



**A. D. HENDERSON UNIVERSITY SCHOOL  
CLASSROOM EXPANSION FACILITY  
BT- 648**

CIRCULATED FOR SIGNATURES  
**FEBRUARY 18, 2008**



**A. D. HENDERSON UNIVERSITY SCHOOL  
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BT- 648**

FLORIDA ATLANTIC UNIVERSITY  
BOCA RATON, FLORIDA

CIRCULATED FOR SIGNATURES  
**FEBRUARY 18, 2008**

PREPARED IN ACCORDANCE WITH  
AVP POLICY AND PROCEDURE #2  
PROGRAM DEVELOPMENT

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Florida Atlantic University  
FACILITIES PROGRAM

PREPARED BY:



Robert Richman, University Planner

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

INFORMATION RESOURCE MANAGEMENT:

This is to certify that this document meets the requirements of Information Resource Management.



Jeffery Schilit, Associate Provost

COLLEGE OF EDUCATION:

This is to certify that this document contains the recommendations of the College of Education.




Gregory F. Aloia, Dean, College of Education



Glen Thomas, Executive Director, A.D. Henderson University School

**DIVISION OF FINANCIAL AFFAIRS:**

This is to certify that this document meets the requirements of the Division of Financial Affairs.

  
2-27-08  
\_\_\_\_\_  
**Kenneth Jessell**, Vice President for Financial Affairs

**DIVISION OF ACADEMIC AFFAIRS:**

This is to certify that this document meets the requirements of the Office of Academic Affairs.

  
\_\_\_\_\_  
**John Pritchett**, University Provost & Chief Academic Officer

**DIVISION OF FACILITIES:**

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**, University Architect & Vice President for Facilities

**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 Date

**A. PROJECT HISTORY AND GENERAL DESCRIPTION**

The A. D. Henderson/FAU High School buildings are located on the east side of the Boca Raton Campus and house grades k-9 and some after hours university undergraduate and graduate classes. Because of the growth of the school and the demands of the state class size amendment, the current school plant has several portable buildings which need to be replaced with a permanent building. The recently revised Master Plan provides that the area immediately north of the recent middle school building is the most appropriate site. The intent of the project will be to build 8 general classroom spaces of about 850-900 square feet to house 25 student stations for grades 5-9, a larger general purpose room of 1100 for general music and movement instruction, and a basic science lab that would not require the use or storage of hazardous materials or fumes. The new facility must be completed and ready for occupancy by August 1, 2009.

**B. DESIGN OBJECTIVES**

The overall design objective for this project is to develop a facility, which provides an environment for the students and faculty to learn, interact, and conduct programs to enhance their experience at the Henderson School on the FAU Boca Raton Campus.

**1. LANDSCAPING AND EXTERIOR LIGHTING**

Landscaping and exterior lighting shall be incorporated into the design for function, aesthetics, security and safety. Lighting and security shall be furnished to connect the proposed building with the parking areas of the site.

**2. WALKWAYS AND PEDESTRIAN TRAFFIC**

The project shall include walkways and plazas, adequate for connecting this facility to other facilities and parking areas in a way that is consistent with the master plan..

**3. VEHICULAR TRAFFIC**

Separation of vehicular and pedestrian traffic is of utmost importance. The safety of pedestrian circulation should be a first priority. Second priority is the development of parking areas with access from the perimeter and access for service vehicles, necessary to maintain the building and the grounds.

**4. DESIGN FOR FUTURE EXPANSION AND RENOVATION**

Within the program and budget constraints, the site and building will be designed to allow flexibility for future program growth and change. The useable life of the facility shall be extended by incorporating features for remodeling and expansion designed to reduce future renovation costs.

**5. CONTEXTUAL SITE AND BUILDING DESIGN**

Site and Building design shall emphasize the design of the total campus entity rather than the individual buildings. While each building is required to be designed as an appropriate response to its particular program, budget and site requirements, it must also be compatible with the existing fabric of the campus and, in the case of the west campus, compatible with the master plan.

6. SUSTAINABLE DESIGN, GREEN ARCHITECTURE AND RECYCLING

The University promotes environmental quality and resource conservation through sustainable design, green architecture and recycling in its planning and development. This project will be designed and built to at least the U. S. Green Building Council's LEED Silver standard or equivalent.

7. CONNECTIVITY

The design shall provide for the connectivity to essential voice data and life-safety reporting systems between the east and west campuses. Wireless connectivity within the buildings is required.

8. PROJECT BUDGET

The University expects the architect to develop design and contract documents which will be consistent with the established project budget. This obligation is mandatory. The architect shall work with the University's construction management consultant to prepare a cost breakdown at each stage of the project design. If these estimates exceed the budget at any stage, the architect will work with the university to modify the construction documents or the program to conform to the budget at no additional costs to the University. However, the design may not vary from the program or may the program be modified without University approval.

C. CONSTRUCTION DELIVERY METHOD

The University anticipates the utilization of a construction manager for this project. The construction sequencing is critical to minimize disruption of campus services and the relocation of parking areas. Prior to the start of construction the CM shall provide a mobilization plan to the University, for its approval in regard to these issues.

The size of the project is sufficiently large and/or complex to require major emphasis on the qualification of the contractor in order to provide specific expertise in highly specialized cost estimating, value engineering, and scheduling during the design process, with continuity of construction management through both design and construction phases.

**A. STATE UNIVERSITY SYSTEM OF FLORIDA MASTER PLAN**

The proposed program for this project is consistent with the goals and objectives of the Boca Raton Campus Master Plan. In addition, the facility and site plan shall be designed according to the recently completed Master Plan for the Henderson School Campus.

**B. ACADEMIC PROGRAM REVIEWS**

The facility will be designed to house upper elementary through high school aged children. All curricular offerings are consistent with the requirements of the Florida Department of Education and the Southern Association of Schools and Colleges.

**C. RECOMMENDATIONS OF THE REVIEW CONSULTANTS**

Not Applicable

**C. JUSTIFICATIONS**

Not Applicable

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**A. FACILITY DEFICIENCIES**

The current portables were leased from a third party vendor for over three years and were not new. They are not hurricane resistant and because of their age they have the increasing potential to be unhealthy and unsafe. They currently house 8 classroom spaces. Additionally as the school has grown, it has restricted the number of music classes that can be offered in any one period to one general music room and a band room. It is increasingly apparent a second general music room is needed, which could also house movement classes in the future. A second basic science lab is also needed so that more elementary and middle school students can have hands-on science activities more often.

**B. ALTERNATIVE SOLUTIONS**

Because of the unique developmental, instructional needs and security concerns related to children, no other appropriate facilities are available on the university campus.

**C. QUANTITATIVE ANALYSIS OF PROGRAM SPACES**

The Florida Department of Education's SREF standards provide design recommendations for the proposed amounts and types of space requested for each programmatic type of space.

**D. PROJECT AND SURVEY RECOMMENDATIONS**

There are no longer binding survey recommendations for grades k-12 projects.

**A. THE ADOPTED CAMPUS MASTER PLAN**

The proposed project is consistent with the goals and objectives of the Boca Raton Campus Master Plan. In addition, the facility and site plan shall be designed according to the recently completed Master Plan for the Henderson School Campus.

**A. SITE CONDITIONS**

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**1. SITE TOPOGRAPHY (CM-N-04.00-09/97 B.1)**

The site is a level site on grass. Burrowing Owls have been noticed in the vicinity.

**2. STORM DRAINAGE (CM-N-04.00-09/97 B.2)**

The site will require permitting with the South Florida Water Management District (SFWMD) and the Lake Worth District. If required, the architect will be directed to provide attenuation strategy for storm water management on site. Refer to Section X, Utilities Impact Analysis for site maps and preliminary site storm water system.

**3. VEHICULAR AND PEDESTRIAN CIRCULATION (CM-N-04.00-09/97 B.3)**

Vehicular, pedestrian and service circulation to the site may require study by the selected design consultant. Parking spaces displaced by this facility shall be replaced by this project.

**4. SITE VEGETATION (CM-N-04.00-09/97 B.4)**

The university will adhere to its policy of replanting and replacing any trees or shrubbery that are removed or damaged due to new construction, and the architect shall recommend additional improvements in his design. It is expected that landscaping will play an important role in enhancing the structure as well as shielding any required service areas from view.

**5. ARCHAEOLOGICAL HISTORY (CM-N-04.00-09/97 B.5)**

There is no known archeological history on this site.

**6. EXISTING UTILITY LOCATIONS (CM-N-04.00-09/97 B.6)**

Refer to Section X, Utility Impact Analysis for utility maps and descriptions of proposed site utilities.

**7. ARCHITECTURAL SIGNIFICANCE OF ADJACENT STRUCTURES (CM-N-04.00-09/97 B.7)**

The building design is to compliment the existing scale and architectural vocabulary of the surrounding structures of the campus.

