The Morin-Cameron GROUP, INC.

May 20, 2022

Ms. Kathleen Colwell
Planning Division Director
City of Methuen – Community Development Board
41 Pleasant Street
Methuen, Massachusetts 01844

RE: Response to TEC Traffic Engineering Peer Review
600 Griffin Brook Drive

Dear Ms. Colwell:

On behalf of Griffin Brook Drive Owner LLC, The Morin-Cameron Group, Inc. (MCG) has provided the following responses to the review letter prepared by The Engineering Corp (TEC) on May 11, 2022. The comments are *italicized* and listed, and the MCG responses follow each comment.

We offer the following in response to the comments:

Traffic Impact & Access Study

1. ***TEC Comment:*** *The traffic study area includes three (3) intersections in the vicinity of the site: Lowell Street (Route 110) and Griffin Brook Drive; Lowell Boulevard and Wheeler Street; and Griffin Brook Drive and Driveway to 400 Griffin Brook Drive. Based upon the size and scope of the development, TEC finds that the study area as provided in the Traffic Impact and Access Study (TIAS) is sufficient to capture the effects of the project on surrounding roadways based on the Traffic Impact Assessment (TIA) Guidelines (Section 3.I.C) set forth by the Massachusetts Department of Transportation (MassDOT). This includes an evaluation of intersections in which the site generated trips increase the peak hour traffic by more than 5 percent and/or by more than 100 vehicles per hour.*

   MCG Response: No response needed.

2. ***TEC Comment:*** *Traffic volume counts were conducted at all study intersections in March and April 2022 when schools were in session. Traffic volumes were expected to be lower than a typical April and March due to changes in travel patterns associated with the continued presence of the COVID-19 pandemic. The volumes were adjusted to account for any COVID-19 pandemic impacts by upward by a factor of 1.0513 percent. MassDOT recent guidance to TEC has indicated that counts performed after March 1, 2022 are considered "the new normal" and adjustment is not necessary. Therefore, including a COVID-19 adjustment is a conservative approach to creating a baseline condition and TEC concurs with this methodology.*

   MCG Response: No response needed.

3. **TEC Comment:** *A seasonal adjustment factors of 1.065 and 1.044 were applied to the counted volumes to reflect an average month condition, based upon an appropriate MassDOT permanent*

count station. TEC finds this methodology consistent with the MassDOT Traffic Impact Assessment (TIA) Guidelines and standard engineering practice.

MCG Response: No response needed.

4. ***TEC Comment:*** *The weekday morning and weekday evening peak commuter hours were studied to determine the project's overall effect on the roadway. TEC concurs that the selected time periods are appropriate for the warehousing/industrial development land use and the timeframes counted – 7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM are in accordance with the MassDOT Traffic Impact Assessment (TIA) Guidelines (Section 3.II.D).*

   MCG Response: No response needed.

5. ***TEC Comment:*** *The TIAS presents motor vehicle crash data for the study area intersections. The crash data between 2015 and 2021 were reviewed. The calculated rates show lower values for the project in compared to the District and Statewide average crash rates. TEC concurs with the methodology used to estimate the crash rates.*

   MCG Response: No response needed.

6. ***TEC Comment:*** *The TIAS identifies a 0.5 percent per year growth rate of traffic, based on the discussions with the Central Transportation Planning Staff (CTPS) at the Metropolitan Planning Organization (MPO). TEC concurs with the general growth ambient factor used in stablishing future conditions.*

   MCG Response: No response needed.

7. ***TEC Comment:*** *Site trip generation for the proposed use were generated using the Institute of Transportation Engineers' (ITE) publication Trip Generation, 11th Edition for Land Use Codes (LUC) 140- General Light Industrial and LUC 150- Warehousing. Further, the number of trucks projected to be generated by the site was determined using the same manual. TEC concurs that this methodology and the use of these land use codes are consistent with the MassDOT Traffic Impact Assessment (TIA) Guidelines and the methods found in the ITE Trip Generation Handbook, an industry standard publication for projecting future traffic to be generated by a new development.*

   MCG Response: No response needed.

8. ***TEC Comment:*** *The trip distribution for the site generated traffic was based on current travel patterns entering and exiting Griffin Brook Drive from Lowell Street presuming that the existing industrial/commercial uses within Griffin Brook Park exhibit a similar travel pattern as can be expected for the Project. For the subject Project, TEC concurs with this methodology.*

   MCG Response: No response needed.

