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Ms. Kathleen Colwell
Planning Division Director
Department of Economic and Community Development
41 Pleasant Street
Methuen, MA 01844

December 21, 2020

Re: 33 Danton Drive, Methuen, MA
Civil Engineering Peer Review

Dear Ms. Colwell and Members of the Planning Board:

On behalf of the City of Methuen, TEC, Inc. reviewed documents as part of the civil engineering peer review for the project proposed at 33 Danton Drive. Nabil Boghos, ("Applicant") submitted the following documents prepared by Design Consultants, Inc., which were reviewed by TEC for conformance with the City of Methuen Zoning Ordinance and industry standards and best management practices:

- Site Plan Application, not dated.
- Site Plan for 33 Danton Drive, Methuen, MA 01844, dated November 20, 2020.
- Stormwater Management Report, dated November 4, 2020.
- Design Calculations, not dated.
- Traffic Memorandum, dated November 3, 2020.

For consistency, the outstanding original comment numbers have been retained from the most recent TEC review letter dated November 24, 2020. The Applicants response to comments is shown as **bold**; TEC response are shown as *italic*

Site Plan Review

1. TEC understands that the proposed project is within the Limited Industrial District (IL). The Site Plans should be revised to clearly identify the proposed used of the building, consistent with Section V-D, Table of Use Regulations, in the Zoning Ordinance.
   DCI response (12/07/2020): The building will be used as a warehouse. A line item has been added to the cover zoning table.
   TEC: Comment Addressed.

2. The project proposes a building with a footprint of 60,200 square feet, resulting in a lot coverage of 44%. Per the Table of Dimensional Regulations, the maximum lot coverage allowed within the Light Industrial zoning district is 35%. Relief from the Zoning Ordinance may be required.
   DCI response (12/07/2020): No Response Necessary.
   TEC: No comment necessary.

3. The Title Sheet calls for a 62,000 square foot building within the Zoning Table, which TEC believes is a mistake. The building is drawn with total footprint of 60,200 square feet on sheet C101. The front of the building is 176-feet wide, with the rear being 173-feet wide. The Site Plans should be revised to clearly label the proposed building square footage and the outer dimensions of the building

DCI response (12/07/2020): The typo has been corrected, and additional dimensions have been added to clarify the building dimensions. The footprint of the building was also slightly modified to address engineering comment 1.
TEC: Comment addressed.

4. The Site Plans do not identify any wetland resource areas or buffer zones in proximity to the project. Based on a review of Methuen GIS, it appears that there may be wetlands east of Danton Drive. A filing with Methuen Conservation may be warranted.
DCI response (12/07/2020): The delay in the delineation was noted in the cover letter of the previous transmittal. The wetlands have now been delineated and are included in the plans. An NOI has been filed to the conservation commission on 12/7/2020.
TEC: Comment addressed.

5. The Site Plans show a 30-foot wide buffer screen to the residential abutters at the rear of the site (Spencer Street) per Section VI-B.12.(a) of the Zoning Ordinance.
DCI response (12/07/2020): No Response Necessary.
TEC: No comment necessary.

6. As currently drawn, TEC does not believe that the Site Plans reflect a true limit of work at the rear of the property. Additional topography in the wooded area may be required. The construction detail calls for a retaining wall with maximum height of 13-feet, but TEC can not verify the accuracy of the detail without additional existing topography. In order to construct this wall, a contractor will need to clear and over-excavate behind the wall resulting in clearing/earthwork into the proposed 30-foot landscape buffer.
DCI response (12/07/2020): See comment response 7 regarding survey. Regarding the wall, the detail is a generic block detail to be used for all heights but has been updated for this particular use. As the wall will be over 4', the contractor's structural engineer will be finally responsible for the design of the wall during the building permit.
TEC: The closeup detail on sheet C501 provides the required information. Seven (7) trees are marked to be removed in order to construct the wall. Three (3) additional trees are marked "Contractor to preserve trees to extent possible". Approximately 24 existing trees within the buffer are marked to be preserved. TEC recommends the following to properly preserve the 30-foot buffer:
    - *Prior to construction, mark w/ ribbon all trees to be removed, and trees to be preserved*
    - *Marked trees should be inspected and approved by the City or its Agent*
    - *Trees to be removed (up to 10 maximum) should be replaced with new tree plantings to enhance the 30-foot buffer*

7. Per Section XII.3.a., the Applicant should "minimize the volume of cut and fill, the number of removed trees 6" caliper or larger, the length of removed stone walls, the area of wetland vegetation displaced, the extent of stormwater flow increase from the site, soil erosion, and threat of air and water pollution". In order to assess conformance with this section, mature trees located within the proposed 30-foot landscape buffer should be located and identified on the Site Plans.
DCI response (12/07/2020): Additional survey has been conducted and a closeup detail showing the trees and their impact on removal provided on C501. Considering the number and size of the trees removed in the buffer compared to what will be left in the buffer, we expect the impact to be minimal.

