

**SECTION 01 91 00
COMMISSIONING**

PART 1 GENERAL

1.1 SUMMERY

Commissioning is a systematic process of ensuring and documenting that District building systems perform according to design intent and District operational objectives. Commissioning shall adhere to all of the commissioning requirements of the Florida Building Code Energy Conservation and the Green Building Standard under which the project is to be designed and constructed.

1.2 REFERENCES

- A. American Society of Heating, Refrigeration and Air Conditioning Engineers, ASHRAE.
 - 1. ASHRAE Guideline 0, The Commissioning Process
 - 2. ASHRAE Guideline 1, The HVAC Commissioning Process
 - 3. ASHRAE Guideline 4, Preparation of Operating and Maintenance Documentation for Building Systems
 - 4. ASHRAE Standard 202, Commissioning Process for Buildings and Systems.
- B. Florida Building Code Energy Conservation 6th Edition 2017

1.3 SCOPE

- A. Pre-Design Phase
 - 1. Develop a Commissioning Plan which is to be prepared by a licensed design professional or approved agency and shall be reviewed by the School District of Palm Beach County, SDPBC Building Code Services, BCS.
 - 2. Review Owner's Project Requirements (OPR).
- B. Design Phase
 - 1. Review Basis of Design (BOD).
 - 2. Perform design review
 - 3. Develop Pre-Functional Checklists (PFC) and Functional Performance Test (FPT) Procedures.
- C. Construction and Occupancy Phase
 - 1. Review submittals against Commissioning Plan, OPR, and BOD.
 - 2. Verify equipment and system installation and document all deficiencies.
 - 3. Develop Systems Manual.
 - 4. Develop O&M Manuals.
 - 5. Review Test and Balance (TAB) Report.
 - 6. Witness and in some cases perform Functional Performance Testing (FPT).
 - 7. Create Final Commissioning Report

1.4 SYSTEMS TO BE COMMISSIONED

- A. Refer to Systems Summary table that follows:

SYSTEMS SUMMARY		
System	Scope of CX Activities	Section Number
Building Envelope		
Window System	Site observation/ testing	08 51 13 Aluminum Windows 08 80 00 Glazing

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Mechanical Systems		
Potable Water Heating System	Site observation/ testing	22 30 00 Plumbing Equipment
HVAC System	Site observation/ testing	23 05 93 HVAC Testing, Adjusting and Balancing 23 08 00 Commissioning of HVAC Systems 23 09 00 Energy Management and Control System 23 33 00 Air Duct Accessories 23 34 23 HVAC Power Ventilators 23 37 13 Grilles, Registers, Diffusers 23 70 00 Air Handling Units 23 36 16 Variable Air Volume Units 23 82 19 Electrical Resistance Duct Heaters
Decentralized HVAC Equipment	Site observation/ testing	23 81 00 Decentralized HVAC Equipment
Chilled Water System	Site observation/ testing	23 05 93 HVAC Testing, Adjusting and Balancing 23 08 00 Commissioning of HVAC Systems 23 09 00 Energy Management and Control System 23 21 16 Hydronic Specialties 23 21 23 Hydronic Pumps 23 64 10 Air Cooled Water Chillers 23 64 26 Centrifugal Water Chillers 23 65 00 Rotary Screw Water Chillers 23 65 00 Cooling Towers
Electrical Systems		
Lighting and Lighting Control System	Site observation/ testing	26 51 00 Interior Lighting
Electrical Distribution	Site observation/ testing	26 24 13 Switchboards 26 24 16 Panelboards 26 28 16 Enclosed Switches and Circuit Breakers 26 43 00 Transient Voltage Surge Suppression
Emergency Generator	Site observation/ testing	26 35 13 Gas Engine Drive Generator Assembly 26 36 00 Transfer Switches
Fire Alarm & Smoke Detection System	Site observation/ testing	28 31 00 Fire Alarm and Smoke Detection System
Intercom System	Site observation/ testing	27 51 23 Intercom System
Public Address System	Site observation/ testing	27 51 16 Public Address System

1.1 COMMISSIONING TEAM

- A. The Commissioning Team shall include a representative of the School District of Palm Beach County, Commissioning Coordination Supervisor assigned by the CM, Systems Installation Subcontractors, Test and Balance Subcontractor, EMS Subcontractor and the Commissioning Provider. Equipment manufacturer’s representatives will be present for start-up as specified in the equipment specification sections and for equipment training.