**8. UNUSUAL SITE CONDITIONS (CM-N-04.00-09/97 B.8)**

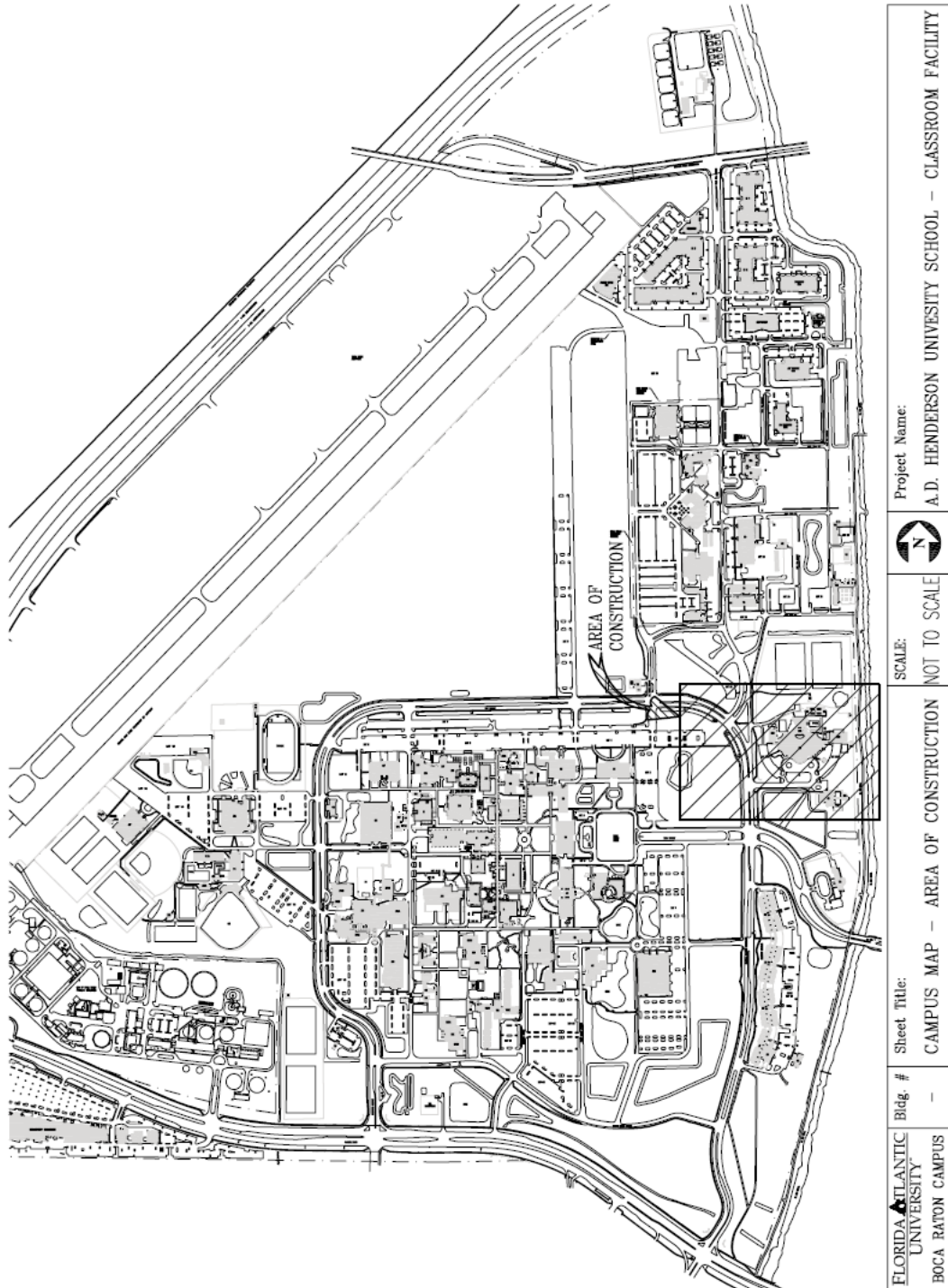
There are no known unusual site conditions.

**9. DIRECTION OF PREVAILING WINDS (CM-N-04.00-09/97 B.9)**

There is no University wide study of the prevailing wind patterns. Generally the wind patterns vary seasonally reflecting the global patterns associated with the summer tropic air currents from the southeast and winter arctic winds from northwest. More importantly, the Architect must study the effect of microclimate created by existing tree canopy and site conditions (in addition to the relationship to adjacent building exhaust, fresh air intake and vehicular traffic patterns) in siting the building and in designing for views and HAVC/MEP systems.

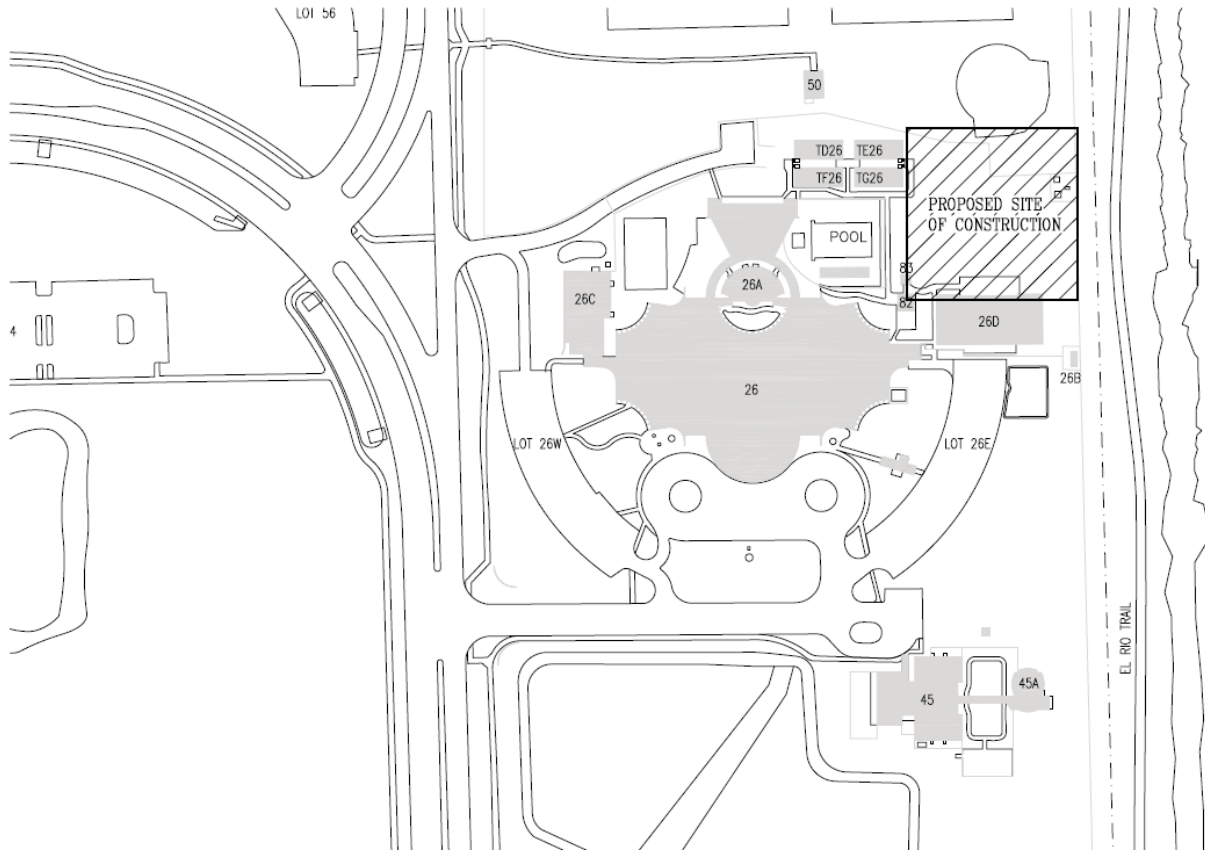
B. CAMPUS MAP & SITE MAPS


The following map of the Boca Raton Campus shows the general vicinity of the site for this project.



## BT-648 CLASSROOM FACILITY

The map below shows the A. D. Henderson University School Campus and the proposed site for the new Classroom Facility.



FLORIDA ATLANTIC UNIVERSITY BOCA RATON CAMPUS	Bldg. # -	Sheet Title: PROPOSED SITE OF CONSTRUCTION	SCALE: 1" = 150'-0"		Project Name: A.D. HENDERSON UNIVERSITY SCHOOL - CLASSROOM FACILITY
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## A. PROGRAM AREA TABLE

The following program is to be verified with the respective user department upon the start of design by the selected AE Team. The program is intended to provide for a completely functional facility. Accordingly, the design team shall provide for all that is reasonably inferred as needed for such a facility, even if not specifically indicated in the program.

FACILITY SPACE PROGRAM						
HENDERSON SCHOOL CLASSROOM FACILITY						
Description	No. Of Stations	NASF/ Station	Net Area/ Space	No. Of Spaces	Total Net Area	Total Stations
General Classrooms for 25 Students Grades 5 thru 9	25	35	875	8	7,000	200
Music/Movement Laboratory	25	45	1,125	1	1,125	25
Science Lab-basic	25	45	1,125	1	1,125	25
Science Service/Storage	1	380	380	1	380	1
Open Office Area for 12 @ 90 sf each Shared	12	90	1,080	1	1,080	12
Approximate Total Net Area					<b>10,710</b>	
Grossing Ratio				<b>1.50</b>		
<b>Approximate Total Gross Area</b>					<b>16,065</b>	

## B. OTHER PROGRAM ISSUES

The following important issues are to be considered by the design team. Many requirements are repeated in more detail in the FAU Cost Containment Guidelines and Professional Services Guidelines which are available for viewing at <http://wise.fau.edu/facilities/uavp/>. The design team is encouraged to become familiar with these documents.

- 1) Provide connecting walkways with permanent protective canopies to all adjacent structures as required or directed.
- 2) Provide toilet facilities per the Florida Building code.
- 3) As the site is relatively flat, the building site shall be designed to assure positive drainage away from the building.
- 4) Telephone and data services shall be provided in accordance with the standards specified in Section XI of this program.
- 5) Provide meters, according to FAU standards and guidelines, for all utilities serving the building.

