DSA PR 07-01

PROCEDURE: PRE-CHECK (PC) APPROVAL

Division of the State Architect (DSA) documents referenced within this publication are available on the DSA Forms or DSA Publications webpages.

DISCIPLINE(S)

Structural (SS), Fire and Life Safety (FLS), Access Compliance (AC) and CALGreen/Energy (CGE).

PURPOSE

This procedure describes DSA requirements for submitting the design of a building or structure for Pre-Check (PC) review and the procedures DSA uses to approve such PC designs.

SCOPE

This procedure applies to the PC approval process used to streamline DSA plan review by allowing prior approval of commonly used structural designs. It covers structures such as buildings (modular and relocatable), shade structures, structures supporting solar components, and other structures where the approved design may be used on multiple campuses or projects. This procedure establishes requirements for designers to coordinate PC documents with site-specific drawings prior to submission to DSA. PC approval is limited to design approval only and does not authorize construction. A separate application must be submitted to DSA for project approval prior to construction. This procedure also incorporates the use of DSA PC Design Criteria documents issued as Interpretations of Regulations (IR). Designers shall use the applicable IR PC Design Criteria when preparing PC submittals.

BACKGROUND

The PC program allows DSA to approve the design of a structure in advance of project-specific submittal for construction. This pre-check expedites site-specific review because portions of the project have already been reviewed by DSA. PC approval is also a prerequisite for Over-the-Counter review, as described in DSA Policy *PL 07-02: Over-the-Counter Review of Projects Using Pre-Check (PC) Approved Designs*. Designers are responsible for ensuring proper coordination between manufacturer PC drawings and project-specific drawings. DSA has prepared IR PC Design Criteria for several common project types including but not limited to relocatable buildings, modular buildings and elevator towers, freestanding signs and scoreboards, as well as shade structures and structures supporting solar components. If questions arise regarding the applicability of PC Design Criteria documents, the design professional shall contact the appropriate DSA regional office where the PC project will be submitted to schedule a pre-application meeting prior to project submittal.

PRE-CHECK (PC) APPROVAL

1. PRE-CHECK SUBMITTAL

1.1 Required Documents

The documents required to be submitted for PC approval are listed on form *DSA 3: Project Submittal Checklist*. If the PC project is a permanent or relocatable modular building, additional documentation is required for review to the California Green Building Standards Code (CALGreen) and the California Energy Code (Energy Code) as indicated on form *DSA 403-C: CALGreen Code Submittal Checklist*, form *DSA 403 PC: Energy Code Compliance Checklist for Pre-Checked (PC) Building Designs*, and DSA Procedure *(PR) 18-02: Procedure: Calgreen/Energy Code Review (CGE) for Pre-Check (PC) Building Designs and the Construction, Relocation and/or Alteration Of Relocatable Buildings*. Site-specific information is not required with the PC approval but is required to be provided when a site-specific construction project is submitted for DSA review.

1.2 Fee Requirement for Structural, Fire and Life Safety, and Access Compliance Review

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 the estimated plan review time for the PC submittal exceeds the deposit for Structural Safety, Fire and Life Safety, and Access Compliance, DSA may require an additional deposit prior to the start of review. After approval of the PC plans, DSA will either refund excess fees paid or invoice for additional fees required as appropriate. If additional fees are not paid within a reasonable timeframe after approval, DSA will void the PC approval.

1.3 Fee Requirement for CALGreen/Energy Code Review

1.3.1 A fee separate from Structural Safety, Fire and Life Safety, and Access Compliance review in Section 1.2 above shall be required for CALGreen/Energy Code review. The fee processing is the same as described in Section 1.2 above. DSA has estimated the deposit required for each CALGreen/Energy plan review as shown in the subsections 1.3.1.1 through 1.3.1.3 below.

1.3.1.1 Permanent modular or relocatable buildings submitted for an approval for conditioned spaces designed to meet all climate zones or climate zone groups, per Energy Code 140.3(a)8.B and DSA PR 18-02 Section 2.3.2 deposit of $5,000.

1.3.1.2 Permanent modular or relocatable buildings submitted for conditioned spaces to meet a single climate zone per Energy Code 140.3(a)8.A and DSA PR 18-02 Section 2.3.3, require a deposit of $2,500.

1.3.1.3 Permanent modular or relocatable buildings that have only unconditioned space (e.g., unconditioned restroom buildings) require a deposit of $1,000.

1.4 Information on Cover Sheet

1.4.1 The following PC stamp must be preprinted, by the applicant, on the cover sheet of the PC drawings and specifications

PRE-CHECK (PC) DOCUMENT

CODE: [ENTER YEAR] CBC

A SEPARATE PROJECT APPLICATION FOR CONSTRUCTION IS REQUIRED

1.4.2 The itemized information listed in Appendix B below (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.

1.5 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* for each of the options checked as required in Appendix D below (PC Tests and Inspections Guideline for Permanent Modular or Relocatable Buildings Only). The example shall consist only of the main body of form DSA 103 (the first four pages); appendix pages shall not be pasted onto the PC drawings. 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. Where multiple design options require different tests and inspection requirements, provide a table or notes to clearly identify which tests and inspections are required for each option.

