

PROPOSED AMENDMENT OF GROUND-MOUNTED SOLAR ELECTRIC INSTALLATIONS

ARTICLE

To see if the Town will vote to strike section 8.10 of the Town of Shutesbury Zoning Bylaw and replace it with the following new section 8.10, to amend section 3.1-1 Use Table of the Zoning Bylaw, and to amend section 13.2 Definitions in the Zoning Bylaw, or take any other action related thereto.

ADD NEW USE under “ENERGY AND UTILITY”:

Use	RR	FC	TC	LW	Section Reference
Energy Storage System” (ESS) as a principal use	N	N	N	N	8.10

AMEND DEFINITIONS TO INCLUDE ENERGY STORAGE SYSTEMS (ESS)

Energy Storage System (ESS) shall mean any mechanical, thermal, electrical, chemical, electrochemical or other device that is operated in conjunction with an Energy and Utility Use facility (as listed in the Use Table) to store energy for use by the utility grid or a backup system.

SECTION 8.10 GROUND-MOUNTED SOLAR ELECTRIC INSTALLATIONS

8.10-1 Background

There is a pressing need to promote solar energy development in light of the global climate crisis. The Town of Shutesbury supports solar development in order to advance the Commonwealth’s policy goals to transition to non-carbon-based energy production. It is understood that the Massachusetts statutes have established solar energy generation as a protected use that cannot be prohibited or unreasonably regulated “except where necessary to protect the public health, safety or welfare” of Shutesbury residents. For these reasons, the Town of Shutesbury’s zoning is intended to support reasonable and appropriate solar installations. As noted however, certain solar related development should not occur if it is to the detriment of the public health, safety or welfare of residents. It is the responsibility of the Town of Shutesbury, through reasonable regulation and within the context of the local community that solar development occurs in a manner that protects its residents’ health, safety and welfare. This bylaw seeks to establish the appropriate balance.

The June 2022 Massachusetts Clean Energy and Climate Plan for 2025 and 2030 states that “Massachusetts’ natural and working lands (NWL) provide many benefits to the residents of the Commonwealth, including clean air and water, wildlife habitat, carbon sequestration, recreational opportunities, food and wood production, and many other functions on which society and life depend. These benefits, often called ecosystem services, continually serve our

society as long as NWL can remain functioning as NWL. Massachusetts NWL ecosystems currently store at least 0.6 gigatons of carbon, equivalent to over 2 gigatons of carbon dioxide or the past 25 years of GHG emissions in the Commonwealth. As NWL are an important local resource to help remove carbon dioxide from the atmosphere, the Commonwealth will protect NWL from losses and degradation and will pursue new and ongoing actions to increase their capacity to sequester carbon.”

Furthermore, the June 2022 Massachusetts Clean Energy and Climate Plan for 2025 and 2030 states that “ensuring that our forests continue to provide the full range of ecosystem services in the face of ongoing climate change requires careful stewardship that considers forest ecosystem dynamics, protections against forest loss, and sustainable harvest and use of forest products. While carbon sequestration is among the most important forest ecosystem services in the context of this 2025/2030 CECP and the Commonwealth’s ability to achieve net zero in 2050, forests must also continue to provide wildlife habitat, wood products, clean air and water, and recreation, necessitating tradeoffs in which ecosystem services are prioritized in forest management. These management decisions must be tailored to the particular ecological conditions, land owners’ objectives, and community values for specific forest areas.”

For purposes of this bylaw, it is understood that protection of public health, safety or welfare for Shutesbury residents includes the following:

- Since Shutesbury does not have a public water system, all uses in the community rely upon drinking water wells for a clean potable water supply. Residents and the community, at large, depend upon a functional, reliable, stable and resilient water supply. This requires that reasonable steps are taken 1) to protect the integrity of inter-connected water resources – above and below ground; and 2) to protect water from contamination and significant supply disruption.
- Wetlands provide a unique element in local water systems as reflected in the Commonwealth’s Wetland Protection Act and the Shutesbury General Wetland Protection Bylaw and should therefore be protected from contamination and disruption. As noted by the U.S. EPA, wetlands naturally improve water quality, mitigate flooding and erosion, and support fish and wildlife.
- Roads are essential for the provision of emergency services, residents’ employment and education, and the reduction of isolation for climate vulnerable individuals. Shutesbury’s 16 miles of unpaved roads, half of the total in town, are susceptible to damage due to heavy or misappropriate use, more frequent weather variability and severe weather events from climate change resulting in drought or flooding, and construction and development that can degrade the roadway surface or its drainage system. The protection of infrastructure integrity is important to the health, welfare and safety of residents and the environment.
- A resilient natural ecosystem is essential for the health and wellbeing of the populace, the water supply, and the local flora and fauna. Shutesbury is primarily forest land and it is recognized that unfragmented tracts of forest provide many ecological benefits that contribute to a vibrant natural ecosystem, and water supply, and by extension make Shutesbury a more resilient community.
- A forest and its trees are the only known terrestrial mechanism for removing carbon on a large scale from the atmosphere through carbon sequestration and storage. As recognized at the international, national, and state level, removing carbon from the atmosphere is an

essential component of mitigating climate change. In its June 2022 Clean Energy and Climate Plan for 2025 and 2030, the Commonwealth has committed to reduce Greenhouse Gases by 25% below 1990 level in 2030 on natural and working lands through enhanced carbon sequestration capacity and adoption of climate smart management practices. Shutesbury, through its forestland, contributes to the Commonwealth's efforts to reduce greenhouse gases and removable of the forest land should be considered for any proposed use.

