

Solar PV Building & Battery Storage Checklist

Solar permits require a licensed Contractor to perform work.

Please add This information to the building permit application

Project Information:	Number of panels _____
	System size (kW DC) _____
<input type="checkbox"/> Roof <input type="checkbox"/> Ground <input type="checkbox"/> Canopy	Inverter type <input type="checkbox"/> String <input type="checkbox"/> Micro <input type="checkbox"/> Optimizer
<input type="checkbox"/> New <input type="checkbox"/> Modification	Battery storage included <input type="checkbox"/> Yes <input type="checkbox"/> No

All Solar Requires a Building Permit & Electrical Permits

<p>Solar Roof Install</p> <p>Roof & Structural Requirements</p> <ul style="list-style-type: none"> <input type="checkbox"/> Roof material identified (asphalt, metal, membrane, etc.) <input type="checkbox"/> Roof structure reviewed and suitable <input type="checkbox"/> Mounting method detailed and manufacturer-approved <input type="checkbox"/> Structural verification provided (truss calculations or stamped engineer's letter) <input type="checkbox"/> Roof penetrations flashed and sealed per manufacturer specifications <input type="checkbox"/> Panel layout shown on roof plan <p>Fire Safety Requirements</p> <ul style="list-style-type: none"> <input type="checkbox"/> Fire access pathways shown <input type="checkbox"/> Ridge and setback requirements indicated <p>Electrical Requirements</p> <ul style="list-style-type: none"> <input type="checkbox"/> Electrical one-line diagram provided <input type="checkbox"/> Rapid shutdown compliance shown <input type="checkbox"/> NEC-compliant labeling schedule provided <input type="checkbox"/> AC disconnect location identified <input type="checkbox"/> Utility interconnection indicated <p>Inspections</p> <ul style="list-style-type: none"> <input type="checkbox"/> Final electrical inspection required <input type="checkbox"/> Final building inspection required <input type="checkbox"/> Fire Department review and sign-off 	<p>Solar Roof Install > 1,750 sq. ft.</p> <p>Commercial – Special Permit required</p> <p>Additional Requirements:</p> <p>Application & Land Use Approvals</p> <ul style="list-style-type: none"> <input type="checkbox"/> Commercial application identified <input type="checkbox"/> Special Permit required and clearly noted <input type="checkbox"/> Planning Board approval submitted <p>Structural & Engineering Requirements</p> <ul style="list-style-type: none"> <input type="checkbox"/> Structural analysis stamped by a Massachusetts-registered Professional Engineer <input type="checkbox"/> Roof load calculations included <input type="checkbox"/> Wind load compliance documented <input type="checkbox"/> Snow load compliance documented <p>Electrical & Utility Requirements</p> <ul style="list-style-type: none"> <input type="checkbox"/> Electrical service capacity verified <input type="checkbox"/> Commercial utility interconnection approval submitted <input type="checkbox"/> Lockable disconnects provided <p>Inspections & Coordination</p> <p>Additional Inspections:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Fire Department inspection
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All Ground Mount Systems require Well and Septic locations on a plot plan