9. ***TEC Comment:*** *TEC concurs with the TIAS methodology for using the Highway Capacity Manual (HCM) 6th Edition methodology which is the current industry standard.*

   MCG Response: No response needed.

10. ***TEC Comment:*** *TEC concurs that overall, the project is not expected to significantly cause a noticeable impact to the operation of the study area intersections as reported. TEC concurs with the on-site recommendations outlined in the TIAS for the internal site roadway that include:*
    a. *Provide Stop-control on the site driveway approach to the two access way approaches to Griffin Brook Drive. TEC notes that this signage is provided on the current site plans.*
    b. *Maintain and design site vegetation to not impede the sight triangle area at the intersection of the site access with Griffin Brook Drive. TEC recommends requiring this maintenance as a condition of any approval.*

    MCG Response:
    a. No response needed.
    b. There is no proposed landscaping in the area which could impede the site triangle at the intersection of Griffin Brook Drive. There is ground coverage only.

11. ***TEC Comment:*** *The TIAS outlines a Transportation Demand Management (TDM) plan that includes:*
    a. Assign a transportation coordinator to coordinate and promote the TDM plan.
    b. Promote public transportation use by posting commuter rail and local bus schedules.
    c. Promote ridesharing via carpool for employees and designate two (2) carpool/vanpool parking spaces.
    d. Provide site amenities including a break room, direct deposit of paychecks, allowing for telecommuting or flex work opportunities.
    e. Providing bicycle racks throughout the site.

    TEC generally agrees with the proposed TDM measures but encourages the Applicant to consider the following additional measures:
    f. Locate a safe, efficient pick up/drop off location for rideshare services that is outside of any heavy truck traffic flow.
    g. Consideration should be given to installing electric vehicle (EV) charging stations.

    MCG Response:
    a. The applicant will assign a transportation coordinator prior to construction.
    b. The applicant will discuss promoting public transportation with potential building tenants.
    c. Two parking spaces have been designated as carpool parking spaces.
    d. The applicant will discuss site amenities with potential building tenants.
    e. Bicycle rack locations have been added to the site layout plan (sheet C-5) with four (4) at the proposed building and four (4) at the existing building.
    f. The passenger car parking area spaces can be used for ride sharing. A dedicated space is not necessary as a drop off will occur near a front door and will be a matter of seconds to get someone out of the vehicle before the rideshare departs.
    g. Electric vehicle charging stations will be discussed with potential tenants.

Parking

12. ***TEC Comment:*** *The Site Layout Plan dated April 6, 2022, indicates that 200 parking spaces are required for the existing building and 131 parking spaces are required for the proposed building. TEC counted 184 parking spaces in the vicinity of the existing building, including 14 new spaces adjacent to the loading docks, and 135 parking spaces in the vicinity of the proposed building. Twelve additional parking spaces are located along the 20' wide emergency access gravel drive*

positioned around the sides and rear of the proposed building. Overall, the Zoning requirements are met, with 331 required and 331 provided throughout the site. However, the parking is not allocated proportionally to the required Zoning supply. The Applicant should discuss the anticipated parking demand for each building and whether sufficient parking supply is provided to each building.

MCG Response: The parking spaces in the upper parking area near the proposed building can be used for the existing building. A stairwell was added between the buildings. Handicap access to both levels of the building is accommodated with the elevator in the building. The overall parking for the entire facility is met per zoning. The proponent is satisfied with the parking in that it will be sufficiently marketable to speculative tenants for the existing and/or proposed spaces.

13. ***TEC Comment:*** *The twelve parking spaces along the emergency access gravel do not provide protected pedestrian access to either building and will conflict with the loading areas of the proposed building. TEC recommends these parking spaces be relocated.*

    MCG Response: There will be doors in the rear of the building near the loading docks. A dedicated route is not necessary here. These spaces are expected to be used by employees working in the loading dock area of the building.

14. ***TEC Comment:*** *Fourteen new parking spaces are designated immediately adjacent to the loading docks of the existing building. The passenger vehicles using these parking spaces will conflict with the large trucks using the loading areas of both buildings. Further, there is no protection for the pedestrians exiting these parking spaces to enter either building. TEC recommends these parking spaces be relocated.*

    MCG Response: The area where 9 spaces are proposed is currently used for existing parking spaces, these are not new. These spaces are to be re-striped and do not interfere with the existing loading docks. The five (5) new spaces proposed are similar to those proposed at the emergency access drives for the new building and are to be used by employees working in the rear of the building at the loading docks.

