The project also included minor lighting improvements and signalization upgrades. Additionally, American produced a 3D animated fly through with narrative which effectively outlined the concepts of the proposed roadway improvements and changes.

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME	13. ROLE IN THIS CONTRACT	14. YEARS EXPERIENCE a. TOTAL	b. WITH CURRENT FIRM
Christopher Salicco	**Environmental and Permitting**	**7**	**5**

15. FIRM NAME AND LOCATION (City and State)

American Consulting Engineers of Florida, LLC, Stuart, FL

16. EDUCATION (DEGREE AND SPECIALIZATION)	17. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE)
Bachelor of Science / Environmental Science	**N/A**

18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)

Chris Salicco has over seven years of experience as an Environmental Scientist. He specializes in environmental impact assessments, permitting, wetland delineation, GIS mapping and agency coordination. His professional experience includes a background in environmental resource permitting and regulation of stormwater management systems, marinas, single family dwellings and other commercial development. Additional experience includes, Uniform Mitigation Assessment Method (UMAM), interpretations of State rules and statues, noise studies, contamination screenings, and orientated computer programs including ArcMap GIS. Christopher is a graduate of University of South Florida with a degree in Environmental Science and Policy.

CONTINUING EDUCATION:

Florida Aquatic Pesticide Applicators License
Stormwater Erosion and Sedimentation Inspection Certification
Wetland Delineation Training (State of Florida)
SLERP Conference
FDEP Compliance/Enforcement Conference

19. RELEVANT PROJECTS

a.

(1) TITLE AND LOCATION (City and State)
Crosstown Parkway Extension Conceptual Environmental Resource Permit (ERP), Port St. Lucie, Florida

(2) YEAR COMPLETED
PROFESSIONAL SERVICES: **2009**
CONSTRUCTION (if applicable):

(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE

☒ Check if project performed with current firm

As an Environmental Scientist, Mr. Salicco is involved with permitting activities for a conceptual ERP for a new crossing over the North Fork St. Lucie River, involving a state park, an aquatic preserve, and state sovereign submerged lands. The project included wetland delineation, preparation of conceptual design plans, conceptual pond siting and stormwater evaluation, and assessment of environmental impacts and potential mitigation options. Work was conducted concurrently with the city's preparation of an Environmental Impact Statement and Section 4(f) Evaluation for the new river crossing.

b.

(1) TITLE AND LOCATION (City and State)
Crosstown Parkway Proprietary Mitigation St. Lucie County, Florida

(2) YEAR COMPLETED
PROFESSIONAL SERVICES: **2009**
CONSTRUCTION (if applicable):

(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE

☒ Check if project performed with current firm

Mr. Salicco served as Environmental Scientist for this project. This project involved the design, permitting and environmental services related to the Proprietary Mitigation Plan for the proposed crossing of state lands on the Crosstown Parkway Extension project. The proprietary mitigation plan was developed together with the Florida Department of Environmental Protection (DEP). The projects within the proprietary mitigation plan were incorporated into a Memorandum of Understanding (MOU) between the City of Port St. Lucie and DEP to be conducted in exchange for an easement across state lands. Specifically projects include four oxbow reconnections within the North Fork of the St. Lucie River, purchase of and removal of exotics off of 110 acres of land adjacent to the Savannas Preserve State Park, ultimately incorporated into the state park, construction of the Savannas Area Recreation Trail, improvements to and relocation of the Halpatiokee Canoe Launch, and improvements to the Savannas Preserve State Park Education Center.

c.

(1) TITLE AND LOCATION (City and State)
Gatlin Boulevard at I-95 Interchange Level of Service Analysis, St. Lucie County, Florida

(2) YEAR COMPLETED
PROFESSIONAL SERVICES: **2007**
CONSTRUCTION (if applicable):

(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE

☒ Check if project performed with current firm

As an Environmental Scientist, Mr. Salicco provided wetland delineations, permitting assistance, Programmatic Categorical Exclusion (PCE) documentation for Phases I & II. In addition, he provided coordination with FDOT District 4 and GIS analyses and mapping. American conducted a study for the City of Port St. Lucie to assist them in choosing the appropriate interchange improvements of Gatlin Boulevard and State Road 9 (I-95). American provided data and analyses that aided the City in evaluating alternative design improvements. The study provided analysis and recom-mendations for the projected future years to maintain acceptable Levels of Service (LOS) "E" as adopted by the City as well as improvements to operation along the ramps.

e.