- As a community that is mostly forested land and with little infrastructure and no municipal water supply, the risk of forest fires should be minimized whenever possible. Increased instances of drought and the weakening health of local forests from invasive species and fragmentation, makes Shutesbury's forests more susceptible.
- While Shutesbury has limited agricultural land, with climate change, the capacity to grow food locally is important, making agricultural land a premium resource to be protected.
- As a small rural town, Shutesbury has a volunteer fire department and small police department comprised of only one fulltime position. The emergency management team is primarily volunteers and town staff (fire chief, police chief, town administrator). Given this staffing level, the town has a very limited ability to respond to large scale or complex industrial accidents. Similarly because Shutesbury is surrounded by other low-capacity towns in rural Franklin County, mutual aid may provide more personnel but not greater technical ability to respond to large or complex emergencies. Hosting industrial developments with potential for electrical and fire incidents may therefore pose a heightened public safety hazard.
- The preservation of historical and cultural resources in any community is important to residents by providing context for the present through an understanding of a community's past – it's inhabitants and their way of life and values including, their economy, religion and use of land and resources. As stated by the Massachusetts Historical Commission, "the continuing presence of historic properties in Massachusetts immeasurably enhances the quality of our lives; they help to establish our sense of place and to define the very character of our communities." In Shutesbury, this includes both Indigenous and post-contact history and culture.

Consistent with Massachusetts zoning law, this bylaw seeks to address the need to conserve health; secure safety from fire, flood, panic and other dangers; facilitate the adequate provision of transportation, water, water supply, drainage, sewerage, schools, parks, open space and other public requirements, to conserve the value of land and buildings including the conservation of natural resources and the prevention of blight and pollution of the environment.

8.10 -2 Purpose

The purpose of this bylaw is to provide reasonable regulation that strikes a balance between allowing needed solar development while also protecting the public health, safety or welfare of Shutesbury residents as detailed herein. Reasonable regulation shall be achieved in this bylaw by: (a) providing standards for the approval, placement, design, construction, operation, monitoring, modification and removal of such installations in order to protect and preserve Town infrastructure (including roads), prevent public nuisance, promote public safety, maintain existing residential property values, minimize and mitigate possible impacts on environmental, scenic, and historic resources, and protect the town from financial harms; (b) providing adequate

financial assurance for the eventual decommissioning of such installations; and (c) protecting large contiguous blocks of forest back-land based on the understanding that large unfragmented tracts provide many ecological benefits including improved water and air quality, sequestration of carbon, reduced movement of invasive species, provision of wildlife habitat and the land base for greater biodiversity; as well as maintaining commercial forestry as a viable agricultural activity and providing many recreational opportunities for town residents.

8.10-3 Applicability

- A. This Section 8.10 applies to Large- Scale and Small-Scale Ground-Mounted Solar Electric Installations (hereinafter, Installations, except as noted in this bylaw). Small-Scale Ground-Mounted Solar Electric Installations which are accessory to an existing residential or non-residential use which generate electricity principally used by such residential or non-residential use are permitted as of right, do not need to comply with this Section 8.10, but require a Site Plan Review from the Zoning Board of Appeals, as well as a building permit, and must comply with all other applicable provisions of the Town of Shutesbury Zoning Bylaw.
- B. This Section 8.10 also pertains to physical modifications that materially alter the type, configuration, or size of Installations or related equipment.
- C. Upon written request by the applicant, the Planning Board may waive or reduce any special permit requirement of this Section 8.10 by the same majority vote required for the permit itself upon written findings included in the permit of:
 - 1. Special circumstances of the site, its surroundings, or the proposal that negate the need for imposition of the requirement, or the objectives of this section may be met in alternative manner; AND
 - 2. That such a waiver or reduction will not derogate from the public purposes and intent of this zoning bylaw.

In the case of a special permit, such waiver requests must be made by the applicant prior to the close of the public hearing. An affirmative or negative vote under this paragraph C shall not be construed as an approval or disapproval of the permit sought.

8.10-4 Requirements

To protect the public health, safety, or welfare of Shutesbury residents the following general requirements shall be met for Installations.

