



Manufactured Home Update

Oregon Department of Consumer & Business Services ■ Building Codes Division

October 2003

License-renewal time coming up fast

By Albert Endres

Those of you whose licenses expire in December 2003 will be getting renewal notices at least 45 days before license expiration. If you do not renew before your license expires, you will be required to reapply for a license.

If your address has changed since your license was issued, notify BCD.

If you don't get a renewal notice and your license expires at the end of December, it is your responsibility to contact the division to renew the license.

If you have not attended the continuing-education class, you need to call Al Rust, (503) 378-8053, to find out when and where the next class will be. Most of you attended the four-hour class offered in 2001. There may be some installers who still haven't attended; if in doubt, call Mikelle Kemper, (503) 378-4478. If you call, make sure Mikelle has your correct address.

If you got your license after attending the licensing class during 2002, you do not need to attend the continuing-education class for this renewal period. ■

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Be specific in contracts to save your time and money

By Mark Campion

OAR 137-020-0520(6), discusses "improvements" as goods and services not included in the base price of a manufactured home but needed for site preparation and setup.

They include (but are not limited to) site preparation, sidewalks, concrete, skirting, steps, railings, decks, awnings, carports and garages, sheds, gutters and drainage, utility connections, heat pumps, plants and landscaping, permits and fees, etc. The rule states: "When describing improvements, each of the im-

provements must specify, where applicable, the dimensions and major structural materials to be used."

This is important for dealers who provide site improvements and contractors who contract directly with the homeowners.

Whether the dealer or a contractor for the homeowner is doing the improvements, the homeowner needs to have a detailed copy of the work that will be done.

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What is a ridge beam, exactly?

By Mark Campion

The Manufactured Dwelling and Parks Code, Sections 3-11.1 and 3-11.2.1, addresses ridge-beam connections. The type and spacing of fasteners, allowable gap, and recommendations for reducing tape-and-texture cracking are covered.

However, there have been questions about what constitutes the ridge beam. As an example, subpart (g) states that marriage-line fasteners (i.e. bolts, lag screws, and wood screws) must be installed only where there is “solid ridge beam material or equal” between the sections.

It can be difficult to explain just what “solid ridge beam material or equal” is.

Many manufacturers offer homes with steeply pitched roofs that have a horizontal two-by-three backer attached to the top of the king posts at the peak, or marriage line.

Down from the two-by-three is the typical built-up plywood ridge beam. Although not a built-up plywood ridge beam, the two-by-three backer is considered “solid ridge beam material or equal.”

The securement of the two-by-three meets the requirements of the MD&P and manufacturer’s installation instructions. However, because the securement of the two-by-three backer is so far above the bottom of the plywood ridge beam, it is not unusual to have tape-and-texture cracking along the marriage line ceiling.

Tall ridge-beam assemblies move more, in our experience. One way to alleviate movement is to secure the plywood ridge beam from the bottom, or ceiling side, as is recommended in 3-11.2.1, “subpart f,” of the MD & P.

In fact, we strongly urge installers to do so. If the bottom of the plywood ridge beam is gapped, it’s wise to use wooden shims where the lag bolts, lag screws, or wood screws penetrate, for a tight and stable connection.

By securing the two-by-three ridge material, the bottom of the plywood ridge beam (where accessible), and interior wall (as required), the likelihood of tape-and-texture cracks developing along the marriage line is greatly reduced. ■

CONTRACTS, *continued from Page 1*

As an example, a simple “3 x 3 landing” off the utility room door should be described as a “3-foot by 3-foot cedar landing with rails and steps.” “Block skirting” becomes “split-face 8-inch masonry block skirting with plastic foundation vents.” “Driveway slab” is better expressed as “4-inch concrete slab for driveway, 20 feet by 50 feet, fiber-mesh reinforced with broom finish.”

The point is to provide details about that which the buyer is purchasing. Doing so can prevent misunderstandings.

OAR 137-020-0565(1), “Landlord’s Written Site Improvement Disclosure Statement,” for park owners and landlords, states that each required improvement be identified, including the dimensions, major structural materials, and finish to be used.

