



# Hubbardston Large Scale Solar Bylaw

**Presented by:**

**Montachusett Regional Planning Commission (MRPC)**

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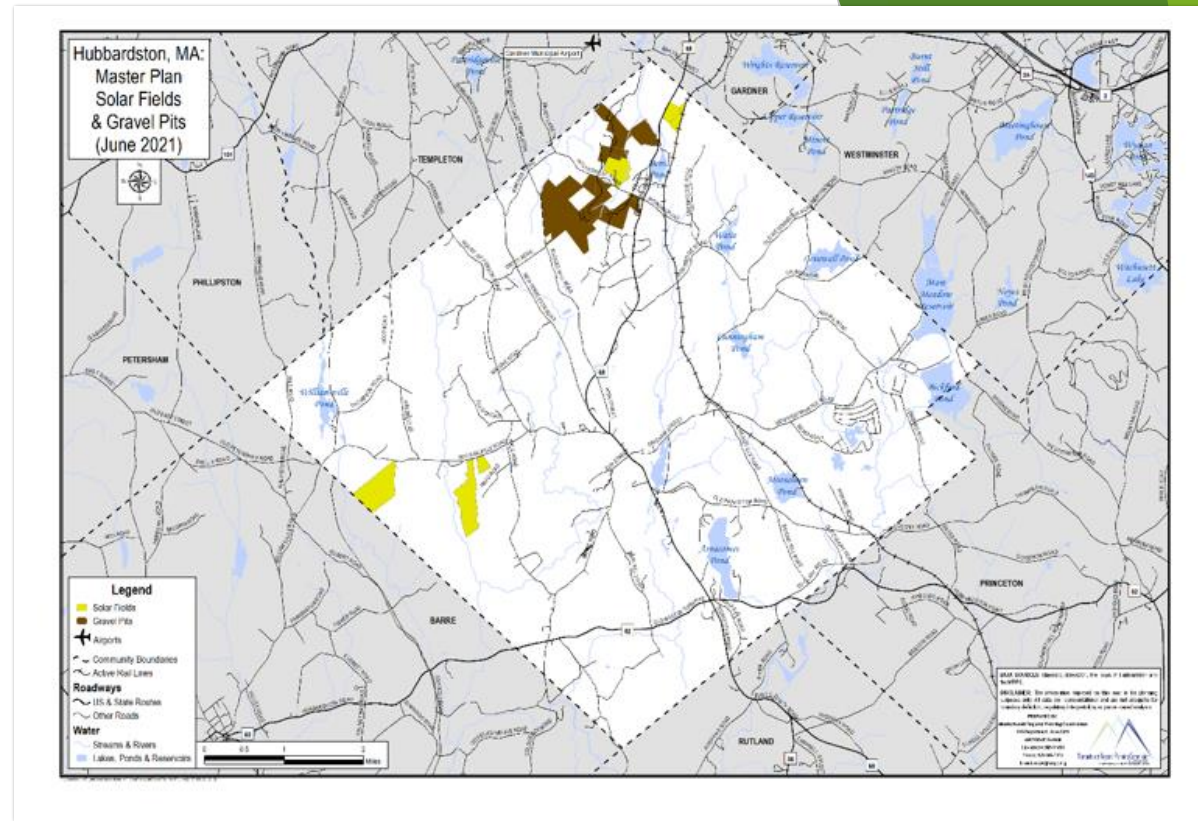
# Hubbardston Large Scale Solar Bylaw

- ▶ Bylaw created 2010 & amended in 2015 & 2018
- ▶ Large scale solar ground or roof top mounted systems allowed in all zoning districts by Special Permit
- ▶ Town recently passed a battery energy storage bylaw to address safety concerns & siting issues



# Large Scale Solar Bylaw

- ▶ Hubbardston currently has 6 solar farms sited on a total of 113.6 acres
- ▶ Will occupy land for 15 years or more
- ▶ FY19 Revenue 92K