A. General Requirements

- 1. Compliance with Laws, Bylaws, and Regulations

The construction and operation of all Installations shall be consistent with all applicable local, state and federal requirements, including but not limited to all applicable safety, construction, electrical, and communications requirements. All buildings and fixtures forming part thereof shall be constructed in accordance with the Massachusetts State Building Code, the Massachusetts Fire Code and the Massachusetts Electrical Code.

Siting of all Installations shall be consistent will all applicable local, state and federal requirements, including but not be limited to:

- a. Mass. Endangered Species Act (MESA)

- b. Mass. Wetlands Protection Act (WPA)
- c. Mass. Environmental Policy Act (MEPA)
- d. Mass. Forest Cutting Practices Regulations
- e. Shutesbury General Wetlands Protection Bylaw
- f. U.S. Endangered Species Act
- g. National Historic Preservation Protection Act (NHPA)

Installations shall not go into construction until all local, state and federal requirements have been met and all required approvals issued.

- 2. All plans and maps shall be prepared, stamped and signed by a Professional Civil Engineer licensed to practice in the Commonwealth of Massachusetts.
- 3. Lots for Installations shall have the required frontage on a public way stated in Section 4.2-1 and defined in this zoning bylaw.

B. Dimensional Requirements

The following dimensional standards shall be met for Installations.

- 1. Lot size
 - a. Large-Scale Ground-Mounted Solar Electric Installation shall mean an Installation which occupies more than one and one-half (1.5) acres of land and no greater than fifteen (15) acres of land
 - b. Small-Scale Ground-Mounted Solar Electric Installation shall mean an Installation which occupies one and one-half (1.5) acres or less of land.
- 2. Minimum setbacks for Large-Scale Ground-Mounted Solar Electric Installations shall be:
 - a. Front street setback: 500 feet (as required for Forest Conservation District)
 - b. Property line setback: 100 feet
- 3. Minimum setbacks for Small-Scale Ground-Mounted Solar Electric Installations shall be:
 - a. Front street setback: 100 feet
 - b. Property line setback: 50 feet
- 4. Required setback areas shall not be counted toward an Installation’s total acreage.
- 5. If an ESS is included in the Installation, it shall be located no more than 100 feet from the outer perimeter of the solar panels, and to mitigate possible damage resulting from a fire, the ESS shall maintain a buffer of at least 100 feet from forested land.

C. Mitigation Requirements

The Special Permit may be conditioned to effectuate and make enforceable these mitigation requirements.

- 1. Mitigation for Loss of Carbon Sequestration and Forest Habitat:
 If forestland is proposed to be converted to an Installation the plans shall designate thereon an area of unprotected (meaning, not subject to MGL. Ch. 184, §§ 31-33 at time of application) land on the same lot and of a size equal to four times (4X) the total area of such Installation. Such designated land shall remain in substantially its natural condition without alteration, including prohibition of commercial forestry/tree cutting not related to the maintenance of the Installation, until such time as the Installation is decommissioned;

except in response to a natural occurrence, invasive species or disease that impacts the trees and requires cutting to preserve the health of the forest.

2. Mitigation for Degradation of Forest Health and Habitat Within the Installation:
If forestland is proposed to be converted to a Ground-Mounted Solar Electric Installation, a plan shall be submitted to establish mitigation measures to preserve and support the health and ecological services: minimize erosion, promote the growth of native plants and prevent invasive species. The site shall be regularly reseeded and annually monitored until 80% of the land is vegetated by native plants (excluding invasive species). A planting maintenance plan shall be submitted with the special permit. An annual monitoring report shall be submitted for the first five years after construction and later if the 80% vegetation threshold is not met.

Mowing shall be limited to no more than twice annually.

3. Mitigation for Installation of Perimeter Fencing:
Any perimeter fencing within winter sight of a public roadway, driveway, or dwelling existing at the time of the special permit application shall be entirely black in color.
4. Mitigation for Disruption of Trail Networks:
If existing trail networks, old Town roads, or woods or cart roads are disrupted by the location of the Ground-Mounted Solar Electric Installation, the plans shall show alternative trail alignments to be marked and made passable by the applicant. No rights of public access is established hereunder.
5. Mitigation for Disruption of Historic Resources and Properties:
Historic resources and properties, such as cellar holes, farmsteads, stone corrals, marked graves, water wells, or Indigenous cultural features, including those listed on the Massachusetts Register of Historic Places or those defined by the National Historic Preservation Act, shall be excluded from the areas proposed to be developed, including clearing for shade management. A suitable buffer area shall be established on all sides of each historic resource.
6. Mitigation of Stormwater:
Stormwater runoff from the property during construction and during operation shall not significantly increase from the volume or frequency prior to development, nor shall the pattern of stormwater distribution be significantly altered from patterns prior to development to protect water recharge, existing wells and prevent flooding or erosion. Stormwater management systems should use natural designs including Low Impact Design (LID) and Best Management Practices (BMPs) as outlined in the Massachusetts Stormwater Handbook, whenever possible. Stormwater management systems shall be designed to manage anticipated increased rain, extreme precipitation events, and changing ground conditions using estimates provided by the National Oceanic and Atmospheric Administration (NOAA). With the exception of precipitation estimates, any stormwater management design, including areas outside the buffer zone, shall be consistent with Massachusetts DEP stormwater standards.