The example given with this section of the rule states that a shed may simply be called a “10-foot by 12-foot’ shed,” as long as materials and construction comply with state and local building and structural codes and zoning standards. If the manufactured

dwelling park requires other materials or a particular finish, the site-improvement disclosure must say so.

At first glance, this may appear to be more permissive than the requirement mentioned earlier for listing and describing improvements for contracts; this rule is meant to address what the park will require of the renter and should not be confused with contractual requirements (i.e. what the homeowner is purchasing). Unless the park owner or landlord spells out exactly what is wanted in the park, the renter will have a fair amount of latitude ... perhaps more than what the park prefers.

My advice is to be specific about park requirements. Do you want the shed to have hardboard siding or vinyl lap? A metal roof or shingled? A gabled or shed roof? Are lights and receptacles required? Will there be a standard man door (what width?) or a built-up shed-style door?

If details are not spelled out, the renter is free to install any style or type of shed, as long as it complies with codes and zoning standards. ■

Reconnect those AC inlet tubes

By Albert Endres

When a heating/cooling contractor installs an air conditioning unit in a home that has a fresh-air inlet system for the furnace, the contractor typically disconnects the inlet tube in order to install the A-frame coil on top of the furnace.

During consumer assistance inspections, we often find that the tube has not been reconnected.

Reconnection is required by the Manufactured Dwelling and Park Specialty Code, Section 6-3.2(d). You should see that the tube is reconnected not only because it's required but also because the system was designed to improve the quality of air in the owner's home, the owner paid for it, and he or she expects it to operate properly.

The tube is generally flexible, with an inner liner, insulation, and a vinyl outer layer. When the furnace fan is operating, the fan pulls some air from the tube, which is connected to an air intake on the roof.

Some heating/cooling contractors claim that if they reconnect the tube, it will be contact the coils of the A frame and be damaged.

A simple solution is to install a metal duct (about 18 inches long from the furnace top, extending above the A frame). Connect the flex tube to the new duct.

If you have questions about this, please call me, (503) 378-5975. ■

Inspections necessary even if home is skirted

By Tom Nicolai

As required in the Oregon Manufactured Dwelling and Park Specialty Code, Section 1-8.13.3, a set-up inspection must be performed by the jurisdiction on each manufactured-dwelling installation. The permit holder or the permit holder's agent must request a set-up inspection when the manufactured dwelling is ready for occupancy.

If the dwelling is on the west side of the summit of the Cascades, the jurisdiction must perform the set-up inspection within 48 hours (excluding weekends and holidays) of notification by the permit holder or the permit holder's agent.

On the east side of the Cascades, the jurisdiction is required to perform the set-up inspection within 72 hours (excluding weekends and holidays) of notification by the permit holder or the permit holder's agent.

If the jurisdictional authority does not perform the inspection within the stated time frames, the permit holder may proceed with enclosing (skirting) the under-floor area of the manufactured dwelling. If the inspection is not performed within the stated time frames, the jurisdiction is required either to do the set-up inspection or to hire a certified inspector to do it, at the jurisdiction's expense.

If the permit holder or the permit holder's agent fails to call for an inspection or causes the under-floor area to be enclosed before the set-up inspection, the jurisdiction may do the set-up inspection at an additional cost to the permit holder or hire a certified inspector to do it at the permit holder's expense. If the permit holder or the homeowner skirts the home before having it inspected, he or she can hire a certified inspector to inspect the dwelling and still meet the requirements. ■

Working in the tri-county area? Get free code updates

If you work in Multnomah, Washington, or Clackamas counties, you can get free updates on code issues from the Building Codes Division's Tri-County Service Center. The center offers *News Flash* on electrical-code topics, *News Splash* on plumbing, *News Connect* on mechanical, *News Line* and *News Site* on commercial and home construction. To get any of the newsletters, contact the center at (503) 872-6731, or visit the Web site, www.oregonbcd.org, and click on "Tri-County." ■

Kiln-dried lumber required in manufactured housing

Alterations to Manufactured Dwellings, as stated in the Oregon Manufactured Dwelling and Park Specialty Code, means any change, addition, alteration, repair, conversion, replacement, modification, refurbishing, re-manufacturing, or removal of any part of the manufactured dwelling or manufactured-dwelling equipment.

