



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

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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), District Master Specification (DMS), National Fire Prevention Association Codes (NFPA), American Society of Civil Engineers (ASCE), American Concrete Institute (ACI), Florida Statutes (FS) current editions, and. Occupational Safety and Health Administration (OSHA).*

**Phase I – Schematic Design (Not Required)**

**Phase II –Design Development (Not Required)**

**STRUCTURAL– "Phase III" Plans (Final Construction Documents)**

**General**

OK, Comment, or N/A	Item	Code Reference
	Plans are signed and sealed	471.025, 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

**Structural Plans Submittal**

OK, Comment, or N/A	Item	Code Reference
	<b>Documents submittal.</b>	
	<ul style="list-style-type: none"> <li>Verify that the structural plans, Phase III, documents are dated, signed and sealed by the professional engineer of record.</li> </ul>	FBCB §104.2.2
	<ul style="list-style-type: none"> <li>Verify that the plans are sealed with a metal-type impression seal. The use of a rubber stamp seal is prohibited.</li> </ul>	FAC 61G15-23.001
	<ul style="list-style-type: none"> <li>Verify that the signature of the professional engineer of record is an original handwritten signature. Copy of signature is not allowed.</li> </ul>	FAC 61G15-23.002
	<ul style="list-style-type: none"> <li>Verify if any building or the whole facility has been designated as an EHPA, (Enhanced Hurricane Protection Area).</li> </ul>	District Requirement

	<ul style="list-style-type: none"> <li>Verify that two copies of the Geotechnical Engineer's Soil Report was submitted.</li> </ul>	FBCB §104.2.1
	<ul style="list-style-type: none"> <li>Verify that the Geotechnical Engineer's Soil Report is dated signed and sealed by the geotechnical engineer in responsible charge.</li> </ul>	FBCB §104.2.2

<b>Enhanced Hurricane Protection Areas (EHPA)</b>
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OK, Comment, or N/A	Item	Code Reference
	Verify that the EHPAs are being considered as "threshold building".	553.71(7), F.S.

<b>Threshold Buildings</b>
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OK, Comment, or N/A	Item	Code Reference
	Verify if any buildings classify as a Threshold Building. A Threshold Building as any building satisfying any of the following <ul style="list-style-type: none"> <li>Greater than 3 stories.</li> <li>50 feet in height.</li> <li>Has an assembly occupancy classification that exceeds 5,000 SF in area and occupant content greater than 500 persons.</li> </ul>	553.71(7), F.S. FBCB §202
	Verify that all plans for the building which are required to be signed by the architect or engineer of record contain a statement that "To the best of the architect' or engineer's knowledge, the plans and specifications comply with the applicable minimum building codes fire-safety standards as determined by the local authority in accordance with this chapter and chapter 633.	553.79, F.S. 3.13.2.4.12 §FBCB 105.13.4.4
	Verify that all shoring and reshoring procedures, plans and details be submitted to the enforcement agency for recordkeeping.	553.7(c), F.S.
	<b>Threshold Inspection Plan.</b>	
	<ul style="list-style-type: none"> <li>Verify that two copies of the Inspection have been submitted with Phase III documents.</li> </ul>	FBCB §104.2.1
	<ul style="list-style-type: none"> <li>Verify that the Inspection Plans have been dated, signed and sealed by the professional engineer in responsible charge.</li> </ul>	FBCB §104.2.2
	<ul style="list-style-type: none"> <li>Verify that the Inspection Plan include the name of the facility, project number, and name of building or buildings. A generic, non-specific Inspection Plan shall be revised and submitted to the Building Department.</li> </ul>	FBCB §104.2.1
	<ul style="list-style-type: none"> <li>The Inspection Plan shall be made specifically for the building or buildings considered as Threshold Buildings.</li> </ul>	FBCB §104.2.1

<b>Codes</b>
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OK, Comment, or N/A	Item	Code Reference
	Verify that the structural design comply with the following codes.	
	<ul style="list-style-type: none"> <li>Florida Building Code</li> </ul>	FBCB
	<ul style="list-style-type: none"> <li>Minimum Design Loads for Buildings and Other Structures, ASCE 7-98, Chapter 6.</li> </ul>	FBCB §423.9.1

	<ul style="list-style-type: none"> <li>Verify that the wind load importance for educational facilities is 1.15.</li> </ul>	FBCB §423.9.1
	<ul style="list-style-type: none"> <li>Building Code Requirements for Structural Concrete. ACI 318-02.</li> </ul>	FBCB §3502
	<ul style="list-style-type: none"> <li>ACI 530/ASCE 5/TMS 402-02</li> </ul>	FBCB §3502
	<ul style="list-style-type: none"> <li>ACI 533/ASCE 6/TMS 602-02</li> </ul>	FBCB §3502