7. Mitigation of Noise:
Noise generated by the Installation and/or associated equipment and machinery shall conform to applicable state and local noise regulations. Noise shall be minimized during construction and operation to protect public health and welfare and minimize disruptions to wildlife habitat. Noise, either episodic or continual, shall comply with Massachusetts DEP noise regulations, 310 CMR 7.10. Construction or maintenance activities shall be limited to Monday to Friday and shall not occur between the times of 7:00 p.m. and 7:00 a.m., with the exception of an emergency that would affect public safety or the integrity of the installation.
8. Mitigation for Road Integrity:
Construction access shall be from paved (bituminous or chip-sealed) Town roads. In the alternative, an applicant may propose, at their expense, to Town specifications, and based on the Town's cost estimate, to fund the paving and improvement of drainage facilities to those portions of the Town road required to meet the intent of this section as determined by the Planning Board. The applicant may also propose posting a bond sufficient to fund the maintenance, repair, and restoration to the satisfaction of the Highway Department and the Select Board, of an unpaved Town road and associated drainage facilities used for construction access. The Planning Board, after consultation with the Shutesbury Highway Department and only following written Select Board approval of an alternative proposal, may accept or deny such alternative proposals.
9. Mitigation for Forest Block Fragmentation:
In order to preserve the ecological integrity of Shutesbury's large blocks of undeveloped forestland, no more than one Large Ground-Mounted Solar Electric Installation shall be permitted within the bounds of any set of public ways and/or Town borders as depicted on the map entitled Large Ground Mounted Solar Electric Installation Districts, and incorporated into this zoning bylaw.

8.10-5 Design and Performance Standards

A. Lighting

Except for emergency response or repairs, there shall be no permanently-affixed exterior lighting, including during construction and operation.

B. Signage

1. Sufficient signage shall be provided to identify the owner of the facility and provide a 24-hour emergency contact phone number.
2. Signage at the perimeter warning pedestrians is allowable.
3. Installations shall not be used for displaying any advertising except for reasonable identification of the manufacturer or operator of such Installation.

C. Control of Vegetation

Herbicides or pesticides may not be used to control vegetation or animals.

D. Visual Impacts

1. Minimize visual impacts including preserving natural vegetation to the maximum extent possible, blending in equipment with the surroundings, and adding vegetative buffers to provide an effective visual barrier from adjacent roads and driveways, and to screen abutting residential dwellings.
2. When possible, a diversity of plant species shall be used, with a preference for species native to New England.
3. Use of exotic plants, as identified by the most recent copy of the “Massachusetts Prohibited Plant List” maintained by the Massachusetts Department of Agricultural Resources, is prohibited.
4. If deemed necessary by the Planning Board, the depth of the vegetative screen shall be 30 feet and will be composed of native trees and shrubs staggered for height and density that shall be properly maintained.
5. The owner/operator shall not remove any naturally occurring vegetation such as trees and shrubs unless it adversely affects the performance and operation of the Installation.
6. Landscaping shall be maintained and replaced as necessary by the owner/ operator.

E. Utility Connections. . Electrical transformers, wires, or other utility interconnections shall be constructed as required by the utility provider and may be above ground if necessary; provided, however, that every reasonable effort shall be made to place all utility connections underground, depending on appropriate soil conditions and topography of the site and any requirements of the utility provider.

F. All electric power generated shall be from solar energy.

G. Access Driveways shall be constructed to minimize finished width, grading, removal of stone walls or roadside trees, incompatible appearance from the roadway, and impacts to environmental or historic resources.

8.10-6 Safety and Environmental Standards

A. Emergency Services

1. The owner or operator shall provide a copy of the project summary, electrical schematic, and site plan to the Shutesbury Fire Chief, Police Chief, and Emergency Management Director.
2. The owner or operator shall cooperate with local emergency services to develop a written emergency response plan that is provided to Shutesbury police and fire departments, and the Emergency Management Director.
3. All means of shutting down the Installation shall be clearly marked.
4. The owner or operator shall identify a responsible person for public and governmental inquiries throughout the life of the Installation. Updated contact information shall be provided to the Town Administrator, Fire Chief, Police Chief, and the Emergency Management Director annually, no later than 30 days after the beginning of the fiscal year or within 14 days of any contact personnel or information changes. Contact information shall include the contact’s name, role in relation to the Installation, email and

work phone number. At least one 24 hour/7 day phone number shall be provided for emergencies.

