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| **Project Name:** | Time and Space Condominiums | | **Project No.:** | 82-41-188263 |
| **Project Location:** | 177 Front Street East, Toronto, ON | | **Date of Visit:** | February 23, 2023 |
| **Visit Requested By:** | Sentinel (Sherbourne) Land Development | | **Weather:** | -5oC |
| **Visit Performed By:** | Ayyaz Masud | | **Page:** | 1 of 10 |
| **Items Reviewed:** | Tower C: Concealed Membrane, Window wall, Sealant, Firestopping, Fire Safety Systems, Soffit, Expansion Joint  Tower D: Air Vapour Barrier, Metal Panel System, Expansion Joint | | **Permit No.:** | 17-269706-NB |
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1. **WORK REVIEWED**
   1. **Concealed Membrane Protection & Window Wall – Tower C – MC7 HD Frames**
      1. A random visual review was performed of the concealed membrane and window wall installation at the link window Level 19 Towers C. At the time of the review, the work was generally complete (Refer to Photographs Nos. 1 & 2).
      2. As reviewed previously, at the base of the window wall on the concrete slab, an extruded aluminum L-angle with a rubber gasket was installed using Tapcon fasteners to the concrete. Plastic shims were noted underneath the sill L-angle for leveling purposes. Non shrinkable grout as confirmed by site will be installed below the extruded aluminum L angle where required.
      3. Blueskin SA membrane was installed from the extruded aluminium L-angle and onto the concrete substrate. The concrete surface was primed prior to the installation of the membrane. A sealant joint was installed at the membrane to L-angle below the rubber gasket. At terrace locations, a membrane overlap was provided for tie-in to the roofing membrane.
      4. Window frames were set on the sill L-angle with plastic shims placed under the window frames. Tek screws were installed from the L-angle to the window frames spaced at approximately 12” o.c. A total of two fasteners were installed at the vertical mullions, followed by 6 at 1” o.c on each side. Anchoring was in progress at time of review.
      5. At the head locations of the window wall, the window panels were secured to the underside of the concrete slab with 10” aluminum strap anchors. A total of 5 Tapcon screws were installed per strap anchor. The installed anchors were with in the 6” mark from the vertical mullions. Depending on the width of the window panel a minimum of 1 and a maximum of 3 10” strap anchors with 5 fasteners were noted at the head locations. Fastening of the strap anchors was in progress.
      6. The installation of the extruded aluminum coupler with 2 rubber gaskets was not reviewed at the time of review, however as noted previously, the adjacent window wall jamb frames were connected with a vertical extruded aluminum coupler embedded in silicone sealant. Two screws were installed at the head of the vertical mullions, few locations were noted with fasteners at the transom location of the vertical mullions at coupler locations.
      7. Vent boxes were noted to be installed at the window wall.
      8. Generally, the in-progress window wall installation appeared to be progressing satisfactorily.
   2. **Sealant – Interior – Tower C** 
      1. A random visual review was performed of the Interior sealant at the head of the window wall on Level 18 and 19 of Towers C. At the time of the review, the work was generally complete **(Refer to Photographs Nos. 2 & 3)**.
      2. Spray applied foam was installed at the gap between the concrete ceiling slab and head of window wall frames. The spray foam was being cut flush to the window frame to provide an adequate backing.
      3. Sealant (Dymonic FC) was installed over the spray foam backing and strap anchors with fasteners. The installed sealant appeared to be of adequate depth.
      4. Generally, the sealant installation appeared to be satisfactory.
   3. **Firestopping – Vertical at Shear Wall – Tower C**
      1. A random visual review was performed of the firestopping system installed, at the vertical fire separation joints, between the shear wall and the window wall system on Level 18 of Tower C. At the time of review, the work was generally complete (Refer to Photographs Nos. 3 & 4).
      2. Mineral wool insulation 4” deep was observed to be installed between the concrete shear wall and window wall locations on both sides of the walls.
      3. Where complete, spray applied firestopping sealant (Hilti CFS-SP WB) was being sprayed over the mineral wool backing. The smoke seal sealant was generally observed to be continuous with a minimum of 1” overlap on both window wall and concrete wall.
      4. Generally, the installed vertical firestopping appeared to be satisfactorily.
   4. **Fire Safety Systems – Demising Walls – Tower C** 