1.6 Changes to PC Designs

Changes to a PC approval cannot be made through a Revision or Addendum. Instead, a new PC application is required and is subject to Sections 1.1, 1.2, and 1.3 above. However, the total submission fee for all disciplines (Structural Safety, Fire and Life Safety, Access Compliance, and CALGreen/Energy) is $3,000. All changes to the drawings and affected calculations (structural, FLS, energy, etc.) must be clearly shown. DSA plan reviewers will review only those portions of the design impacted by the proposed changes. If errors or omissions are discovered in a PC approval, they must be corrected using this same process.

1.7 Project-Specific Changes

A project-specific change is a change made to align with a school district's criteria for a specific site or project. Project-specific changes apply only to that specific site or project and do not affect the original PC approval. These changes will be reviewed as part of the project submittal and filing fees received based on estimated cost. For policies and procedures regarding the use of PC designs in over-the-counter projects, and the limitations of project-specific changes, refer to PL 07-02. See DSA PR 18-02 Section 2.6 for additional information on CALGreen/Energy changes.

1.8 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 1.1 above. A fee is required per Sections 1.2, and 1.3 above.

2. MULTIPLE-OPTION PC

2.1 Requirements for Multiple Options

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 below which lists limits on some commonly used major options. For energy related options and restrictions refer to the DSA PR 18-02.

2.2 Limits of Options

In order to meet the allocated time constraint for OTC review (see PL 07-02*)*, limits on the number of minor variations and major options are provided in Sections 2.3 and 2.4 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. For limitations on energy code options, refer to PR 18-02.

2.3 Minor Variations

There are currently no limits on the number of minor variations within a major option. Qualified minor variations related to structural review include in general, window and door sizes and locations in moment frame buildings, cladding types and items that do not affect code-regulated construction.

2.4 Major Options

The maximum number of major options permitted in a single PC is listed in Appendix A below. 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 2.4 below.

2.5 Index to Drawings

Where multiple major options are included, provide a table on the drawings to identify the specific drawings applicable to each option. See Appendix E below (Index to Drawings Required for PCs with Multiple Major Options) for example tables.

2.6 Additional Options

When a submittal of options exceeding the limits in Appendix A below 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.

3. SPECIAL DESIGN REQUIREMENTS FOR PERMANENT MODULAR OR RELOCATABLE BUILDINGS

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 *IR 16-1: Design and Construction Requirements for Relocatable Buildings*.

3.1 Energy Code Requirements

For energy-related requirements, see PR 18-02 and form DSA 403 PC.

3.2 California Green Building Code Requirements

For CALGreen requirements see PR 18-02 and form DSA 403 C.

3.3 Fire and Life Safety Requirements

PC submittals shall include the following:

3.3.1 Plans must indicate if the building has been designed per California Wildland-Urban Interface Code (CWUIC) for construction/installation on project campuses located within a designated Fire Hazard Severity Zone (FHSZ). Buildings relocated into or within a Wildland-Urban Interface (WUI) area shall comply with the current requirements of the CWUIC for the FHSZ to which they are being relocated.

3.3.2 Identify the proposed uses for each room, inclusive of area, occupant load factor (OLF), and occupant load.

3.3.3 Define the occupancy classification for the building or structure as applicable.

3.3.4 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) Standard 72 as adopted and amended in CBC Chapter 35, and California Electrical Code (CEC), Article 760. All such junction boxes shall be labeled "Fire Alarm."

3.3.5 When an automatic fire sprinkler system (AFSS) is included in the PC, the complete AFSS must be detailed in the drawings. The AFSS shall be designed in accordance with NFPA Standard 13 as adopted and amended in CBC Chapter 35, and comply with the AFSS plan review submittal guidelines described in DSA Guideline (*GL)1: Project Submittal Guideline: Automatic Fire Sprinkler Systems.*

3.3.6 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 system riser for the building that 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 installation (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, and approved by, DSA prior to proceeding with the installation. Note that these requirements may apply if the building is subsequently relocated to a new location in the future."

3.3.7 Additionally, drawings shall include both of the following notes. Note (1) shall be completed with design water flow and pressure requirements and note (2) shall be completed with occupancy/use information:

3.3.7.1 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.

3.3.7.2 The automatic fire sprinkler system for the building has been designed for light hazard only, in accordance with NFPA 13. The building shall be limited to the following occupancy and use: (e.g., classroom, administrative, assembly, etc.).

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

3.3.9 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.

3.4 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.

4. REQUIREMENTS FOR SOLAR PC APPROVAL

This section describes the requirements for the structural design, review, and approval of PC solar structures and for the approval of site-specific solar projects utilizing solar PC documents.

