

PROJECT LOCATION



 Project Location

 Residential Point

 Solar Facility

 Millenium Plant

LEGEND

 345 kV

 115 kV

 69 kV

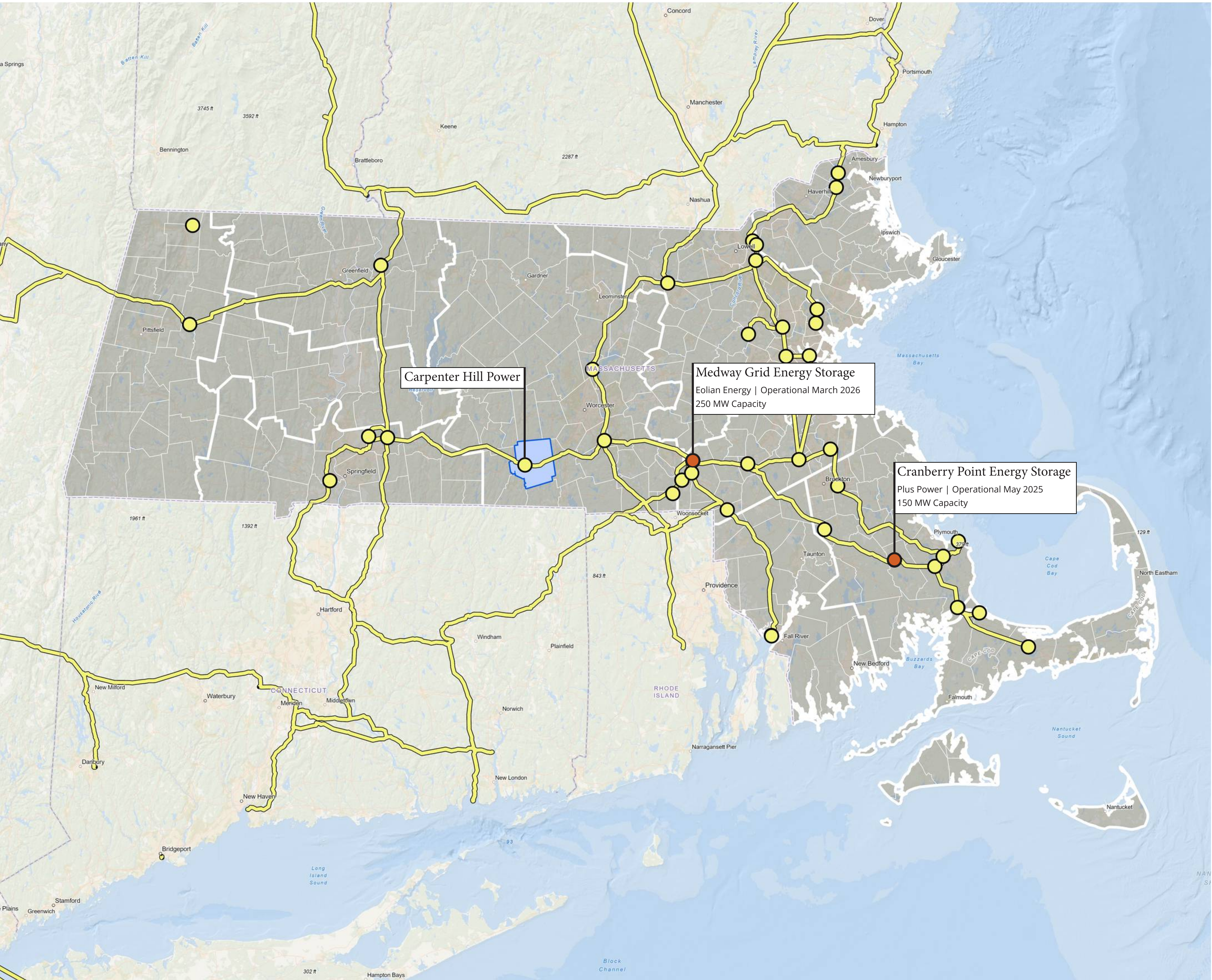
 Gas



1 inch = 0.5 mile

Why Charlton?