(1) TITLE AND LOCATION (City and State)
SR76 (Kanner Hwy) PD&E Study, west of CR 711 to east of Cove Road, Martin County, Florida

(2) YEAR COMPLETED
PROFESSIONAL SERVICES: **2011**
CONSTRUCTION (If applicable):

(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE

☒ Check if project performed with current firm

Mr. Salicco served as Environmental Scientist for this project. The project extends from west of CR 711 to east of Cove Road, approximately 2.4 miles in length and includes the I-95 interchange. FHWA determined a Type 2 CE as the class of action for this project through the FDOT's ETDM Programming Screen. American has been evaluating widening SR 76 from two to four lanes between CR 711 to SW Locks Road and from four to six lanes up to Cove Road. Eight different interchange configurations were evaluated at the I-95 interchange. In addition to developing long term solutions to meet year 2040 traffic demand, midterm improvements were developed along SR 76 and the I-95 ramps to minimize throw-away costs when expanding the long term improvements. Extensive coordination has occurred with Martin County for short term concurrency improvements they are planning as well as with Martin Metropolitan Planning Organization (MPO) on the long term improvements. American prepared the draft Design Traffic Technical Memorandum, Methodology Letter of Understanding approved by FHWA, and draft Interchange Modification Report all in close coordination with FDOT. Bridge widenings include SR 76 over the Florida's Turnpike and South Fork of the St Lucie River and the I-95 overpass bridges. Stormwater pond and floodplain compensation sites were screened and evaluated within the seven drainage basins. A Section 4(f) Determination of Applicability document was prepared for the Hosgrove Park to determine the impact of a proposed floodplain compensation site. The study includes environmental analyses related to noise, cultural resources, wetlands, endangered species, contamination, and essential fish habitat impacts.

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT (Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)	20. EXAMPLE PROJECT KEY NUMBER 1

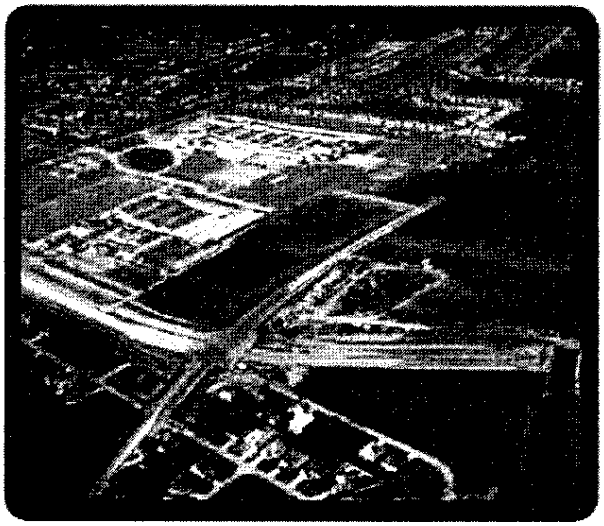
21. TITLE AND LOCATION (City and State)	22. YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
CROSSTOWN PARKWAY SEGMENT 3 (BRIDGE OVER FLORIDA'S TURNPIKE) Port St Lucie, Florida	**2005**	

23. PROJECT OWNER'S INFORMATION

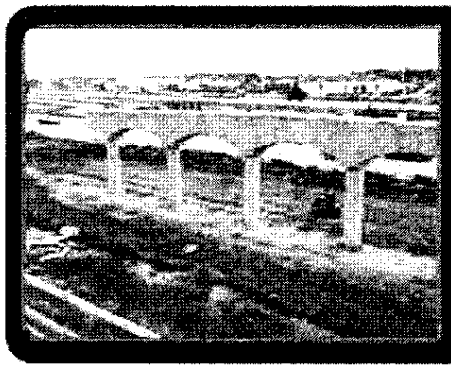
a. PROJECT OWNER	b. POINT OF CONTACT NAME	c. POINT OF CONTACT TELEPHONE NUMBER
City of Port St Lucie	**Patricia Roebling**	**772.871.5174**

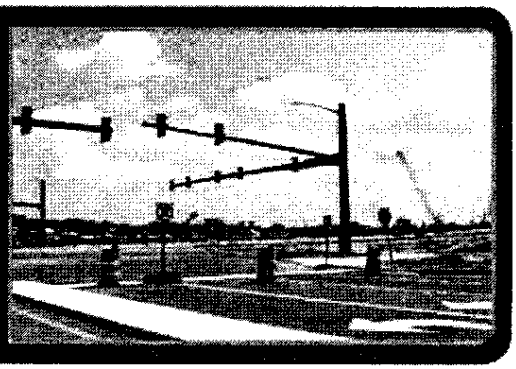
24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)

SCOPE	SIZE:	COST:
	1.3 miles	**$ 2,229,105**



American completed design and assisted in construction inspection for this 1.3 mile project that includes field survey, design, permitting, construction inspection and certification services for stormwater, bridge and roadway improvements. This project included a 6-lane divided roadway section and a 6-lane bridge. Precast prestressed concrete beams spanning almost 128 ft supported by decorative arch and column piers were used to carry traffic over Florida's Turnpike and South Macedo Blvd. Varied skew angles were required to accommodate the Turnpike lanes as they approached the nearby service plaza. Both end bents were wrapped in MSE retaining walls to minimize fill and R/W requirements. Multi-use trails were incorporated into both the north and south sides of the roadway corridor with 8-feet wide concrete paths lined with native trees and shrubs. Three rest stop areas with benches and overhead shade structures are also included. One included a view of one of the constructed wet detention ponds. The project also included wetland delineation, wildlife surveys, and permitting with South Florida Water Management District, Army Corps of Engineers and Environmental Protection Agency. Involvement also included completing a Wetland Rapid Assessment Procedure to assess the quality of the wetlands.