4.1 Design Requirements

See *IR 16-8: Solar Photovoltaic and Thermal Systems Review and Approval Requirements* and *IR PC-7: PC Design Criteria for Steel Cantilevered Canopy Structure*. Solar design that uses proprietary support systems, connectors, anchorages, etc., must have product evaluation reports that comply with *IR A-5: Acceptance of Products, Materials, & Evaluations Reports*.

4.2 Review Requirements

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.

4.3 Approval Requirements

PC plan approval of PV solar systems, whether mounted on a building or structure, or ground-mounted structure, may be approved by DSA when the PV system is included as part of a complete building or structure and is designed in accordance with IR 16-8 and IR PC-7. Roof- or wall-mounted PV systems submitted independently of a complete building or structure are not accepted for PC approval due to variations in building configurations and loading combinations. Approved PC documents shall include manufacturer-specific solar panel specifications along with complete detailing in accordance with IR 16-8 and IR PC-7.

5. PC APPROVAL

5.1 PC Stamp-Out

The final set of the PC-approved plans and specifications must show the regular DSA identification stamp (with the application identification, disciplines reviewed and date stamped) and the PC stamp as described in Section 1.4.1 above.

5.2 Record Sets

A digital record set of approved plans, specifications and calculations will be kept in DSA's files for each approved PC. A PC design approved in one DSA regional office will be accepted in all other DSA regional offices without additional review.

5.3 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 revisions, deletions, additions or alterations of any DSA-approved plans or specification.

PRE-CHECK APPROVAL

APPENDIX A: GUIDELINES FOR MULTIPLE-OPTIONS IN A SINGLE PC[1, 2, 6]

(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[3]
11.	Occupancy (E[4], B4, A, etc.)	1
12.	Automatic fire sprinkler system	1[5]
13.	“Total Coverage” fire alarm design	3

1 Additional options may be accepted in consultation with DSA per Section 2.4 of this procedure.

2 These limitations are not intended to apply to unenclosed site structures, such as lunch or car shelters, bleachers, shade structures, solar structures, flag or light poles, etc. Exception: Solar structures are limited to 2 wind speed and/or 2 seismic load options.

3 Two options (wood or concrete) are allowed for single-story relocatable buildings less than 2,160 ft2 in area. Other foundation systems may be considered by DSA on a case-by-case basis.

4 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 are met for the group “E” occupancy.

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

6 Refer to DSA PR 18-02 for Energy Code option limitations.

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

	Description
	General
☐	1. All applicable codes and standards
☐	2. Show complete PC specifications on drawings8
☐	3. All multiple options per Sections 2.1 and 2.2
☐	4. A form DSA 103 (List of Required Structural Tests and Special Inspections) for each applicable option shown in **APPENDIX D**.
☐	5. Where multiple major options are included, provide an index on the drawings to identify the specific drawings applicable to each option. See **APPENDIX E** for example.
	Building Data
☐	1. Classification of type of construction per CBC, Chapter 6.
☐	2. Use or occupancy classification per CBC, Chapter 3.
☐	3. Occupant load factor per CBC, Table 1004.5.
☐	4. Risk category per CBC, Table 1604A.5
☐	5. Number of stories
☐	6. Building areas
☐	7. Module size
☐	8. Structural design notes – See **APPENDIX C** for sample template.
☐	9. CALGreen and Energy Code information per DSA PR 18-02.
☐	10. Note regarding prohibition of use of PC use in 65 CNEL noise contours, if applicable (See CALGreen Section 5.507.4.1 Exterior Noise Transmission).
	Fire and Life Safety (FLS)
☐	1. Identify if the PC is designed per California Wildland-Urban Interface Code (WUI) for placement in a designated Fire HazardSeverity Zone classified as Very High by CAL FIRE, or a fire hazard severity zone established by the local fire authority.
☐	2. Indicate whether an automatic fire sprinkler system is provided. (See CBC, Chapter 9 for when a system is required).
☐	3. If a fire sprinkler system is not provided, indicate whether the building is designed to support the future weight of a fire sprinkler system (1.5 psf).

7 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
Dead and Live Loads	
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)*	
Allowable Soil Pressure	
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)	
Roof Snow Load	
Ground snow load, P_g, from ASCE 7 Hazard Tool	
Roof Snow Load: ☐ Flat, P_f or ☐ Low-Slope, P_m or ☐ Sloped, P_s	
Snow Exposure Factor, C_e	
Snow Slope Factor, C_s	
Thermal Factor, C_t	
Flood Design	
Flood Hazard Area: ☐ Yes ☐ 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)*	

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Description	Design Value
Wind Design	
Basic wind speed (3-second gust), V.	
Risk Category	
Wind Exposure Category:	
Topographic factor, K_{zt} (1.0 minimum, but need not be over 2.96)	
Ground elevation factor, K_e (Use 1.0 for all cases)	
Internal pressure coefficient, GC_{pi} (if applicable).	
Seismic Design	
Lateral force-resisting system	
Analysis procedure	
Seismic design category (SDC).	
Seismic importance factor, I_e	
Design base shear, V	
Seismic response coefficient, C_S	
Response modification factor, R	
Site class (Default = Most critical of Site Class C, CD, and D)	
Mapped spectral response acceleration at short period, S_S	
Design spectral response acceleration in the short period range, S_{DS} – used to determine C_S (with cap per ASCE 7, Section 12.8.1.3 requirements.)	
Design spectral response acceleration in the short period range, S_{DS} – used to determine other parameters and non-structural component anchorage (no cap).	
Mapped spectral response acceleration at 1-second period, S_1	
Design spectral response acceleration at 1-second period, S_{D1}	
Horizontal or vertical irregularity type(s)	

Note: Contact the DSA Regional Offices for additional information and instructions at www.dgs.ca.gov/DSA/Contact.