Carpenter Hill Substation sits at one of the most strategically valuable points on the New England grid. A 345 kV transmission line—part of the regional backbone—runs directly through the site, and this corridor serves as Massachusetts’ only east-west backbone connection, linking the Boston metro load center in the east with the Springfield metro region in the west. Co-locating battery energy storage immediately adjacent to the substation means tying straight into that backbone.



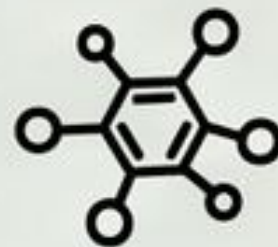
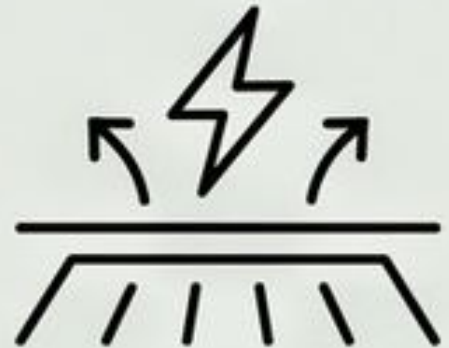
Carpenter Hill Substation



INSIDE THE MEGAPACK: FIVE SAFETY LAYERS AND WHAT VERSION 3 CHANGES

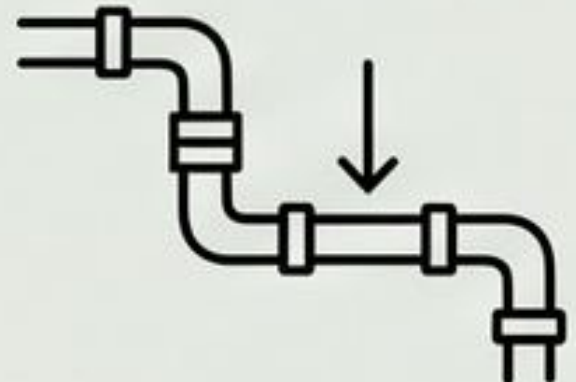
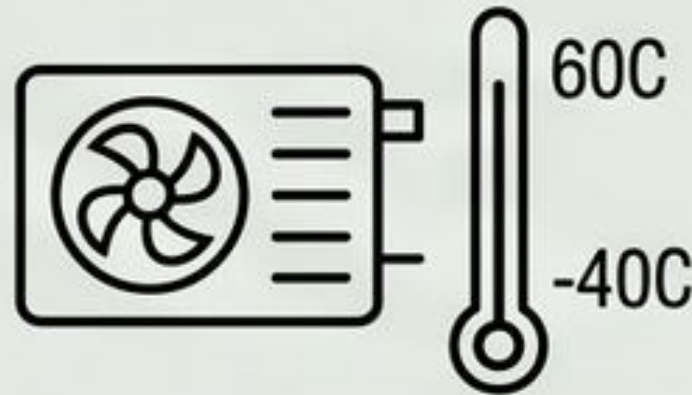
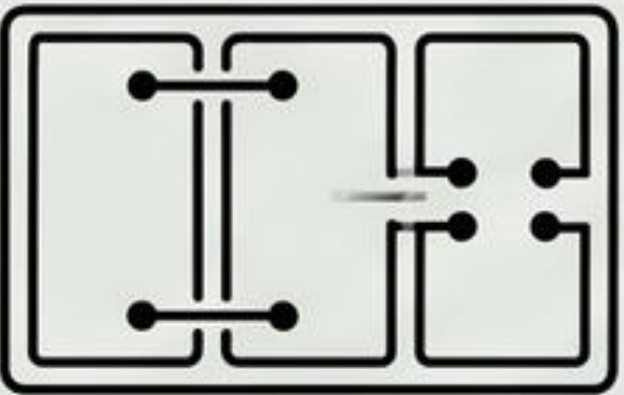
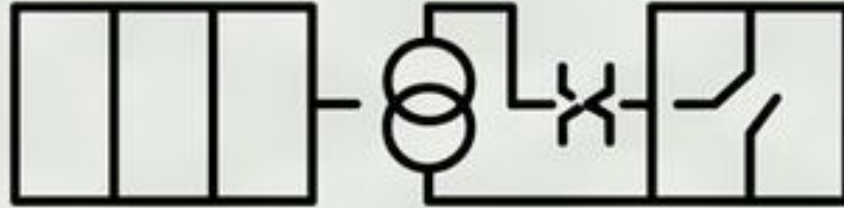
MEGAPACK 2XL: THE FIVE LAYERS

