



**SCHOOL DISTRICT PALM BEACH COUNTY
BUILDING DEPARTMENT
PLAN REVIEW CHECK LIST -- MECHANICAL**

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PROJECT NAME: _____ DATE _____
PROJECT NUMBER: _____ REVIEWER _____

The intent of this checklist is to act as a tool for the District Plan Reviewers to review construction plans and specification of projects submitted for permitting by the Building Department. Architects and Engineers are encouraged to use this document as a tool to prepare construction plans and specifications for District projects.

The codes references in the checklist are Florida Building Code (FBC), District Design Criteria (DDC), National Fire Prevention Association Codes (NFPA), Florida Administrative Code (FAC), and Florida Statutes (FS).

Phase I – Schematic Design

OK, Comment, or N/A	Item	Code Reference
	1. HVAC Narrative:	
	a. Short description of project scope.	
	b. Type of cooling; Chilled water and/or DX systems.	
	c. Air or water-cooled chillers, number of parallel or series piped chillers, tonnage capacity.	
	d. (If applicable) Number of parallel or series piped cooling towers, tonnage capacity.	
	e. Location of chillers and cooling towers to limit noise to 50 dB at property line.	
	f. Number of constant or variable speed chilled water and/or condenser water pumps.	
	g. Chilled water, condenser water piping and insulation materials for underground or overhead routing.	
	h. Zone air handling units located in air-conditioned Mechanical Equipment Rooms.	
	i. Chilled water VAV units for classrooms labs, media, administration, multi-purpose and ancillary spaces.	
	j. Constant volume units for kitchen and cafeteria.	
	k. Split DX systems for media humidity control, data processing, communication or interior electrical equipment rooms, dry food storage, offices for kitchen manager and PE coach.	
	l. VAV terminal boxes with electric duct heaters and individual room temperature control.	
	m. Fully ducted return and relief systems.	
	n. Ventilation in accordance with ASHRAE 62.	
	o. Toilet and janitor closet exhausts interlocked with ventilation systems to maintain building pressurization.	
	p. Kitchen hood grease exhaust and dishwasher exhaust ductwork, all stainless steel, welded.	
	q. Double wall ductwork for sound attenuation.	
	r. Systems integrated with Automatic Logic Controls (ALC).	

Phase II – Design Development

OK, Comment, or N/A	Item	Code Reference
	1. Accurate room-by-room people count; ventilation rates set per ASHRAE 62.	
	2. Room-by-room equipment load.	
	3. Preliminary HVAC load calculations.	
	4. Preliminary selection of central HVAC equipment (chillers, cooling towers, pumps, AHUs).	
	5. Coordinate with architect location of and number of mechanical equipment rooms.	
	6. Coordinate with architect size of mechanical equipment rooms for proper service access.	
	7. Preliminary single line ductwork routing.	
	8. Coordinate with architect the location of fire rated and smoke rated partitions and other life safety requirements.	
	9. Routing of main chilled water lines from chiller plant to buildings and to mech. equip. rooms.	
	10. Calculations and 400 forms demonstrating compliance with Florida Energy Efficiency Code.	

MECHANICAL– "Phase III" Plans (Final Construction Documents)

General

OK, Comment, or N/A	Item	Code Reference
	Plans are signed and sealed	471, 481 FS
	All documentation submitted	District Requirement
	Index represents what is submitted	District Requirement
	Plans match the specifications	District Requirement
	Plans comply with the District Design Criteria	District Requirement
	Location of junction boxes in and near play fields	District Requirement

Construction Documents

OK, Comment, or N/A	Item	Code Reference
	1. Design Notebook.	
	a. Final Facility Space Chart (OEF Form 208a).	
	b. Final room-by-room people count. Required ventilation rates per person.	
	c. Final room-by-room equipment loads.	
	d. Design Loads: Input in accordance with SDPBC HVAC Design Requirements – Loads.	
	e. Room-by-room air balance.	

	f. Output data including design load psychrometric analysis: Space relative humidity 45%<RH<50%, cooling coil leaving hum. ratio W=65 grains/lb of dry air or less.	
	g. Part load psychrometric analysis: Space relative humidity W=60% or less.	
	h. Final selection of major HVAC equipment: chillers, cooling towers, AHUs, rooftop units, condensing units, and pumps.	
	i. Check major HVAC equipment: Airflows (CFMs), cooling capacities (BTUs or tons), pump water flows (GPMs), head pressures, and motor horse powers.	
	j. Life Cycle Cost Analysis to evaluate selected equipment and systems and economics of possible energy conservation measures.	
	k. Energy calculations and completion of 400 forms demonstrating compliance with Florida Energy Efficiency Code.	
	2. Construction drawings.	
	a. Title sheets: General mechanical notes, symbols, legends, etc.	
	b. Site Plan: Location of chiller and cooling tower plants, routing of chilled and condenser piping loops.	
	c. Floor plans:	
	1. Air distribution systems: Supply and return ductwork, duct heaters.	
	2. Flexible duct runouts from metal ducts to air distribution devices.	
	3. Protection of duct penetrations thru fire or smoke rated partitions (fire an/or smoke dampers).	
	4. Outdoor air systems.	
	5. Transfer air systems.	
	6. Exhaust air systems for science labs, kitchen and dishwasher hoods, kiln room, toilets, and janitor closets.	
	7. Relief air systems.	
	8. Air balance for all rooms, spaces and AHU zones.	
	9. Location of volume dampers, back draft dampers, motorized dampers.	
	10. Location of space smoke detectors, thermostats, temperature and humidity sensors.	
	d. Mechanical Equipment Rooms, plans and sections:	
	1. Location and service clearances of the AHUs.	
	2. Equipment pad and location of floor and condensate drains.	
	3. Minimum length of the double wall duct.	
	4. Outdoor air (ventilation) systems.	
	5. Location of smoke detectors, duct heaters, manual and motorized dampers, minimum straight duct for traverse.	
	6. Flexible duct connections to AHUs.	
	7. Chilled water piping design for cooling coils.	
	e. Roof plans:	
	1. Location of roof mounted equipment.	
	2. Minimum 10 ft distance from air intakes to roof vents and plumbing vents.	
	3. Equipment installation details including roof curbs and tie-downs.	
	f. Plan and sections of the Chiller Plant:	
	1. Separation distances between chillers and chiller yard walls.	
	2. Chilled water pumps and piping layout for clear access to chiller compressors.	

	3. Location of air separator, air eliminator, expansion tank and chemical shot feeder.	
	4. Chilled water make-up piping.	
	5. Condenser water piping (if applicable).	
	g. Equipment schedules:	
	1. Fan schedule, control interlocks and fan status	
	2. Fan control modes: thermostat, building automation system (BAS), or continuous.	
	3. BAS and Division 16 interlocks.	
	4. Schedules for AHUs, OAU's, coils, heaters, flow meters.	
	5. Schedule for chillers and cooling towers if applicable.	
	6. Schedule for pumps.	
	h. Typical installation details.	
	i. BAS control Schematics.	

Item

OK, Comment, or N/A	Item	Code Reference

Specifications

OK, Comment, or N/A	Item	Code Reference
	Specifications match the District Master Specs	District Requirement
	Specifications match the plans	District Requirement
	Specifications follow the District Design Criteria	District Requirement
	Specification follow the Educational Specifications	District Requirement