B. Land Clearing, Soil Erosion and Land Impacts

1. The Installation shall be designed to minimize impacts to open agricultural land and fields, even if not in production. Clearing of natural vegetation shall be limited to what is necessary for the construction, operation and maintenance of the Installation. Grading that substantially disturbs the existing soil profile and structure is prohibited; sites shall be selected where construction may be accomplished without such earth work.
2. Prior to any site disturbance and construction, the limits of the work shown on the approved site plan shall be surveyed and clearly marked by a Professional Land Surveyor. Upon completion of the survey, the Professional Land Surveyor shall verify to the Planning Board, in writing, that the limit of work, as shown on the approved site plans, has been established on site.
3. The design shall minimize the use of concrete and other impervious materials to the maximum extent possible. Installations shall be installed on water permeable surfaces.
4. Locating Installations, including access driveways and any associated drainage infrastructure on original, pre development grades in excess of 15% is prohibited. This requirement does not apply to areas used exclusively for shade management provided all stumps from cut trees shall remain in place.
5. An environmental monitor may be designated by the Planning Board, at the applicant's or owner's expense, to inspect the site during construction and after significant weather events; the monitor shall provide reports to the operator and Planning Board regarding erosion and stormwater impacts.

C. Habitat Impacts

Unless a waiver has been approved under 8.10-3.C, Large-Scale Ground-Mounted Solar Electric Installations shall not be located on:

1. Permanently protected land subject to MGL. Ch. 184, §s 31-33
2. Land designated as Core Habitat and Critical Natural Landscapes (CNLs) by the Natural Heritage and Endangered Species Program BioMap 2 and when available, as designated by its successor BioMap 3. Core Habitats identified in Shutesbury include three Forest Cores, three Aquatic Cores, and seven Species of Conservation Concern Cores, all of which "ensure the long-term persistence of species of conservation concern, exemplary natural communities, and intact ecosystems" CNLs identified in Shutesbury include three Landscape Blocks, one Wetland Core, and three Aquatic Cores - "larger landscape areas that are better able to support ecological processes, disturbances, and wide-ranging species". These designations establish that the need for protection is a stated interest of the Commonwealth and meets the need for public welfare as established in the 2010 BioMap 2 report, the Commonwealth's 2022 Clean Energy and Climate Plan for 2025 and 2030, and the 2020 SMART regulations.
3. Habitat of Potential Regional and Statewide Importance located on Massachusetts Ecological Integrity Maps by the Dept. of Environmental Protection. The need for protection meets the needs of public welfare and the interest of the Commonwealth as noted by DEP "Massachusetts Ecological Integrity Maps " representing human-induced stressors on the environment and resiliency."

4. Priority Habitat as codified by MA Endangered Species Act (MESA) that includes all state listed species of both plants and animals. The need for protect meets the needs of public welfare and the interest of the Commonwealth.

D. Wetlands

1. The applicant, if applicable, will prepare MA DEPWPA Form 4a. Abbreviated Notice of Resource Area Delineation (ANRAD) that includes a wetland evaluation and map of the site. The ANRAD shall also be submitted to the Conservation Commission.
2. In order to provide an adequate intervening land area for the infiltration of stormwater runoff from a Installation, ground alterations, such as stump removal, excavation, filling, and grading, or the installation of drainage facilities, access driveways, or solar panels, are prohibited within 100 feet of any wetlands or hydrologic features subject to the jurisdiction of the Shutesbury Conservation Commission and must be in compliance with the Shutesbury Wetlands Bylaw.
3. The Planning Board may impose conditions to contain and control stormwater runoff that might negatively impact identified wetlands or other hydrologic features even if the proposed work area is outside the jurisdiction of the Conservation Commission.

E. Energy Storage Systems (ESS)

1. If an energy storage system (ESS) is installed as part of the facility, the ESS shall be designed and sized to store only the energy generated on site. The installation shall not be designed nor operated to receive and subsequently transfer off-site generated energy. An ESS must meet the standards put forth in the National Fire Protection Association's NFPA 855 Standard for the Installation of Stationary Energy Storage Systems, 2020 Edition, as amended and updated and comply with Massachusetts Fire Code 527 CMR 1.00 and the State Electrical Code 527 CMR 12.00.
2. To ensure that local first responders are prepared for emergencies related to the ESS, the owner or operator shall arrange for and pay all the expenses for annual training of Shutesbury fire, police, and emergency management personnel, as designated by the town to respond to an ESS- related emergency. An annual payment, in an amount approved by the Fire Chief, Police Chief, and Emergency Management Director, to cover all expenses of annual training above shall be due to the town by July 1 of each year; unspent funds will be credited to the following year.
3. In the case of an emergency related to the ESS, the operator shall provide the Town of Shutesbury with an emergency response team, at the operator's expense, that has the necessary capacity, equipment and training to undertake the requirements of the emergency response plan.
4. All means of shutting down the ESS shall be clearly marked.
5. Spacing of energy storage units and other fire prevention installation measures for the ESS shall be designed and documented that follow current safety-related best practices to mitigate thermal runaway among energy storage units.
6. Onsite water storage shall be available for firefighting adequate to the needs to mitigate thermal runaway at the ESS as indicated in the hazard mitigation analysis.
7. An ESS shall be designed so that in the instance of fire, noxious gases resulting from combustion will be contained or filtered, to the maximum extent practicable, mitigating

the direct venting into the environment from containers or storage units associated with the ESS.

