

CAHI MONTHLY NEWS



Presidents Corner

December 2016 Volume 9, Issue 12

It looks like 2016 was a good year for all of the members that I have talked to recently. Most had a steady work load and are welcoming a break for the holidays. Let's take some time to reflect on all that we have and how this country provides us with the opportunity to be industrious and productive as we enter this holiday season. Spend precious time with family and friends. Help someone in need, spread cheer and happiness as you perform your daily tasks. Remember what the holidays are really about.

I look forward to 2017 with great interest for several reasons. We are all embarking on a new journey and no matter how you feel about things; we must rally round the flag and make this country united again. We are going to have a new president whether we like it or not. I say let's give things a chance. Lets not waste good energy on negativity. Let's be positive about the future of this country. Less grey hair that way. Fretting about what may happen can give you wrinkles and I know we do not need more of those.

Will 2017 be as productive for our profession as 2016...who knows? I think it will be better. I think that most folks are ready for a change, and that usually sets off some positive vibes. So I am keeping my pencil sharp and preparing for another good year.

I am also getting very positive energy from our board members. This



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Meeting Dates!

December
"No Meeting"

January
"TBD"

MONTHLY MEETINGS – Details & Info

CAHI's regular monthly meetings are held at the Best Western located at 201 Washington Ave (RT 5), North Haven. Meetings are free to members. Most meetings are on the fourth Wednesday of the month from 7-9pm. Guests are always welcome! Guests may attend 2 free monthly meetings to experience our presentations, meet our members, and receive a CE attendance certificate.

Joining CAHI may be done at anytime of the year through our Membership Page

Presidents Corner *continued*

makes me look forward to 2017 as a year of progress for CAHI. We have some ideas that will put our organization out there as a leader in our profession, our education and our professional knowledge. So thank you to Dean Aliberti, Woody Dawson, Al Dingfelder, Bill Kievit, Dan Kristiansen, Scott Monforte and our two new committee members Rob Gutman and John McKenzie for your time and effort.

On behalf of the board, I want to wish you all a Merry Christmas, happy holidays, and a very happy and prosperous New Year!

'Every gift which is given, even though it be small, is in reality great, if it is given with affection.'
Pindar

Stan



On the Job

Customizing an ICF Foundation

BY TED CUSHMAN

Mark Pollard is a highly skilled lead carpenter, not a concrete mason. But these days, as the local real estate market heats up and foundation contractors get busier, Pollard and the skilled crew he leads for custom builder Thompson Johnson Woodworks are having to get used to pouring concrete, whether they like it or not.

This fall and winter, *JLC* is following Pollard and his team as the company builds a custom home designed by Portland's Kaplan Thompson Architects. It's a strikingly unusual design, with a parallelogram footprint and a low-slope, monopitch roof. And to make things even more interesting, the project aims to achieve net-zero-energy performance.

With its distinctive massing and its unusual interior spaces, the home presents an assortment of technical challenges for the builder—starting with the parallelogram foundation. When their go-to foundation contractor got too busy to do the small job, Thompson Johnson decided to pour the job themselves, using ICFs.

The wooded site, with ledge just a few feet down, was an excavation challenge. The final choice was to dig just deep enough into the rock for a low basement (about 6 feet deep). The crew built stepped footing forms with wood, then poured the 2-foot-wide strip footings and the column bases. Next they set the ICF formwork, using a handsaw to custom-cut the 80-degree and 100-degree angles for the foundation ends. Then they custom-built the forms for the raised-floor piers.

On the day of the pour, the concrete truck and pump truck had to catch an early morning ferry for the 20-minute ride from the mainland. After setting up the pump truck, operator Allen Moore encountered an immediate hitch: Hardened concrete and debris from a previous job had clogged one of the angle bends on his pump boom, requiring Moore to locate the clog and disassemble the elbow to remove the blockage. But after a brief delay, the rig was back in operation.

The job went smoothly until the crew started pumping concrete into the pier forms. On the first pier, pressure of the wet concrete broke a seam on the form. So the pump had to stop again for 20 minutes, as the crew rushed to patch the broken form and reinforce the remaining pier forms with extra screws. Again, however, the delay was brief, and the rest of the pour went according to plan.

Ted Cushman is a senior editor at JLC.



The crew started by forming spread footings that stepped down to match the excavation (1). After the wooden forms were stripped, the footings were ready for insulating wall forms, supplied by BuildBlock (buildblock.com) (2). The non-square corners of the basement foundation, shown here in the foreground (3), were custom-cut and reinforced with OSB and framing lumber. After concrete placement and backfill, the piers on the raised-floor half of the house would rise about 4 feet above the finish grade (4).

On the Job / Customizing an ICF Foundation



ICFs make it easy to form custom angles. Mark Pollard cuts the 100-degree open corner angle on an ICF block with a handsaw (5), then sets the block in place on the wall (6). (When you are laying out for these angled cuts, it's important to align the interlocking notched teeth of the foam blocks before locating the cut.)

Working with carpenter Dale Cunningham, Pollard bends a piece of rebar for one of the foundation's square corners (7). Next, they set the rebar into the form, where the steel locks into the plastic reinforcing webs of the ICF blocks (8). The crew set one run of 1/2-inch rebar into each course of ICF blocks.

Square corners are easy to form by stacking up self-reinforcing interlocking corner blocks, but the custom mitered corners for this house had to be reinforced with OSB (9). The step-down dam was also custom-formed with OSB, framing lumber, and screws. Once the perimeter forms for the basement half of the foundation were set, the crew custom-built the formwork for the piers using plywood, 2x4 lumber, and screws. Pier forms sit braced and waiting for concrete (10).