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APPENDIX D: PC TESTS AND 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**.** An example form DSA 103 or guideline table as shown below with the appropriate boxes checked must be included on the PC drawings for each lettered column that is applicable to your PC.

For assistance or questions about types of construction not covered in this guideline, contact your DSA Regional Office.

Drawings shall also include a note stating:
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.

Type of Permanent Modular or Relocatable Steel Moment Frame Building Project

X INDICATES TEST OR INSPECTION TO BE DONE
- - - INDICATES NOT APPLICABLE

TESTS or INSPECTIONS (as listed on form DSA 103)				STOCKPILE		CONSTRUCTION OF PERMANENT MODULAR OR RELOCATABLE BUILDING (diaphragm or foundation material)			RELOCATION OF CERTIFIED RELOCATABLE BUILDING	
				A	B	C (Note 5)	D	E	F	G
MATERIAL TYPE		DSA 103 Item #	DESCRIPTION	Wood Floor Only	Concrete Floors	Plywood Floor Only – Wood Foundation	Plywood Floor – Concrete Foundation	Concrete Floor – Concrete Foundation	Wood Foundation	Concrete Foundation
SOILS	**GENERAL (Note 4)**	S1a	Verify that: • Site has been prepared properly prior to placement of controlled fill and/or excavations for foundations. • Foundation excavations are extended to proper depth and have reached proper material, and • Materials below footings are adequate to achieve the design bearing capacity.	- - -	- - -	- - -	X	X	- - -	X

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SOILS (Cont.)	**SOIL COMPACTION AND FILL (Note 4)**	S2a	Perform classification and testing of fill materials.	- - -	- - -	- - -	**X**	**X**	- - -	**X**
		S2b	Verify use of proper materials, densities and inspect lift thicknesses, placement and compaction during placement of fill.	- - -	- - -	- - -	**X**	**X**	- - -	**X**
		S2c	Compaction testing.	- - -	- - -	- - -	**X**	**X**	- - -	**X**
CONCRETE	**NON-FOUNDATION CONCRETE**	C1c	During concrete placement, fabricate specimens for strength tests, perform slump and air content tests, and determine the temperature of the concrete.	- - -	**X**	- - -	- - -	**X**	- - -	- - -
		C1d	Test concrete (f'_C).	- - -	**X**	- - -	- - -	**X**	- - -	- - -
		C1e	Batch plant inspection. ◉ Continuous ○ Periodic	- - -	**X**	- - -	- - -	**X**	- - -	- - -
		C6a	Inspect placement of concrete, reinforcing and embedded items in elevated floor/roof - by RBIP.	- - -	**X**	- - -	- - -	**X**	- - -	- - -
	FOUNDATION	C1a	Verify use of required design mix.	- - -	- - -	- - -	**X**	**X**	- - -	**X**

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		C1b	Identify, sample and test reinforcing steel. (See **Note 1** for Waiver for one-story.)	- - -	X	- - -	X	X	- - -	X
		C1c	During concrete placement, fabricate specimens for strength tests, perform slump and air content tests, and determine the temperature of the concrete.	- - -	- - -	- - -	X	X	- - -	X
		C1d	Test concrete (f'_c).	- - -	- - -	- - -	X	X	- - -	X
		C1e	Batch plant inspection. ◉ Continuous ○ Periodic	- - -	- - -	- - -	X	X	- - -	X
CONCRETE (Cont'd)	**POST-INSTALLED ANCHORS (Note 2)**	C5a	Inspect installation of post-installed anchors.	- - -	- - -	- - -	X	X	- - -	X
		C5b	Test post-installed anchors.	- - -	- - -	- - -	X	X	- - -	X
STRUCTURAL STEEL, COLD-FORMED STEEL AND ALUMINUM USED FOR STRUCTURAL PURPOSES	**VERIFICATION OF MATERIALS, EQUIPMENT, WELDERS, ETC.**	S/A1a	•Verify identification of all materials and: • Mill certificates indicate material properties that comply with requirements. • Material sizes, types and grades comply with requirements.	X	X	X	X	X	- - -	- - -
		S/A1b	Test unidentified materials.	X	X	X	X	X	- - -	- - -
		S/A1c	Verify and document steel fabrication per DSA-approved construction documents.	X	X	X	X	X	- - -	- - -
		S/A3a	Verify weld filler material identification markings per AWS designation listed on	X	X	X	X	X	- - -	- - -