TEC: The closeup detail provides the required information. TEC's previous comment provides additional direction to properly preserve the 30-foot buffer.

8. A clear limit of work and limit of clearing line should be provided on the Site Plans. The Site Plans show drainage work within Danton Drive, however no paving or trench work is shown within Danton Drive.
   DCI response (12/07/2020): Trench patching shown. Limits of work shown on sheet C101.
   TEC: Comment addressed.

9. TEC believes that the site work on 31 Danton Drive (removal of existing pavement, concrete, fencing, landscaping) should be shown on the proposed Site Plans. These improvements should be considered a condition of this project. Permission from the abutting property owner should be provided.
   DCI response (12/07/2020): 31 Danton Drive is not proposed as part of the project. We would advise against the city placing a condition on the project requiring any kind of performance on 31 Danton Drive as the applicant does not have the rights to perform work within 31 Danton Drive, and we are not proposing any design features that would make the project dependent on interactions with 31 Danton Drive. A condition such as the one proposed could potentially lead to a conflict between all parties associated with the project. That said, we understand the property lines creating the project parcel did not follow the area's physical features. Therefore we have included a small amount of area on 31 Danton Drive in our stormwater calculations (increasing our own onsite mitigation requirements), and we have engaged the property owner to start a dialogue regarding temporary access, removal of pavement for landscaping, etc to allow the project to better blend in with the overall development. However, this process is ongoing, and in its current design, we do not require the participation of 31 Danton Drive ownership to complete the project. After reviewing, the only change we have made to the plans regarding this comment is to provide an additional area drain near the existing swale on our site to ensure the drainage from 31 Danton Drive is still collected as assumed with the drainage design without being forced to overland release onto Danton Drive.
   TEC: Response noted. TEC recommends a fence, mid-height shrubs, or some type of physical barrier be installed to block the drive aisle from 31 Danton Drive. The concern is that a truck or patron of 31 Danton Drive attempts to drive between properties which is no longer a safe driving movement. Winter months and snow cover can make it difficult for motorists to discern between paved drive aisles and landscaped areas.

10. The proposed access driveway to the rear of the building is shown as 22-feet in width (minimum). Per Section VIII-B.4., the minimum width of a two-way drive aisle shall be 24-feet. A waiver or relief from the Zoning Ordinance may be required.
    DCI response (12/07/2020): There was some k-rail that we were avoiding until we could get more information from our electrician. The plans have been revised to provide a 30' access drive.
    TEC: Comment addressed. A 30-foot drive aisle is provided.

11. The Site Plans should show location for signage on the site plan. Signage should be consistent with the latest version of the Manual on Uniform Traffic Control Devices (MUTCD).

DCI response (12/07/2020): Signage now shown.
TEC: Comment addressed.

12. A stop sign and stop bar should be provided on the site driveway at its access onto Danton Drive.
DCI response (12/07/2020): Stop Bar is now shown.
TEC: Comment addressed.

13. The Site Plans show access to the rear of the building via the existing driveway on 35 Danton Drive. Permission from the abutting property owner should be provided in the form of an access easement. Access to the rear of the building is a key component of the site layout. Without this access driveway, the site would not be compliant with the loading requirements.
DCI response (12/07/2020): We agree with this analysis, the owner of the adjacent parcel is the applicant, and this will be provided.
TEC: TEC recommends that the Board consider this as a condition of approval.

14. The Applicant should provide a truck turning analysis to prove that adequate access is provided to the rear of the site. The analysis should show the design vehicle accessing the rear of the site, parking in the proposed loading areas, and exiting the site.
DCI response (12/07/2020): Turning analysis provided.
TEC: A WB-40 truck is able to navigate the rear of the building and park within the truck parking area. In TEC's experience, the use of WB-40 trucks is uncommon for industrial uses. The Applicant should confirm that a WB-40 is the correct design vehicle.

