

## PROCEDURE: PRE-CHECK APPROVAL

**1. PURPOSE AND GOAL:** The goal of the pre-check (PC) approval process is to streamline DSA plan review by providing a procedure for approving the design of commonly used structures prior to the submittal of plans to DSA for construction projects. The PC approval process allows designers to incorporate designs for structures that have already been “pre-checked” by DSA into their plans for actual site-specific construction projects. When such drawings are used, it is the designer’s responsibility to ensure that their project drawings and the manufacturer’s PC drawings are correctly coordinated and complete prior to submittal to DSA. PC approval is one prerequisite for “over-the-counter” (OTC) review; see [DSA Policy PL 07-02: Over-the-Counter Review of Projects Using Pre-Check Approved Designs](#) for additional OTC requirements.

The purpose of this procedure is to describe DSA requirements for the submission of the design of a building or structure for PC review and the procedures that DSA uses to approve such PC designs.

**1.1 Background:** The PC program provides for DSA approval of the design of a structure in advance of submittal for construction.

The PC approval process can be used for buildings, shade structures, light standards (poles), structures supporting solar components and other structures where the approved design may be used on multiple campuses or projects. Once the PC documents have been approved, they can be submitted with site-specific drawings. The approval of a site-specific project is expedited since the part of the project that is PC approved will have already been reviewed.

**1.2 Design Criteria:** DSA has prepared technical & code design criteria guidelines for several common PC project types, including but not limited to: relocatable buildings, shade structures and structures supporting solar components. Contact the regional office where you intend to submit the PC project in order to obtain a current copy of DSA’s PC Design Criteria guidelines to be utilized by designers when developing and submitting PC documents for DSA review.

**PC approval is for design only and is not for construction. A separate application must be submitted to DSA each time a PC is incorporated into plans for a construction project.**

## 2. PRE-CHECK SUBMITTAL:

**2.1 Required Documents:** The documents required to be submitted for PC approval are listed on form [DSA 3: Project Submittal Checklist](#). Site-specific information is not necessary as that information will be provided when a specific construction project is submitted for DSA review.

**2.2 Fee Requirement:** A deposit of \$6,000 is required when a PC project is submitted for review. Final fees will be charged based on the number of hours used to perform the review at the established hourly rates DSA determines each year for the reviewers’ work. Before review begins, DSA will estimate the time needed for review. If it is estimated that the plan review of the PC submittal will take more than 35 hours, DSA may request additional deposit money prior to the start of review. The actual total fee will be based on the actual hours expended on the review. DSA will either refund excess fees paid or invoice for additional fees required as appropriate. If additional fees are required, payment must be received before PC plans are approved.

**2.3 Filing Fee for Energy and CALGreen Review:** A fee separate from structural, fire and life safety, and access compliance review in Section 2.2 shall be required for Energy and

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CALGreen review. A deposit for the Energy Code (Title 24, Part 6) and CALGreen Code (Title 24, Part 11) plan review is due at the time of the DSA application, and is to be paid with a separate check. The final fee will be charged as indicated in Section 2.2 above. DSA has estimated the review time for each Energy/CALGreen plan review as shown in the subsections below.

- 2.3.1** Permanent modular or relocatable buildings submitted for an approval for two or more climate zones require a deposit of \$2,500.
- 2.3.2** Permanent modular or relocatable buildings submitted for one climate zone require a deposit of \$1,500.
- 2.3.3** Permanent modular or relocatable buildings that have an unconditioned space (e.g., restroom buildings) require a deposit of \$500.
- 2.4** **Information on Cover Sheet:** The itemized information listed in APPENDIX B (Design Information to be Shown on PC Drawings Cover Sheet) must be shown on the PC drawings cover sheet and, if needed, continue on the sheets immediately following the cover sheet.
- 2.5** **Tests and Special Inspections:** To assist designers who will incorporate the PC drawings into their site-specific (or stockpile) drawings for future construction projects, the PC drawings shall include an example form [DSA-103: List of Required Structural Tests and Special Inspections: 2016 CBC](#) for each of the options checked as required in APPENDIX D (PC Tests and Inspections Guideline for Permanent Modular or Relocatable Buildings Only). Future designers will create a form DSA-103 for their construction project based on the example form DSA-103(s) shown on the PC drawings applicable to the PC options utilized. All of the example form DSA-103(s) on the PC drawings must be crossed out before the PC drawings can be approved as part of a site-specific (or stockpile) project so that they will not conflict with the official form DSA-103 for the project.
- 2.6** **Revisions to PC Designs:** Any revision made without DSA review and approval automatically voids the PC approval. If revisions are requested to a PC-approved design, per Sections 2.1 and 2.2 above, and 2.3 if applicable, a new PC application is required along with a fee of \$3,000. The revisions to the drawings and affected calculations must be clearly indicated. The DSA plan reviewer will check only those portions of the design that are impacted by the revisions.
- If errors or omissions are discovered in an existing PC design, they shall be corrected through this PC revision process.
- 2.7** **Renewal:** Renewal of a PC is required when a new building code becomes effective or a significant code change occurs. The applicant must submit an application for renewal in accordance with Section 2.1 above. A fee is required per Section 2.2 and 2.3, if applicable.
- 3. MULTIPLE-OPTION PC:** PC projects may include options for construction that would be determined when the PC design drawings are selected for a specific school site. Options may include alternative foundation systems, number of modules, location of windows and doors, etc. However, if the options or combinations thereof in a single PC become too numerous or complicated, it renders the PC impractical and inefficient for use in OTC or conventional plan reviews. See APPENDIX A (Guidelines for Multiple-Options in a Single PC), which lists limits on some commonly used major options.

In order to meet the allocated time constraint for OTC review (see Policy PL 07-02), limits on the number of minor variations and major options are provided in Sections 3.1 and 3.2 below.

All the options or variations requested on a PC must be shown and identified graphically on separate drawings, elevations, floor plans, details, etc. All options must be coordinated and meet all minimum code requirements.

