Staff Report

Devens Enterprise Commission

Date: November 12, 2026

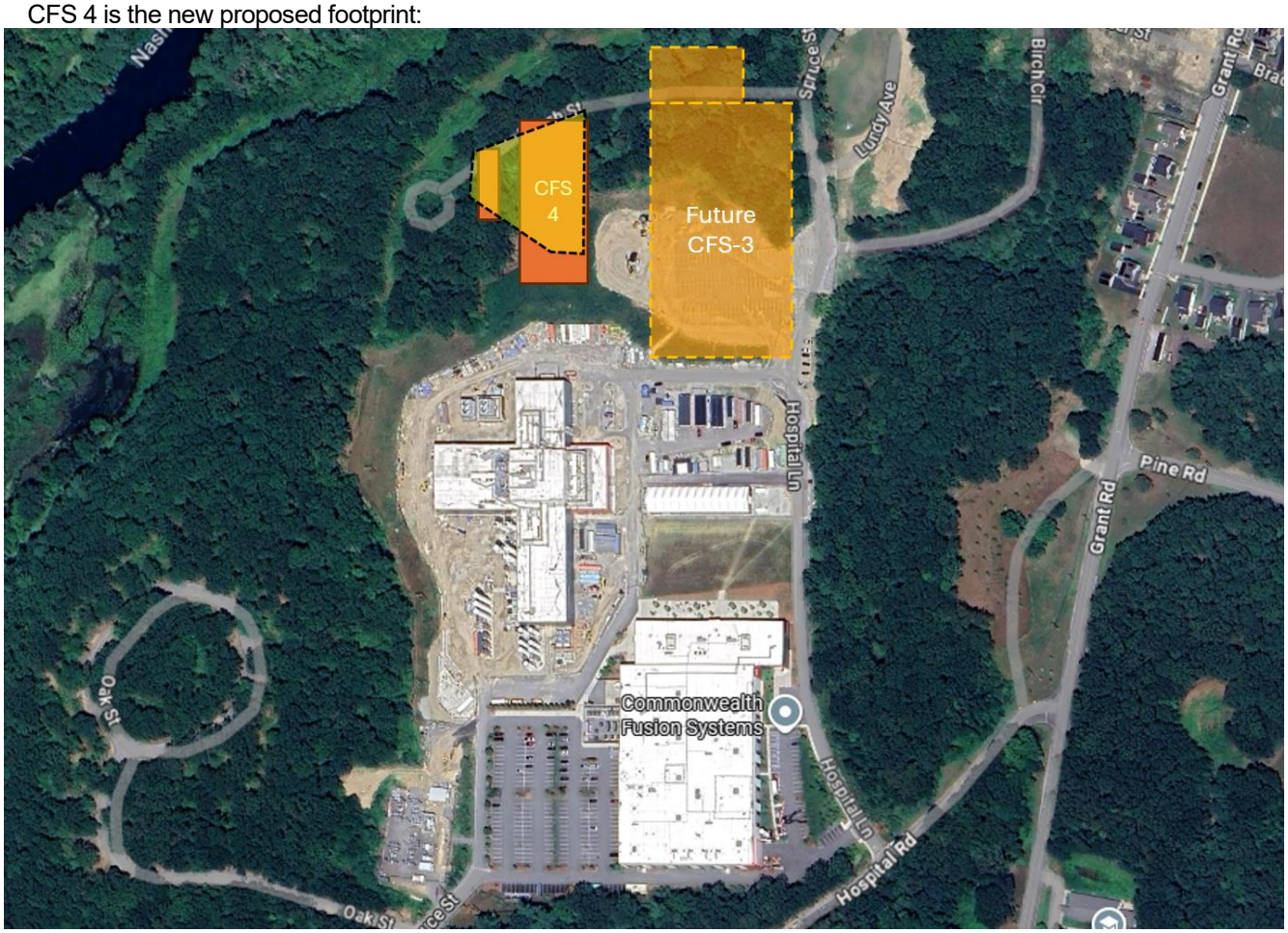
To: **Devens Enterprise Commission**

From: Neil Angus, FAICP, DEC Director,

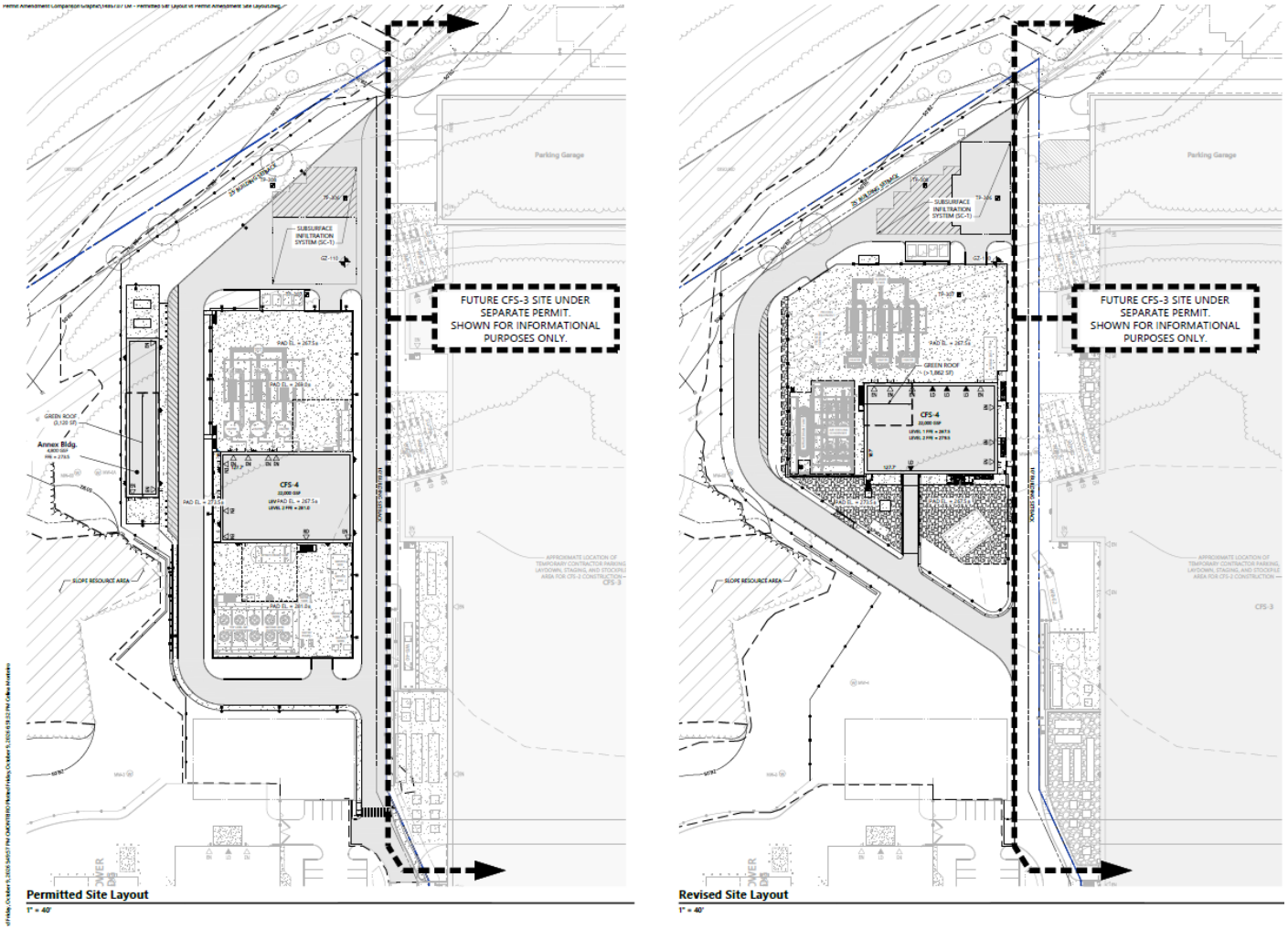
RE: **CFS-4 – 111 Hospital Road Level 2 Unified Permit Amendment Request**

Applicant/ Owner: **Commonwealth Fusion Systems, LLC (CFS)**
Engineer: **VHB Inc.**
Location: **111 Hospital Road (infrastructure ties to 125 Hospital Road), Devens, MA**
Zoning: **Innovation & Technology Business District, Watershed & Aquifer Water Resources Protection Overlay District**

Project Overview:
CFS-4 is a highly specialized research facility that will be used to conduct fusion-related heat transfer experiments using a molten salt known as "FLiBe" or FTL The DEC previously approved the development of CFS-4 back in December 2025. Since then, CFS has discovered that a portion the footprint of the proposed facility is unsuitable for foundation construction, so they have revised the proposed layout of the CFS-4 facility and are seeking an amendment to their original Unified Permit for the reconfiguration of the facility and associated infrastructure. There are no modifications proposed for CFS-3, although it is shown on the plan below for reference The triangular shape over CFS 4 is the new proposed footprint:

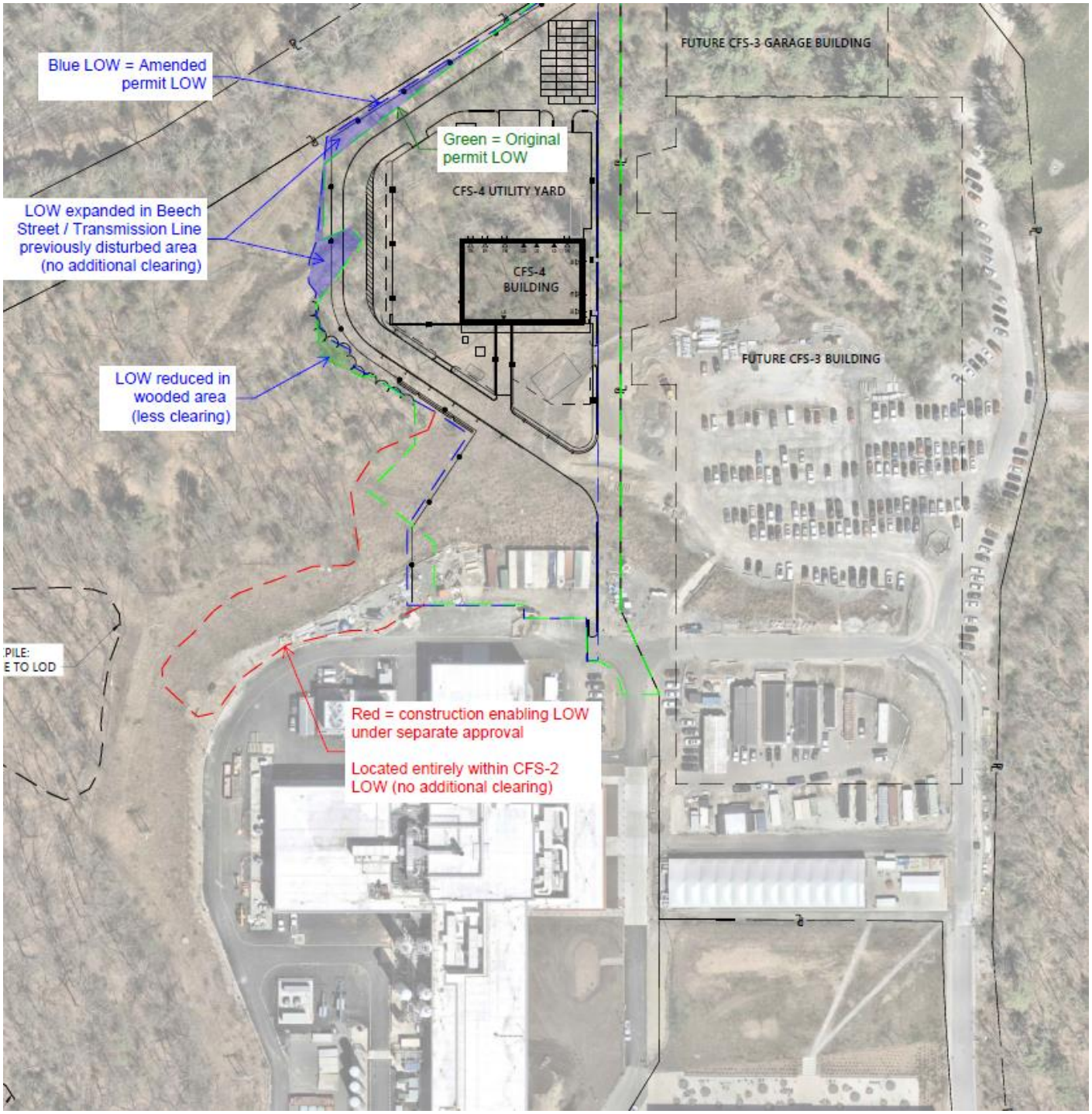


CFS-4 still includes outdoor equipment consisting of gas-powered natural gas burners, condenser units, generators, and nitrate tanks as in the original submission, however they have removed the "Annex" control building, which has now been integrated into the main CFS-4 building (and thus eliminated from the site plans). The CFS-4 site will continue to have zero full time employee work stations on-site. Employees conducting research and monitoring operations of the facility will typically walk to CFS-4 from other buildings on campus. The following graphic shows the previously approved layout and the new proposed layout:



Site issues at a Glance:
Staff, along with Devens Utilities, Engineering, Building, and Fire/Public Safety, as well as DEC peer review consultants have reviewed the proposed plan amendments. The following is a summary of the review comments:

Site layout/operations: The proposed revised layout shifts the proposed building about 70' to the north to avoid the unsuitable material but is still within the existing limits of clearing and previously approved limits of disturbance for the campus, with the exception of a small area to the north being expanded but no additional mature tree removal. There is a small area where the previously approved limits will be reduced as well (see image on next page):



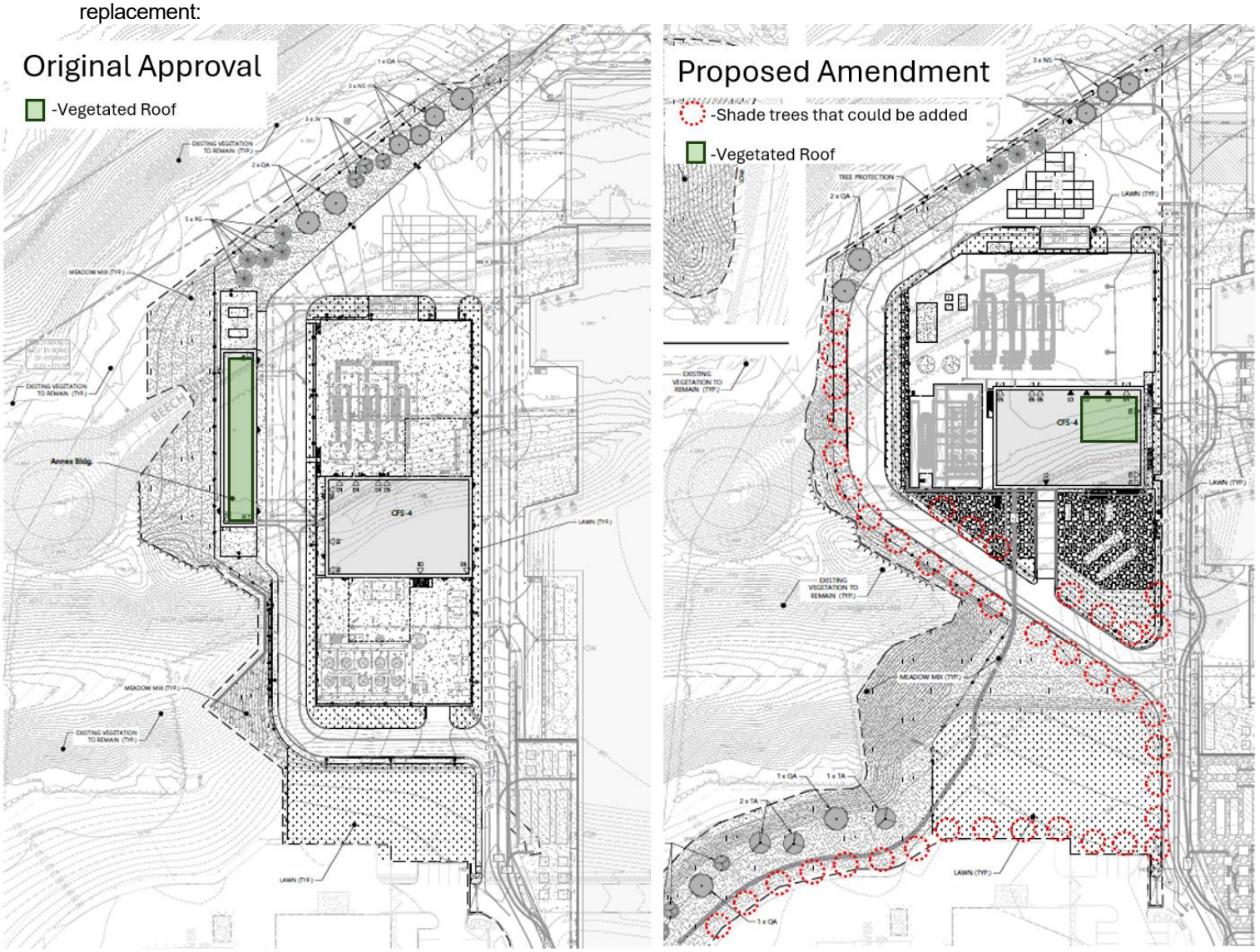
Air Emissions: The FTL system redesign still includes three, 21 MW heaters. These heaters are necessary to create the heat needed to prove out the thermal loop system. As presented during the original permit, these heaters are expected to operate as follows:

2027: <30%
2028: <80%
2029 - 2033: < 20%

The heaters will run intermittently and there will be frequent downtime. Steps they are employing to mitigate emissions include using Best Available Control Technology (BACT) evaluation. The system will include Selective Catalytic Reduction (SCR) to control NOx emissions, an oxidation step to lower CO emissions, and tight operational control to optimize combustion efficiency. The Applicant conducted Air Dispersion Modeling indicating that the project will not result in any exceedances of the National Ambient Air Quality Standards.

Since the original approval in 2025, CFS has obtained a Non-Major Comprehensive Air Quality Plan (NMCAQP) approval from MassDEP for the FTL system. While the emissions will be intermittent, the permit issuance by MassDEP was not limited to the proposed operational limits that CFS originally presented to the DEC (noted above). During the public comment/review period for the MassDEP air permit, DEC staff and our Industrial Performance Standards engineer worked with CFS on a written agreement to restrict operations to the limits as expressed in the periods previously mentioned.

The DEC Greenhouse Gas emission regulations require projects with an Air Permit to have at least 30% of their roof vegetated as part of their project to help offset emissions. The proposed amendment eliminates the building that was permitted with the green roof but CFS has added a vegetated roof to a portion of the main building as part of this amendment. Given the small size of this building, the potential economy of scaling up the green roof area, the projected emissions, coupled with the increase in impervious surfaces, staff have requested that CFS consider a larger portion of the roof be vegetated. In addition, with the proposed reconfiguration of the FTL system, there are additional opportunities to install more canopy tree plantings around the FTL site which could aid in additional GHG emission reductions, reduced urban heat island impacts, and improved stormwater management (see image below). This is especially important given the amount of existing tree removal required for this site. Staff would recommend the DEC require these additional tree plantings as a condition of any approval. The original approved plans for CFS-2 had a significant amount of landscaping proposed around the edges of the approved development that will not be planted due to the construction of CFS 3 and 4 so these additional recommended plantings would be a suitable replacement:



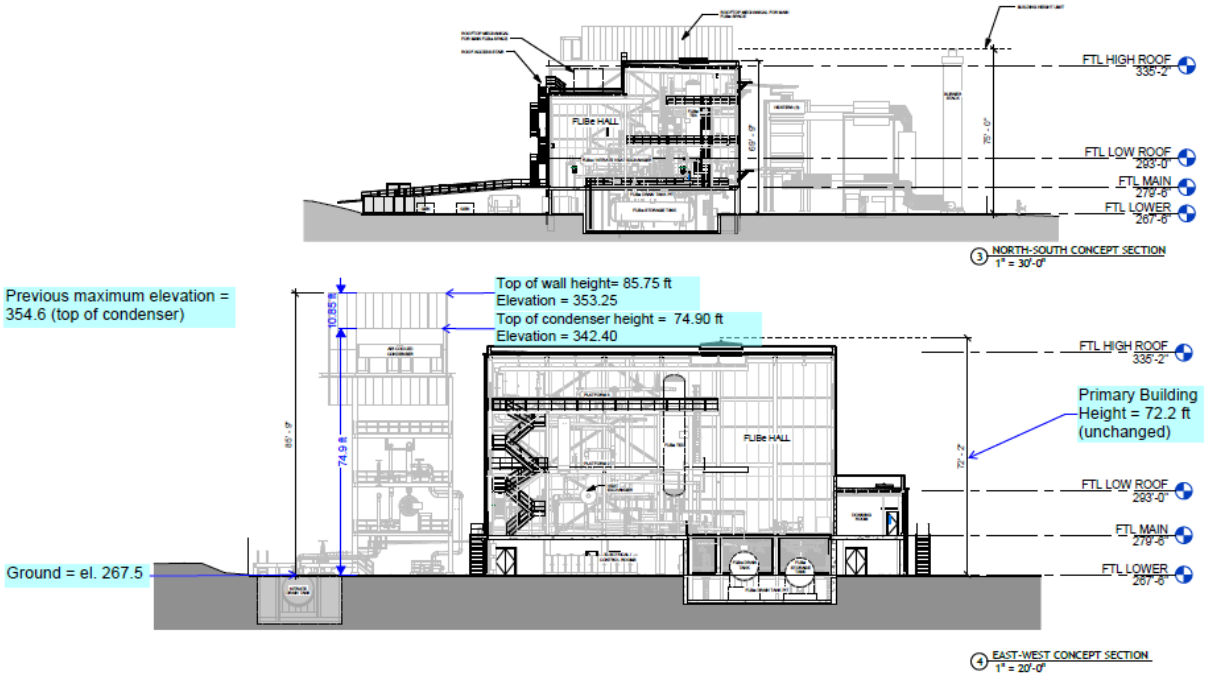
Sound Study: A revised campus-wide sound study was submitted on November 11, 2026 and is still under review by the DEC's Peer review consultants. While the FTL facility is being reduced in size, it still has some