<b>SPECIAL ASSEMBLY OCCUPANCIES</b>
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OK, Comment, or N/A	Item	Code Reference
	<b>Auditoriums.</b>	
	<ul style="list-style-type: none"> <li>Verify that the Assumed values for the following loads are clearly noted on construction documents submitted for approval: <ul style="list-style-type: none"> <li>Head block beams</li> <li>Loft block beams</li> <li>Gridiron, walk-on</li> <li>Loading and fly galleries</li> <li>Railings, channels or similar battens intended for mounting theatrical lighting</li> <li>Pinrails and locking rails</li> </ul> </li> </ul>	FBCB §403.2.3.2

<b>Foundation and Ground Floor Plan</b>
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OK, Comment, or N/A	Item	Code Reference
	<b>Foundation Plan</b>	
	<ul style="list-style-type: none"> <li>Verify that all footings are marked.</li> </ul>	FBCB §104.2.1
	<ul style="list-style-type: none"> <li>Verify that the marked footings are included in the footing schedule or have been individually detailed.</li> </ul>	FBCB §104.2.1
	<ul style="list-style-type: none"> <li>Verify that all columns are marked.</li> </ul>	FBCB §104.2.1
	<ul style="list-style-type: none"> <li>Verify that the marked columns are included in the column schedule or have been individually detailed.</li> </ul>	FBCB §104.2.1
	<ul style="list-style-type: none"> <li>Verify that the marked masonry walls are included in the masonry schedule or have been individually detailed.</li> </ul>	FBCB §104.2.1
	<b>Footing Schedule.</b>	
	<ul style="list-style-type: none"> <li>Verify that the scheduled footings are included in the foundation plan..</li> </ul>	FBCB §104.2.1
	<ul style="list-style-type: none"> <li>Verify that the area of the footing reinforcement comply with the minimum area of steel reinforcement as required by Section 7.12.</li> </ul>	ACI 318-99, Section 10.5.4
	<ul style="list-style-type: none"> <li>Verify that the maximum spacing for the footing reinforcement does not exceed the lesser of three times the thickness or 18 in.</li> </ul>	ACI 318-99, Section 10.5.4
	<b>Column Schedule</b>	
	<b>Concrete Columns</b>	
	<ul style="list-style-type: none"> <li>Verify that the scheduled columns are identified in the foundation plan.</li> </ul>	FBCB §104.2.1
	<ul style="list-style-type: none"> <li>Verify that the longitudinal reinforcement comply with the requirement for minimum area of steel.</li> </ul>	
	<ul style="list-style-type: none"> <li>Verify that the size of the ties comply with the requirement for minimum tie size.</li> </ul>	ACI 318-02, Section 7.10.5.1

	<ul style="list-style-type: none"> <li>All nonprestressed bars shall be enclosed by lateral ties, at least: <ul style="list-style-type: none"> <li>No. 3 in size for longitudinal bars No. 10 and smaller</li> <li>No. 4 in size for No.11, No.14, No.18, and bundled longitudinal bars.</li> <li>Deformed welded wire fabric of equivalent area shall be permitted.</li> </ul> </li> </ul>	ACI 318-02, Section 7.10.5.1
	<ul style="list-style-type: none"> <li>Verify that the vertical spacing of ties do not exceed: <ul style="list-style-type: none"> <li>16-longitudinal bar diameter</li> <li>48-tie bar or wire reinforcement</li> <li>The least dimension of the column.</li> </ul> </li> </ul>	ACI 318-02, Section 7.10.5.2
	<ul style="list-style-type: none"> <li>Verify that the ties are arranged so that no vertical bar shall be farther than 6 inches clear on each side along the tie from such a laterally supported bar.</li> </ul>	ACI 318-02, Section 5.10.5.3
	<ul style="list-style-type: none"> <li>Verify the length of the lap splices for the column dowels with the vertical reinforcing steel.</li> </ul>	FBCB 01, 2 <sup>nd</sup> . Ed. §104.2.1
	<b>Steel Columns.</b>	
	Base Plate and Anchor Bolts	
	<ul style="list-style-type: none"> <li>Check the anchor bolt size.</li> </ul>	FBCB §104.2.1
	<ul style="list-style-type: none"> <li>Check the embedment of the anchor bolts.</li> </ul>	FBCB §104.2.1
	<b>Masonry Schedule.</b>	
	<ul style="list-style-type: none"> <li>Verify that the scheduled masonry walls are identified in the foundation plan.</li> </ul>	FBCB §104.2.1
	<ul style="list-style-type: none"> <li>Lap splices. Verify the length of the lap splices for the dowels and for the vertical reinforcing steel. The splice shall be a minimum of 48-bar diameter.</li> </ul>	
	<ul style="list-style-type: none"> <li>Dowels. Verify the embedment length for the vertical reinforcement.</li> </ul>	FBCB §104.2.1
	<ul style="list-style-type: none"> <li>Joint reinforcement. Verify the gage of the horizontal joint reinforcement.</li> </ul>	
	<ul style="list-style-type: none"> <li>Joint reinforcement. Verify the spacing of the horizontal joint reinforcement.</li> </ul>	FBCB §104.2.1