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- B. Commissioning Coordination Supervisor: The Construction Manager shall assign a person with 5-years of experience with the coordination of disciplines of construction having the following responsibilities:
 - 1. Coordination meetings
 - 2. Planning
 - 3. Scheduling
 - 4. Documentation
 - 5. Communication with Owner's Commissioning Provider
 - 6. Corrective actions
 - 7. Specified training
- C. Commissioning Provider: The Commissioning Provider CxP shall function as the Owner's Technical Representative relative to Commissioning, having the responsibilities listed in Scope Section 1.3. The Commissioning Provider shall be contracted directly with the District and shall not be affiliated with the design and construction team.

1.2 SUBMITTALS

- A. Construction Manager shall submit the name of person(s) assigned as Commissioning Coordination Supervisor within 2-weeks of contract award, Construction Manager shall submit the following information for each assigned Commissioning Representative:
 - 1. Company Name
 - 2. Name
 - 3. Title
 - 4. Phone Number
 - 5. E-Mail Address
- B. Construction Manager shall submit a list of all required submittals to the Commissioning Provider prior to submitting any equipment submittals for review.
- C. Commissioning Provider shall identify submittals that require copies submitted to the Commissioning Provider concurrent with submission to the Design Engineers.
- D. Construction Manager shall submit copies of selected submittals to Commissioning Provider concurrent with submission to the Design Engineers for review. Also, submit all selected submittals to Commissioning Provider after approval by the Design Engineers.
- E. Master Construction Schedule: Construction Manager shall incorporate all commissioning milestones into the Master Construction Schedule. Submit regular updates to construction schedule to the Commissioning Provider concurrent with the design team.
- F. Construction Manager shall submit a copy of Construction Meeting Minutes, Construction Change Directives (CCD), Architectural Supplemental Instructions (ASI), Requests for Information (RFI), Change Orders (CO), etc. to the Commissioning Provider.
- G. Construction Manager shall submit training session plans to the Commissioning Provider for approval no later than 4-weeks after submittal acceptance.
 - 1. Document training plans on attached Operation and Maintenance Training Form. See 3.2.C below for a listing of related training.
 - 2. Commissioning Provider shall facilitate approval of submitted training plans by MPO Maintenance Staff.
- H. Construction Manager shall submit Operation and Maintenance manuals to Design Engineers and Owner's Representative for review of the systems listed in the.
 - 1. Building Automation System specialty contractor shall submit the building automation system operation and maintenance manuals, including control schematics and sequences

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of operation, to the Commissioning Provider at the same time they are submitted to the Design Engineers and Owner's Representative.

2. Submit Operations and Maintenance Manuals within 4-weeks of submittal acceptance.
 - I. Construction Manager shall submit Contractors' test reports and/or Contractor's Equipment Startup Reports to Commissioning Provider upon successful completion of each test (contractors' tests as required in divisions 21, 22, 23, 26, 27, and 28 in the project specifications).
 - J. Construction Manager shall submit functional performance testing schedule to Commissioning Provider at least 4-weeks prior to the start of testing.
 1. Functional performance testing schedule shall include Testing and Balancing and training as milestones to be completed prior to starting functional performance testing.
 - K. Test and Balance Specialty Contractor shall submit draft daily field balance reports to the Commissioning Provider on a weekly basis for fieldwork completed the previous week.
 1. The Test and Balance Specialty Contractors shall submit the completed draft test and balance report to the Design Engineers and Commissioning Provider for review and approval within one week of completion of work and prior to commencement of HVAC system functional performance tests.
 2. System verification testing shall not commence until system balancing is complete.
 3. The Test and Balance Specialty Contractor shall submit the Final Test and Balance Report to the Commissioning Provider concurrently with submission to the Owner and Design Engineers.
 - L. Construction Manager shall submit completed System Readiness Checklists to Commissioning Provider.
 1. System verification testing shall not commence until each system is documented being ready for testing.
 - M. Construction Manager shall submit training documentation plan within 8-weeks of approval of submittals.
- 1.3 LIMITS ON COMMISSIONING PROVIDER
- A. Commissioning Provider (CxP) may not release, revoke, alter, or enlarge on requirements of Contract Documents.
 - B. CxP may not approve or accept any portion of the Work.
 - C. CxP may not assume any duties of Contractor.
 - D. CxP has no authority to stop work.
- 1.4 OPERATION AND MAINTENANCE MANUALS
- A. Comply with requirements of Divisions 1, 23 and 26
 - B. Comply with the submittal requirements listed in this document.

