COLD WEATHER MASONRY AND CONCRETE CONSTRUCTION

*Prior to the time of the Building Permit application the applicant shall submit cold weather concrete and masonry protection guidelines to the Building Official for approval. Any other requirement by the Building Official shall be noted and resolved before the issuance of permits.

<u>SITE PROTECTION</u>:   When the daily mean temperature stays consistently below 32°F and the nighttime temperature is below the freezing point, precaution shall be taken to prevent the penetration of frost into excavated areas where footings or concrete flat work is to be poured. Insulated blankets or tarps must be used- the use of straw is not a recommended procedure, although it will be allowed and will work as long as the straw is spread a minimum of 8" in depth and is protected from weather by use of tarp or poly. If poly is used it is recommended that the poly is black or dark colored to absorb sunlight. The tarps and/or poly should be installed to remain in place during high winds and to divert water as best as possible away from the protected area.

<u>NOTE:</u> the recommendations above are for **straw only**- the use of hay is strictly prohibited!

<u>FOOTINGS:</u>

1. Work should not commence unless at 6:00 a.m. the ambient air temperature is 0°F and expected to rise.

2. After forming use adequate insulating blankets to prevent frost from penetrating the soil.

3. Immediately after concrete is placed, adequate insulating blankets shall be placed over the heated concrete. Straw or hay will not be allowed as an insulating material.

4. Cold weather concrete- concrete delivered in cold weather shall have the applicable minimum temperature indicated in the <u>following table</u>:

Air Temperature	Thin Section and Uniform Slabs	Heavy Sections and Mass Concrete
30°- 45°F	60°F	50°F
0°- 30°F	65°F	55°F
below 0°F	70°F	60°F

5. An additional inspection may be conducted to monitor temperature control.

MASONRY MATERIALS:

1. Work should not commence unless at 6:00 a.m. the ambient air temperature is 0°F or higher and expected to rise.

2. Masonry materials (concrete block, brick, or stone) stored on the job site shall be covered and kept dry.

3. All masonry laid shall be free from ice and snow.

4. If climate conditions warrant temperature of construction, materials should be thawed. If sand is frozen, it, and all masonry materials, must be dried and thawed.

5. A section of masonry deemed frozen or damaged shall be removed and replaced before continuing construction of that wall section.

Mortar: When air temperature falls below 40°F grout mixing water and aggregate shall be heated to produce grout temperatures between 40°F and 120°F.

Masonry to be grouted: Shall be maintained above freezing during the period of grout placement and for at least24 hours after placement.

PROTECTION OF CONCRETE AND MASONRY WALLS:

When the daily mean temperature is 32°F to 40°F, masonry and concrete walls shall be protected from rain and snow 24 hours by covering with a water resistant membrane.
When the daily mean temperature is 25°F to 32°F, masonry shall be completely covered with a weather resistant membrane from top of wall to footings for 24 hours.
When the daily mean temperature is 20°F to 25°F, masonry shall be completely covered with insulated blanket or equally protective covering for 24 hours.
When the daily mean temperature is 20°F or below, masonry temperature shall be maintained above 32°F for 24 hours by enclosing and supplementing heat by electric heating blankets, infra-red heat lamps, or other approved methods.

The Building Department encourages the builder to contact us for further clarification on any questions encountered during the construction of their project.

Call Gopher State One at 1-800-252-1166 to identify utility locations prior to digging!