The Morin-Cameron GROUP, INC.

October 22, 2024

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

RE: Proposed Warehouse Development – 501 & 600 Griffin Brook Drive Civil & Traffic Peer Review #1 Response

Dear Ms. Bradley-Colwell and Board Members,

On behalf of Griffin Brook Drive Owner, LLC, The Morin-Cameron Group, Inc. (MCG) and Fuss & Oneill | Bayside Engineering (FOBE) have provided the following responses to the peer review letter prepared by The Engineering Corp (TEC) on September 23, 2024. TEC comments are italicized. We offer the following in response to the comments:

1. ***TEC Comment:*** *It should be noted that the Applicant was granted a zoning height variance approved by Methuen Zoning Board of Appeals on February 23, 2022.*
   MCG Response: No response necessary.

2. ***TEC Comment:*** *It should be noted that the Applicant is requesting a variance to exceed lot coverage from 35% to 39% (4%). TEC requests that a graphic or calculation be provided to confirm the site does not exceed the requested 39% lot coverage threshold.*
   MCG Response: A variance has been approved by the Methuen Zoning Board of Appeals on September 25, 2024 to increase lot coverage from 35% to 39%. A sketch depicting the lot coverage calculations has been included with this response.

3. ***TEC Comment:*** *The following comments relate to inconsistencies and clarifications throughout the site plans:*
   a) *TEC recommends the Applicant be consistent between the Parking Calculation Table and what is being proposed within the plan set.*
      MCG Response: The parking calculation table depicts a total of 281 parking spaces for the existing building and the proposed building. 201 spaces will be provided for the existing building and 80 spaces will be provided for the proposed building. There is a "Loading Spaces" note depicting the total amount of loading spaces.

   b) *It appears the Applicant is proposing a stop sign (R1-1) near the southern "exit" drive aisle of the proposed warehouse. TEC recommends the location of the sign be included*

within the plan set.
MCG Response: The plan has been updated to depict the sign at the intersection closest to the building. A sign is shown at the southern intersection at Griffin Brook Dr. See Layout Plan (Sheet C-5).

c) *It is unclear what the width of the drive aisle northwest of Basin P2 is. TEC recommends clarifying the width to ensure that it meets the City of Methuen's bylaws.*
MCG Response: The plan has been revised to depict the width of the drive aisle along the eastern side of the existing building. The aisle width is a minimum of 24 feet and therefore complies with the City of Methuen's bylaws.

d) *It appears the Applicant calls out the catch basin near the northwest corner of the site as CB- 11 and CB-15.*
MCG Response: The plan has been revised to remove the incorrect label, and now depicts the catch basin as CB-11.

4. **TEC Comment:** *The following comments relate to site grading:*
a) *It appears the Applicant is proposing accessible parking stalls along the northeastern perimeter of the proposed warehouse. TEC recommends including spot grades for the proposed curb ramps to ensure they meet ADA requirements.*
MCG Response: The Grading & Drainage Plan (Sheet C-6) has been updated to depict spot grades along the proposed curb ramps in accordance with ADA requirements.

b) *According to the Grading & Drainage Plan there is a highpoint between CB-18 and the existing 60' contour at the site entrance. TEC recommends the Applicant regrade this area, as it indicates a slope greater than 1H:1V to tie into existing grades as shown.*
MCG Response: The rim elevation and grading has been modified. The rim elevation of CB-18 is 60.0 and the slope to the 60 feet contour is approximately 4%.

c) *According to the Grading & Drainage Plan, DMH-11 has a rim elevation of 67.2' and is located adjacent to the 68' contour. TEC recommends the Applicant revise the rim elevation or contour.*
MCG Response: The plan has been revised to depict the correct elevation of 67.9'.

d) *According to the Drainage Details, the rim elevation of OCS-1 is 80.90', and is located between the 78' and 80' contours on the plans. TEC recommends the Applicant revise the rim elevation or contours.*
MCG Response: The rim elevation was modified to 80.3. This structure is designed to be located above the finish grade as the top of the structure is open/grated with a trash rack.