25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

	(1) FIRM NAME	(2) FIRM LOCATION (City and State)	(3) ROLE
a.	American Consulting Engineers of Florida, LLC	Stuart, Florida	Civil Engineering

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT (Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)	20. EXAMPLE PROJECT KEY NUMBER
	2

21. TITLE AND LOCATION (City and State)	22. YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
CROSSTOWN PARKWAY CORRIDOR CONCEPTUAL ERP Port St Lucie, Florida	**2009**	

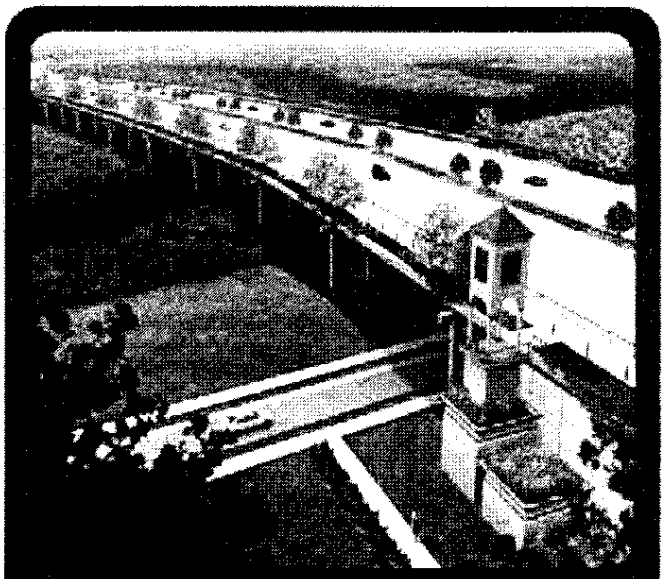
23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER	b. POINT OF CONTACT NAME	c. POINT OF CONTACT TELEPHONE NUMBER
City of Port St Lucie	**Patricia Roebling, PE**	**772.871.5174**

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)

SCOPE	SIZE:	COST:
	N/A	**$ 346,115**

The objective of this project was to obtain a conceptual environmental resource permit (ERP) from South Florida Water Management District (SFWMD) and an easement from Florida Department of Environmental Protection (FDEP) over state sovereign submerged lands and state park (aquatic preserve). This work was required to support the city's proposed construction of a new bridge over the North Fork of the St. Lucie River (NFSLR), as part of the Crosstown Parkway Extension (Segment 1), between Manth Lane and US 1.



Concept of Crosstown Land Bridge passing through the preserve

Specific work elements included:

- Wetland delineation for six alternative river crossing corridors and coordination with the SFWMD and ACOE etc regarding wetland line verification
- Investigation and documentation of alternative methods of bridge construction to minimize impacts to wetlands and other sensitive environmental lands
- Preparation of conceptual design plans for a "representative corridor" river crossing
- Developing stormwater management concepts and drainage conceptual design
- Estimating "worst-case" impacts from six alternative corridors to define a Representative Corridor for purposes of obtaining a conceptual ERP from the SFWMD
- Preparation of various drafts of the conceptual ERP and responding to Requests for Additional Information
- Coordination with DEP, SFWMD, and other agencies to develop potential mitigation strategies and enhancement projects for impacts to wetlands and other natural areas
- Investigation of potential parcels for acquisition to offset future approval of an easement over the Savannas Preserve State Park and sovereign submerged lands within the Park

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

	(1) FIRM NAME	(2) FIRM LOCATION (City and State)	(3) ROLE
a.	American Consulting Engineers of Florida, LLC	Stuart, Florida	Civil Engineering

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT (Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)	20. EXAMPLE PROJECT KEY NUMBER
	3

21. TITLE AND LOCATION (City and State)	22. YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
FLORESTA DRIVE IMPROVEMENTS St. Lucie County, Florida	**2007**	

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER	b. POINT OF CONTACT NAME	c. POINT OF CONTACT TELEPHONE NUMBER
City of Port St Lucie	**Patricia Roebling, PE**	**772.871.5174**

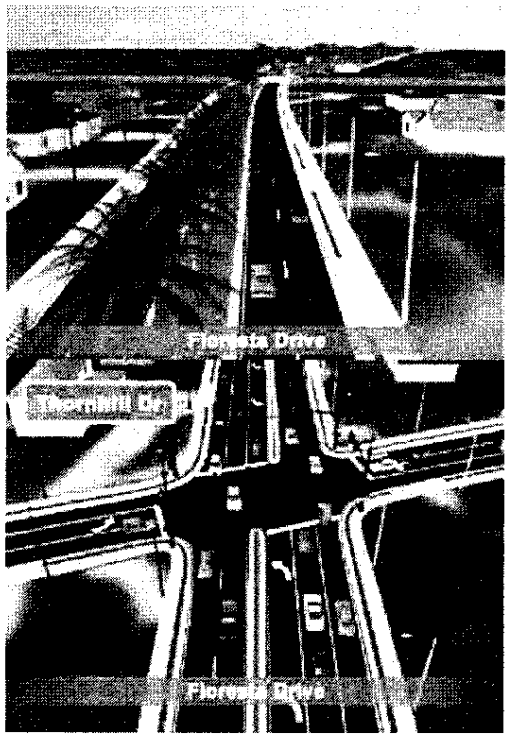
24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)