8. Contaminated water runoff from firefighting and heat reduction efforts related to an ESS shall be contained onsite to prevent, to the maximum extent practicable, water infiltration into the soil to protect underlying or adjacent water systems.
9. To mitigate the risk of water contamination in the case of emergency and in particular risks to public and private water supplies, the ESS shall comply with Section 9. 3-2 B 8a of the Shutesbury Zoning Bylaw. Unless waived by the Planning Board, the ESS shall be sited no less than 400 feet from the nearest water well.
10. Use of per-and polyfluoroalkyl substances (PFAS) for fire suppression with the ESS is prohibited given the federally and state recognized high risk of contamination of groundwater.

8.10-7 Required Documents

A. Required Pre-Submission Documents

1. Project Notifications for Historic and Cultural Mitigation. The purpose of the project notifications is to provide a reasonable opportunity for knowledgeable parties to: comment on the project, inform the Phase I Cultural Resource Survey Report required in 8.10-7 A2, or participate in the development of the Cultural Resource Management Plan 8.10-4 C5. Notifications shall at a minimum include: the project name, a narrative description of the project; contact information for the applicant; most recent U.S. Geological Survey (USGS) map section (7.5 minute quadrangle) showing actual project location, a site map showing the Area of Potential Effect as defined by the National Historic Preservation Act, and a narrative including relevant historical or cultural information about the site.

Project notifications shall be sent to the following parties: Massachusetts State Historical Commission; Shutesbury Historical Commission; the Tribal Historic Preservation Officers (THPOs) for tribes in Massachusetts, Connecticut, Rhode Island, Vermont, New York, and New Hampshire listed by the U.S Department of the Interior and the National Conference of State Legislatures. If a tribal government or organization has no THPO, project notifications shall be sent to the appropriate tribal representative for that given tribal government. At a minimum, project notifications shall be sent to the following Tribal governments or their successors: Wampanoag Tribe of Gay Head-Aquinnah, Mashpee Wampanoag Tribe, Stockbridge-Munsee Band of Mohican Indians, Nipmuc Nation, Nipmuck Tribal Council of Chaubunagungamaug, Chappaquiddick Wampanoag Tribe, Herring Pond Wampanoag Tribe, Mashantucket Western Pequot Tribal Nation, Mohegan Tribe of Indians of Connecticut, Narragansett Indian Tribe, Schaghticoke Tribal Nation, Elnu Abenaki Tribe of Vermont, Golden Hill Paugussett Indian Nation, Eastern Pequot Tribal Nation, Saint Regis Mohawk Tribe, and Seneca Nation of Indians. Applicants are encouraged to contact the Massachusetts Indian Commission or the Massachusetts Historical Commission so that the applicant can notify additional tribes that have historical ties to the Algonquian-speaking Indigenous people of Western Massachusetts.

Project notifications shall be written with a requirement to respond within 45 days from date of receipt. A failure of parties to respond within 45 days from date of receipt shall allow the applicant to submit the special permit application under this Section 8.10. Late-responses shall be provided to the Planning Board.

2. Phase I Cultural Resource Survey Report. The primary objective of a Phase I Cultural Resources Survey is to identify and record all cultural resources within a project area. This shall include locations of all known, mapped or suspected historic properties, Indigenous archaeological sites, or sites of Indigenous ceremonial activity, as well as documentation demonstrating the required Project Notifications in 8-10.7A and any received written responses to the notification. Identification of such sites shall be based upon all of the following: 1) a determination of the Area of Potential Effects as defined by the National Historic Preservation Act - the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties; 2) cultural resource survey; 3) field work; 4) review of available records of historic or cultural properties; and 5) review of information about suspected historic properties, including those of religious and cultural significance to an Indigenous community, and historic properties suggested by noticed parties.

The Planning Board strongly encourages the owner or applicant to allow appropriate site access to parties noticed in accordance with 8.10-7A to determine the presence of historical resources and properties and to assess possible impacts. In the instance that the noticed parties are unable to gain access to the site and are therefore unable to submit comments based upon direct knowledge to the Planning Board, the lack of this documentation shall not be deemed to establish that there are no historical resources or properties present or that possible disruptions might not occur.