PROJECT	LOCATION	DEVELOPER/SOLAR OWNER	PARCEL ID	ACRES
SEABOARD SOLAR HOLDINGS LLC	91 WILLIAMSVILLE RD.	TRUE GREEN SOLAR	4-32	15.6
SUN E HUBBARDSTON SOLAR LLC	20 PITCHERVILLE RD.	SUN EDISON	3-60	50.66
KEARSARGE ENERGY LP	95 WILLIAMSVILLE RD	K S SOLAR SIX	4-31	25
978 SOLAR DEVELOPMENT LLC 1	OFF GARDNER RD.	BORREGO	3-110	2.07
978 SOLAR DEVELOPMENT LLC 2	240 GARDNER RD.	BORREGO	3-106	20.3
147 WILLIAMSVILLE SOLAR 1	147 WILLIAMSVILLE RD.	CLEARWATER ENERGY	4-127	113.6
			TOTAL ACRES:	113.6

# Large Scale Solar Projects

- Large-scale solar projects have seen an increase in the past 10 years due to grants & tax incentives
- Solar developers need to find landowners with sufficient acreage on viable land
- Land lease agreements are long-term commitments of 15-30 years for entire project lifespan & beyond
- Community solar has also increased
- Often can be difficult if municipal land is not available
- Many communities have sited solar projects on capped landfills or former gravel pits

# Large Scale Solar Projects

- Land must be in proximity to a substation/3-phase power line
- Requires clear, relatively flat land with no major obstructions
- Scale of solar farms & community solar projects vary from project to project
  - 6 - 7 acres typically required for every megawatt (MW) of solar installed
  - 5 MW project requires 30 - 35 acres of suitable land

An aerial photograph of agricultural fields, showing rows of crops and a winding path. A large, white, irregularly shaped overlay covers the right side of the image, creating a space for text. The background is a mix of green and white tones.

