



12 Ellington

Community Overview

Ellington is a growing community that covers 34 square miles with a population of approximately 16,426. Ellington lies between 100 and 800 feet above sea level and is part of three watersheds, the Scantic to the west, the Hockanum in the middle, and the Willimantic to the east. Principal watercourses that run through Ellington include Broad, Charters, Creamery, Kimball's, Marsh, Martins and Muddy Brooks. With over 5,000 acres under cultivation, Ellington remains one of the largest agricultural production towns in Connecticut. Major thoroughfares in Ellington include north-south state route 83 and east-west state route 140. The eastern highlands ridgeline runs through the central part of town. This area contains extensive areas of upland forest including more than 1,200 acres of the Shenipsit State Forest.

Critical Facilities

In Ellington critical facilities include the High School, Middle School, Windermere School, Crystal Lake Elementary School, Center School, Town Hall, Public Works Department (DPW), Fire Station 43, Resident State Trooper Office, Library, a sewer pump station, senior center, Ambulance building/EOC, and Old Crystal Lake Schoolhouse.

Most critical municipal facilities are located within a two-mile radius in the Town's center. Critical facilities are summarized in the Table below.

Table 12-1: Critical Facilities, Ellington

Facility	Shelter	Cooling Center	Generator
Town Hall			X
Public Works Department			X
Board of Education Facilities			X
Fire Station 43			X
Resident State Trooper Office			X
High School	X		X
Middle School	Backup		X
Windermere School			X
Crystal Lake Elementary School	Backup	X	X
Hall Memorial Library		X	X
Seven (7) Sewer Pumping Station			X
Senior Center		X	X
Ambulance Building/EOC			X
Old Crystal Lake Schoolhouse			

During extreme heat events, Crystal Lake Elementary School, Hall Memorial Library and Ellington Senior Center can all be opened as public cooling centers. All facilities have generators and Crystal Lake Elementary School is also used as a shelter.

The town has added a back-up shelter at Crystal Lake School so the neighborhood can access this facility even if they lose access to the center of town.

All seven sewer pump stations have generators, but two, Ketchbrook & Ellington High School, are in need of replacement. The DPW sewer pump station has a manual switch. It would be helpful to convert this to an automatic switch. This generator also powers the DPW complex and may require upgrades.

The Ambulance building also serves as the EOC and has a generator that should be assessed for possibly needing upgrades.

The old Crystal Lake Schoolhouse needs a generator to help keep temperatures from freezing inside the building.

Capabilities

Hazard mitigation is incorporated, to some degree, into Ellington's Plan of Conservation and Development (POCD). POCD actions specifically address natural hazards.

No new construction or demolition has occurred since 2008 in floodplains or other vulnerable areas. No changes have been made to zoning, floodplain or inland wetlands regulations since 2008 which would increase or decrease Ellington's vulnerability to natural hazards.

DPW staff are staged at the Crystal Lake Fire Department prior to forecast storm events to assist with response and recovery when that area becomes isolated from the rest of Town. Mutual aid agreements are in place with Vernon and Tolland to assist in that area.

A small portion of Ellington is served by public water, and a dry-hydrant program ensures firefighting water is available for other areas of Town. The Town Fire Marshal works with the CT Water Company to have hydrants installed when new water lines are added.

Tree maintenance is primarily addressed by the local utility company Eversource. The Town budgets \$40,000 annually for tree-removal, on a case-by-case basis, on Town-owned property only. Costs are often shared with Eversource on "pop-up" and scheduled tree removals.

The Route 74 Bridge over the Hockanum River has undergone major improvements since adoption of the 2014 HMP. The bridge was built in 1983. A small culvert was being replaced at the time of development of the current Hazard Mitigation Plan.

A map modernization effort by FEMA is currently underway for Tolland County, but its full extent, and how much of Ellington it will cover, is unknown.

The Town is currently working to implement Low-Impact-Development regulations as part of its efforts to meet new MS4 requirements.

Since the 2019 HMP, no new actions have been incorporated as capabilities. Capabilities to address natural hazards and the losses that they have caused have not increased since the last plan has been adopted.

