

HANCOCK ASSOCIATES

Surveyors | Engineers | Scientists

December 23, 2022

Planning Division
c/o Elizabeth Hughes, Town Planner
141 Keyes Road
Concord, MA 01742

Re: 37 Lexington Road, Concord Center for Visual Arts: ZBA Special Permit, Site Plan Approval Application

Dear Ms. Hughes,

Hancock Associates, acting on behalf of Concord Art Association, offers the following in response to Concord Public Works Engineering Department comments made in a letter dated December 2, 2022:

Engineering Division Comments

1. A Form 11 - Soil Suitability Assessment was not submitted with the application. Soil testing appears to be performed on site by a Certified Soil Evaluator, but a Town representative was not present to observe the testing. The Town representative observation is required but can be a condition of approval. The condition of approval should be that a Town representative should observe the soil in the infiltration area and bioretention area prior to the construction. As such, the Applicant and their representative Hancock Associates understands that if soil conditions are different than what is shown on the plans, revised plans calculations and even an amendment to the Decision could be required prior to the installation of the infiltration systems. Soil observation can be scheduled with the Engineering Division with a certified soil evaluator registered in the Commonwealth of Massachusetts.
The applicant would welcome a condition of approval to have a Town Representative observe the soil within the bio-retention area and infiltration area prior to construction.
2. An area drain with sump detail should be added to the plans.
An area drain with a sump detail has been added to the Site Details Sheet of the plan set.
3. Area Drain maintenance should be added to Stormwater Operation and Maintenance Plan.
Area drain maintenance has been added to the Stormwater Operations and Maintenance Plan.
4. The inspection reports of the Stormwater Operation and Maintenance Plan shall be submitted to the CPW Engineering Division on an Annual Basis. This shall be a condition of approval.
The applicant would welcome a condition of approval to have the inspection reports from the Stormwater Operation and Maintenance Plan shall be submitted on an Annual Basis.
5. The TSS removal calculations should include the bio-retention area and the area drain.
The bio-retention area has been added to the TSS removal calculations and the treatment trains have been clearly defined. The area drain has not been included in the TSS removal calculations because the area drains provide no treatment.

6. According to the Concord Public Works Design and Construction Standards and Details: "All stormwater designs and calculations shall be completed for the 2-year, 10-year, 25-year and 100-year frequency, Type III, NRCS 24-hour rainfall distribution." Please include the 25-year storm event calculations.
The 25-year storm event has been added to the Hydrocad model and the calculations are now included in the Stormwater Report.

7. According to the Concord Public Works Design and Construction Standards and Details: "The Narrative shall also include a summary table which clearly compares pre-development and post-development runoff rates and volumes at each analysis point." Please include the volumes as required. It appears from the provided table that there is an increase to the volume of water being discharged to Lexington Road in all storm events. The post-development volumes should be mitigated?
The Peak Discharge Summary Table in the Stormwater Report has been revised to include the volumes for each storm event. The underground infiltration system has been expanded to mitigate the post-development volumes.

8. Please provide rational method calculations for the piping as required by the Concord Public Works Design and Construction Standards and Details.
Pipe sizing calculations have been provided for roof drains and trench drains leading to the proposed underground infiltration system.

9. The Infiltration System overtops in the 10-year storm event and greater. The outlet is modeled as a broad crested rectangular weir. There is no overflow area shown on the plans; how will the overflow happen when the area drain rim is at 136.75, but the weir is at 137.45? It will back up into the bio-retention area. This should all be modeled in the calculations.
The design intent is for stormwater runoff to flow to the underground infiltration system and the bio-retention area. The roof drains and trench drains shall collect stormwater runoff and convey it directly to the underground infiltration system. The bio-retention area shall collect and infiltrate overland flow. Runoff can stage in the bio-retention area to an elevation of 136.75 (Area Drain Rim). Upon reaching this elevation runoff shall be collected and conveyed to the underground infiltration system. Conversely, if the underground infiltration system is full and backs up it can overflow out of the area drain into the bio-retention area. In extreme storm events the stormwater within the bio-retention area shall overtop the weir (edge of driveway pavement) set at 137.45, directing stormwater runoff into the driveway.

10. There is a call out for capping the existing water and sewer services. A Right of Way (ROW) and/or Driveway permit is required for the work being performed in the Lexington Road right of way. All work shall comply with CONCORD PUBLIC WORKS DESIGN & CONSTRUCTION STANDARDS & DETAILS.
A Driveway permit shall be obtained prior to work within the Lexington Road Right of Way and all work shall comply with Concord Public Works standards.

Please do not hesitate to contact our office should you have any additional questions or comments.

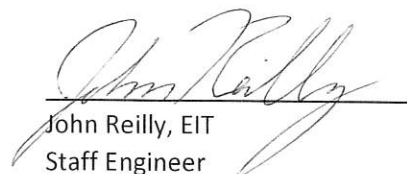
Sincerely,

HANCOCK ASSOCIATES

Acting on Behalf of Concord Art Association,



Brian Geaudreau, PE
Project Manager/Associate



John Reilly, EIT
Staff Engineer