NOTEBOOK

NOVEMBER 1999

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Snout Houses Restricted in Portland, Oregon

The city council in Portland, Oregon, has voted unanimously to prohibit the construction of "snout houses" — homes where the front elevation is dominated by a projecting garage. The new ordinance, which went into effect September 3, requires that a garage cannot be wider than half of a house's front wall. The rules also limit how far a garage can project forward from a house. Before voting, the city council heard emotional testimony from two opposing camps: community activists who see snout houses as ugly intruders into their neighborhoods, and builders who object to design regulations.

The city council in Portland, Oregon, recently established regulations limiting garage-forward designs.

No Room for a Two-Car Garage

The new ordinance makes it hard to include a two-car garage on a narrow lot. "These regulations will probably drive me out of the city," says Jeff Fish, owner of Fish Construction Northwest. According to Fish, who sometimes builds on lots as narrow as 25 feet, a house with a one-car garage doesn't sell as well as one with a two-car garage, even when the rest of the design is identical. "People like a double-car garage," says Fish. "The city seems to think that the customers will have to accept the product; they'll just cram these houses down the customers' throats. But buyers will go elsewhere."

Ed Marckx, owner of Wellmade Homes, agrees that the new regulations exclude some lots from use. "It's a major problem to turn over the design of structures to planners," says Marckx. "These planners are like a pack of dogs. When one planner barks, they all bark."

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Fierce Formosan Termites

Voracious termites are well established from Hawaii to Florida

Termites have long been the bane of building owners. The Formosan termite, however, makes other termites look like ladybugs. While a native North American termite species might establish a colony of around one million insects, a Formosan colony can contain as many as ten million. A Formosan termite can destroy lumber nine times as fast as a termite from a native species. And that's not all. Formosan termites can chew through brick walls, plastic, caulk, and fiberglass to get to the wood they target.

Originating in southern China, Formosan termites stowed away in cargo ships, spreading to Hawaii in the early 1900s and to the southeastern U.S. sometime shortly after World War II. Since arriving in North America, they've managed to spread along major transportation routes to other areas warm and moist enough to support them, including California and most of the South.

Professor Nan Yao-Su, a University of Florida termite expert, estimates the current damage and control price

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Formosan termites, imported accidentally from China, devour wood much more aggressively than native termite species. New Orleans, where this picture was taken, has been particularly hard hit by infestations.

Snout House

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Critics Find Snout Houses Ugly

Portland city commissioners feel that the new regulations are an appropriate response to citizen concerns. "People are not happy with the quality of infill building," says Jillian Detweiler, assistant to Commissioner Charles Hales. "These houses don't fit into the character of the existing neighborhood. It is an aesthetic issue, a compatibility issue."

"There is no question that aesthetics is part of the issue," agreed Peter Wilcox, a Portland architect who was commissioned to study the costs associated with the proposed regulations. "But also, the security issues are real. If there is a row of houses with prominent garages, they create opportunities for criminals to hang out unobserved. If we drove around some of these neighborhoods, I'm sure that we would see someone unseemly hanging out. I see it all the time."

City council hearings on the proposed ordinance were emotional. "On one side, there were people who believe in what we're trying to accomplish, and on the other side were the builders," said Detweiler. "Commissioner Hales was surprised that the homebuilding industry decided to take an ideological tack in their opposition to these regulations. I don't think it was the right approach. I thought we had settled long ago that government can put reasonable restrictions on the uses of property."

"We had no problem taking an aggressive position on this issue," counters Kelly Ross, director of government affairs for the Homebuilders Association of Metropolitan Portland. "Our board of directors told us to pull out all the stops on this, and not to compromise. There is a strong resentment of the city reaching so deeply into the business decisions of our members, to tell them how to craft their product."

Other bans. Portland is not the first community to wrestle with these issues. Fort Collins, Colorado, adopted restrictions on snout houses in March 1997. "We want a town designed around people, not designed around cars," says Clark Mapes, a Fort Collins city planner. "These regulations were a response to a perceived problem. The most extreme examples were in some of the subdivisions where all of the building frontage consists of a garage that protrudes substantially."

The planning commission in Forest Grove, Oregon, adopted changes to regulate snout houses in January 1998, in response to concerns that prominent garages limit sight lines to the street, interfering with friendly interactions between neighbors. In Forest Grove, as in Portland, the debate revealed strong disagreements on the extent to which local government should be involved in regulating house designs in hopes of achieving social benefits. "The builders said, 'It's just social engineering,'" said James Reitz, associate planner at the Forest Grove Planning Commission. "But it could be argued that all planning is just social engineering."