SCOPE	SIZE:	COST:
	N/A	**$ 558,270 (fee)**

The Floresta Drive project (Southbend Bridge to Elkcam Waterway) consisted of widening the existing 2-lane, undivided Floresta Drive to a four-lane divided roadway, primarily within the existing 80-ft right-of-way but with some property acquisition at intersections for auxiliary lanes. *Synchro* was used to analyze the alternatives, coordinate signals and provide signal timings at the interchange. The project also included minor lighting improvements and signalization upgrades. The location of the project was identified as being within the City of Port St Lucie, from the C-24 (Southbend) Canal to the Elkcam canal. Additionally, American produced a 3D animated fly through with narrative which effectively showed and explained the concepts of the proposed roadway improvements and changes including traffic circles, turn lanes, and a school crossing and produced a complete presentation that effectively communicated the full scope of the project by using slides, animation clips, and narrative.

The specific objectives of this project include the following:

- Provide 4 travel lanes; 2 northbound and 2 southbound lanes
- Improve operational characteristics of corridor using *Synchro* and HCS
- Reduce site specific crash reduction
- Evaluate the existing strain poles and lighting system
- Implement general safety modifications
- Upgrade to current geometric design standards
- Improve access management within the corridor
- Resolve maintenance issues
- Address ADA issues along the corridor
- Improve intersection radii and drainage



25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

	(1) FIRM NAME	(2) FIRM LOCATION (City and State)	(3) ROLE
a.	American Consulting Engineers of Florida, LLC	Stuart, Florida	Civil Engineering

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT (Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)	20. EXAMPLE PROJECT KEY NUMBER 4

21. TITLE AND LOCATION (City and State)	22. YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
TOM ADAMS BRIDGE REHABILITATION Charlotte County, Florida	**2006**	

23. PROJECT OWNER'S INFORMATION

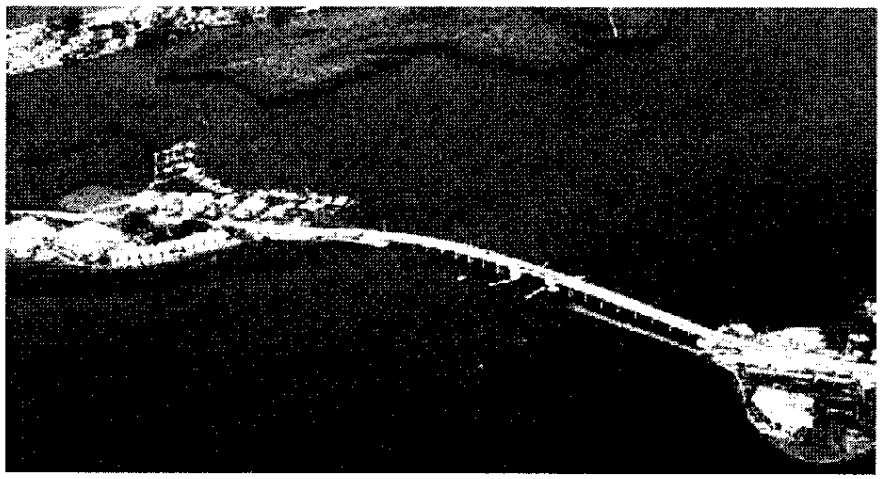
a. PROJECT OWNER	b. POINT OF CONTACT NAME	c. POINT OF CONTACT TELEPHONE NUMBER
Charlotte County	**Chuck Koons**	**941.575.3660**

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)

SCOPE	SIZE: **N/A**	COST: **$ 677,801**

The Tom Adams Bridge provides a critical link between Manasota Key and the City of Englewood. The project was split into four phases in which the first was a comprehensive bridge inspection and evaluation. The project goal was to extend the life of the bridge for an additional 50 years assuming regular, routine maintenance is completed on the structure. Rehabilitation plans were developed in Phase Two based on the findings of the initial inspection done in Phase One. These plans called for 680 feet of integral pile jacketing providing cathodic protection for the piles, the replacement of 49,000 lb of structural steel on the bascule span, the painting of all of the structural steel, the restoration of over 1200 square feet of spalled concrete deck and the epoxy injection to seal almost 700 feet of cracking in the concrete sea walls. The railing was upgraded to improve the safety for vehicles and expansion joint seals were installed to reduce future maintenance work. Permits were acquired from the US Coast Guard and from the Southwest Florida Water Management District (SWFMD) that added special criteria to monitor and limit the turbidity and oxygen levels during construction in this Outstanding Florida Waterway. American was responsible for the design and permitting of this work and the construction engineering and inspection (CEI).

Future phases of this project will further improve the operation of the bascule bridge by building a new tender to increase visibility and replace worn mechanical and electrical component of the bascule machinery. The aesthetics of the bridge will be improved in the construction of the new tender house in Phase Three and further enhanced in Phase Four by installing decorative lighting and applying aesthetic concrete coating.