PART 2 PRODUCTS

2.1 MATERIALS

- A. The party responsible for each Commissioning Procedure shall furnish all tools, equipment and instrumentation required for the execution of that Procedure.
- B. A list of all tools and equipment to be used during Cx shall be submitted to the District for review and approval prior to the start of execution.
- C. Standard tools, testing equipment and instrumentation required for execution of Pre-Functional Procedures, Pre-startup Testing, Startup Procedures, Functional Performance

Testing and Post-startup Testing shall be provided by the Contractor responsible for the equipment being tested.

- D. The District Energy Management System EMS shall be available as a resource to the CxP for performance trending as required.
- E. Testing equipment and instrumentation used for execution of Commissioning Procedures shall be of sufficient quality and accuracy to test and/or measure system performance with the tolerances specified in the District Master Specifications. If not otherwise noted, the following minimum requirements apply:
 - 1. Temperature sensors and digital thermometers: certified calibration within the past year to an accuracy of 0.5°F and a resolution of + or - 0.1°F.
 - 2. Pressure sensors: accuracy of + or - 2.0% of the value range being measured (not full range of meter) and calibrated within the last year.
 - 3. Electrical meters (voltage, current, etc.) shall be true RMS and shall have been calibrated within the last year.
 - 4. Other sensors (RH, CO, CO₂, etc.) shall have been calibrated within the last 6 months.
- F. All test equipment and instrumentation used for Commissioning Procedures shall be calibrated according to the manufacturer's recommended intervals and when dropped or damaged.
- G. Calibration tags shall be affixed or certificates readily available.

PART 3 EXECUTION

3.1 COORDINATION

- A. Construction documents shall clearly indicate the provisions for commissioning.
- B. General Contractor shall attend 10-Month Warranty review meeting on-site (including all contractors on the commissioning team)
- C. The licensed design professional shall provide evidence of commissioning prior to final mechanical, plumbing and electrical inspections.
- D. General Contractor shall work with owner's operations and maintenance staff to define training documentation requirements.
- E. General Contractor shall request clarification as needed.

3.2 TRAINING

- A. Construction Manager shall coordinate operation and maintenance training activities through the Commissioning Provider and the owner's operations and maintenance staff.
- B. Construction Manager shall provide training for systems and sub-systems as specified in this section and individual technical sections.
- C. Construction Manager shall provide Training Plans (using attached Operations and Maintenance Training Plan Form) and a detailed training agenda for the following training sessions:

Specification Section	Training Duration (hours)	Remarks
Mechanical		
22 20 00 – Double Check Backflow Preventors	2	
22 20 00 – Thermostatic Mixing Valve		
22 40 00 – Drinking Fountains & Water Coolers	2	
22 30 00 – Plumbing Equipment	4	

