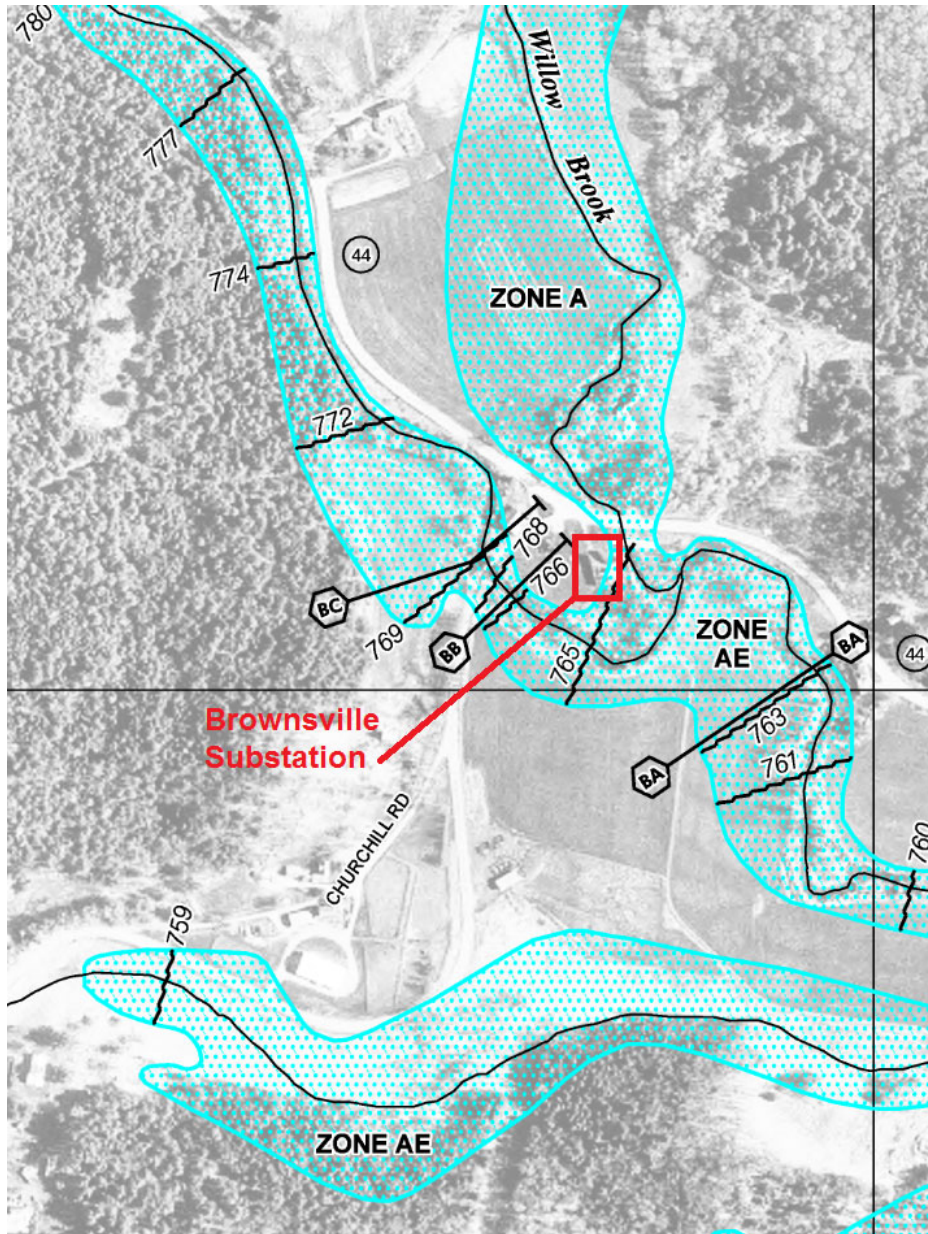


Green Mountain Power – Substations in Floodplain Preliminary Scoping

Brownsville Distribution Substation – Portion of substation in 100 yr Floodplain – Eastern portion of substation yard experienced flooding and erosion.



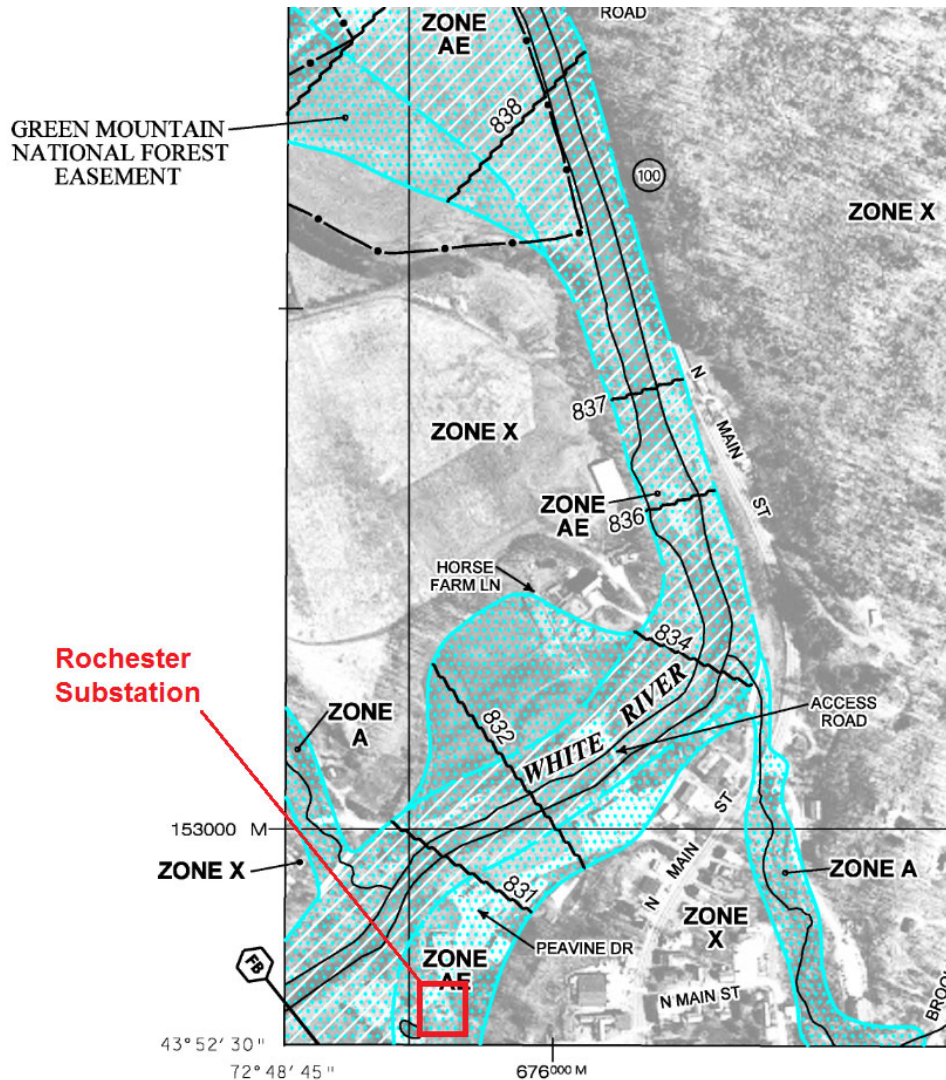
Build new substation = \$3.1 mil

- Substation = \$1.5 mil
- Land = \$250k
- Distribution = 2 ckts \$532/mi x 1.5 mi = \$800k
- Transmission Line = \$500k

Source: Fema.gov/FEMA Flood Map Service

Green Mountain Power – Substations in Floodplain Preliminary Scoping

Rochester Distribution Substation – Substation in 100 yr Floodplain – Flooded during Tropical Storm Irene in 2011. Substation was rebuilt quickly in 2011 with elevated control systems but is still in risk zone.