- 6) The building and paved site areas shall be completely accessible in strict accordance with the Americans with Disabilities Act and all other pertinent codes. This will be the sole responsibility of the design team.
- 7) Provide an emergency generator (with lockable screened fence or wall) for a minimum of all life safety functions. Additional capacity to be provided as directed by the University. The AE shall consider an alternate to the emergency generator – the use of solar panels with sufficient capacity for emergency functions, but also with sufficient capacity to generate substantial electricity to the facility on a daily basis. The AE shall investigate the possibility of adding to the existing solar system at Henderson.
- 8) The following items are to be considered in the design of this facility, in line with the LEED Silver level goal: For demonstration purposes, exposed and labeled piping/wiring somewhere in the building; windows into mechanical, telecom and electrical rooms with instrumentation facing the hall way; capture of the sensor driven electronic data (energy management system) for point in time comparisons and calculations by students; installation of the waterless urinals; two or three above ground cisterns, with at least one of them connected to a flush toilet (Like Pine Jog’s new building); and xeroscaped parameter (with supplemental water from the cistern(s).
- 9) Provide lightning protection per University standards.
- 10) Energy efficient systems and lighting shall be used to the greatest extent possible, in accordance with University standards.
- 11) Provide card readers at major entrances. Provide conduit and J-boxes, as required to all exterior doors for monitoring door status and automatic locking from a central police location.
- 12) Provide conduit for voice and data connectivity to the existing campus backbone.
- 13) Provide for connectivity to the existing campus energy management system and life safety systems.
- 14) The building shall have 100% sprinkler protection.
- 15) Provide surge protection for the entire building.
- 16) Provide wireless capability for the entire building.
- 17) Provide site design which will successfully interface the proposed facility into the existing fabric of the local school site and parking areas and maintain a working and safe site in terms of vehicular and pedestrian movement.
- 18) Existing on-grade parking that is displaced by the location of the facility shall be replaced as part of this project.
- 19) All of the above considerations are to be provided for and included in the selected AE’s design fee proposal.

**C. SAMPLE SPACE DESCRIPTION FORMS**

The selected AE will complete space description forms for each unique space type upon completion of the conceptual design. The following is a sample only.

<b>SPACE NUMBER</b>	<b>C.1</b>
<b>DEPARTMENT:</b>	<b>COE Henderson/FAU High</b>
<b>AREA:</b>	<b>Classroom building</b>
<b>SPACE NAME:</b>	
<b>DESCRIPTION / USE:</b>	<b>General, music/movement and science lab instruction</b>
<b>SUS SPACE CATEGORY:</b>	
<b>PERSONNEL ASSIGNED / MAX.:</b>	12 teachers/administrators; 230 students
<b>DIMENSION / AREA:</b>	
<b>NUMBER REQUIRED:</b>	
<b>RELATIONSHIPS</b>	
<b>PRIMARY:</b>	
<b>SECONDARY:</b>	Shared Courtyard/Canopy with Middle School Building
<b>ARCHITECTURAL CRITERIA</b>	
<b>FLOORS:</b>	Mildew resistant carpet w/ vinyl base ???.
<b>WALLS:</b>	Paint over gypsum wall board – sound absorptive treatment as required
<b>CEILINGS:</b>	Acoustical treatment of ceiling for proper sound
<b>DOORS:</b>	Solid core wood w/ HM frame.
<b>WINDOWS:</b>	2 sources of natural lighting preferred
<b>LIGHTING:</b>	Indirect lighting to enhance use of computer monitors and recessed fluorescent lights with parabolic lens??? Lights to be on sensors??
<b>ACOUSTICAL:</b>	Acoustics treatment of the music/movement space???
<b>MECHANICAL CRITERIA</b>	
<b>HVAC:</b>	As required, but not DX if possible
<b>PLUMBING:</b>	Needed for lab and restrooms
<b>COMMUNICATIONS:</b>	Provide wireless technology, connectivity for smart podium
<b>ELECTRICAL:</b>	Provide adequate outlets for maximum flexibility
<b>FURNITURE/EQUIPMENT</b>	
<b>FURNITURE (OWNER):</b>	
<b>EQUIPMENT (OWNER):</b>	
<b>FURNITURE (CONTRACTOR):</b>	Retractable projection screen
<b>EQUIPMENT (CONTRACTOR):</b>	



**A. UTILITIES IMPACT ANALYSIS**

The following analysis of site utilities and discussion of utility capacities, sizes and connection points is for early estimating purposes only and should not be relied upon by the design professional as direction. It is the responsibility of the design professionals to research all existing conditions and to make recommendations based on the requirements of the project, future considerations, existing capacities, sizes and the location of all utilities. Utilities shall be sized to accommodate Phase 1 and Phase 2 components of the complete program as outlined in Section IX.

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- 1. CHILLED WATER:** (SUS CM-N-04.00-09/97 A)  
The AE shall study various options for providing A/C in this facility and make recommendations to the University.. The AE shall determine the requirements for chilled water and determine the appropriate and cost effective method for providing it to the building, as well as the capacity of the existing chillers on the site.

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  - 2. HOT WATER:** (SUS CM-N-04.00-09/97 B)  
The AE shall determine the requirements of heating hot water, if appropriate, and the requirements of domestic hot water, and make recommendations to the University..

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  - 3. ELECTRICAL:** (SUS CM-N-04.00-09/97 C)  
The AE shall determine the total electrical load required and the appropriate feeders to tie into.

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  - 4. POTABLE WATER:** (SUS CM-N-04.00-09/97 D)  
The supply is the Campus water loop with capacity from the City of Boca Raton. This project will tap off the nearest existing line. Typical water pressure on Campus is 60psi at fire hydrants. The domestic water will have double, parallel BFP assemblies. Include an EMON compatible water meter, Invensys or equal.

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  - 5. SANITARY:** (SUS CM-N-04.00-09/97 D)  
Through a review of the code, determine the number of fixtures required. Determine the nearest sanitary lines and verify their capacity.

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  - 6. IRRIGATION:** (SUS CM-N-04.00-09/97 E)  
Tie into the existing system to irrigate all landscaped areas. Provide new timers for the effected area within 50 feet of the building.

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  - 7. STORM WATER MANAGEMENT:**  
Tie into existing stormwater lines nearby. There is an existing retention ponds area to the south of the site. Plans will be submitted to SFWMD and Lake Worth Drainage District for Permitting. The Consultant shall request the operational permit, after construction.

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  - 8. NATURAL GAS:**  
If required, tie into the nearest known gas line.

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  - 9. TELECOMMUNICATIONS:**  
Tie into the nearest telecom manhole. Confirm plans with the FAU IRM Department. Internal wiring for telecommunication is to be complete by Telecommunication Sub contractor through FAU. All required internal cable trays, conduits and duct banks to be designed by the AE and provided by the construction manager.

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  - 10. FIRE ALARM SYSTEM:**  
A complete fire alarm system including ADA requirements, compatible with existing campus systems will be installed. Provisions will include an automatic dialer directly to the Campus Police.
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## BT-648 CLASSROOM FACILITY

**11. ENERGY MANAGEMENT CONTROL SYSTEM:**

A complete EMS will be installed, with connections to the existing front end system, located in the Central Utility Plant.

**12. SITE LIGHTING:**

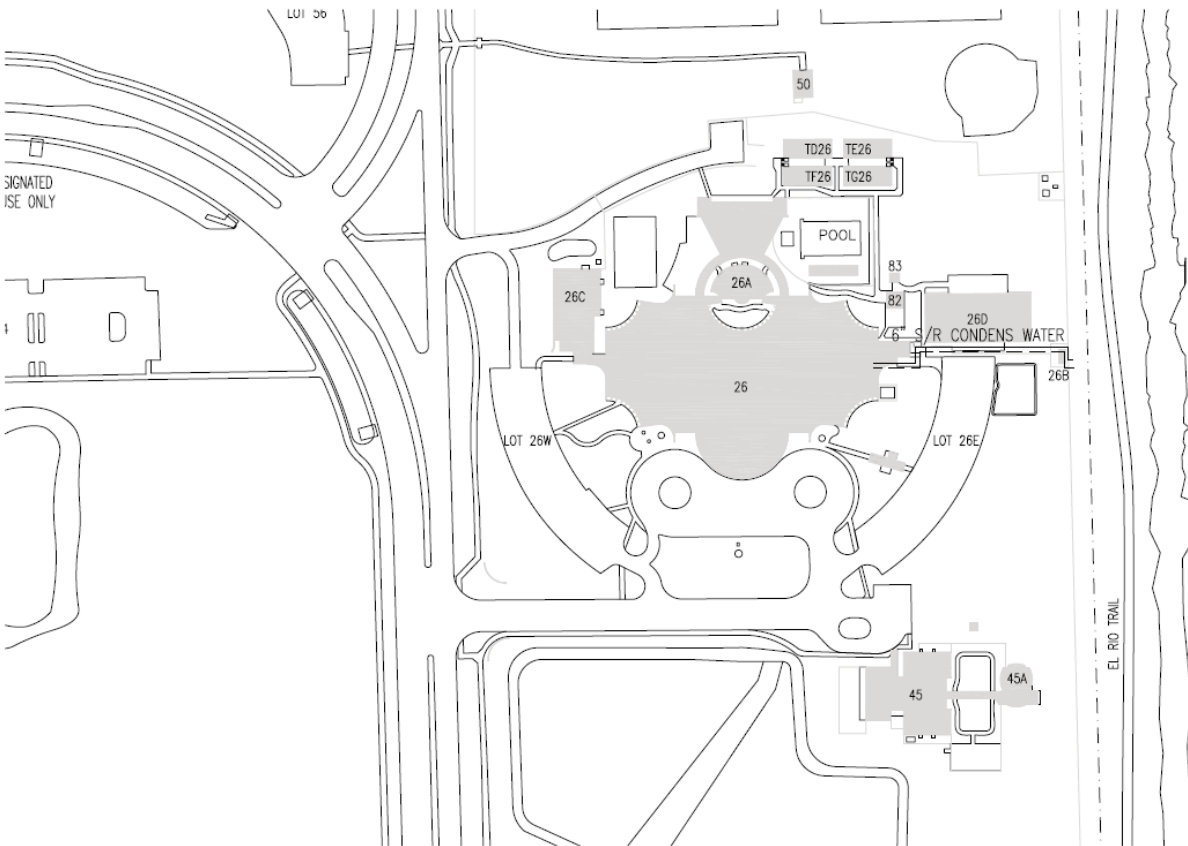
Walkway and site lighting fixtures complying with the campus standards and FAU guidelines for foot-candle levels will be installed, as required by the building footprint.