- 3.1 Minor Variations:** There are currently no limits on the number of minor variations within a major option. Qualified minor variations include, in general, window and door sizes and locations in moment frame buildings, cladding types and items that do not affect code-regulated construction.
- 3.2 Major Options:** The maximum number of major options permitted in a single PC is listed in APPENDIX A. If the total number of options exceeds one of the limits (including the base case), applicants must divide the project into two or more separate PC applications in accordance with Title 24, Part 1 (California Administrative Code [CAC]), Section 4-317. Alternatively, the actual number of options in a PC may be determined in a consultation meeting as described in Section 3.4 below.
- 3.3** Where multiple major options are included, provide a table on the drawings to identify the specific drawings applicable to each option. See APPENDIX E (Index to Drawings Required for PC's with Multiple Major Options) for example tables.
- 3.4 Additional Options:** When a submittal of options exceeding the limits in APPENDIX A is anticipated, contact the applicable DSA Regional Office to arrange a meeting. The purpose of the meeting is to ensure that the multiple-option PC can be efficiently reviewed and, once approved, will result in drawings that can be efficiently incorporated into site-specific or stockpile projects for OTC review.

**4. SPECIAL DESIGN REQUIREMENTS FOR PERMANENT MODULAR OR RELOCATABLE BUILDINGS:** The design must comply completely with all Title 24 regulations, including the Energy Code (Part 6) and the CALGreen Code (Part 11). Designs for relocatable one-story buildings less than 2,160 square feet in area may use the code exceptions as noted in the applicable version of DSA Interpretation of Regulations [IR 16-1: Design and Construction Requirements for Relocatable Buildings](#).

- 4.1 Energy Code Requirements:** For energy-related requirements, see [IR N-1: Pre-Check Designs Energy Compliance Review](#).
- 4.2 Fire and Life Safety Requirements:** PC submittals shall include the following:
  - 4.2.1 Room Usage:** Show the allowable specific uses for each room.
  - 4.2.2 Occupancy:** Define the occupancy category for the building or structure as applicable.
  - 4.2.3 Junction Boxes:** Placement of junction boxes for all fire alarm appliances and conduit with pull strings shall be shown on PC drawings. Placement of junction boxes shall conform to the requirements for a "total coverage" system per National Fire Protection Association (NFPA) 72 and California Electrical Code (CEC), Article 760. All such junction boxes shall be labeled "Fire Alarm."
  - 4.2.4 Fire Sprinkler System:** When an automatic fire sprinkler system (AFSS) is included in the PC, the complete AFSS must be detailed on the drawings. The AFSS shall be designed in accordance with NFPA 13 and comply with the AFSS plan review submittal guidelines described in DSA Guideline [GL-1: Project Submittal Guidelines: Automatic Fire Sprinkler Systems](#).
    - 4.2.4.1 Design Responsibility:** California law provides that an AFSS may be designed by a Class C-16 (Fire Protection) licensed contractor only when that same contractor will install the system. If an AFSS system is designed by a C-16

licensed contractor and installed by a different contractor, the design and subsequent installation are not valid. This also invalidates DSA approval of the project and any subsequent certification of construction based on the invalid design and installation. Therefore, AFSS drawings intended for general bid shall be signed and stamped by a California registered mechanical engineer or fire protection engineer.

**Exception:** AFSS drawings may be signed by a California licensed C-16 contractor when that same contractor will install the system including, but not limited to, the riser for the building which will be installed at each specific project site. If a C-16 licensed contractor designs the AFSS, the drawings must include the following note:

*"[name of C-16 design contractor] performed the design of this fire sprinkler system. California law states that this design is only valid if the same C-16 licensed contractor who designed the system performs the installation. DSA project approval will become invalid if a different contractor installs any portion of the fire sprinkler system (including the riser). If another contractor will install any portion of the fire sprinkler system, responsibility for the entire fire sprinkler system (including the riser) must be accepted by a California registered mechanical engineer or fire protection engineer. Acceptance of responsibility is indicated by signing and stamping all fire sprinkler drawings. Signed and stamped drawings must be submitted to DSA and approved prior to proceeding with construction. Note that these requirements may apply if the building is subsequently relocated to a new location in the future."*

**4.2.4.2** Additionally, drawings shall include both of the following notes. Note one shall be completed with design water flow and pressure requirements and note two shall be completed with occupancy/use information:

- 1) A minimum water flow of \_\_\_\_ (GPM) and pressure of \_\_\_\_ (psi) is required at the base of the riser for the system to operate as designed. Fire flow testing is required on site to verify availability of design flow and pressure at the base of the riser. The project inspector shall witness fire flow testing.
- 2) The automatic fire sprinkler system for the building has been designed for light hazard only. The building shall be limited to the following occupancy and use: (e.g., classroom, administrative, assembly, etc.).

**4.2.4.3** The hydraulic design area must be identified on the fire sprinkler plans for all PC options. Where used, include the design area reduction calculations on the plans.

**4.2.4.4** Provide typical architectural sections through the design area identifying ceiling heights and any soffit areas, mechanical chases, framing members or similar features which may create obstructions to fire sprinkler coverage.

**4.3 Access Compliance Requirements:** Accessible door signs to be provided by others shall have locations, details and specifications indicated in the PC drawings with applicable CBC references.

**5. SPECIAL REQUIREMENTS FOR SOLAR PC APPROVAL:** This section describes the special requirements for the design, review and approval of PC solar structures and for the approval of site-specific solar projects utilizing solar PC documents.

**5.1 Design Requirements:** The design must comply with all the applicable Title 24 regulations, including Energy.

**5.1.1 Structural Safety:** See DSA [IR 16-8: Solar Photovoltaic and Thermal Systems Review and Approval Requirements](#). Solar design that uses proprietary support systems, connectors, anchorages, etc., must have product evaluation reports that comply with DSA [IR A-5: Acceptance of Products, Materials, & Evaluations Reports: 2016, 2013, 2010 & 2007 CBC](#).

**5.1.2 Fire and Life Safety Requirements:** See DSA IR 16-8.

**5.1.3 Energy Requirements:** Solar PC for active systems connected to building's plumbing or water heater shall comply with DSA IR N-1.

