FACILITIES PROGRAM

LEE STREET ROADWAY PROJECT

BR 639

JULY 2003

FLORIDA ATLANTIC UNIVERSITY

LEE STREET ROADWAY PROJECT

FOR

FLORIDA ATLANTIC UNIVERSITY

BOCA RATON, FLORIDA

PREPARED IN ACCORDANCE WITH
FAU DIVISION OF UNIVERSITY ARCHITECT
AVP POLICY & PROCEDURE #2

JULY 2003

Florida Atlantic University
Lee Street Roadway Project

PREPARED BY: **Azita Dashtaki**, Coordinator
Florida Atlantic University

REVIEWED AND APPROVED:

FACILITIES PLANNING:
This is to certify that this document has been reviewed for project schedule, budget and code requirements.

Raymond Nelson, Director

ASSOCIATE VICE PRESIDENT, OFFICE OF THE UNIVERSITY ARCHITECT:
This is to certify that this document meets the intent of the University Architect's AVP Policy and Procedure #2 (Development of Facility Program) and is consistent with the latest approved Campus Master Plan.

Thomas Donaudy, Associate Vice President

INFORMATION RESOURCE MANAGEMENT:
This is to certify that this document meets the requirements of Information Resource Management.

Jeffery Schilit, Associate Provost

PROGRAM COMMITTEE:
This is to certify that this document contains the recommendations of the Program Committee.

August Washington, Committee Chairperson

OFFICE OF THE UNIVERSITY ARCHITECT:
This is to certify that this document meets the needs of Florida Atlantic University that it is in conformance with all applicable requirements, and is hereby recommended to the President.

Robert M. Friedman, University Architect & Vice President

FLORIDA ATLANTIC UNIVERSITY:
This is to certify that this document has been reviewed by the administrative leadership at Florida Atlantic University and that the material contained herein is forwarded with the President's approval and recommendation.

Frank T. Brogan, President

A. Project History

The Boca Raton Campus originally had one major entrance, on 20th Street leading to the Williams Administration Building. With the completion of I-95 in the 1970's, a second major entrance was added from Glades Road. This entrance has become the main entrance into the campus. A previous project, BR-614, included improvements to this entrance and realignment and widening of Broward Avenue, the main north-south campus road on the west side of campus, that connects with it. As student population continues to increase the capacity of the older two-lane roads throughout the remainder of campus is being strained. The second entry to the campus from Glades Road was realigned at the time of construction of the Student Apartment Project, BR-685, to connect Florida Atlantic Boulevard directly to Glades Road. This realignment has made Florida Atlantic Boulevard, which is the main north-south campus road on the east side of campus, a major thoroughfare. This year the university will complete the expansion of Florida Atlantic Boulevard from a two-lane road to a four lane median divided boulevard.

Lee Street is the northern connecting road between Florida Atlantic Boulevard and Broward Avenue. This project will realign the existing Lee Street in accordance with the latest approved Campus Master Plan and complete the three most critical portions of our 4 lane median divided loop road. When complete, this project will greatly enhance traffic circulation.

B. General Project Description

1. Realign and widen Lee Street from Florida Atlantic Boulevard to Broward Avenue.
2. Relocate and improve street lighting.
3. Relocate and enhance existing signage and landscaping to accommodate the road improvement.
4. Relocate existing underground utilities to accommodate the road widening and provide adequate utility corridors for future expansion to the north of Lee Street.
5. Relocate and improve the existing pedestrian walkways.
6. Provide landscaping similar in design and palette to that installed along Broward Avenue.
7. Provide reclaimed water irrigation system, connected to the existing reclaimed water main loop.
8. Relocate any displaced parking as a result of the road realignment.
9. Master plan the existing parking area located to the south of Lee Street to enhance vehicular and pedestrian traffic flow.

The total project cost for the above identified items is $3.9 million. In addition to this cost, this project may include an additional $1.5 million for civil work, site lighting and infrastructure upgrade to the north side of Lee Street.