On the Job / Customizing an ICF Foundation



With the forms set and braced and a working plank rigged (11), the crew stands by as pump-truck operator Allen Moore rigs a reducer and hose to his pump boom (12).

Then the action starts: Mark Pollard manages the hose (13) while crew members Ed Muennich and Chris Byron trowel the concrete flush with the ICF sill. There's a slight problem as the crew starts to pour the columns, however: On the first column, the custom parallelogram-shaped form blows out (14) from the pressure of the 8-foot column of wet concrete. After a brief delay while the crew hustles to reinforce the remaining column forms with more screws, the rest of the pour goes well.

Cunningham tops off a column form (15). Pollard trowels the top of a column to the premarked elevation line (16).



United States Environmental Protection Agency



Winter is the best time to test homes for radon, so now is the time to finalize your education and outreach efforts for January 2017 and beyond.

EPA makes community outreach easy by putting how-to kits and radon media products at your fingertips.

EPA Public Service Announcements
(EPAPSA.com)

Access and order your free radon resources:

EPA's National Radon Action Month Web pages are just a click away. Find these resources and more:

- National Radon Action Month PowerPoint Presentations
- National Radon Action Month Event Planning Kit
- Radon Graphics (includes new seasonal images)

January is the time to Test, Fix, Save a Life.



SUBFLOORING



A Basement Floor Without Concrete With the right prep work, a double layer of OSB might be better than a slab

BY STEVE DEMETRICK AND STEVE BACZEK

A couple of years ago, we (Steve Baczek, architect, and Steve Demetrick, builder) joined forces on Rhode Island's first certified Passive House. As successful as that affordable project was, we agreed that the best aspect of the project was the ongoing dialogue that started between the two of us. When we were recently asked to design and build another Passive House for a client, we began by questioning everything we did on the first project, from the foundation up—both successes and challenges.

“DO WE NEED THE SLAB?”

One of the first things we looked at was the basement-floor assembly, which in most Passive Houses is a heavily insulated,

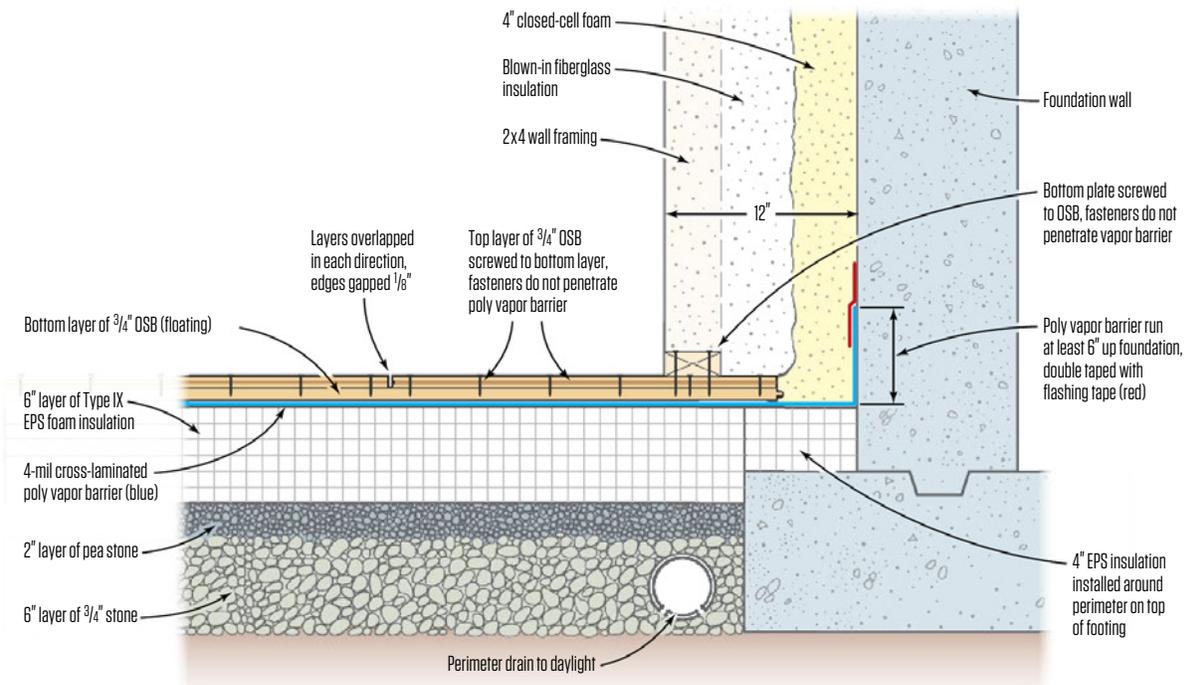
concrete-slab system. Typically, the slab is covered with carpet, laminated flooring, or tile. But this particular client wanted a hardwood floor in the finished basement, so the assembly below that floor needed closer scrutiny. With a concrete slab, there is usually some type of sleeper system that supports floor sheathing, and then the hardwood floor is installed on top of that. But we've seen these assemblies grow in section, which can restrict headroom in the basement, and all those built-up layers can equate to a lot of extra cost.