Solar Ground Mount	Solar Ground Mount > 1,750 sq. ft. (Commercial / Special Permit Required)
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<ul style="list-style-type: none"> <input type="checkbox"/> Site plan showing array location and setbacks <input type="checkbox"/> Ground-mount racking details provided <input type="checkbox"/> Foundation/footing details included <input type="checkbox"/> Depth below frost line shown <input type="checkbox"/> Soil or geotechnical data (if required) <input type="checkbox"/> Screening or fencing shown (if applicable) <input type="checkbox"/> Electrical trenching shown on plans <input type="checkbox"/> Conduit depth and routing labeled <input type="checkbox"/> Dig Safe ticket required <input type="checkbox"/> Utility conflicts addressed <input type="checkbox"/> Electrical one-line diagram provided <input type="checkbox"/> Final footing and electrical inspections required <input type="checkbox"/> Board of Health Review <input type="checkbox"/> Conservation Review <input type="checkbox"/> Fire Dept Access Review 	<p>Additional Requirements</p> <p>Application & Land Use Approvals</p> <ul style="list-style-type: none"> <input type="checkbox"/> Commercial application identified <input type="checkbox"/> Special Permit required and clearly noted <input type="checkbox"/> Zoning setbacks and height compliance verified <input type="checkbox"/> Planning Board approval submitted <input type="checkbox"/> Stamped civil/structural plans provided <input type="checkbox"/> Foundation design and calculations included <input type="checkbox"/> Stormwater management review (if applicable) <input type="checkbox"/> Screening, fencing, and access gates provided <input type="checkbox"/> Dig Safe ticket and utility coordination <input type="checkbox"/> Electrical service and interconnection approval <input type="checkbox"/> Multi-department inspections required
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<p>Solar battery systems in Massachusetts are regulated jointly under:</p> <p>780 CMR – Massachusetts State Building Code 527 CMR 1.00 – Massachusetts Comprehensive Fire Safety Code 527 CMR 12.00 – Massachusetts Electrical Code (MA amendments to NEC) NFPA 855 (2020) – Standard for the Installation of Stationary Energy Storage Systems (adopted by MA Fire Code) NFPA 70 (NEC) – National Electrical Code UL 9540 / UL 1973 – Battery system safety listings</p>	
<p>Solar Battery – Inside</p> <ul style="list-style-type: none"> <input type="checkbox"/> Battery manufacturer and model listed <input type="checkbox"/> UL listing documentation provided <input type="checkbox"/> Manufacturer installation instructions submitted <input type="checkbox"/> Location identified (garage, basement, utility room) <input type="checkbox"/> Separation from habitable spaces per code <input type="checkbox"/> Wall-mount or floor-mount method shown <input type="checkbox"/> Clearances maintained per manufacturer <input type="checkbox"/> Ventilation requirements addressed <input type="checkbox"/> Fire rating of room verified (if required) <input type="checkbox"/> Electrical one-line updated to include battery <input type="checkbox"/> Fire Department review (recommended or required) <input type="checkbox"/> Battery labeling and shutdown signage provided 	<p>Solar Battery – Outside</p> <ul style="list-style-type: none"> <input type="checkbox"/> Outdoor-rated battery system specified <input type="checkbox"/> Mounting method shown (wall, pad, rack) <input type="checkbox"/> Setbacks from buildings and lot lines verified <input type="checkbox"/> Protection from impact and weather addressed <input type="checkbox"/> Clearances per manufacturer maintained <input type="checkbox"/> Electrical conduit and disconnect shown <input type="checkbox"/> Emergency shutdown location identified <input type="checkbox"/> Fire Department review completed <input type="checkbox"/> Exterior labeling and signage provided

These systems require Building, Electrical, and Fire Department review.	
Capacity Thresholds (Critical) Massachusetts distinguishes requirements based on battery size and location:	
<p>Under 20 kWh (Residential, 1- & 2-Family) Not prescriptively regulated by Chapter 52 Must be: Installed per manufacturer instructions UL-listed (UL 9540) Installed per NEC / 527 CMR 12.00 Still subject to local fire/building approval</p>	<p>Over 20 kWh Fully regulated under 527 CMR 1.00 Chapter 52, NFPA 855 Applies to: Larger residential systems Commercial & industrial installations Triggers enhanced fire-life-safety requirements</p>

<p>Large / Commercial Battery Systems Large systems (commercial BESS): Often require site plan approval May trigger zoning or special permits May require: Fire suppression systems Dedicated-use buildings Cooling systems (including water cooling) Subject to multi-department review</p>	<p>Solar Large Battery System (Commercial / High-Capacity) System capacity identified</p> <ul style="list-style-type: none"> <input type="checkbox"/> Manufacturer specs and safety data submitted <input type="checkbox"/> Water cooling required (if applicable) <input type="checkbox"/> Cooling system plans provided <input type="checkbox"/> Spill containment or drainage addressed <input type="checkbox"/> Separation distances verified <input type="checkbox"/> Fire suppression method identified <input type="checkbox"/> Fire alarm integration shown (if required) <input type="checkbox"/> Fire Department approval required <input type="checkbox"/> Emergency response plan provided <input type="checkbox"/> Electrical service upgrade reviewed <input type="checkbox"/> Special inspections required
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