e) *According to the Drainage Details, the rim elevation of OCS-2 is 61.0', and is located between the 58' and 60' contours on the plans. TEC recommends the Applicant revise the rim elevation or contours.*
MCG Response: This structure is designed to be located above the finish grade as the top of the structure is open/grated with a trash rack.

f) *It appears the 68' and 70' contour south of HW-1 has a slope of 1.5H:1V. TEC recommends either relocating the proposed retaining wall or regrading this area to ensure soil stability at the toe of the proposed retaining wall.*

MCG Response: The grading in this area has been revised and now has a 3H:1V slope.

g) *TEC recommends the Applicant include all drainage structures and pipes within the Drainage Schedule.*
MCG Response: All proposed drainage structures and pipes have been added to the Drainage Schedule (Sheet C-7).

5. **TEC Comment:** *According to Volume 3 Chapter 1 of the Massachusetts's Stormwater Handbook, "The area at the top of the basin must provide unimpeded vehicular access around the entire basin perimeter. The access area shall be no less than 15 feet." TEC recommends the applicant display or describe the ability to access and maintain all parts of the proposed basins.*
MCG Response: The pond has been revised to show a 15 feet access area around the entire basin. See Grading & Drainage Plan (Sheet C-6).

6. **TEC Comment:** *According to the "WB-65 backing up to loading dock" vehicle tracking analysis, it appears the tire path crosses the curbline along the northwestern perimeter. TEC recommends revising the analysis or site design to ensure vehicular access.*
MCG Response: The Swept Path Sketch Plan has been revised to show no encroachment over the curbing.

Stormwater Management Review

7. **TEC Comment:** *TEC recommends the Applicant be consistent between the peak discharge rates in the narrative of the Technical Report and what is computed within the hydraulic analysis.*
MCG Response: The narrative has been revised to depict the correct peak discharge rates.

8. **TEC Comment:** *The following comments relate to the Soil Logs:*
a) *According to the HydroCAD model, Basins P1, P2, P5, and Subsurface P3 all infiltrate and therefore should have at least one associated test pit within the proposed footprint. TEC recommends including the test pit locations and the proposed basins on the same plan to confirm test pit and basin association.*
MCG Response: The plans have been revised to depict the test pit's location on basins P1 and P3. The area of basin P2 is not currently accessible due to fences, guardrails and mature tree growth. As noted in the previous peer review by TEC on May 11, 2022 due to the extensive disturbance necessary to test these areas, the applicant is willing to accept a condition to excavate test holes in these areas prior to construction. This was a condition in the previous Site Plan Approval decision dated June 10, 2022 and it is requested that this also be a condition of the Site Plan Approval.

b) *According to Volume 3 Chapter 1 of the Massachusetts's Stormwater Handbook, "Mounding analysis is required when the vertical separation from the bottom of an exfiltration system to seasonal high groundwater is less than four (4) feet and the recharge system is proposed to attenuate the peak discharge from a 10-year or higher 24-hour storm." TEC recommends a Mounding analysis for each basin where the seasonal high groundwater is not shown to be at least 4 feet below the proposed bottom*

of basin for all basins proposed for infiltration attenuating the 10-year storm or greater.
MCG Response: A mounding analysis for P3 has been added to the "Stormwater Calculations" within the new revision of the Technical Report, dated October 22, 2024. The mounding analysis utilized available well data from MassDEP of wells within close proximity to the project (see sketch for locations). The analysis triangulated these well locations to the project to determine the depth to the aquifer (based on the water zone noted on the well completion reports) to determine the initial thickness of saturated zone in the calculations. The mounding calculation determined a maximum mounding height of 0.805 ft.