Hardwood floors are also very sensitive to moisture, and a concrete slab adds a tremendous amount of moisture that needs to dry off (a conservative estimate would be at least 500 gallons of water in the concrete for a 4-inch slab of this size). The fact that a Passive

Photos by Roe Osborn except where noted

A BASEMENT FLOOR WITHOUT CONCRETE

Floating OSB Floor



The basement of this extremely tight house was to be finished with a hardwood floor, so pouring a concrete slab posed many challenges, including the introduction of hundreds of gallons of water that would have to dry off as the concrete cured. Instead, the design team decided to put down two layers of OSB underlayment subflooring. The insulated base below the subfloor would be the same as for a slab, including a 4-mil cross-laminated polyethylene sheet that doubled as a moisture barrier and vapor barrier. The two overlapped layers of OSB would sit on top of the poly without being fastened to the structure below.

House is an extremely airtight structure would only complicate the drying process. In the face of all these challenges, we finally found ourselves asking, “Do we really need the slab?”

In the building industry, installing a basement slab is accepted as standard procedure. But in some projects, a slab can pose more challenges than benefits, especially in airtight homes. In fact, the only real advantage we could see was the thermal storage that a slab can provide. But a Passive House operates at such low heating and cooling loads that even that benefit would be negligible.

DESIGNING WITHOUT A SLAB

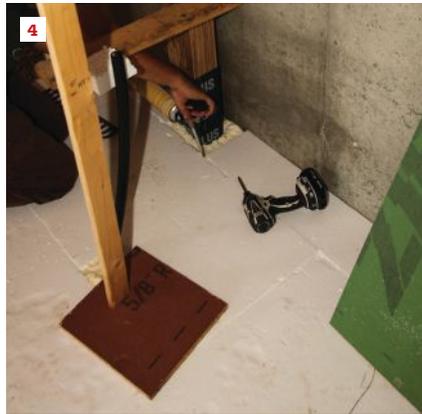
As our discussion continued, we speculated about what a basement floor system might look like if we eliminated the concrete slab. We realized that everything we would normally install below

a slab would be essentially the same (see Floating a Basement Floor, above). We’d need the same stone base and perimeter drain, and we would install the same Type IX EPS foam insulation, which would satisfy our thermal requirements. And with a compressive rating of 25 psi, the rigid insulation would offer plenty of support for the wood flooring and the basement partitions.

The most important detail that would carry over from a sub-slab installation was the polyethylene vapor barrier that’s installed over the insulation to control ground moisture and vapor movement. The polyethylene sheet would also provide the necessary air barrier for the building envelope.

For a subfloor, we decided on using two layers of 3/4-inch Advan-Tech OSB layered in a staggered pattern to ensure that joints would not align between the layers. Basically we would create a 1 1/2-inch

Illustration: Tim Healey



Installing the insulation. After compacting and raking the stone base perfectly flat, the crew put down 4-inch-thick insulation on top of the perimeter footing (1). To fit the sheets of insulation around the numerous plumbing pipes and support columns, their locations were plotted on the sheets and corresponding holes were cut out (2). The level of the insulation was checked using a story pole and a laser level (3). When all the insulation was in, low-expansion foam was injected in all the voids around the pipes and columns (4). Blocks of insulation that had been removed for installing the sheets were foamed in as well (5).

OSB “raft” that would float on top of the assembly and provide a structure for installing the hardwood floor.

STONE AND FOAM

We began by installing the perimeter drain and radon vent in a 6-inch-deep bed of 3/4-inch stone, all inside the concrete footing. Over this, we added a 2-inch layer of pea stone. The smaller stone was easier to rake and level out. After an initial raking, the stone was compacted and checked for the proper elevation using a preset laser level and a story pole with a wide base. The final level of the stone was 2 inches below the top of the footing.

The rigid EPS foam insulation came next, and we started by fitting the 4-inch pieces around the perimeter of the basement on top of the concrete footing (1). We filled in the field of the basement floor

with 6-inch EPS, staggering the ends of the 4-by-8-foot sheets to provide more uniform support for the layers of OSB.

There were two rows of columns in the basement that required some puzzle fitting of the EPS foam. We cut slots in the foam so that we could fit full sheets around the columns. We then cut rectangular plugs to fill in the slots, but left plenty of room to shoot in expanding foam. Straight cuts in the 6-inch foam (such as for the column slots) were done easily with a circular saw or reciprocating saw. For long rips, we cut the sheets on a table saw, flipping them to cut through from both sides. We made the rip cuts as precise as possible for tight joints between the sheets.

The finished basement would have two bathrooms, as well as a laundry room with a floor drain and a drain for the washing machine, so there were numerous plumbing pipes that we had to cut

A BASEMENT FLOOR WITHOUT CONCRETE



Polyethylene seals the system's base. Sheets of 4-mil polyethylene were stretched out on top of the insulation layer. The poly sheet is cross-laminated to be very resistant to puncture. The sheets were cut long enough to extend up the wall 6 inches at either end. After snapping a line on the foundation wall, the crew tacked the poly to the wall with small pieces of tape (6). The sheets were carefully smoothed out and cut for each plumbing pipe (7). A neoprene gasket with the appropriate size opening was fitted around each pipe (8) and taped to the surrounding sheet (9).

around for the installation of the EPS foam (2). One crew member worked ahead of the installers, taking measurements and plotting out the hole locations and sizes. Those coordinates were transferred to a sheet of foam and holes were cored out using the proper diameter hole saw. One of the tub-drain locations had not been finalized, so we simply cut out a large void (about 12 inches square) to be filled in later. One of the beauties of this system is that a hole like this can be easily filled and blended in with the rest of the system one layer at a time.

The holes were oversized slightly to provide room for the nozzle on the foam gun. The installers then fit the cored pieces into place. As each sheet of rigid insulation was installed, the elevation of the top of the foam was checked with the same laser level and story pole used before, with a second reference line for the foam (3).