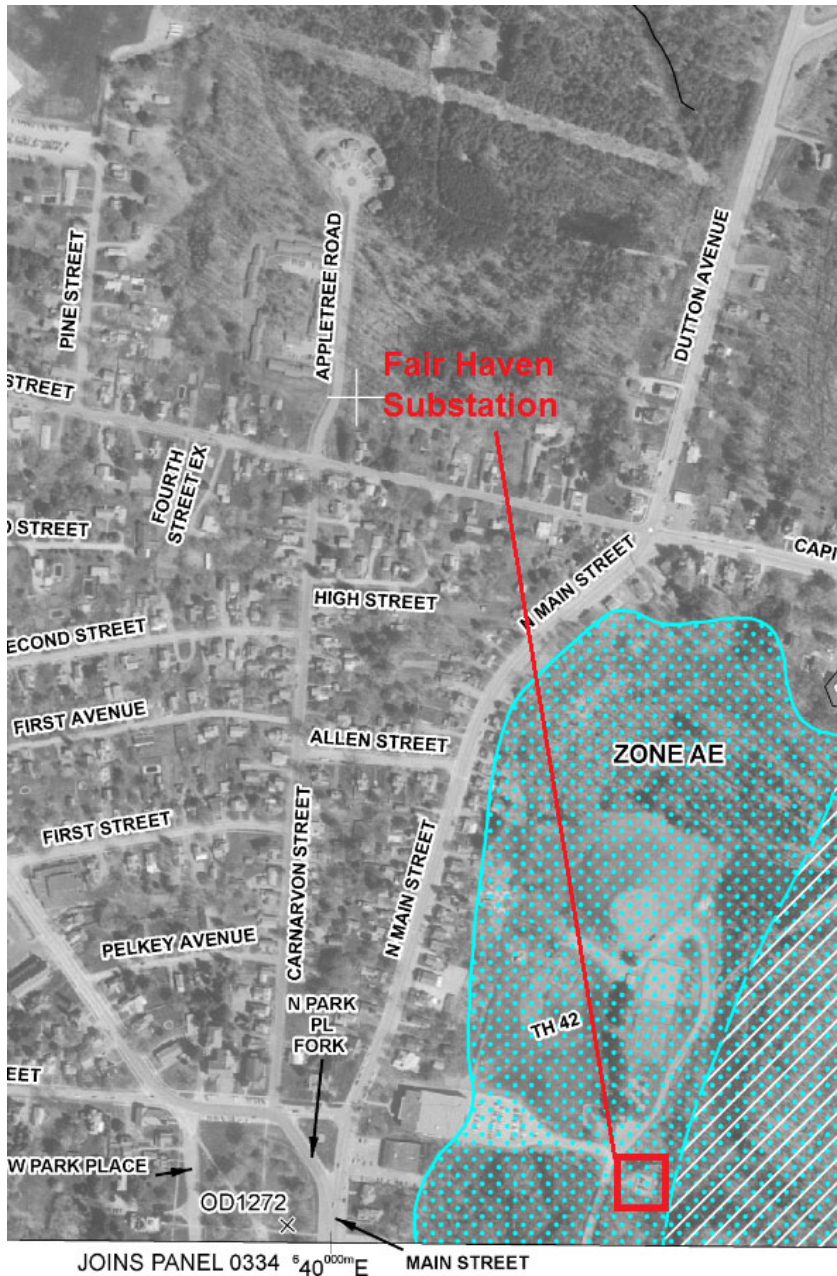


Build new substation = \$4 mil

- Substation = \$2 mil
- Transmission = \$500k
- Land = \$200k
- Distribution, 2 ckts = \$532k/mi x 2.5 mi = \$1.3 mil

Green Mountain Power – Substations in Floodplain Preliminary Scoping

Fair Haven Distribution Substation – Substation in 100 yr Floodplain – No History of flooding



Relocate substation = \$3.2 mil

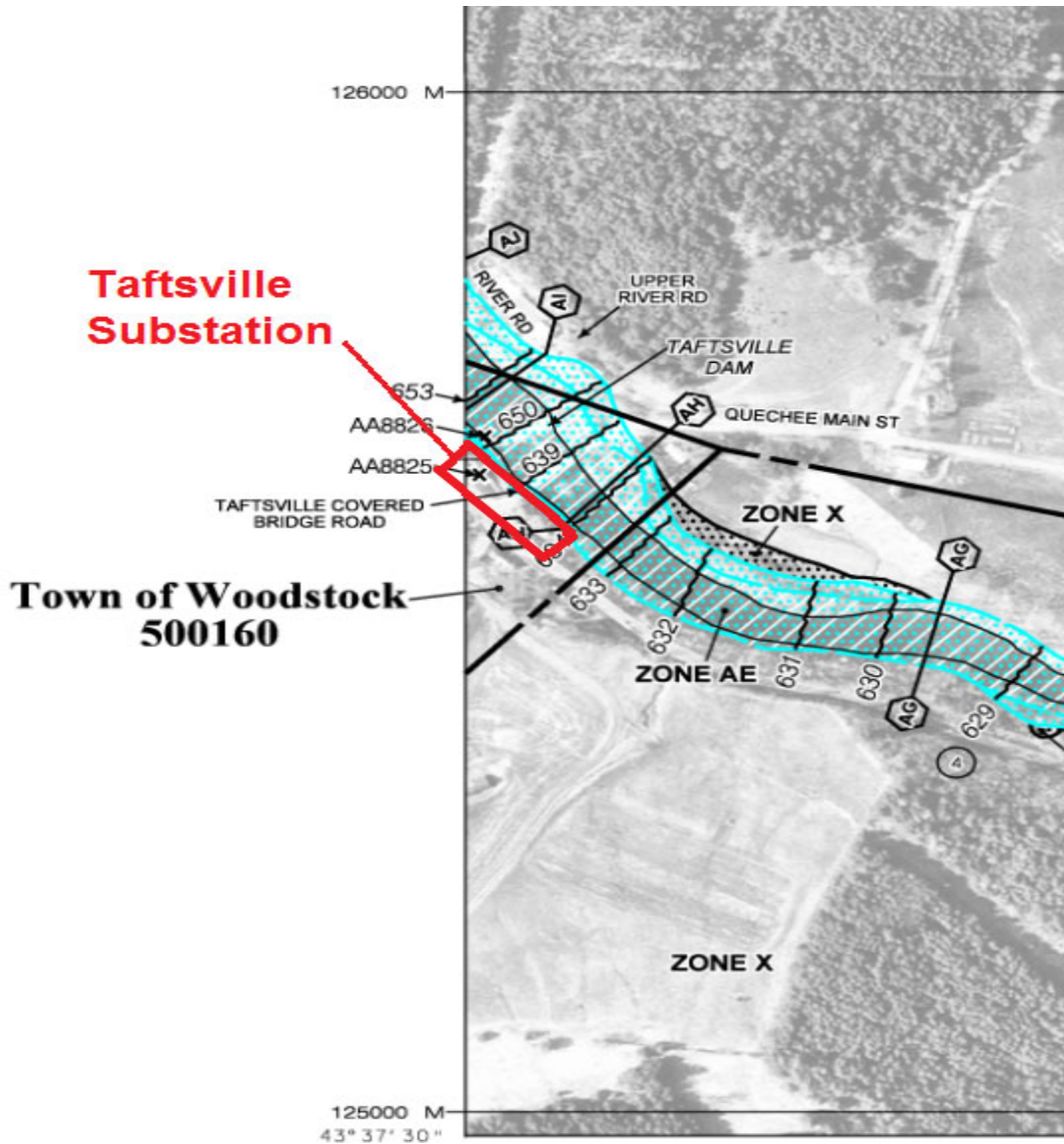
- Substation = \$2 million
- Land = \$150k
- Transmission = \$250k
- Distribution = 1.5mi x \$532k/mi = \$800k