Challenges

Challenges Overview

Flooding is the primary climate-related concern in Ellington, with some areas warranting close evaluation. Notably, stream crossings at Abbott and Middle Road seem undersized, leading to road flooding during heavy rain events. Additionally, the section of Jobs Hill Road between Tomoka Ave and Muddy Brook Rd is susceptible to flooding, mainly due to a lack of adequate drainage infrastructure in this area. In addition, town staff report that all the dirt roads are vulnerable to flash flooding and washouts. Ludwig Road and Ellington Avenue have had washouts over the past five years.

Access to Crystal Lake remains a concern for the town, despite the progress reported over the past five years.

The town noted drainage concerns from a local farmer near Windsorville and Abbott. A stormwater drain empties into one of his fields causing some erosion.

Hazard Losses

The economic losses faced by the community from natural hazards can be estimated by reviewing historic loss figures. Loss estimates are summarized below.

Average Annualized Losses

Average Annualized Loss (AAL) estimates are summarized below. Average Annualized Loss (AAL) figures are useful tools for comparison of the risks faced from different hazards with different likelihoods of occurring in a given time period. AAL estimates were prepared for each natural hazard which may impact Ellington. National Centers for Environmental Information (NCEI) data, from the last 20 years, was categorized by hazard and averaged based on the proportion of population within each town in the CROCG Region. National Flood Insurance Program (NFIP) losses were calculated based on the 50 year span of the program. FEMA Public Assistance (PA) data from the past 11 years was categorized based on hazard and used to compute AAL. United States Department of Agriculture (USDA) from the past 10 years was calculated to get AAL. Expected Annual Loss data from the National Risk Index (NRI) was downloaded and categorized to get AAL for the below hazards. Dam failure data was taken from the 2019-2024 CROCG Hazard Mitigation Plan (HMP) plan since no new dam failures have occurred in the past five years. The 2019 HMP Dam failures were sourced from the 2014 Connecticut Natural Hazard Mitigation Plan Update, with dam failure data supplemented by the National Performance of Dams Program and the Connecticut Department of Energy & Environmental Protection

Table 12-2: Average Annualized Losses, Ellington

Hazard	Source	Average Annualized Losses (AAL)
Hurricanes/Tropical storms	NCEI	\$42,212.00
	NRI	\$1,016,030.27
	FEMA PA	\$9,826.36
Tornados/High Winds	NCEI	\$15,803.40
	NRI	\$161,678.98
Winter Storms	NCEI	\$12,519.12
	NRI	\$79,777.53

Hazard	Source	Average Annualized Losses (AAL)
	FEMA PA	\$14,430.87
Flood	NCEI	\$12,795.06
	NRI	\$23,121.23
	NFIP	\$617.36
Drought	NRI	\$368,312.65
	USDA	\$36,229.84
Extreme Heat	NRI	\$3,286.43
Wildfire	NRI	\$1,218.10
Earthquakes	NRI	\$22,736.40
Dam Failure	HMP	\$959.00

Losses Summary

A review of the above loss estimates demonstrates that the Town of Ellington has experienced significant expenses as a result of natural hazards, and is at risk for additional losses if some of the less-frequent events were to occur. These actual and potential losses justify hazard mitigation actions to reduce losses in the future.

Mitigation Strategies and Actions

This HMCAP includes new goal statements that are aligned with *Resilient Connecticut* and the efforts of the GC3. The five new goals developed for this HMCAP were developed with cooperation from CIRCA in the *Resilient Connecticut* planning process, and are:

- Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.
- Address risks associated with extreme heat events, especially as they interact with other hazards.
- Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.
- Reduce losses from other hazards.
- Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.

The previous goals of the 2019 HMP have been replaced and incorporated into these five new goals in accordance with the explanation in the Multijurisdictional document.

Noted Hazard Mitigation Needs

Over the course of Plan development, multiple hazard mitigation needs were noted:

- The town should consider doing a town-wide assessment of their stream crossings and evaluate/prioritize the areas that flood.
- The Town may wish to pursue replacement/upsizing of many of their culverts or drainage systems that are under performing.
- The town should continue to access different access/egress routes for Crystal Lake.
- Continue to evaluate the Windsorville and Abbott stormwater drainage issue.

Status of Previous Mitigation Strategies and Actions

The Town of Ellington reviewed the mitigation actions proposed in the 2019 HMP and determined the status of each. That information is included in the table below.