**Note:** Although energy review may not be required for some solar PCs, it is required for all site-specific projects.

**5.2 Solar PC Review:** File a separate solar PC application for each type of solar energy system. For example, submit one application for a photovoltaic (PV) system and a separate application for a solar thermal system. The PC application should be limited to one or two options or schemes so that it meets the criteria for OTC review of the site-specific projects using the PC. See DSA PL 07-02 for OTC review.

**5.3 Solar PC Approval:** PC plan approval of passive and active PV solar systems mounted onto a building or structure may be approved by DSA when the system is included as part of a complete building or structure. Roof or wall mounted PV systems, not part of a complete building or structure, will not be accepted for PC approval due to variable building configurations and loading combinations. In addition to the building or structure and its foundations, the approved PC documents shall include specifications of the solar panels for the specified manufacturer(s) and the design and detailing of the:

- Support framing/racks for the manufacturer's system.
- Anchorage of the system's panels, components and equipment to the support framing.
- Anchorage of the system's support framing to the building or structure.

Ground-mounted passive and active PV solar systems not part of a building or structure may be submitted to DSA for PC approval provided the PC documents include specifications of the solar panels for the specified manufacturer(s) and the design, including detailing of the:

- Support framing/racks for the manufacturer's system.
- Anchorage of the system's panels, components and equipment to the support framing.
- Anchorage of the system's support framing to the foundation.
- Foundation

**5.4 Approval of Site-Specific Projects Utilizing a Solar PC:** Per Education Code, Section 17282.5(b), the review of a site-specific project utilizing approved solar PC documents will be completed within 45 calendar days of the receipt of a complete application.

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Request for OTC review of site-specific projects may be granted if the criteria of PL 07-02 are met.

The anchorage of the solar panels and the Balance of System (BOS) equipment manufactured by the solar manufacturer shall be verified by the project engineer to be in accordance with DSA-approved solar PC construction documents. If the project engineer finds these components not in accordance with the solar PC construction documents, they shall provide details of construction for those components on the site-specific submittal. Depending on the scope of the supplemental anchorage details and calculations, OTC review may not be granted.

**6. PC APPROVAL:**

**6.1 PC Stamp-Out:** The final set of the PC-approved plans and specifications must show the regular DSA stamp (with the application identification and reviewer's initial blocks) and the following PC stamp. These stamps may be preprinted on the drawings and specifications by the applicant.

**PRE-CHECK (PC) DOCUMENT**

**Code: [Enter Year] CBC**

**A separate project application for construction is required.**

**6.2 Record Sets:** A record set of approved plans, specifications and calculations will be kept in DSA's files for each PC. A PC design approved in one DSA regional office will be accepted in all other DSA regional offices without additional review. The PC design structural engineer or architect in general responsible charge shall follow the procedures outlined in [PL 06-01: Record Sets of DSA Approved Plans and Specifications](#) regarding the creation of a record set by DSA and the return of original drawings and specifications. Form [DSA 145: Record Set Handling](#) must be signed and submitted along with the original documents prior to receiving final approval.

**6.3 Revocation:** DSA reserves the right to revoke any PC approval. The grounds for revocation include, but are not limited to, the following:

- 1) Approval was granted on the basis of false information submitted.
- 2) The PC design has demonstrated a history of unsafe or unsatisfactory performance.
- 3) Repeated structural modifications during fabrication.
- 4) DSA determines the PC construction documents or elements shown in the PC construction documents are not code compliant.
- 5) Any unauthorized deletions, additions or alterations of any DSA-approved plans or specification.

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A Division of the State Architect (DSA) Procedure documents a process or series of steps that DSA staff and/or external stakeholders must complete in order to fulfill one or more administrative requirements of DSA's plan and construction review programs.



**APPENDIX A**

**GUIDELINES FOR MULTIPLE-OPTIONS IN A SINGLE PC<sup>1, 2</sup>**

(All options must be shown and identified graphically on drawings.)

Description of Major Options		Total Options Allowed in a PC (including the base case)
1.	Floor live load	4
2.	Roof live load	2
3.	Wind speed	1
4.	Seismic load	1
5.	Geometry or footprint of individual module	1
6.	Roof configuration and construction	
	a. Material (wood, steel)	2
	b. Slope: single, dual or variable	4
	c. Mansard	1
7.	Material of floor construction at any level	2
8.	Wall framing – material (wood, steel)	2
9.	Lateral force-resisting system	1
10.	Foundation	1 <sup>3</sup>
11.	Occupancy (E <sup>4</sup> , B <sup>4</sup> , A, etc.)	1
12.	Automatic fire sprinkler system	1 <sup>5</sup>
13.	“Total Coverage” fire alarm design	3

<sup>1</sup> Additional options may be accepted in consultation with DSA per Section 3.4 of this procedure.

<sup>2</sup> These limitations are not intended to apply to unenclosed site structures, such as lunch or car shelters, bleachers, solar structures, flag or light poles, etc.

<sup>3</sup> Two options (wood or concrete) are allowed for single-story relocatable buildings less than 2,160 ft<sup>2</sup> in area. Other foundation systems may be considered by DSA on a case-by-case basis.

<sup>4</sup> Exception, group “E” and “B” occupancies may be included in a single PC design if the plans are identical for both occupancies and the more restrictive requirements met for the group “E” occupancy.

<sup>5</sup> An option to leave the automatic fire sprinkler system out is permitted as long as no changes to drawings are associated with this option (the framing system is unchanged if fire sprinklers are not included).