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Specification Section	Training Duration (hours)	Remarks
22 30 00 – Domestic Hot Water Heaters		
22 30 00 – Packaged Water Heating Systems		
22 30 00 – Water Softeners		
21 00 00 – Fire Protection	4	Include fire protection zoning
21 00 00 – Fire Pump, Fire Pump Controller, Fire Pump ATS, Jockey Pump, Jockey Pump Controller		
21 00 00 – Hose Rack Assembly		
23 21 16 – Expansion Tank	4	
23 21 16 – Air Separators		
23 21 16 - Strainers		
23 21 16 – Glycol System		
23 21 16 – Backflow Preventors		
23 21 23 – HVAC Pumps (all types)	2	
23 63 13 – Air-Cooled Air Conditioning Condensers	2	
23 64 10 – Air-Cooled Chillers	4	
23 64 16 – Centrifugal Water Chillers	4	
23 64 26 – Water-Cooled Rotary Chillers	4	
23 65 00 – Cooling Tower	4	
23 29 23 – Variable Frequency Drives	4	
23 81 00 – Packaged Roof-Top AC Units	4	
23 25 00 – Water Treatment	4	
23 70 00 – Air Handling Units	4	
23 34 23 – Roof Exhausters	4	
23 34 23 – Wall Exhausters		
23 34 23 – Cabinet and Ceiling Exhaust Fans		
23 34 23 – In-Line Exhaust or Supply Fans		
23 33 00 – Control Dampers	4	
23 33 00 – Fire Dampers		
23 33 00 – Combination Fire and Smoke Dampers		
23 33 00 – Smoke Dampers		
23 33 00 – Back draft Dampers		
23 09 00 – Energy Management and Control System	40	two 20 hour sessions
23 36 16 – VAV Terminal Units	2	
23 05 93 – Testing, Adjusting & Balancing	2	General review of report
Electrical		
26 24 13 – Switchboards	8	For all switchboards, panelboards, circuit breakers, TVSS, and motor controls
26 24 16 - Panel boards		
26 28 16 – Enclosed Circuit Breakers		
26 28 39 – Motor Controls		
26 43 00 – Transient Voltage Surge Suppressors		

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Specification Section	Training Duration (hours)	Remarks
26 35 13 – Packaged Engine Generators	8	For generator, transfer switches and emergency distribution system)
26 36 00 – Transfer Switches		
26 58 68 – Sports Lighting	4	Includes fixtures, poles and controls
26 55 61 – Theatrical Lighting	4	Includes controls
26 41 00 – Lightning Protection System	1	
28 31 00 – Fire Alarm System	8	Includes zones and sequence of operations
28 16 00 – Intrusion Detection	2	
27 33 00 – Video Surveillance System	2	
28 53 10 – Emergency Radio Communications System	2	
28 13 00 – Card Access System	2	
27 51 23 – Intercom System	2	
27 51 16 – Public Address System	2	
27 41 00 – Master Antenna System	2	
26 29 10 – Electric Controls & Relays	2	
27 10 00 – Communications Systems (Data & Voice)	2	
27 24 10 – Ceiling Projection Systems	2	

D. Training Plan outline:

1. Equipment
2. Trainer’s name and company
3. Agenda
4. Time required for the training session
5. An option of three dates to hold the training session

E. Construction Manager shall obtain written acceptance of the training session from the SDPBC FS staff on the Operation and Maintenance Training Plan Form (attached).

1. The Commissioning Provider shall assist with coordinating the approval of submitted Operation and Maintenance Training Plan Forms with the Owner’s FS staff.

F. Construction Manager shall document performance of the training session by:

1. Video record the training session
 - a. Construction Manager shall engage the services of a firm qualified to video record all training sessions.
 - b. The video recording shall be in DVD format and of high quality, both visual and audible.
 - c. It shall include a static overview of each system along with an actual example of the operation and maintenance of each specific piece of equipment requiring training – in accordance with the approved training outline.
 - d. The video recording Contractor shall be responsible for consolidating all training DVDs into one (1) consolidated training “volume” and submit four (4) copies of this training record to the Owner’s operations and maintenance department.