Source: Fema.gov/FEMA Flood Map Service

Green Mountain Power – Substations in Floodplain Preliminary Scoping

The following are GMP substations not currently on GMP's expected rebuild/relocation list but are located in the 100yr or 500yr floodplain and have experienced flooding and so will continue to be evaluated:

Taftsville Transmission and Hydro Substation – Portion of substation in 100 yr Floodplain – Flooded during Tropical Storm Irene in 2011. Substation damage was repaired following Irene.



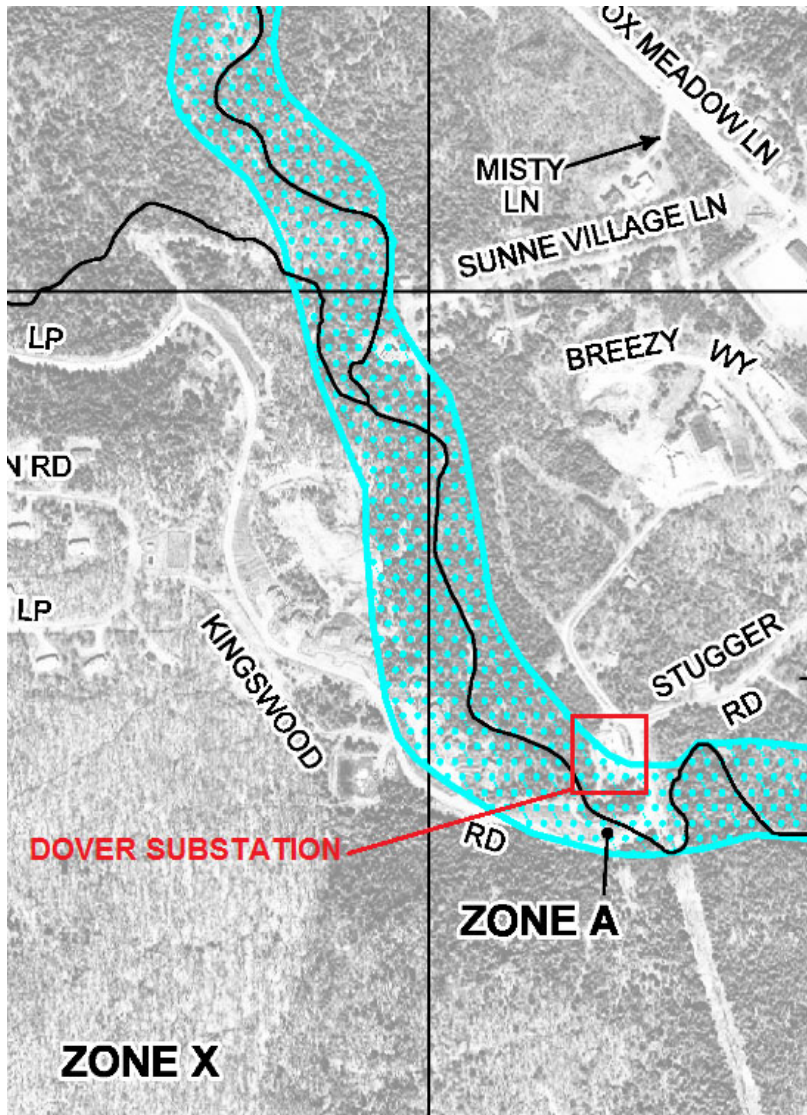
Relocate substation - Total = \$4.7 mil

- Substation = \$3.5mil
- Land = \$200k
- Transmission Line = \$500k
- Distribution = 2 ckt x (\$532/mi/2ckt) x 0.5 mi = \$500 K

Source: Fema.gov/FEMA Flood Map Service

Green Mountain Power – Substations in Floodplain Preliminary Scoping

Dover Distribution Substation – Portion of substation in 100 yr Floodplain – No History of flooding

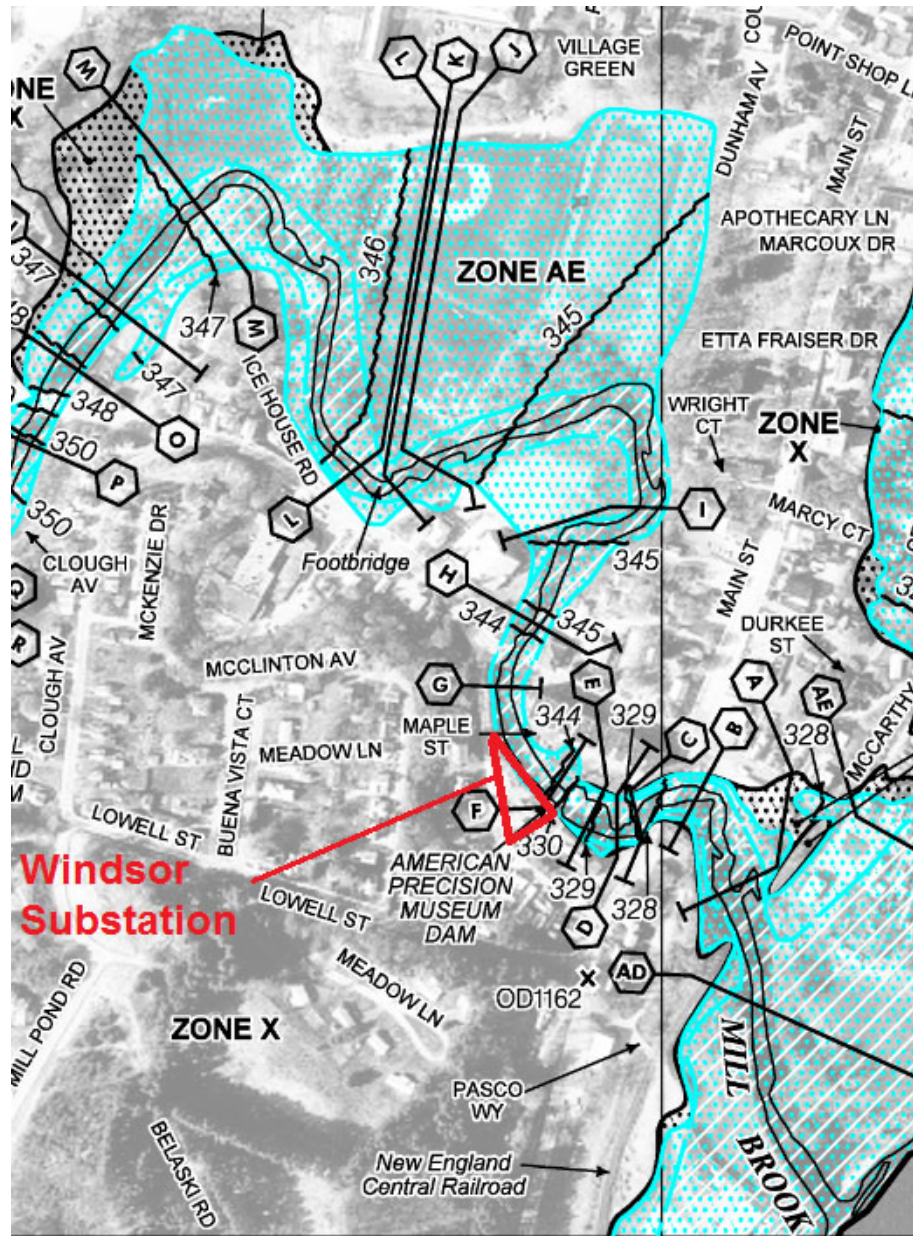


Relocate Dover sub = \$6.6 mil

- Substation = \$3.5 mil
- Transmission = \$500k
- Land = \$500k
- Distribution = \$1,064,000/mi (4 ckts) x 2 mi = \$2.12 mil

