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CME ASSOCIATES

MEMO TO: Township of Franklin
Planning Board

FROM: Robert J. Russo, PE, PP, CME
Township Engineer

DATE: December 18, 2020

RE: ***789 Hamilton Street, LLC***
Preliminary and Final Major Site Plan
Report #1
Engineering
Block 225; Lots 6-15
789 Hamilton Street
Franklin, New Jersey
Our File: PFRP0225.01/600.01
Application # PLN-20-00008

As per your request, this office has reviewed the following documents relative to the above referenced preliminary and final site plan application:

- Preliminary and Final Site Plan, as prepared by AWZ Engineering, Inc., dated October 27, 2020, with no revisions;
- Land Survey, as prepared by KTJ Associates, LLC, dated January 27, 2019, with no revisions;
- Architectural Plans, as prepared by AMRARCH Design Studio, dated July 30, 2020, with no revisions;
- Environmental Impact Statement, as prepared by AWZ Engineering, Inc., dated August 7, 2020, with no revisions;
- Operation and Maintenance Plan for Stormwater Management Measures, as prepared by AWZ Engineering, Inc., dated July 27, 2020, with no revisions;
- Stormwater Management Report, as prepared by AWZ Engineering, Inc., dated July 27, 2020, with no revisions;
- Traffic Impact Analysis, as prepared by AWZ Engineering, Inc., dated August 10, 2020, with no revisions;
- Application Forms.

The following comments are offered with regard to same:

A. PROJECT OVERVIEW

This project is located in the northeast corner of the intersection of Hamilton Street (C.R. 514) and Shevchenko Avenue. The site has frontage along Hamilton Street (C.R. 514), Shevchenko Avenue and Martin Street. The site currently contains two (2) existing 1-½ story frame dwellings, two (2) garages, asphalt driveways and consists of approximately 0.57 acres. The applicant is proposing to demolish the existing structures and construct a new 3-story 15,500 square foot Mixed Use Building, including a parking area for 48 parking spaces. The applicant is also proposing site improvements including but not limited to, construction of one (1) access driveway off of Shevchenko Avenue, a stormwater management basin to address NJDEP stormwater management rules, concrete curb, sidewalk, utilities, grading, lighting and landscaping.

We defer the review of the zoning related issues to the Board Planner except where they may pertain to engineering issues.

B. GENERAL SITE IMPROVEMENTS

1. Official street addresses shall be obtained from the Franklin Township 911 Coordinator.

2. An Engineering Cost Estimate will be required once final plans are signed-off on by the Board. Upon approval, applicant shall provide appropriate bonds and Engineering inspection fees and attend a pre-construction meeting, prior to any site work.

3. All fees shall be paid by the applicant at the time of adoption of a resolution of site plan approval for the cost of making upgrades and modifications to the Tax Maps and geographic information system (GIS) (§112-329)

4. At the time the final plans are submitted for signature of the municipal officials, the applicant shall submit CAD-generated data files, prepared by a New Jersey licensed land surveyor, directly translatable into an identical image of the plan per the requirements of Ordinance §112-329.

5. A variance is required for Maximum Lot Coverage. Maximum 50% lot coverage is permitted in the HBD Zone, the applicant is proposing 61.99%.

6. A variance is required for Maximum Impervious Coverage. Maximum 85% impervious coverage is permitted in the HBD Zone, the applicant is proposing 94.78%.

7. Parking within setback areas in the HBD is prohibited as noted in Ordinance §112-02.J. The applicant is requesting a design waiver to allow for parking within the Martin Street front yard setback.

8. 48 parking spaces are required for the residential apartments and 8 parking spaces are required for the commercial use resulting in 156 parking spaces being required. The applicant is proposing 48 parking spaces. Pursuant to Ordinance §112-105.B.(2).c a contribution shall be made to a capital improvement fund for the purpose of constructing on-street and off-street public parking facilities to serve the needs of the HBD. The amount of the contributions shall be equivalent to the costs of constructing the parking spaces on site, as calculated by this office.

9. Based on the 48 total parking spaces, two (2) barrier free parking stalls are required, one (1) of which is required to be van accessible. The applicant is proposing two (2) accessible spaces, one (1) is proposed to be van accessible; therefore, the ADA parking demand is met.