C. Outline of Project Goals and Objectives

1. The overall goal is to improve campus circulation.
2. Facilitate vehicular traffic movement around the academic core.
3. Facilitate future construction that will generate increased traffic volume..
4. Make provision for underground utilities to allow for future expansion to the north side of Lee Street (per approved Campus Master Plan).

D. Outline of Design Objectives

A general design objective of the proposed new construction is to provide a safe and aesthetically appealing vehicular path connecting the northern section of Florida Atlantic Boulevard to the northern portion of Broward Avenue. This project will lessen the existing traffic bottleneck along Lee Street.

E. Proposed Construction Delivery Method

The method of construction delivery will be by general contractor/conventional bid.

No academic programs will be provided.

No new space will be provided. This project is for roadway improvements.

The Florida Atlantic Boulevard Improvements project is consistent with the Master Plan for the Boca Raton Campus of FAU adopted September 15, 1995 and updated November 6, 2001. Specific references are:

a. Section 11, Transportation Element, Objective 2B, The University shall continue to promote and develop an internal campus roadway network as low speed, moderate capacity facility which facilitates the safe movement of automobiles, transit vehicles, bicycles and pedestrians.

b. Section 14, Capital Improvement, Objective 1A, To provide facilities necessary to accommodate future growth, replace obsolete facilities, and, correct existing deficiencies as identified in the 10-year Capital Improvements Schedule (Appendix CIP Priority 1)

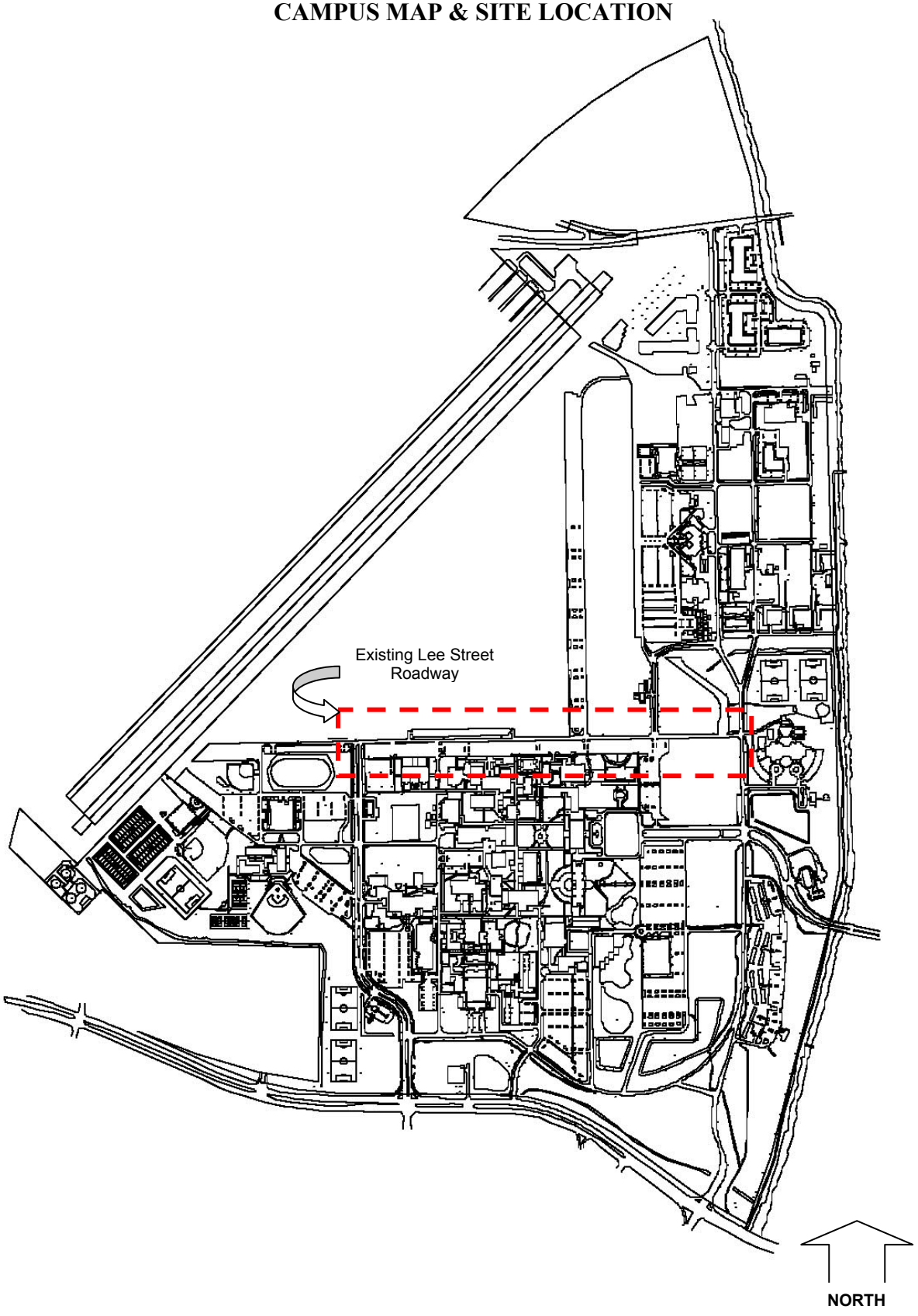
c. Section 16, Landscape Design Guidelines Element, Policy 1C-1, The Inner Traffic Loop, consisting of Florida Atlantic Boulevard to the South and east of the campus core, Broward Avenue to the west, and the realignment of Lee Street to the north shall be developed as a four lane divided boulevard that serves as the main circulation corridor for the campus and which defines the "Campus Core".