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2. Construction Manager shall submit a training documentation plan to the commissioning Provider and the Owner's FS staff for review and approval.
 - a. The training documentation plan shall consist of a sample DVD video of a training session for review of compliance with Owner's documentation requirements.
 - b. Submit this plan within 8-weeks of approval of equipment submittals.
 3. Completing the Operation and Maintenance Training Plan Form: Indicate on the form:
 - a. Date of training
 - b. Detailed training agenda for each training session
 - c. Sign-in sheet of attendees and their affiliation
 - d. Sign-off by Owner's Operations and Maintenance Representative
 - e. Include completed attendee training feedback and comment forms with the Operation and Maintenance Training Plan Form.
- 3.3 EQUIPMENT START-UP AND EQUIPMENT ENERGIZATION
- A. Inform Commissioning Team 2-weeks in advance of the start-up or equipment energization schedule for equipment.
 1. The Commissioning Provider and the Owner's FS staff reserves the right to witness the performance of any or all start-up/energization procedures.
- 3.4 COMMISSIONING SITE OBSERVATIONS
- A. The Commissioning Provider shall make periodic site observation visits to review construction activities, focusing on the following:
 1. General conformance with construction documents
 2. General conformance with District guidelines and industry standards
 3. Equipment access for maintenance and operations
 4. Safety provisions for operations and maintenance personnel
 5. Other items of interest to the Owner
 - B. The Commissioning Provider shall prepare and issue a Field Report outlining the general and specific observations made during the visit.
 1. The Field Report distribute is to the Owner's Project Manager, Architect, Design Engineers, and the Construction Manager.
 2. They shall have the opportunity to review and comment on the issues noted during the site visits.
 - C. The Owner, Architect, or Design Engineer shall direct the Construction Manger to take corrective action to resolve issues noted on the Field Reports.
 1. The directive will be as a Change Order, CCD, ASI, or other applicable format as outlined in other Division 1 specification.
 - D. The Commissioning Provider shall enter any issues observed during the site visits on a Master Issues Log, which also tracks resolution of the issues.
- 3.5 CONTRACTOR'S TESTS
- A. Subcontractor/Installers shall forward to the Commissioning Provider through the General Contractor's Commissioning Coordination Supervisor a list and schedule of specified contractor tests.
 - B. Unless specified otherwise, provide a minimum one-week notice to the Commissioning Provider for specified Contractor's tests.
 - C. Submit Contractors' test reports to the Commissioning Provider and Owner's Representative within one week of the successful completion of each test.
- 3.6 SYSTEM READINESS CHECKLISTS

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- A. Prior to the scheduled start of verification testing, check out systems to confirm readiness for testing.
- B. In addition to verifying proper installation of all equipment and associated hardware, perform and document sensor calibration or provide documentation verifying manufacturer's performance of calibration one week prior to verification testing.
 - 1. A sensor is any device that measures a system parameter for control purposes or for monitoring the system performance.
 - 2. The Commissioning Provider may observe sensor calibration procedures.
- C. Submit System Readiness Checklists to the Commissioning Provider within 1-week of completing the checklist.
 - 1. Do not start system verification testing until documentation indicates the system is ready for testing.

3.7 FUNCTIONAL PERFORMANCE TESTS

- A. The CxP shall develop the Functional Performance Test procedures necessary to fulfill all commissioning test objectives.
- B. Commissioning Provider shall provide input into the master scheduling process as to the timing and duration of the functional performance test procedures.
 - 1. The master scheduling process shall include the designation of contractor personnel required to perform the functional performance test procedures.
- C. Construction Manager, Contractors/Installers, and Specialty Contractors shall review and comment on the final detailed functional performance test procedures developed by the Commissioning Provider based on the system shop drawings and submittals.
 - 1. Provide feedback as to the efficiency of the procedures and possible alternate approaches to achieving the same results.
- D. Construction Manager, Contractors/Installers, and Specialty Contractors shall provide personnel and equipment as required to perform the functional performance test procedures under the direction of the Commissioning Provider.

3.8 CORRECTIVE ACTIONS

- A. Construction Manager, Contractors/Installers, and Specialty Contractors shall perform corrective actions for resolution of deficiencies found during:
 - 1. Contractor testing
 - 2. Test and balance
 - 3. System checkout
 - 4. Verification testing
- B. A deficiency is equipment that does not function as expected and more than 5-minutes is required to correct the problem.
- C. Construction Manager, Contractors/Installers, and/or Specialty Contractors are responsible for functional performance retesting of items requiring corrective action as described in Section 3.6 Verification Tests.
 - 1. Provide staff, time, and equipment necessary to execute the section of the Verification Test Procedure that includes the deficiency.
 - 2. The Owner may elect to recover the additional costs for the Commissioning Provider to observe and direct retesting.
 - 3. The Owner shall determine the amount and method of recovering these additional costs.