**APPENDIX B**  
**DESIGN INFORMATION TO BE SHOWN ON PC DRAWINGS COVER SHEET**

Description	
General	
<input type="checkbox"/>	1. All applicable codes and standards
<input type="checkbox"/>	2. Show complete PC specifications on drawings <sup>6</sup>
<input type="checkbox"/>	3. All multiple options per Sections 3.1 and 3.2
<input type="checkbox"/>	4. A form DSA-103 (List of Required Structural Tests and Special Inspections) for each applicable option shown in <b>APPENDIX D</b> .
<input type="checkbox"/>	5. Where multiple major options are included, provide an index on the drawings to identify the specific drawings applicable to each option. See <b>APPENDIX E</b> for example.
Building Data	
<input type="checkbox"/>	1. Classification of type of construction per CBC, Chapter 6
<input type="checkbox"/>	2. Use or occupancy classification per CBC, Chapter 3.
<input type="checkbox"/>	3. Risk category per CBC, Table 1604A.5
<input type="checkbox"/>	4. Number of stories
<input type="checkbox"/>	5. Building areas
<input type="checkbox"/>	6. Module size
<input type="checkbox"/>	7. Structural design notes – See <b>APPENDIX C</b> for sample template.
<input type="checkbox"/>	8. Climate zones for which the PC has been designed (See DSA IR N-1, Section 2.2).
Fire and Life Safety (FLS)	
<input type="checkbox"/>	1. Identify if the PC is designed for placement in a Fire Hazard Severity Zone classified as Very High by CAL FIRE (See CBC, Chapter 7A).
<input type="checkbox"/>	2. Indicate whether an automatic fire sprinkler system is provided. (See CBC, Chapter 9 for when a system is required).
<input type="checkbox"/>	3. If a fire sprinkler system is not provided, indicate whether the building is designed to support the weight of a fire sprinkler system (1.5 psf).

<sup>6</sup> Specifications submitted separately on a paper size that is different from the drawing size are not acceptable unless prior permission is secured from DSA. If permitted, the title sheet of the PC drawing set shall show an index of specifications and add the following statement:

“Complete specifications for this PC are listed on a separate document.”



APPENDIX C

SAMPLE TEMPLATE: CBC PC STRUCTURAL DESIGN NOTES

Description	Design Values
<b>Dead and Live Loads</b>	
Floor live load	
Second floor live load (for two-story structure only).	
Roof live load	
Ramp live load	
Roof dead load	
Floor dead load	
Second floor dead load (for two-story structure only).	
<b>Allowable Soil Pressure</b>	
DL (wood footing)	
DL+LL (wood footing – 1,000 psf max.)	
DL+LL+Snow (wood footing)	
DL+LL+Seismic (wood footing)	
DL+LL (concrete footing)	
DL+LL+Seismic (concrete footing)	
<b>Roof Snow Load</b>	
Ground snow load, $P_g$ , from County	
Roof snow load: <input type="checkbox"/> Flat, $P_f$ or <input type="checkbox"/> Low-Slope, $P_m$ or <input type="checkbox"/> Sloped, $P_s$	
Snow exposure factor, $C_e$	1.2
Snow load importance factor, $I_s$	<input type="checkbox"/> 1.0 <input type="checkbox"/> 1.1
Thermal factor, $C_t$	<input type="checkbox"/> 1.0 <input type="checkbox"/> 1.2
<b>Flood Design</b>	
Flood Hazard Area: <input type="checkbox"/> Yes <input type="checkbox"/> No (If no, skip to Wind Design)	
Flood Hazard Map used and datum elevation (from County).	
Lowest floor elevation	
Flood proofing elevation	
Lowest horizontal structural member elevation (bottom).	

Description	Design Values
<b>Wind Design</b>	
Basic wind speed (3-second gust), $V_{ult}$ (110 mph min. for RC II; 115 mph for RC III).	
Risk category	<input type="checkbox"/> II <input type="checkbox"/> III
Wind exposure category:	<input type="checkbox"/> C <input type="checkbox"/> D
Topographic factor, $K_{zt}$ (1 min.).	
Internal pressure coefficient, $GC_{pi}$ (if applicable).	
<b>Seismic Design</b>	
Lateral force-resisting system	
Analysis procedure	
Seismic design category (SDC).	<input type="checkbox"/> D <input type="checkbox"/> E
Seismic importance factor, $I_e$	<input type="checkbox"/> 1.0 <input type="checkbox"/> 1.25
Design base shear, $V$	
Seismic response coefficient, $C_S$	
Response modification factor, $R$	
Site class	<input type="checkbox"/> D <input type="checkbox"/> E
Mapped spectral response acceleration at short period, $S_S$	
Short-period site coefficient, $F_a$	1
Design spectral response acceleration at short period, $S_{DS}$ – used to determine $C_S$ (with cap per CBC, Section 1616A.1.12)	
Design spectral response acceleration at short period, $S_{DS}$ – used to determine other parameters and non-structural component anchorage (no cap).	
Mapped spectral response acceleration at 1-second period, $S_1$	
Long-period site coefficient, $F_v$	1.5
Design spectral response acceleration at 1-second period, $S_{D1}$	
Horizontal or vertical irregularity type(s)	



**Note:** Contact [DSA Regional Offices](#) for additional information and instructions.

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APPENDIX D

PC TESTS & INSPECTIONS GUIDELINE for PERMANENT MODULAR OR RELOCATABLE BUILDINGS ONLY

**User Note:** The purpose of this guide is to aid in the proper completion of form DSA-103: Example List of Required Structural Tests and Special Inspections for this pre-check (PC) design. Check the applicable tests and/or special inspections on the form DSA-103 using this guideline. Though it is not shown in this guideline, items exempt from testing or special inspection may be noted at the end of the form as in the APPENDIX to DSA-103.

A separate Example form DSA-103 must be included on the PC drawings for each lettered column that is applicable to your PC.