To protect the cultural resources, any reports deemed, by either the Massachusetts Historical Commission or the Shutesbury Historical Commission, to contain sensitive information about sites and specimens, as defined in section 26B of MGL Chapter 9, shall not be a public record. Any such reports shall be available only to the permitting authorities, the Shutesbury Historical Commission, the Massachusetts Historical Commission, any consulting Tribes, and the project applicant.

B. Required Documents for Special Permit Submission

1. Site Plan. A Site Plan of the Installation additionally showing:
 - a. Locations of wetlands and surface water resources including hydrogeological modeling of groundwater systems.
 - b. Location of BioMap 2, and when available BioMap 3, Core Habitats and Critical Natural Landscapes as designated by the Natural Heritage and Endangered Species Program (NHESP).
 - c. Location of Habitat of Potential Regional and Statewide Importance located on Massachusetts Ecological Integrity Maps as mapped by the Dept. of Environmental Protection.
 - d. Location of Priority Habitat as codified by MA Endangered Species Act (MESA)

- e. Locations of local or National Historic Districts
 - f. Locations of vegetative plantings
 - g. Locations of stormwater management elements
2. Blueprints. Blueprints or drawings of the installation signed by a Professional Engineer licensed to practice in the Commonwealth of Massachusetts, showing:
 - a. The proposed layout of the Installation.
 - b. One- or three-line electrical diagram detailing Installation, associated components, and electrical interconnection methods, with all Massachusetts and National Electrical Code compliant disconnects and overcurrent devices.
 3. General Documentation. The following information shall also be provided:
 - a. Name, address, and contact information for proposed system installer.
 - b. The name, contact information and signature of any agents representing the project applicant.
 - c. A list of any listed hazardous or known carcinogenic materials proposed to be located on the site in excess of household quantities and a plan to prevent their release to the environment as appropriate. In addition, if an ESS is included in the Installation, a list of materials that are flammable or toxic when burned shall be provided.
 4. Site Control
The project applicant shall submit documentation of actual or prospective access and control of the project site sufficient to allow for construction and operation of the proposed Installation.
 5. Financial Surety
Applicants shall provide a form of surety, either through an escrow account, bond or otherwise, accessible to the Town of Shutesbury, to cover the cost of removal in the event the Town must remove the Installation and remediate the site to its natural preexisting condition, in an amount and form determined to be reasonable by the Planning Board, but in no event to exceed more than 125 percent of the cost of removal and compliance with the additional requirements set forth herein. The project applicant shall submit a fully inclusive estimate of the costs associated with removal, prepared by a qualified engineer. The amount shall include a mechanism for calculating increased removal costs due to inflation.
 6. Utility Notification
No Installation shall be constructed, nor building permit issued until evidence has been provided to the Planning Board that the utility company that operates the electrical grid where the Installation is to be located has approved the owner or operator's intent to install an interconnected customer-owned generator and that the utility has approved connection of the proposed generator into their power grid. Off-grid systems shall be exempt from this requirement. A signed copy of the interconnection service agreement with the utility company shall be submitted before the Installation may go into operation.
 7. Proof of Liability Insurance. Proof of liability insurance shall be provided to the Planning

Board. If the Installation includes an ESS, proof of additional liability insurance shall be provided, adequate to address costs associated with possible fires, explosions or water contamination, as identified in the Hazard Mitigation Analysis.

8. **Proof of Compliance.** The applicant shall submit to the Planning Board evidence of compliance with local, state and federal permitting and procedures, as applicable. Proof of compliance shall be submitted regarding compliance with Section 106 of the National Historic Preservation Act, Mass. Wetlands Protection Act, Mass. Endangered Species Act, Mass. Environmental Protection Act, Mass. Forest Cutting Practices regulations, and the Shutesbury General Wetlands Protection Bylaw. Submission of evidence for compliance or exemption, as relevant, will be required before construction of the Installation may begin.
9. **Materials**

The project proponent must submit a full report of all materials to be used, including but not limited to the use of cleaning products, paints or coatings, hydro-seeding, fertilizers, and soil additives. Whenever available, Material Safety Data Sheets shall be provided. Documentation of the major system components to be used shall be provided.
10. **Operation and Maintenance Plans**

The project applicant shall submit a plan for the operation and maintenance of the Installation, which shall include measures for maintaining safe access, stormwater management (consistent with DEP's and, where appropriate, Shutesbury's stormwater regulations and vegetation controls), as well as general procedures for operational maintenance of the Installation. Plans for vegetative controls and stormwater management shall include regular annual inspection and maintenance. If an ESS is installed, operation and maintenance plans shall be provided for regular inspection, servicing, repair and renovation of the ESS.
11. **Noise Assessment.** The applicant and owner shall submit a noise assessment by a qualified professional of the noise levels projected to be generated during construction and operation of the facility, including for an ESS; a noise mitigation plan for construction and operation consistent with Massachusetts DEP Noise Control Regulation, 310 CMR 7.10; and a noise monitoring plan as it relates to residents and wildlife consistent with state or national best practices.
12. A report by a qualified professional with demonstrated knowledge in hydrogeology that provides an estimate of how and to the extent construction and operation of the Installation may affect water volume, water storage, and drinking water well recharge within 400 feet of property lines for the installation.
13. **Energy Storage System Plans and Documentation**