Green Mountain Power – Substations in Floodplain Preliminary Scoping

Windsor Transmission and Distribution Substation – Portion of substation in 100 yr Floodplain – No History of flooding



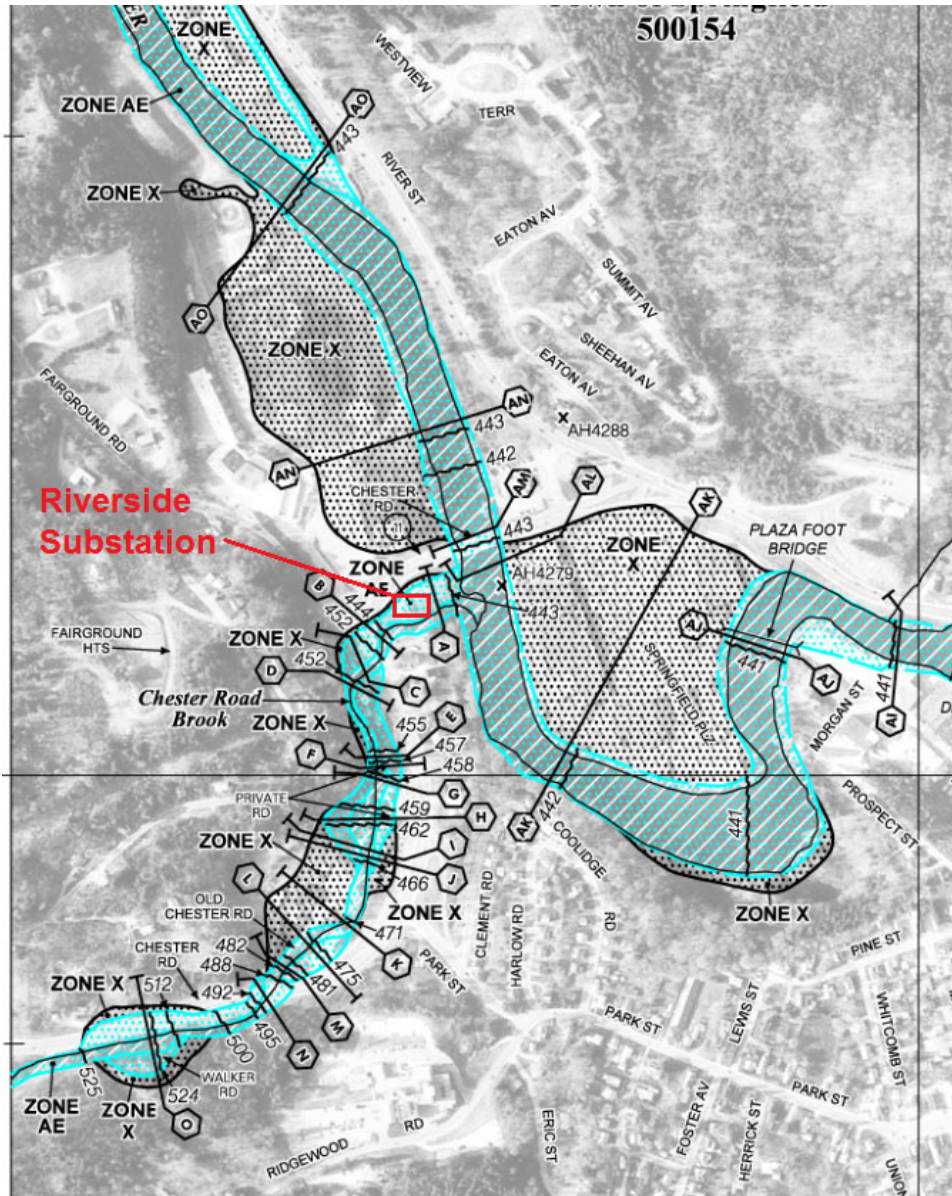
Rebuild substation:

- Substation = \$3.5mil
- Land = \$300k
- Transmission Line = \$500k
- Distribution = 4 ckt x (\$532/mi/2ckt) x 2.5 mi = \$2.7 mil

Source: Fema.gov/FEMA Flood Map Service

Green Mountain Power – Substations in Floodplain Preliminary Scoping

Riverside Distribution Substation – Substation in 100 yr Floodplain – No History of flooding



Relocate Substation = \$3 mil

- Substation = \$2 mil
- Transmission = \$250k
- Land = \$150k
- Distribution, 2 ckts = \$532k/mi x 1.1 mi = \$600k

Green Mountain Power – Substations in Floodplain Preliminary Scoping

Winooski Transmission Substation – Substation in 100 yr Floodplain – No History of flooding