Site Plan - Zoning

15. ***TEC Comment:*** *Regarding the Table of Dimensional Requirements detailed on Page 168 of the City of Methuen Comprehensive Zoning Ordinance (further referenced as the "Zoning Ordinance"): the minimum lot width requirement & the lot width provided should be added to the Zoning Matrix table on Sheet C-5 of the Site Development Plans (further referenced as the "Site Plans").*

    MCG Response: The minimum lot width requirement and the lot width have been added to the Zoning Matrix.

16. ***TEC Comment:*** *Sheet C-5 of the Site Plans lists the proposed lot coverage as exactly 35%, matching the maximum allowed coverage. TEC requests that a graphic be provided to confirm the site does not exceed the 35% threshold.*

    MCG Response: A "Lot Coverage Figure" to show the area used to calculate the proposed lot coverage has been provided. The lot coverage will be maximized but not exceeded.

17. ***TEC Comment:*** *The Technical Report calls out the areas where the proposed fire hydrants location will be situated with the final location to be coordinated with the Methuen Fire Department. These proposed locations for the fire hydrants and associated leaders calling out these locations should be added to the Site Plans.*

    MCG Response: The Utility Plan (sheet C-8) has been updated to show a proposed fire hydrant location and label an existing fire hydrant at the existing building.

18. ***TEC Comment:*** *Erosion control methods and temporary sediment forebays are detailed within or directly abutting proposed grading/wall construction throughout the site. The applicant should provide sufficient room for construction, especially with walls that directly abut the buffer zone.*

    MCG Response: Care will be required to respect the limit of work in areas where it abuts the buffer zone. Modular type retaining walls only require approximately 6-12" between the silt fence and toe of wall to install as they do not require a deep footing. Excavation is only 12" deep for this wall type. The final wall designs are expected to be shallower than the allowance provided on the plan.

19. ***TEC Comment:*** *On Sheet C-6 of the Site Plans, it appears that there are multiple proposed 1H:1V (or 1.5H:1V) rock slopes leading to 4' tall boulder walls. A 12' grade change is proposed from the drive aisle to existing grade. The Applicant should confirm if this slope/wall will be stamped by a geotechnical engineer. Also, TEC recommends providing a construction sequence narrative for this area.*

    MCG Response: Walls and slopes in areas of 1H:1V (or 1.5H:1V) rock slopes, if required per the Massachusetts Building Code, will be designed by a structural engineer with consultation by a geotechnical engineer. A construction sequence can be provided prior to construction once a contractor is engaged.

20. ***TEC Comment:*** *On the Detail Sheets of the Site Plans, several issues were noted:*
    a. *On Sheet C-10, the accessible parking space states the handicap parking space to be 8 feet in width and 18 feet in length. Methuen's Zoning Ordinance requires off-street parking to be 9 feet in width and 18 feet in length.*
    b. *On Sheet C-11, the outfall rip rap title detail is misspelled.*
    c. *On Sheet C-12, the 100-year storm elevation is lower than the 10-year storm elevation on the subsurface retention system (P3).*
    d. *On Sheet C-14, the elevation label for OCS-1 rim appears to be too high for any proposed basin. Also, the title is duplicated from a similar detail on Sheet C-13.*

    MCG Response:
    a. In accordance with the Methuen Municipal Code Section 9-55.C, handicapped parking shall be a width of 8 feet. There is also a loading area adjacent to every handicap space so the net width per space exceeds the ordinary stall width of 9'. It is environmentally better to minimize pavement.
    b. The misspelling has been revised.
    c. The 10-yr storm elevation has been corrected.
    d. The Outlet Control Structure title has been revised to OCS-2 and the rim elevation has been updated to show an elevation of 61.00 which is stated in the Technical Report.

Technical Report

21. ***TEC Comment:*** *Pipe capacity calculations should be provided for the proposed drainage and sewer networks throughout the proposed site.*

    MCG Response: Pipe capacity calculations for drainage have been provided. The applicant will accept a condition to provide sewer pipe capacity calculations once a tenant is contracted and the use and flows are confirmed..

