

Material Acceptance Requirements for Battery Energy Storage Systems

Alan Price, PE

Director, Office of Technical Certification and Research

NYC Department of Buildings



Why Material Acceptance

Project Approval

- **Construction document approval**
Materials are used as prescribed in the code.
- Permit
- Signoff



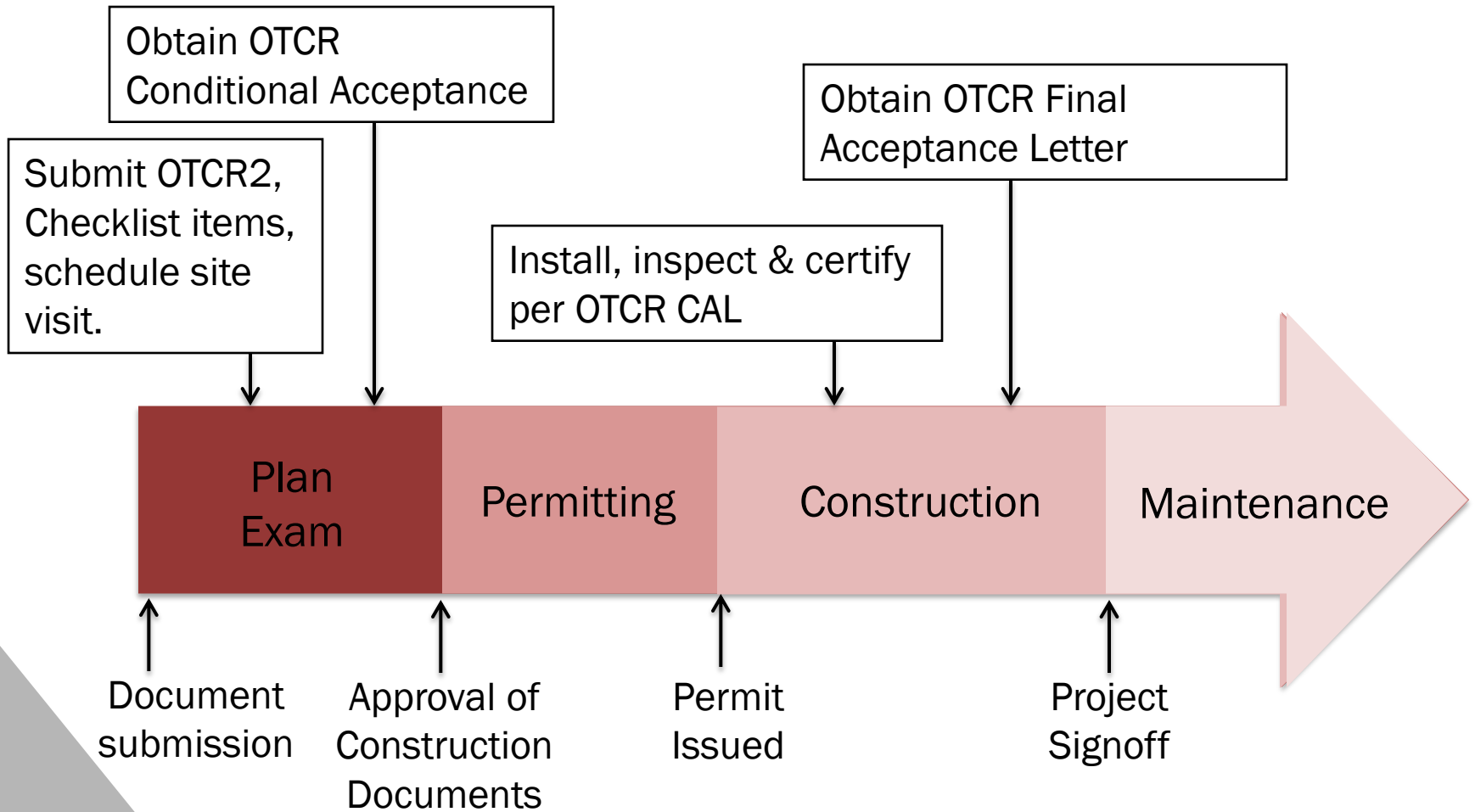
Material Acceptance

- Separate process required for alternative materials.
- Process evaluates performance and safety.