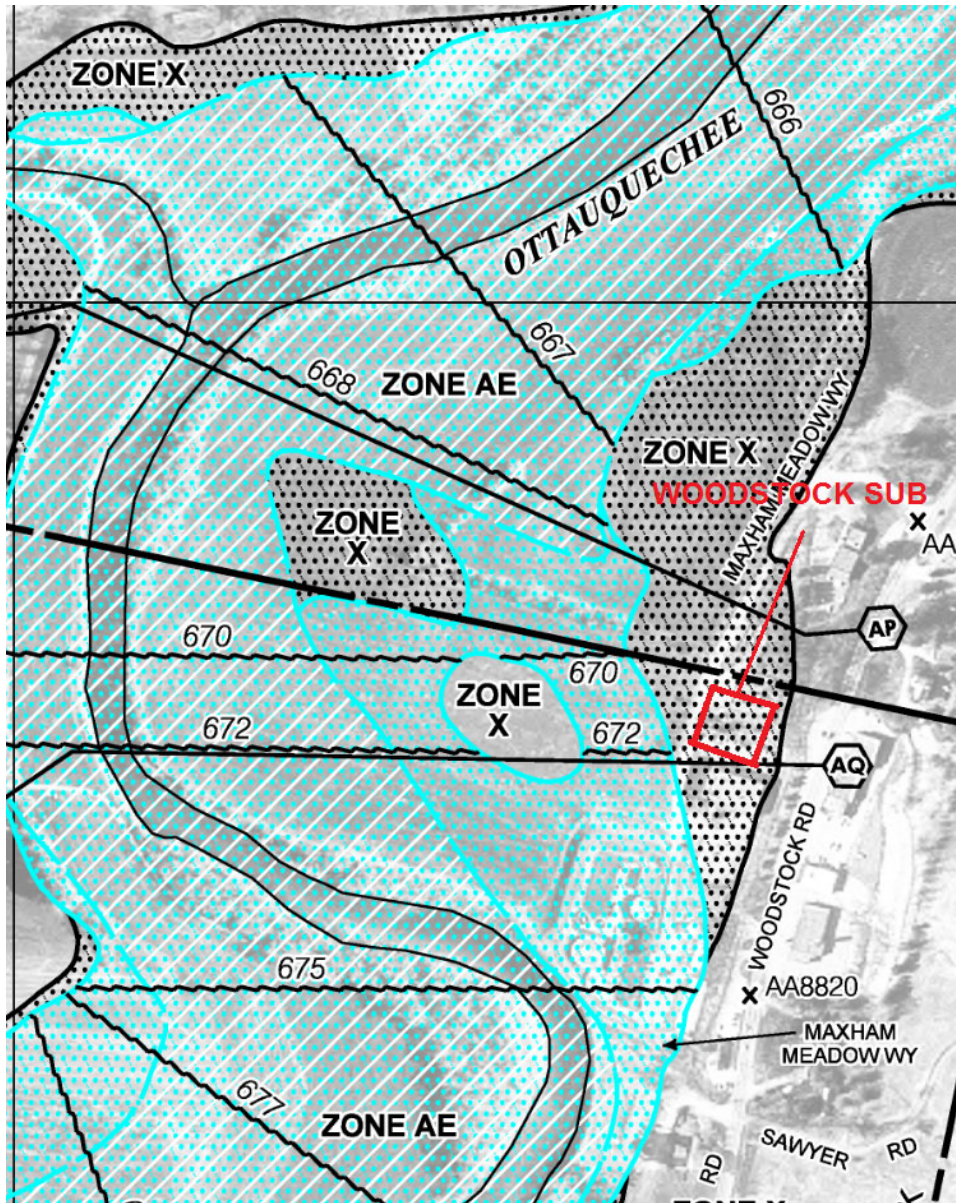
Relocate Winooski Substation:

- Substation = \$750 k
- Land = 0
- Transmission Line = \$250 k

Source: Fema.gov/FEMA Flood Map Service

Green Mountain Power – Substations in Floodplain Preliminary Scoping

Woodstock Distribution Substation – Substation in 500 yr Floodplain – No History of flooding



Option 1 = Rebuild Substation Higher - \$1.5mil (Reuse all ex equipment)

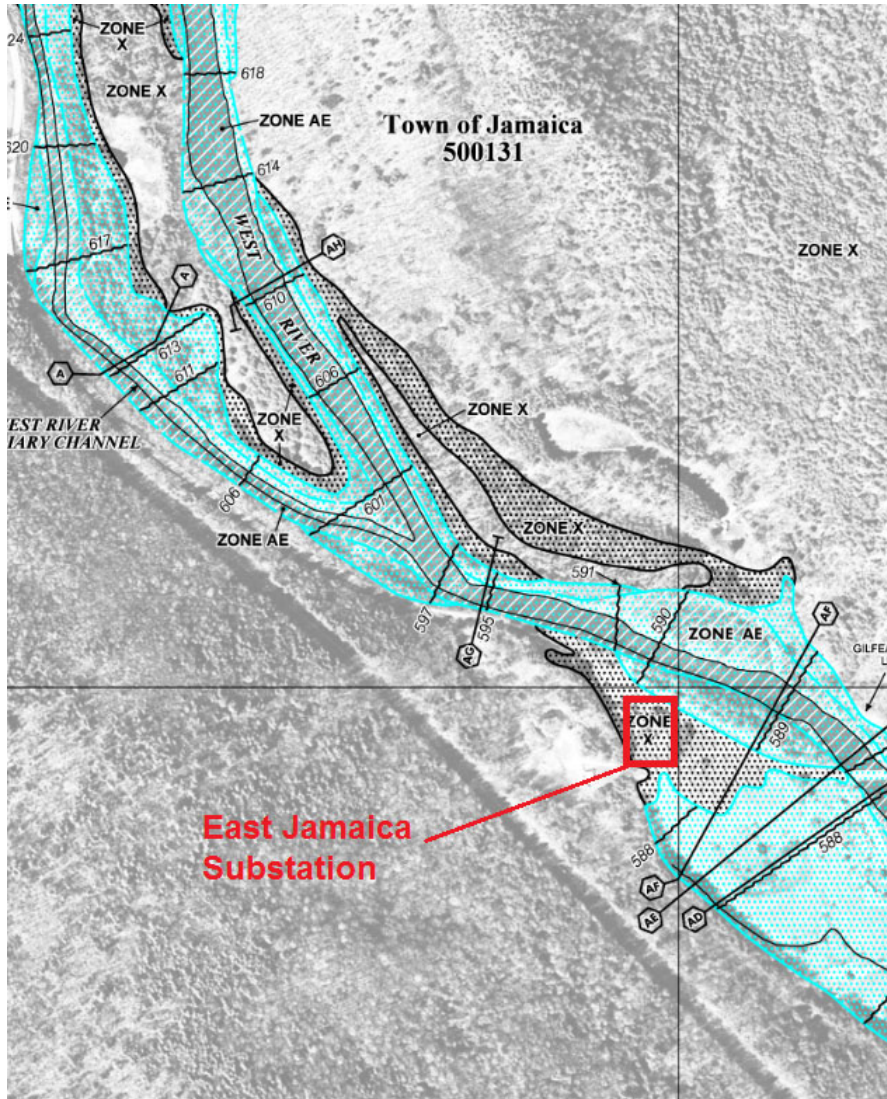
Option 2 = Build new substation: \$6 mil

- Substation = \$3.5 mil
- Land = \$800k
- Transmission line = \$500k
- Distribution Line = 4 ckt x (\$532k/2ckt/mi) x .5mi = \$532k

Source: Fema.gov/FEMA Flood Map Service

Green Mountain Power – Substations in Floodplain Preliminary Scoping

East Jamaica Distribution Substation – Substation shown in 500 yr Floodplain. Recent topography survey indicates substation yard is approximately 4ft above the flood elevation of 590' – No History of flooding