Wherever there were spots where the top plane of a foam sheet didn't align with the rest of the floor, the crew lifted out the problem piece and tweaked the level of the pea stone below until the plane of the foam was perfect.

The final step to the foam layer was filling in any voids with low-expansion foam sealant (4). To provide better access for the foam gun at the columns, we removed the filler blocks. After sealing around the columns, we slipped the blocks back into place and sprayed foam in around them (5). To keep the expanding foam from lifting the blocks, we placed a wide scrap of OSB over each one and wedged a length of strapping against ceiling framing to hold the block in plane with the rest of the foam layer. After the expanding foam cured, we trimmed away the excess with a hand saw to complete the thermal layer of the assembly.



Taping the columns and seams. The bottom of each column had been wrapped with peel-and-stick membrane prior to the floor system being started. Once the poly was down, it was sealed to the columns using waterproof tape (10). The crew laid out the poly sheets so the seams broke near the lines of columns wherever possible; as they taped the seams, the crew carefully unrolled the tape with the backing split to keep the roll centered on the seam (11). Thoroughly rolling all the waterproof tape ensured maximum adhesion (12).

POLYETHYLENE ORIGAMI

The next step in the assembly process was installing the polyethylene air/vapor barrier. This is the most crucial part of the assembly, so we paid attention to making it as close to perfect as possible. We did a quick sweep of the EPS to check for debris or sharp objects that could puncture or wear through the polyethylene. We snapped guidelines 6 inches up the foundation walls and unrolled lengths of the sheets long enough to extend up the walls to our snapped lines. The poly we used is called Tu-Tuf by Sto-Cote. It's only 4 mil thick, but it is cross-laminated, making it very puncture resistant.

We stretched out the poly over the EPS foam and carefully tacked an edge to the line on one side with a piece of tape every few feet (6). Working from the snapped line ensured that the sheet would stay

straight and square to the room. After tacking the sheet to the line, we carefully pushed it down against the corner between the foundation and the perimeter insulation. We slowly and deliberately worked our way across each sheet, smoothing and stretching it flat as we went.

Once again we had to deal with the plumbing pipes. We located and carefully cut each plumbing penetration, one by one, so that the poly lay perfectly flat around each one (7). We fit each pipe with a neoprene flanged gasket sized for the pipe's diameter (8). We then taped the gasket to the polyethylene using 3-M All-Weather Flashing Tape (9). After taping each penetration, we went over the taped connection with a roller to ensure maximum adhesion.

We treated the structural posts much like the plumbing penetrations, minus the gasket (10). The base of each column had been

A BASEMENT FLOOR WITHOUT CONCRETE



The first layer of OSB goes in. When the poly sheet was completely installed and sealed, the crew snapped a line 54 inches from the back wall of the foundation (13). The first course of subfloor sheets was then set on the snapped line (14). Because the subsequent courses had to be driven together to engage the tongue-and-groove edges, solid backing was created by putting a 2x4 against the back of the first course and then screwing down scrap blocks that rested against the foundation (15). The rest of the courses then went in, with the crew measuring carefully to maintain proper spacing between sheets (16).

wrapped in Vycor, so after meticulously cutting the poly to fit around each column, we sealed the poly to the Vycor wrap with flashing tape. The flashing tape came with a split-paper backing, which facilitated installation at each column.

The polyethylene came in 9-foot widths, so we had to overlap successive pieces and tape those seams. We cut the strips of poly lengthwise so that the seams landed close to each line of columns. This minimized waste and made the cutting, fitting, and taping around the columns go much more quickly.

Taping the seam was a bit of an art form. The super-tacky tape had to unroll without wrinkles and with the center of the roll tracking over the seam. The quickest method was to split the backing over the seam while slowly unrolling the tape (11). After the tape was stuck down, the seams were properly rolled, again to provide the best adhesion (12).

FLOATING THE OSB FLOOR

Before installing the first layer of $\frac{3}{4}$ -inch AdvanTech, we snapped a chalk line 54 inches out from the back foundation wall (13). Then we cut the sheets for the first course and set them in place with the groove edge on the line (14).

Each sheet of AdvanTech is clearly labeled with the instruction that a $\frac{1}{8}$ -inch gap must be maintained along all edges, so we ripped a pile of $\frac{1}{8}$ -inch-thick strips to use as spacers between the end seams of the sheet. Maintaining the $\frac{1}{8}$ -inch gap along the sides requires the sheets to be driven together—albeit gently—to engage the T&G edges.

With the first layer “floating” and unattached to the layers below, we needed something to drive against. First we placed lengths of 2x4 in the gap between the edge of the sheets and the foundation. With the 2x4 touching the edge of the sheet, we



Second layer locks the sheets together. The second layer of subflooring was installed perpendicular to the first in a pattern that maintained double overlapping seams (17). This layer was screwed to the first with 1 1/4-inch screws that would not penetrate to the poly sheet below. Screws went in every 6 inches at the edges and every 12 inches in the field. When both layers were finished, the poly was secured to the wall with two rows of waterproof tape (18). Partitions for the finished basement were installed with the plates screwed to OSB subfloor below (19).

placed scraps of OSB against the foundation every couple of feet and screwed them to the 2x4 (15). That gave us a solid edge to drive against.

For each successive course, we staggered the end seams much like we do when framing a first-floor deck. The crew meticulously measured and adjusted each sheet to maintain the proper gaps and alignment (16). As with the previous layers, the sheets had to be cut to fit around the columns and the plumbing.