The version shipping today, and the model on this table.

1 INHERENT CELL SAFETY Thermally stable lithium iron phosphate (LFP) chemistry. Contains no metallic lithium, so water works on these fires.   Inside a Megapack on Tesla's production line. Photo: Tesla.	2 CONTAINMENT & VENTING  CONTAINMENT & VENTING Passive deflagration vents in the roof direct gases straight upward. Runaway gas igniters prevent explosive accumulation.	3 ELECTRICAL ISOLATION  ELECTRICAL ISOLATION Each module galvanically isolated with built-in DC-DC converters and active fuses. Reduces the risk of fault spread.	4 ACTIVE THERMAL MANAGEMENT  MANAGEMENT Liquid cooling system keeps cells at optimal temperatures.	5 24/7 REMOTE MONITORING  24/7 REMOTE MONITORING Every unit reports to Tesla's staffed operations center around the clock.
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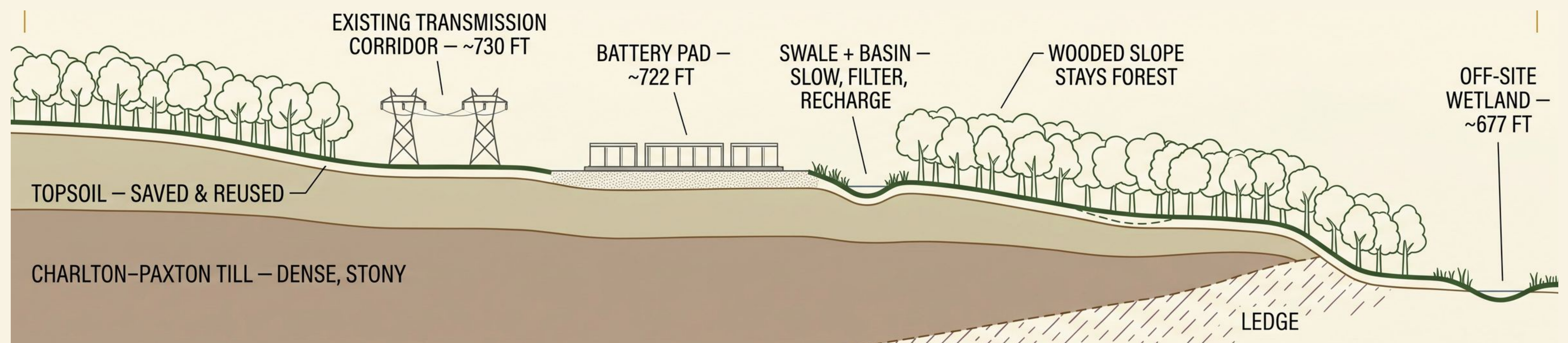
MEGAPACK 3: WHAT TESLA CHANGED

Announced September 2025. Tesla says deliveries begin in late 2026.
Megapack 3 (about 5 MWh)