			the DSA-approved documents and the WPS.							
		S/A3b	Verify weld filler material manufacturer's certificate of compliance.	X	X	X	X	X	- - -	- - -
		S/A3c	Verify WPS, welder qualifications and equipment.	X	X	X	X	X	- - -	- - -
	SHOP WELDING (Note 3)	S/A4a	Inspect groove welds, multi-pass fillet welds, single-pass fillet welds > 5/16", plug and slot welds.	X	X	X	X	X	- - -	- - -
		S/A4b	Inspect single-pass fillet welds ≤ 5/16", floor and roof deck welds.	X	X	X	X	X	- - -	- - -
		S/A4c	Inspect welding of stairs and railing systems. (See **Note 6**)	X	X	X	X	X	- - -	- - -
STRUCTURAL STEEL, COLD-FORMED STEEL AND ALUMINUM USED FOR STRUCTURAL PURPOSES (Cont.)	**FIELD WELDING (Note 3)**	S/A5a	Inspect groove welds, multi-pass fillet welds, single-pass fillet welds > 5/16", plug and slot welds.	- - -	- - -	X	X	X	- - -	X
		S/A5b	Inspect single-pass fillet welds ≤ 5/16.	- - -	- - -	X	X	X	- - -	X
		S/A5c	Inspect end-welded studs (ASTM A-108) installation (including bend test).	- - -	- - -	- - -	X	X	- - -	- - -
		S/A5d	Inspect floor and roof deck welds.	- - -	X	- - -	- - -	X	- - -	- - -
		S/A5e	Inspect welding of structural cold-formed steel **Periodic/Special Inspector.**	X	X	X	X	X	- - -	- - -

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		S/A5f	Inspect welding of stairs and railing systems. (See **Note 6**)	- - -	- - -	X	X	X	- - -	X
	OTHER STEEL	S/A12a	Shop Welding - Inspect welding of cold-formed steel **Periodic/Special Inspector.**	X	X	X	X	X	- - -	- - -
		S/A12b	Shop Welding - Inspect welding of steel floor deck welds **Periodic/Special Inspector.**	- - -	X	- - -	- - -	X	- - -	- - -
OTHER – SHOT PINS (Two-Story Modular)		X1a	Ceiling wire hangers (pins in metal deck with concrete fill) **Test/Lab.**	- - -	X	- - -	- - -	X	- - -	- - -

PRE-CHECK (PC) APPROVAL

Additional Information for PC designs only, not to be added to DSA 103			
	STOCKPILE	**CONSTRUCTION OF PERMANENT MODULAR OR RELOCATABLE BUILDING**	**RELOCATION OF CERTIFIED RELOCATABLE BUILDING**
INSPECTOR CLASS (minimum requirements)	RBIP or As required per IR A-7	In Plant: RBIP or As required per IR A-7 Site: Class 4 for Single-Story Site: Class 2 for Two-Story	Class 4 for Single-Story Class 2 for Two-Story
SELECTION OF THE PROJECT INSPECTOR AND TESTING/SPECIAL INSPECTION AGENCY	Selected and Employed by the Testing Lab 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
COST OF THE PROJECT INSPECTOR (CAC, Section 4-333[b]) AND TESTING/SPECIAL INSPECTION AGENCY (CAC, Section 4-335[b])	By the Owner (not manufacturer unless it owns the stockpile)	By the School District	

NOTES:

Note 1: Reinforcing steel tests may be waived for one-story buildings, per CBC, Section 1910A.2.

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.

Note 6: These tests and inspections are applicable only when stairs and ramps are part of the scope of work.