We ran the second layer of OSB perpendicular to the first layer and screwed it down with 1 1/4-inch screws. We positioned the sheets so they would overlap the seams on the first layer by at least 2 feet in both directions (17). When the second layer was completed, we went back and double-taped the polyethylene permanently to the foundation wall (18).

The floating OSB subfloor was completely solid with no give at

all, and the basement partition walls went in easily (19). We screwed the plates to the OSB with fasteners that would not penetrate through to the polyethylene barrier. All in all, the installation went pretty much as planned with no unforeseen challenges, and we came away assured that this type of basement-floor system would make sense for any kind of energy-conscious building. It was also cost-effective. Installing the AdvanTech cost a little more than pouring a slab, but was much less expensive than prepping for a finished hardwood floor over concrete.

Steve Baczek, of Reading, Mass., is an architect specializing in energy-efficient design and certified passive homes. stevenbaczekarchitect.com

Steve Demetrick is a residential builder and remodeling contractor in Wakefield, R.I.

Photos 18 and 19 by Steve Demetrick

Our Healthy State

Connecticut Ranked 3rd Healthiest State in the Nation by the United Health Foundation

Governor Dannel Malloy, Lt. Governor Nancy Wyman and the State Department of Public Health (DPH) Commissioner Dr. Raul Pino today hailed United Health Foundation's 2016 America's Health Rankings, which show that Connecticut is the 3rd healthiest state in the nation, behind only Hawaii and Massachusetts. Last year, Connecticut was ranked 6th.

The rankings are based on a comprehensive health assessment of each state including behaviors, community and environment, public and health policies, and clinical care.

"This is yet another example of why Connecticut is such a great place to live, work, and raise a family. We're one of the healthiest states in the nation, we have one of the most educated workforces, and so much more," said Governor Malloy. "This report is a reflection of the concerted efforts by Lt. Governor Nancy Wyman, our Department of Public Health and their partners to continuously improve outcomes for all Connecticut residents. While our state is leading on many important indicators, Connecticut is not immune to the opioid epidemic facing the nation. That's why we must continue to be steadfast in our work to prevent prescription drug misuse and combat this crisis."

"From establishing one of the nation's most successful healthcare marketplaces to our ongoing work to expand care and address disparities in treatment and outcomes, and reduce cost, Connecticut is making strong progress on healthcare. Just as importantly, we are positioning the state to continue making gains," said Lt. Governor Nancy Wyman. "I applaud Governor Malloy, Commissioner Pino, and the Connecticut Department of Public Health team for their commitment to a healthier state, a stronger workforce, and our continued leadership on healthcare."

The report highlighted Connecticut's highest-in-the-nation childhood immunization rates, low prevalence of smoking, and low incidences of infectious disease as reasons for the state's high ranking. However, the report also noted several challenges still being faced by the state including high levels of air pollution, high levels of excessive drinking and large health disparities based on educational attainment.

"I am extremely proud of the work done by the Department, along with our partners in local health and other organizations, which contributed to this ranking," said Commissioner Pino. "The report also shows that we have room for growth and improvement, particularly in the area of health equity. Our focus at DPH will continue to be working to address health disparities, which affect people throughout the state regardless of where they live. We are working to reduce high rates of cardiovascular disease, diabetes, asthma and other chronic diseases that are driving up our healthcare costs, largely due to expensive, preventable hospital visits and hospital readmissions."

According to United Health Foundation, nationally the United States continues to see lower rates of smoking, preventable hospital visits, and numbers of uninsured. The report also noted several national health challenges facing the country including higher rates of cardiovascular disease and drug deaths and a high prevalence of obesity.

To view the full report click [here](#).

Snow Removal and Winter Safety Tips



No matter what method you choose, snow removal can take its toll on you and your body. It's an annual chore for most of us that leaves us working out in the cold. Due to the amount of physical activity involved with snow removal, it's important to consider the health risks involved before starting. With these snow removal safety tips, it won't matter if you're shoveling, using a snowblower or pushing that snow with a plow—you'll know how to handle each task with safety in mind.

General Snow Removal Safety Tips



Some snow removal safety tips apply no matter how you're tackling the task. These are good to keep in mind any time you're out clearing snow.

- **Check with your doctor** - If your method of snow removal is snowblowing or shoveling, this is especially important. These two methods put a lot of strain on your heart and you should always check with a healthcare professional before engaging in these activities. If you don't exercise regularly or if you have existing medical conditions, it could be beneficial to consider hiring someone else to perform your snow removal. There's always a neighbor kid who's looking to shovel and make a few extra bucks.



- **Dress Appropriately** - Snow removal brings us out into the elements to work. It's important to dress for the weather that you'll be working in. We recommend light, layered, water-repellent clothing. This type of attire will help provide insulation, as well as allow your body heat to ventilate and avoid excessive sweating.



Don't forget your hat and gloves! It's important to remember to keep your hands and feet warm while outside in the cold weather. Wearing appropriate gloves, warm socks and a warm hat that covers your ears will help you protect your hands, feet and head from the dangers of being in cold temperatures for extended periods of time.

It's also important to make sure you have the appropriate footwear on. Choosing a pair of boots with slip resistant soles is recommended to provide you with additional footing on icy surfaces. You should also be sure to wear warm insulated socks to protect your feet from the cold weather.

- **Start Early** - It's best to start your snow removal early and perform it more frequently. This way you're moving a light covering of snow each time instead of trying to move heavy, compacted snow.
- **Clear Vision** - It's important to be able to clearly see the area where you're removing snow from. Make sure your hat or scarf (if applicable) isn't blocking your view. Watch for any hidden patches of ice or uneven surfaces.