All lumber used in an alteration of a manufactured dwelling shall be kiln dried or have a moisture con-

tent of 19 percent or less. This includes dormers and gables; local jurisdictions inspecting alterations need to ensure that contractors are using kiln-dried lumber. Dealers also need to know this requirement when they are altering a manufactured dwelling as part of the sale.

If you have questions regarding the use of kiln-dried lumber in a manufactured dwelling, call Dwight West, (503) 378-2620. ■

Top inspection finds listed

Common problem areas found during consumer inspections, six months to two years after consumer has taken possession of home.

Under-floor area/piers

1. Loose piers. MD&P 3-8.4.2(i)
2. Piers set back too far from end of frame. MD&P 3-6.1(b)
3. Perimeter piers set too far back from end wall. MD&P 3-6(d)
4. Perimeter piers not installed. MD&P 3-6.2
5. Centerline piers set too far back from wall. MD&P 3-6.3(d)
6. Centerline piers have more than 6" offset at support area. MD&P 3-6.3(e)
7. Lacks centerline pier. MD&P 3-6
8. Steel piers with shims. MD&P 3-8.4.1(d)(3)
9. Broken pier block. MD&P 3-8.4.2(d)
10. 4x6 beam needed at perimeter pier. MD&P 3-8.4.3(b)(c)
11. Anchoring not installed, when required. MD&P 3-2.3

Frame issues

1. Chassis alteration. MD&P 3-3.2
2. Chassis damage. HUD 3280.303(a)(b)(c)

Floor issues

1. Floor securement at the marriage line. MD&P 3-11.2.3
2. Floor not level at the marriage line. MD&P 3-11.3.3(b)
3. Holes not sealed in the bottom board. MD&P 3-5.10

Other under-floor issues

1. Heat-duct crossovers. MD&P 6-3.5(j), 1-7
2. Dryer-duct installation. MD&P 6-3.3
3. Drainage of water under home. MD&P 3-4.3(e)
4. Gas-line support. MD&P 6-4.4(b)
5. Vapor barrier. MD&P 3-4.7

Fresh water issues

1. Building water-supply piping not freeze protected. MD&P 5-2.2
2. Water crossover lines not freeze-protected. MD&P 5-2.3(c)
3. Water line supports. MD&P 5-1.7
4. Water-shut-off valve access. MD&P 5-2.1(f)

DWV issues

1. Sewer line supports. MD&P 5-3.2(g)
2. Sewer line grade. MD&P 5-3.2(c)
3. Sewer cleanout clearance. MD&P 5-3.3(b)
4. Sewer cleanout not 12" from exterior opening. MD&P 5-3.3(d)(1)
5. Condensation drain. MD&P 6-2.8(b)
6. Lacks P-trap cover. MD&P 5-3.8(c)

Electrical issues

1. Crossover wire exposed. MD&P 4-4.1
2. Electrical service equipment location and clearances. MD&P 4-3.3
3. Smoke alarm missing. MD&P 9-2.1 and 9-2.2
4. Damaged electrical equipment. MD&P 4-1.1(d)
5. Electrical conduit securement. MD&P 4-2.3(e)

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Installation tag requirements

By Albert Endres

I have recently done some data entry from the installation tag reports that installers are required to submit monthly. This activity certainly gives me a better insight into what is happening in the field and how individual installers do their reports.

Overall, it appears that you are doing a pretty good job. The secondary sets are more difficult to find serial numbers on, but you are making good attempts. The handwriting is a bit sloppy sometimes, but we can figure it out.

There is one thing I think you all should know regarding a fairly common omission: The date the home was set. Quite often, you are not filling in the date.

If we receive a report in August, 2003, and the date is not entered, we automatically enter it for the last

day of August. If you happened to have set the home in June but didn't bother to report it, you just extended your period of exposure by two months. Remember that it is the date on which you report the activity that starts the clock.