Table 12-3: Status of Previous Mitigation Strategies and Actions, Ellington

No.	Action	Notes	Status
1	Assess possible alternate routes to Crystal Lake, or other solutions to the risk of isolation in that area (such as stationing personnel there) in order to determine the cost-effectiveness of different options.	<p>The State of CT is reconstructing the intersection of Burbank and CT-140. The project includes paving and realignment of Newell Hill Rd. The Town is working with engineers to improve the remainder of Newell Hill Rd. This is the first step toward additional access to the Crystal Lake region. To complete access the remaining unimproved section of Schoolhouse Rd needs to be improved. This is not within the 5-year outlook but is recognized as a need in the future.</p> <p>Town staff said a section of Schoolhouse Road has been paved. The bridge on Rt 140 has been replaced, and the state utilized a detour for that project that was successful for the 8 months the bridge was closed. Furthermore, to address access challenges, the Town added a back-up shelter at Crystal Lake School so that that neighborhood can access this facility even if they lose access to the center of town. This facility could also be a cooling center if needed, and it is served by a generator.</p> <p>Based on the improved transportation infrastructure and the backup shelter, the intent of this action has been met (the Town assessed alternatives) and it can be retired.</p>	Complete / Retire
2	Work with State DOT to advance road improvement and maintenance projects to ensure access to and egress from the Crystal Lake community remains open during and after storms (Routes 140 and 30).	<p>See above action for some of the work that has been done. CIRCA staff suggests revising this action to include more specific actions.</p> <p>Town staff suggest that the Newell Hill revamp would be a good one to list specifically.</p> <p>Revise and carry forward.</p>	Carry forward with revisions

No.	Action	Notes	Status
3	Conduct a wildfire vulnerability and needs assessment to guide construction of additional dry hydrants and/or cisterns and fire roads through forested areas.	<p>Town staff said that the town evaluated and replaced one of the dry hydrants in the Crystal Lake area.</p> <p>Although many forested areas are located in Ellington, the town staff believe that their wildfire response capabilities are sufficient, with a mutual aid agreement and the town’s own capabilities. No further actions are needed at this time.</p>	Complete/ Retire
4	Explore feasibility and cost/benefit balance of developing a microgrid for the Town Hall / Board of Education / Center School complex and/or the Resident-State-Trooper / Recreation Department / Fire Station 43 / Public Works complex.	<p>Town staff is not aware of any progress with this.</p> <p>The town staff asked if generators “are” microgrids? CIRCA staff clarified that typically microgrids had solar or fuel cell sources, but really generators can count.</p> <p>Town staff mentioned a solar project is in the works near the resident trooper/rec department. Center School also has solar panels.</p> <p>The town doesn’t believe any further action is needed at the moment.</p>	No longer a need / Retire
5	Perform an outreach effort to private fuel dispensaries encouraging them to install back-up generator power to ensure continued access to fuel for residential and business transportation, heating/cooling, and power needs.	Town staff said the town has done outreach related to this in the past.	Complete / Retire
6	Conduct outreach to local small businesses with the aim of preventing the accidental release and pollution from chemicals stored and used at their facilities during or following natural hazard events.	<p>Town staff aren’t aware of any specific outreach related to accidental release, other than communicating with the local Agway.</p> <p>The town has expanded its use of the Everbridge communication system (upgraded to Pro), so the town has more ability to give alerts to local businesses.</p> <p>The intent of this action has been completed.</p>	Intent is Complete / Retire
7	Coordinate with NEMO and CRCOG to share resources and gain technical support for hazard mitigation actions involving stormwater management and public outreach, which have parallel benefits related to MS4 stormwater permit compliance.	Town staff said they are compliant with MS4. The town has an annual plan and works with a consultant to ensure it remains compliant.	Complete / Retire