25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

	(1) FIRM NAME	(2) FIRM LOCATION (City and State)	(3) ROLE
a.	American Consulting Engineers of Florida, LLC	Stuart, Florida	Civil Engineering

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT (Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)	20. EXAMPLE PROJECT KEY NUMBER 5

21. TITLE AND LOCATION (City and State)	22. YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
US90/PERDIDO RIVER BRIDGE REPLACEMENT Pensacola, Florida	**2007**	

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER	b. POINT OF CONTACT NAME	c. POINT OF CONTACT TELEPHONE NUMBER
FDOT – District 3	**Bill Howell**	**850.638.2288**

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)

SCOPE	SIZE: **N/A**	COST: **$ 1,140,094**

The US 90 Bridge Replacement project includes the design of a replacement bridge over the Perdido River on a slightly shifted alignment to the south to allow construction to take place in a single phase with minimal impacts to the motorists. The bridge consists of seven 106 foot spans using AASHTO Type IV Beams supporting a cast-in-place composite concrete bridge deck. Due to the very high-scour potential, in excess of 20 foot at some locations, the intermediate bents required special designs with pile lengths in excess of 140 foot. Project includes an alternatives analysis to determine the most appropriate alignment option, preparation of a Bridge Hydraulic Report, Bridge Development Report, approach roadway plans and environmental and permitting for a new two-lane facility on a hurricane evacuation route over the Perdido River, which is classified as an Outstanding Florida Waterway.

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

	(1) FIRM NAME	(2) FIRM LOCATION (City and State)	(3) ROLE
a.	American Consulting Engineers of Florida, LLC	Stuart, Florida	Civil Engineering

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT (Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)	20. EXAMPLE PROJECT KEY NUMBER 6

21. TITLE AND LOCATION (City and State)	22. YEAR COMPLETED	
US1/SR5 LOW LEVEL BRIDGE REPLACEMENTS Palm Beach County, Florida	PROFESSIONAL SERVICES **2009**	CONSTRUCTION (If applicable)

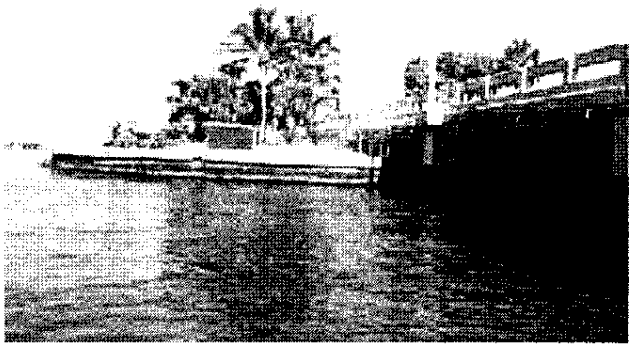
23. PROJECT OWNER'S INFORMATION

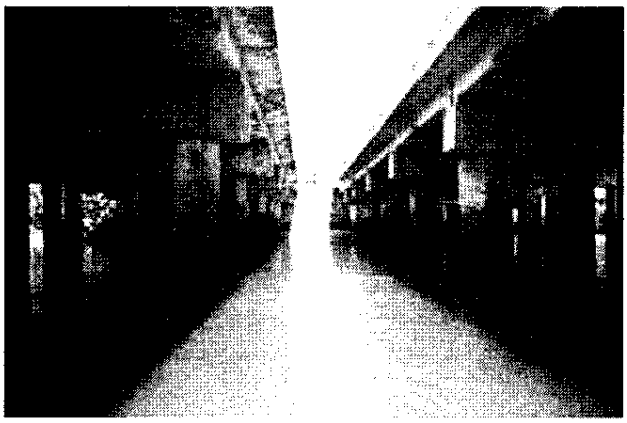
a. PROJECT OWNER	b. POINT OF CONTACT NAME	c. POINT OF CONTACT TELEPHONE NUMBER
FDOT – District 4	**Richard Young**	**954.777.4110**

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)

SCOPE	SIZE: **N/A**	COST: **$ 632,000**

American was selected to perform a Project Development and Environment (PD&E) Study to evaluate the replacement alternatives for the US 1/SR 5 low level bridges in northeast Palm Beach County (North of SR 706 at Costal Way to South of CR A1A (Ocean Boulevard)). The US 1/SR 5 low level bridges included four structures, two northbound and two southbound. The study evaluated upgrading the roadway section between the bridges from a suburban to an urban section and installing bicycle lanes and sidewalks on both sides of the road. Tasks included: a community impact assessment, traffic noise study, contamination screening evaluation, section 4(f) determination, visual and aesthetic impact assessment, water quality impact evaluation, wetland evaluation, endangered species assessment and essential fish habitat assessment, GIS research, identification of permit conditions, and coordination with state, federal and local agencies. Through the study and evaluation process, a single Preferred Alternative was developed, which included the replacement of the existing twin structures with similar parallel structures that include sidewalks and bicycle lanes on both sides. The roadway between the bridges is proposed to be upgraded to an urban section through the installation of curb and gutter. The vertical clearances of the bridges were proposed to be increased to 12 feet above mean high water. **American developed the design/build criteria package for the project.**





25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

	(1) FIRM NAME	(2) FIRM LOCATION (City and State)	(3) ROLE
a.	American Consulting Engineers of Florida, LLC	Stuart, Florida	Civil Engineering

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT (Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)	20. EXAMPLE PROJECT KEY NUMBER
	7

21. TITLE AND LOCATION (City and State)	22. YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
ANNE MERRY BRIDGE REPLACEMENT Charlotte County, Florida	**2005**	