One consumer case we were involved with had some skirting issues that were not in compliance. The home had been installed for over a year but the installer did not tag it, nor did he report the installation. We required him to make corrections to the installation.

Remember that the installation is not complete until you certify the completion by affixing your tag to the home and report the use of the tag. The reference for this is OAR 918-515-0300 (1). ■

INSPECTION, *Continued from Page 4*

6. Bonding crossover missing. MD&P 4-4.4
7. GFCI protection. MD&P 4-6.4(a)

Window issues

1. Window operation. MD&P 3-12.1(h)
2. Egress window covered/blocked. MD&P 8-4.3

Exterior door issues

1. Door operation. MD&P 3-12.1(h)
2. Required exit door enclosed. MD&P 8-4.3(e)(h)
3. Fire door required. MD&P 8-4.4(c)

Exterior issues/roof

1. Shipping material removed; nails and staples sealed. MD&P 3-11.1(a)- 3-11.3.1(d)(e)
2. Roof shingles damaged. MD&P 3-11.3.1(e)(f)(g)
3. Exterior roof vents and flues installed to manufacturer's requirements. MD&P 6-3.5(e)-6-3.6(L), 6-3.9-6-3.10(e)

Skirting issues

1. Skirting trim missing. MD&P 3-9.1 and 3-10.2.1
2. Skirting trim not sealed. MD&P 3-9.1(i)(j)
3. Porch not separated from heated crawlspace. MD&P 3-9.10

4. Skirting access too small. MD&P 3-10.2.1
5. Skirting access/clearance not 30 inches. MD&P 3-10.2(b)
6. Access well too small. MD&P 3-10.2.2(a)(b)(c)
7. Access well cover more than 50 lbs. MD&P 3-10.2.2(d)
8. Crawlspace not vented. MD&P 3-10.1.2
9. Crawlspace vents blocked. MD&P 3-10.1.1(d)
10. Decks/porches not self-supporting. MD&P 3-12.1
11. Exterior close-up trim missing or not sealed. MD&P 3-11.3.2

Other issues

1. Manufacturer's instructions missing. MD&P 3-1.5
2. MDI/LSI tag missing. MD&P 1-10.1.1
3. HUD tag missing. MD&P 1-9.1
4. Alteration on home. MD&P 7-1.2
5. Attached garage self-supported. MD&P 8-4.2
6. Attached garage fire stopped. MD&P 8-4.4(d)
7. Compaction of soil/fill. MD&P 3-4.5(c) ■

Giving consistent answers

By Albert Endres

In July 2003, I wrote an article for *Manufactured Home Update* about anchoring homes. Although the focus of the article was to clarify the differences among wind, flood, and earthquake requirements, there was a secondary message: to point out that sometimes an answer depends on how someone asks the question or how the question is interpreted.

I assure you that everyone at Building Codes Division is concerned that when callers request answers to a particular question, they get consistent answers. We're aware that doesn't always happen. Here is an example of what I mean.

One of the jurisdictions called our Prefabricated Structures Section to relay a question about ramadas and snow loads.

Our answer to the question was that to meet snow-load expectations, he (the original caller) could require a ramada to be built over a modular home. This apparently raised eyebrows at the jurisdiction (rightly so) and the jurisdiction e-mailed me to ask if they could require a ramada to be built over a modular home in order to meet snow-loading expectations.

Right away "modular home" caught my attention. It does not adequately describe the home. Is it a "prefabricated structure" or is it a "manufactured dwell-

ing?" The two are quite different. One must make sure which type is being discussed. ORS 446.003 and ORS 455.010 define them briefly. A manufactured dwelling is built to HUD standards. A prefabricated structure is built to the One and Two Family Dwelling Code. Different rules and codes apply to each.

As the original question had apparently referenced a section of the Manufactured Dwelling and Park Specialty Code (Section 3-2.1 and 3-2.2(d)), I was confident the question related to a manufactured dwelling. My answer was straight out of the referenced section of the MD&P: No, the local jurisdiction could not require a ramada. Homeowners are responsible for deciding how to protect their homes, and their choices are to special-order a home for the appropriate snow-load area, manually remove snow, or build a ramada.