### Second Floor Framing Plan

OK, Comment, or N/A	Item	Code Reference
	<b>Columns.</b>	
	<ul style="list-style-type: none"> <li>Verify that all columns are marked.</li> </ul>	FBCB §104.2.1
	<ul style="list-style-type: none"> <li>Verify that the marked columns are included in the column schedule or have been individually detailed.</li> </ul>	FBCB §104.2.1
	<b>Concrete Beams.</b>	
	<ul style="list-style-type: none"> <li>Verify that all beams are marked.</li> </ul>	FBCB §104.2.1
	<ul style="list-style-type: none"> <li>Verify that the marked beams are included in the beam schedule or have been individually detailed.</li> </ul>	FBCB §104.2.1
	<b>Soffit Beams.</b>	
	<ul style="list-style-type: none"> <li>Verify that all soffit beams are marked.</li> </ul>	FBCB §104.2.1
	<ul style="list-style-type: none"> <li>Verify that the marked soffit beams are included in the soffit beam schedule or have been individually detailed.</li> </ul>	FBCB §104.2.1
	<b>Beam Schedule</b>	
	<ul style="list-style-type: none"> <li>Verify that all the beams comply with the minimum area of steel required by ACI.318-02</li> </ul>	
	<b>Stirrups:</b>	

	<ul style="list-style-type: none"> <li>Verify the spacing of the stirrups.</li> <li>The spacing of shear reinforcement placed perpendicular to axis of member shall not exceed <math>d/2</math> in nonprestressed members and <math>0.75h</math> in prestressed members, nor 24 inches.</li> </ul>	ACI 318- 02, Section 11.5.4.1
	<ul style="list-style-type: none"> <li>When <math>V_s</math> exceeds 4 times the square root of <math>f'_c</math> times <math>b_w \times d</math>, maximum spacings given in 11.5.4. and 11.5.4.2 shall be reduced by one-half.</li> </ul>	ACI 318- 02, Section 11.5.4.3
	<b>Beam Reinforcing Bar Diagram</b>	
	<ul style="list-style-type: none"> <li>Verify that the marks for reinforcing steel correspond with the size of the reinforcing steel on the beam schedule.</li> </ul>	FBCB §104.2.1
	<b>Soffit Beam Schedule</b>	
	<ul style="list-style-type: none"> <li>Verify the area of steel (reinforcing bars) provided as shear friction reinforcement.</li> </ul>	FBCB §104.2.1
	<ul style="list-style-type: none"> <li>Verify the load values of the shear friction.</li> </ul>	FBCB §104.2.1
	<b>Soffit Beam Reinforcing Bar Diagram</b>	
	<ul style="list-style-type: none"> <li>Verify the length of the shear friction reinforcing bars.</li> </ul>	FBCB §104.2.1

### Roof Framing Plan

OK, Comment, or N/A	Item	Code Reference
	Verify that all steel beams are marked.	FBCB §104.2.1
	Verify that all steel joists are marked.	FBCB. §104.2.104.2.1
	Verify that all concrete beams are marked.	FBCB §104.2.1
	Verify that all tie beams are marked.	FBCB §104.2.1
	Verify that the joist bracing is not continuous through an expansion joint.	FBCB §104.2.1

### Sections and Details

OK, Comment, or N/A	Item	Code Reference
	Fixed Ladders. Verify that the perpendicular clearance between fixed ladder rungs, cleats, and steps, and any obstruction behind the ladder is at least 7 inches.	OSHA, Title 29, Part 1926.1053(13)