**13. SURFACE IMPROVEMENTS:**

Walkways and landscape will be reconfigured, as required, to provide access through the site, and promote quality outdoor space.

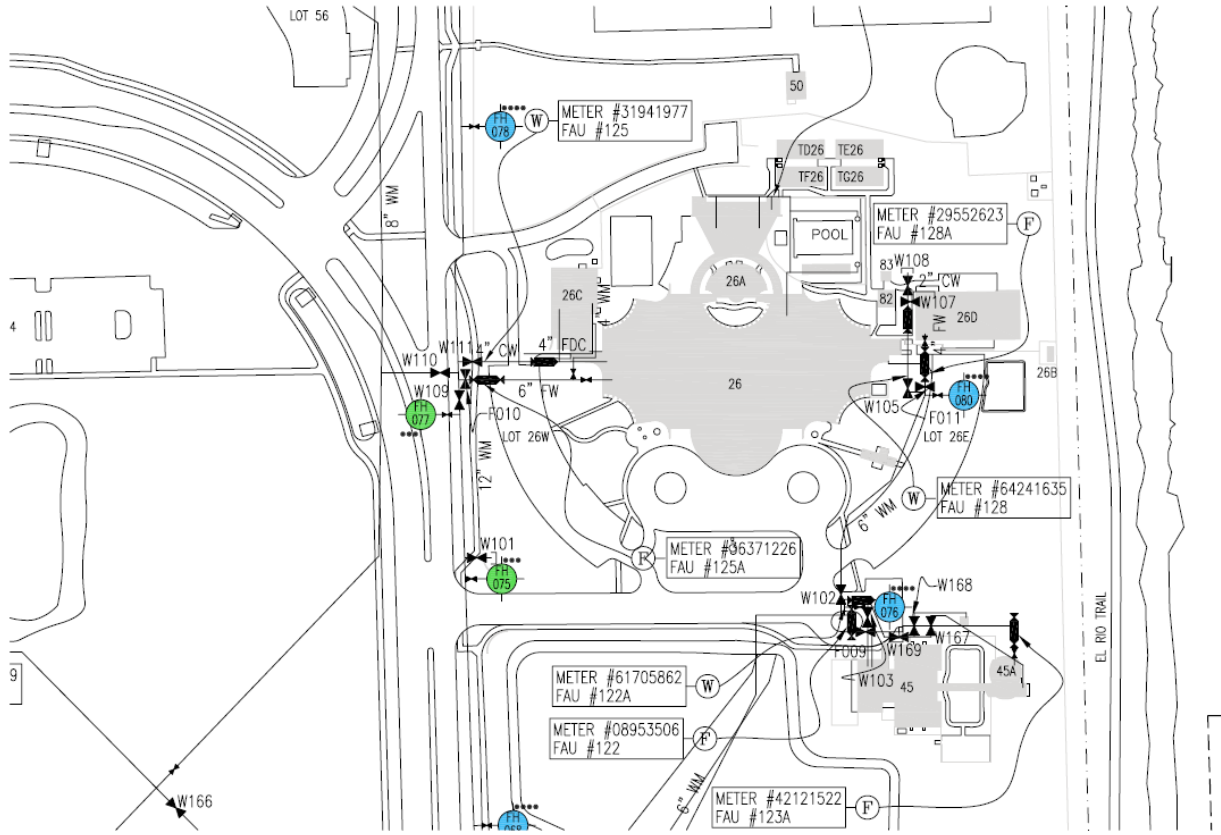
### B. INFRASTRUCTURE MAPS

The following campus infrastructure maps show an estimation of the available utilities and conditions for the sites that are being examined. The information shown is meant for general information purposes only and is not to be used by the consultants or contractors in the actual design or construction of the proposed facility. All utilities and information shown are to be field verified by the AE and CM team prior to design and construction. The drawings are not to scale.



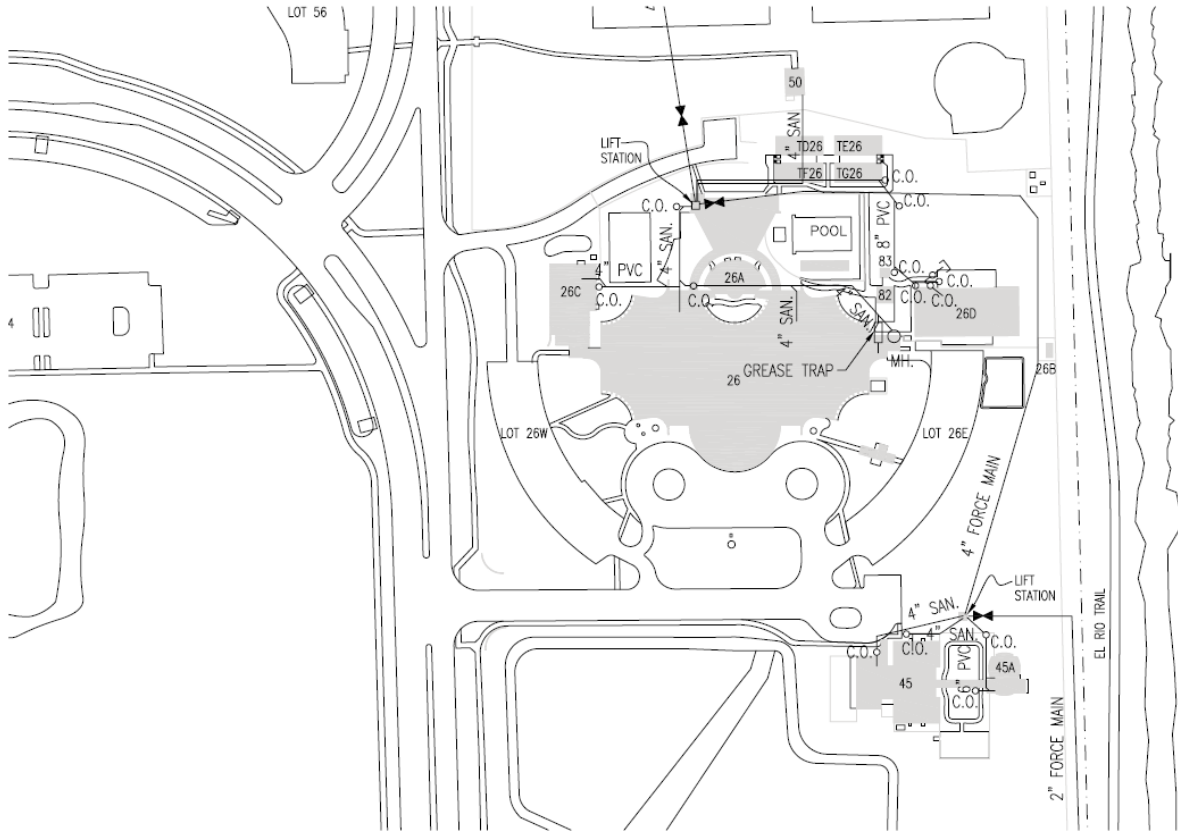
 FLORIDA ATLANTIC UNIVERSITY BOCA RATON CAMPUS	Bldg. #	Sheet Title:	SCALE:		Project Name:
-		INFRASTRUCTURE - CHILLED WATER DISTR.	1" = 150'-0"		A.D. HENDERSON UNIVERSITY SCHOOL - CLASSROOM FACILITY