So there you go: Because the question was improperly related to us or improperly worded in the beginning, we gave two answers — one right, one wrong.

We try our best to discern the variables before we answer, but sometimes we just don't. If you have concerns about this, please call me, (503) 378-5975, or send e-mail to albert.g.endres@state.or.us. ■

Keep work accessible for inspectors

By Tom Nicolai

All construction work that requires a permit (such as installation of a manufactured dwelling) is subject to inspection by the local jurisdiction. Such construction must remain accessible for inspection until it has received approval from the local jurisdiction.

The installer may arrange with the jurisdictional authority for work that is not feasible to leave open for inspection. An example is fastening ridge beams, walls, or other work that must be covered as part of the process of assembly.

Most installers work regularly in cities or counties and become familiar with the inspectors and their expectations.

Sometimes, problems arise when installers work where they don't normally work, installing a home without checking with the local jurisdiction. They find that what may be acceptable in another jurisdiction is not acceptable in the one they're in.

An installer who is going to install a home in an area with which he is not familiar would be wise to contact the local jurisdiction to find out what will be inspected and what parts of the home should be left open for inspection.

It's one phone call that could save a lot of time and frustration. ■

Commonly asked questions

Q: Can plumbers use tape or metal straps to support water and sewer plumbing under homes?

A: Yes. See MD&P 5-1.7 (o) (1) (2) and 5-3.2 (i).

Q: If an older home is being installed, what code is it set to?

A: The installation of any manufactured home must be to the current Oregon installation code. See MD&P 1-1.3, 1-8.13.1 and 1-8.13.3.

Q: Do out-of-state contractors need Oregon licenses to install Oregon- or out-of-state-built manufactured homes in Oregon?

A: Yes. See MD&P 1-11.1 and ORS 446.395.

Q: Will a contractor installing a poured-in-place stem wall need an MDI or LSI license, and will the people working for him need to be licensed?

A: Yes. See MD&P 1-11.1, ORS 446.395 and OAR 918.515.

Q: Must interior wall connections be left open for inspection?

A: No but they need to be done by the installer, not the tape-and-texture finish crew. See MD&P 1-18.13.2 (marriage line connections) (2).

Q: Can a meter base be added on a manufactured home after installation?

A: A meter base can be installed by the manufacturer but not by the MDI, unless he has an electrical contractor license. See MD&P 4-3.2.2, OAR 918-515-0150, and NEC Article 230 and 550-23.

Q: How much backfill can be placed against a block skirting wall?

A: The method of construction and size of block will dictate the amount of backfill. See MD&P 3-9.6 and 3-9.8 (f) (J)

Q: What are the requirements for smoke detectors in manufactured HUD homes and in pre-HUD homes?

A: This depends on the age of the home, the use of the home, and whether it is a new or secondary installation. See MD&P 9-2.1, 9-2.2, ORS 479.260(2), and ORS 479.270.

Q: Can a manufactured home be considered tied down for wind or seismic conditions if installed on and secured to a foundation wall?

A: Yes, this is considered a tie-down method. See MD&P 3-2.3.4 (b) and 3-2.5.4 (d)

Q: Do I need a permit for a remodel, new siding, new roof, etc.?

A: This would depend on the extent and type of work performed. See MD&P 1-7.14

Q: Do I need tie-downs on my manufactured home?

A: This depends on which wind area and seismic zone your home is in and the height of the home. See MD&P 3-2.3.3, 3-2.5, 3-2.5.1, 3-2.5.2 and 3-2.5.3.

Q: If tie-downs are installed on a manufactured home and they are not required, can an inspector require them to be installed to code?

A: Yes. See MD&P 3-2.6.1.

Q: Who is the person responsible for calling the jurisdiction for an inspection?