# Hubbardston Land Uses

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# Land Use

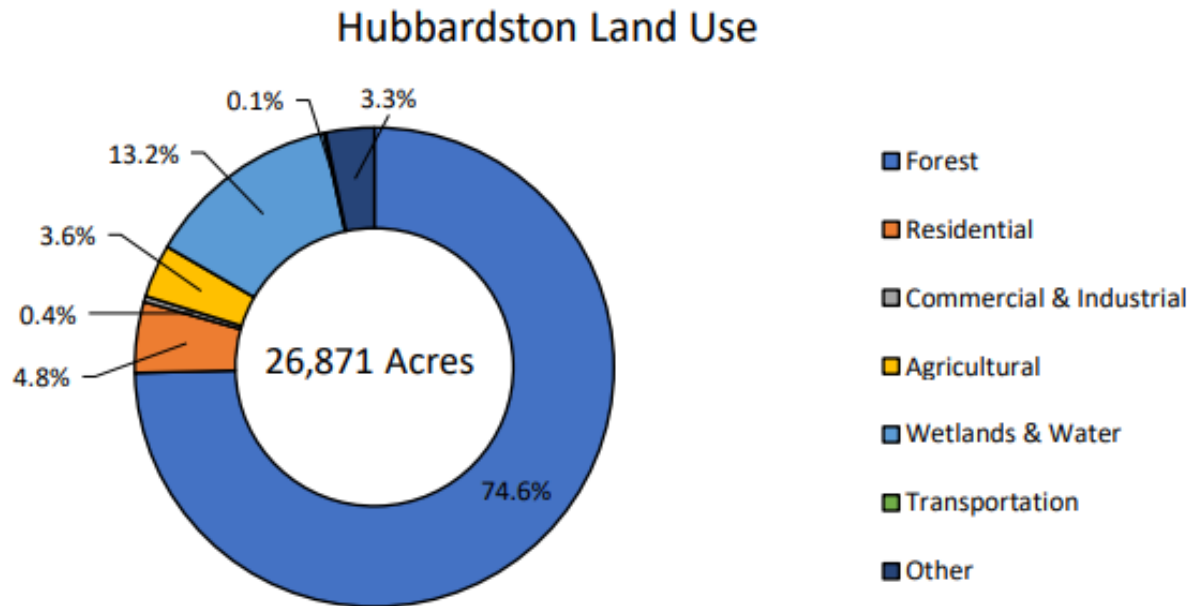


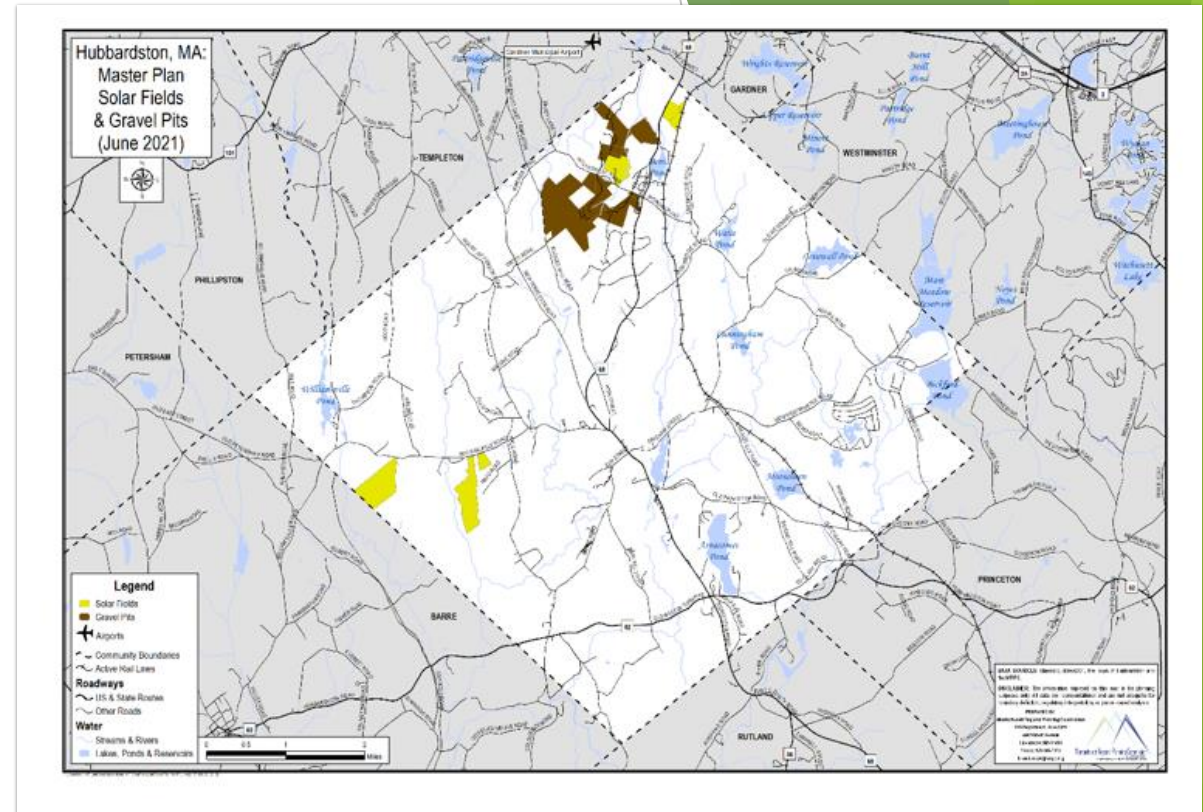
Figure 1. Land Use in Hubbardston (Town of Hubbardston and MRPC, 2015)

- ▶ Single-family homes are the most common type of **DEVELOPED** land use in Hubbardston
- ▶ Accounts for 4.8% or 1,290 acres of the town's total acreage (26,871)
- ▶ Hubbardston has large amounts of developed forest or wetlands and water amounting to 87.8% or 23,593 acres of the total acreage (26,871)

# Gravel Pits & Earth Removal

- There are several known formal gravel pit operations in the community, including one owned by the town, totaling 472.88 acres
- Currently there are no active Earth Removal permits in town
- The town owned gravel pit on Pitcherville Road is currently under study for use as subsidized senior housing