22. ***TEC Comment:*** *Regarding the design of retention basin P1, the basin details a maximum storage elevation of 81', but no 81' contour is shown on any plan or detail provided in the Site Plans. Along with this, the "limit" of the basin is not shown on these plans, so there is no direct manner to calculate basin area based on the provided information.*

    MCG Response: The Grading and Drainage Plan has been updated to show a 81' contour.

23. ***TEC Comment:*** *Regarding the design of retention basin P2, the following concerns are present:*
    a. *Similar to comment 21.a. above, the maximum storage elevation is detailed at 63', but no contour is shown in the Site Plans. Without this contour being present, there is no direct way to calculate basin area.*
    b. *No test pit is provided within or near the limits of this basin. Typically, a test pit within the footprint of the basin is required to confirm that adequate separation to groundwater has been provided. TEC performed a site visit to review field conditions. Basin P2 is located within a densely wooded area and is fenced off preventing access for an excavator. TEC recommends that the Board include a special condition requiring a test pit in this location prior to the start of construction.*

    MCG Response:
    a. The 63' elevation has been removed from the P2 storage. It is not necessary.
    b. The proponent is willing to accept a condition to excavate a test hole prior to construction of the infiltration basin P2. This area is not currently accessible due to fences, guardrails and mature tree growth. Extensive disturbance to the active part of the property and buffer zone would be needed to test this area.

24. ***TEC Comment:*** *Regarding the design of retention basin P4, the following concerns are present:*
    a. *No detail is provided for this proposed basin. A detail should be added to the Site Plans.*
    b. *b. According to the Stormwater Handbook, any infiltration basin should be located a minimum of 50' away from any slope greater than 15%. The basin is shown approximately 15' from multiple 1H:1V & 1.5H:1V rock slopes/rock walls.*

    MCG Response:
    a. A detail was added for this basin. See Sheet C-16.
    b. The concern with the slope appears to be breakout, or groundwater coming back to the surface at the slope. We do not feel that a literal interpretation of this provision is warranted for several reasons. The infiltration basin, P4, is collecting "clean" runoff in that it does not come from a paved surface and is a rarely used emergency access drive. This infiltration basin discharges only 690 cf in a 2-yr storm. The slope will be armored with fabric, gravel and stone so that erosion concerns are not applicable. Gravel beneath the

slope will also promote more infiltration although this is not accounted for in the calculations. At worst, following Title 5 methods, breakout may occur at the top of the wall. However, the wall will have a drain to intercept this water making breakout improbable.

25. ***TEC Comment:*** *No rip rap sizing calculations are detailed for any of the newly proposed outfalls located across the proposed site. These calculations, and their associated details, should be completed to ensure no erosion is created by these proposed outlets, per Standard 1 of the Stormwater Handbook.*

    MCG Response: Rip rap sizing calculations have been provided.

26. ***TEC Comment:*** *The following discrepancies and errors are present in Standard 3 recharge to groundwater calculations:*
    a. *The Bottom of Infiltration for basin P5 is labeled at 140' when it is shown at 60'.*
    b. *The highlighted stage area storage for Pond P1 (page 96 of the provided Technical Report) labels an elevation that is not used in the required recharge calculations on Page 95.*

    MCG Response:
    a. The Bottom of Infiltration for basin P5 has been revised to 60'.
    b. The highlighted stage area storage elevation has been adjusted.

27. ***TEC Comment:*** *Within the Construction Phase Best Management Practices (BMP's), a section should be added detailing refueling and maintenance of on-site vehicles and equipment, storing/disposal of hazardous chemicals and materials, and methods of handling on-site oils spills.*

    MCG Response: A section detailing refueling and maintenance of on-site vehicles and equipment, storing/disposal of hazardous chemicals and materials, and methods of handling on-site oil spills has been added to the Construction Phase Best Management Practices (BMP's).

We trust this information adequately addresses the review comments by The Engineering Corp for the proposed project located at 501 & 600 Griffin Brook Drive, Methuen, MA.

If you have any questions, please do not hesitate to contact our office at (978) 373-0310.

Very Truly Yours,
THE MORIN-CAMERON GROUP, INC.

Scott P. Cameron, P.E.
Vice-President
Attachments

cc: Griffin Brook Drive Owner LLC