PRE-CHECK (PC) APPROVAL

APPENDIX E: INDEX TO DRAWINGS REQUIRED FOR PCs WITH MULTIPLE MAJOR OPTIONS

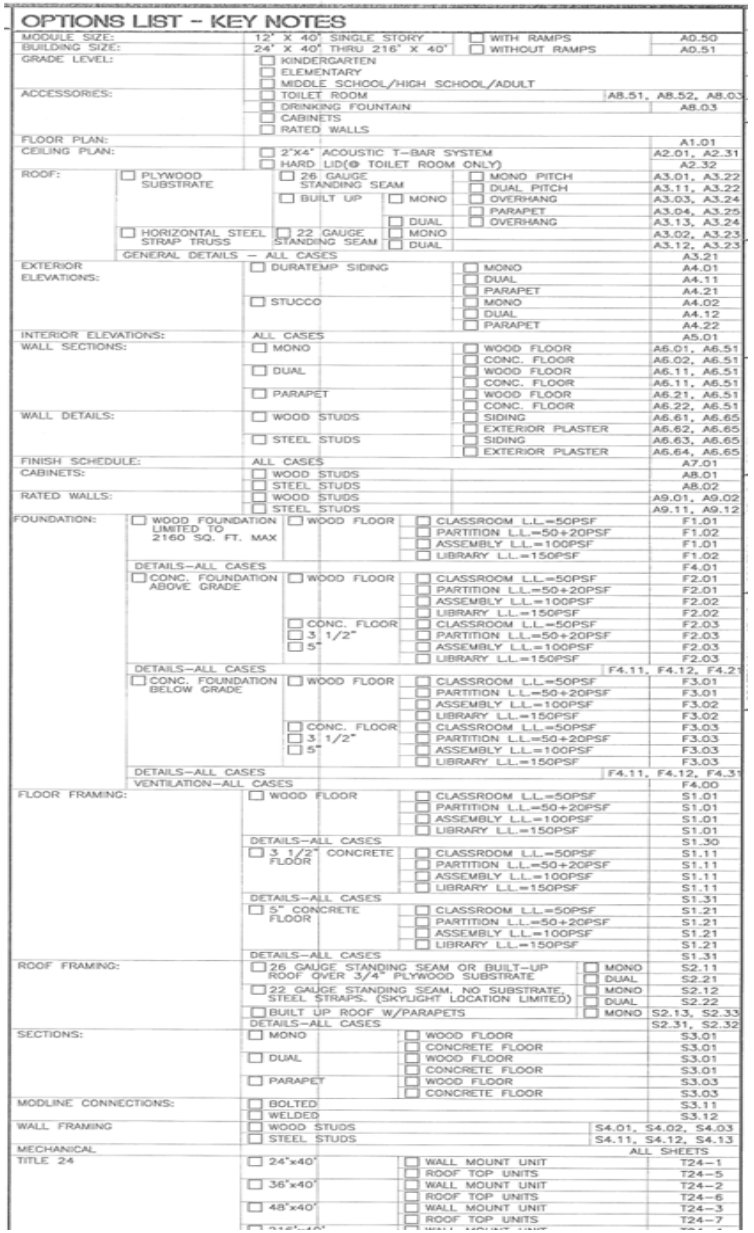
When a PC includes multiple major options, an index similar to the examples shown here must be included on the PC drawings identifying which drawings are applicable to each option.

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
COVER SHEET	GENERAL NOTES, APPLICABLE CODES, BUILDING DATA, STRUCTURAL DESIGN DATA, ABBREVIATIONS, SYMBOLS, OPTIONS LIST, SHEET INDEX AND TEST AND INSPECTION CHECK LIST	A0.01
SPECIFICATIONS		
ALL	☐ SPECIFICATIONS	A0.02
ALL	☐ TEST AND INSPECTION GUIDELINES	A0.03
FLOOR PLANS		
OPTION A	☐ FLOOR PLAN OPTION A	A1.01
OPTION B & B2 (WALL MTD.)	☐ FLOOR PLAN OPTION B & B2 (WALL MTD.)	A1.02
OPTION B & B2 (FLR. MTD.)	☐ FLOOR PLAN OPTION B & B2 (FLOOR MTD.)	A1.03
ROOF PLANS		
BUILT-UP ROOF	☐ ROOF PLAN 4 PLY BUILT-UP ROOF DUAL SLOPE	A2.01
	☐ ROOF PLAN 4 PLY BUILT-UP ROOF MONO SLOPE	A2.02
	☐ ROOF DETAILS 4 PLY BUILT-UP ROOF (WOOD SIDING)	A2.03
	☐ ROOF DETAILS 4 PLY BUILT-UP ROOF (STUCCO)	A2.04
	☐ ROOF DETAILS 4 PLY BUILT-UP ROOF (O.B. SIDING)	A2.05
METAL ROOF	☐ ROOF PLAN STANDING SEAM ROOF DUAL SLOPE	A2.11
	☐ ROOF PLAN STANDING SEAM ROOF MONO SLOPE	A2.12
	☐ ROOF DETAILS STANDING SEAM ROOF (WOOD SIDING)	A2.13
	☐ ROOF DETAILS STANDING SEAM ROOF (STUCCO)	A2.14
	☐ ROOF DETAILS STANDING SEAM ROOF (O.B. SIDING)	A2.15
EPDM ROOF	☐ ROOF PLAN EPDM ROOF DUAL SLOPE	A2.21
	☐ ROOF PLAN EPDM ROOF MONO SLOPE	A2.22
	☐ ROOF DETAILS EPDM ROOF (WOOD SIDING)	A2.23