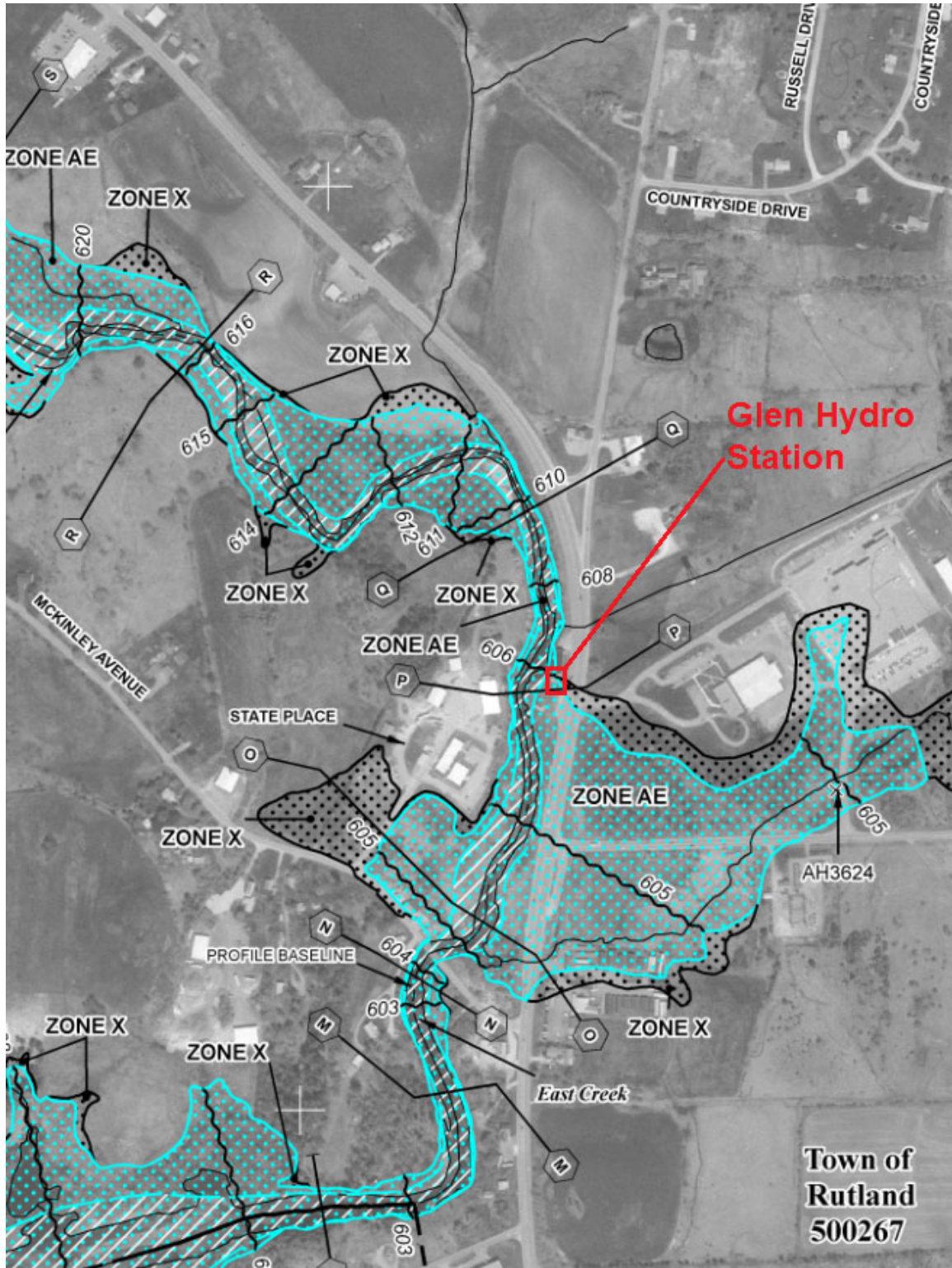
Option 1: Rebuild substation higher = \$1.5 mil (Reuse existing equipment)

Option 2: Build new substation = \$3.5 mil

- Substation = \$1.5 mil
- Transmission = \$500k
- Land = \$200k
- Distribution, 2 ckts = $\$532\text{k}/\text{mi} \times 2.5 \text{ mi} = \1.3 mil

Green Mountain Power – Substations in Floodplain Preliminary Scoping

Glen Hydro Substation – Substation in 100yr & 500yr Floodplain – Substation experienced flooding and erosion during tropical storm Irene in 2011.

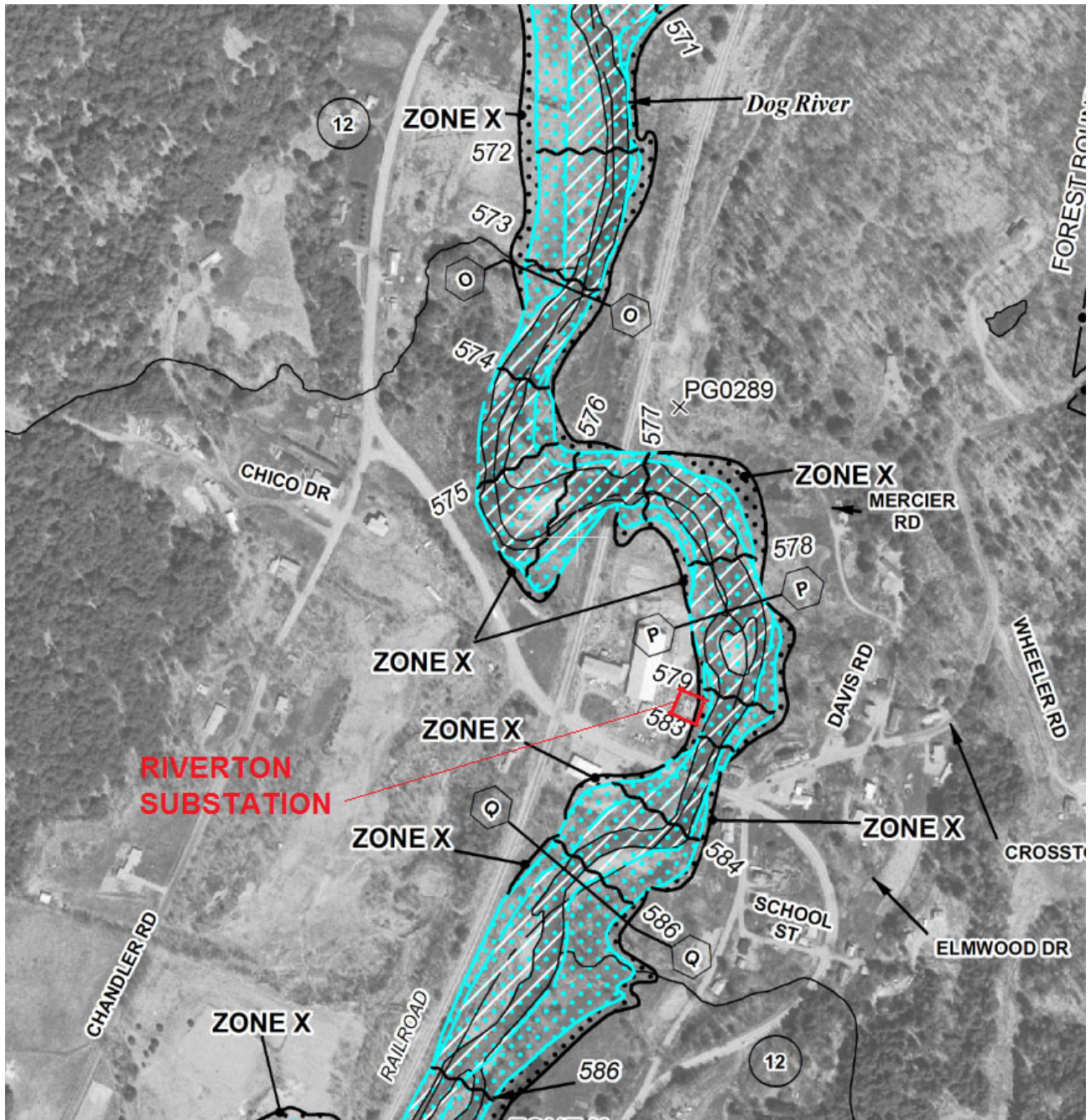


No distribution served out of station – Rebuild in the event of flooding

Source: Fema.gov/FEMA Flood Map Service

Green Mountain Power – Substations in Floodplain Preliminary Scoping

Riverton Distribution Substation – Portion of substation in 500 yr Floodplain – No History of flooding