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- D. The Commissioning Provider shall identify deficiencies and provide documentation and management of the deficiencies by a Corrective Action Report (sample attached), or other mutually agreed upon format.
1. The Construction Manager shall have the Corrective Action Report within one working day of discovery.
 2. The Construction Manager, Contractors/Installers, and/or Specialty Contractors are responsible for documenting actions taken to correct the deficiency.
 3. Deficiency Identification Process (by Commissioning Provider):
 - a. Date
 - b. Description of deficiency
 - c. Enter deficiency into Master Corrective Action Log
 - d. Give original form to General Contractor Commissioning Coordination Supervisor
 - e. Distribute copies to:
 - i) Construction Manager
 - ii) Owner's Project Manager
 - iii) Design Engineers
 4. Corrective Action Direction (by General Contractor)
 - a. Obtain the original form
 - b. Date of direction
 - c. Description of corrective action required
 - d. Name of person issuing the direction
 - e. Give the original form to the subcontractor/installer who shall perform the corrective action.
 - f. Distribute copies to:
 - i) Owner's Project Manager
 - ii) Design Engineers
 - iii) Commissioning Provider
 5. Subcontractor/Installer Corrective Action Completed (by Contractor/ Subcontractor/Installer or Specialty Contractor)
 - a. Obtain the original form
 - b. Date of correction
 - c. Description of final equipment status or corrective action performed
 - d. Name of person performing the work
 - e. Subcontractor submit the original form to the General Contractor's Commissioning Supervisor
 - f. General Contractor to approve and submit original form to Commissioning Provider
 - g. Distribute copies to:
 - i) Owner's Project Manager
 - ii) Design Engineers
 - iii) Commissioning Provider
 6. Verification of Corrective Action Completion (by Commissioning Provider)
 - a. Date of retest
 - b. Status description; resolved or more work required
 - c. Name(s) of person(s) performing verification
 - d. Enter resolution into Master Corrective Action Log
 - e. Distribute copies to:

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- i) Owner's Project Manager
 - ii) Design Engineers
 - iii) Construction Manager
- E. During construction or testing, anyone finding deficiencies may document the deficiencies on an attached Corrective Action Report (CAR) within one working day of discovery.
- 1. Forward these deficiencies to the Commissioning Provider.
- 3.9 ATTACHEMENTS - COMMISSIONING DOCUMENTATION
- A. Corrective Action Report Form
 - B. Operation and Maintenance Training Plan form
 - C. Commissioning Document Requirements Table
 - D. Commissioning Site Observation form

END OF SECTION
(Attachments follow)

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Project Name:

SDPBC Project No.:

School District of Palm Beach County Palm Beach Gardens Community High Modernization CORRECTIVE ACTION REPORT (CAR)		CAR# X-XXX
Deficiency noted during which evolution: Contractor testing, test and balance, system checkout, verification testing, other:		
System/Equipment Identification:		
Description of deficiency:		
Name:	Company:	Date:
Attach additional pages if necessary, number of attached pages: Send original to the CM Cx Supervisor and a copy to: Owner's Project Manager, and Design Engineers		
Corrective Action Direction (by General Contractor):		
Name:	Company:	Date:
Attach additional pages if necessary, number of attached pages: Send original to the Subcontractor and a copy to: Owner's Project Manager, Design Engineers and Commissioning Provider		
Corrective Action Completed Satisfactorily (by subcontractor) <input type="checkbox"/> Yes <input type="checkbox"/> No		
Comments on final equipment status or performance of corrective action:		
Name:	Company:	Date:
Attach additional pages if necessary, number of attached pages: Send original to CM Cx Supervisor for submittal to the Commissioning Provider, Owner's Project Manager, and Design Engineers		
Verification of Corrective Action Completion (by Commissioning Provider) <input type="checkbox"/> Yes <input type="checkbox"/> No		
Comments:		
Name:	Company:	Date:
Attach additional pages if necessary, number of attached pages: Send copies to the CM, Owner's Project Manager, and Design Engineers		