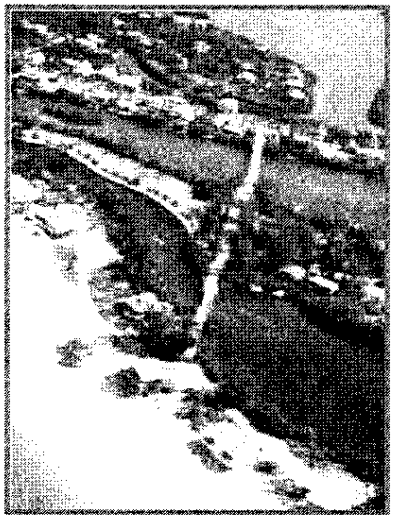
23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER	b. POINT OF CONTACT NAME	c. POINT OF CONTACT TELEPHONE NUMBER
Charlotte County	**Chuck Koons, PE**	**941.575.3660**

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)

SCOPE	SIZE:	COST:
	N/A	**$ 224,573**

American provided the planning, design and construction engineering inspection for the emergency replacement of this 60' long bridge. This project included the replacement of a three-span timber bridge with a single-span PPC box beam structure. The navigational aspects of the channel were increased significantly by utilizing a single 60' span and increasing the vertical clearance of the new bridge. The new bridge was constructed entirely with precast concrete elements, including piles, pile caps and beams, in order to minimize the duration of the road closure. In addition to the urgent nature of the design and construction, other major issues included difficult mobilization for construction equipment and the cultural and environmentally sensitive nature of the bridge location. The entire project was completed in approximately 4 months from beginning to end with less than 6 weeks needed for construction.



25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

	(1) FIRM NAME	(2) FIRM LOCATION (City and State)	(3) ROLE
a.	American Consulting Engineers of Florida, LLC	Stuart, Florida	Civil Engineering

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT (Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)	20. EXAMPLE PROJECT KEY NUMBER
	8

21. TITLE AND LOCATION (City and State)	22. YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
CORAL CREEK BRIDGE REPLACEMENT Charlotte County, Florida	**2009**	

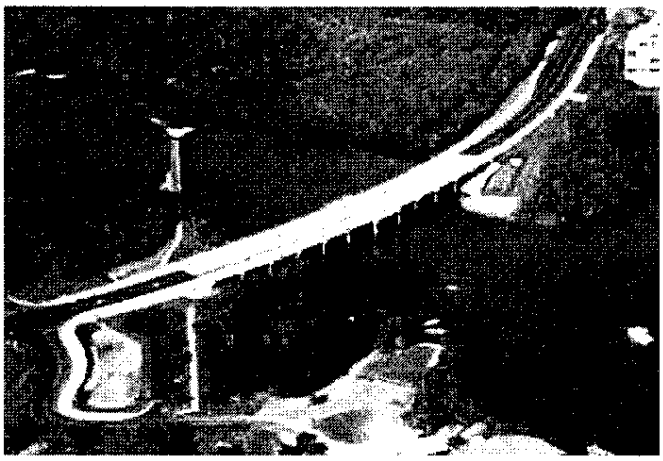
23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER	b. POINT OF CONTACT NAME	c. POINT OF CONTACT TELEPHONE NUMBER
Charlotte County	**Chuck Koons, PE**	**941.575.3660**

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)

SCOPE	SIZE: **N/A**	COST: **$ 300,000**

This project includes the realignment of County Road 775 and County Road 771 with the construction of a new 438' CIP flat slab bridge with 36'-6" spans and supported by pile bents. Also included in the construction are concrete sheet piling, lighting, utility conduits placed in the traffic rails and curbs, and sub-aqueous water mains. The proposed sanitary sewer includes a gravity main, force main and a lift station. As a special note, this project also includes additional coordination with the Gasparilla Island Water Authority and Charlotte County Utilities for providing water and sewer. With the exception of minor temporary widening at the locations where the proposed roadway will tie into the existing roadway, traffic will be maintained on the existing roadway and bridge throughout the duration of construction of the proposed roadway and bridge. Access to the existing Fishery Road will be maintained at all times throughout construction.



25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

	(1) FIRM NAME	(2) FIRM LOCATION (City and State)	(3) ROLE
a.	American Consulting Engineers of Florida, LLC	Stuart, Florida	Civil Engineering

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT (Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)	20. EXAMPLE PROJECT KEY NUMBER
	9

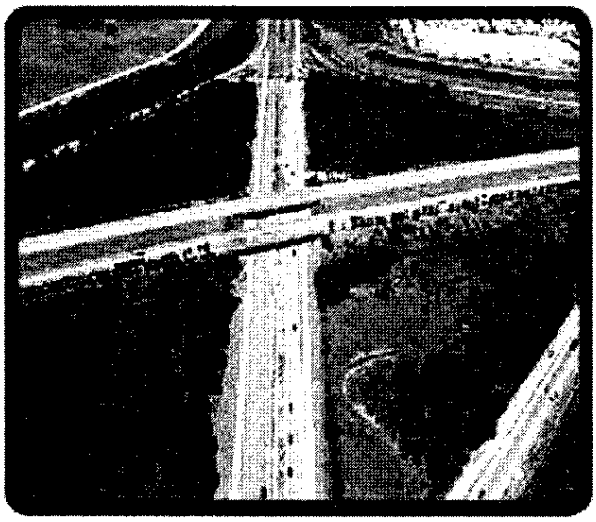
21. TITLE AND LOCATION (City and State)	22. YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
I-95 GATLIN BOULEVARD PHASE I AND PHASE II Port St. Lucie, Florida	**2007**	**2010**