A: The permit holder is the person responsible for notifying the jurisdiction when work is ready for inspection. When the contractor is not the permit holder, the contractor must advise the permit holder when work is ready for inspection. See MD&P 1-8.2. ■

Tips for secondary installations

By Al Rust

The term “secondary set” is used for manufactured or mobile homes installed on new sites or stands after having been occupied at another location. An older home being installed for the second time — or even third — must be installed to the current code for manufactured home installation.

Some things the installation contractor or inspector needs to do or know:

- Remove old installer tags; this is a new installation and new tags are needed.
- The heat-duct crossover on multisection homes will need to be R-8. Old duct that is damaged or that is not R-8 must be replaced.
- Smoke alarms must be installed in all bedrooms and in halls leading to each bedroom. They can be battery powered.

- Stands may need to be re-leveled and re-graded for secondary installations in older parks where smaller homes are being replaced with longer and sometimes wider homes. There may be setback issues concerning other homes or outbuildings.
- Plumbing under the home: if the plumbing or fittings are damaged or defective, they can be replaced with new or like kind without a permit. The drain line that was installed originally can be re-installed by the installation contractor, unless extensive change and re-plumbing are needed, in which case the homeowner or a licensed plumber will need to do the work.

There are many secondary sets going on in Oregon and they provide primary homes and sometimes second homes for consumers. Let’s install and inspect them to the code. The homeowners deserve it. ■

Building on fill requires care in site preparation

By Mark Campion

We hear complaints about foundations shifting, and field inspections reveal more homes built on fill now than in past years.

As our land supply shrinks, homes are probably more likely to be built on more challenging sites.

Proper site preparation and foundation design can alleviate most problems, but steep terrain and poor soil present challenges that can be difficult to meet in a cost-effective manner.

Not all sites are amenable to a simple cut and runners or a full slab poured flat.

Step-down foundation designs, like those used for site-built homes, may be more appropriate in some of these challenging situations and should be considered by the dealer, site developer, installer, and homeowner.

Good communication with your customer is critical, as these types of foundations are more costly be-

cause of rolling on and off, more complex forms and skirting, foundation height restrictions that may require tie-downs and double piercing, etc.

The alternative to the step-down foundation is digging to a level at which fill on the downhill side of the site will not be an issue.

Such excavation presents its own set of problems — steep cuts behind the home that may require retaining walls, extra excavation charges, etc.

Homes may be built on fill, but only when it is “controlled” fill. A compaction test is required, which calls for the services of a geotechnical engineer.

Whichever type of approach to site development and foundation is chosen — controlled fill, extra excavation, or step-down — each presents its own challenges and costs.

The bottom line: Building on simple fill is not allowed, and can result in expensive foundation fixes. ■



Visit BCD’s Manufactured Dwelling Program pages

www.oregonbcd.org, then click on the “Code Programs,” then on “Manufactured Dwelling Program.”

Take steps to prevent site-drainage problems

By Albert Endres

Another article in this publication speaks of the top 10 complaints from both factory service as well as what BCD deals with during customer-assistance inspections. Site drainage is at the top of the list of problems. It was number two in last year's Top Ten and is historically up there.

Granted, it's difficult to tell during the push out and site prep at some sites whether or not there will be a drainage problem. But other sites have all the indicators for drainage or water-table problem. Pit-set homes on flat land commonly have water problems.

When we get involved, there are several issues to sort out: Contracts are not clear, owners say they didn't know there would be a problem, contractors don't inform owners, inspectors don't take action, and owners don't want to pay for additional preventative measures.

Sections 3 and 4 of the Manufactured Dwelling and Park Specialty Code cover the requirements fairly well for what one must do if the site is suspected to

have poor drainage or a high water table or if the home is to be pit set. Retailers and contractors should go over this with owners during the preparatory stage so funding can be arranged and preventative measures taken or at least disclosed to the owner. From there, the site inspection or plot plan review should also consider the possibility of a wet stand.

Skirting masons should consider informing the owners that block skirting should be waterproofed if the site looks like a wet area and the home is to be pit set or backfilled, and they should bid the job accordingly.

Water under the home is a serious issue that can cause health problems and deterioration of the home and the foundation system. Water under the home can cause energy inefficiency. It is not something to ignore, and it is far easier to prevent than to cure.

