In this issue of the Environmental Health and Safety (EHS) Listserv – November 5, 2025

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1. Have You Seen the Green Infrastructure Map?

EHS is pleased to share the University of Nebraska-Lincoln (UNL) Stormwater Green Infrastructure GIS Story Map on the Environmental Health and Safety website. To view the story maps, navigate to https://ehs.unl.edu/resources/stormwater-management/ and scroll down to the heading "Stormwater Infrastructure Maps." Review individual maps by clicking on the map. Each GIS Story Map details the location features, and relevant images of each stormwater control.

The most common Post-Construction Stormwater Controls at UNL are bioretention basins, permeable pavers, rain gardens, sub surface detention, and green roofs. The list of stormwater structures is expected to grow as we design, remodel, and construct new buildings at UNL. Each system is designed to minimize flooding and improve water quality.

If you see that one of these systems becomes compromised, please alert the EHS department by filling out the Stormwater Pollution Reporter form, email stormwater@unl.edu or call the EHS office (402.472.4925) and ask for the Stormwater Program manager.

Resources

- Stormwater Management – Stormwater Management at UNL | Environmental Health & Safety | Nebraska
- Post-Construction Stormwater Controls Story Map - Post-Construction Stormwater Controls
- Stormwater Pollution Reporter Form – Stormwater Pollution Reporting Form | Environmental Health & Safety | Nebraska

2. Prepare for a Safe Winter Season

Tips to avoid injury incidents when walking and working or otherwise being outdoors in snowy/icy/cold conditions are the focus of this article. Let's begin by reviewing suggestions for "walking." Walking around campus or from your vehicle/bus to your workplace during the winter can be hazardous. Every winter, slip/trip/fall injuries at UNL attributed to snow and ice account for approximately 3% of the overall number of injuries. That may not sound like much…until YOU are one of the injured.

Winter Walking. Just like winter driving, winter walking requires anticipation. Think "defensive walking." Follow these guidelines to help avoid injury:

- Use **appropriate footwear** for the surface/conditions. Avoid slick-soled shoes. Wear boots/shoes/overshoes with grip soles such as rubber or neoprene composite.

- Plan ahead to give yourself **sufficient time** to reach your destination.

- Plan your route and **watch where you walk**. Avoid routes that have not been cleared or appear glazed over.

- **Avoid carrying** large/heavy/awkward-shaped objects that can obstruct your view or affect your balance or center of gravity. Consider a backpack instead or use of a cart.

- Use special care in **parking lots**. Try to park in areas free of ice. When entering/exiting your vehicle, use your vehicle for support.

- Think about the **walking surfaces** whenever you move about campus, especially following sunny days. Some areas previously cleared may have partially thawed and refrozen, especially near the edges, leaving a glaze of ice.

- Use caution when **entering a building** as any snow left on your footwear will thaw with the building heat. Notice if the floor is wet from previous entrants. Avoid such indoor wet areas and if they cannot be avoided, traverse them the same as you would walk on ice. Contact Custodial Services to inquire about equipping areas prone to track-in with walk-off mats.

- **Pay complete attention** to your walking. Don't talk on the phone or text, search for items in your purse/briefcase, get distracted by

greetings/conversation, think ahead to events of the upcoming day, etc.

- Always use **"defensive walking"** techniques. Watch for hazards like black ice.

If you must walk on slippery surfaces:

- Take short steps or shuffle your feet. Walk slowly so you can react quickly to a change in traction.

- Bend slightly as you walk to keep your center of gravity over your feet. Curl your toes under and walk as "flat-footed" as possible.

- Test potentially slick areas by tapping your foot on them before proceeding.

- Avoid uneven areas and stepping up/down onto icy areas such as from curbs.

- Keep your hands out of your pockets. Use your arms for balance. Imagine you are going to "walk like a penguin."

Winter Outdoor Safety. Next, let's look at safety outdoors in the elements. There are a number of hazards associated with working outside in cold weather. Be aware of potential hazards, their warning signs, and how to avoid the hazard.