Note: Hubbardston allows removal of stone or earth for sale or commercial processing, by permit under its “Earth Removal” General Bylaw. Earth Removal permits are good for only 2 years

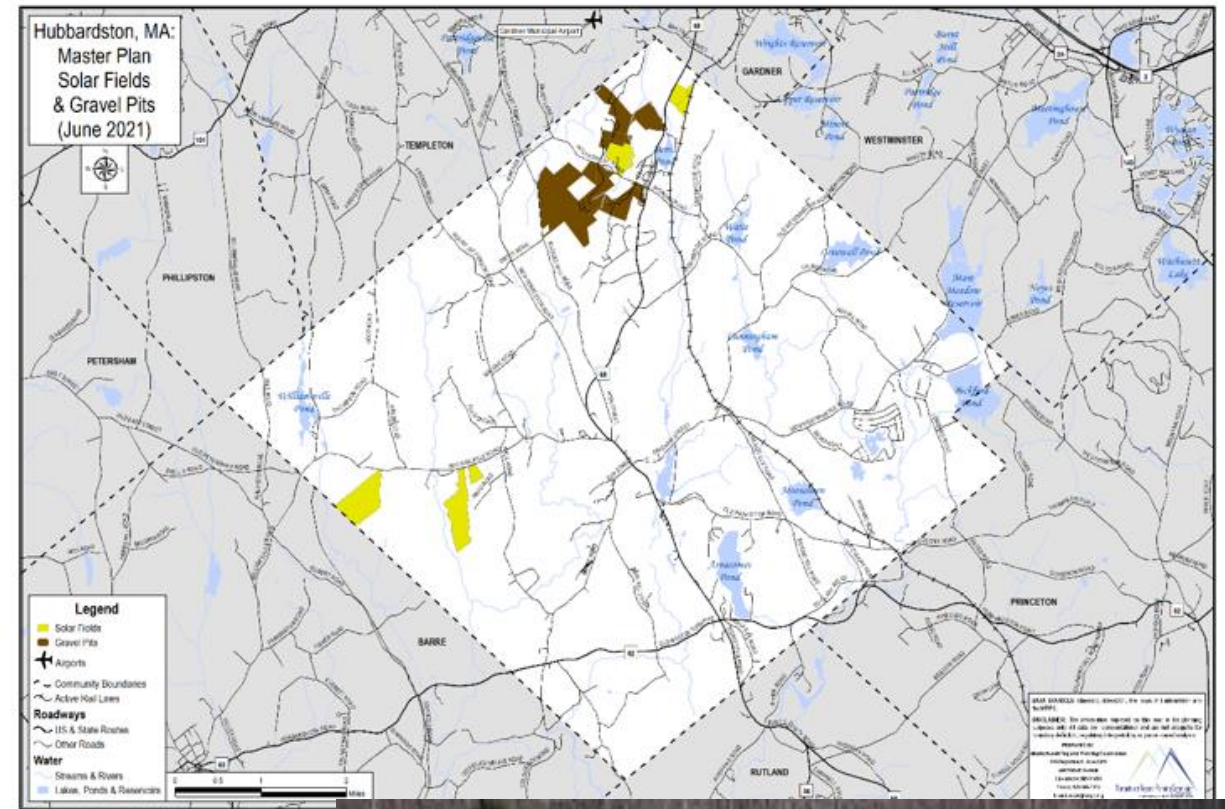


PARCEL-ID	ACRES
02-160	240.35
03-056	25.13
03-088	22.10
03-034	48.26
03-036	9.20
03-037	3.37
03-039	13.10
03-080	62.32
03-077	6.30
03-032	42.75
<b>TOTAL ACRES</b>	<b>472.88</b>



# Gravel Pits - Future Possible Uses

- Hubbardston's Master Plan survey conducted in June 2021 asked participants what top land uses were desired once a gravel pit is no longer in operation
  - 1. Public Park or playground (46.83%)
  - 2. Solar development (38.49%)
  - 3. Open space protection (38.10%)