No.	Action	Notes	Status
8	Coordinate with CT SHPO to conduct historic resource surveys, focusing on areas within natural hazard risk zones (such as flood or wildfire hazard zones and areas near steep slopes), to support identification of vulnerable historic properties and preparation of resiliency plans across the state. This action leverages existing resources and best practices for protection of historic and cultural resources through an ongoing statewide initiative by CT SHPO.	Town staff thinks this action can be replaced, as few historic resources are in flood zones. We can revise to mention the new SHPO layer.	Carry forward with revisions.
9	Participate in EMI courses or the seminars and annual conference held by the Connecticut Association of Flood Managers.	Town staff have said that they have not attended these specific courses but have attended other wetland and related trainings. The town also recently reviewed the draft maps for the new FEMA mapping of the Crystal Lake region, undertaken with the Thames Basin updates. This can be retired.	Intention has been met / Retire
10	Seek Certification within the Sustainable CT program and make progress with the hazard mitigation goals associated with Sustainable CT certified actions.	<p>Town staff said the town has established an Ellington Sustainability team which will meet on a monthly basis to work on applying for Bronze certification next spring. Town staff noted that one of the actions they plan to accomplish related to the Sustainable CT actions is having CIRCA complete a “heat assessment” for the town. This will be part of the HMCAP.</p> <p>The certification will likely be complete before this plan is published, so this can be retired.</p>	Complete / Retire

Active Mitigation Strategies and Actions

The Town proposed to initiate several new mitigation actions for the upcoming five years. Additionally, a number of actions from the previous planning period are being carried forward or replaced with revised actions. These are listed below.

Each of the following actions has been prioritized based on FEMA guidelines, listed from highest to lowest priority, and numbered.

Table 12-4: Active Mitigation Strategies and Actions, Ellington

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS Score	STAPLEE Score	PERISTS x STAPLEE =
EL1	Acquire generators for the Old Crystal Lake Schoolhouse	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Emergency Management	\$100,000 - \$500,000	FEMA HMA; STEAP	07/2024 - 06/2025	High	All Hazards	No	19	5	95
EL2	Assess the generator at the Ambulance Building/EOC to determine if it needs to be upgraded, and if so, acquire a generator for this facility.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Emergency Management	\$100,000 - \$500,000	FEMA HMA; STEAP	07/2024 - 06/2025	High	All Hazards	No	19	4	76
EL3	Upgrade the generators at Catch Brook and High School Sewer Pump Stations. Convert the manual switch to an automatic switch at one of the sewer pump stations that powers the DPW complex.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Emergency Management	\$100,000 - \$500,000	FEMA HMA; STEAP	07/2024 - 06/2025	High	All Hazards	No	19	6	114
EL4	Ensure that transportation and transit options are available to bring people to cooling centers.	Address risks associated with extreme heat events, especially as they interact with other hazards.	Preparedness & Emergency Response	Emergency Management	\$10,000 - \$50,000	Transit; IJJA BBFP	07/2024 - 06/2026	High	Extreme Heat	No	19	3	57
EL5	Work with State DOT to advance road improvement and maintenance projects to ensure access to and	Invest in resilient corridors to ensure that people and services are accessible	Preparedness & Emergency Response	Public Works / Emergency Management	>\$1M	CT DOT; LOTCIP	07/2026 - 06/2028	High	All Hazards	No	18	2	36

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERSISTS Score	STAPLEE Score	PERSISTS x STAPLEE =
	egress from the Crystal Lake community remains open during and after storms (Routes 140 and 30), specifically Newell Hill Rd.	during floods and that development along corridors is resilient over the long term.											
EL6	Conduct a town wide assessment of stream crossings to identify vulnerabilities and develop a priority list for maintenance and upsizing.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	\$10,000 - \$50,000	DCRF; Municipal CIP Budget	07/2025 - 06/2027	Medium	Riverine and Pluvial Floods	No	18	6	108
EL7	Conduct individual flood mitigation projects for buildings in Freshwater Brook Watershed as funding becomes available.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Project	Public Works	\$50,000 - \$100,000	FEMA HMA	07/2024 - 06/2026	Medium	Riverine and Pluvial Floods	No	18	6	108
EL8	Ensure that options are available to help property owners make their water supply wells resilient to droughts, floods, and loss of capacity	More than one goal.	Water & Wastewater Utility Projects	Planning	\$0-\$10,000	DWSRF; FEMA HMA; STEAP	07/2025 - 06/2026	High	Riverine and Pluvial Floods/Drought	No	19	10	190
EL9	Expand public water systems to areas served by private wells when needed to address drought impacts and provide fire protection	Reduce losses from other hazards..	Water & Wastewater Utility Projects	Fire Department	>\$1M	DWSRF; FEMA HMA; STEAP	07/2026 - 06/2028	High	Drought/Wildfire	No	19	8	152
EL10	Work with the Connecticut Institute for Resilience and Climate Adaptation (CIRCA) to develop an appropriate scope of work to address flooding and extreme heat concerns in Resilient	More than one goal.	More than one type	Public Works	\$0-\$10,000	CIRCA	07/2024 - 06/2027	Medium	Riverine and Pluvial Floods/Extreme Heat	No	18	5	90