 REDUCED LEAK RISK A 2021 coolant leak in Australia caused an electrical fault and a fire. Megapack 3 cuts thermal connections by 78 percent. Fewer joints leave fewer places to leak.	 NEW THERMAL SYSTEM A heat pump adapted from Tesla's cars manages cell temperature in ambient conditions from minus 40 to 60 degrees Celsius.	 SIMPLIFIED MODULES Fewer, larger modules reduce internal electrical connections (from 24 to 3), cutting failure points.	SYSTEM-LEVEL INTEGRATION (MEGABLOCK)  SYSTEM-LEVEL INTEGRATION Megablock: four Megapack 3 units with transformer and switchgear built in at the factory, removing field wiring where installation mistakes happen.	 Four Megapack 3 units with the transformer in the center. Photo: Tesla.
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LAND, WATER & TREES

Here's what we know about this land, what we're still working out, and where you come in..



READING THE LAND

- This is glacial till country. The hillsides are Charlton and Paxton loams. The low flats are wet Ridgebury ground. The ridges have ledge at or near the surface.
- The project sits on the last two. The substation sits on ledge, the strongest foundation on this parcel. Part of the battery row sits on the wet flat, so we build that pad up on engineered gravel and manage the water around it during construction.
- The parcel falls about 100 feet from the transmission corridor at the north line to the wet ground at the south. The pad sits on the flat bench between them, below the wires and above the wetlands. Water starts on this parcel and flows south, so the stormwater design comes first.
- We started with LiDAR terrain data and soil maps. Maps do not set the wetland boundaries. Wetland scientists flag them on the ground, and the design follows the flags.

WETLANDS: AVOID FIRST

- State rules require us to avoid wetlands first, then minimize any impact we cannot avoid, then make up for whatever remains.
- Wetland scientists flag the boundaries on the ground. Charlton's Conservation Commission reviews those flags in public meetings under the Massachusetts Wetlands Protection Act, and abutters get written notice. Any work near those lines goes through the same public review.
- Not every mapped low spot is a real wetland, and some wet spots never show up on any map. If you know a spring, a seep, or ground that never dries, tell us tonight. You've watched this land longer than any consultant.

TREES: CLEARED ONCE, CAREFULLY

- The project clears about 10 of the parcel's 47 acres. That is roughly 21%, under the 30% clearing cap Charlton's zoning sets for large energy projects.
- Tree cutting happens in seasonal windows that protect roosting bats and nesting birds. The state Natural Heritage program (NHESP) sets those windows through its review of this site. Winter cutting also puts machines on frozen ground, which protects wet soil from rutting.
- Crews flag and protect the trees at the buffer edge before the first cut.

SOIL: AFTER THE ROOTS

- Decades of roots and leaf litter made this ground absorb water like a sponge. Careless clearing compacts it into hard ground that sheds water instead.
- So we strip the topsoil, stockpile it, protect it, and reuse it on this site. We do not truck it away or bury it.
- Machines keep to planned travel lanes. We loosen compacted ground outside the pad before the topsoil goes back. Bare ground gets covered quickly: temporary seed on the permit's schedule, then a permanent low-growth meadow mix.

PROTECTING WELLS

- Water Quantity: after construction, stormwater may leave this site no faster than it does today. Engineers check that rule storm by storm, up to the 100-year storm.
- Water Quality: this facility burns no fuel and uses no water in daily operation. The riskiest period is construction, when soil sits bare in the rain. So the controls concentrate there, such as, erosion barriers, sediment traps, and inspections after every storm, all required under a federal construction permit.
- Surface runoff from the pad flows south through the parcel's own wooded slope and low ground. The system slows it, filters it, and lets it soak in where the soils can absorb water, before it leaves the property. Wells draw groundwater, which is a separate question. Please put your well questions on tonight's record.

WHAT YOU CAN ACTUALLY SHAPE

- The state decides whether this project is built and where, but how careful the project must be is still being written, and you can shape that part:
- Tell us what you know about this land. Springs, seeps, wet corners, and well histories go straight into the field program.
- Tell us what should be monitored during construction and after. Say it at the record table. Commitments like that belong in the Community Benefits Plan, in writing.