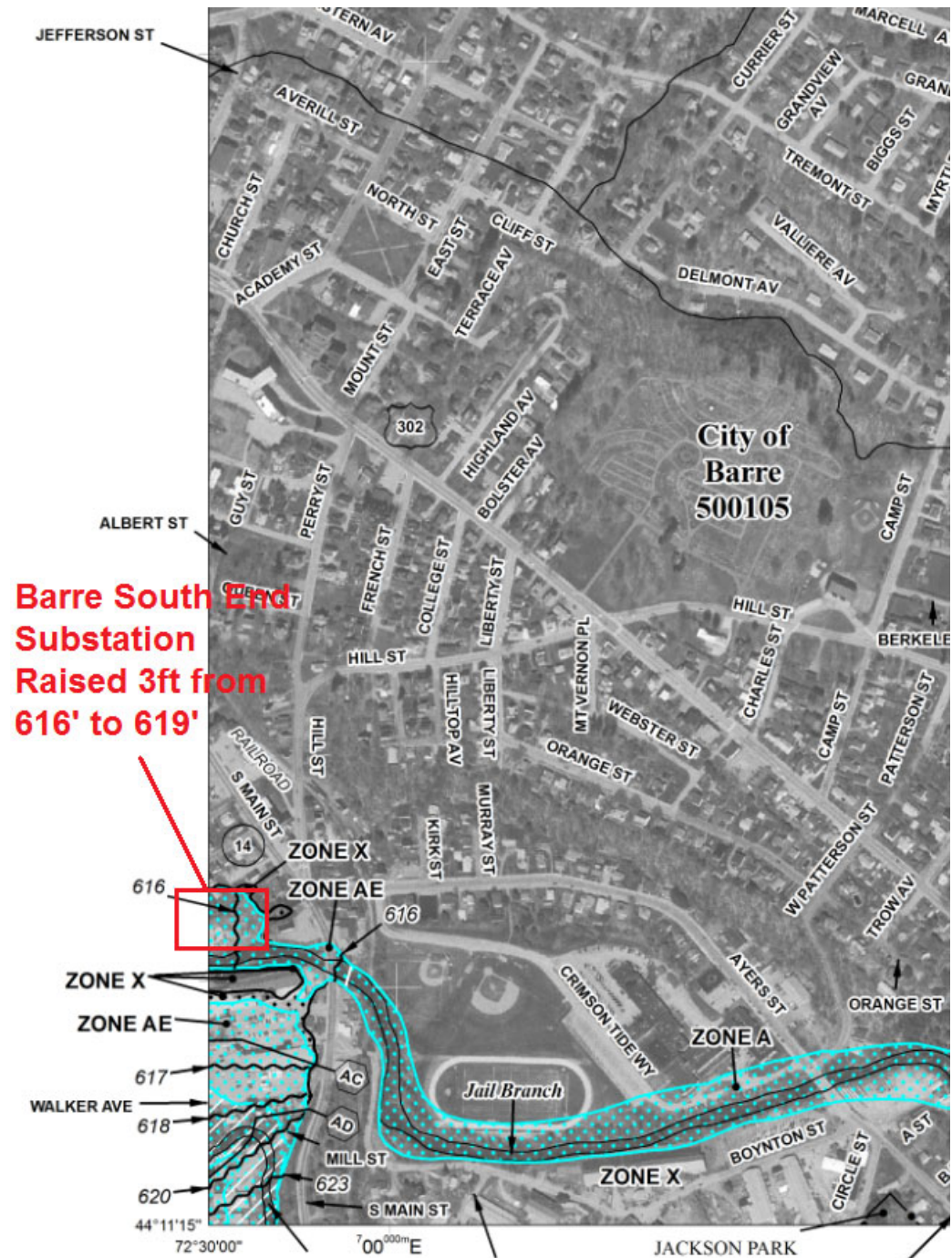


No Action required at this time

Source: Fema.gov/FEMA Flood Map Service

Green Mountain Power – Substations in Floodplain Preliminary Scoping

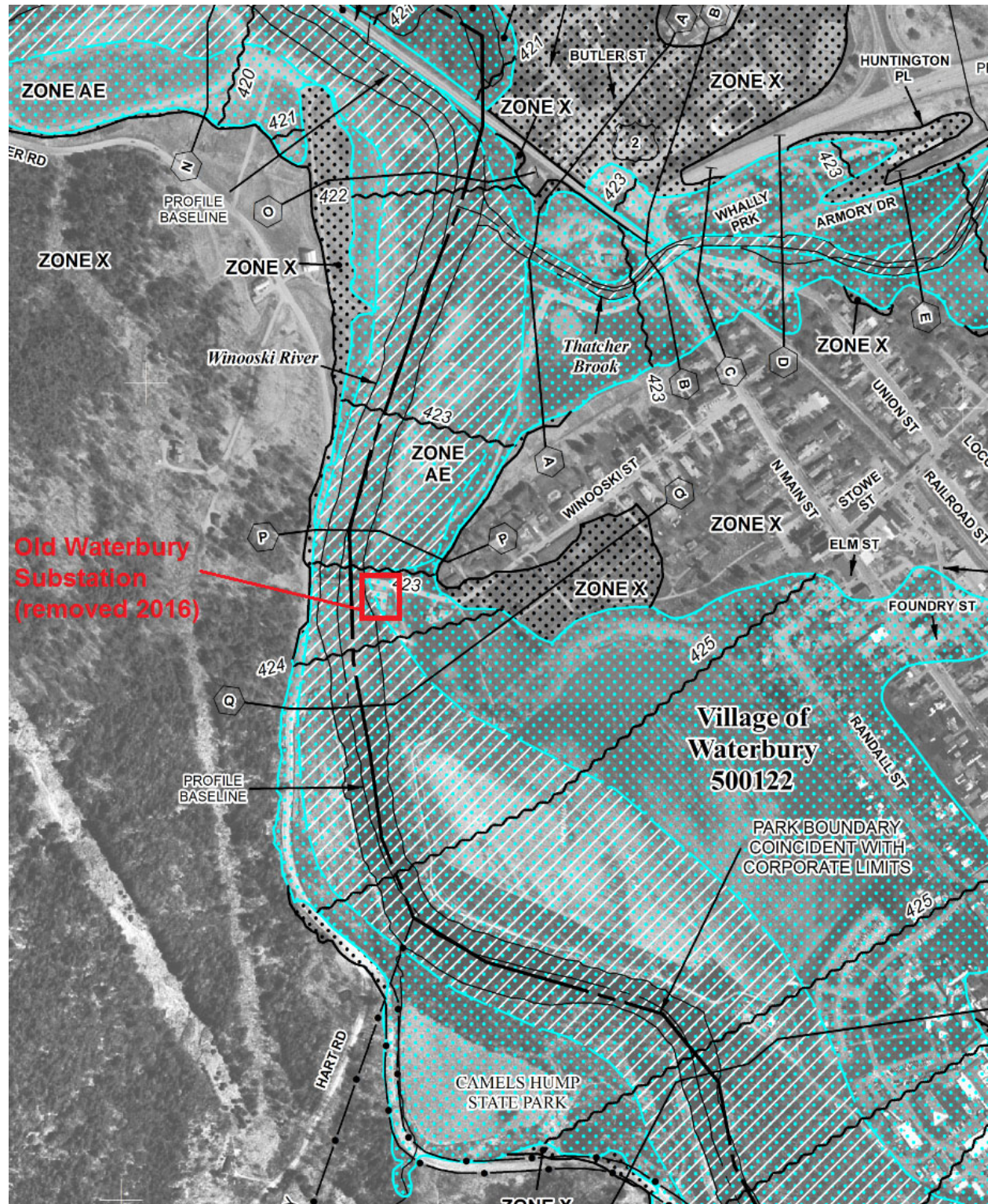
Barre South End Distribution Substation – Substation in 100 yr Floodplain – No History of flooding. Substation was rebuilt (2018) in existing location but raised 3ft to elevate the substation out of the floodplain.