Safety Tips for Shoveling Snow



Using our general snow removal safety tips is a great start for this activity but there are other tips to help prevent injuries specific to shoveling snow. Shoveling snow is a physically demanding activity performed in extreme weather. For this reason it's important to make sure you keep these tips in mind to help you avoid injury while shoveling.

- **Warm-up your muscles** - Shoveling can be a physically demanding activity. Muscle strains and sprains are the most common injuries associated with snow removal. We recommend warming up your muscles for around 10 minutes with light exercise to help avoid any muscle strains or any sprains.

- **Pace Yourself** - This is one of the more important things to consider while shoveling snow, especially if you don't exercise regularly. Shoveling snow and snowblowing are both aerobic activities. It's important to take frequent breaks and to be proactive about preventing dehydration by drinking plenty of fluids. If you experience any chest pain, shortness of breath, or any other signs of a heart attack, stop the activity and seek emergency care immediately.
- **Proper Equipment** - Make sure the shovel you're using is comfortable to use for your height and strength. Don't use a shovel that is too heavy or long for you. This will increase the effort needed to remove the snow from your driveway. Make sure your hands are properly spaced on the shovel's grip, as this will increase your leverage while shoveling.
- **Proper Lifting** - When shoveling, try to push the snow instead of lifting it. This will help put less strain on your body. If you must lift to shovel the area you're clearing, make sure you do it properly. Squat with your legs apart and knees bent to provide a more stable stance. Make sure you're lifting with your legs. Do not bend at the waist; this will put too much strain on your back. Make sure you're scooping small amounts of snow and walking each scoop to where you want to dump it. Don't go overboard; holding a shovel-full of snow in front of you with your arms extended will put too much weight on your spine. That's why it's important to make sure you don't attempt to remove deep snow all at once, make sure you do it in smaller more manageable pieces.
- **Safe Technique** - Don't throw snow over your shoulder or off to the side. Doing this causes you to move in a twisting motion. This twisting motion and the additional weight of the snow in the shovel create too much stress on your back and can cause injury.



Tips for Snowblowing



Some of the most common injuries associated with using a snowblower are lacerations and amputations of fingers. Making sure you're following our general snow removal safety tips is a great head start on snowblower safety. These additional tips specific to snowblower operation will help keep you and those around you safe while you operate your snowblower.

- **Preventative Cleaning** - Before snow gets too deep, inspect any areas where you plan on using your snowblower. Remove any doormats, sleds, boards, wires, news papers, and anything else that can get buried and potentially clog and damage your snowblower.
- **Never Stick Your Hands in a Snowblower!** - If your snowblower jams up, stop the engine and wait at least 10 seconds. Be sure to keep your hands and feet clear of all moving parts. Use a solid object to clear any compacted wet snow or debris from the chute. Never use your hands or feet to clear a clog, jammed augers and impellers can be under enough belt tension to cause serious injury to hands and feet. Be extra cautious and aware of the recoil of the motor and blades after the blower has been turned off.

- **Protect Your hearing** - Make sure you wear ear plugs while operating your snowblower. This is important for people using gas-powered machines, as these typically run above 85 decibels, which is the point at which hearing damage can begin to occur.



- **Proper Supervision** - Snowblowers use either a metal auger or other arrangement of paddles to break down, collect and throw snow. This auger or these paddles get moving with a lot of speed and force. It's important to make sure anytime you're using a snowblower that you never leave it unattended. It's also important to be aware of where your chute is throwing snow. Ice or other hidden objects can be grabbed and thrown by the snowblower, so never direct your snow discharge towards people.

- **Safe Fueling** - Like any other outdoor power equipment with a gas engine, never refuel it while the engine is running or hot. This can ignite the gas or fumes and cause serious injury. It's also important to never operate the machine in an enclosed area. Don't start your snowblower inside a garage, shed or any other enclosed area as this can increase the risk of carbon monoxide poisoning—even if the door is open.

- **Avoid the engine** - Take care to avoid touching the engine with any exposed or bare skin, as it can get hot enough to burn flesh.

- **Watch the Snowblower Power Cord** - When using an electric snowblower, make sure you're always conscious of where the power cord is at all times.



- **No tampering** - If safety devices, shields or guards on switches are present, then never tamper with or remove them.

- **Keep Children Away** - Never let children under the age of 15 operate a snowblower unattended. It's recommended to keep children under the age of 15 away while snowblowers are in use.

- **Know Your Machine** - Make sure you've read and understand your snowblowers instruction manual before using the machine. It's important to be familiar with specific safety hazards and unfamiliar features of your snowblower. Never attempt to repair or perform any maintenance on your snowblower without reading your instruction manual.

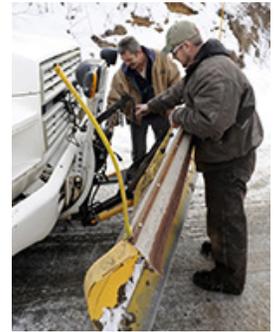
Tips for Snow Plow Safety



When considering snow plow safety, it doesn't only apply to the snow plow operators. As a fellow driver on the road or as a kid having fun in the snow, it's important to be aware of the risks posed by snow plow snow removal.