- **Hypothermia.** In cold weather, your body may lose heat faster than it is produced. Prolonged exposure will eventually use up all your body's stored energy, resulting in an abnormally low body temperature. If low body temperature affects your brain, you may not be able to think clearly or realize you are in trouble. Warning signs include shivering, fatigue, and loss of coordination.

- **Frostbite.** Frostbite is an injury caused by freezing, characterized by reduced blood flow, leading to lack of feeling and color in the affected body parts. Most often the body parts affected are nose, fingers, toes, ears, cheeks, or chin. Warning signs include numbness, aching, tingling or stinging, bluish or pale skin, and skin that feels unusually firm or waxy.

- **Chilblains.** Repeatedly exposing skin to cold temperatures can cause permanent damage to groups of small blood vessels in the skin, characterized by redness and itching that return with subsequent exposures. Body parts most often affected are cheeks,

ears, fingers, and toes. Warning signs include redness, itching, blistering/ulcers, and inflammation.

Prevention is always the best policy to avoid cold stress or injury. Here are some precautions workers should take if they must work in extreme cold:

- **Wear appropriate clothing**. Clothing layered and not too tight, provides insulation yet allows good blood circulation. Wear footwear designed for cold, wet conditions.

- **Cover your head** to reduce body heat loss. Protect ears, face, hands, and feet.

- **Try to schedule work** for the warmest/driest/least windy part of the day. Take regular breaks in a warm, dry, and protected area. Limit the total amount of time outside during extremely cold weather.

- **Do not touch** cold metal surfaces with bare skin.

- **Stay hydrated** by drinking plenty of fluids, especially warm fluids. Avoid drinks with sugar and/or caffeine.

- **Avoid exhaustion or fatigue** because energy is necessary to keep muscles warm.

- **Be aware that certain medications you are taking might make you more susceptible** to cold stress. Certain medical conditions also increase your risk: diabetes, high blood pressure, or cardiovascular disease.

- **Monitor your physical condition** and that of your co-workers. You may not be aware of warning signs that a co-worker would be able to observe.

- **Monitor weather.** A National Weather Service Wind Chill Chart will help you evaluate temperature/wind combinations to enable you to work more safely outdoors when the weather is cold.

Other wintertime hazards, often related to snow cleanup, but also applicable in other outdoor work situations are:

- Lacerations or amputations from improperly attempting to clear jams in snow removal equipment. Make certain all powered equipment is properly guarded, isolated from power sources, and all parts have

stopped moving before performing maintenance or attempting to clear a jam.

- Strains and sprains from the prolonged or improper use of shovels or other snow removal equipment. Keep in mind body movement and positioning. Avoid overexertion.

Resources

- EHS Safe Operating Procedure **Cold Stress** https://go.unl.edu/coldstress_sop
- National Weather Service (NWS) Wind Chill Chart https://www.weather.gov/safety/cold-wind-chill-chart
- OSHA. "*Cold Stress Quick Card: Protecting Workers from Cold Stress* https://www.osha.gov/Publications/OSHA3156.pdf
- OSHA "Winter Weather: Plan. Equip. Train." https://www.osha.gov/dts/weather/winter_weather/hazards_precautions.html
- Centers for Disease Control & Prevention (CDC). "*Working in the Cold*." https://www.cdc.gov/niosh/cold-stress/about/?CDC_AAref_Val=https://www.cdc.gov/niosh/topics/coldstress/

3. Safely Walking in Winter Conditions

Every year there are several slip, trip and fall injury incidents at UNL related to walking in winter conditions. According to the National Safety Council, more than 25,000 slips, trips, and falls happen every day in the United States – one every 17 minutes. Winter poses a unique challenge for preventing slips, trips, and falls. Areas to pay special attention to are:

- Building entrances, inside and out
- Parking lots
- Sidewalks

We think of snow and ice as being a potential slip/trip/fall hazards, but frost or even rain can lead to slippery conditions. Start a hazard mitigation strategy by evaluating any uneven area or hard-to-see curbs or steps. Check illumination in parking lots and on sidewalks since days are shorter. Being able to see well is important for navigating areas prone to ice. Sufficient number and size of walk-off mats should be installed inside building entrances to reduce tracked-in water/snow and debris.