	☐ ROOF DETAILS EPDM ROOF (STUCCO)	A2.24
	☐ ROOF DETAILS STANDING SEAM ROOF (O.B. SIDING)	A2.25
ELEVATIONS		
DUAL SLOPE	☐ EXTERIOR ELEVATIONS, DUAL SLOPE OPTION A	A3.01
	☐ EXTERIOR ELEVATIONS, DUAL SLOPE OPTION B & B.2	A3.02
MONO SLOPE	☐ EXTERIOR ELEVATIONS, MONO SLOPE OPTION A	A3.11
	☐ EXTERIOR ELEVATIONS, MONO SLOPE OPTION B & B.2	A3.12
DUAL SLOPE (O.B. SIDING)	☐ EXTERIOR ELEVATIONS, DUAL SLOPE, OPTION A, O.B. SIDING	A3.21
	☐ EXTERIOR ELEVATIONS, DUAL SLOPE, OPTION B & B.2, O.B. SIDING	A3.22
MONO SLOPE (O.B. SIDING)	☐ EXTERIOR ELEVATIONS, MONO SLOPE, OPTION A, O.B. SIDING	A3.31
	☐ EXTERIOR ELEVATIONS, MONO SLOPE, OPTION B&B2, O.B. SIDING	A3.32
INTERIOR ELEVATION		
OPTION A	☐ INTERIOR ELEVATIONS, OPTION A – WALL MOUNTED TOILETS	A4.01
OPTION B & B2	☐ INTERIOR ELEVATIONS, OPTION B&B2 – WALL MOUNTED TOILETS	A4.02
OPTION A	☐ INTERIOR ELEVATIONS, OPTION A – FLOOR MOUNTED TOILETS	A4.11
OPTION B & B2	☐ INTERIOR ELEVATIONS, OPTION B&B2 – FLOOR MOUNTED TOILETS	A4.12
SCHEDULES		
ALL	☐ DOOR, FRAME, WINDOW AND HARDWARE	A5.01
DETAILS		
WOOD SIDING, WOOD STUDS	☐ ARCHITECTURAL – DETAILS – WOOD SIDING – WOOD STUDS	A6.01
STUCCO, WOOD STUDS	☐ ARCHITECTURAL – DETAILS – STUCCO – WOOD STUDS	A6.02
WOOD SIDING, METAL STUDS	☐ ARCHITECTURAL – DETAILS – WOOD SIDING – METAL STUDS	A6.03
STUCCO, METAL STUDS	☐ ARCHITECTURAL – DETAILS – STUCCO – METAL STUDS	A6.04
O.B. SIDING, WOOD STUDS	☐ ARCHITECTURAL – DETAILS – O.B. SIDING – WOOD STUDS	A6.05
O.B. SIDING, METAL STUDS	☐ ARCHITECTURAL – DETAILS – O.B. SIDING – METAL STUDS	A6.06