				<p><b>For assistance or questions about types of construction not covered in this guideline, contact your DSA Regional Office.</b></p>						
<p><b>Drawings shall also include a note stating:</b> The example form DSA-103(s) shown on this sheet are for illustration purposes only. A form DSA-103 is to be completed for each application that this PC is being incorporated into and all example form DSA-103s are to be crossed out on this drawing.</p>				<p><b>Type of Permanent Modular or Relocatable Steel Moment Frame Building Project</b></p> <p><b>X INDICATES TEST OR INSPECTION TO BE DONE</b> <b>- - - INDICATES NOT APPLICABLE</b></p>						
<p><b>TESTS or INSPECTIONS</b> (as listed on form DSA-103)</p>				<p><b>STOCKPILE</b></p>		<p><b>CONSTRUCTION OF PERMANENT MODULAR OR RELOCATABLE BUILDING</b> (diaphragm or foundation material)</p>			<p><b>RELOCATION OF CERTIFIED RELOCATABLE BUILDING</b></p>	
				<p>Provide an Example Form DSA-103 for each applicable option:</p>						
<p><b>MATERIAL TYPE</b></p>		<p><b>DSA 103 Item #</b></p>	<p><b>DESCRIPTION</b></p>	<p><b>A</b></p>	<p><b>B</b></p>	<p><b>C</b> (Note 5)</p>	<p><b>D</b></p>	<p><b>E</b></p>	<p><b>F</b></p>	<p><b>G</b></p>
				<p>Wood Floor Only</p>	<p>Concrete Floors</p>	<p>Plywood Floor Only – Wood Foundation</p>	<p>Plywood Floor – Concrete Foundation</p>	<p>Concrete Floor – Concrete Foundation</p>	<p>Wood Foundation</p>	<p>Concrete Foundation</p>
<p><b>SOILS</b></p>	<p><b>GENERAL</b> (Note 4)</p>	<p>1a</p>	<ul style="list-style-type: none"> <li>Site has been prepared properly prior to placement of controlled fill and/or excavations for foundations.</li> <li>Foundation excavations extended to proper depth and have reached proper material.</li> </ul>	<p>---</p>	<p>---</p>	<p>---</p>	<p>X</p>	<p>X</p>	<p>---</p>	<p>X</p>

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			• Materials below footings are adequate to achieve design bearing capacity.							
SOILS (Cont.)	COMPACTED FILLS (Note 4)	2a	Perform classification and testing of fill materials.	---	---	---	X	X	---	X
		2b	Verify use of proper materials, densities and inspect lift thicknesses, placement and compaction during placement of fill.	---	---	---	X	X	---	X
		2c	Test compaction of fill.	---	---	---	X	X	---	X
CONCRETE	NON-FOUNDATION CONCRETE	7c	Fabricate specimens for strength tests, perform slump and air content tests, and determine temperature of the concrete.	---	X	---	---	X	---	---
		7d	Test concrete ( $f'_c$ ).	---	X	---	---	X	---	---
		7e	Batch plant inspection. <input checked="" type="radio"/> Continuous <input type="radio"/> Periodic	---	X	---	---	X	---	---
		12	Inspect placement of concrete, reinforcing and embedded items in elevated floor/roof - by RBIP.	---	X	---	---	X	---	---
	FOUNDATION	7a	Verify use of required design mix.	---	---	---	X	X	---	X
		7b	Identify, sample and test reinforcing steel. (See Note 1 for Waiver for one-story.)	---	X	---	X	X	---	X
		7c	Fabricate specimens for strength tests, perform slump and air content tests, and determine temperature of the concrete.	---	---	---	X	X	---	X
		7d	Test concrete ( $f'_c$ ).	---	---	---	X	X	---	X

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		7e	Batch plant inspection. <input checked="" type="radio"/> Continuous <input type="radio"/> Periodic	---	---	---	X	X	---	X
<b>CONCRETE (Cont'd)</b>	<b>POST-INSTALLED ANCHORS (Note 2)</b>	11a	Inspect installation of post-installed anchors.	---	---	---	X	X	---	X
		11b	Test post-installed anchors.	---	---	---	X	X	---	X
<b>STRUCTURAL STEEL, COLD-FORMED STEEL AND ALUMINUM USED FOR STRUCTURAL PURPOSES</b>	<b>VERIFICATION OF MATERIALS, EQUIPMENT, WELDERS, ETC.</b>	17a	<ul style="list-style-type: none"> <li>• Verify identification of all materials and:</li> <li>• Mill certificates indicate material properties that comply with requirements.</li> <li>• Material sizes, types and grades comply with requirements.</li> </ul>	X	X	X	X	X	---	---
		17b	Test unidentified materials.	X	X	X	X	X	---	---
		17c	Examine seam welds of HSS shapes.	X	X	X	X	X	---	---
		17e	Verify and document steel fabrication per DSA-approved construction documents.	X	X	X	X	X	---	---
		19a	Verify weld filler material identification markings per AWS designation listed on DSA-approved documents and the WPS.	X	X	X	X	X	---	---
		19b	Verify weld filler material manufacturer's certificate of compliance.	X	X	X	X	X	---	---
		19c	Verify WPS, welder qualifications and equipment.	X	X	X	X	X	---	---
		<b>SHOP WELDING (Note 3)</b>	19.1a	Inspect groove welds, multi-pass fillet welds, single-pass fillet welds > 5/16", plug and slot welds.	X	X	X	X	X	---
	19.1b		Inspect single-pass fillet welds ≤ 5/16", floor and roof deck welds.	X	X	X	X	X	---	---

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		19.1c	Inspect welding of stairs and railing systems.	X	X	X	X	X	---	---
STRUCTURAL STEEL, COLD-FORMED STEEL AND ALUMINUM USED FOR STRUCTURAL PURPOSES (Cont.)	FIELD WELDING (Note 3)	19.2a	Inspect groove welds, multi-pass fillet welds, single-pass fillet welds > 5/16", plug and slot welds.	---	---	X	X	X	---	X
		19.2b	Inspect single-pass fillet welds ≤ 5/16.	---	---	X	X	X	---	X
		19.2c	Inspect end-welded studs (ASTM A-108) installation (including bend test).	---	---	---	X	X	---	---
		19.2d	Inspect floor and roof deck welds.	---	X	---	---	X	---	---
		19.2e	Inspect welding of structural cold-formed steel <b>Periodic/Special Inspector.</b>	X	X	X	X	X	---	---
		19.2f	Inspect welding of stairs and railing systems.	---	---	X	X	X	---	X
	OTHER STEEL	23c	Shop Welding - Inspect welding of cold-formed steel <b>Periodic/Special Inspector.</b>	X	X	X	X	X	---	---
		23d	Shop Welding - Inspect welding of steel floor deck welds <b>Periodic/Special Inspector.</b>	---	X	---	---	X	---	---
OTHER – SHOT PINS (Two-Story Modular)		28	Ceiling wire hangers (pins in metal deck with concrete fill) <b>Test/Lab.</b>	---	X	---	---	X	---	---