A. SITE CONDITIONS

1. Site topography and soil conditions on the Boca Raton Campus are relatively uniform. The site is flat. Soil is sandy (Flatwood soils of the Immokalee/Basinger association).
2. Site water table is typically 6-7 feet below grade. F.I.R.M. flood hazard zone for central campus is V8, area of 100-year coastal flood with velocity (wave action), base flood elevation 10. Storm water drainage for any expansion will follow the requirements of the master South Florida Water Management District Conceptual Drainage Permit.
3. Pedestrian circulation will be improved in this project. Walkways will be provided along Lee Street in areas where none presently exist. Bicycle lanes will also be provided as a part of the 4-laning.
4. There is little existing site vegetation. The new roadway will be fully landscaped with trees and lower level plantings and will be irrigated with reclaimed water.
5. There are no sites of significant archaeological history that would be impacted by this project.
6. Utilities: (an extensive site survey will be required to verify the existing underground utilities)
    a. Storm Drainage culverts run under Lee St. and Parking Lot 7, north of Bldg # 23. The Storm Drain discharges into the undeveloped area north of Lot 7.
    b. Electrical Street Light underground power cables run north of, and parallel to Lee St. Electric Street Light underground power cables run from Lee St. north through the old runway parking lot. Electrical high voltage duct bank supplies power to Satellite Plant Bldg # 72 from the utility tunnel, west side of Bldg # 43. The duct bank runs south of, and parallel to Lee St, turns north in front of Bldg. 72 crossing Lee Street. Electrical Street Light power underground cable runs from Lee St., north along both east and west sides of St. Lucie Ave. Street Light Power runs from Lee St. north along the west side of Lot 56.

