

# DESIGN REVIEW CHECKLIST

## STRUCTURAL

- Reviewers should** - Use Checklists when reviewing any type of VA construction project for the following disciplines:
- Architectural,
  - Electrical,
  - Heating, Ventilating, and Air Conditioning (HVAC),
  - Incineration/Solid Waste,
  - Plumbing, Fire Protection, and Sanitary,
  - Site and Landscape,
  - Steam Distribution,
  - Steam Generation, and
  - Structural.
- Reviewers should** - Ensure that A/E Submission Instructions (PG-18-15) for Schematic, Design Development, and Construction Documents are followed for various types of VA construction projects.
- Reviewers should** - Ensure that every VA construction project is in compliance with all life safety issues.
- Reviewers should** - Be aware that these checklists are not all-inclusive but only provide minimum review items.

# STRUCTURAL DESIGN REVIEW CHECKLIST

TITLE \_\_\_\_\_ PROJECT NO. \_\_\_\_\_  
 LOCATION \_\_\_\_\_ DATE \_\_\_\_\_  
 REVIEWED BY \_\_\_\_\_  
 ORGANIZATION \_\_\_\_\_

## GENERAL INFORMATION FOR REVIEWERS

The reviewer should be thoroughly familiar with the following VA standards before conducting a design review. These are available on the CFM Internet Web site: <https://www.cfm.va.gov/til>

ITEM	DESCRIPTION
1.	<b>DESIGN MANUALS (PG-18-10)</b>
2.	<b>MASTER CONSTRUCTION SPECIFICATIONS (PG-18-1)</b>
3.	<b>STANDARD DETAILS (PG-18-4)</b>
4.	<b>DESIGN AND CONSTRUCTION PROCEDURES (PG-18-3)</b>
5.	<b>DESIGN GUIDES (PG-18-12)</b>
6.	<b>DESIGN ALERTS</b>
7.	<b>MINIMUM REQUIREMENTS FOR A/E SUBMISSION (PG-18-15)</b>
8.	<b>VA BIM CAD STANDARDS</b>

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**ORGANIZATION** \_\_\_\_\_

## SCHEMATIC AND DESIGN DEVELOPMENT

NO.	STRUCTURAL – SCHEMATIC AND DESIGN DEVELOPMENT ITEM	COMMENTS/ YES/NO/NA
1	Compliance with AE submission instructions/requirement (PG 18-15)	
2	Structural Narrative – Explain the basis of design	
3	Base isolation method if required for seismic location buildings	
4	Building Code & VA Design Criteria	
5	Design Parameters (Floor Live Load and wind, Seismic and Soil Bearing Pressure)	
6	Geotechnical Report	
7	Selected Structural System	
	a. Steel/Concrete/Other	
	b. Bay Size	
	c. High Stress Elements (if any)	
8	Lateral Load Resisting System	
9	Gravity Load Transfer system	
10	Framing Plan for each floor and roof	
11	Foundation System	
12	Tentative sizes of columns, beams and slabs in major areas	
13	Plans correlated with architectural and mechanical features	
14	Typical sections and details to define construction features	
15	Detail at exterior walls	
16	Existing Utilities' Interference (if applicable)	
17	Detail at the interface of existing building (if applicable)	

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**ORGANIZATION** \_\_\_\_\_

## CONSTRUCTION DOCUMENTS

NO.	STRUCTURAL – CONSTRUCTION DOCUMENTS ITEM	COMMENTS/ YES/NO/NA
1	Percent Complete	
	a. Drawings	
	b. Specifications	
	c. Calculations	
2	Drawings (Spot Check) Comply with VA Appl Guide	
	a. Dimensions	
	b. Size of Beams	
	c. Size of Columns & Base Plates	
	d. Size of Steel Decking (Type & Properties)	
	e. Size of Floor Slab	
	f. Floor Depressions	
	g. Floor & Roof Openings	
	h. Elevation of Top of Beams	
	i. Beam reactions shown (or addressed otherwise) for steel framing and Transfer/Frame forces necessary for connection design as well (delegated design)	
	j. Concept of connection details and member reinforcement (steel-delegated design)	
	k. Lateral force- Resisting system Elements, Locations and Details	
	l. Expansion Joint Detail (Special attention in seismic areas)	
	m. Construction Joints & Control Joints	
	n. Orientation of Columns	
	o. Foundations	
	p. Shallow & Deep Foundations-Typical Footing (Size & details including Elevation)	
	q. Pile Cap (Detail including Cut-off Elevation)	
	r. Grade beam Details (if applicable)	
	s. Total Linear Feet of Piles/Caissons	
	t. Caisson (Detail including Elevation, Top & Bottom)	

NO.	STRUCTURAL – CONSTRUCTION DOCUMENTS ITEM	COMMENTS/ YES/NO/NA
	u. Rock Elevation (Assure classification with Soil Report)	
	v. Estimate of Quantity of Rock Excavation	
	w. Water Proofing Detail	
	x. Design Parameters (Floor Live Load, Wind, Seismic, & Soil Bearing Pressure)	
3	Special Details & Notes (Spot Check)	
	a. Grades of Steel, Types of Concrete	
	b. Schedules (Footing, Grade Beam, Column, etc.) complete	
	c. Reinforcing Details (conform with ACI, including seismic details)	
	d. Spacing of bars allow vibrating concrete	
	e. Connection Details	
	f. Sleeve Details	
	g. Shelf Angle Detail	
	h. Fireproofing Details	
	i. Pre-cast Panel Design & Details	
	j. Masonry Wall Anchorage	
	k. Boring Logs	
	l. Structural General Notes	
	m. Special Load Areas Identified	
	p. Cumulative Loads on Columns	
4	Calculations (Spot Check manually the computer results).	
	a. Framed Slab	
	b. Beam (Unbraced Length)	
	c. Column (KL/R)	
	d. Base Plate	
	e. Foundation (coordinate with Geotechnical Report)	
	f. Other Design Considerations (L.L. Reduction, Continuity)	
	g. Deflection (Short & Long Term)	
	h. Drift (from lateral load analysis compared with allowable)	
	i. Non-structural Elements Anchorage	
	j. Lateral Load Analysis	
	k. Physical Security/Blast Calculations	
	l. Progressive Collapse	
5	Computer Application	
	a. Computer output summarized for primary load resisting members	
	b. Computer Program Documentation	
6	Ensure that that all review issues have been resolved, and the project files contain information on how each issue was finalized	
7	Ensure that the project files contain a final set of structural calculations for future reference	

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NO.	STRUCTURAL – CONSTRUCTION DOCUMENTS ITEM	COMMENTS/ YES/NO/NA
8	All structural drawings and calculations to show evidence that they have been done and checked by professional structural engineer listed under key personnel in the A/E contract	