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	Hazard(s)	EJ?	PERISTS Score	STAPLEE Score	PERISTS x STAPLEE =
	Opportunity Areas (ROARs).												
EL11	Review the Connecticut Cultural Resource Information System (ConnCRIS) to identify and understand historic and archaeological resources in areas of hazard risks found here: https://conncris.ct.gov .	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Planning	\$0-\$10,000	SHPO; Municipal Operating Budget	01/2026 - 12/2026	Medium	Wildfires/Tornadoes and High Winds/Riverine and Pluvial Floods	No	18	9	162
EL12	Update town website to include hazard mitigation and emergency preparedness tips for town residents, including sections corresponding to each hazard considered in this Plan Update.	More than one goal.	Education and Awareness	Emergency Management	\$0-\$10,000	Municipal Operating Budget	01/2025 - 12/2025	Medium	All Hazards	No	17	7	119

Figure 12-1: CIRCA Environmental Justice Rank and Critical Facilities, Ellington

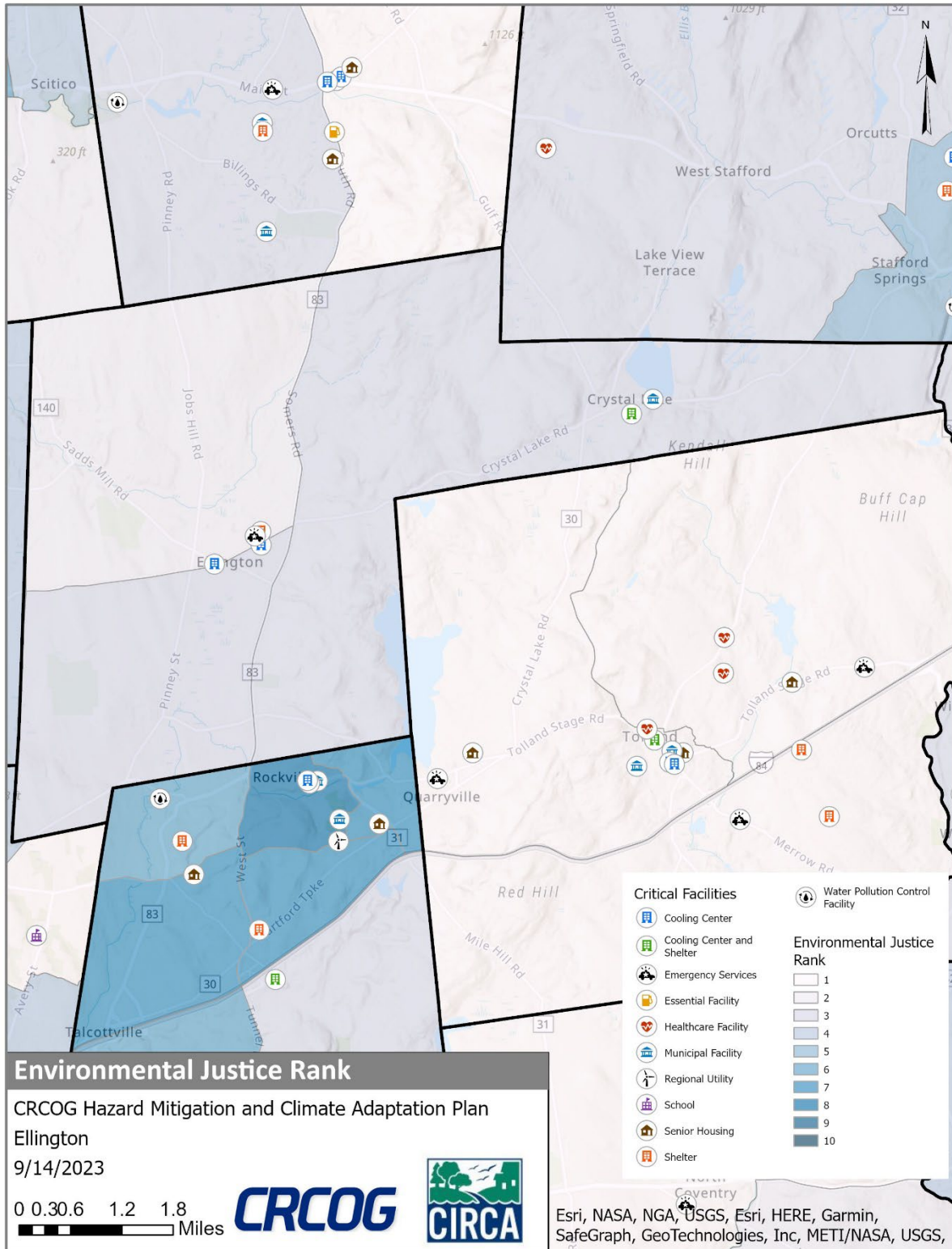


Figure 12-2: FEMA Flood Zones and Critical Facilities, Ellington