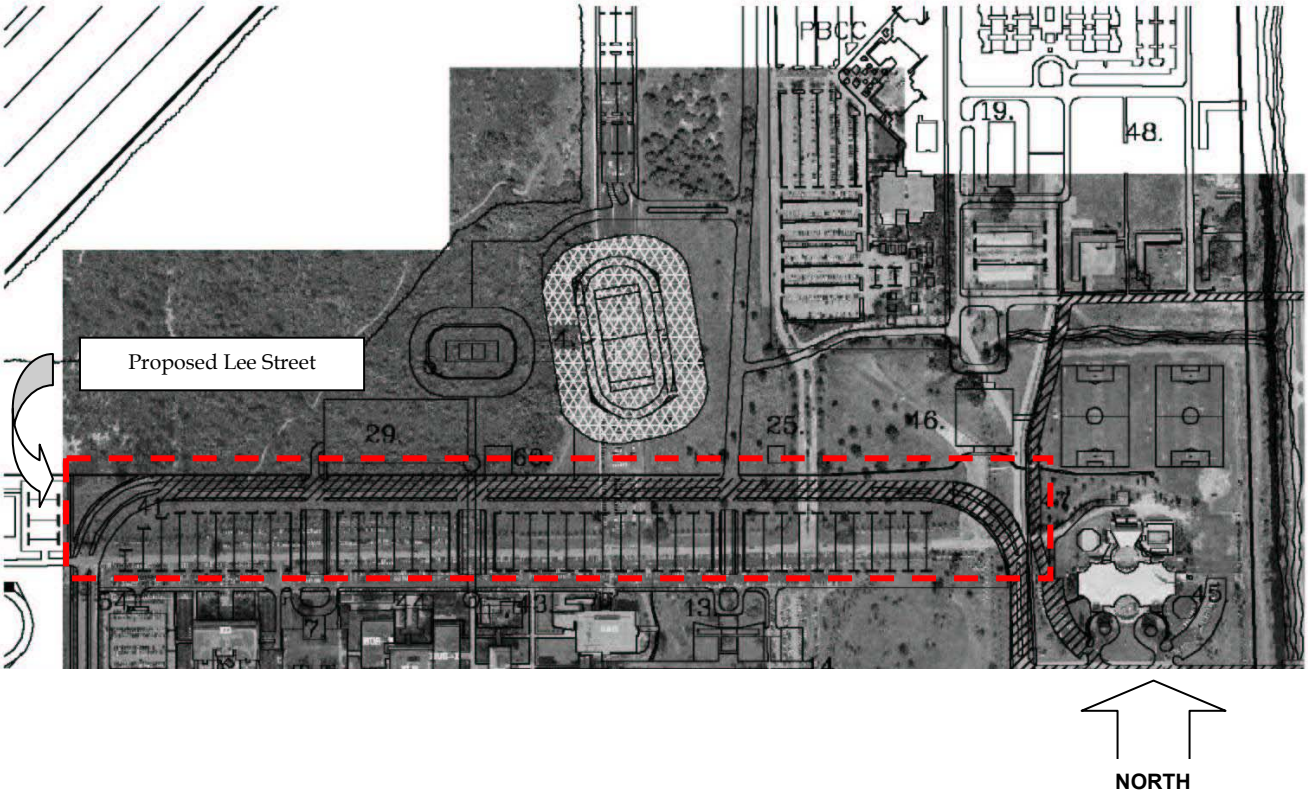
       All existing conductors are direct buried no. 4 copper type XLP.
    c. Telecom phone, data, and Fiber Optic lines are underground along Lee St.'s north curb. The 12 strand mm fiber cable which links building 5 to T-6 is buried at a dept of 24" to the top of a 2" conduit. Under the conduit is a direct buried 400 pair copper cable to T-6.
    d. 12" Chilled Water lines and a 6" Potable Water line run underground from the east side of Bio-Med Bldg # 71, north to Satellite Plant Bldg #72.
    e. A 4" Sanitary line runs south from the west side of Satellite Plant # 72.
    f. An underground 4" Gas line runs north along the west curb of Florida Atlantic Blvd.
    g. An underground 8" Water line runs north along the west curb of Florida Atlantic Blvd.
    h. A 12" Reuse water line runs 100' north of and parallel to Lee St. from Broward Ave. to Florida Atlantic Blvd.
    i. There are (2) spare, empty 4" pvc pipes 18" below grade, above the 12" Reuse line.

CAMPUS MAP & SITE LOCATION



CAMPUS MASTER PLAN

Lee Street Roadway Project



This item is not applicable since this is a roadway project and will not require programmatic area.