10. This office defers to the Fire Prevention Officer as to the appropriate number of Fire Hydrants, Fire Department Connections, and their location. In addition, we defer to the Fire Prevention Officer regarding the need of 'No Parking' fire lane signage and striping.

11. Should the Board act favorably on the application, the applicant shall consolidate the lots. Final approved lot numbers will be provided by the Township Engineering Department should the Board act favorably on the application.

    Consolidation deeds, with metes & bounds descriptions, shall be provided for review and approval ***prior*** to filing with Somerset County Clerk's Office.

12. The applicant should revise the Circulation Plan showing the travel path of a garbage truck to verify the on-site circulation is adequate to access the garbage and refuse area. It appears the refuse area will be blocked by proposed parking spaces. In addition, the applicant should provide testimony regarding whether the residential units will be able to utilize this area.

13. A two-foot (2') hot mix asphalt repair strip is required for all proposed curbs within the public right-of-way. Face forming will not be accepted. Same should be delineated on the site plan.

14. Shevchenko Avenue was recently paved by the Township. The applicant will need to obtain approval from the Township Department of Public Works for same. At a minimum our office recommends that the applicant mill and pave this section of Shevchenko Avenue along the property frontage, curb to curb. Same should be delineated on the site plan.

15. Vehicles entering the driveway and traveling to the eastern most portion of parking lot will not have the ability to turnaround if the proposed parking spaces are used with the proposed layout. The applicant's engineer should review this further.

16. We recommend the applicant review the orientation of the parking space adjacent to the parking garage exit. If feasible we would recommend the applicant's engineer rotate the parking space ninety degrees to avoid turning movements so close to the driveway ingress/ egress.

17. The applicant should mount ADA signage on the proposed building or on a bollard mounted sign post.

18. The applicant should supplement the traffic directional pavement markings with signage.

19. We recommend the applicant install no parking pavement striping along the garage driveway entrance/exit.

20. The applicant should propose cast-in-place detectable warning surfaces at all ADA curb ramps located within the public right-of-way. Same should be delineated on the plans.

21. The applicant should propose bumper blocks for all parking spaces that are perpendicular to another parking space.

22. Six (6) foot wide sidewalk is required at locations where head-on parking is proposed, in accordance with RSIS requirements.

23. It appears that four (4) trees within the Martin Street right-of-way are in conflict with the proposed sidewalk. The applicant should clearly identify on the site plan that these trees will be removed.

24. The applicant is proposing a hot mix asphalt finish for the driveway ingress/ egress along Shevchenko Avenue. We recommend the applicant install a concrete apron and a reinforced concrete sidewalk crossing for the driveway crossing.

25. The Proposed Side Elevation (Shevchenko Street) shown on page A-03 of the architectural plan should be revised to clearly delineate the proposed curbing and 24' wide driveway access. It appears that vehicular access is proposed throughout a majority of the Shevchenko Street frontage, as shown.

26. The applicant is proposing five (5) parallel parking spaces in-between two 90 degree head on parking spaces. While there is sufficient aisle width our office would not recommend this layout.

27. The proposed off-site improvements should conform to the HBD Streetscape requirements. This office recommends that the applicant's engineer contact the Township Planner for copies of all requirements.

D. GRADING AND UTILITY COMMENTS

1. The applicant should address the following general grading comments:
   - Provide spot elevations demonstrating ADA compliance for all proposed handicap ramps, including the required 4' x 4' landing area, with running and cross slopes not exceeding 2%, respectively. In addition, spot grades should be provided delineating the pedestrian access route along the driveway crossing does not exceed 2%.
   - Provide spot elevations along all sidewalks and driveway aprons so that the grading slopes can be reviewed further;