# Gravel Pits - Adaptive Reuses

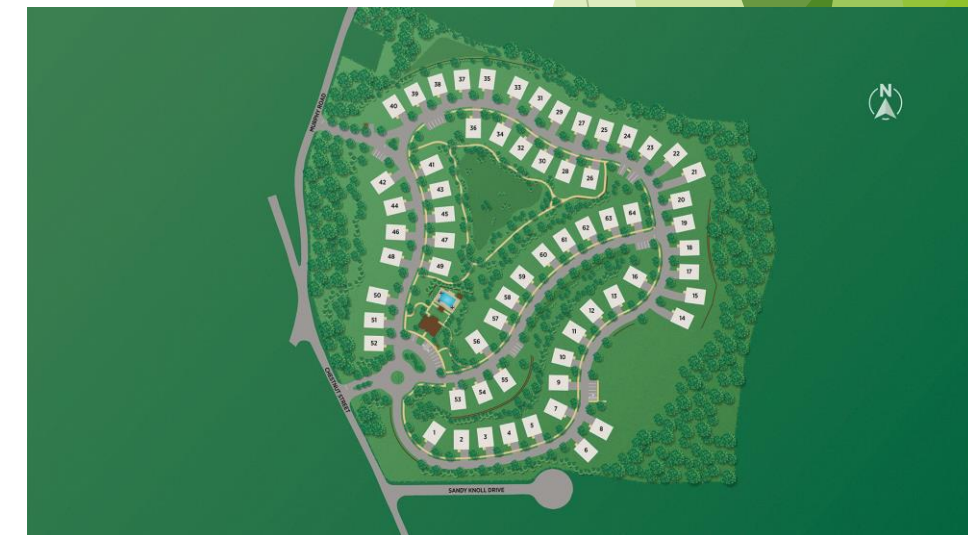
Bolton

Examples of adaptive reuses in other Massachusetts communities:

- Bolton permitted 5.96 MW solar farm on 26 acres on a former gravel pit behind Bolton Orchards
- An over 55 development is under construction in Hudson on a former gravel pit operation
- Concord approved a 274-unit residential development on a 46.6-acre former gravel pit operation
- Sudbury acquired a former quarry operation and put out an RFP and received 3 bids including a greenhouse operation, a residential development consisting of 300 rental units and 33 senior age restricted condos
- Saugus conducted a Master Plan Study for proposed uses which included mixed use and open space



Hudson



# Considerations

- ▶ If Hubbardston identifies Gravel Pits for future solar reuse:
  - ▶ Should the town also consider other uses such as parks, playgrounds, open space, and/or housing?\*
  - ▶ Identify other properties suitable for solar (including community solar) to include in a possible Large Scale Solar Overlay Bylaw?

\*allow housing to plan for the possibility of future MBTA housing requirements?



## Goals identified by the town in the application include:

- ▶ Pre-application conference & hearing notice
- ▶ 10-acre minimum lot size (currently 2 acres)
- ▶ 20-acre maximum/5MW AC (currently no maximum land area or wattage limit)
- ▶ Preference siting on disturbed land e.g., agriculture, gravel pits or other areas where vegetation removed
- ▶ Screening, fencing, slope limitations, # solar panels,
- ▶ Tree cutting/clearing restrictions
- ▶ Protection of historical buildings/structures, priority or critical landscape
- ▶ Setbacks from abutting properties, open space, streams & water
- ▶ Height limits
- ▶ Habitat protection (plantings, no herbicides or pesticides)
- ▶ Erosion & sedimentation control
- ▶ Glare, noise, visual impact mitigations & dark sky standards

# Next Steps

**Review**

Review Athol, Bolton & Southborough Large Scale Solar Bylaws



**Identify**

Identify potential properties (& possible land use conflicts) for solar development



**Draft**

Draft a bylaw which may or may not include an overlay district



Q&A