If you have any questions about this, please call me, (503) 378-5975. ■

Make sure doors meet local climate demands

With summer coming to a close, we hurry to finish those summer projects and begin looking towards the fall and winter months. We start preparing our homes for the change in weather.

Last winter, we experienced a very wet winter with plenty of rain and wind. Along with this came an increased number of consumer calls indicating they were having exterior door leaks.

When the door leaks, homeowners typically notify either the dealer or the manufacturer.

The homeowner often suspects that doors were not installed properly or are defective because they should withstand any kind of weather.

In some cases, the exterior door is completely installed and sealed at the factory and, in other cases, the exterior doors are temporarily set in the opening to be completed by the installer of the home when it is set.

Our investigations have revealed many reasons why exterior doors have leaked. Most of the leaks are found in homes in those areas of the state that have frequent high winds and rain. Add to that installing the home so the door faces into the wind.

Most exterior-door manufacturers supply a notice with their doors that they will not warrant the door when it is subjected to extreme weather conditions — including wind and rain — unless it is protected by a storm door or other adequate protection.

Can this situation be avoided?

Not always, but asking the right questions and providing the right information during the sale of the home would help.

The sales representative should ask where the home will be located.

If the home will be installed at the coast, along the Columbia Gorge, or in other high-wind, high-rain areas, the sales representative should discuss the advantages of storm doors.

Supplying this information to homeowners at the time of the sale and giving them the opportunity to decide whether or not they want a storm door can avoid a lot of frustration. ■

Thermal performance requirements for manufactured dwellings set in state law

By Dwight West

What is commonly called the “in-fill law” among those involved with manufactured housing has been cited as justification for restricting or preventing siting manufactured homes within certain jurisdictions. This in-fill law is described in part below.

ORS 197.307 Effect of need for certain housing in urban growth areas; approval standards for certain residential development; placement standards for approval of manufactured dwellings.

(5) A jurisdiction may adopt any or all of the following placement standards, or any less restrictive standard, for the approval of manufactured homes located outside mobile home parks:

- a The manufactured home shall be multisectional and enclose a space of not less than 1,000 square feet.
- b The manufactured home shall be placed on an excavated and backfilled foundation and enclosed at the perimeter such that the manufactured home is located not more than 12 inches above grade.
- c The manufactured home shall have a pitched roof, except that no standard shall require a slope of greater than a nominal three feet in height for each 12 feet in width.
- d The manufactured home shall have exterior siding and roofing which in color, material and appearance is similar to the exterior siding and roofing material commonly used on residential dwellings within the community or which is comparable to the predominant materials used on surrounding dwellings as determined by the local permit approval authority.
- e The manufactured home shall be certified by the manufacturer to have an exterior thermal envelope meeting performance standards which reduce levels equivalent to the performance standards required of single family dwellings constructed under the state building code as defined in ORS 455.010.
- f The manufactured home shall have a garage or carport constructed of like materials. A jurisdiction may require an attached or detached garage

in lieu of a carport where such is consistent with the predominant construction of immediately surrounding dwellings.

- g In addition to the provisions in paragraphs (a) to (f) of this subsection, a city or county may subject a manufactured home and the lot upon which it is sited to any development standard, architectural requirement and minimum size requirement to which a conventional single-family residential dwelling on the same lot would be subject.

Item (e) dictates a thermal-performance level that the home is required to meet in order to qualify for siting in a jurisdiction, not a park. The level of performance required of the manufactured single-family dwelling is the standard adopted by the State of Oregon through the National Manufactured Housing Construction and Safety Standards Act of 1974. By installing a HUD label to the exterior of the home, a manufacturer is certifying that the thermal envelope has been built to the requirements of that code.

ORS 446.200 When noncompliance with city or county regulations authorized.