- Provide top and bottom of curb elevations for the proposed curb along Hamilton Street. It appears either a step down entering the doors or the sidewalk will need to be back-pitched, as designed. The applicant's engineer should review this further;
- Provide top and bottom of curb elevations adjacent to all proposed mandoors along Hamilton Street and the northern walkway behind the proposed building. The applicant's engineer should demonstrate that the proposed cross slope of both walkways does not exceed 2%.
- Provide top and bottom of curb elevations at all pc's and pt's;
- Provide existing spot elevations for Lot 16 so that our office can evaluate and confirm the existing drainage path is not affected by the proposed project;
- The applicant should review the following grades (a minimum of 0.50% slope is required within all paving areas):
  a) Along Martin Street, between elevation BC 110.28 and BC 110.22, the elevation BC 110.13 creates a low point which should be eliminated. In addition, a minimum of 0.50% slope should be provided along the gutter line;
  b) Along Shevchenko Avenue, between elevation BC 111.81 and BC 112.27, the elevation 111.73 creates a low point.
- Provide additional spot elevations within the ADA parking spaces so that the grading slopes can be reviewed further for ADA compliance;
- The proposed first floor elevation delineated on the civil site plan indicates the first floor elevation varies between 111.05 to 112.45. The architectural plan indicates that the first floor elevation is level. Coordination between the two (2) documents are required;
- The grading will be reviewed further when the above has been addressed.

E. LANDSCAPING AND LIGHTING COMMENTS

1. Applicant provided a tree removal and replacement plan to satisfy the requirements of Ordinance §222- Trees. This office defers to the Township Planner as to the adequacy of the tree replacement plan, as well as the adequacy of the proposed landscaping and buffering to adjacent properties, respectively.

2. Provide adequate shielding of light to eliminate light spillage along the eastern property line.

F. POTABLE WATER DISTRIBUTION SYSTEM

1. This office defers review and final approval of the water system improvements to the Township Water Department.

2. We recommend the applicant provide a dedicated meter room for the building due to 25 residential meters and 4 commercial meters being proposed.

3. The applicant should provide separate service lines and wet taps for the domestic and fire lines.

4. All ductile iron water main pipe shall be cement lined. Same should be noted on the site plan.

G. ENVIRONMENTAL IMPACT COMMENTS

1. Last sentence of the first paragraph in Section 2.1.2.3 states "The onsite watercourse would be considered non-delineated streams" but there is no streams within the limits of the property in question. Revise Environmental Impact Statement.

H. STORM WATER MANAGEMENT:

1. The property in question; Block 225, Lots 6-15, consists of approximately 0.57 acres of land and is currently occupied by two single family dwellings. The entire property drains to the Mile Run Tributary.

2. Development of the proposed residential/commercial project will disturb approximately 0.57 acres of land and will create 0.44 acres of impervious surface. The project proposes more than ¼ acre of new impervious surface, therefore it is classified as a major development for stormwater management purposes. In accordance with Township Ordinance, major projects must comply with water quantity control, water quality and groundwater recharge standards.

3. The project site is located within the review zone of the Delaware and Raritan Canal Commission and the Applicant should obtain approval from the Commission. A copy of the permit should be provided to this office.

4. The Applicant must obtain a Soil Erosion and Sediment Control Plan Certification from the Somerset-Union Soil Conservation District. A copy of the certification must be provided to this office.

5. In accordance with stormwater regulations, in computing stormwater runoff from all design storms, the design engineer shall consider the relative stormwater runoff rates and/or volumes of pervious and impervious surface separately. Runoff hydrographs were generated using a weighted runoff curve numbers and should be revised accordingly.

6. In accordance with stormwater regulations, runoff hydrographs for sites in Somerset County should be generated using a Type III rainfall distribution or the new Region C distribution. Runoff hydrographs were generated using a type II distribution and should be revised accordingly.

7. It appears that pervious surface for drainage area "E-2" consist of wooded land instead of lawns. Revised runoff hydrographs accordingly using the appropriate runoff coefficient.

8. Basin routing calculations included in the drainage report should be revised to compute outflows from the proposed 2-ft weir as a rectangular weir instead of a broad crested weir. Revise calculations accordingly.

9. Basin routing calculations included in the drainage report should be revised to take into account the tailwater created at the pump station.

10. The construction detail for the Pump/Lift station provided on sheet C-10 should be revised to indicate the pump on, pump off, and alarm levels for the pumps. In addition to the required pump capacity, indicate the total dynamic head for the pump.

11. The Pump/Lift station detail provided on sheet C-10 should be revised to provide the manufacturer and model of the pump and the performance curve for the proposed pump.

12. The Utility Plan should be revised to provide the length, diameter, and slope for the pipe reaches from the underground infiltration basin to the outlet control structure, from the OCS to the pump station and from the pump station to the point of discharge.