considerable height and an abundance of noise-generating equipment, so it is important to ensure it will not exceed the DEC's Industrial Performance Standards for noise and vibration – especially given the proximity to existing and future-planned and approved residential development. Condition #18 of the original approval covers the sound study requirements.

Lighting: Original proposed site lighting levels were reduced during the original permit review and the new proposed layout is consistent with the previously approved lighting levels. The amended plans still include Dark Sky compliant fixtures, control/timing sensors, louvers/shielding to reduce backlight, glare, and visible brightness. No exterior unscreened lighting should be placed above the roof elevation of the condenser or building. Staff has no additional concerns with the amended lighting plan.

Access/Public Safety and Logistics: Devens Fire Department has reviewed the plans and is comfortable with the changes to site circulation and access. CFS is nearing completion of the CFS-2 SPARC Facility, and a Certificate of Occupancy is expected to be issued shortly. Both CFS-3 and 4 are scheduled to begin initial site work next week and the accelerated timeline for these projects has resulted in the need for CFS to modify their original grading plan around CFS-2 to support additional construction laydown area for CFS-3 and 4. The limits of disturbance have not changed so staff approved these grading changes administratively. Upon completion of CFS-3 and 4, these regraded areas around CFS-2 will be restored and re-planted with native vegetation. The general contractor for the CFS-4 project is BOND Engineering, who is still constructing CFS-2 so they are familiar with the importance of logistics and coordination between phases of this project. Design and construction of the CFS-3 and CFS-4 building sites are on independent schedules however, similar to CFS-1 and 2, both building sites will share access, utilities and amenities to function together as part of the CFS unified campus. It is important that CFS-4 construction is coordinated and managed with CFS-3 construction, as well as CFS-1 and CFS-2 and the employees. Parking management will also be extremely important with the number of employees and contractors that will be on-site. Previous conditions of approval have addressed site logistics and coordination but it is worth reiterating the need for an updated plan. The former Oak housing area will be used for temporary parking, with grading and construction beginning there next week. CFS is still using off-site parking and shuttle services and is expanding both on-site and off-site temporary parking to accommodate the increase in traffic until the parking garage is built as part of CFS-3.

Visual Impact Analyses: The applicant originally undertook a series of visual impact analyses from existing and future development areas both on Grant Road and Perimeter Road. Cross sections provided as part of the original permit show that preserving the existing woodlands between these areas and the site to the maximum extent practicable will be very important. There is an existing 100' open space buffer between all residentially zoned lands and this site, which will help ensure protection of that screening.



While the height of the new building will be 14 feet taller and the condenser stack and equipment 1 foot higher than previously approved, the base elevation has been reduced so that the overall height of the proposed amended facilities will be approximately 10 feet lower than previously approved. This provides room for an additional 10 feet of rooftop acoustical screening that will likely be required to comply with the DEC IPS for Noise. The future CFS-3 building will screen the majority of CFS-4 from the Grant Road residential area. Any portions of the facility that are visible from the Grant Road/Goddard Street area above the height of the approved CFS-3 building will need to be properly screened.

Proposed Slopes and Stability: South of the proposed CFS-4 location, steeper slopes are proposed than were previously approved to accommodate the temporary laydown area. The steeper slopes are allowable, but additional notes which were included on the original plans and enabling plans that should be included in this modification: Permanently stabilized slopes shall be seeded as follows: Meadow Mix for all slopes less than 3:1. Meadow Mix shall be New England Wetland Plants (Application Rate 23lbs./acre). Erosion control seed mix for slopes greater than 3:1 shall be New England Wetland Plants Erosion Control Restoration Mix for Dry Sites (application rate 35 lbs./acre). Soil Stockpile side slopes shall be no greater than 2:1 and stabilized with erosion control blanket and seeded with New England Wetland Plants Erosion Control Restoration Mix for Dry Sites (application rate 35 lbs./acre).

