Updated ZBA Requirements & Deficiencies List (DECEMBER 8, 2025)
48 Schoosett St – 24 MWh BESS

A. Zoning / Legal (No Change)

- These remain unchanged because they are tied to the zoning bylaw, not the safety documents.
- BESS is not a permitted use in RA or BB (must be reversed or require Special Permit).
- Accessory use requires a Special Permit, which does not exist.
- ZBA must determine whether PB issued an approval for a use not authorized.

B. Safety Documentation – Updated After Today's Palmer Submission

1. Make/Model/Chemistry – NOW PROVIDED

This is no longer a deficiency.
BUT: now that the system is identified, the following becomes mandatory:

- System-specific UL 9540 listing
- Unit-level and installation-level UL 9540A test reports
- System-specific gas release characteristics
- System-specific HMA

These remain missing.

2. UL 9540 & UL 9540A – STILL NOT PROVIDED

Even with model information, Palmer did not provide:

- UL 9540 certification sheet
- UL 9540A full-scale thermal runaway test results
- Narrative mapping test outcomes to required mitigation

Deficiency today:

They provided a generic statement of “certified equipment,” not the actual certificate or test report.

Without these, Fire Department and ZBA cannot verify:

- Gas flow rates
- HF generation
- Fire duration
- Container-to-container propagation risk

3. Hazard Mitigation Analysis (HMA) – PARTIAL, NOT SITE-SPECIFIC

Today’s Palmer HMA is:

- Generic, boilerplate, and not tied to the actual model’s 9540A results
- Does not map energy- or chemistry-specific hazard data to required mitigation
- Does not quantify gas generation, heat release rate, or pressure rise
- Does not include site-specific distances to:

a. South Shore Therapies
b. Knights of Columbus (full parking events)
c. Wetlands/North River

- Does not include deflagration modeling
- Does not include firefighter entry protocols (post-McMicken)

Deficiency today:
No site-specific hazard calculations of any kind were provided.

4. NFPA 855 & 527 CMR 1.00 Code Compliance – STILL INCOMPLETE

Palmer’s code analysis still lacks:

Required but Missing Sections:

- Container ventilation & exhaust strategy

- Gas detection setpoints + automatic vent activation
- Required deflagration controls
- Thermal runaway propagation prevention
- Remote isolation and shutdown
- Separation distances verified against actual equipment listing
- Final fire department access layout
- Hydrant distance deficiency (615 ft) with corrective plan
- Required signage and hazard placarding
- Fault current calculation + overcurrent protection strategy
- Firefighter entry protocol

Deficiency today:
The analysis provided is a checklist, not a code-path engineering narrative.

5. Toxic Gas Plume Modeling – STILL ZERO PROVIDED

Despite now knowing the battery chemistry, there is no:

- HF plume model
- CO plume model
- Evacuate vs. shelter-in-place zones
- Indoor vs outdoor sensitivity analysis for South Shore Therapies
- Nighttime inversion layer modeling
- Model for full parking lot occupancy (Friday bingo)
- Downwind impacts to wetlands/North River corridor

Deficiency today:
Plume modeling is completely missing, even though chemistry is now known.

6. Fire Water / Runoff Analysis – STILL NOT PROVIDED

Palmer provided stormwater construction calculations, but NOT:

- Fire suppression water volume
- Contaminated runoff containment plan
- HF-contaminated water handling
- Protection of wetlands 350 ft away
- Overflow analysis of shallow basin
- Requirement for sampling post-incident

Deficiency today:
No runoff containment plan for the actual hazard of a BESS fire.

7. Emergency Response Plan (ERP) – NOT PROVIDED

Even after today:

- No ERP was supplied
- No evacuation or shelter-in-place plan
- No traffic/parking emergency management plan
- No responder isolation protocol
- No hazard-zone maps
- No McMicken-style “DO NOT OPEN DOOR” entry policy
- No annual drill commitment
- No contact hierarchy list

Deficiency today:
No site-specific ERP exists at all.

8. Financial Assurance / Bond – STILL UNDEFINED

Palmer did not provide:

- Amount
- Method of calculation
- Environmental cleanup guarantees
- Annual escalation factor
- Third-party oversight

PB decision included only a vague “surety for removal” with no details.

C. Site-Specific Issues (Updated After Today’s Review)

1. Parking / Egress Conflict – NOW MORE SERIOUS

Photos of the packed lot at Knights of Columbus show:

- Fire access lane obstruction
- Delayed response potential
- No alternate access
- No event-parking mitigation plan

Deficiency today:
Palmer’s documents do not address parking conflicts at all.

2. Noise – STILL COMPLETELY UNADDRESSED

Even with equipment identified, Palmer provided:

- No noise output data
- No inverter/transformer hum analysis
- No nighttime noise assessment
- No analysis for medically sensitive children at South Shore Therapies
- No tonal noise penalty evaluation

Deficiency today:
A third-party noise study is required before any action.

3. Wetlands / North River – STILL UNADDRESSED

With battery chemistry known, Palmer still did not:

- Model HF deposition into wetlands
- Evaluate soil/groundwater contamination risk
- Submit ecological risk assessment
- Provide protective measures for post-fire runoff

D. Fire Department Requirements

1. Third-Party Peer Review STILL REQUIRED

Palmer's own documents remain insufficient for:

- NFPA 855 compliance
- Hazard mitigation
- Containment
- Access
- Gas dynamics

ZBA should require:
Independent fire-engineering review (Jensen Hughes or equivalent).

2. Hydrant Distance Deficiency NOT FIXED

Peer review confirms hydrant is 615 ft away
(no remediation plan provided).

3. Equipment Requirements STILL MISSING

No commitment to:

- Thermal imaging camera
- Firefighting gear upgrades
- Additive foam or water supply plan
- On-site extinguishing equipment

E. Traffic / Notifications / Community Safety (No New Info Provided by Palmer)

STILL MISSING:

- One-mile notification requirement
- Reverse-911 integration
- Road closure plan
- Siren or alarm plan
- Traffic diversion plan during incidents

F. Construction + Commissioning (Still Missing)

- Construction fire safety plan
- Hot work controls
- Commissioning test report
- BMS communication testing
- Annual inspection plan

G. Where We Now Stand

Palmer has provided the battery model and chemistry.
This allows deeper evaluation, but all of the engineering, modeling, life-safety, environmental, and operations documentation remains missing, generic, or inadequate.

In short:

The only deficiency resolved today is identification of the equipment.
All other required safety, environmental, emergency, and zoning documentation is still not provided or remains materially insufficient.