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School District of Palm Beach County
Palm Beach Gardens Community High Modernization
OPERATION AND MAINTENANCE TRAINING PLAN

System/Equipment Identification:

Training Plan (by contractor) - **attach a detailed training agenda**

Training to be conducted by:

Name:

Title:

Company:

Phone:

Time Required:

Attach additional pages if necessary, number of attached pages:
Send original to the Owner's Project Manager for approval

Agenda Approval (by Owner's Project Manager)

Approved? Yes No

Comments:

Name:

Company:

Date:

Attached additional pages if necessary, number of attached pages:

Attendees (Owner's operations & maintenance staff)

Name/Affiliation:

Name/Affiliation:

Acceptance of the Training

The training has satisfactorily provided the Owner's personnel with the knowledge to operate and maintain the equipment discussed during the training session.

SDPBC Project Manager

Yes No

Name:

Date:

SDPBC O&M Representative

Yes No

Name:

Date:

If No, briefly describe the additional training required:

Attach additional pages if necessary, number of attached pages:
Send original to the Owner's Project Manager and copies to the Commissioning Provider

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COMMISSIONING DOCUMENT REQUIREMENTS TABLE (Submit all items to the Commissioning Provider)		
DOCUMENTATION	SUBMIT BY:	SUBMIT WHEN:
General Contractor commissioning coordination Supervisor	Construction Manager	Within 2 weeks of contract award
Subcontractor commissioning coordination Supervisors	Responsible Subcontractor	Within 2 weeks of contract award
Project submittal list (List of all required submittals for the job)	Construction Manager	Within 2 weeks of contract award
Training Documentation Plan (video recording plan)	Construction Manager	Within 8 weeks of contract award
Submittals	Construction Manager	Submit copies to Commissioning Provider at same time they are submitted to the Design Engineers
Project construction documentation: meeting minutes, CCDs, ASI's, RFI's, CO's, etc.	Construction Manager	Immediately upon issuing
Training Plans	Responsible Subcontractor	Within 4 weeks of submittal acceptance
Operation and maintenance manuals	Construction Manager	Within 4 weeks of submittal acceptance
Equipment startup report	Responsible Subcontractor	Submit with Systems Readiness Checklist
Contractors' test reports	Responsible Subcontractor	Within 1 week of test completion
Verification test schedule	Construction Manager	Within 4 weeks of the start of verification testing
Sensor calibration documentation	Building Automation Specialty Contractor	Within 1 week of the start of verification testing
Complete test and balance report	T.A.B. Specialty Contractor	Within 1 week of completion of work and prior to HVAC verification testing
System Readiness Checklist	Responsible Subcontractor	Within 1 week of check out completion and prior to verification testing

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Project Name:

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COMMISSIONING SITE OBSERVATION # XX		
Report Date: XX-XX-XX	PROJECT:	Project Name –
	SDPBC Project No:	
SPA: Name School District of Palm Beach County Program Management 3661 Interstate Road N Riviera Beach, FL 33404	Date of Observations:	XX-XX-XX
	Prepared By:	
	Quality Control Check:	
	Present at Site:	Name, SDPBC, Building Department Name, SDPBC, Facilities Services
	Copies To:	Name (Facilities Services) Construction Manager's PM Project File

PURPOSE OF MEETING / SITE OBSERVATION:

GENERAL OBSERVATIONS:

The School District of Palm Beach County

Project Name:

SDPBC Project No.:

SPECIFIC OBSERVATIONS:

IHC-XX-XX			
Item Classification			
Reference Drawing: <input type="text"/>			
Reference Specification:			
<input type="checkbox"/> Non-Compliant with Drawings/Specifications			
<input type="checkbox"/> Non-Compliant with Industry Standards			
<input type="checkbox"/> Negative Impact on Operations/Maintenance			
Issue			
Impact			
Resolution			
Accepted By:	Resolved By:	Reviewed By:	
Date:	Date:	Date:	
[Owner]	[Contractor/Installer]	[CxP]	

END OF REPORT