Battery Energy Storage Systems

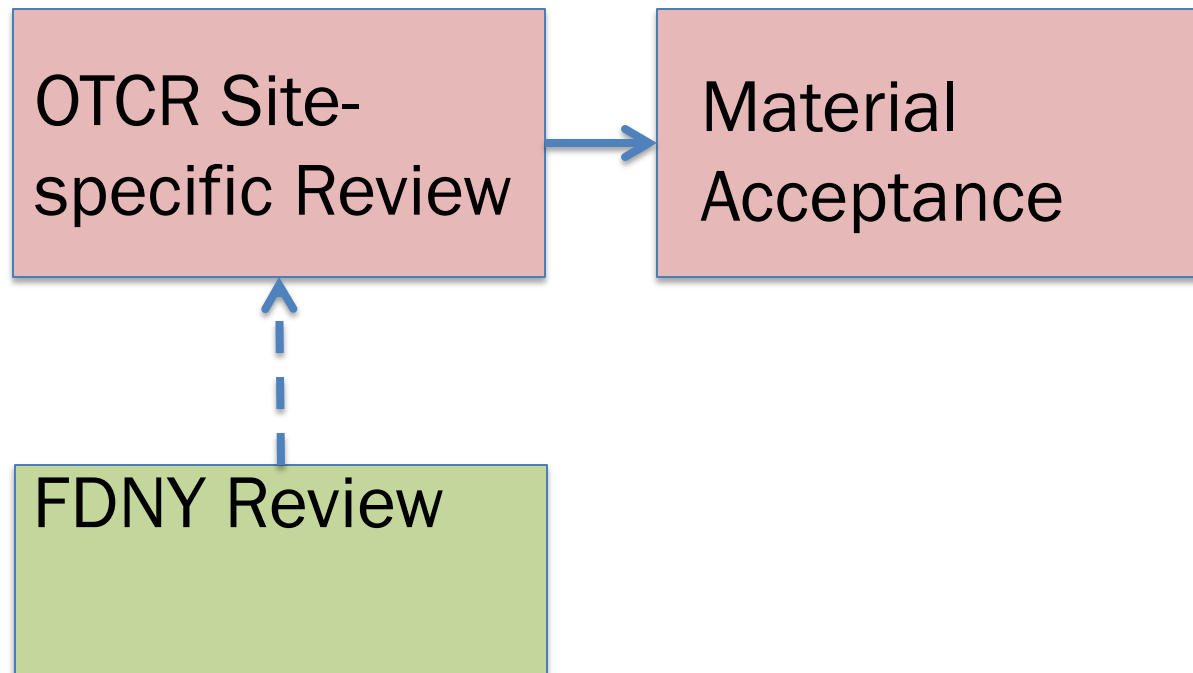
- What is a Battery Energy Storage System?
 - A battery energy storage system (battery ESS) stores energy through an electrochemical process for later use to supply the utility or local grids.
 - Other energy storage systems (ie flywheels) are not addressed under current evaluations.
 - Doesn't include Emergency power systems, UPS
- Uses for Battery ESS's
 - Uses include peak shaving applications, storage with renewable energy systems, etc.