## PRE-CHECK APPROVAL

<b>Additional Information for PC designs only, not to be added to DSA-103</b>			
	<b>STOCKPILE</b>	<b>CONSTRUCTION OF PERMANENT MODULAR OR RELOCATABLE BUILDING</b>	<b>RELOCATION OF CERTIFIED RELOCATABLE BUILDING</b>
<b>INSPECTOR CLASS</b> (minimum requirements)	RBIP or Class 1	In Plant: RBIP or Class 1 Site: Class 4 for Single-Story Site: Class 2 for Two-Story	Class 4 for Single-Story Class 2 for Two-Story
<b>SELECTION OF THE PROJECT INSPECTOR AND TESTING/SPECIAL INSPECTION AGENCY</b>	By the Owner (not manufacturer) and approved by DSA, A/E of Record and Structural Engineer	By the School District and approved by DSA and A/E responsible for in-plant construction observation	By the Owner (not manufacturer) and approved by DSA, A/E of Record and Structural Engineer
<b>COST OF THE PROJECT INSPECTOR (CAC, Section 4-333[b]) AND TESTING/SPECIAL INSPECTION AGENCY (CAC, Section 4-335[b])</b>	By the Owner (not manufacturer)	By the School District	

**NOTES:** Note 1: Reinforcing steel tests may be waived for one-story buildings, per CBC, Section 1910A.2 (1909.2.4\*).

Note 2: Required only where the details of the PC specify the use of this type of anchor.

Note 3: Required only where the details of the PC specify this welding.

Note 4: These tests and inspections are applicable only when a geotechnical report is required.

Note 5: Wood foundations are not permitted for permanent modular buildings per CBC Section 1807A.1.4.

\*Indicates alternative CBC Sections that community colleges may use per CBC Section 1.9.2.2



**PRE-CHECK APPROVAL  
APPENDIX E**

**INDEX TO DRAWINGS REQUIRED FOR PCs WITH  
MULTIPLE MAJOR OPTIONS**

When a PC includes multiple major options, an index similar to the examples shown here must be included on the PC drawings identifying which drawings are applicable to each option.

This index will enable future designers using portions of the PC drawings as part of the drawings for an actual construction project to easily identify all of the specific PC drawing sheets applicable to the option(s) to be constructed. It will also enable the DSA plan reviewer to confirm that the correct sheets of the PC drawings are included.

In these examples, the various options would be checked off and the sheets that are to be required are then identified in the last column.

SHEET INDEX		
OPTIONS	SHEET TITLE	SHEET NUMBER
<b>COVER SHEET</b>	GENERAL NOTES, APPLICABLE CODES, BUILDING DATA, STRUCTURAL DESIGN DATA, APPROPRIATIONS SYMBOLS, OPTIONS LIST, SHEET INDEX AND TEST AND INSPECTION CHECK LIST	A6.01
<b>SPECIFICATIONS</b>		
ALL	<input type="checkbox"/> SPECIFICATIONS	A6.02
ALL	<input type="checkbox"/> TEST AND INSPECTION GUIDELINES	A6.03
<b>FLOOR PLANS</b>		
OPTION A	<input type="checkbox"/> FLOOR PLAN OPTION A	A1.01
OPTION B & B2 (WALL MTD.)	<input type="checkbox"/> FLOOR PLAN OPTION B & B2 (WALL MTD.)	A1.02
OPTION B & B2 (FLR. MTD.)	<input type="checkbox"/> FLOOR PLAN OPTION B & B2 (FLR. MTD.)	A1.03
<b>ROOF PLANS</b>		
<b>BUILT-UP ROOF</b>	<input type="checkbox"/> ROOF PLAN 4 PLY BUILT-UP ROOF DUAL SLOPE <input type="checkbox"/> ROOF PLAN 4 PLY BUILT-UP ROOF MONO SLOPE <input type="checkbox"/> ROOF DETAILS 4 PLY BUILT-UP ROOF (WOOD BEAMS) <input type="checkbox"/> ROOF DETAILS 4 PLY BUILT-UP ROOF (STEEL) <input type="checkbox"/> ROOF DETAILS 4 PLY BUILT-UP ROOF (O.S. BEAMS)	A2.01 A2.02 A2.03 A2.04 A2.05
<b>METAL ROOF</b>	<input type="checkbox"/> ROOF PLAN BENDING BEAM METAL ROOF DUAL SLOPE <input type="checkbox"/> ROOF PLAN BENDING BEAM METAL ROOF MONO SLOPE <input type="checkbox"/> ROOF DETAILS-BENDING BEAM METAL ROOF (WOOD BEAMS) <input type="checkbox"/> ROOF DETAILS-BENDING BEAM METAL ROOF (STEEL) <input type="checkbox"/> ROOF DETAILS-BENDING BEAM METAL ROOF (O.S. BEAMS)	A2.11 A2.12 A2.13 A2.14 A2.15
<b>EPDM ROOF</b>	<input type="checkbox"/> ROOF PLAN EPDM ROOF DUAL SLOPE <input type="checkbox"/> ROOF PLAN EPDM ROOF MONO SLOPE <input type="checkbox"/> ROOF DETAILS EPDM ROOF (WOOD BEAMS) <input type="checkbox"/> ROOF DETAILS EPDM ROOF (STEEL) <input type="checkbox"/> ROOF DETAILS EPDM ROOF (O.S. BEAMS)	A2.21 A2.22 A2.23 A2.24 A2.25
<b>ELEVATIONS</b>		
<b>DUAL SLOPE</b>	<input type="checkbox"/> EXTERIOR ELEVATIONS, DUAL SLOPE, OPTION A <input type="checkbox"/> EXTERIOR ELEVATIONS, DUAL SLOPE, OPTION B&B2	A3.01 A3.02
<b>MONO SLOPE</b>	<input type="checkbox"/> EXTERIOR ELEVATIONS, MONO SLOPE, OPTION A <input type="checkbox"/> EXTERIOR ELEVATIONS, MONO SLOPE, OPTION B&B2	A3.11 A3.12
<b>DUAL SLOPE (O.S. BEAMS)</b>	<input type="checkbox"/> EXTERIOR ELEVATIONS, DUAL SLOPE, OPTION A, O.S. BEAMS <input type="checkbox"/> EXTERIOR ELEVATIONS, DUAL SLOPE, OPTION B&B2, O.S. BEAMS	A3.21 A3.22
<b>MONO SLOPE (O.S. BEAMS)</b>	<input type="checkbox"/> EXTERIOR ELEVATIONS, MONO SLOPE, OPTION A, O.S. BEAMS <input type="checkbox"/> EXTERIOR ELEVATIONS, MONO SLOPE, OPTION B&B2, O.S. BEAMS	A3.31 A3.32
<b>INTERIOR ELEVATIONS</b>	<input type="checkbox"/> INTERIOR ELEVATIONS, OPTION A - WALL MOUNTED TOILETS <input type="checkbox"/> INTERIOR ELEVATIONS, OPTION B&B2 - WALL MOUNTED TOILETS <input type="checkbox"/> INTERIOR ELEVATIONS, OPTION A - FLOOR MOUNTED TOILETS <input type="checkbox"/> INTERIOR ELEVATIONS, OPTION B&B2 - FLOOR MOUNTED TOILETS	A4.01 A4.02 A4.11 A4.12
<b>SCHEDULES</b>	<input type="checkbox"/> DOOR, FINISH, WINDOW AND SIGNAGE	A5.01
<b>DETAILS</b>		
<b>WOOD SIDING, WOOD STUDS</b>	<input type="checkbox"/> ARCHITECTURAL - DETAILS - WOOD SIDING - WOOD STUDS <input type="checkbox"/> ARCHITECTURAL - DETAILS - STUCCO - WOOD STUDS	A6.01 A6.02
<b>STUCCO, WOOD STUDS</b>	<input type="checkbox"/> ARCHITECTURAL - DETAILS - WOOD SIDING - STEEL STUDS <input type="checkbox"/> ARCHITECTURAL - DETAILS - STUCCO - STEEL STUDS	A6.03 A6.04
<b>WOOD SIDING, METAL STUDS</b>	<input type="checkbox"/> ARCHITECTURAL - DETAILS - O.S. BEAMS - WOOD STUDS <input type="checkbox"/> ARCHITECTURAL - DETAILS - O.S. BEAMS - STEEL STUDS	A6.05 A6.06