15. Applicant should callout the locations of fire hydrants confirmed by the City of Methuen Fire Department.
DCI response (12/07/2020): Existing Fire Hydrants noted on the revised Existing Conditions plan.
TEC: Comment addressed. Based on email correspondence, the City of Methuen Fire Department did not have any comments related to fire hydrants.

16. The Applicant calculated parking using the parking requirements for a warehouse land use, or one parking space per 1,200 SF (52 spaces) for the 62,000 SF building. Within the site plan package, the proposed building has been identified as a manufacturing land use, which is defined as an industrial-type use in the Methuen Table of Use Regulations. The Ordinance parking requirement for an industrial land use is 1 space per 600 SF or one space per two employees on the maximum shift, whichever is greater. This would equate to 104 parking spaces for the 62,000 SF building. A total of 54 parking spaces are provided on the plan. The Applicant should provide detailed information regarding the number of employees per shift or other site-specific information to quantify anticipated parking demand in order to justify the proposed reduction in parking supply.
DCI response (12/07/2020): The proposed building has been identified as a warehouse use and is intended to be used as a warehouse/storage location for the adjacent manufacturing land use. No modification is necessary. See comment response to 22.
TEC: Comment addressed. The proposed parking meets the Zoning Ordinance for a warehouse use.

17. TEC recommends that the Applicant label the entrance(s) to the proposed buildings to confirm site grading and adequate access is provided.
DCI response (12/07/2020): These have not yet been designed and will be worked out during building permit plans. The front of the building has been designed to accept

doors at all locations, and the south and west can accept doors in almost all locations with little to no modifications to the design.
TEC: Comment addressed.

18. The Erosion Control Plan should provide additional silt socks along the southern property line.
DCI response (12/07/2020): Additional Socks shown.
TEC: Comment addressed.

19. Proposed utility plan doesn't show any electric connections to the building. The Site Plans should clearly identify any proposed electrical work.
DCI response (12/07/2020): Electrical work is shown. We would note that all dry utilities are preliminary and subject to the building permit and their respective applications with the associated utility companies. Also, any onsite electrical work will be covered with the electrical design associated with the building permit.
TEC: Comment addressed.

20. The proposed building includes two "drive in" doors at the rear of the site. This type of garage door will require the installation of floor drains and an oil/water separator prior to discharge to the municipal sewer system.
DCI response (12/07/2020): Noted. This will fall under the review of the building permit and the plumbing review.
TEC: TEC agrees that this will be reviewed and approved as part of the Building Permit. However, TEC recommends that this required civil infrastructure be added to the Site Plans. If acceptable to the Board, this could be addressed as a condition of approval.

21. The Site Plans should clearly identify the existing sewer easement on sheet C101 to prove there are no conflicts with the building/easement.
DCI response (12/07/2020): Easement shown as requested.
TEC: Comment addressed.

Traffic Impact Assessment

22. TEC generally agrees with the Applicant's trip generation methodology. The Functional Design Report prepared by TEC in 2016 for the then-proposed traffic signal installation at Danton Drive at Pelham Street projected future volumes through the intersection. The future volume projections included a 225,000 SF manufacturing development at 35 Danton Street. This development was never constructed. The Applicant's proposal is for 60,200 SF of manufacturing space. The traffic projected to be generated by this proposed development is less than previously analyzed within the Functional Design Report. The design year of the Functional Design Report was 2026, or 10 years from the date of the report and showed acceptable operations at the intersection in that future condition. The Methuen Planning Division has indicated that no other developments are planned in the vicinity of the project that may impact the available capacity of the intersection. TEC agrees that the intersection of Danton Drive at Pelham Street has capacity to accommodate this development without impacting the adjacent roadway system.
DCI response (12/07/2020): Noted and appreciated. This was my error in not catching that our traffic department used manufacturing in the analysis as the previous study did rather than warehousing for the proposed use. A revised memo

with an analysis of warehousing per the project use is included and represents nearly the same findings as the previous memo.
TEC: Comment addressed.

Please do not hesitate to contact me directly if you have any questions concerning our comments at 978-794-1792.Thank you for your consideration.

Sincerely,
TEC, Inc.
*"**T**he **E**ngineering **C**orporation"*

Peter F. Ellison, PE
Director of Strategic Land Planning