# BT-648 CLASSROOM FACILITY



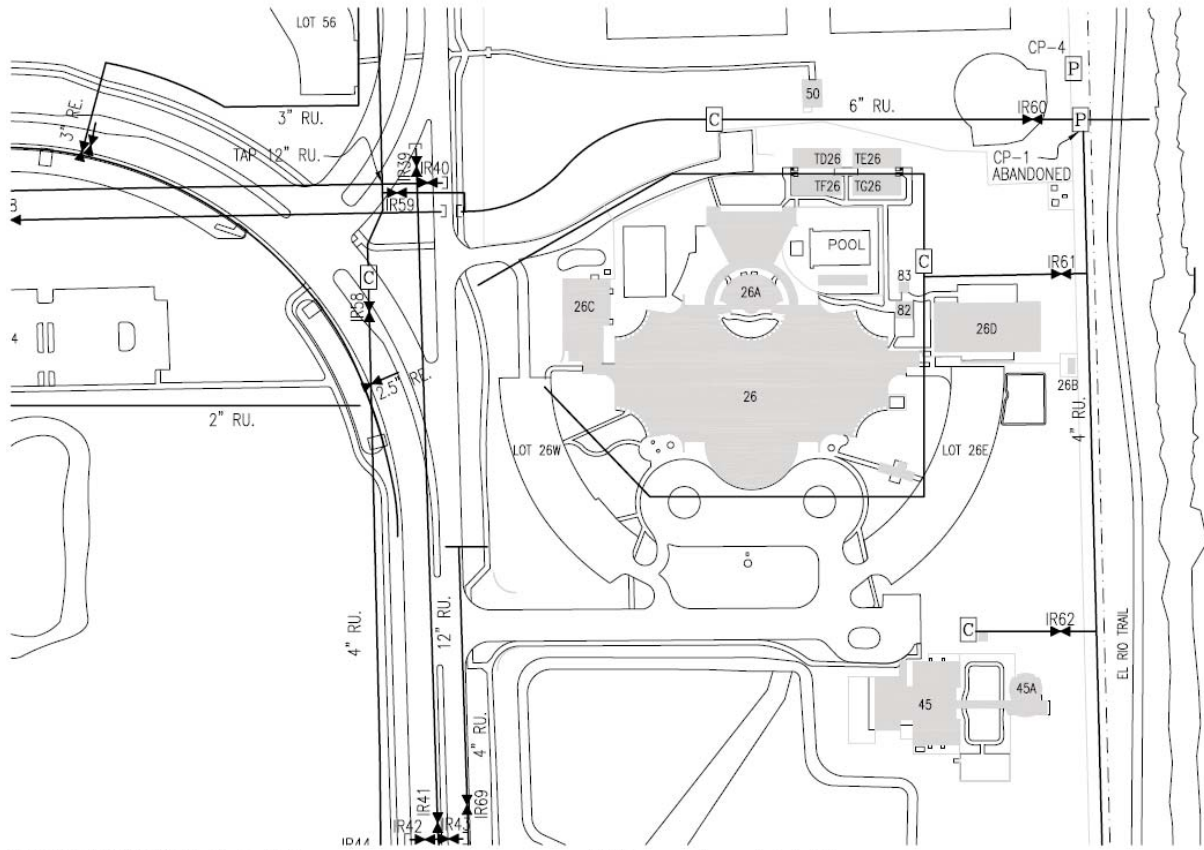
FLORIDA ATLANTIC UNIVERSITY BOCA RATON CAMPUS	Bldg. # -	Sheet Title: INFRASTRUCTURE - POTABLE WATER DISTRIBUTION	SCALE: 1" = 150'-0"		Project Name: A.D. HENDERSON UNIVERSITY SCHOOL - CLASSROOM FACILITY
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# BT-648 CLASSROOM FACILITY



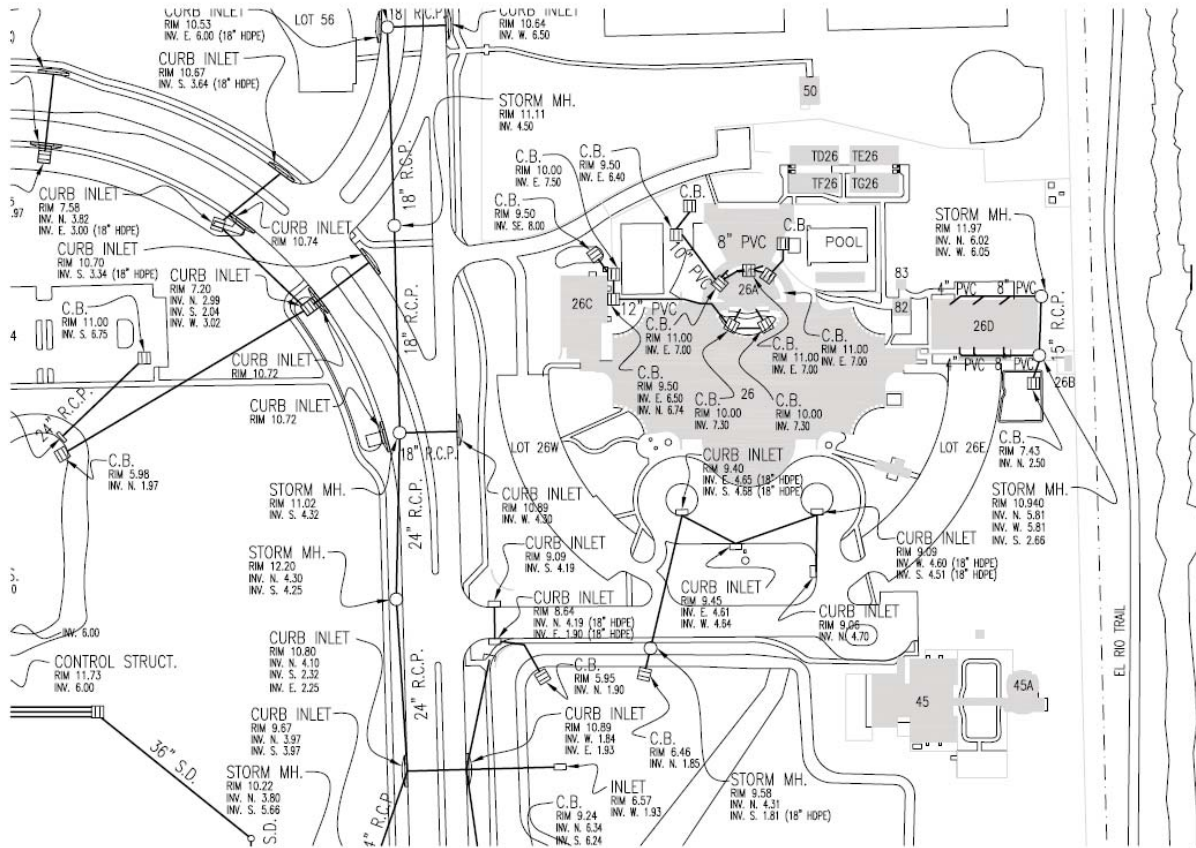
FLORIDA ATLANTIC UNIVERSITY BOCA RATON CAMPUS	Bldg. # -	Sheet Title: INFRASTRUCTURE - SANITARY SEWAGE COLLECTION SYST.	SCALE: 1" = 150'-0"		Project Name: A.D. HENDERSON UNIVERSITY SCHOOL - CLASSROOM FACILITY
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# BT-648 CLASSROOM FACILITY



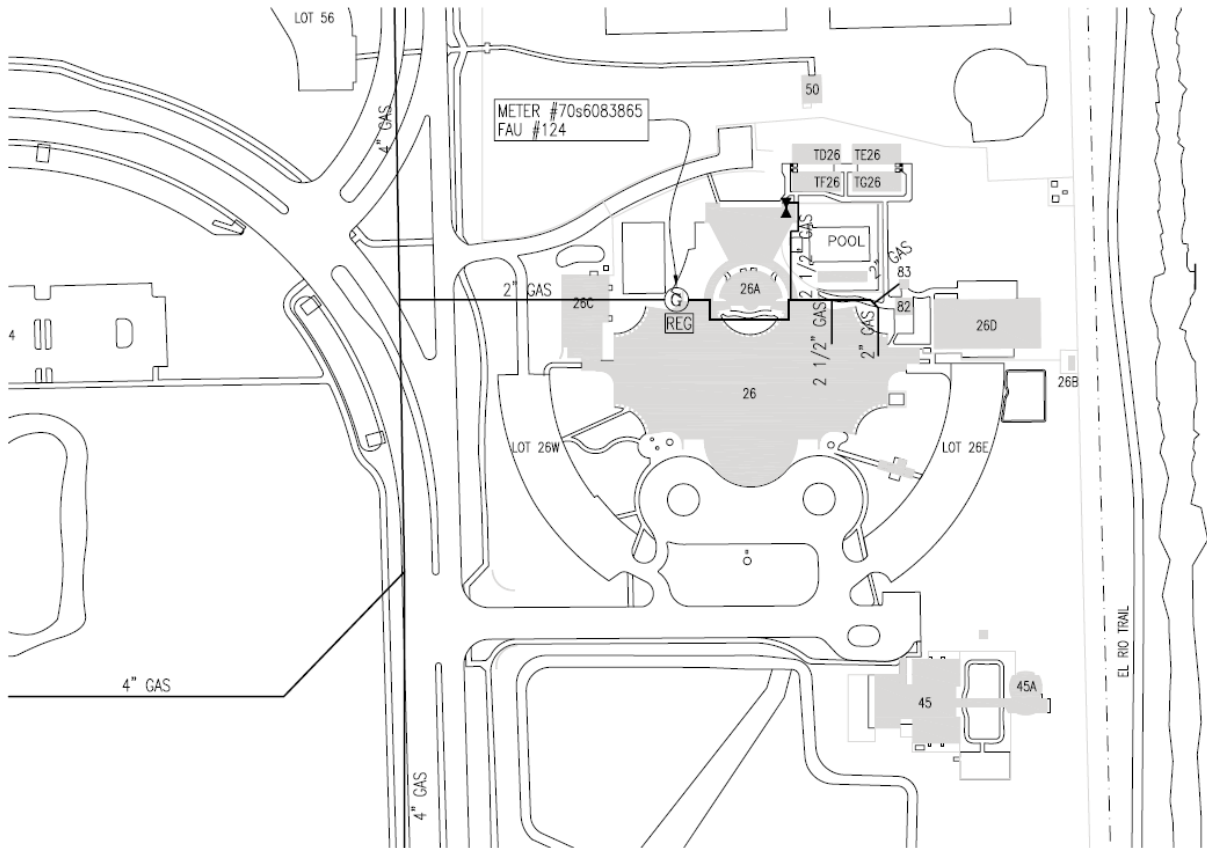
FLORIDA ATLANTIC UNIVERSITY BOCA RATON CAMPUS	Bldg. # -	Sheet Title: INFRASTRUCTURE - REUSE WATER IRRIGATION SYST.	SCALE: 1" = 150'-0"		Project Name: A.D. HENDERSON UNIVERSITY SCHOOL - CLASSROOM FACILITY
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# BT-648 CLASSROOM FACILITY