      1. A random visual review was performed of the suite to corridor fire rated framed wall assembly (P8) on Level 18 of Tower C. At the time of the review, the work was generally complete **(Refer to Photographs Nos. 5 - 8)**.
      2. Steel studs 92mm at 600mm were installed at the demising wall locations.
      3. At the suite side of the demising wall, the contractor had installed 2 layers of 13mm type X gypsum wall boards. Dow Corning’s, Quiet Zone pink fiber batt acoustical insulation 89mm thick was installed within the stud spaces of the demising walls.
      4. Acoustical sealant installation was partially installed at the perimeter of the steel studs.
      5. Perlite was noted at the electrical boxes within the suite to corridor demising walls.
      6. At the ends of the concrete shear wall locations termination into the corridor wall, the contractor had yet installed mineral wool. Site confirmed this will be complete prior to boarding.
      7. Generally, the installation appeared to be satisfactorily.
   5. **Fire Safety Systems – Shaft Walls – Tower C**
      1. A random visual review was performed of the fire rated wall shaft assembly P10c installation at Level 18 of Tower C. At the time of the review, the work was partially complete.
      2. C-T studs framing 64mm at 600mm o.c were installed at the shaft assembly.
      3. Shaft liner 25mm was installed over the stud framing.
      4. Two layers of gypsum wall board 13mm Type X was yet to be installed over the framing.
      5. General installation of the shaft wall was satisfactory.
   6. **Soffit – Insulation – Level 19 – Ceiling – Tower C**
      1. A random visual review was performed of the Acoustical ceiling **C1a** installation in progress at the Level 19 of Tower C. At the time of the review, the work was in progress **(Refer to Photographs Nos. 9 & 10)**.
      2. Vinyl faced mineral wool insulation 4” stick pinned to the concrete ceiling slab was installed at the ceiling of Level 19. The installed insulation was butted tight at the joints without any significant gaps. Joint in the insulation were being taped by vinyl tape. Carrying channels were noted suspended from concrete slab above. Site confirmed rubber isolators were installed at the carrying channels.
      3. Generally, the in-progress vinyl face mineral wool insulation installation was progressing according to the C1a ceiling type.
   7. **Air Vapour Barrier & Metal Panel – Tower D**
      1. A random visual review was performed of the air vapour barrier (Blueskin SA) membrane and metal panel system installation in progress at the east wall of MPH at Tower D. At the time of the review, the work was in progress. Access was not provided to the east wall, the review was performed from Tower C. Previously, Pretium had reviewed the installation at the north, south and west walls **(Refer to Photographs Nos. 11 & 12)**.
      2. At the time of the review, a layer of Blueskin SA membrane was installed over the poured concrete wall. The membrane was installed to a primed substrate with approximately 3” side laps and 6” end laps. No significant wrinkling was observed on the installed membrane.
      3. At the base of the wall, the hot rubberized asphalt roofing membrane was carried onto what was confirmed by site as a metal flashing installed at the base of the block wall. The flashing was carried over the window panels below.
      4. Anchors for Z girt installation as per wall type AP1 were installed at the east elevation, the galvanized cork back L anchors were vertically spaced approximately 15” o.c. and horizontally spaced 36” o.c using 2 concrete fasters.
      5. Mineral wool insulation 4” stick pinned to the air/vapour barrier membrane was yet to be installed within the Z girts.
      6. Generally, the installation appeared to be progressing satisfactorily.
   8. **Expansion Joint – Tower C & D**
      1. A random visual review was performed of the installation of WaboCrete expansion joint system installation on the P1 level. At the time of review, the work was partially complete **(Refer to Photographs Nos. 13 - 22)**.
      2. The concrete surface at the expansion joint appeared to be clean. It was noted that the surface on both sides of the expansion joint was generally 3 ½” wide by ¾” below the finished concrete slab at the P1 level. Duct tape was installed on both side of the prepared area.
      3. WaboBonding agent was applied over the dry concrete at the prepared area. The expansion joint membrane was positioned in the joint and mechanical fastened in several locations prior to the installation.
      4. Where complete, the contractor installed the expansion joint membrane with WaboCrete Parking Series elastomeric concrete hardener over the seams to seal along the length. The hardener was filled to the level of finished surface of the concrete slab.
      5. Generally, the ongoing installation appeared to be satisfactory.
2. **DEFECTS AND DEFICIENCIES**
   * 1. N/A
     2. N/A
3. **REMARKS**