OPTIONS LIST - KEY NOTES			
MODULE SIZE:	12' X 40' SINGLE STORY	<input type="checkbox"/> WITH RAMPS	A0.50
BUILDING SIZE:	24' X 40' THRU 216' X 40'	<input type="checkbox"/> WITHOUT RAMPS	A0.51
GRADE LEVEL:	<input type="checkbox"/> KINDERGARTEN <input type="checkbox"/> ELEMENTARY <input type="checkbox"/> MIDDLE SCHOOL/HIGH SCHOOL/ADULT		A3.01, A3.22 A3.03, A3.24 A3.04, A3.25 A3.13, A3.24
ACCESSORIES:	<input type="checkbox"/> TOILET ROOM <input type="checkbox"/> DRINKING FOUNTAIN <input type="checkbox"/> CABINETS <input type="checkbox"/> RATED WALLS		A8.51, A8.52, A8.03 A8.03
FLOOR PLAN:			A1.01
CEILING PLAN:	<input type="checkbox"/> 2'X4' ACOUSTIC T-BAR SYSTEM <input type="checkbox"/> HARD LID (TOILET ROOM ONLY)		A2.01, A2.31 A2.32
ROOF:	<input type="checkbox"/> PLYWOOD SUBSTRATE <input type="checkbox"/> 26 GAUGE STANDING SEAM <input type="checkbox"/> BUILT UP <input type="checkbox"/> HORIZONTAL STEEL STRAP TRUSS	<input type="checkbox"/> MONO PITCH <input type="checkbox"/> DUAL PITCH <input type="checkbox"/> OVERHANG <input type="checkbox"/> PARAPET <input type="checkbox"/> OVERHANG <input type="checkbox"/> MONO <input type="checkbox"/> DUAL	A3.01, A3.22 A3.11, A3.22 A3.03, A3.24 A3.04, A3.25 A3.13, A3.24 A3.02, A3.23 A3.12, A3.23
EXTERIOR ELEVATIONS:	<input type="checkbox"/> DURATEMP SIDING <input type="checkbox"/> STUCCO	<input type="checkbox"/> MONO <input type="checkbox"/> DUAL <input type="checkbox"/> PARAPET <input type="checkbox"/> MONO <input type="checkbox"/> DUAL <input type="checkbox"/> PARAPET	A4.01 A4.11 A4.21 A4.02 A4.12 A4.22
INTERIOR ELEVATIONS:	ALL CASES		A5.01
WALL SECTIONS:	<input type="checkbox"/> MONO <input type="checkbox"/> DUAL <input type="checkbox"/> PARAPET	<input type="checkbox"/> WOOD FLOOR <input type="checkbox"/> CONC. FLOOR <input type="checkbox"/> WOOD FLOOR <input type="checkbox"/> CONC. FLOOR <input type="checkbox"/> WOOD FLOOR <input type="checkbox"/> CONC. FLOOR	A6.01, A6.51 A6.02, A6.51 A6.11, A6.51 A6.11, A6.51 A6.21, A6.51 A6.22, A6.51 A6.61, A6.65
WALL DETAILS:	<input type="checkbox"/> WOOD STUDS <input type="checkbox"/> STEEL STUDS	<input type="checkbox"/> EXTERIOR PLASTER <input type="checkbox"/> SIDING <input type="checkbox"/> EXTERIOR PLASTER	A6.62, A6.65 A6.63, A6.65 A6.64, A6.65
FINISH SCHEDULE:	ALL CASES		A7.01
CABINETS:	<input type="checkbox"/> WOOD STUDS <input type="checkbox"/> STEEL STUDS		A8.01 A8.02
RATED WALLS:	<input type="checkbox"/> WOOD STUDS <input type="checkbox"/> STEEL STUDS		A9.01, A9.02 A9.11, A9.12
FOUNDATION:	<input type="checkbox"/> WOOD FOUNDATION LIMITED TO 2160 SQ. FT. MAX <input type="checkbox"/> WOOD FLOOR <input type="checkbox"/> CONC. FOUNDATION ABOVE GRADE <input type="checkbox"/> CONC. FLOOR <input type="checkbox"/> 3 1/2" 5"	<input type="checkbox"/> CLASSROOM LL=50PSF <input type="checkbox"/> PARTITION LL=50+20PSF <input type="checkbox"/> ASSEMBLY LL=100PSF <input type="checkbox"/> LIBRARY LL=150PSF <input type="checkbox"/> CLASSROOM LL=50PSF <input type="checkbox"/> PARTITION LL=50+20PSF <input type="checkbox"/> ASSEMBLY LL=100PSF <input type="checkbox"/> LIBRARY LL=150PSF <input