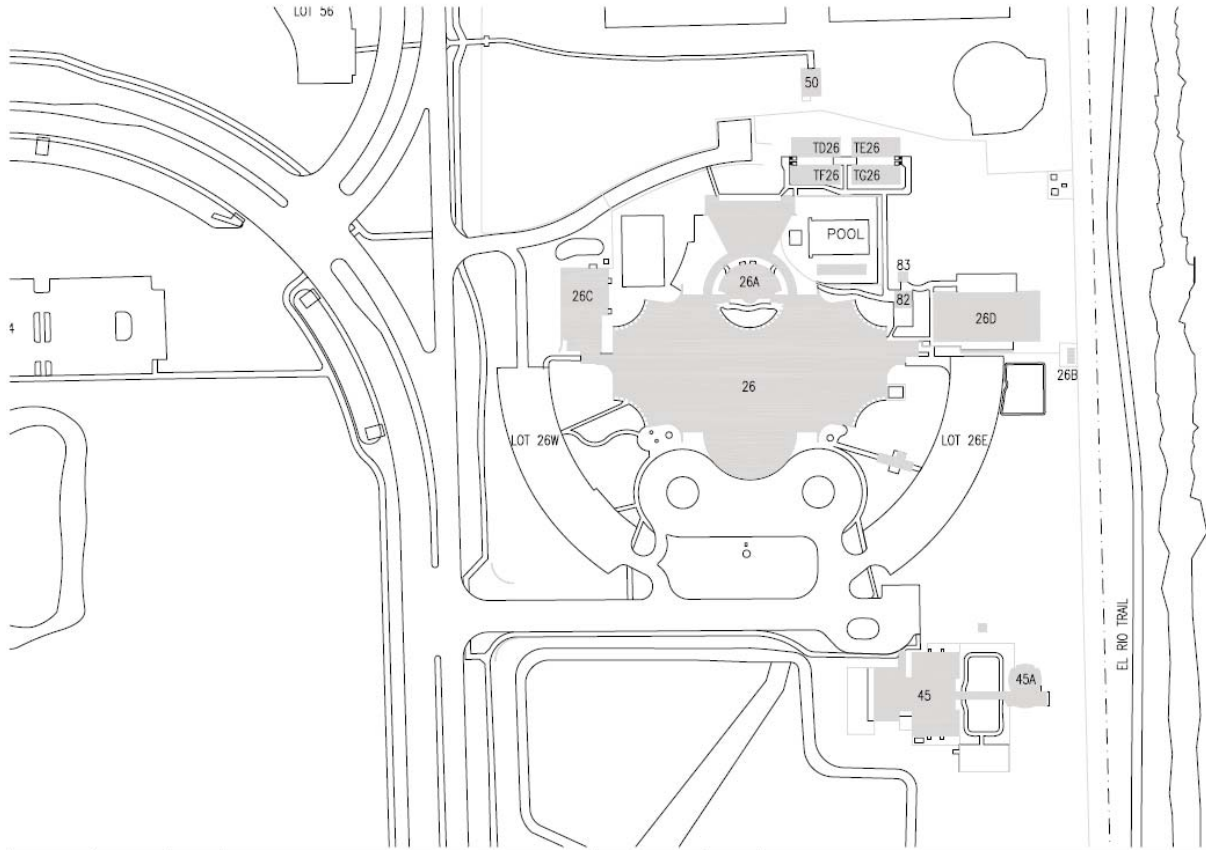
 FLORIDA ATLANTIC UNIVERSITY BOCA RATON CAMPUS	Bldg. # -	Sheet Title: INFRASTRUCTURE - STORMWATE DRAINAGE SYST.	SCALE: 1" = 150'-0"		Project Name: A.D. HENDERSON UNIVESITY SCHOOL - CLASSROOM FACILITY
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# BT-648 CLASSROOM FACILITY



FLORIDA ATLANTIC UNIVERSITY BOCA RATON CAMPUS	Bldg. # -	Sheet Title: INFRASTRUCTURE - NATURAL GAS DISTRIBUTION	SCALE: 1" = 150'-0"		Project Name: A.D. HENDERSON UNIVERSITY SCHOOL - CLASSROOM FACILITY
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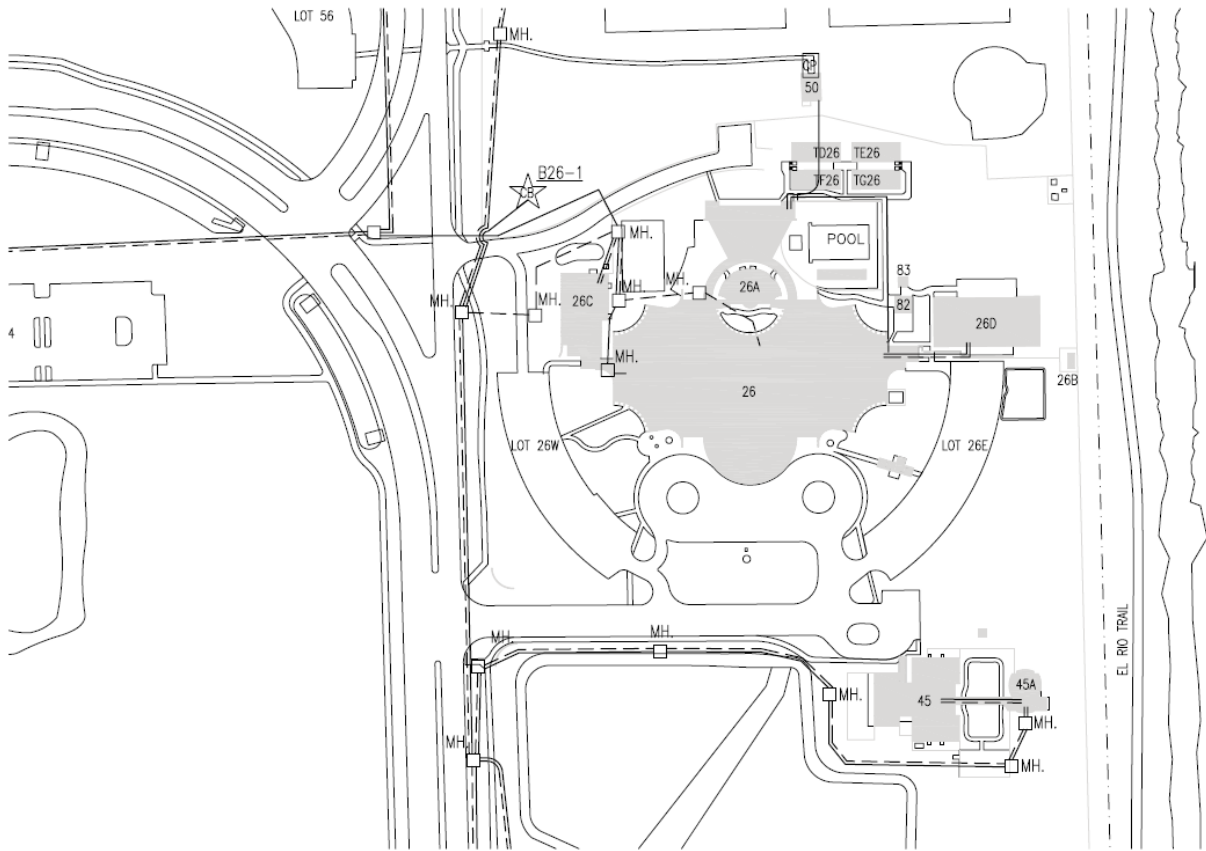
# BT-648 CLASSROOM FACILITY



FLORIDA ATLANTIC UNIVERSITY BOCA RATON CAMPUS	Bldg. # -	Sheet Title: INFRASTRUCTURE - HIGH VOLTAGE EL. DISTR.	SCALE: 1" = 150'-0"		Project Name: A.D. HENDERSON UNIVERSITY SCHOOL - CLASSROOM FACILITY
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# BT-648 CLASSROOM FACILITY



FLORIDA ATLANTIC UNIVERSITY BOCA RATON CAMPUS	Bldg. # -	Sheet Title: INFRASTRUCTURE - IRM TELECOM./DATA SYST.	SCALE: 1" = 150'-0"		Project Name: A.D. HENDERSON UNIVESITY SCHOOL - CLASSROOM FACILITY
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## **XI. INFORMATION / COMMUNICATIONS RESOURCES REQUIREMENTS**

### **BT-648 CLASSROOM FACILITY**

#### **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.

#### **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.

#### **C. ESTIMATE OF COMMUNICATIONS AND IRM COSTS**

The following is a consolidated estimate of IRM costs for this project. . Most of these costs are included in the project budgets in Section XV of this program. Please note that the detailed estimate includes 4 classrooms set up for AV under the User Options section of the quote. The infrastructure for installing the remaining AV systems is included in the estimate. Please see the following page.