13. It appears that the proposed underground infiltration basin provides the required reductions to meet water control standards. However the final outflow from the site will be controlled by the capacity of the proposed pump station (Q = 3.1 cfs), which will required storage of the runoff and when the pumps starts the outflow will be 3.1 cfs regardless of the storm frequency. Outflow from the pump station negate any quantity control provided onsite; therefore the stormwater management system does not meet required quantity reductions. Applicant's engineer to further review this issue.

14. Water quality calculations included in the drainage report should be revised to compute the peak flow rate using a rainfall of 1.25 inches in 2-hours. Current calculations use 1.25 inches in 24-hours (10 month). Revise calculations accordingly.

15. The construction detail for the manufactured treatment device (stormfilter) provided on sheet C-09 should be revised to indicate the impervious surface drainage area, the peak flow rate for the water quality and 100-yr storm events, the size and number of cartridges, invert and rim elevations, pipe diameters, etc.

16. As per BMP Manual requirements, a minimum of two soil profile pits shall be excavated for the first 10,000 sf of infiltration area of a proposed infiltration BMP to determine the suitability of soils types present within the infiltration area of the proposed BMP. A minimum of two (2) tests should be excavated for the proposed infiltration basin within the infiltration area. The Applicant should perform the required testing in accordance with Appendix E of the BMP Manual.

17. As per BMP Manual requirements, a minimum of one permeability test shall be performed at each profile pit. A minimum of two (2) permeability tests should be performed for the proposed infiltration basin within the limits of the infiltration area. The permeability test shall be conducted on the most hydraulically restrictive horizon to be left in place. No permeability testing was performed within the proposed infiltration area of the infiltration basin. The Applicant should perform the required permeability testing in accordance with Appendix E of the BMP Manual.

18. Soil explorations (soil profile pits and soil borings) shall extend to a minimum depth of eight (8) feet below the lowest elevation of the basin bottom or to a depth that is at least two (2) times the maximum potential water depth in the proposed BMP, whichever is greater. All testing should be excavated to the required depth.

19. In accordance with BMP Manual requirements, an infiltration basin must have sufficient storage volume to contain the water quality design storm volume without overflow. The proposed infiltration basin is not in accordance and should be revised accordingly.

20. The grading and drainage and utility plan should be revised to include the maximum water surface elevation for the water quality, 2-yr, 10-yr, and 100-yr storm event for the proposed infiltration basin.

21. As per BMP Manual requirements, no standing water may remain in an infiltration basin 72 hours after a rain event. The drainage report should be revised to document compliance with this requirement.

22. In accordance with BMP Manual requirements, post-construction testing must be performed on the as-built infiltration basin to ensure that the installed BMP functions as designed. Where as-built testing shows a longer drain time than designed, corrective action must be taken and the basin should be retested. A note should be included in the site plan and grading plan stating this requirement.

23. The Groundwater Recharge analysis included in Appendix K of the drainage report should be revised to use a design infiltration rate based on actual testing. Revised analysis accordingly.

24. To the maximum extent practicable, stormwater management standards shall be met by incorporating nonstructural strategies into the site design. The drainage report should be revised to document compliance with this requirement.

25. As per BMP Manual requirements the seasonal high water table or bedrock must be at least 2 feet below the bottom of an infiltration basin (stone bed). The cross section for the proposed infiltration basin should be revised to show the SHWT to demonstrate compliance with this requirement.

26. As per BMP Manual requirement, the groundwater mounding impact on infiltration basins must be assessed to verify no adverse impact in the basin, including reduction of permeability rate when groundwater mounding is present. Revise drainage report to include a mounding analysis for the infiltration basin.

27. Trash rack details should be provided for all outlet devices (orifices and weirs) shown on the proposed outlet structure. The trash rack provided in sheet C-09 is not in accordance with N.J.A.C. 7:8-5.7 and 7:8-6.2 and should be revised accordingly. In addition, construction details for the other outflow devices should be provided and the location should be shown on the outlet control structure detail.

28. Capacity calculations for the roof drain pipes should be provided and the utility plan should be revised to show the length, slope and diameter for the proposed roof drains.

29. The drainage report should be revised to include a capacity analysis of the existing conveyance system on Hamilton Street (C.R. 514) to verify adequate capacity for the proposed discharge into the system. The analysis should include at least two pipe reaches below the point of discharge.