"Most builders have stock plans they are used to building. In the housing industry, there is no significant competition in design," says Mark Oberzil, a former member of the Forest Grove Planning Commission, and an opponent of snout houses. "These issues should not be left to market forces, because these houses will be around for a long time."

Formosan Termites

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tag for all termite species in the U.S. at $5 billion. Experts fear that the number of colonies of the voracious Formosan termites in the U.S. is mushrooming, so the total cost could grow substantially.

Help is On The Way, Maybe

Fortunately, in the nearly two decades since organo-chlorine-based pesticides such as Chlordane were outlawed, researchers have been busy developing new strategies for managing the termite problem. Bait traps, borate wood treatments, and stainless steel screen barriers are three new types of products that can replace or accompany traditional soil treatments and standard site prevention measures.

New treatments, like sprayed-on borates such as the Bora-Care product shown here, may offer effective means to control termite infestations in a single location. Controlling the growing termite threat over wider areas, however, may depend on changing building codes to require termite-resistant construction practices.

Treatments alone, however, will not solve the pending crisis. Building codes will have to face the challenge of establishing effective preventive measures in areas with the highest potential for infestations. This is a tall order, given the competing political pressures exerted by pest control contractors, building material manufacturers, and developers. Considering the controversy surrounding buried foam and termites (see "SBCCI Reverses Buried Foam Ban," 8/99), the solutions may not come easily.

OFFCUTS

Low-flow toilets don't work, according to a recent NAHB survey of builders and homeowners. Seventy-eight percent of builders and property managers reported they had experienced problems with low-flow toilets in the previous 12 months. In the opinion of the majority of builders surveyed, the problems with the toilets "can't be fixed."

Structural insulated panels (SIPs) are popular on light commercial jobs. Twenty-seven percent of SIPs are being installed in projects such as schools, motels, nursing homes, and churches, with the balance taken up by residential construction, according to the Structural Insulated Panel Association.

Home Depot shies away from old-growth lumber. Home Depot has announced a commitment to stop selling wood from "endangered areas" and to give preference to "certified wood" by the end of 2002. The decision comes in apparent response to a two-year campaign by environmental activists to spotlight Home Depot's sales of lumber from old-growth forests. In Racine, Wisc., county officials denied Home Depot a land-use permit to build a new store after hearing testimony that the company is the world's largest retailer of old-growth lumber, including lauan, ramin, and bigleaf mahogany.

Joint Compound Dust May Be Linked to Cancer

Drywall finishers were recently warned of possible cancer risks by the National Institute for Occupational Safety and Health, or NIOSH. A June 1999, "Hazard Controls" announcement warns of the possible health effects of crystalline silica, one of the ingredients in joint compound. "Construction workers who sand drywall joint compound are often exposed to high concentrations of dust," warns NIOSH. "When silica is present, workers may also face an increased risk of silicosis and lung cancer." Workers known to face an increased risk for silicosis include sandblasters and miners who drill rock.

Silica is quartz, like beach sand. It occurs naturally in association with gypsum and limestone. Dr. Charles Byers, who works at U.S. Gypsum Corp. as manager of product safety and industrial hygiene, says that his company's joint compound contains less than 2% crystalline silica.

Dr. Byers claims that NIOSH has not yet shown that the crystalline silica in joint compound dust is respirable. He explains that the crystalline silica particles in joint compound are relatively large, and are not made any smaller when sanded. "Silica is a hard mineral," says Byers. "The crystalline silica in joint compound may not be respirable. In my opinion, the silica in the dust goes to the floor when sanded."

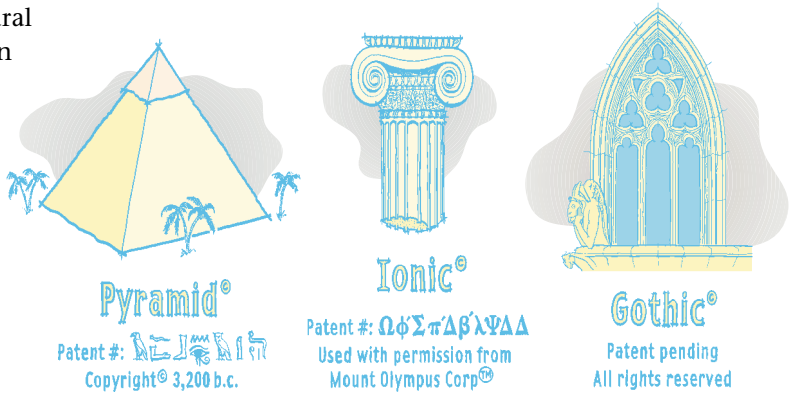
It appears that no correlation has yet been proven between sanding joint compound and increased risk for silicosis or lung cancer. Nevertheless, there is general agreement that high dust levels are associated with respiratory tract irritation. Workers who sand drywall joint compound are exposed to up to 10 times the permissible exposure limit for dust, according to job-site measurements made by OSHA (see "Drywall Dust May Be Hazardous," 10/98). The OSHA total dust limit is 15 mg per cubic meter.

