




John Kellard, P.E.
David Sessions, RLA, AICP
Joseph M. Cermele, P.E., CFM
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MEMORANDUM

TO: North Castle Planning Board

CC: Adam Kaufman, AICP
Ralph Alfonzetti, P.E.
2012 Maria Martins Irrevocable Trust

FROM: John Kellard, P.E. 
KSCJ Consulting
Consulting Town Engineers

DATE: January 13, 2023
Updated June 23, 2023
Updated December 11, 2023

RE: 2012 Maria Martins Irrevocable Trust
78 Lafayette Avenue
Section 122.12, Block 1, Lot 29

As requested, KSCJ Consulting has reviewed the site plans submitted in conjunction with the above-referenced project. The applicant is proposing the construction of an office/warehouse building and contractor's yard on a 0.6115 acre parcel located within the IND-A Zoning District fronting on Lafayette Avenue. The building layout includes a two (2) story office area of 2,100 s.f. and 602 s.f. of warehouse. The project will disturb steep slopes and require a ± 38 foot deep excavation which would generate over 10,000 c.y. of excavation and require walls along all property boundaries, except along the frontage. Maximum wall heights within the rear of the property extend to a height of ± 40 feet. The plan proposes two (2) curb cuts, a two (2) way drive along the northern boundary and a single lane along the southern boundary.

The proposal includes $\pm 20,500$ s.f. of new impervious surfaces. Increases in runoff are proposed to be mitigated within two (2) proposed stormwater infiltration systems.

The applicant has redesigned the project, which relocates the office/warehouse building and parking. Site and hillside disturbance have been significantly reduced by reducing the outdoor paved and graded yard areas and shifting the limits of disturbance to the west, reducing excavation into the hillside.

The proposed office/warehouse structure will remain the same size, with 2,100 s.f. of office space and a 6,020 s.f. warehouse. The building, however, will extend into the hillside utilizing the eastern and northern building walls to retain the hillside. Retaining wall heights have been reduced from the

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previously approved 40 foot high walls to a maximum wall height of approximately 25 feet. The area of on-site impervious surface has been reduced, however, I was not able to obtain that information from the plans.

Our comments are provided below.

GENERAL COMMENTS

1. Considering the significant size of the stormwater treatment system, the applicant should prepare stormwater computations which include routing calculations through the infiltration system.

Comment addressed.

2. The infiltration system should include pre-treatment which can be provided through an isolation row within the infiltration system or by other means.

The applicant has provided an isolation row of infiltration units, in an effort to address the pre-treatment requirements for the project. The system should be equipped with a flow diverter which redirects the more intense storm flows to other portions of the infiltration system, thereby bypassing the isolation row.

3. The existing stormwater catch basin within Lafayette Avenue should be relocated from the proposed driveway curb cut.

The Town Highway Superintendent was consulted regarding the existing catch basin remaining at its present location within the driveway entrance. The Highway Superintendent finds the proposal acceptable, as long as a flat grate is used on the top of the catch basin and grading of the driveway maintains the low point between the driveway and roadway along the present gutter line.

4. It appears that no curbing is proposed along the front of the parking spaces located along the north side of the building. The applicant should explain what the symbol along the front of the parking spaces represents. Also, the proposed stairs are designated on the plan, however, no stairs are shown. Curb stops or bollards should be provided.

The parking lot will not have curbing at the parking stalls.

Curb stops or bollards should be provided to protect the structures. Please specify the dimension of the curb stops off the building wall, located along the southern building wall.

5. Fourteen (14) parking spaces are proposed with one (1) handicap space. It appears that the handicap space is adjacent to what may be a doorway into the first floor office. A review of the handicap locations with the Town Building Department is advised.

A “No Parking” area is located between the handicap parking stall and the building entrance doors. Comment addressed.

6. **A significant wall system will be required to retain soils along three (3) sides of the property. The applicant will need to provide a design of the wall system prepared by a Licensed Professional Engineer. The Engineer will also need to inspect and certify that the wall system is constructed in compliance with the design.**
7. The walls along the southern property line and along a portion of the northern property line are located on the common property lines with neighboring properties not owned by the applicant. Wall construction will likely require excavation into neighboring properties. The applicant should provide agreements with neighboring property owners which permits the wall construction.

Walls have been relocated. Comment addressed.

8. Dimensions and detail of the garbage pad should be provided.

The applicant should expand on the details of the refuse area. The detail should show the location and size of the gates and indicate how the refuse containers will be screened from the roadway. The applicant should discuss the required dumpsters, compactors and or recycling containers required with the catering company and show how the required containers will fit within the enclosure.

9. Proposed site lighting should be shown and details provided. A photometric plan for the proposed lighting should be provided.