- Given that the substation elevation was raised in 2018, no further action required at this time.

Green Mountain Power – Substations in Floodplain Preliminary Scoping

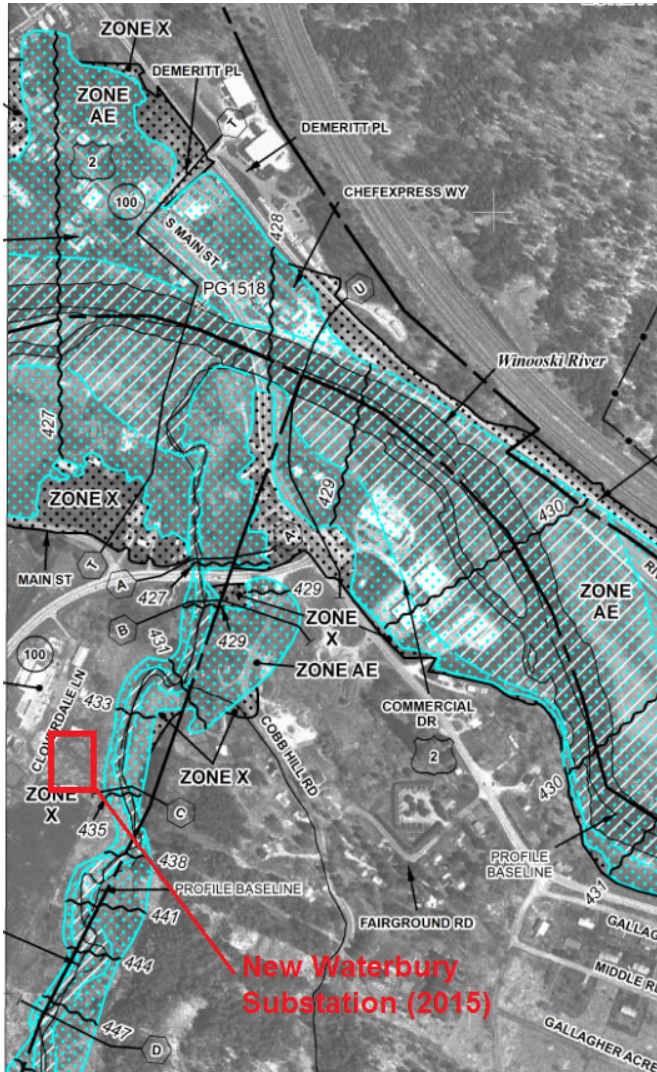
Waterbury Distribution Substation (Old) – Substation in 100 yr Floodplain – Flooded during Tropical Storm Irene, 2011. The substation was subsequently rebuilt outside of the 100yr and 500 yr floodplain.



Green Mountain Power – Substations in Floodplain Preliminary Scoping

The following substations are not within 100- or 500- year floodplains and therefore are not candidates for upgrade or relocation.

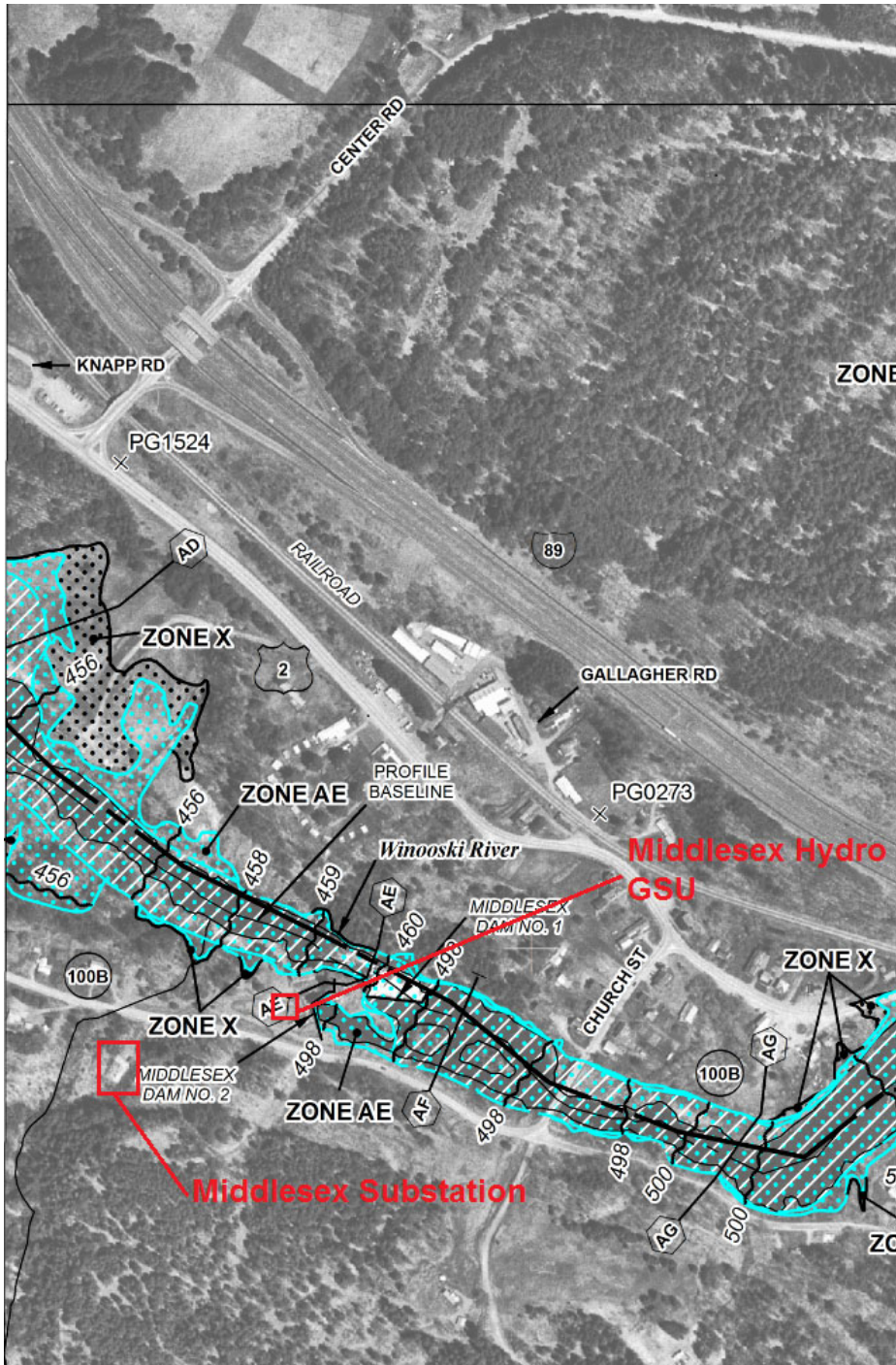
Waterbury Distribution Substation (New) – Not in 100yr or 500yr Floodplain – No History of flooding.



- The Waterbury substation has been relocated out of the Flood plain in 2015; nothing more to do with this station at this time.

Green Mountain Power – Substations in Floodplain Preliminary Scoping

Middlesex Transmission Substation and Hydro GSU – Substation is not in 100yr or 500 yr Floodplain –
No History of flooding



No Action Required

Source: Fema.gov/FEMA Flood Map Service