Material Acceptance Timeline



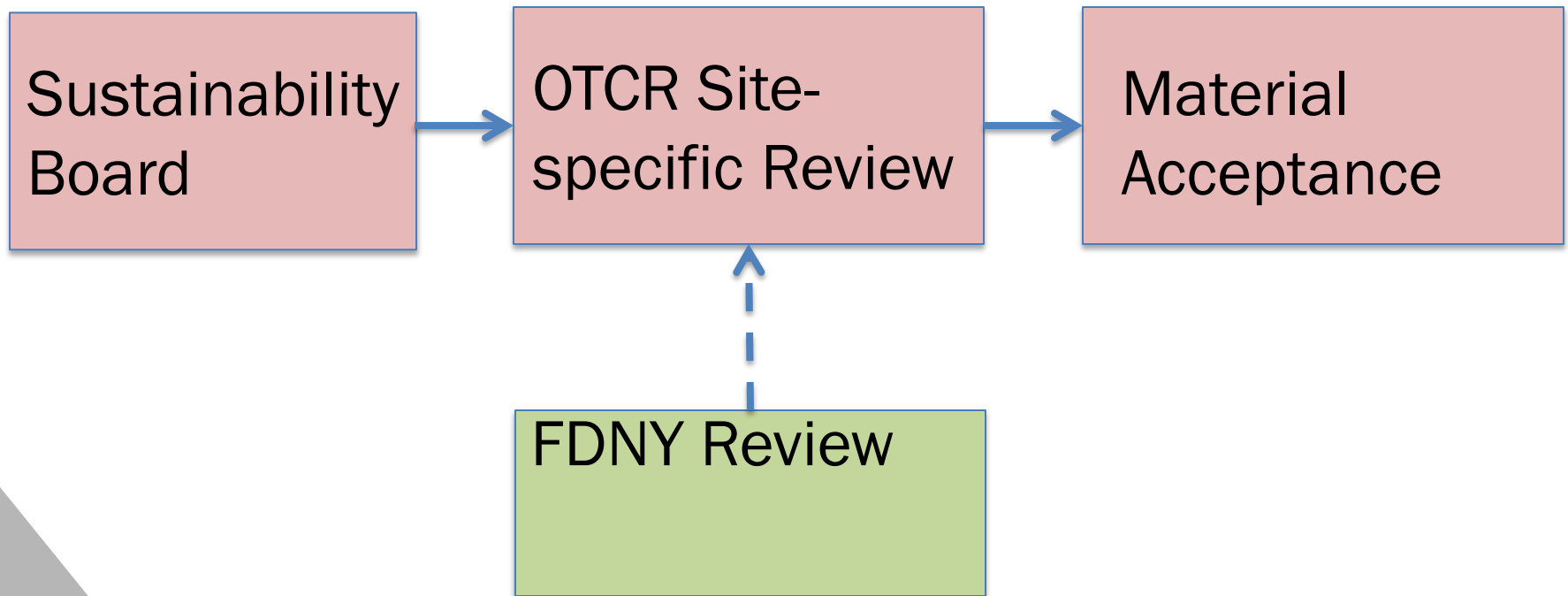
FDNY Coordination

OTCR Site-specific review for Li-Ion, Lead Acid, Flow batteries

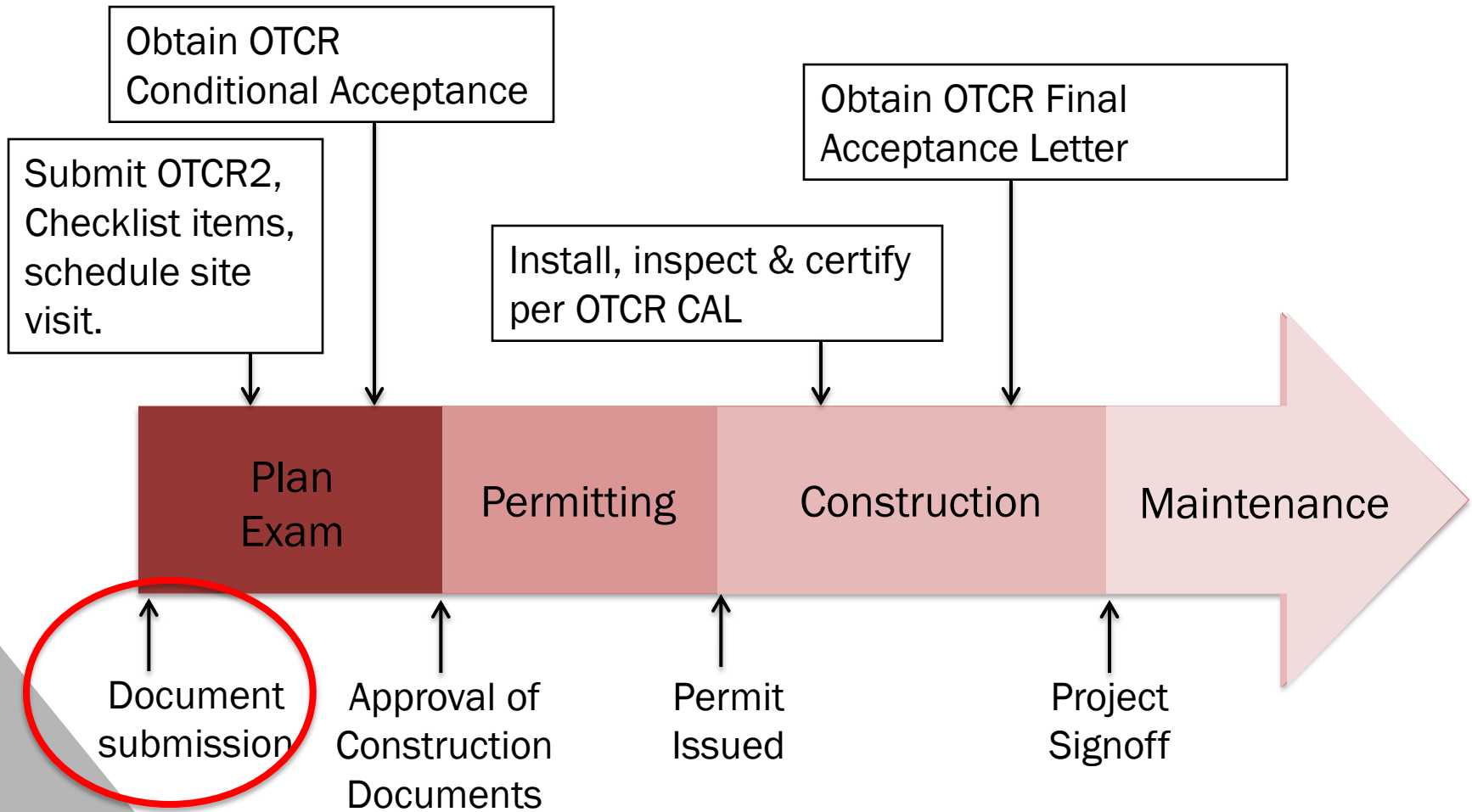


Sustainability Board Review