A. UTILITIES IMPACT ANALYSIS

1. CHILLED WATER:

During the design process, as part of this project the University may want to explore the feasibility of connecting the chilled water from the main Campus Utility Plant to the Satellite Utility Plant. Ultimately the University would like to connect chilled water supply and return piping to the existing North Loop from the Campus Utility Plant and extend piping North to Lees Street. Piping to then run east as far as the Satellite Plant and be further extended North to a valve pit with manhole on the south side of the Satellite Plant. At a minimum this project will provide sleeves under the proposed roadway for future connection.

2. HEATING:

No impact.

3. ELECTRICAL:

New conduit and wire shall be installed from the existing utility plan and the lighting shall be controlled from lighting contactors located in the transformer vault in the Utilities Building (Bldg. No. 5)

New lighting should be considered for the parking lots from Broward Avenue to the Schmidt Bio-Medical Center, South of Lee Street.

The voltage shall be 480 to ground; the anticipated KVA load is 30 KVA.

4. POTABLE WATER & SANITARY SEWER:

No impact.

5. IRRIGATION:

New landscaped areas will be irrigated with reclaimed irrigation water supplied from the existing 12" reclaimed water line.

6. STORM WATER MANAGEMENT:

This project shall address the storm water management in accordance with FAU's Conceptual storm water plan and the requirements of SFWMD.

A. UNIVERSITY INFORMATION / COMMUNICATION STANDARD

All voice and data systems shall comply with Florida Atlantic University's most current specifications for Information Resources Management Communication Infrastructure Specification effective on the date of the Architect/Engineer contract execution. The complete specification is located on the web at:

http://wise.fau.edu/irm/ts/cblspecs.htm.

The requirements of the University information/communications standards will be strictly enforced for the design and construction of the proposed facility.

This is a roadway project and no IRM work is anticipated. However, any underground telephone/data cabling required, shall comply with the IRM Wire and Cable Specification.

B. UNIVERSITY INFORMATION RESOURCE MANAGER CERTIFICATION

By signature (on the signature page of this facilities program) the University Information Resource Manager certifies that a review of the University information/communication standards has been completed; and that the facilities program is developed in conformance with the Florida Atlantic University Information/Communication Standards in accordance with the Section 282, F.S.

A. CODES AND STANDARDS

The following approved editions of Codes and Standards (and associated review & permitting process), and University standards, where applicable, shall be followed for the design and construction of the proposed facility: (Reference: FAU Professional Services Guide (PSG), section 3.13).

		Description
	2002	Florida DOT Manual of Uniform Minimum Standards for Design, Construction and Maintenance of Streets and Highways
		Building Codes
1.	2001	Florida Building Code, Building
2.	2001	Florida Building Code, Mechanical
3.	2001	Florida Building Code, Fuel Gas
4.	2001	Florida Building Code, Plumbing
5.	2001	Florida building Code, Test Protocols for High Velocity Hurricane zones
		Section 4A-3.012 Standard of the National Fire Protection Association (Most commonly used Codes and Standards)
Chap.	**Year**	**Title**
1	2000	Fire Prevention Code
10	1998	Standard for Portable Fire Extinguishers
13	1999	Standard for the Installation of Sprinkler Systems
13R	1999	Standard for the Installation of Sprinkler Systems in Residential Occupancies up to and including four stories in Height
14	2000	Standard for the Installation of Standpipe and Hose systems, except 2-7 Shall be omitted
20	1999	Standard for the Installation of Centrifugal Fire Pumps
24	1995	Standard for the Installation of Private Fire Service Mains and Their Appurtenances
25	1998	Standard for the Inspection, Testing & Maintenance of Water Based Fire Protection Systems
30	1996	Flammable and Combustible Liquids Code
45	1996	Standard on Fire Protection for Laboratories Using Chemicals
70	1999	National Electrical Code
72	1999	National Fire Alarm Code
90A	1999	Standard for the installation of Air Conditioning and Ventilating Systems
96	1998	Standard for Ventilation Control and Fire Prevention of Commercial Cooking Operations
101	2000	Life Safety Code
	3.13.3	**State Fire Marshal**
		Requirements for review shall comply with PSG, Exhibit 5; (all inspections, reviews and permitting for University projects shall be coordinated through the University EHS Office)
	3.13.4-5	**Required Permits**
		All Building permits are to be issued by the Building Code Official at FAU Facilities Planning, prior to the start of construction.
	3.13.5.2	Department of Business and Professional Regulation, Division of Hotel and restaurants, Bureau of Elevator Inspection for elevator inspections and permit
	3.13.5.4	Department of Environmental Protection (DEP), area Branch (SUS is fee exempt)
	3.13.5.5	South Florida Water Management District permit
		SUS Standards
		State University System Cost Containment Guidelines
		Florida Atlantic University
		Florida Atlantic University - University Architect's Division Policies and Procedures
		Florida Atlantic University Professional Services Guide – April 2003
		Florida Atlantic University Cost Containment Guidelines Supplement
		All special requirements as identified in the pre-design conference meeting(s) with the various University agencies (the A/E consultant(s) shall record in meeting minutes).
		Miscellaneous Statutes
		Ratio of facilities for men and women public restrooms of Section 553.14 of Florida Statutes