Any manufactured structure that meets the requirements prescribed under ORS 446.003, 446.155 to 446.200 and 446.225 to 446.285:

- a Is not required to comply with any ordinances of a city or county prescribing requirements for plumbing, heating, illuminating, mechanical, structural, transportation, thermal, fire and life safety, cooking or electrical equipment and material installed in manufactured structures.
- b Is required to comply with this chapter and the administrative rules adopted thereunder regulating plumbing, heating, illuminating, mechanical, structural, transportation, thermal, fire and life safety, cooking or electrical equipment and material installed in manufactured structures.

A manufactured dwelling that is constructed in conformity with the minimum safety standards provided by ORS 446.185 and which bears an insignia of compliance is not required to comply with any additional

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Don't let stored homes become winter's victims

By Albert Endres

Once again, it's time for everyone to prepare for the wet and cold winter season. Too many homes become victims of this environment when not properly prepared or cared for during transit and pre-delivery storage.

Don't forget the following as you run through your winter preparation checklist:

- Add antifreeze to toilet tanks and bowls.
- Blow water out of lines.
- Properly secure factory close-up.
- After delivery, check the close-up.
- Offer hand tabbing of shingles for high-wind areas.
- Installers may choose to hand tab the ridge cap.
- Offer storm doors options to ease door leaks.
- Store homes in stable areas and check them frequently.
- Pre-check delivery routes for site-delivered homes.

Do anything else you can think of to prevent damage to the homes while unoccupied. ■

THERMAL, *continued from Page 10*

regulations if it is thereafter placed on a permanent foundation and affixed to real property.

In conclusion, any manufactured home that has a HUD label affixed to the exterior has been certified that its construction to the National Manufactured Housing Construction and Safety Standards Act of 1974 meets the requirements of the State Building Code for single family manufactured dwellings and the requirements of ORS 197.307. Therefore, no jurisdiction may refuse the siting of a manufactured dwelling.

If you have questions regarding the "in-fill law," you may contact Dwight West, (503) 378-2620. ■

Top 10 service complaints

by Albert Endres

Each year, we try to let the manufacturers know what the top 10 service complaints are when we consolidate the service managers' opinions of their top five complaints.

These compilations usually involve only manufacturing issues, but at times reflect field activity. This is what the 10 Oregon factories reported this year.

Factories Repair	Number of factories	Problems last year
1. Tape and texture finish	8	8
2. Interior door operation	7	5
3. Countertop and backsplash	4	4
4. Interior trim	3	2
5. Floor squeaks	2	4
6. Exterior door adjustment	2	4
7. Floor vinyl	2	3
8. Cabinet issues	2	5
9. Pressure line leaks	1	2
10. Window installation	1	3

These were the most common issues we dealt with in field inspections concerning consumer complaints this year:

Consumers Repair	Number of problems	Reported last year
1. Site drainage	17	10
2. Installation cert. missing	15	12
3. Floor squeaks	14	6
4. Exterior door adjustment	12	6
5. Floor uneven at marriage line	11	7
6. Skirting access	10	na
7. Shingles	9	na
8. Exterior trim	9	na
9. Floor vinyl	9	na
10. Skirting installation	8	6

You can use these statistics to make many evaluations and comparisons.

These numbers are just some of those we looked at when we decided what training we should receive as well as what training we should provide in the coming year. If you have questions about this, please call me at (503) 378-5975, or send e-mail to albert.g.endres@state.or.us. ■

Meet BCD's new insignia specialist



Peggy Clark

I have taken over for Ann McGovern, who has moved to the Electrical Licensing Section here at Building Codes.

I started at Building Codes in June as a college-work-experience student from Chemeketa Community College. I graduated in June with my degree as a business technology administrative assistant.

I am enjoying my position as the insignia specialist in the Recreational Vehicle and Manufactured Home Program in Statewide Services.

On the personal side, I enjoy spending time with my husband of 34 years, our six grandchildren, and my mom. I also enjoy walking on the beach, looking for agates, going on long road trips, and the purple and pink color the sky makes at sunrise and sunset.

I look forward to serving all of you. My work hours are 7:30 a.m. to 4 p.m., Monday through Friday. My phone number is (503) 373-1257. ■

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If you want to be included on the *Manufactured Home Update* mailing list, please call Albert Endres, (503) 378-5975.



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