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Project: Henderson Classroom Facility					
Date Submitted: January 9, 2008					
<b>Required IRM Elements</b>					
	<b>ELEMENT</b>			<b>AMOUNT</b>	<b>NOTES/QUANTITIES</b>
<b>Jade Cable</b>					
	Inside and Outside Plant - voice/data/video			\$ 90,789.00	Does not include outside CATV cable
	Total Cabling Infrastructure			\$ 90,789.00	
<b>Jade Wireless</b>					
	Internal/External Wireless access points wi installation			\$ 18,000.00	Full coverage
<b>Siemens</b>					
	Voice Switches/misc additions			\$ 17,000.00	
<b>Cisco</b>					
	Data switches, routers, etc			\$ 75,000.00	
<b>Voice/Data/Security Misc Vendors</b>					
	Phone sets			\$ 1,890.00	
	UPS			\$ 2,540.00	
	Emergency Phone**				
	Inside				
	Outside (Solar Panel wi Pedestal)			\$ 8,500.00	
	Automatic Lock Down			\$ 20,000.00	
<b>BellSouth/PaeTec</b>					
	1FBs			\$ 250.00	used as alarm circuits
	Special Circuits				
	Alarms				
	OPX				
	Total Switching Equipment/Wireless			\$ 143,180.00	
	IRM Faceplate Allowance 44 @ \$150.00			\$ 6,600.00	
	Total Required IRM			\$ 240,569.00	
<b>End User Options Indicated in Program</b>					
Vendors (various - no vendor contract)					
	Sm Distance Learning Classroom (25-40 seats)				
	Distance Learning Classroom (50+ seats)				
	Video Conf Room				
	Electronic Classroom wi Podium (10)			\$ 450,000.00	8 classrooms, 1 Sci Lab, 1 Music Rm
	Teaching Auditorium w/o Distance Learning				
	Teaching Auditorium with Distance Learning				
	Cable TV				See Note Below*
	Total Classroom/Conf Room Equipment - End User Option			\$ 450,000.00	
<b>TOTAL PROJECT ESTIMATE</b>					
	Required IRM Elements			\$ 240,569.00	
	End User Options Indicated in Program			\$ 450,000.00	
				\$ 690,569.00	
<b>NOTES AND ASSUMPTIONS</b>					
	* Inside CATV cable included and will be pulled with voice/data cable.				
	Henderson has its own agreement with Comcast and other CATV associated costs are not part of this estimate.				

**A. CODES AND STANDARDS**

The following 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. Building codes which are approved at the time of building permit application shall be used for the project.

	<i>DESCRIPTION</i>	
	<b>Year</b>	<b>Building Codes</b>
1.	2004	Florida Building Code, Building (incl. SREF)
2.	2004	Florida Building Code, Mechanical
3.	2004	Florida Building Code, Fuel Gas
4.	2004	Florida Building Code, Plumbing
5.	2004	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)
Standard	<b>Year</b>	<b>Title</b>
1	2004	Fire Prevention Code
10	2002	Standard for Portable Fire Extinguishers
13	2002	Standard for the Installation of Sprinkler Systems
13R	2002	Standard for the Installation of Sprinkler Systems in Residential Occupancies up to and including four stories in Height
14	2003	Standard for the Installation of Standpipe and Hose systems, except 2-7 Shall be omitted
20	2003	Standard for the Installation of Centrifugal Fire Pumps
24	2002	Standard for the Installation of Private Fire Service Mains and Their Appurtenances
25	2002	Standard for the Inspection, Testing & Maintenance of Water Based Fire Protection Systems
30	2003	Flammable and Combustible Liquids Code
45	2004	Standard on Fire Protection for Laboratories Using Chemicals
70	2005	National Electrical Code
72	2002	National Fire Alarm Code
90A	2002	Standard for the installation of Air Conditioning and Ventilating Systems
96	2004	Standard for Ventilation Control and Fire Prevention of Commercial Cooking Operations
101	2003	Life Safety Code
<b>3.13.3</b>		<b>State Fire Marshal</b> Requirements for review shall comply with PSG, Exhibit 5; (all inspections, reviews and permitting for University projects shall be coordinated through the University BCA Office)
<b>3.13.4-5</b>		<b>Required Permits</b> 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, Department of Health
3.13.5.4		Department of Environmental Protection (DEP), area Branch and NPDES Permits
3.13.5.5		Local Water Management District permit
		<b>Florida Atlantic University Standards</b>
		Florida Atlantic University Cost Containment Guidelines
		FAU Professional Services Guide and Project Manual
		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).
		<b>Miscellaneous Statutes</b>
		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 Statutes sections 471, 481 and 553s*

**XIII. PROJECT SCHEDULE****BT-648 CLASSROOM FACILITY**

CONSTRUCTION MANAGEMENT PROJECT DELIVERY METHOD The University preference is the CM process with a GMP submittal at the conclusion of design phase adequate for obtaining a GMP. The preliminary schedule below reflects a normal single phase project approach. The actual PECO funding for this project may require a phased construction that could result in a longer overall schedule and later completion date.

<b>Project: A. D. Henderson Classroom Facility</b>			<b>Date:</b>	<b>2/18/2008</b>
<b>CONSTRUCTION MANAGEMENT PROJECT DELIVERY METHOD</b>				
<b>GOALS AND MILESTONES</b>	<b>DURATION</b>	<b>START DATE</b>	<b>END DATE</b>	
<b>PROGRAM APPROVAL</b>	<b>10 weeks</b>	<b>20-Dec-2007</b>	<b>28-Feb-2008</b>	<b>0.2 Years</b>
Facilities Program Development & Review	6 weeks	20-Dec-2007	31-Jan-2008	
Program Circulation and Signatures	4 weeks	31-Jan-2008	28-Feb-2008	
<b>A/E SELECTION PROCESS</b>	<b>9 weeks</b>	<b>28-Feb-2008</b>	<b>01-May-2008</b>	<b>0.2 Years</b>
Advertise for A/E in FAW	4 weeks	28-Feb-2008	27-Mar-2008	
A/E Short List	2 weeks	27-Mar-2008	10-Apr-2008	
A/E Interviews	1 weeks	10-Apr-2008	17-Apr-2008	
A/E Selection	1 weeks	17-Apr-2008	24-Apr-2008	
Contract Negotiations with A/E	1 weeks	24-Apr-2008	01-May-2008	
<b>C/M SELECTION PROCESS</b>	<b>9 weeks</b>	<b>28-Feb-2008</b>	<b>01-May-2008</b>	<b>0.2 Years</b>
Advertise for C/M in FAW	4 weeks	28-Feb-2008	27-Mar-2008	
C/M Short-list	2 weeks	27-Mar-2008	10-Apr-2008	
C/M Interviews	1 weeks	10-Apr-2008	17-Apr-2008	
C/M Selection	1 weeks	17-Apr-2008	24-Apr-2008	
Contract negotiations with C/M	1 weeks	24-Apr-2008	01-May-2008	
<b>DESIGN PHASE</b>	<b>24 weeks</b>	<b>01-May-2008</b>	<b>16-Oct-2008</b>	<b>0.5 Years</b>
Schematic Design	3 weeks	01-May-2008	22-May-2008	
University review and approval	2 weeks	22-May-2008	05-Jun-2008	
Design Development	4 weeks	05-Jun-2008	03-Jul-2008	
University review and approval	2 weeks	03-Jul-2008	17-Jul-2008	
100% Construction Documents and Budget update	6 weeks	17-Jul-2008	28-Aug-2008	
University review, approval & AE revisions	3 weeks	28-Aug-2008	18-Sep-2008	
& Submittal of GMP & Code Review & SFM	3 weeks	18-Sep-2008	09-Oct-2008	
GMP Review & Negotiations	1 weeks	09-Oct-2008	16-Oct-2008	
<b>CONSTRUCTION PHASE</b>	<b>44 weeks</b>	<b>16-Oct-2008</b>	<b>20-Aug-2009</b>	<b>0.8 Years</b>
Notice to Proceed	1 weeks	16-Oct-2008	23-Oct-2008	
Construction	40 weeks	23-Oct-2008	30-Jul-2009	
Substantial Completion Inspection	1 weeks	30-Jul-2009	06-Aug-2009	
Final Completion Inspection	1 weeks	06-Aug-2009	13-Aug-2009	
Owner FF&E Move In	1 weeks	13-Aug-2009	20-Aug-2009	
<b>Total</b>	<b>87 weeks</b>	<b>20-Dec-2007</b>	<b>20-Aug-2009</b>	<b>1.7 Years</b>

**XIV. PROGRAM FUNDS****BT-648 CLASSROOM FACILITY**

## A. ESTIMATED FUNDING

<b>CURRENT FUNDING</b>	
2005-2006 PECO 2 Mil Equivalent	\$800,550.00
2006-2007 PECO 2 Mil Equivalent	\$1,054,850.00
2007-2008 PECO 2 Mil Equivalent	\$1,378,800.00
Future 2008-2009 PECO 2 Mil Equivalent	\$1,378,800.00
Future 2009-2010 PECO 2 Mil Equivalent	\$1,378,800.00
<b>TOTAL PROJECT FUND</b>	<b>\$ 5,991,800.00</b>

