

May 29, 2007

Tim Levine
The Olympia Companies
280 Fore Street, Suite 202
Portland, ME 04101

Re: Custom House Square, 300 Fore Street
Portland, ME
Structural Observations

Dear Mr. Levine,

Per your request, I visited the above referenced site Friday, May 18th, 2007, to perform a structural observation between the hours of 12:30 p.m. and 3:45 p.m. The temperature was approximately 45 degrees and it was raining. Larry Ross (superintendent) of Wright-Ryan Construction, Inc, allowed access to the site. The following is a brief summary of my findings:

Progress:

Concrete Foundation:

The concrete foundation work, including, but not limited to foundation walls, grade beams, pile caps, piers and footings has been completed.

Concrete floor slabs:

The reinforced structural slab on grade beams and pile caps has been completed at the lower level floor, along with the extent of the slabs on deck at the upper floors.

Structural Steel Framing:

The structural steel framing has been erected at all levels of the structure.

From 3/30 report: As viewed in various areas, some bolts had not been installed at beam/beam and beam/column connections. Additionally, there were locations noted in which bolts had not been installed to the required tension. This was evident with the short extensions on the tension control (TC) bolts, which had yet to shear off upon required tension. As discussed with Larry, these items were to be completed by the structural steel fabricator and future structural steel inspection reports would encompass these items. **Update 5/29:** Although some of the bolt locations have been addressed, there was still some work remaining which needed to be completed. As discussed with Larry, there were instances where power tool access to tighten the bolts was not possible due to the close proximity of adjacent beam/beam connections. Said bolts would need to be tightened by hand to the proper torque required and subsequent areas must be addressed by the structural steel special inspector in their reports.

Upon receipt of a report from the structural steel special inspection agency, indicating conformance of the structural steel connection construction with the structural design, we will issue a letter indicating the conformance of the structure in accordance with the intent of our design.

Steel Deck:

Composite steel floor deck installation has been completed at all levels of the structure. Steel roof deck on the required portions of the main (flat) and curved roof areas had been completed.

LGMF curtain wall system

The light gauge metal framing exterior curtain wall system has been installed.

From 3/30 report: As noted and discussed with Larry, there were several areas at the lower levels of the structure in which screws had yet to be installed to secure the base of the wall studs to the supporting bottom tracks. As a means of supporting this observation, LGMF studs were able to be relocated from their original position without the use of excessive force. Additionally, in several locations the cripple studs above the LGMF header locations were not adequately secured to the supporting header tracks with the required screw fasteners. Furthermore, in locations where a nested stud had been provided within the header track (for added strength), installed screw fasteners had been installed at the bottom edge of the cripple studs in an attempt to secure the cripple studs to the supporting header assembly. In addition to not maintaining the required edge distance around the screw, the connection was not adequate in these locations to the supporting header assembly. LGMF clips, or other means of connection, must be specified by the LGMF subcontractor's engineer and installed in these locations.

Update 5/29: A brief observation showed some areas of the above items incomplete, mainly the fastening of the exterior wall studs to the bottom track in various locations. Upon completion of all items reference above, a more comprehensive walkthrough to observe the LGMF construction will be performed.

Along the "1" line of the structure, in bays at various levels, there were locations in which the 6" LGMF exterior wall did not bypass the floor framing as shown in the design. The LGMF at the exterior wall must resist out of plane wind loading (both pressure and suction). Said loading must be transferred directly to the floor diaphragm as indicated on the structural details. As viewed the LGMF terminated at the bottom flange of the steel beams, thus creating the potential for lateral loading (kicking in) at the bottom flange of the beam. Due to the exposed finish ceiling, it is not feasible to add wind bracing from the bottom flange of the beam to the floor diaphragm. Please refer to the attached sketch, SKS-09, which indicates the LGMF reinforcing required to transfer the support of the stud framing from the bottom flange of the beam to the design location near the top of the beam.

CMU walls:

CMU wall construction had been completed at the fire wall and around the shaft, stair and elevator structures.

Areas where (2) large openings were required through the recently constructed CMU shaft wall were clearly marked and pointed out by Larry while on site. As a means of clarifying the structural support requirements, details of the previously issued sketches by our office to reinforce said wall were discussed on site.

Items to be addressed by the Contractor:

1. Complete installation of all required bolts to the proper tension at the extent of the structural steel connections. We must receive a special inspections report indicating that the extent of the bolts have been installed and tightened properly.
2. Complete the installation of all required screwed connections in accordance with the LGMF engineer's design, utilizing required clips at connections as discussed above.
3. Reinforce LGMF exterior wall as discussed above to move the support point closer to the concrete floor diaphragm (see SK-09).
4. Continue to forward a copy of all testing reports to our office through the architect for review.

Please feel free to contact our office if you should have any questions.
Best regards,



Matthew LaBrecque, P.E.
Structural Engineer
enclosure

Cc: Randy Alred, Larry Ross, Craig Hill – Wright-Ryan
Jim Loft, Matt Wirth – Pro Con Inc.