To limit exposure to dust, NIOSH recommends using a pole sander, rather than a hand sander, when sanding ceilings. "The pole increases the space between the worker and the sanding surface, which in turn reduces the amount of dust close to the worker's nose and mouth," according to the NIOSH report. Workers can also reduce their exposure to dust by using a drywall sander with a vacuum attachment. Three manufacturers of drywall sanders with vacuum attachments are: DDM Corp. (206/282-3422; www.pacstrapping.com); EnTech Corp. of Rockland (914/371-3714; www.entechcorp.qpg.com); and Porter-Cable (800/487-8665; www.porter-cable.com). Although NIOSH noted that the use of respiratory protection is recommended, they pointed out "these guidelines are seldom followed in actual work practice."

Patenting Architectural Concepts

Mark I. Kaufman and Donald J. Meeks, two Houston architects, have recently patented four architectural ideas, including one — a design for circulation areas in apartment buildings — that has been licensed to nearly a dozen developments.

Joe Molinaro, director of land development at NAHB, was concerned enough at this news to contact the U.S. Patent Office. He discovered that an idea can be patented if it is useful, unique, not obvious, and truly a new invention. "These designs were no different from what people have been doing for the past 20 years," says Molinaro. "Patent examiners have backgrounds in engineering. They are not architects."



Not surprisingly, Kaufman argues that his patent is deserved. "In my opinion, 97% of all architects are not creative, and 3% are creative. We are among the 3%." Kaufman believes that patents have the potential to change the profession of architecture. "What I foresee is that the 3% of architects will create the products for the other 97%, who will be marketing those products," says Kaufman. "That will allow the creative architects to sit at home and do R&D, knowing that if they have a breakthrough, they're protected."

NAHB's Molinaro is concerned about how architectural patents will affect builders. "If patents become awarded more prevalently, then any builder would have to do an exhaustive search of the literature before deciding on a design," says Molinaro. "One of the concerns is that Kaufman and Meeks have been using the threat of patent enforcement to convince developers that they must use them as an architect."

This concern about litigation is not an idle worry. "If we see an infringement, we are prepared to sue," says Kaufman. "We already have. One case has already settled...Whether people like it or not, that's the law."

New Masonry Code

The Masonry Standards Joint Committee recently approved 1999 revisions to the masonry code books, the *Building Code Requirements for Masonry Structures* and the *Specification for Masonry Structures*. According to Max Porter, chairman of the committee, some of the most important changes include:

- The code and commentary have been completely reorganized.
- The 1999 code is more specific than the earlier (1995) version when defining what constitutes a "quality assurance program," and establishes criteria for inspecting masonry work.
- The code for the first time includes provisions for masonry veneer that is adhered to the backup, as opposed to anchored veneer. The newly adopted prescriptive requirements for adhered veneer are similar to those currently included in the *Uniform Building Code*.
- For the first time, the code recognizes mortar cement, a high-strength cement distinguished from the more common masonry cement. In order for a cement to be called mortar cement, it must meet ASTM C 1329 standards.

OFFCUTS

How will Y2K affect home appliances like programmable thermostats? Find out on the Web at www.homeenergy.org/y2karticle/y2kbug.html.

Permit delays frustrate Denver-area builders. Because of a building boom, the turnaround time for a residential building permit has stretched from three weeks to five in Denver, and takes up to eight weeks in Boulder, according to local officials.

Quick answers to code questions can be found on the Web at www.mcvicker.com/resguide. The site's "Single Family Residential Construction Guide" covers topics from permits to drywall.