OPTIONS LIST – KEY NOTES

MODULE SIZE:	12' X 40' SINGLE STORY	☐ WITH RAMPS	A0.50
BUILDING SIZE:	24' X 40' THRU 216' X 40'	☐ WITHOUT RAMPS	A0.51
GRADE LEVEL:	☐ KINDERGARTEN ☐ ELEMENTARY ☐ MIDDLE SCHOOL/HIGH SCHOOL/ADULT		
ACCESSORIES:	☐ TOILET ROOM		A8.51, A8.52, A8.03
	☐ DRINKING FOUNTAIN		A8.03
	☐ CABINETS		
	☐ RATED WALLS		
FLOOR PLAN:			A1.01
CEILING PLAN:	☐ 2'X4' ACOUSTIC T–BAR SYSTEM		A2.01, A2.31
	☐ HARD LID(@ TOILET ROOM ONLY)		A2.32
ROOF: ☐ PLYWOOD SUBSTRATE	☐ 26 GAUGE STANDING SEAM	☐ MONO PITCH	A3.01, A3.22
		☐ DUAL PITCH	A3.11, A3.22
	☐ BUILT UP ☐ MONO	☐ OVERHANG	A3.03, A3.24
		☐ PARAPET	A3.04, A3.25
	☐ DUAL	☐ OVERHANG	A3.13, A3.24
☐ HORIZONTAL STEEL STRAP TRUSS	☐ 22 GAUGE STANDING SEAM ☐ MONO		A3.02, A3.23
	☐ DUAL		A3.12, A3.23
GENERAL DETAILS – ALL CASES			A3.21
EXTERIOR ELEVATIONS: ☐ DURATEMP SIDING		☐ MONO	A4.01
		☐ DUAL	A4.11
		☐ PARAPET	A4.21
☐ STUCCO		☐ MONO	A4.02
		☐ DUAL	A4.12
		☐ PARAPET	A4.22
INTERIOR ELEVATIONS:	ALL CASES		A5.01
WALL SECTIONS: ☐ MONO		☐ WOOD FLOOR	A6.01, A6.51
		☐ CONC. FLOOR	A6.02, A6.51
☐ DUAL		☐ WOOD FLOOR	A6.11, A6.51
		☐ CONC. FLOOR	A6.11, A6.51
☐ PARAPET		☐ WOOD FLOOR	A6.21, A6.51
		☐ CONC. FLOOR	A6.22, A6.51
WALL DETAILS: ☐ WOOD STUDS		☐ SIDING	A6.61, A6.65
		☐ EXTERIOR PLASTER	A6.62, A6.65
☐ STEEL STUDS		☐ SIDING	A6.63, A6.65
		☐ EXTERIOR PLASTER	A6.64, A6.65
FINISH SCHEDULE:	ALL CASES		A7.01
CABINETS:	☐ WOOD STUDS		A8.01
	☐ STEEL STUDS		A8.02
RATED WALLS:	☐ WOOD STUDS		A9.01, A9.02
	☐ STEEL STUDS		A9.11, A9.12
FOUNDATION: ☐ WOOD FOUNDATION LIMITED TO 2160 SQ. FT. MAX	☐ WOOD FLOOR	☐ CLASSROOM L.L.=50PSF	F1.01
		☐ PARTITION L.L.=50+20PSF	F1.02
		☐ ASSEMBLY L.L.=100PSF	F1.01
		☐ LIBRARY L.L.=150PSF	F1.02
DETAILS–ALL CASES			F4.01
☐ CONC. FOUNDATION ABOVE GRADE	☐ WOOD FLOOR	☐ CLASSROOM L.L.=50PSF	F2.01
		☐ PARTITION L.L.=50+20PSF	F2.01
		☐ ASSEMBLY L.L.=100PSF	F2.02
		☐ LIBRARY L.L.=150PSF	F2.02
	☐ CONC. FLOOR	☐ CLASSROOM L.L.=50PSF	F2.03
	☐ 3 1/2"	☐ PARTITION L.L.=50+20PSF	F2.03
	☐ 5"	☐ ASSEMBLY L.L.=100PSF	F2.03
		☐ LIBRARY L.L.=150PSF	F2.03
DETAILS–ALL CASES			F4.11, F4.12, F4.2
☐ CONC. FOUNDATION BELOW GRADE	☐ WOOD FLOOR	☐ CLASSROOM L.L.=50PSF	F3.01
		☐ PARTITION L.L.=50+20PSF	F3.01
		☐ ASSEMBLY L.L.=100PSF	F3.02
		☐ LIBRARY L.L.=150PSF	F3.02
	☐ CONC. FLOOR	☐ CLASSROOM L.L.=50PSF	F3.03
	☐ 3 1/2"	☐ PARTITION L.L.=50+20PSF	F3.03
	☐ 5"	☐ ASSEMBLY L.L.=100PSF	F3.03
		☐ LIBRARY L.L.=150PSF	F3.03
DETAILS–ALL CASES			F4.11, F4.12, F4.3
VENTILATION–ALL CASES			F4.00
FLOOR FRAMING: ☐ WOOD FLOOR		☐ CLASSROOM L.L.=50PSF	S1.01
		☐ PARTITION L.L.=50+20PSF	S1.01
		☐ ASSEMBLY L.L.=100PSF	S1.01
		☐ LIBRARY L.L.=150PSF	S1.01
DETAILS–ALL CASES			S1.30
☐ 3 1/2" CONCRETE FLOOR		☐ CLASSROOM L.L.=50PSF	S1.11
		☐ PARTITION L.L.=50+20PSF	S1.11
		☐ ASSEMBLY L.L.=100PSF	S1.11
		☐ LIBRARY L.L.=150PSF	S1.11
DETAILS–ALL CASES			S1.31
☐ 5" CONCRETE FLOOR		☐ CLASSROOM L.L.=50PSF	S1.21
		☐ PARTITION L.L.=50+20PSF	S1.21
		☐ ASSEMBLY L.L.=100PSF	S1.21
		☐ LIBRARY L.L.=150PSF	S1.21
DETAILS–ALL CASES			S1.31
ROOF FRAMING: ☐ 26 GAUGE STANDING SEAM OR BUILT–UP ROOF OVER 3/4" PLYWOOD SUBSTRATE		☐ MONO	S2.11
		☐ DUAL	S2.21
☐ 22 GAUGE STANDING SEAM, NO SUBSTRATE, STEEL STRAPS. (SKYLIGHT LOCATION LIMITED)		☐ MONO	S2.12
		☐ DUAL	S2.22
☐ BUILT UP ROOF W/PARAPETS		☐ MONO	S2.13, S2.33
DETAILS–ALL CASES			S2.31, S2.32
SECTIONS: ☐ MONO		☐ WOOD FLOOR	S3.01
		☐ CONCRETE FLOOR	S3.01
☐ DUAL		☐ WOOD FLOOR	S3.01
		☐ CONCRETE FLOOR	S3.01
☐ PARAPET		☐ WOOD FLOOR	S3.03
		☐ CONCRETE FLOOR	S3.03
MODLINE CONNECTIONS: ☐ BOLTED			S3.11
☐ WELDED			S3.12
WALL FRAMING ☐ WOOD STUDS			S4.01, S4.02, S4.03
☐ STEEL STUDS			S4.11, S4.12, S4.13
MECHANICAL			ALL SHEETS
TITLE 24 ☐ 24"x40"		☐ WALL MOUNT UNIT	T24–1
		☐ ROOF TOP UNITS	T24–5
☐ 36"x40"		☐ WALL MOUNT UNIT	T24–2
		☐ ROOF TOP UNITS	T24–6
☐ 48"x40"		☐ WALL MOUNT UNIT	T24–3
		☐ ROOF TOP UNITS	T24–7