OTCR Site-specific review for new chemistries



Construction Document Submission



Construction Document Submission

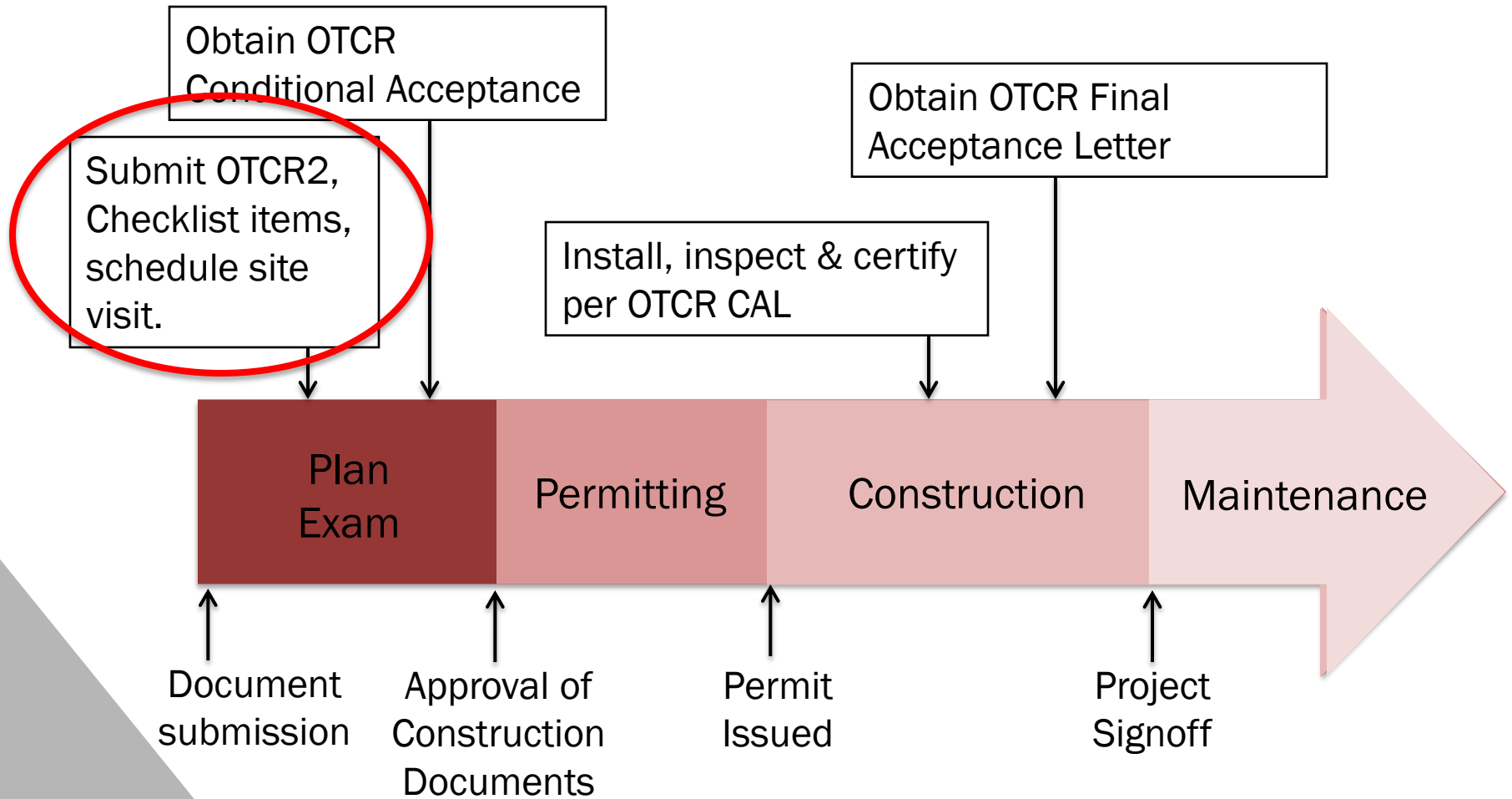
- PW1 filing / File separate application for BESS and ancillary work

