

## FLOOD PROOFING – STATE OWNED BUILDINGS

### FIELD DATA SUMMARY SHEET

**Building No.:** 06021 (Old No. 5007)  
122 State Street Boiler Plant  
**Location:** Montpelier Complex

**Total No. of Floors:** 2

**Gross Floor Area:** 7,825 sq ft  
**Rentable Area:** 6,085 sq ft  
**Lowest Level Floor Elev.** 513.0  
**First Floor Elev.** 525.8

**100-Year Flood Elev.** 525.1  
**Winooski River Channel Bottom +/-** 501.5

**Type of Structure:** Masonry (brick) structure with concrete basement walls and floor.

**Primary Area Usage:** Heating Plant for the majority of Montpelier State buildings.

#### **Primary Flood Damage:**

Building contains three boilers and supporting equipment below 100-year flood elevation. Boilers are elevated above the basement floor. If building is flooded a large number of State buildings in the Montpelier complex would be without heat. The steam lines that deliver heat to the other buildings exits this building via a raceway that is below ground approximately 4 to 6 feet. This raceway is connected to the building at 120 State Street.

Wood chip processing equipment and its supporting equipment.

There is a restroom with toilet, sink and shower in the basement level at elevation 513.0. There is also a sewer lift station in this building that lifts the sanitary waste from the basement to the City's sewer system.

Emergency generator for this building, 122 State Street, is located outside the building near the smoke stack. The generator appears to be mounted on top of its own fuel tank (generator uses Number 2 fuel), the generator appears to be +/- 36 inches above the ground elevation. Ground elevation unknown at generator.

The primary 20,000 gallon fuel tank (#6 fuel) for the boilers is buried underground under the parking lot north of this building. The buoyant forces on the fuel tank that can occur during a flood should be checked.

#### **Potential Methods for Damage Reduction:**

Sealed all wall penetration, electrical, plumbing, heating and fuel.

This building has a sanitary sewer pump station in the basement. The electrical panel for pump station is mounted on the wall above the floor. Electrical control can be moved to the first floor elevation, which is above the 100-year flood elevation. The sanitary sewer pump station will protect this building from floodwaters entering the building through the sewer system.

This building is approximately 50 to 70 feet from the edge of the Winooski River. The channel bottom elevation is at +/- 501.5. The 100-year flood elevation is 525.1. If floodwater can access the building there is a potential for flood damages.

Based on discussion with maintenance personnel who worked during the 1992 Ice Jam flooding event, this building had no floodwaters entered the building. During this flood event a large number of State building along State Street had flooded basements, the flooded basements were at floor elevations above the basement elevation of 122 State Street.

The building openings, doors and windows that can provide direct access to the lower floor elevation are only +/- 0.7 feet ( 8 inches) above the 100-year flood elevation.

Dry-floodproofing this building may not be practical; the difference between the 100-year flood elevation and the basement floor is 12.1 feet. 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.

Due to the depth of flooding, dry-floodproofing and wet-floodproofing are not applicable at this building.



Montpelier Complex – 122 State Street Date: June 2006



Montpelier Complex – 122 State Street Emergency Generator Date: June 2006