

Design Master Plan – Prefabricated Structures

Policy and Procedures

Definitions

Design Master Plan: A Design Master Plan (DMP) is a document, or set of documents, used for constructing multiple units utilizing the same plan. The plan may or may not contain options. Options may be submitted with the plan or added later as addendums.

Model Plan: A floor plan reflecting the actual layout of the model/addendum to an approved DMP. Each model shall have a designated model number/name etc.

Addendums/Options: Variations added to a DMP, either at the initial submittal or submitted at a later date. Each addendum/option will be assigned a separate number in addition to the original plan number,(IE A-1, A-2)

Structural Design Package: A structural plans with engineering calculations and assumptions for one (1) building length/width, one (1) roof/ wind load design and one (1) occupancy use.

Policy and Procedures

1. A Design Master Plan, (DMP) submittal is to be clearly identified on the application for plan approval, noted on the plans. , and on the design calculations.
2. Design plans shall be prepared and designed by an Oregon licensed engineer or architect as required by the currently adopted OSSC. A wet stamp is required on at least one set of documents.
3. Plans shall be drawn to scale, (min 1/8" = 1 ft.), (max size-24"x30") and shall clearly indicate the location, nature and extent of the work proposed. The plans shall show in detail that they conform to the provisions of the currently adopted code and all relevant laws, ordinances, rules and regulations currently adopted. Details within the submittal shall be specific to that submittal only.
4. The Design Master Plan shall be designed to meet worst conditions for wind (110 mph), energy conservation (zone II) and seismic D category.

Exception: 1. *A site specific Design Master Plan may be designed to meet the minimum wind, seismic C design and energy requirements of a specific address/location. Approval of a site specific Design Master Plan shall be limited to a specific project, orientation and number of buildings that are to be located on the same plot of land and permanently installed on a foundation system. Minimum submittal requirements for a site specific DMP shall include a plot plan. The application for plan approval and the plan cover sheet should identify the submittal as a "Site Specific DMP".*

5. The Design Master Plan Approval shall be for a series of identical structures that have identical floor plans, structural details, engineering criteria and type, location and installation of plumbing, mechanical and electrical equipment. The Design Plan Approval shall be for one occupancy, one type of construction, one floor load design, and one

wind load design.

- A. The minimum roof snow load design on the DMP is (LL 25) is not an addendum. Other than minimum roof loads may be submitted as addendums.
 - B. Design calculations for each roof load addendum shall be identified from the base calculations.
 - C. A separate plan sheet is required for each roof load addendum. All design requirements, methods, materials and connections that pertain to that specific roof load option shall be included.
6. Design Master Plan addendums/options may be included at the time of submittal as long as plans and engineering are provided. The following are examples of addendums/options:
- A. Use of rafters instead of trusses, or vice versa. With calculations &, details.
 - B. Siding or roofing variations are not considered an addendum unless they affect any structural requirements. Separate calculations may be required.
 - C. Adding windows, structural design changes may be required.
 - D. HVAC systems, such as electric, gas, oil, solar, hydronic or any combination shall be detailed with product information and installation instructions provided in addition to the required energy code forms.
 - E. Plumbing addendums may be included. Example; a bath, sink, shower addendums would require a floor plan, plumbing schematic, lighting and ventilation details. Each addendum will require a separate floor plan or detailed drawing.
 - F. Electrical addendums may be applied for. Example; an electrical service may be a larger size than shown for the base DMP building. The addendum submittal would show at a minimum, load calculations and installation schematic diagram(s) with panel schedule.
 - G. Addendums will expire on the original DMP expiration date and expire on a code change year.
 - H. An addendum plan is an addition to an approved DMP and not to another previously approved addendum. No "sub-options" or "alternates to addendums" or "alternates to alternates" are allowed.
 - I. Adding or removing a restroom, details must be provided.
 - J. Adding and or removing a room or a wall.
7. Each width shall stand alone with regards to multi-wide units. Single-wide units may have up to 2' width increments per DMP, with multiple lengths allowed. For structural design purposes, the units may be the same or broken down into only two (2) length categories for wind design purposes. Units within these categories shall be designed identically for snow, wind and seismic loads.
8. DMP and addendums shall be renewed annually @ 50% of the original plan review fee if the manufacturer chooses to continue constructing under that same plan. In a code change year, a complete resubmittal with fees will be required.
9. When the manufacturer submits addendums or the code requires changes (after DMP approval), appropriate plans indicating the changes shall be submitted by the manufacturer. The DMP and addendums shall be reviewed for compliance to code P.