For installations that include an ESS, the following documents shall be submitted:

 - a. A site specific Hazard Mitigation Analysis conducted, at the applicant's expense
 - b. A written emergency response plan to be provided to Planning Board that is consistent with the findings and recommendations of the Hazard Mitigation Analysis

- and is approved by the Fire Chief, Police Chief, and the Emergency Management Director. The emergency response plan shall include the sequence of operations relative to the ESS shutdown and emergency response intervention.
- c. Material Safety Data Sheets for batteries and electrical components, and for fire suppression chemicals that would be used in the case of a fire at the ESS
 - d. A copy of the project summary, electrical schematic, and site plan for the ESS which shall be provided to the Shutesbury Fire Chief, Police Chief, and the Emergency Management Director in addition to the Planning Board.
 - e. Fire and explosion prevention and mitigation information including venting system operation; location of detectors and types of detectors/sensors including manufacturer and model, accuracy, and sensitivity; suppression system design, including type of agent, system layout, application rate, source.
 - f. Design specifications for:
 - i. Energy storage units including cells, modules, and rack systems including manufacturer and model and unit levels of storage cells; pertinent UL test data.
 - ii. Energy storage containers including but not limited to the general physical layout relative to doors, access panels, vents; interior layout of cabinets, racks, ductwork, compartmentation; ventilation system; construction materials;
 - iii. Exterior of containers including spacing between containers and the specifications of structural supports/foundations for the containers.
14. If appropriate for the site, a Cultural Resource Management Plan (CRMP) or a Historic Properties Management Plan (HPMP) written by a professional with generally recognized credentials. The Planning Board encourages good faith engagement with interested parties to resolve adverse effects including development and evaluation of alternatives or modifications that could avoid, minimize, or mitigate adverse effects. The applicant shall submit the CRMP or HPMP to the Planning Board and all parties noticed in 8-10. 7A.

8.10-8 Monitoring, Maintenance and Reporting

A. Conditions

1. The Ground-Mounted Solar Electric Installation owner or operator shall maintain the facility in good working condition.
2. Maintenance shall include, but not be limited to, painting, structural repairs, and integrity of security measures.
3. Site access shall be maintained to a level acceptable to the Shutesbury Fire Chief, Police Chief, and Emergency Management Director.
4. The owner or operator shall be responsible for the cost of maintaining the Installation and any access driveways.

B. Annual Reporting

1. The owner or operator of an Installation shall submit an annual report demonstrating and certifying compliance with Operation and Maintenance Plans, the requirements of this Section 8.10 and the approved special permit, including but not limited compliance with the approved plans and any special permit conditions, continuation of liability insurance, and adequacy of internal driveway access, and the amount of electricity generated by the

facility. The annual report shall also provide information on maintenance completed during the course of the calendar year including maintenance of the physical site, vegetative controls, stormwater, electronic systems, fire prevention if appropriate, and energy storage systems. If an ESS is part of the Installation, the annual report shall include information about the amount of electricity stored and transferred by the ESS during the period reported.

2. Annual reporting shall be submitted to the Select Board, Planning Board, Fire Chief, Emergency Management Director, Building Commissioner, Board of Health and Conservation Commission (if a wetlands permit was issued) no later than 45 days after the end of the calendar year.

Discontinued Operations

The following abandonment and decommissioning requirements shall be met.

A. Removal Requirements

1. Any Installation which has discontinued operations whether because it has reached the end of its useful life, has been abandoned, or taken off line shall be removed.
2. The owner or operator shall physically remove the Installation no later than 150 days after the date of discontinued operations.
3. The owner or operator shall notify the Planning Board by certified mail, of the proposed date of discontinued operations and plans for removal.

B. Removal shall consist of:

1. Physical removal of all components of Installation, including but not limited to structures, foundations, equipment, security barriers, and on-site above-ground transmission lines. Associated off-site utility interconnections shall also be removed if no longer needed.
2. Disposal of all solid and hazardous waste in accordance with local, state, and federal waste disposal regulations.
3. Restoration of the site to its natural preexisting condition, including stabilization or re-vegetation of the site as necessary to minimize erosion. The Special Permit Granting Authority may allow the owner or operator to leave landscaping or designated below-grade foundations and electric lines in order to minimize erosion and disruption to vegetation.

C. Removal by the Town

If the owner or operator fails to remove an Installation in accordance with the requirements of this Section 8.10 within 150 days of discontinued operations or abandonment, the Town may enter the property and physically remove the Installation at the owner's expense, drawing from the escrow account or upon the bond or other financial surety provided by the applicant.