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER	b. POINT OF CONTACT NAME	c. POINT OF CONTACT TELEPHONE NUMBER
City of Port St. Lucie	**Kim Graham**	**(772)344-4014**

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)

SCOPE	SIZE: **3 miles**	COST: **$ 228,198**



This project consisted of the widening a 3.0 mile, 4-lane divided suburban highway to a 6-lane suburban divided section with auxiliary lanes associated with the I-95 interchange. The design included roadway plans, drainage plans, traffic control plans, signing and marking plans, utility coordination, signalization plans, lighting plans, landscaping plans, and permits. The project included coordination with FDOT for construction within limited access right-of-way. Drainage improvements included modification of the existing I-95 permitted stormwater management system including retrofitting 4 existing pipes with control structures to utilize the existing topography of the infields for detention and the addition of 7 other dry detention areas all within existing right-of-way. Phase I is construction complete, Phase II is design complete and permits have been obtained from SFWMD and USACE. All stormwater management requirements were provided without land acquisition. A new commercial development was constructed during Phase I construction with associated median and driveway modifications. American coordinated with developer's engineers and made minor adjustments to plans to address the changed conditions.

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

	(1) FIRM NAME	(2) FIRM LOCATION (City and State)	(3) ROLE
a.	American Consulting Engineers of Florida, LLC	Stuart, Florida	Civil Engineering

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT (Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)	20. EXAMPLE PROJECT KEY NUMBER 10

21. TITLE AND LOCATION (City and State)	22. YEAR COMPLETED	
MICHAEL KOSINSKI BRIDGE REPLACEMENT Charlotte County, Florida	PROFESSIONAL SERVICES **2005**	CONSTRUCTION (If applicable)

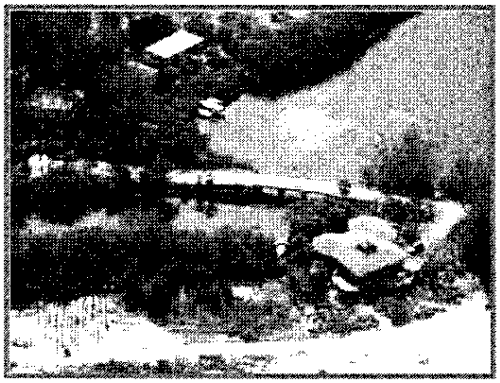
23. PROJECT OWNER'S INFORMATION

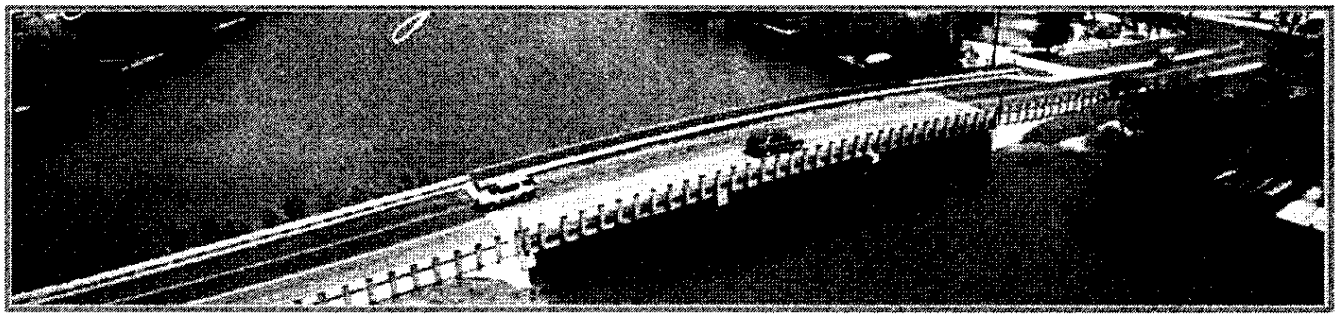
a. PROJECT OWNER	b. POINT OF CONTACT NAME	c. POINT OF CONTACT TELEPHONE NUMBER
Charlotte County	**Chuck Koons, PE**	**941.575.3660**

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)

	SIZE:	COST:
SCOPE	**N/A**	**$ 224,573**

Initially, American was responsible for the inspection, load rating and preparation of a report detailing the condition of the bridge structure beginning twice each year and later increased to six times per year in 2006. Upon completion of each inspection, a report detailing the findings of the structural inspection was prepared including the updating of the previously prepared load rating to reflect any changed conditions. Over the last seven years, numerous repairs have been implemented to keep the bridge operational. Concurrently with this inspection work, American prepared approach roadway and bridge replacement plans and then acted as the County's representative in reviewing and ensuring code compliance in the development of timber bridge replacement plans. Vester "Butch" McDaniel provided the day to day construction inspection and Scott Korpi served as Project Director.