Each addendum to the DMP will be reviewed at existing per hour rate.

10. Trusses constructed by prefabricated structure manufacturers shall have third party approval and inspections by an approved third party inspection agency. Reports by third party inspectors shall be filed with Building Codes Division.
11. Ridge beams constructed by prefabricated structure manufacturers shall have third party approval and inspections by an approved third party inspection agency. Reports by third party inspectors shall be filed with Building Codes Division. In lieu of approval and inspections by an approved third party, the design professional of record may provide a design in accordance with accepted engineering principles and perform structural observation as described in OSSC 1702. The structural observer shall submit to the building official a written statement that the site visits have been made and identify any reported deficiencies including resolution.
12. A "Custom Plan" may be converted to a "Design Master Plan" upon request by the manufacturer. The fee shall be the difference between the plan review fees for a design plan and those submitted by the manufacturer for the existing custom plan. A converted plan will expire one year from the original approval date. All changes or options submitted with conversion request shall be reviewed at current per hour rate. Plans converted from "custom" to "design master" shall meet all of the criteria for master plan consideration.
13. DMP plans **shall include**, but are not limited to the following minimum items:
 - A. Standard basic floor plan consistent with design assumptions (size).
 - B. Structural cross-section(s) with specific materials and fastening schedules clearly identified.
 - C. Two exterior elevations, minimum.
 - D. Relevant structural details.
 - E. Stamped truss drawings (if applicable).
 - F. Plumbing schematics (if applicable).
 - G. Fastening schedules.
 - H. Mechanical schematics (if applicable).
 - I. Electrical schematics with load calculations.
 - J. Cover sheet with addendum's listed (if applicable).
 - K. Design criteria, occupancy, type of construction and governing codes identified on the cover sheet.
 - L. Site plan and/or declaration on cover sheet regarding minimum distances to property or assumed property lines.
 - M. Room uses clearly identified.
 - N. Window, door and hardware schedules as necessary to clarify proposal. Door hardware shall be clearly identified as to lever or panic etc. Stock and order numbers are not acceptable.
 - O. Materials schedule.
 - P. Minimum zone II energy compliance demonstrated in the plans. This includes insulation R values and component U-values clearly stated. Completed energy conservation forms provided to substantiate assumptions.
 - Q. Accessibility compliance demonstrated in the plans.

- R. Notice To Local Enforcement Agency (NLEA) when required.
14. Engineering for design plans **shall include**, but are not limited to the following criteria:
- A. Design assumptions shall be in accordance with well-established principles of mechanics in accordance with the current adopted codes. OSSC 1605.2.
 - B. The load path shall be clearly identified in accordance with OSSC 1605.2.
 - C. General Design Methods in OSSC 1605.
 - D. Uplift/Overturning in OSSC 1605.2.2.
 - E. Floor design in OSSC 1607.3.
 - F. Roof design in OSSC 1607.4.
 - G. Wind design in OSSC Chapter 16, Division III.
 - H. Wood column design (if applicable) Ref NDS-91 and NDS supplement.
 - I. Seismic design in OSSC 16.
 - J. Computer generated calculations are acceptable only if substantiated by the program.
15. All items in #13 and #14 above must be included in the DMP or the submittal will be determined incomplete and returned to the applicant for completion prior to further review.
16. Plans containing repetitive non complying code issues that have been clearly identified in prior reviews may be determined incomplete and returned to the applicant for revision prior to acceptance of the submittal.

Note: The Design Master Plan policy and procedures outlined herein are subject to re-evaluation annually.

Oregon's current adopted codes:

[2007 Oregon Structural Specialty Code \(OSSC\), based on the 2006 IBC](#)
[2007 Oregon Mechanical Specialty Code \(OMSC\), based on the 2006 IMC](#)
[2008 Oregon Residential Specialty Code \(ORSC based on the 2006 IRC](#)
[2008 Oregon Electrical Specialty Code \(OESC\), based on the 2008NEC](#)
[2008 Oregon Plumbing Specialty Code \(OPSC\), based on the 2006UPC](#)

Submittal forms used:

Plan application, #[2557](#)
Insignia application, #[2619](#)
NLEA, #[2556](#)

Contact Phone Numbers:

Plan Intake: 503-378-6237
Prefab Inspectors: 503-378-2890 and 503-378-2706
Prefab Plans Examiners: 503-378-2833, 503-378-3731