Additional geotechnical investigations for the slopes adjacent to the subsurface infiltration system are required. Similarly, the CFS-2 subsurface infiltration system outlet pipe will discharge to the top of the steep slopes to the south of CFS-4, which will require additional attention to address this discharge to erosion issues. Studies and proposed revisions should be submitted and approved by DEC staff and peer reviewers prior to issuance of a building permit.

Stormwater management: The DEC's peer review engineers have reviewed the revised plans and have requested additional information about the base material of the utility pad areas and their infiltrative capacity to determine whether additional collection, such as an area drain, is needed to manage runoff. There is a slight decrease in overall impervious proposed.

Waivers:
The Applicant has not requested any additional waivers as part of this amendment.

Process:
VHB, on behalf of Commonwealth Fusion Systems, LLC., submitted the Level 2 Unified Permit Application on October 13, 2026, and the Determination of Completeness was issued on October 15, 2026. Copies of the application were received by the surrounding Towns on October 15, 2026. Legal notices were placed in Nashoba Publications on October 23 and 30, 2026. All abutting property owners were duly notified by certified mail on October 16, 2026. The 30-day Town comment period expired on November 14, 2026. No comments have been received other than those from MassDevelopment and our Peer Review Consultants. The 75-day review period for the DEC to act on this application ends on December 29, 2026.

Recommended Action:
The 30-day town comment period expires on November 14, 2026. Once the Commission and public have had an opportunity to ask any questions and make any comments, if there are any remaining issues to be resolved, the DEC may wish to continue the hearing to the December 3, 2026 meeting. If all issues have been addressed, the DEC can close the public hearing and act on the application. Staff has prepared a draft record of decision for the Commission's consideration. All previously approved conditions would remain in place. Staff would recommend the DEC add the following conditions to any approval:

25. Prior to commencment of construction associated with the CFS-4 foundation, a pre-construction meeting shall be held with DEC staff and MassDevelopment.
26. Final plans and the amended Record of Decsion shall be recorded with the Worcester Registry prior to issuance of a building permit.
27. LEED Green Building Rating System Project Checklist shall be provided as part of building permit application.
28. No unscreened or exposed exterior lighting shall be placed above the roof elevation of the condensor or building. Rooftop and condenser screening above the height of the roof of CFS-3 shall be non-reflective and a dark forest green color to reduce visibility.
29. Prior to DEC endorsement of the final plans, the following changes shall be made:
    a. Additional canopy trees to be installed along access drive where feasible.
    b. The applicant shall increase the size of the green roof to XX% of the building area.
    c. The Zoning Conformance Summary Table shall be added to the plans for recording.

d. Industrial Performance Standard Notes shall be added to the plan set.
e. Applicant shall provide additional information about the base material of the pad and its infiltrative capacity to determine whether additional collection, such as an area drain, is needed to manage runoff. If required, a trench drain or suitable alterntative shall be provided, along with required calculations, to ensure all runoff is properly caputred and pre-treated prior to infiltration. The inlet elevation of WQU-1 shall be raised to be at the 100-year storm peak elevation.
f. Notes on stabilization treatment methods for steep slopes shall be added to the plans.

30. An updated logistics plan shall be provided to the DEC no more than 30 days from the date of this decision. This plan shall be updated as part of any building permit application.
31. The existing facility O&M and Hazardous Materilas Plan plan shall be updated to include this area.
32. Additional geotechnical investigations for the slopes adjacent to the subsurface infiltration system are required. Similarly, the CFS-2 subsurface infiltration system outlet pipe will discharge to the top of the steeps slopes to the south of CFS-4, which will require additional attention to address this discharge to erosion issues. Studies and proposed revisons should be submtted and approved by DEC staff and peer reviewers prior to issuance of a building permit.

Attachments:

- – **Amendment Narrative Memo**
  – **Comparison Graphic**
  – **Site Plans**
  – **Stormwater Report**
  – **Determination of Completeness**
  – **Application**
  - Air Permit/emissions Agreement Letter
  - Applicant response to comments