type="checkbox"/> CLASSROOM LL=50PSF <input type="checkbox"/> PARTITION LL=50+20PSF <input type="checkbox"/> ASSEMBLY LL=100PSF <input type="checkbox"/> LIBRARY LL=150PSF <input type="checkbox"/> CLASSROOM LL=50PSF <input type="checkbox"/> PARTITION LL=50+20PSF <input type="checkbox"/> ASSEMBLY LL=100PSF <input type="checkbox"/> LIBRARY LL=150PSF	F1.01 F1.02 F1.01 F1.02 F4.01 F2.01 F2.01 F2.02 F2.02 F2.03 F2.03 F2.03 F2.03 F4.11, F4.12, F4.2 F3.01 F3.01 F3.02 F3.02 F3.03 F3.03 F3.03 F3.03 F4.11, F4.12, F4.3 F4.00 S1.01 S1.01 S1.01 S1.01 S1.11 S1.11 S1.11 S1.11 S1.11 S1.21 S1.21 S1.21 S1.21 S1.31 S1.31 S1.31 S1.31 S1.31 S1.31 S2.11 S2.11 S2.12 S2.12 S2.13, S2.33 S2.31, S2.32 S3.01 S3.01 S3.01 S3.01 S3.03 S3.03 S3.11 S3.12 S4.01, S4.02, S4.03 S4.11, S4.12, S4.13
FLOOR FRAMING:	<input type="checkbox"/> WOOD FLOOR <input type="checkbox"/> 3 1/2" CONCRETE FLOOR <input type="checkbox"/> 5" CONCRETE FLOOR	<input type="checkbox"/> CLASSROOM LL=50PSF <input type="checkbox"/> PARTITION LL=50+20PSF <input type="checkbox"/> ASSEMBLY LL=100PSF <input type="checkbox"/> LIBRARY LL=150PSF <input type="checkbox"/> CLASSROOM LL=50PSF <input type="checkbox"/> PARTITION LL=50+20PSF <input type="checkbox"/> ASSEMBLY LL=100PSF <input type="checkbox"/> LIBRARY LL=150PSF <input type="checkbox"/> CLASSROOM LL=50PSF <input type="checkbox"/> PARTITION LL=50+20PSF <input type="checkbox"/> ASSEMBLY LL=100PSF <input type="checkbox"/> LIBRARY LL=150PSF	S1.01 S1.01 S1.01 S1.01 S1.11 S1.11 S1.11 S1.11 S1.21 S1.21 S1.21 S1.21 S1.31 S1.31 S1.31 S1.31 S1.31 S1.31 S2.11 S2.11 S2.12 S2.12 S2.13, S2.33 S2.31, S2.32 S3.01 S3.01 S3.01 S3.01 S3.03 S3.03 S3.11 S3.12 S4.01, S4.02, S4.03 S4.11, S4.12, S4.13
ROOF FRAMING:	<input type="checkbox"/> 26 GAUGE STANDING SEAM OR BUILT-UP ROOF OVER 3/4" PLYWOOD SUBSTRATE <input type="checkbox"/> 22 GAUGE STANDING SEAM, NO SUBSTRATE, STEEL STRIPS. (SKYLIGHT LOCATION LIMITED) <input type="checkbox"/> BUILT UP ROOF W/PARAPETS	<input type="checkbox"/> MONO <input type="checkbox"/> DUAL <input type="checkbox"/> MONO <input type="checkbox"/> DUAL	S2.11 S2.11 S2.12 S2.22 S2.13, S2.33 S2.31, S2.32
SECTIONS:	<input type="checkbox"/> MONO <input type="checkbox"/> DUAL <input type="checkbox"/> PARAPET	<input type="checkbox"/> WOOD FLOOR <input type="checkbox"/> CONCRETE FLOOR <input type="checkbox"/> WOOD FLOOR <input type="checkbox"/> CONCRETE FLOOR <input type="checkbox"/> WOOD FLOOR <input type="checkbox"/> CONCRETE FLOOR	S3.01 S3.01 S3.01 S3.01 S3.03 S3.03
WALL CONNECTIONS:	<input type="checkbox"/> BOLTED <input type="checkbox"/> WELDED		S3.11 S3.12
WALL FRAMING:	<input type="checkbox"/> WOOD STUDS <input type="checkbox"/> STEEL STUDS		S4.01, S4.02, S4.03 S4.11, S4.12, S4.13
MECHANICAL	<input type="checkbox"/> 24"x40" <input type="checkbox"/> 36"x40" <input type="checkbox"/> 48"x40"	<input type="checkbox"/> WALL MOUNT UNIT <input type="checkbox"/> ROOF TOP UNITS <input type="checkbox"/> WALL MOUNT UNIT <input type="checkbox"/> ROOF TOP UNITS <input type="checkbox"/> WALL MOUNT UNIT <input type="checkbox"/> ROOF TOP UNITS	ALL SHEETS T24-1 T24-5 T24-2 T24-6 T24-3 T24-7