Snow Plow Safety Tips for Operators

- **Make sure you're well rested** - Make sure you're well rested before your shift. Most plowing shifts are done at night or the early hours of the morning. It's important to make sure you're well rested and attentive while plowing.
- **Dress Appropriately** - As a snow plow operator, it's important to make sure you're wearing appropriate clothing. Make sure to dress in layers because doing so will help you stay comfortable in the truck cab and will provide you with the additional insulation needed for when you step outside of your vehicle.
- **Inspect vehicle and plow before plowing** - Before you head out to plow, make sure to inspect your vehicle and equipment. Make sure your defroster and windshield wipers are functioning and that you have a pack of road flares in case of an emergency breakdown. We recommend keeping an emergency plow repair kit easily accessible while on the road. These will have common replacement parts that may help you get back up and running in a pinch.
- **Transportation** - When transporting your plow between job sites, make sure you angle it to the right. Doing so will help you avoid making contact with snow banks that have built up along the side the road. Allowing your plow to make contact with a snow bank while driving can pull your vehicle into it. Never operate your plow while transporting it between jobs. We recommend turning off your plows controller to ensure that you don't accidentally engage the plow while driving between work sites. Make sure your plow sits at a safe height while transporting. You want to ensure that it doesn't impede your vision or your plow lights.
- **Take it slow!** - All plow operators must adhere to all local traffic regulations. With this in mind, it's important not to exceed 40 mph while transporting your plow, even if the speed limit allows for it. Slowing down periodically while transporting your plow or while clearing the street is a good idea to help avoid traffic problems in hazardous weather. While actively plowing, make sure to not exceed 14 mph.
- **Watch for overheating** - Check your vehicles temperature gauge frequently while transporting your plow. Overheating the engine can lead to costly repairs and down time during the snow season. If you notice your vehicle starting to have continual issues with overheating, make sure you stop and try to correct the problem. If you notice your vehicle start over heating while transporting your plow, you should stop and adjust your plow to allow for better air flow to your vehicle's radiator.
- **Mark your turf** - Before the snow, take a look at the areas you'll be plowing. Keep an eye out for any obstacles that will be easily hidden in snow cover. Typical objects to watch for would include: bumper stops or speed bumps, curbs, sidewalk edges, shrubs, water drains, fire hydrants, fences and pipes that stick out from the ground. After finding all obstacles in the area you're plowing mark anything that looks easily covered by snowfall with driveway markers



- **Always look twice** - Most snow plow operators find reversing to be a regular part of snow removal. Never rely on just the mirrors, always turn and look in the direction you're driving. Some plow operators enjoy the extra visibility provided by rear observation systems. These are no replacement to actually looking where you're going, but these systems offer better visibility where your mirrors fail.
- **Know your surfaces** - Being aware of the surface that you're plowing is very important. If you're plowing on dirt or gravel, you'll want to lower the plow shoes. This will help keep your plows cutting edge raised enough off the ground to not scrape away the surface material. If you're plowing asphalt or concrete, raise or remove your plow shoes to help your plow scrape as close to the surface as possible.
- **Take Breaks** - Driving in the snow for hours on end will eventually lead to driver fatigue and the white background of the snow covered landscape can begin to have a hypnotic and disorienting effect over time. Periodically stop and exit the cab and walk around. This is a good opportunity to get some fresh air, salt any walkways and to stretch. Doing this regularly will help combat driver fatigue caused by extensive driving in the snow, keeping you more attentive and alert.
- **Rest the hydraulics** - When you've finished plowing for the day and have returned home, make sure you lower your plow to rest it on the ground and turn off the plow control. This is not just for safety but also to remove stress from your hydraulic components while they're not in use. If you're planning on not using your plow for an extended period of time it's recommended to un-mount it until you're ready to plow again.

Snow Plow Safety Tips for Passenger Vehicles and Other Drivers

- **Slow Down** - Snow plows typically travel at a slower speed than most traffic, especially while plowing. Make sure you slow down when you see a plow truck in front of you.
- **Be Alert** - Snow plow operators have to stop more frequently to ensure that their lights are free of snow and ice buildup and are clearly visible. Make sure to leave additional space between your vehicle and the snow plow ahead of you to allow for more frequent unexpected stops. Watch for strobe lights in the street and on the side of the road. Whether a snow plow operator is clearing the streets or clearing a driveway, they should always have their strobe lights on.
- **Turn your lights on** - If you're on the road with snow plow operators there's a good chance it's because it's currently snowing—and possibly snowing pretty heavily. In these conditions, visibility is reduced. Turning on your headlights is important to make yourself visible on the road to snow plow operators as well as other drivers, even during daylight hours.
- **Pass on the left** - When passing snow plow operators it's important to remember to always pass on the left. When snow plows are in use the angle of the plow deposits all the snow and any debris picked up by the plow on the right hand side of the vehicle. If you can't pass the plow on its left hand side it's recommended not to pass it.



- **Keep your distance** - When snow plows are in operation, they can create a cloud of snow behind them that will reduce visibility. Maintaining a safe driving distance behind any snow plow will help you avoid this.

Snow Plow Safety Tips for Children

- **Keep a safe distance away from the street** - Snow plow trucks are very large and require a longer distance to slow down and stop than most vehicles do. It can also be difficult to hear these trucks or any other vehicles approaching when enough snow has accumulated. Make sure you're far enough away from the street to safely perform any activity. When sledding, make sure there isn't a street at the bottom of your sledding hill. Playing in snow piles and building snow forts are always fun, but make sure you don't do these activities near a road as they will make you difficult to see to drivers and snow plow operators.



Snow removal is an annual task for many of us and can be very physically demanding. Whether you choose to shovel, snowblow or plow this year, make sure you dress appropriately, stay warm and follow these tips to make sure you stay safe out there this winter.



