

DBM was very pleased to be recognized and awarded for over 25 years of membership at the Consulting Engineers Council of Minnesota (CEC/M) 50th anniversary celebration in October.



The CEC/M is dedicated to improving the quality of consulting engineering and represents over 150 engineering firms statewide.

New DBM Home Page

Please visit our new Home Page at **www.DBM-INC.com**. In addition to information on our past projects, capable staff and some DBM history,



we have also posted the popular "Frost Heave and Exterior Door Stoops" article from our Summer 1999 newsletter.

You can send us e-mail at this address: Info@DBM-INC.com.

Wedding Bells

We are happy to announce that Siobhan Cahill, P.E. was married to Don Dvergsten of Minneapolis this summer at the Basilica of St. Mary in Minneapolis, MN. Her new name is Siobhan Cahill Dvergsten, P.E. Siobhan's direct line is 612-544-8457 extension 13.

Preventing Wet Basements

Basements are relatively inexpensive space in the northern states, primarily because the footings have to be down to frost depth anyway. However, keeping them dry can be a challenge and, if unsuccessful, render them inadequate for any practical use. Because the structure is either partially or fully underground, you basically get one chance to waterproof it right and that's the first time. There are remedial solutions for existing wet basements but they are expensive and very disruptive, particularly if the space is finished. Probably the most important element of a dry basement is walls designed and reinforced for lateral earth pressure and random shrinkage or thermal-related cracks.

The most important element of a dry basement is walls designed and reinforced for lateral earth pressure and random shrinkage or thermal-related cracks.

To help reduce the risk of water infiltration, consider these suggestions:

- Waterproof the walls (dampproofing is usually not enough).
- Four inch diameter perimeter drain tile, wrapped in fabric, buried in pea rock and sloped to a sump pit or daylighted away from the structure.
- Backfill the walls with granular free draining backfill capped with a foot or two of impervious soil such as clay, with the exterior grade sloped away from the building.
- Long downspout extensions to deposit roof water away from the foundation.
- Proper site grading.

If you do miss on your first try and end up with a wet basement, there are "French Drain" (drain tile around the inside of the perimeter footing) and possibly other interior solutions, but consult an engineer first to assure the structural systems are not compromised during installation.

Additional States

DBM is pleased to announce we have added Tennessee and Kentucky to the 21 other states in which we are licensed to practice. Here's the list:



- | | | |
|----------|--------------|--------------|
| Arizona | Michigan | Pennsylvania |
| Arkansas | Minnesota | South Dakota |
| Florida | Missouri | Tennessee |
| Georgia | Montana | Texas |
| Illinois | Nebraska | Utah |
| Indiana | North Dakota | Washington |
| Iowa | Ohio | Wisconsin |
| Kentucky | Oregon | |

DBM Projects

These are some of our projects that are in design or under construction:

- .. \$30,000,000 public school in Wisconsin
- .. Golf clubhouse in Seattle, Washington
- .. Multifamily and assisted living apartments in various states
- .. Retail store in Ohio
- .. Wayzata and Minnetonka Office Buildings



DBM is very happy to welcome Nyssa Nytes, Office Administrator to our staff. Formerly with Tandem Staffing and Aries Precision, Nyssa has over 5 years of office administration experience. She also took her senior year of high school at Dunwoody Institute for Electrical Construction and Maintenance.

CAD Corner

By Dale Urevig, CAD Operator

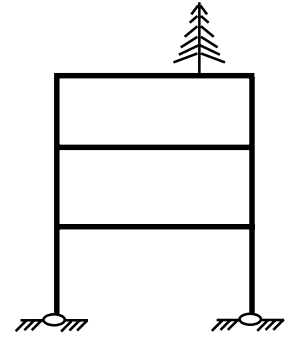
To prevent the common problem of accidentally rearranging the toolbars, use R14 Lock Toolbar. It is a utility which "locks" AutoCAD Release 14 toolbars in position (LOCKTB.ZIP). To force the AutoCAD window title bar to show the full path of the current drawings, use R14 FullPath (FULLPATH.ZIP).

To load automatically when AutoCAD is started, add a line to your acad.rx file containing the path and filenames LockTB14.arx & Fpath14.arx.

Find the above files at Freebies for AutoCAD® from ManuSoft at www.manusoft.com/freebies.htm.

Christmas Trees in Summer

Have you ever noticed a Christmas tree on the top of the skeleton frame of a building under construction during summer? No one seems to know exactly when or how it started but the tradition of "Topping Out" has become a cherished custom of erectors whenever the skeleton of a building (or bridge) is completed.



Topping Out is a signal to the community that the uppermost steel member is going into place, and the structure has reached its final maximum height.

There is speculation that the tradition is rooted in Scandinavian Norsemen customs dating back to the Vikings, and possibly all the way back to the ancient Romans! But having mentioned Christmas, the season of giving, we would like to give thanks to all of you for another year of your business and/or association. THANK-YOU!

DBM Expands Parking Ramp Expertise

DBM is very pleased to announce the addition of Eric Christensen, P.E. to our staff. Eric is a 1985 graduate of the University of Minnesota Institute of Technology with over 14 years experience with Spancrete, engineering precast concrete parking ramp structures, as well as offices, warehouses, industrial facilities, apartments and schools.

Incidentally, Eric is the first "Second Generation" member of the firm, as his father is Don Christensen, a semi-retired senior draftsman with over 25 years at DBM. For parking ramp design, maintenance or inspection questions, call Eric at 612-544-8457 extension 11.

Reducing Risk of Efflorescence

Efflorescence is a crystalline deposit of soluble salts, usually white in color that sometimes appears on the surface of masonry construction. Although the mechanisms are many and often complicated, efflorescence typically occurs when water-soluble salts in solution are brought to the surface and deposited there by evaporation.

Some recommendations to help reduce the risk of efflorescence:

- .. Protect the masonry units from rain and snow during storage and construction.
- .. Use concave water tight mortar joints.
- .. Choose materials low in soluble salt content.
- .. Use low alkaline cements.
- .. Use hydrated lime free from calcium sulfate meeting ASTM C144.
- .. Use clean potable water.