<input type="checkbox"/> Alteration Type 1, OT: "No Work" 8C, 8F, 9-10 & 12, 13C-F, 14, 18-19, 22, PW1A, PD1	<input type="checkbox"/> New Building 6A-E, 8F, 9A, 9C-K, 10, 12 & 13A-E, 14, 18-20, PW1A, PD1	<input type="checkbox"/> Condominium <input type="checkbox"/> Improved 77
<input type="checkbox"/> Sign 5A, 6B-D, 9A, 9D, 22-23		5A Directive 14 acceptance requested? <input type="checkbox"/> Yes <input type="checkbox"/> No
6 Work Types Select all that apply but no more than allowed by job and filing type. "OT" required on all NB and Alteration 1 initial applications.		
6A <input type="checkbox"/> BL - Boiler PW1C <input type="checkbox"/> FA - Fire Alarm <input type="checkbox"/> FB - Fuel Burning PW1C	<input type="checkbox"/> FS - Fuel Storage PW1C <input type="checkbox"/> FP - Fire Suppression <input type="checkbox"/> MH - Mechanical	<input type="checkbox"/> PL - Plumbing PW1B <input type="checkbox"/> SD - Standpipe PW1B <input type="checkbox"/> SP - Sprinkler PW1B
6B <input type="checkbox"/> EQ - Construction Equipment 15	6C <input type="checkbox"/> OT/GC - General Construction	6D <input checked="" type="checkbox"/> OT - Other, describe: Battery Energy Storage System
		6E <input type="checkbox"/> CC - Curb Cut 16 <input type="checkbox"/> OT/LAN - Landscape 6F <input type="checkbox"/> OT/ANT - Antenna <input type="checkbox"/> OT/BPP - Builders Pavement Plan 8D <input type="checkbox"/> OT/FPP - Fire Protection Plan <input type="checkbox"/> OT/MAR - Marquee 8E, 26B

Construction Document Submission

- Submitted under full plan examination (do not file for professional certification)
- Zoning analysis is required for outdoor installations. Outdoor installations include rooftop locations.
- Establish discretionary Required Item for Final Acceptance.

