FLOOD PROOFING – STATE OWNED BUILDINGS

FIELD DATA SHEET

Building No.: 06020 (Old No. 5003)
120 State Street
Location: Montpelier Complex

100-Year Flood Elev. 525.1

Total No. of Floors: 4
Floors including basement - 5
Gross Floor Area: 75,672 sq ft
Rentable Area: 65,690 sq ft
Lowest Level Floor Elev. 519.8
First Floor Level Elev. 530.8

Type of Structure: Basement walls and floors constructed of concrete.

Primary Area Usage:

OFFICE SPACE is the primary usage of all floors except the basement floor. Basement floor usage small mail room for this building, a few offices and computers for Motor Vehicles Department, microfilm Motor Vehicles pre-1994 documents, (Main server for Motor Vehicles Department located on second floor.) and utility equipment

Mechanical rooms with electrical, HVAC, and communication located on basement floor

Primary Flood Damage:

Mechanical room: (Located below basement floor elevation +/- 28 inches, small sump pump located in this room.)

- Air handling units on the basement floor with electrical control panel +/- 36 inches above the floor.
- Condensate pumps located on 6 inches concrete pad on floor.
- Large manifold for heating tubes that run outside through the basement wall to heat the sidewalk in the winter.

There are a number of AC units outside of the building in pits, potential flood waters could access pits.

Large electrical room with distribution panels, switch panels, and service connections mounted on the wall located on lowest floor elevation. Large number of panels at floor level. Water heater located on the floor. In this electrical room there is access to the outside thru a door, potential floodwaters could access building.

Communication panels mounted on wall +/-16 inches above floor.

Plumbing, restrooms with shower, toilets and sinks located in basement. This building has a sanitary sewer lift station on the basement floor. This station will protect this building from floodwaters entering through the sewer system.

Elevator provides access to basement, operating equipment located on first floor.

Potential Methods for Damage Reduction:

Electrical distribution panels, switch panels, service connections, wall penetrations below the 100-year flood elevation protect from water infiltration or elevate above 100-year flood elevation.

HVAC equipment below the 100-year flood elevation protect from water infiltration or elevate above 100-year flood elevation.

Plumbing wall penetrations, water heaters, toilets, sinks, floor drains, and shower drains below 100-year flood elevation protect from water infiltration or elevate above 100-year flood elevation. This building has a sanitary sewer lift station on the basement floor.

Dry-floodproofing this building or individual rooms may not be practical; the difference between the 100-year flood elevation and the basement floor is 64 inches. Typically the rule of thumb for dry-floodproofing is only used for flood depths less than three feet (36 inches). Dry-floodproofing old existing buildings may be technically feasible, however sealing the walls and floors of older buildings have a high probability of failure due to unforeseen factors in the older buildings.

Another option would be to seal the building as much as possible (below the 100-year elevation), reduce areas where large amounts of water can enter the building (windows and doors). The interior basement floor and walls should be designed of flood-resident material, install a number of sump pumps at low points to remove water from the building (discharging to appropriate locations) reducing the floodwater depths in the building which in turn reduces flood damages. The power supply to the sump pumps would need to be elevated above the 100-year flood.

Montpelier Complex – 120 State Street Date: June 2006