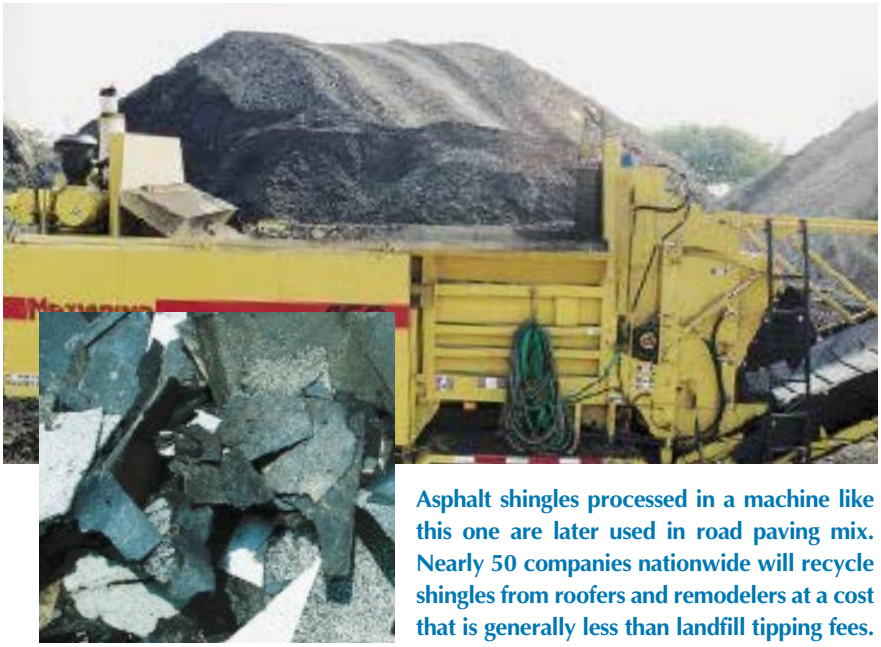
Vinyl siding is one of the "100 worst ideas of the century," according to the June 14, 1999 edition of *Time*. Joining vinyl siding on the list of "dud inventions, foolish decisions, and hugely embarrassing mistakes" were leisure suits, Muzak, and aerosol cheese.

CPVC piping for sprinkler systems has been approved by Underwriters Laboratories. The approval covers certain components from Central Sprinkler Co. (215/362-0700) for use in concealed spaces requiring fire protection, such as truss applications. The use of CPVC should provide cost savings over steel or copper pipe.

Old Shingles in New Roads

In some parts of the country, old asphalt shingles that roofers toss into the dumpster are being sent to a recycling plant to be made into road paving material.

In August, the Asphalt Roofing Manufacturers Association and the Construction Material Recycling Association (CMRA) launched a national program aimed at increasing recycling of shingles. "Shingles have been recycled for years," says CMRA's Bill Turley, "but it's just now starting to become economical." Turley estimates that there are more than 50 companies nationwide involved in recycling shingles into paving materials, most of which are concentrated on the east and west coasts.



Asphalt shingles processed in a machine like this one are later used in road paving mix. Nearly 50 companies nationwide will recycle shingles from roofers and remodelers at a cost that is generally less than landfill tipping fees.

One such company is Commercial Paving of Scarborough, Maine. The company started out as a paving firm, but has seen its shingle recycling business grow so much over the last three years that it has started an entire new division. The company receives old shingles from municipalities, waste haulers, and roofing contractors, who pay a processing fee that is generally less than the tipping fee at a landfill. The shingles are run through a grinder, and fasteners are removed with a magnet. The resulting product is then used in a variety of applications. For blacktop mix, a maximum of about 5% shingle content is possible. Higher ratios can be used in patching material (about 15%) and for use in improved gravel or roadbeds (up to 50% shingles).

In Maine, many miles of roads have been paved with recycled materials, according to Douglas Gleason of Commercial Paving. Though the mix is usually fabricated at the Scarborough facility, the company has experimented with trucking unprocessed shingles to sites where an asphalt road is too badly cracked for patching. After chewing up the existing asphalt with a road grinder, the shingles were laid down on top and another pass made with the grinder. The resulting base was just paved over.

More than 50 municipalities in Maine and New Hampshire now participate in the shingle-swap program. Even customers who are a four-hour drive from the Commercial Paving plant in Scarborough find that recycling is economical compared with the high local tipping fees charged for demolition waste.

Commercial Paving intends to license its system for use in other states.

Fungus On Fiber-Cement Siding?