The applicant has provided a Photometric Plan for the project site. The plan reflects a much lower light level at the building entrances and the parking spaces closest to the entrance. I assume the applicant will be proposing lighting on the building which will supplement lighting of the parking lot in areas adjacent to the building. The Photometric Plan should be updated to include all outdoor lighting.

The applicant should specify the proposed lighting fixtures on the Site Plan and include details of the lighting fixtures and supports within the detail sheets, including the lighting which is proposed on the retaining wall. It appears light heads will be mounted on 20 foot high poles, however, the Site Plan reflects light poles to be mounted on top of the proposed retaining walls. The applicant should clarify such issues.

- 10. A construction phasing plan should be provided outlining the different phases of work and erosion and sediment controls required during each phase. The plan should detail the means and staging of the excavation and wall construction. This may require separate plans for each phase of work. The applicant should consider the use of diversion swales and sediment basins to control sediments which can be expected from disturbance of the steep slopes.**
- 11. The applicant should provide drainage above the retaining wall and building which will divert runoff from the hillside around the structures.**

The applicant has proposed an infiltration trench which is located above the retaining wall. The curtain drain will connect to a drainage manhole to be located behind the wall then piped to the drainage system within Lafayette Avenue. The applicant should provide the regrading above the wall, which will be required to construct an effective curtain drain.

- 12. The applicant should provide details and a cross section through the retaining wall along the Lafayette Avenue frontage. The applicant should detail how the parking lot runoff will be controlled, whether by the wall which would be raised above the parking lot pavement or through the installation of curbing in front of the wall. The applicant should also explain what is proposed on top of the wall.**
- 13. A sidewalk detail is provided within the Detail Plan. The applicant should indicate on the Site Plan the location of the sidewalk.**
- 14. A bollard detail is provided within the Detail Plan. The applicant should indicate on the Site Plan the location of the bollards.**
- 15. A control structure detail is provided within the Detail Plan. The applicant should dimension the structure. The detail should also be drawn to better represent the different elevations of the pipes connected to the structure.**

The 15-inch diameter pipe between the control structure and the infiltration system will be protruding through the pavement at the control structure. The applicant should redesign the

stormwater collection system, providing a minimum of two (2) feet of cover over the drainage pipes.

The applicant should provide drainage profiles of all drainage piping. The profile should include the stormwater treatment system and outlet control structure and extend to the connection into the Town drainage system.

16. Parallel parking spaces within the Town right-of-way should have a minimum length of 22 feet per space.
17. The applicant should include details of the pavement restoration proposed within Lafayette Avenue, as well as new pavement within the on-street parking spaces.
18. Trench backfill within the Town right-of-way should be K-Crete controlled backfill.
19. The applicant is proposing to mitigate the increase in runoff from the site by storing and infiltrating runoff from the parking lot and the building roof within 28 Cultec infiltrators to be located under the parking lot. The applicant has submitted drainage calculations used in sizing the system. Our comments with regard to the treatment system follow:
 - The applicant uses a hydraulic soil designation for D type soils. Percolation tests resulted in percolation rates between 3 and 6 minutes per inch. Such results reflect a soil having characteristics of an A or B soil group. The applicant should use a maximum hydraulic soil group rating for a B soil. This will change the CN values used for the existing site conditions and likely require changes to the sizing of the infiltration system.
 - Deep hole tests extended to a depth of eight (8) feet below grade. Portions of the proposed infiltration system will be located at depths of 12 feet below existing grade. Since testing must confirm impervious resistance within three (3) feet of the bottom of the practice, testing should extend to a depth of 15 feet.
 - The applicant should provide a watershed map of the existing and proposed conditions. While the existing and proposed calculations utilize an area of 26,639 s.f., the report notes a total runoff area of 1.223 acres. Watershed mapping should be provided.
 - Drainage calculations should include the sizing of the isolation row.

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- 20. The applicant has submitted a cost estimate of the site improvements. The estimate should be expanded to include all site improvement items. The estimate should calculate unit values and apply standard unit prices (used by Town for all projects) to these values. In addition, the 10% contingency should be a construction contingency, not an engineering and surveying contingency.**

As additional information becomes available, we will continue our review. It is noted that an itemized response to all comments will facilitate completeness and efficiency of review.

PLANS & REPORT REVIEWED, PREPARED BY ALFONZETTI ENGINEERING, P.C., DATED NOVEMBER 21, 2023:

- Existing Conditions & Demolition Plan (Sheet 1 of 5)
- Layout/Planting Plan (Sheet 2 of 5)
- Grading & Utility Plan (Sheet 3 of 5)
- Soil and Erosion Control Plan (Sheet 4 of 5)
- Site Details (Sheet 5 of 5)
- Slope Disturbance Exhibit, dated November 20, 2023
- Drainage Analysis Report

PLANS REVIEWED, PREPARED BY RAB LIGHTING, DATED JUNE 21, 2023:

- Photometric Plan

JK/dc