Note: All reference to codes shall mean the latest editions adopted through legislation for use in state owned/leased buildings as described in the Florida Statues.

Convention Design and Bid Delivery Method of Construction

GOALS AND MILESTONES	DURATION	START DATE	END DATE
PROGRAM APPROVAL	**1 weeks**	**14-Jul-2003**	**21-Jul-2003**
University Facilities Program Approval	1 weeks	21-Jul-2003	28-Jul-2003
A/E SELECTION PROCESS	**13 weeks**	**28-Jul-2003**	**27-Oct-2003**
Advertise for A/E in FAW	5 weeks	28-Jul-2003	01-Sep-2003
A/E Short-list	2 weeks	01-Sep-2003	15-Sep-2003
A/E Interviews	3 weeks	15-Sep-2003	06-Oct-2003
A/E Selection	1 weeks	06-Oct-2003	13-Oct-2003
Contract Negotiations with A/E	2 weeks	13-Oct-2003	27-Oct-2003
DESIGN PHASE	**38 weeks**	**27-Oct-2003**	**19-Jul-2004**
Conceptual Design	4 weeks	27-Oct-2003	24-Nov-2003
University review and approval	2 weeks	24-Nov-2003	08-Dec-2003
Schematic Design	3 weeks	08-Dec-2003	29-Dec-2003
University review and approval	3 weeks	29-Dec-2003	19-Jan-2004
Design Development and Budget verification	4 weeks	19-Jan-2004	16-Feb-2004
University review and approval	3 weeks	16-Feb-2004	08-Mar-2004
50% Construction Documents and Budget update	4 weeks	08-Mar-2004	05-Apr-2004
University review and approval	3 weeks	05-Apr-2004	26-Apr-2004
100% Construction Documents and Budget update	6 weeks	26-Apr-2004	07-Jun-2004
University review and approval	3 weeks	07-Jun-2004	28-Jun-2004
Bid Package Submittal and Review	3 weeks	28-Jun-2004	19-Jul-2004
BIDDING PHASE	**6 weeks**	**19-Jul-2004**	**30-Aug-2004**
Advertise for GC in FAW	4 weeks	19-Jul-2004	16-Aug-2004
Award / Notice to Proceed	2 weeks	16-Aug-2004	30-Aug-2004
CONSTRUCTION PHASE	**52 weeks**	**30-Aug-2004**	**31-Aug-2005**
Construction	52 weeks	19-Jul-2004	18-Jul-2005
Substantial Completion Inspection	1 weeks	18-Jul-2005	25-Jul-2005
Punchlist Corrective Work	4 weeks	25-Jul-2005	24-Aug-2005
Final Completion Inspection	1 weeks	24-Aug-2005	31-Aug-2005
Total	**112 weeks**	**07-Jul-2003**	**31-Aug-2005**