Mike Watson, an inspector for Siding Solutions, a Portland, Oregon, company that provides siding inspections for homeowners, was surprised recently to discover a mushroom-like fungus growing on a

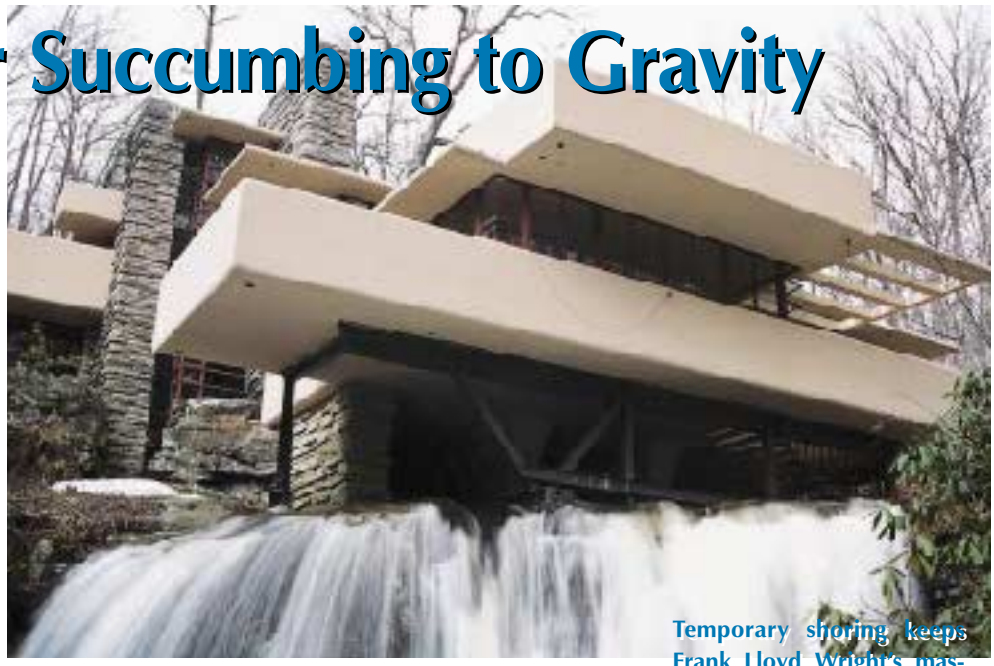
section of painted Hardiplank fiber-cement siding. "It had just rained, but the siding wasn't in a damp location," said Watson. "It was at eye level on the sunny side of the house in Hillsboro, Oregon."

Harold Burdsall, a research mycologist at the U.S. Forest Products Laboratory in Madison, Wisc., examined a photo of the fungus, which had been posted on the Web (www.sidingsolutions.com/fungus.htm). "It definitely looks like a decay fungus," said Burdsall, "but it is possible that this has nothing to do with the siding. There could be moisture behind the siding, and it could be growing on the sheathing or the studs."

"We have never seen fiber-cement support wood-eating fungi," said Don Merkley, research and development manager at the James Hardie Co., maker of Hardiplank. Merkley says that cellulose makes up less than 10% of Hardiplank siding by weight. "We have seen different things living on top of the board, or living off materials deposited on the board," said Merkley, "but since the fiber-cement has a high pH, it doesn't support much biological growth."

Professor Ali Moslemi, a fiber-cement expert at the University of Idaho, agrees. "The pH of fiber-cement siding is approximately 12," said Moslemi. "That's very basic. For fungus to grow it would have to be an unusual fungus."

Fallingwater Succumbing to Gravity



Temporary shoring keeps Frank Lloyd Wright's masterpiece, Fallingwater, from falling in the water until a $1 million repair is completed. Insufficient rebar in the cantilevered concrete beams has led to a 7-inch sag in the main floor.

Fallingwater, the most famous of Frank Lloyd Wright's designs, recently had temporary shoring placed under the cantilevered section to stabilize excessive deflection. Apparently, Wright's original design did not call for adequate steel reinforcing. Since its construction in western Pennsylvania in the late 1930s, the main floor cantilever, which also supports part of the second story, has suffered steadily increasing deflection that now totals around 7 inches.

It seems that design genius Wright didn't always get his engineering right. In the case of Fallingwater, both the contractors and the original owner are reported to have suggested using more reinforcing than the original plan specified, but Wright brushed aside these recommendations. Fortunately, some extra steel was added when Wright wasn't looking. Otherwise, Fallingwater may have fallen in the water long before it could become an architectural icon. Even with the extra steel, legend has it that the workers still feared a possible collapse and refused to take down the forms, leaving Wright to do it alone.

The estimated $1 million repair plan calls for post-tensioning bars or cables to be retrofit into the main concrete beams. Once in place, they will be slowly tightened to strengthen the beams to the point where the shoring can be removed and Fallingwater will once again work its magic with visitors.