### Scoreboard

OK, Comment, or N/A	Item	Code Reference
	Scoreboard design complies with the following.	
	<ul style="list-style-type: none"> <li>Wind loads shall be as per ASCE 7-98, Chapter 6, and Minimum Design Loads for Buildings and Other Structures.</li> </ul>	FBCB §423.9.1
	<ul style="list-style-type: none"> <li>Verify that the size of the poles comply with ASCE 7-98, Chapter 6 wind loads. Note that usually W6x6x15 steel poles are not strong enough to resist the wind loads as per ASC7-98.</li> </ul>	District Comment
	<ul style="list-style-type: none"> <li>Verify that the embedment length has been engineered for the actual soil conditions. Note that usually the embedment length has been figured as if the pole will be embedded in rock.</li> </ul>	District Comment

## Specifications

OK, Comment, or N/A	Item	Code Reference
	<b>Section 03200 Concrete Reinforcement.</b>	
	<ul style="list-style-type: none"> <li>Verify that ASTM designation and the Grade of Steel for the reinforcing steel is specified. Usually ASTM A-615, Grade 60.</li> </ul>	FBCB §104.2.1
	<ul style="list-style-type: none"> <li>Verify that ASTM designation and the Welded Steel Wire Fabric is specified. Usually it is ASTM A-185.</li> </ul>	FBCB §104.2.1
	<b>Section 03300 Cast-in-place Concrete.</b>	
	<ul style="list-style-type: none"> <li>Verify that the design complies with ACI 318-02 Building Code Requirements for Reinforced Concrete.</li> </ul>	FBCB §3502
	<b>Section 04100 Mortar and Grout.</b>	
	<ul style="list-style-type: none"> <li>Verify that the design complies with ACI 533/ASCE 5/TMS 402-02 Building Code Requirements for Masonry Structures.</li> </ul>	FBCB §3502
	<ul style="list-style-type: none"> <li>Verify that the design complies with ACI 533/ASCE 6/TMS 602-02 Specifications for Masonry Structures.</li> </ul>	FBCB §3502
	<b>Section 04300 Unit Masonry System.</b>	
	<ul style="list-style-type: none"> <li>Verify that the design complies with ACI 533/ASCE 5/TMS 402-02 Building Code Requirements for Masonry Structures.</li> </ul>	FBCB §3502
	<ul style="list-style-type: none"> <li>Verify that the design comply with ACI 533/ASCE 6/TMS 602-02 Specifications for Masonry Structures.</li> </ul>	FBCB §3502
	<ul style="list-style-type: none"> <li>Verify that the concrete masonry units comply with ASTM C 90.</li> </ul>	FBCB §2104.1
	<b>Section 4340 Reinforced Unit Masonry System.</b>	
	<ul style="list-style-type: none"> <li>Verify that the design complies with ACI 533/ASCE 5/TMS 402-02 Building Code Requirements for Masonry Structures.</li> </ul>	FBCB §3502
	<ul style="list-style-type: none"> <li>Verify that the design complies with ACI 533/ASCE 6/TMS 602-02 Specifications for Masonry Structures.</li> </ul>	FBCB §3502
	<ul style="list-style-type: none"> <li>Verify that the concrete masonry units comply with ASTM C 90.</li> </ul>	FBCB §2104.1
	<b>Section 05120 Structural Steel.</b>	
	<ul style="list-style-type: none"> <li>Verify that the ASTM designation number for the structural steel is specified.</li> </ul>	FBCB §104.2.1
	<ul style="list-style-type: none"> <li>Verify that the ASTM designation number for the structural steel indicated in the plans is the same as the one in the project manual specifications.</li> </ul>	FBCB §104.2.1
	<b>Section 05400 Cold Formed Metal Framing.</b>	
	<ul style="list-style-type: none"> <li>Verify that the specifications for the cold formed follows the Master Specifications of the SDPBC.</li> </ul>	District requirement
	<b>Section 13120 Pre-Engineered Buildings.</b>	
	<ul style="list-style-type: none"> <li>Verify that the design of the pre-engineered building complies with FBC and the wind loads comply with ASCE 7-98, Minimum Design Loads for Buildings and Other Structures, Chapter 6.</li> </ul>	FBCB §423.9.1
	<b>Section 10350 Flagpoles.</b>	
	<ul style="list-style-type: none"> <li>Verify that the design of the metal flagpole complies with NAAMM FP-1001, Specification for Design Loads of Metal Flagpoles.</li> </ul>	FBCB §1606.1.1(5)
	<b>Section 10532 Aluminum Walkway Covers.</b>	
	<ul style="list-style-type: none"> <li>Verify that the design of the aluminum walkway cover complies with FBCB 01,2<sup>nd</sup> Ed. and wind loads comply with ASCE 7-98, Minimum Design Loads for Buildings and Other Structures, Chapter 6.</li> </ul>	FBCB §423.9.1

**Specifications**

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

**Other**

OK, Comment, or N/A	Item	Code Reference