

**Mechanical System Comments**  
The implementation of typical mechanical equipment installation should maintain best practice. Flex connectors and isolation pads and mounts should be installed as required. The following comments apply.

1. The construction of floating floors in the lower mechanical room is recommended. Careful attention should be paid when constructing these floors so that short-circuits do not occur.
2. It is recommended that neoprene flex connectors with nylon reinforcement be used on the intake and discharges of the larger pumps and the building's systems. The pump P6, P7 and P8 should be so equipped. These flex connectors are available from Mason Industries as a special order (see attached data sheets). These flex connectors should not be substituted without review from this office. The Butyl rubber Kevlar-reinforced flex connectors are not effective acoustically.
3. The use of variable speed pumps is encouraged, especially for the main circulation pumps for the HVAC system. The use of these pumps allows for precise control of flow in the building's system and also assists in controlling noise should these issues arise.
4. It is recommended that neoprene flex connectors with nylon reinforcement be used to connect the chiller to the main circulation system of the building. These flex connectors are available from Mason Industries as a special order. Should control cables or control rods be required for this installation, these devices should be provided with isolating step bushings (see attached data sheets). Failing to do so will short-circuit the flex connectors and permit sound from the chillers' operation to migrate into the building.
5. It is recommended that a small silencer be installed on the discharge from the air handler supplying the corridor air. A 3' Long Vibro-acoustics RD HV F1 silencer or an equivalent product should be placed in the duct.
6. The vibration isolation for the cooling tower indicated on the mechanical plans is adequate, however, care should be taken to ensure that the isolation is installed correctly. Misalignments in the isolation may cause short-circuiting, making the isolation system less effective.

**7. Chiller Isolation**  
A York chiller has been selected for this phase of the development. York chillers have generally higher vibration isolation requirements therefore, the standard vibration isolation measures will not suffice. It is recommended that CDM Rubber/Cork composite springs be provided underneath this chiller instead of the usual spring isolators. Based upon the operating weight provided by Johnson Controls four CDM pads are needed for this unit. The pads under the front of the machine with the pipe connections should be constructed of CDM 80 material and have dimensions of 10" x 9.5" x 6" thick. The pads to the rear of the unit should be constructed with CDM 79 material and have dimensions of 10" x 12" x 6" thick. It is expected that these pads will deflect 1" under the weight of the chiller. Shimming may be required for minor leveling of the equipment with these isolators. This material is available from CDMca at 905-265-7401. It is recommended that the hangers for the piping at the front of the chiller be sized such that the hangers support the weight of the pipe, water, valve and other accessories so that minimal to no load is transferred to the chiller. As with all other mechanical equipment installations, the first three support points should be provided with minimum 1" standard isolation elements.

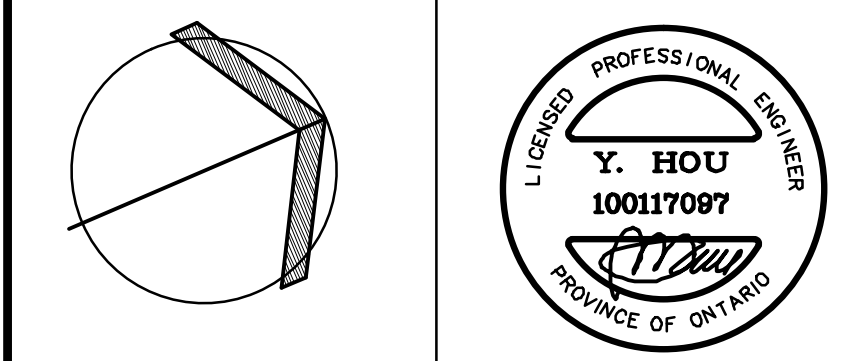
8. Pumps P5, P6, P7 and P8 should be provided with Mason ND neoprene mounts 30N hanger or equivalent appropriate for the weight of the units.
9. All boilers and the make up air converters (E14 and E15) should be provided with Mason NK isolation pads or equivalent.
10. All ceiling-mounted A/C units in the retail area of the building should be provided with 1" deflection spring isolation hangers appropriate for the weights of the units. Care should be taken to ensure that the isolators are installed in such a way that the hanger rods aren't jammed against the isolator casing.
11. The condensers for the split-system air-conditioners in the common areas should be provided with vibration isolation. This isolation can be achieved using Mason ND mounts or equivalent.
12. It is recommended that allowance be made for any water filtration or chemical dispersion canisters and ancillary piping in the mechanical penthouse to be isolated from the building's structure if necessary on startup.
13. The generator for this building should be placed on minimum 1" deflection spring isolators on top of a rubber pad (Mason W Pad or equivalent loaded to 50 PSI).
14. It is recommended that wiring between the building and the generator be provided with a 4' minimum length of flexible conduit fed from overhead such that it will be able to flex without shaking the building. Configuring the connection this way will prevent vibration from the generator from migrating into the building via the wiring.
15. The intake and discharge silencers as well as the muffler for the generator should be reviewed once the generator specification has been finalized. Silencing of the cooling air inlet and exhaust is expected.

NOTE: FULLY SPRINKLERED BUILDING FOR FIRE PROTECTION DESIGN PLEASE REFER TO DSANO SPRINKLER DESIGN LIMITED DRAWINGS.

NO.	BY	DESCRIPTION	DATE
2	OP	REVISED AS PER SITE INSTRUCTION P1-2	AUG/16/2016
1	LM	ISSUED FOR TENDER	MAR/21/2016

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TITLE		
PENTHOUSE FLOOR PLAN MECHANICAL		
PROJECT		
25 BAKER HILL BLVD. ROYAL PINE HOMES		
STOUFFVILLE, ONTARIO		
PROPOSED RESIDENTIAL DEVELOPMENT		
DRAWN	CHECKED	SCALE
GC	BT	1:50
DATE	PROJECT	DRAWING
JUNE 2015	14-016	M-34
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