Removing snow and ice from all exterior walking areas helps avoid potentially hazardous situations. Notice where water tends to puddle up or snow tends to drift and take steps to avoid these areas. Remember loading docks where workers and perhaps carts need to traverse. Staircases outdoors should be visible with reflective tape to mark hard-to-see surfaces and ideally have an anti-slip tread or strip.

Complete a safety walk around your facility and parking lot weekly or in adverse weather to minimize the chance of an injury slip, trip or fall. Note any changes since the last inspection such as seasonal changes, spills or stray objects that have appeared and might interfere with the walking surface. Note the tips provided in the SAFE Winter Walking posters available through EHS.

Finally, prepare yourself:

- Wear proper footwear, ideally with good rubber tread.
- Take short steps and walk at a slower pace.

Order and post these three EHS safety posters to share safe winter walking safety tips with others in your area! Requests may be made by phone (402.472.4925) or email (ehs@unl.edu). Posters may be picked up at the EHS office or delivered via campus mail. To use campus mail please provide your name, building, room number and zip code including the 4 numbers after the dash. These posters are also available in electronic format for display on digital signage.

Resources

- Really Obvious: On Ice
  https://www.youtube.com/watch?v=5Gv6QNZytF8&list=PLh0k4GzppsqEyNcNx-fxPRIdpC-hERTQH&index=17
- OSHA Preventing Slips on Snow and Ice
  https://www.osha.gov/winter-weather/hazards#walking
- Safe Winter Walking (EMC Insurance, 2:09 minutes)
  https://www.youtube.com/watch?v=UzuwagOimck
- Ice on the ground? Walk like a penguin to prevent falls and injury (AHSChannel, duration 1:37)
  https://www.youtube.com/watch?v=LHaWGibGwyk

4. Safety Shorts – Winter Driving

The following videos provide tips on various aspects of winter driving.

- Winter Driving Safety (Alish Frederick, duration 4:08)
  https://www.youtube.com/watch?v=WUUivvqxFvs

- Tips for Safe Winter Driving (AAA, duration 1:40 min)
  https://www.youtube.com/watch?v=m5LkTkW3TDY

NOTE: These resources are provided for informational purposes only. Publication does not endorse a particular company or product or affect current University of Nebraska-Lincoln policies and procedures.

5. Biological Safety Cabinet Identification & Use

Biological Safety Cabinets (BSCs) rely on controlled airflow to protect both the user and the research materials. BSCs are certified annually by a contractor to ensure that they function as designed. Building occupants are notified when BSCs in their area are scheduled for certification. Users must ensure that their BSCs are empty and have been decontaminated in preparation for certification.

During normal use only items essential to the current procedure should be placed inside the cabinet. This practice helps prevent cross-contamination, maintains proper airflow and supports an efficient work environment. Once a work session is completed, all items must be chemically disinfected with appropriate contact time and all items removed from the BSC. The interior surfaces, including the work area and side panels, should be thoroughly

disinfected after each use. These steps help preserve the safety and integrity of the workspace for both current and future users.

Resources

- EHS Safe Operating Procedure **Working in a Biological Safey Cabinet (BSC)** https://go.unl.edu/sop_workinbiosafetycabinet
- EHS Safe Operating Procedure **Biological Safety Cabinet Classification and Design** https://go.unl.edu/sop_biosafetycabinetdesign

6. Updated Safe Operating Procedures

Be sure to review any of the following SOPs relevant to your work.

- **Use and Storage of Peroxide-Forming Chemicals**
  https://go.unl.edu/peroxideformers_sop
  Added additional precautions and instructions for testing frequency and storage of peroxidizable compounds.

- **Personal Protective Equipment (PPE) - Hand**
  https://go.unl.edu/ppehand_sop
  Added information relative to ANSI/ISEA 105 classification of certain glove hand protection and markings, including chemical protection and cut, puncture, and abrasion resistance.

Do You "Think" Safety? – DON'T LEARN BY ACCIDENT!

Environmental Health and Safety
University of Nebraska-Lincoln
3630 East Campus Loop
Lincoln, NE 68583-0824
402.472.4925
https://ehs.unl.edu

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