30. An executed Major Development Stormwater Summary (Attachment D of the Tier A MS4 NJPDES Permit) shall be submitted to this office for review and approval.

31. Provide a Stormwater Maintenance Agreement for the stormwater system to insure future maintenance. A sample agreement is available from the Engineering Department.

32. Per the Township standards, all underground detention basins shall be offset a minimum of 10' from all property and right-of-way lines.

33. Install the inspection ports after all the proposed 90-degree bends in the underground basin.

34. All proposed storm sewer pipes should be labeled with length, size, material, and slope.

35. The applicant is proposing a 10" RCP storm sewer pipe to connect to the existing storm sewer system. The minimum allowable pipe size diameter is 15". In addition, while the connection into the existing storm sewer falls under County jurisdiction, our office would recommend the applicant install a structure in lieu of the blind connection proposed.

36. The applicant should review the inverts for the proposed storm filter, the inverts appear to be incorrect.

37. Relocate the off-site storm sewer improvements into the roadway.

38. The Operations and Maintenance Manual (OMM) should be revised as follows:

    a. The OMM should be revised to include a location map showing the location of all BMPs (infiltration basin, manufactured treatment device, outlet control structure, pump station, etc.) incorporated in the design of the stormwater management plan.
    b. The OMM should be revised to include a brief overview of each proposed BMP identifying the purpose of the BMP (to address water quality, quantity, etc.) and its function.
    c. The OMM should be revised to include basic information for the infiltration basin such as subsoil permeability rate, design detention time, design drain time, elevation of the seasonal high water table/bedrock, TSS removal rate achieved by the basin and a summary of the rainfall depth, runoff volume, peak outflow rate, and water surface elevation for each storm event (water quality, 2-yr, 10-yr, and 100-yr). The OMM should also include the size, type (orifice, weir, spillway, etc.) and invert elevation for each outlet provided.
    d. An inspection checklist and the corresponding preventative and corrective maintenance actions to be taken for the most common infiltration basin problems such as the observed detention time is longer than the design detention time, standing water in the basin after design drain time, erosion on pond side, standing water in the outlet structure longer than 72 hours, etc.
    e. The OMM should be revised to include basic design information for the manufactured treatment device such as peak flow rate for the water quality, the maximum design storm flow rate, and TSS removal rate achieved. The OMM should also include the size, type of any diversion structure if provided.
    f. The OMM should be revised to include the certified maintenance manual issued by NJDEP for the proposed manufactured treatment device.
    g. The OMM should be revised to include maintenance requirements for the proposed pump station.

I. MISCELLANOUS

1. Revise/Add the following details based on Franklin Township standard details:

   a. Add the following note on all of the detail sheets, "In case of discrepancy, Township Standard Details shall hold";
   b. Revise Concrete Sidewalk detail to indicate 4,500 psi concrete is required;
   c. Township Utility Pipe Bedding detail;
   d. Township Fire Department Connection detail, if required;
   e. Township Manhole detail;
   f. Township Manhole Frame and Cover detail;
   g. Township Inlet Type B Detail;
   h. Township Copolymer Polypropylene Plastic Ladder Rung detail;
   i. Township Concrete Pipe Cradle detail;
   j. Township No Parking Fire Lane sign detail, if required;
   k. Township Roadway Typical Section detail;
   l. Bollard Mounted Sign detail, if required;
   m. Revise the Concrete Sidewalk detail to note that a maximum of 2% cross slope is permitted;
   n. All sanitary sewer details shall be submitted directly to the Franklin Township Sewerage Authority for review and approval – Comment Only

2. All striping and traffic markings proposed in the Township right-of-way shall be thermoplastic. This should be noted on the site plan.

The Applicant is required to obtain either approvals or letter of no interest from the following agencies:

Outside Agencies:
- Delaware Raritan Canal Commission
- Somerset County Planning Board
- Somerset-Union Soil Conservation District

Township Departments:
- Franklin Township Fire Department
- Franklin Township Police Department
- Franklin Township Water Department
- Franklin Township Sewerage Authority
- Somerset County Health Department

The Engineering Department reserves the right to make additional comments based upon the submission of revised plans or testimony presented to the Board.

Should you have any questions regarding this matter, please do not hesitate to contact this office.

RJR/DM
cc: Planning Board Secretary