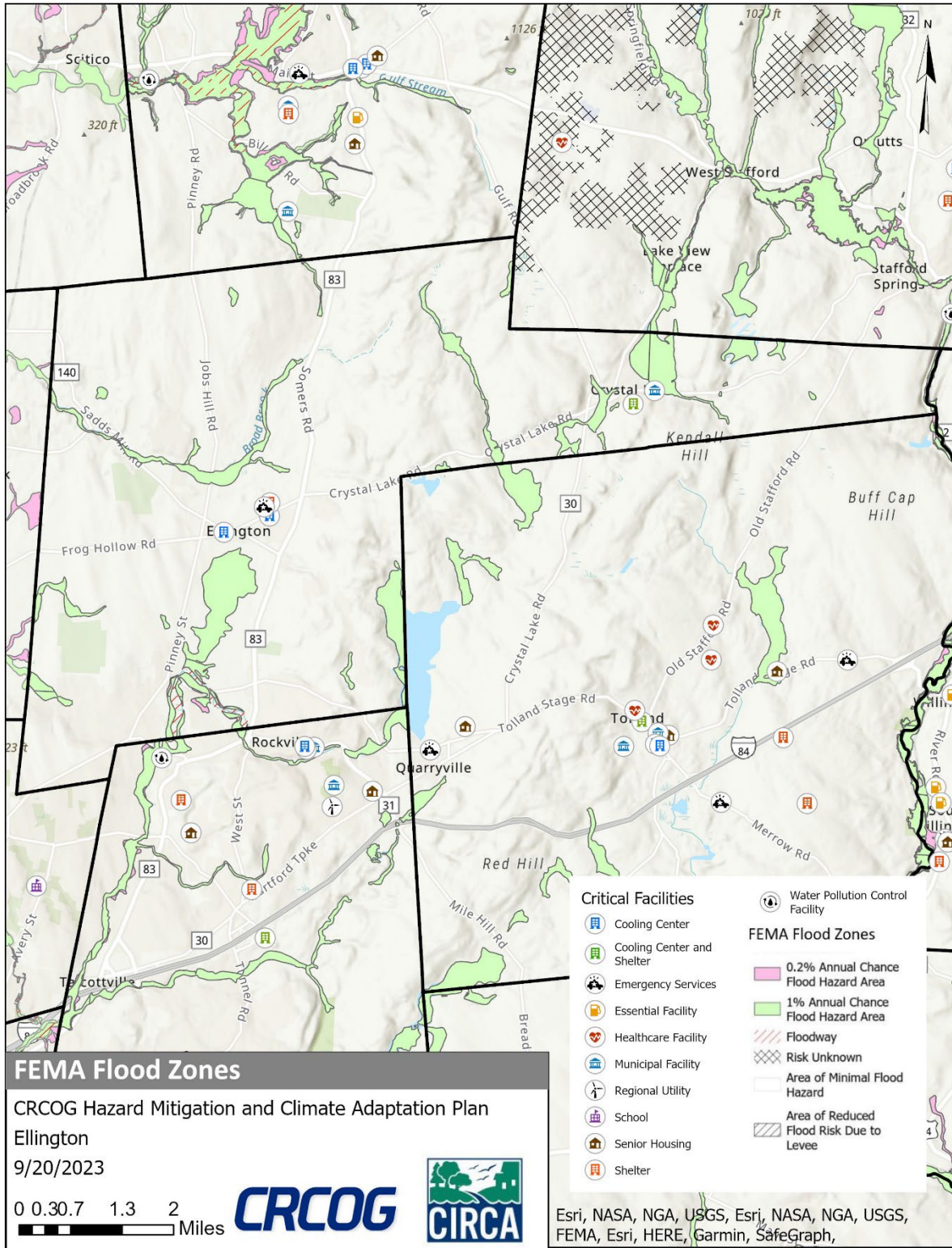


Figure 12-3: CIRCA Flood CCVI and Critical Facilities, Ellington

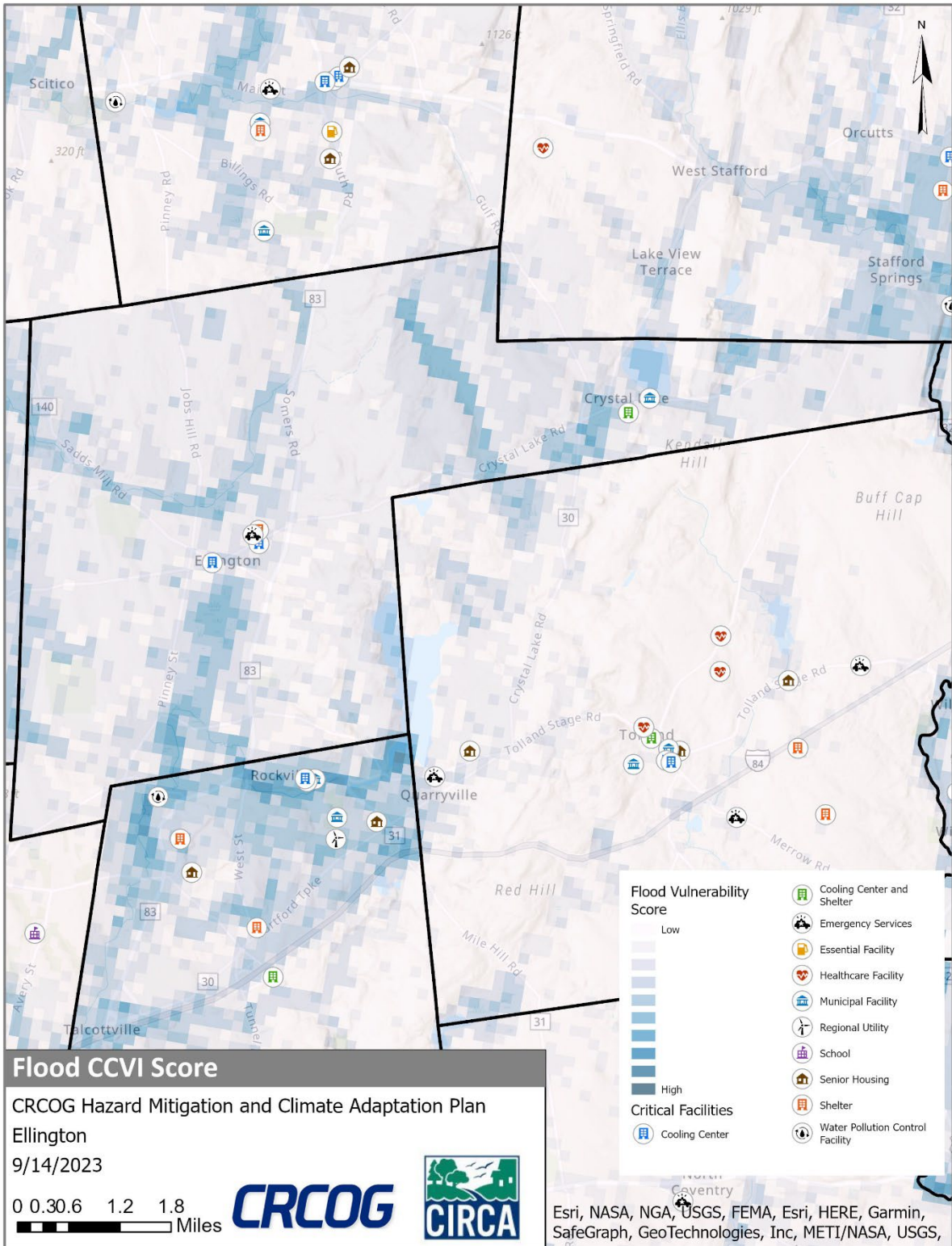


Figure 12-4: Dam Inundation Area and Critical Facilities, Ellington

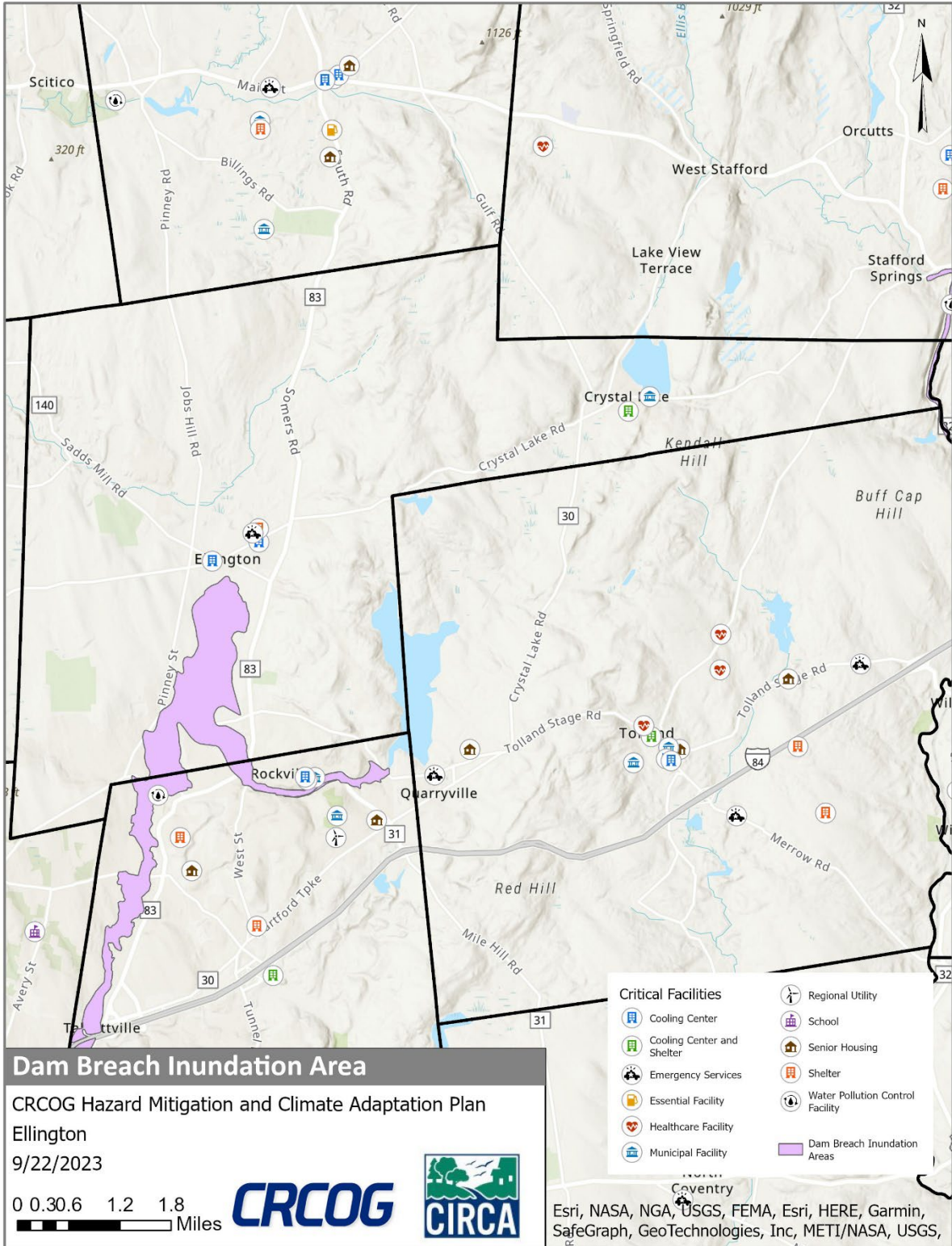


Figure 12-5: CIRCA Heat CCVI and Critical Facilities, Ellington