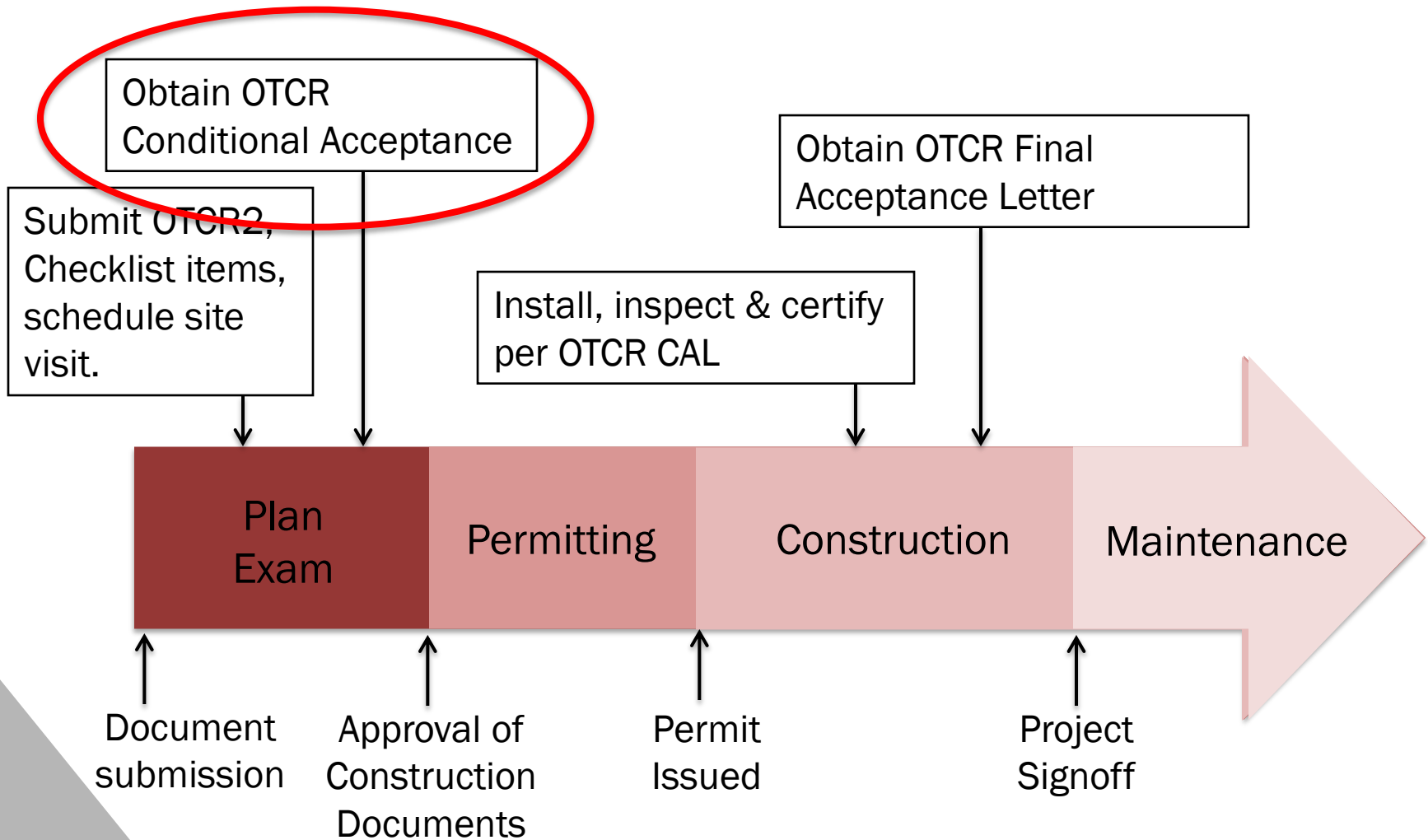
OTCR Submission Requirements



OTCR Submittal Requirements

- OTCR2 Application (DOB Website)
- Checklist submittal, including:
 - Listing certification (UL 1973, UL 9540 / UL 1741)
 - Large scale testing (UL 9540A)
 - Code Analysis (Ventilation, room separation, fire suppression, etc)
 - Risk Analysis (address hazard mitigation)
 - System monitoring
 - Signage