## C. ESTIMATED BUDGET SUMMARY

<b>ESTIMATED BUDGET SUMMARY - COMPLETE BUILDING PROGRAM</b>				
<b>1 Construction Costs</b>	<b>GSF</b>		<b>\$/GSF</b>	<b>Total \$\$</b>
a. Construction Costs	16,065		220.00	\$3,534,300.00
b. Additional/Extraordinary Construction Costs			30.81	\$495,000.00
c. Inflation Escalation			7.53	\$120,900.00
<b>Sub Total Construction Costs</b>	16,065		258.34	<b>\$4,150,200.00</b>
<b>2 Other Project Costs</b>				
a. Land/existing facility acquisition/Relocations				\$0.00
b. Professional Fees				\$ 455,300.00
c. Fire Marshal Fees				\$10,400.00
d. Inspection Services				\$33,400.00
e. Insurance Consultant				\$2,700.00
f. Surveys and Tests				\$68,000.00
g. Permit/Impact/Environmental Fees				\$5,000.00
h. Art Work				\$0.00
i. Movable Furnishings & Equipment				\$451,900.00
j. IRM Costs				\$420,600.00
j. Project Contingencies				\$332,000.00
l. Campus Infrastructure				\$62,300.00
<b>Sub Total Other Project Costs</b>			114.63	<b>\$1,841,600.00</b>
<b>TOTAL PROJECT BUDGET</b>	16,065		372.97	<b>\$5,991,800.00</b>

**XV. PROJECT BUDGET SUMMARY**

**BT-648 CLASSROOM FACILITY**

PROJECT SPACE AND BUDGET SUMMARY (Reference: SUS CM-N-04.00-09/97, Attachment 3)

The following estimate establishes the project budget in detail.

<b>Project: A. D. Henderson School Classroom Facility</b>					<b>1/8/2008</b>
<b>3</b>					
Fill in the Yellow shaded area only		Return to:	<a href="#">XV. Summary</a>	Worksheets:	<a href="#">Schedule</a>
Automatic entry in Light Green			<a href="#">IX. Program</a>		<a href="#">Program</a>
PROJECT SPACE AND BUDGET SUMMARY (Reference: SUS CM-N-04.00-09/97, Attachment 3)					
<b>Inflation Adjustment</b>	<b>1</b>	Years	@	<b>3.00 %</b>	Effective Rate <b>3.00 %</b>
<b>Construction Phase Duration</b>	<b>1</b>	Years			
<b>Design Phase Duration</b>	<b>1</b>	Years			
				<b>Estimated Budget</b>	<b>\$ 5,991,800.00</b>
				<b>Target Budget</b>	<b>\$ 5,991,800.00</b>
<b>SPACESUMMATION</b> (from Section IX of Facilities Program)					
<b>Program Space Type (New Construction)</b>	<b>NASF</b>	<b>Factor</b>	<b>GSF</b>	<b>\$ / GSF</b>	<b>Costs in \$</b>
Classrooms	7,000	1.5	10,500	220.00	\$2,310,000.00
Teaching Laboratories	2,250	1.5	3,375	220.00	\$742,500.00
Support Services	380	1.5	570	220.00	\$125,400.00
Offices	1,080	1.5	1,620	220.00	\$356,400.00
			-	0.00	\$0.00
Avg. Construction Cost				\$ 220.00	
Subtotal Building Construction (SUS)	10,710	0.00	16,065	<i>Rounded to 100</i>	<b>\$3,534,300.00</b>
<b>1 CONSTRUCTION COSTS</b> (Reference: SUS CM-D-38.00-09/97, Attachment 1-B)					
<b>a. Building Construction Cost</b>		<b>Units</b>		<b>Unit Cost</b>	<b>Costs in \$</b>
New Construction Cost	16,065	GSF		\$220.00	\$3,534,300.00
Building Demolition	-	GSF		\$0.00	\$0.00
<b>Sub-Total Building Construction Costs (today's \$\$)</b>				<b>\$220.00</b>	<b>\$3,534,300.00</b>
<b>b. Additional/Extraordinary Construction Cost</b>		<b>Units</b>		<b>Unit Cost</b>	
	0	Allowance		\$0.00	
Site Preparation/Demolition	0	Allowance		\$0.00	
Landscape/Irrigation	1	Allowance		\$30,000.00	
Covered Walks & Canopies	1	Allowance		\$100,000.00	
Roadway Improvements	1	Allowance		\$20,000.00	
Parking (on-grade)	0	Spaces	2,800	\$0.00	
Electrical Services	1	Allowance		\$40,000.00	
Water Distribution	1	Allowance		\$50,000.00	
Sanitary Sewer System	1	Allowance		\$60,000.00	
Chilled Water System	1	Allowance		\$120,000.00	
Storm Water System	1	Allowance		\$25,000.00	
Telecomm Trench and conc encased conduits	1	Allowance		\$50,000.00	
<b>Sub-Total Add/Extra Construction Costs</b>				<i>Round to 100</i>	<b>\$495,000.00</b>
<b>TOTAL CONSTRUCTION COSTS - BUILDINGS and SITE DEVELOPMENT</b>				250.81	<b>\$4,029,300.00</b>
<b>Inflation Adjustment</b>					<b>\$120,900.00</b>
<b>TOTAL CONSTRUCTION BUDGET</b>				\$ 258.34	<b>\$4,150,200.00</b>
<i>Approximate building only construction cost with inflation adjustment:</i>				226.60	<i>\$3,640,347.42</i>

**BT-648 CLASSROOM FACILITY**

2 OTHER PROJECT COSTS Add or delete following items as required.				Costs	Subtotals (rounded)
<b>a. Land/Existing Facility Acquisition/Relocation</b>				\$0.00	
<b>Subtotal Land/Existing Facility Acquisition/Relocation</b>					<b>\$0.00</b>
<b>b. Professional Fees</b>					
A/E Fees (Curve D: Average Complexity)	8.00	%		\$332,016.00	
Civil & Engineering Fee (10% of A/E Fee)	10.00	%		\$33,201.60	
Landscape Design Fee (5% of A/E fee)	5.00	%		\$16,600.80	
Building Commissioning (T&B)	1	Allowance		\$ 12,000.00	
Site master planning	1	Allowance		\$ -	
Misc Other Fees	1	Allowance		\$ 20,000.00	
C/M Pre-Construction Services Fee	1.00	%		\$ 41,502.00	
<b>Sub-Total Professional Fees</b>					<b>\$ 455,300.00</b>
<b>c. State Fire Marshal Review and Inspection</b>	0.25	%		\$10,375.50	<b>\$10,400.00</b>
<b>d. Inspection Services</b>					
Roofing Inspection	1	Allowance		\$8,000.00	
Threshold Inspection	1	Allowance		\$0.00	
Code Compliance Inspection (weekly)	0.575%	of Bldg Construction Cost		\$20,900.00	
Plan Review (Code Compliance Inspection)	0.075%	of Bldg Construction Cost		\$2,700.00	
<b>Sub-Total Inspection Services</b>					<b>\$33,400.00</b>
<b>e. Risk Management / Insurance Consultant</b>	0.06	%		\$2,490.12	<b>\$2,700.00</b>
<b>f. Surveys &amp; Tests</b>					
Topographical/Site Survey	1	Allowance		\$10,000.00	
Environmental Survey and permits	1	Allowance		\$8,000.00	
Geotechnical Testing	1	Allowance		\$10,000.00	
<b>Sub-Total Surveys &amp; Tests</b>					<b>\$68,000.00</b>
<b>g. Permit/Impact/Environmental Fees</b>					
Environmental (SFWM)	1	Allowance		\$5,000.00	
<b>Sub-Total Permits/Impact Fees</b>					<b>\$5,000.00</b>
<b>h. Art in State Building (Section 255.043, F.S.)</b>	0	%	100K Maximum	\$0.00	<b>\$0.00</b>
<b>i. Movable Furniture &amp; Equipment</b>					
FFE - Equipment, computers, etc.	5.00%			\$207,510.00	
FFE - Furniture	5.00%			\$207,510.00	
Building security system (Card Access)	0.75%			\$31,126.50	
Security Cameras -NONE - SCHOOL TO CONFIRM	0	Allowance		\$0.00	
FFE - Custodial	1	Allowance		\$5,000.00	
FFE - misc	1	Allowance		\$800.00	
<b>Subtotal Moveable Furniture &amp; Equipment (FFE)</b>					<b>\$451,900.00</b>
<b>j. IRM &amp; Costs - See Section XI for more detail</b>					
IRM Cabling Infrastructure	1	Allowance		\$90,789.00	
IRM Switching Equipment/Wireless	1	Allowance		\$143,180.00	
IRM Classroom projection & Podium*	4	Each	\$ 45,000	\$180,000.00	
IRM Faceplate Allowance	44	# of Drops	150	\$6,600.00	
<b>Sub-Total IRM Costs</b>					<b>\$420,600.00</b>
<b>k. Project Contingency</b>	8	%		\$332,016.00	<b>\$332,000.00</b>
<b>l. Campus Infrastructure (Chiller Plant module)</b>	1.5	%		\$62,253.00	<b>\$62,300.00</b>
<b>TOTAL OTHER PROJECT COSTS</b>					<b>\$1,841,600.00</b>
<b>TOTAL PROJECT BUDGET COST ESTIMATE</b>				\$372.97	<b>\$5,991,800.00</b>
* This estimate includes 4 classrooms outfitted with AV projector & Podium set-ups.					