A. ESTIMATED FUNDING

PROJECT FUNDING	
Public Education Capital Outlay (2003-2004 P,C)	$ 3,900,000
TOTAL	**$ 3,900,000**

B. ESTIMATED BUDGET

1. Construction Costs	
a. Construction Costs	$2,014,000.00
b. Additional/Extraordinary Construction Costs	$838,000.00
c. FAU Contingency for Additional Enhancements	$360,000.00
Sub Total Construction Costs	**$3,212,000.00**
2. Other Project Costs	
a. Land/existing facility acquisition	$0.00
b. Professional Fees	$243,800.00
c. Fire Marshal Fees	$0.00
d. Inspection Services	$50,000.00
e. Insurance Consultant	$2,100.00
f. Surveys and Tests	$60,000.00
g. Permit/Impact/Environmental Fees	$53,000.00
h. Art Work	$0.00
i. Movable Furnishings & Equipment	$0.00
j. Project Contingencies	$279,100.00
Sub Total Other Project Costs	**$688,000.00**
TOTAL PROJECT BUDGET (from Section XV of Facilities Program)	**$3,900,000.00**

PROJECT SPACE AND BUDGET SUMMARY (Reference: AVP P&P 2, Attachment A-3)

1. CONSTRUCTION COSTS	
a. Construction Cost*	
New Construction Cost*	$2,014,000.00
Sub-Total Construction Costs	**$2,014,000.00**
b. Additional/Extraordinary Construction Cost	
Roadway Improvements - Turn Out for Future Complex	$120,000.00
**Connector Road (Design Complete –not included in A/E Design Fee)	$275,000.00
Parking Improvements	$368,000.00
Plazas/Walks/Bike paths	$75,000.00
FAU CONTINGENCY FOR ADDITIONAL ENHANCEMENTS	
Landscaping and Irrigation	$100,000.00
Electrical - Site Lighting	$130,000.00
Storm Water System	$130,000.00
Sub-Total Additional/Extraordinary Construction Costs	**$1,198,000.00**
TOTAL CONSTRUCTION COST	**$3,212,000.00**

* Roadway construction cost was developed from a similar roadway project BR-615 Florida Atlantic Boulevard. Unit cost from this project have been applied to the lineal feet for the proposed Lee Street Roadway. This cost is for a four lane median divided boulevard with curb and gutter, lighting, landscaping, and site utilities improvement such as stormwater.

** The connector road extends from the Research and Development Park to Lee Street. Design for this roadway is complete and will be constructed under this project.

2. OTHER PROJECT COSTS	
a. Land/Existing Facility Acquisition	**$ 0.00**
b. Professional Fees	
Engineering Fees (6.19 % of Estimated Construction Cost based on SUS Engineering Fee Curve)	$181,700.00
Master Planning Services	$30,000.00
Cost Estimating Fee	$32,100.00
Sub-Total Professional Fees	**$243,800.00**
c. State Fire Marshal Review and Inspection Fee.	
SFM Fee (0.0025 x construction cost of building envelope only)	**$0.00**
d. Inspection Services	
Construction Inspection	**$50,000.00**
e. Insurance Consultant	
Risk Management / Insurance Consultant,	**$2,100.00**
f. Surveys & Tests	
Site Survey	$40,000.00
Geotechnical Survey	$20,000.00
Sub-Total Surveys & Tests	**$60,000.00**
g. Permit/Impact/Environmental Fees	
Environmental Impact Fee	$50,000.00
Environmental (SFWM)	$3,000.00
Sub-Total Permit/Impact/Environmental Fees	**$53,000.00**
h. Art in State Building (Section 255.043, F.S.)	**$0.00**
i. Movable Furniture & Equipment	**$0.00**
j. Project Contingency	
(9% x Project Cost Sub-Total Above)	**$279,100.00**
TOTAL OTHER PROJECT COSTS	**$688,000.00**
TOTAL PROJECT BUDGET COST ESTIMATE	**$3,900,000.00**