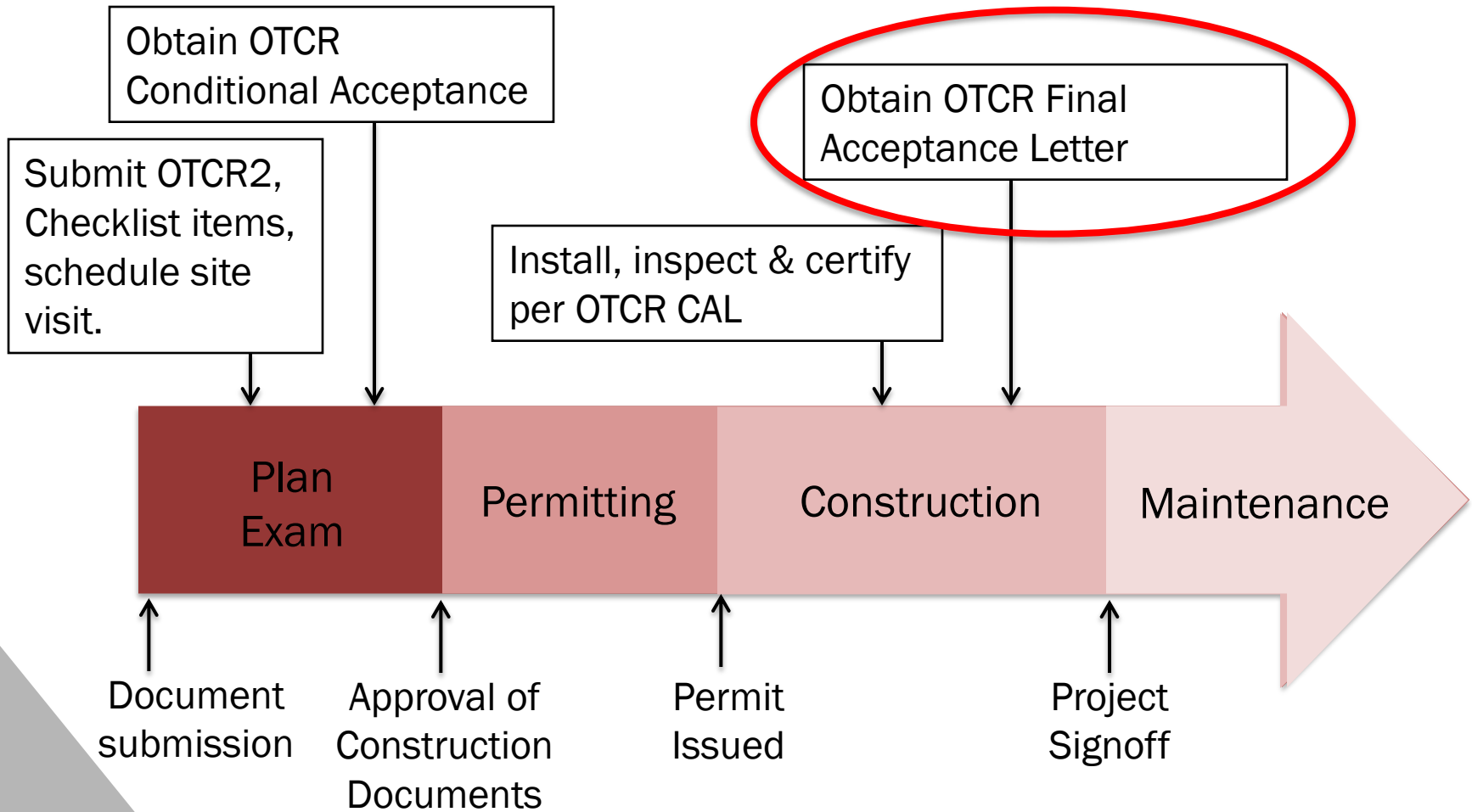
Conditional Acceptance Details



Conditional Acceptance

- Grants permission to install
- Establishes requirements:
 - Installation
 - Inspection
 - Certification of installation

Final OTCR Acceptance



Final Acceptance

- Certification is required prior to final acceptance
 - (NYS registered design professional certifies compliance with Conditional Acceptance Letter)
- Final Acceptance is required prior to project signoff

Buildings Bulletin 2019-002



NYC Buildings Department
280 Broadway, New York, NY 10007

Rick D. Chandler, P.E., Commissioner



BUILDINGS BULLETIN 2019-002

OTCR

Supersedes: 2018-012

Issuer: Alan Price, P.E. 
Director, Office of Technical Certification and Research

Issuance Date: January 30, 2019

Effective Date: Immediately to applications submitted after issuance date

Purpose: This document establishes filing and submittal requirements, and outlines the approval process for lithium-ion, flow batteries, lead acid, and valve regulated lead-acid battery energy storage systems listed to UL 9540.

Related MC 502
Code/Zoning BC 509
Section(s): FC 608

NYC EC Article 408
NYC EC Article 685
NYC EC Article 705

OTCR Contact Info

Office of Technical Certification and Research (OTCR)

280 Broadway, 7th Floor

New York, NY 10007

Attn: Alan Price, Director, OTCR

otcr@buildings.nyc.gov