

# Vermont State Hospital Decision Analysis, FEMA-4022-DR-VT

## Background:

The Vermont State Hospital (VHS) was originally designed to accommodate 400 patients and was constructed in 1896 and now the VHS subsequently reduced its population and shares the campus with other State agencies from various departments. The hospital sits in the 100 year floodplain on a 117 acre campus that is bounded by the Winooski River. Heavy rains from Tropical Storm (TS) Irene caused the Winooski River to overtop its banks and inundate the Waterbury State Office Complex (WSOC) to a maximum depth of 6' 9". The flooding induced damages to the Boiler House which in turn caused a loss of heat and electricity to all buildings on campus. Approximately 1,500 State employees have been displaced as a result of the flood.

The hospital currently consists of interconnected buildings that house the patients, kitchen, dining room, laundry, support services and staff. All hospital buildings are served by a series of corridors and tunnels. The Brooks Building, constructed in 1938, was inundated to a depth of 6' 8" and was being used to house 52 patients at the time of the flood. The Old Storehouse building, constructed in 1919, was inundated to a depth of 6' 6" and was occupied by the Administration and Operations staff. The Kitchen and Dining Room buildings were inundated to a depth of 5' 8" and 4' 9" respectively.

The VSH was evacuated in order to protect the health and safety of the patients and staff. No single source (hospital or treatment center) was available to house all 52 patients which in turn required them to be relocated at various locations throughout the State. Where available, it has proven difficult and costly to secure adequate space for the displaced mentally ill patients because of the specialized nature of the facilities required to provide for the safety and care of the patients while ensuring the safety of the staff. A comprehensive search determined the scarcity of adequate facilities for the displaced mentally ill patients extends beyond the borders of the State of Vermont.

## Discussion:

Restoring the function of the VSH within the WSOC in a new or repaired building is not a prudent use of funds for the following reasons:

1. The WSOC has flooded in the past and it is foreseeable that it will flood again.
  - a. The majority of the buildings and grounds of the WSOC, including the Brooks and Old Storehouse buildings, sit in a Special Flood Hazard Area (SFHA) [100-year floodplain] as determined by the National Flood Insurance Program (NFIP).
  - b. Executive Order 11988 and 44 CFR Part 9 impose restrictions on what can be done in the SFHA. A hospital is considered a *critical action* as defined by 44 CFR §9.4 while §9.5 identifies the decision making process required for determining what activities (actions) can be undertaken in the SFHA. Federal funding of a *critical action* in the SFHA is prohibited unless there are no other practicable alternatives (44 CFR Part 9.6 b Step 3).

2. The central heating plant (Boiler House) sits in the SFHA and is susceptible to flooding. The Boiler House provides steam to all buildings in the WSOC.
  - a. Flooding at the WSOC caused damage to the Boiler House which caused it to become inoperable and unable to provide steam to the hospital for heating and hot water.
  - b. The Boiler House is considered a *critical action* as defined by 44 CFR §9.4.
  - c. Depending on the Boiler House for steam is unwise as flood damage to the Boiler House and resulting lack of steam to the hospital would cause the hospital to become inoperative.
3. Exterior flood proofing options for the existing hospital buildings are limited because of their historic designation. [This would need to be further explored, as these are not core elements of the historic complex.]
4. Interior flood proofing the buildings is complicated by the interconnecting tunnels and corridors. Active mitigation measures would be required and are prone to human error.
5. Should all of the buildings that comprise the hospital be able to be flood proofed, access to the buildings during a flood event would become restricted and thereby pose a threat to the occupants of the hospital and State employees.

In an effort to preserve the health and safety of the patients, hospital staff relocated the patients to various locations throughout the State. Finding suitable facilities to safely accommodate the patients continues to be a challenge given the special needs involved with treating psychiatric patients. Through negotiations with the Brattleboro Center, a portion of their psychiatric facility was retrofitted to properly house a maximum of 15 of the 52 patients displaced from the WSOC. The remaining patients have been relocated to various locations that are not all ideally suited to the special needs and care required to effectively treat psychiatric patients. Hospital staff is diligently working on identifying facilities and workable solutions to relocate the functions of the VSH to accommodate the remaining displaced patients. These efforts continue to be a daunting challenge given the limited existing resources available for the treatment of psychiatric patients.

Because patients have been placed in facilities that have not been designed to house psychiatric patients, assaults on patients and staff were greater in the two months following TS Irene than in the two years prior to TS Irene.

In addition to the lack of suitable psychiatric care facilities; the costs for retrofitting temporary facilities, when available, have been astronomical. Section 403 (a)(3)(D) of the Stafford Act allows for the provision of temporary facilities for essential community services when it is related to public health and safety, therefore, the VSH qualifies for temporary relocation expense as further defined in FEMA Recovery Policy (RP) 9525.3 *Provision of Temporary Relocation Facilities*.

Title 44 CFR §206.226(g) authorizes the Regional Administrator (RA) to approve funding for and require restoration of a damaged facility at a new location when certain criteria has been met. Fact Sheet RP9580.102 *Permanent Relocation* provides guidance and lists the qualifying criteria as: i) the facility is and will be subject to repetitive heavy damage; (ii) the approval is not barred by other provisions of Title 44 CFR; and (iii) the overall project, including all costs, is cost effective.

**Conclusion:**

Because Executive Order 11988 - *Floodplain Management* requires Federal agencies to minimize or avoid the long- and short-term adverse impacts associated with the occupancy of floodplains, and; 44 CFR Part 9 impose restrictions on activities in the floodplain involving *critical actions*; consideration should be given to the VSH in regards to permanent relocation as codified by 44 CFR §206.226 (g) and further defined with RP9580.102.

While all of the numbers have yet to be totaled, repair estimates for the hospital are in the \$5M range and the facility is located in the SFHA. These two facts satisfy 44 CFR 206.226 (g)(i) regarding repetitive heavy damage. At this time, nothing has been identified that would bar approval by any other provisions of Title 44 CFR. A Benefit Cost Analysis (BCA) will need to be completed to determine cost effectiveness as required by 44 CFR §206.226(g)(iii). Given the temporary relocation costs are not fully known at this time but are so extreme (estimated to be in excess of \$13M), it is probable a BCA will determine permanent relocation of the VSH out of the SFHA will be cost effective.

**Recommendation:**

Perform a BCA to determine if permanent relocation is cost effective. Review Title 44 CFR to identify any considerations that would disallow relocation of the VSH out of the SFHA. Inform the Applicant of the RA's determination so they may move forward knowing what level of funding is available for restoring the function of the VSH in a new location out of the SFHA.