* 1. The above noted items were reviewed with the site representative, prior to our departure from site.
  2. A Deficiency Item Tracking Table is attached for reference and action.

Reviewed by:

**Nadine Cowan, P.Eng.**

*Manager, Building Engineering*

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| **Photograph No. 1:**  A general view of the window wall installed at Level 19. |  | **Photograph No. 2:** A general view of the window wall and sealant installed at Level 19. |
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| **Photograph No. 3:**  A general view of the interior sealant and vertical firestopping installed at Level 18. |  | **Photograph No. 4:**  A general view of the interior sealant and vertical firestopping installed at Level 18. |
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| **Photograph No. 5:**  A general view of the corridor demising wall installed at Level 18. |  | **Photograph No. 6:**  A general view of the corridor demising wall installed at Level 18. |
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| **Photograph No. 7:**  A general view of the perlite installed at electrical boxes. |  | **Photograph No. 8:**  A general view of the perlite installed at electrical boxes. |
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| **Photograph No. 9:**  A general view of vinyl faced mineral wool installed at the ceiling of Level 19. |  | **Photograph No. 10:**  A general view of vinyl faced mineral wool installed at the ceiling of Level 19. |
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| **Photograph No. 11:**  A general view of Blueskin SA and Z girts installed at East Mph wall. |  | **Photograph No. 12:**  A general view of Blueskin SA and Z girts installed at East Mph wall. |
| *A group of buckets and boxes  Description automatically generated with low confidence* |  | A picture containing waste container, plastic, ground, box  Description automatically generated |
| **Photograph No. 13:**  A general view of the expansion joint material noted on site. |  | **Photograph No. 14:**  A general view of the expansion joint material noted on site. |
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| **Photograph No. 15:**  A general view of the expansion joint material noted on site. |  | **Photograph No. 16:** A general view of the area prepared, and membrane laid in the joint. |
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| **Photograph No. 17:**  A general view of the primer installed at the prepared area. |  | **Photograph No. 18:**  A general view of the expansion joint installation in progress at P1. |
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| **Photograph No. 19:**  A general view of the expansion joint installation in progress at P1. |  | **Photograph No. 20:**  A general view of the expansion joint installation in progress at P1. |
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| **Photograph No. 21:**  A general view of the expansion joint and hardening compound installed. |  | **Photograph No. 22:**  A general view of the expansion joint and hardening compound installed. |

**Deficiency Tracking Table**

| **SVR No.** | **Item No.** | **Item Description & Comments** | **Element** | **Date Noted/**  **Cleared** | **SVR No. Cleared** |
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| 121 | 2.1.1 | Window wall condition on Level 3, Tower A and B. Locations where installation of a back pan at concrete curb intersection exists were noted at Suite 335 on Tower A and at Suites 323, 324 and 333 on Tower B. | Tower A&B –  Window Wall | 2022-08-30 |  |
| 121 | 2.1.2 | Window wall condition on Level 3, Tower A and B. Locations where sill L angle over concrete curb does not extent to the bypass windows. Installers have used a sealant joint to extend the sill L angle at these locations. Suites 308, 309 and 313 on Tower A. Pretium recommend window installers extend the sill L angle at the noted locations. | Tower A –  Window Wall | 2022-08-30 |  |
| 131 | 2.1.1 | Suite 1073, the window frame appeared o be cut at the corner. Contractor is to ensure an adequate seal at the interior and exterior of window frame is installed. | Tower A&B –  Window Wall | 2022-10-03 |  |
| 155,  156 | 2.1.1 | According to the Architectural drawings, the **S3a** soffit type specifies 150mm semi- rigid insulation. Refer to Architectural detail **10/A9-27**. Site to provide a SI for the change in insulation at the S3a soffit at Drive Isle (breezeway). | Tower C & D – Soffit | 2022-01-25, 2022-02-02 |  |