BY CHARLIE WARDELL



1. Flooring for Concrete Slabs

Matéflex modular flooring has added a strip-flooring option to its line of vinyl floor tiles. The 4-by-36-by-1/2 inch PlankFlex planks are designed to look like wood flooring and have interlocking modular bases that snap together. One big selling point is that the planks can be installed over concrete—whether in a finished basement or a slab-on-grade home—without a subfloor. They come in five colors—oak, ash, cherry, chestnut, and gray—and cost \$5.95 per plank. mateflex.com



2. Affordable Fiberglass Gutters

The Fiberglass Gutter Co.'s pultruded Fiberglass Gutters look just like traditional wood, but are easier to install and don't rot. And now, thanks to a new manufacturing process, the company has halved the product's cost, from \$30 to \$15 per lineal foot. The gutters are made to mimic 4x5 and 4x6 wood gutters in 27.5- and 40-foot lengths, and require almost no maintenance (aside from typical cleaning of leaves and debris). They're white but can be coated with any latex paint. fiberglassutter.com



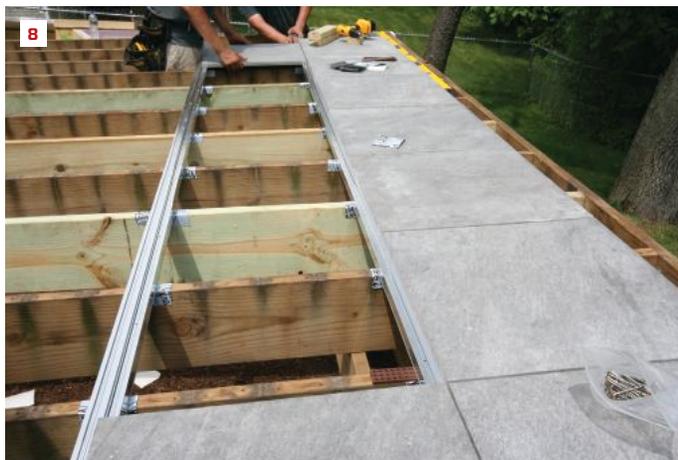
3. Powerful Water Miser

Kohler's water-conserving single-flush Highline 1.0-gpf toilet combines the force of gravity with a precision-engineered tank, bowl, and trapway to create a powerful siphon during the flush while still conserving water. It exceeds the requirements for MaP Premium, the most stringent industry standard for high-performance toilets. Kohler says that the Highline will remove more than 2 pounds of waste per flush—four times that needed by the average person. List price for the model shown is \$390. kohler.com



6. No-Squeak Floors

AdvanTech's Subfloor Adhesive is a foam-to-gel polyurethane adhesive that expands to fill minor gaps, reducing the likelihood of squeaks. When the adhesive is used with engineered joists and AdvanTech subfloor panels, the company offers a 10-year squeak-free guarantee on the panel-to-joist connection. The manufacturer also says that the adhesive is formulated to stick to wet and frozen lumber. The foam has a 20-minute open time. It retails for around \$20 per can. huberwood.com



8. Engineered Tile Decking

You won't need a tile setter with the Mbrico Tile Deck System for exterior decks. Aluminum tracks are screwed to the framing, and notched porcelain tiles slide into place between them. Fiberglass plates epoxied to the tiles' undersides raise their breaking strength to 4,000 psf. The company says that the tiles have non-slip surfaces, are harder than granite, have a moisture absorption rate of less than .05%, and won't freeze, thaw, or stain. They're also self-gapping, which creates drain slots where you would normally see grout. Costs range from \$25 to \$27 per square foot. mbricotiledecks.com

What to Do if Identity Theft Happens to You

If you learn that your identity has been stolen:

- First, report the crime to your local police immediately and ask them to issue a police report about the theft. Local law enforcement must accept the complaint, prepare a police report, give the victim a copy of the report, investigate the allegation and any other related violations and where necessary, coordinate investigations with other law enforcement agencies. Keep a copy of your police report to share with your creditors. It may help in your dealings with the credit bureaus.
- Keep all documentation, and log all telephone calls you make regarding the theft.
- Contact the fraud department of one of the three major credit bureaus -- Equifax, TransUnion or Experian -- and ask them to flag your file with a fraud alert and to include a statement that creditors should get your permission before opening any new accounts in your name. The credit bureau that you notify will notify the other two bureaus.

Fraud departments of the credit reporting companies:

- **Equifax 1-800-525-6285**
 - **Experian 1-888-397-3742**
 - **Transunion 1-800-680-7289**
- Check your credit report carefully and look for items that you do not recognize. Verify your name, address and social security number on the report.
 - After thoroughly reviewing your credit report and documenting incorrect information:
 - Contact your creditors, your bank, your utilities and all service companies and let them know that your identity has been stolen.
 - Contact the Internal Revenue Service if you suspect the improper use of your identification information in connection with tax violations.
 - Contact the Post Office to find out if anyone has submitted change of address forms on your behalf.
 - Contact the Federal Trade Commission to report the theft at 1-877 438-4338, or online at www.consumer.gov. Although the FTC does not resolve individual consumer problems, your complaint helps the FTC investigate fraud and can lead to law enforcement action.

Click for More Information:

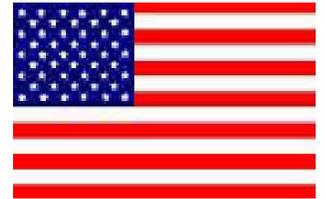
- [How You Can Safeguard Your Identity](#)
- [How to Find Out if You're an ID Theft Victim](#)
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		Please thank them for their service when you have a chance.		

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