

Project update - Engineering achievement!

We are now through the winter and the most complex construction activity on this project to date. While you can visit the web site, www.monarchgroup.net under the "Community Calendar" section of Vibe to see the photographs, the following will help explain the complexity of some of the construction recently accomplished.

Most of February and March was spent working on the ground floor of the building, especially on the north end, where we have a very special condition. At this location, there is a very large transfer slab that will support a substantial part of the building. This slab requires 2 separate concrete pours, and will reach an overall thickness of 9 feet.

Many considerations were involved, such as; the mass and weight of this transfer slab if poured in one go; the time it would take to pour in one go; the rate at which we could pour the concrete due to the wet weight of the concrete on the structure; the amount of reinforcing bars that had to go into the pour; the type of concrete mix that had to be used in order to get the concrete to flow in and around the reinforcing bars and pipe obstructions within the slab; and even the time of year as it relates to the outside temperature for the special mix concrete to be poured. Based on these issues and ongoing discussions and reviews with the engineers, the forming contractor and ourselves, it was determined that we would have to pour this slab in 2 lifts.

While perhaps a little technical, here are some facts that may make for some appreciation of what was involved with this section of the building:

- Over 200 tonnes of reinforcing steel used
- Approximately 475 cubic meters of concrete
- New, special design concrete mix with special decelerators to keep the concrete temperatures down
- 1st pour took 10.5 hours to pump in 321 cubic meters of this special concrete
- An entire Dufferin supply plant was dedicated to this pour
- Temperature of the concrete was monitored at 3 different height levels during the pour to ensure there wasn't more than a 20 degree differential between the core of the slab and the concrete temperature of the top of the pour
- The outdoor temperature had to be no lower than 5C – we poured at 6C
- 12 Dufferin technicians were present, along with Monarch's independent concrete testing agent to monitor the pour
- The second lift will be poured in the next few days, which will take the slab to its 9 foot height

What has been completed thus far, at the north end of this project, is quite an engineering achievement, and has somewhat overshadowed accomplishments at the south end, where walls and columns to the second floor are about 25% complete.

Keep watching for more updates as Vibe progresses and make sure you contact Lorraine at lorrynem@monarchgroup.net, or by phone at (416) 495-3525, if you have any questions going forward.

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