25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

	(1) FIRM NAME	(2) FIRM LOCATION (City and State)	(3) ROLE
a.	American Consulting Engineers of Florida, LLC	Stuart, Florida	Civil Engineering

G. KEY PERSONNEL PARTICIPATION IN EXAMPLE PROJECTS

26. NAMES OF KEY PERSONNEL (From Section E, Block 12)	27. ROLE IN THIS CONTRACT (From Section E, Block 13)	28. EXAMPLE PROJECTS LISTED IN SECTION F (Fill in "Example Projects Key" section below before completing table. Place "X" under project key number for participation in same or similar role.)									
		1	2	3	4	5	6	7	8	9	10
Brian Mirson, PE, AICP	Principal-in-Charge	X	X	X		X	X		X	X	
Christopher O'Reilly, PE	Project Manager	X	X	X		X	X		X	X	
Ryan Forrestel, PE	QA/QC	X		X	X	X	X	X	X	X	
Don Keenan, PE	QA/QC				X	X		X	X		X
Andrew Nunes, PE	Roadway	X	X	X			X			X	
Jeffrey Chase	Roadway /TCP/MOT	X	X	X	X	X	X	X	X	X	X
Scott Korpi, PE, SE	Bridge Design	X			X	X	X	X	X	X	X
Richard Hunter, PE	Bridge Design	X			X	X	X	X	X	X	X
Akram Hussein, PE, PTOE	S&PM/Signalization	X		X		X				X	
Anna Peterfruend, MS	Environmental/Permitting	X	X	X		X				X	
Chris Salicco	Environmental/Permitting	X	X								
William Adams, PE	SWM/Hydrologic	X	X	X	X	X	X	X	X	X	X
Mike Ryan, EI	SWM/Hydrologic	X		X							
Jack Knowlton, PE	Constructability/Biddability										

29. EXAMPLE PROJECTS KEY

NO.	TITLE OF EXAMPLE PROJECT (FROM SECTION F)	NO.	TITLE OF EXAMPLE PROJECT (FROM SECTION F)
1	Old Dixie Alignment Study Palm Beach County, Florida	6	Crosstown Parkway Corridor Conceptual ERP Port St. Lucie, Florida
2	Old Dixie Highway from Park Avenue to Northlake Boulevard Palm Beach County, Florida	7	Kanner Road PD&E and Design Martin County, Florida
3	Crosstown Parkway Segment 3 (Bridge Over Florida's Turnpike) Port St. Lucie, Florida	8	Mainline Widening north of Johnson St. to Griffin Road Broward County, Florida

4	Lyons Road N of West Atlantic Ave to S of Boynton Beach Blvd Palm Beach County, Florida	9	I-95 Gatlin Boulevard Phase I and Phase II Port St. Lucie, Florida
5	Lyons Road, N of Forest Hill Blvd to S of SR 80 Palm Beach County, Florida	10	Green River Alignment Re-evaluation Martin County, FL

H. ADDITIONAL INFORMATION

30. PROVIDE ANY ADDITIONAL INFORMATION REQUESTED BY THE AGENCY. ATTACH ADDITIONAL SHEETS AS NEEDED.

American is a planning, civil engineering, consulting, and project management organization serving local, state and federal agencies as well as the private sector. **American's** continued success has been the result of the talent, experience, and service we provide our clients under a team concept, with coordination by experienced project managers. Our project management structure is effective in assembling technical and professional teams with diverse capabilities that respond to time-constrained project assignments. **American's** clients are provided with a single point-of-contact that can respond to their needs in a professional and timely manner. **American** offers innovative solutions, technical competence and professional integrity.

American's personnel include civil engineers, structural engineers, drainage engineers, environmental scientists, urban and transportation planners, construction engineers, graphic artists, and surveyors. **American** is committed to our culture of professional excellence.

RANGE OF SERVICES

Highway Design
Traffic Engineering
Transportation Planning
Urban Planning and Design
Transit Planning and Engineering
Structural Design
Structural Inspections
Environmental Assessments
Municipal Engineering
Surveying and Mapping
Land Use Development
Civil Site Design
Water Management
Wastewater Management
Pavement Rehabilitation
Construction Administration
Construction Engineering and Inspection
Construction Management
Project Management
Project Management Oversight

WHY THE AMERICAN TEAM?

- ✓ **Extensive related experience on similar projects.**
- ✓ **Excellent performance ratings on similar projects.**
- ✓ **Capacity to do the work, to fully staff, and manage the effort throughout its duration.**
- ✓ **Proficiency in meeting accelerated project schedules.**
- ✓ **Commitment to Quality Control.**

American has the personnel, experience, and equipment to provide consultant services in the required time. Our firm has provided and coordinated similar services. Our current workload allows American to initiate services upon notice to proceed.

American appreciates this opportunity to present our credentials for your review and consideration. We are prepared to respond immediately to any additional information you may require, and look forward to working with you on this project.

I. AUTHORIZED REPRESENTATIVE

The foregoing is a statement of facts.

31. SIGNATURE	32. DATE
BV	September 17, 2012

33. NAME AND TITLE

Brian Mirson, PE, AICP / Principal