The separation distance from bottom of pond to the bottom of test pit (no ESHWT or water observed) is greater than 4' in P1 and therefore a mounding analysis is not required. A soil test pit is requested to be performed in P2 prior to construction and it is requested that a mounding analysis be performed at that time as well. P5 is associated with a re-development (treatment for existing parking area) and therefore only needs to comply to the maximum extent practicable, and therefore it is our opinion that a mounding analysis for this pond is not warranted.

9. **TEC Comment:** *The following comments relate to the Subsurface Retention System (P3):*
   a) *It appears the elevation of the control weir is inconsistent between the Drainage Detail sheet and the Technical Report. TEC recommends the Applicant revise the plans and/or report to remain consistent.*
   MCG Response: The Technical Report and the Detail Sheet C-12 depict the same elevation of 69.25 for the outlet control 3 (OCS-3).

   b) *According to the Technical Report, the peak elevation of a 100-year storm exceeds the elevation of the 100-year control weir. TEC recommends the Applicant revise the subsurface chamber and/or the drainage network to ensure the peak elevation does not exceed the control weir.*
   MCG Response: The peak elevation of the system (P3) is 69.48 and the top of the system(interior roof of chambers) is 69.50. Although the peak elevation exceeds the outlet control weir set at elevation 69.25, the design allows any stormwater exceeding 69.25 during a 100-yr storm event to be discharged in a controlled manner and remains compliant with the Massachusetts Stormwater Handbook, which does not require freeboard for subsurface systems. The system does not surcharge as the system has 0.02' of freeboard available during the 100-year storm event.

   c) *It should be noted that the Construction Details state all retaining walls exceeding 42" must be designed by a registered professional structural engineer. TEC recommends considering the constructability of the retaining wall bearing on the subsurface chamber P3.*
   MCG Response: We believe there are no constructability issues as the shortest horizontal distance from the edge of the basin to the face of the retaining wall is approximately 6 feet, and the subsurface chamber is 2 feet below the bottom of wall, providing sufficient clearance. The wall height near the chambers is relatively short and varies from approximately 1 ft to 3.5 ft Prior to construction the wall will be designed by a professional structural engineer.

10. **TEC Comment:** *The following comments relate to the TSS Treatment Train:*
    a) *It appears the Applicant includes a Rain Garden in one of the treatment trains. TEC recommends clarifying where the Rain Garden is proposed within the plan set, or remove from treatment train.*
    MCG Response: The TSS calculation sheets have been revised to remove the rain garden from the calculation.

    b) *It appears Subcatchment PS2 and PS3 sheet flows with no pretreatment to Design Point 2. TEC recommends rerouting the sub catchment area or adding a pretreatment structure before reaching the design point.*
    MCG Response: In the existing conditions there are no pretreatment structures for subcatchments PS2 and PS3. There is no proposed work associated with the proposed project in these areas and therefore no pretreatment structures are proposed.

    c) *It appears Subcatchment PS5A sheet flows with no pretreatment to Retention Basin P5 where it is designed to infiltrate. The Applicant should add applicable pretreatment to all infiltration BMPs.*
    MCG Response: The retention basin P5 was designed to treat and mitigate stormwater of an existing parking lot, currently without any pretreatment. This portion of the project is considered a redevelopment and to improve the existing conditions of the area, the basin was designed to pretreat the stormwater to the maximum extent practicable by proposing pea-stone filters on the inlets (curb breaks).

11. **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 added to the "Stormwater Calculations" within the Technical Report, dated October 22, 2024.

12. **TEC Comment:** *TEC recommends including the Outlet Control Structures within the Long-Term Pollution Prevention Plan.*
    MCG Response: The Outlet Control Structures have been added to the Long-Tern Pollution Prevention Plan.

Traffic Impact Study Review

13. **TEC Comment:** *The updated TIA prepared by Fuss & O'Neill and Bayside Engineering reconfirms the background developments and growth rate, trip distribution pattern, trip generation methodology, and the capacity and queue analyses procedures from their last Traffic Impact and Access Study (TIAS) that was originally prepared by Bayside Engineering for the Project in April 2022 with original proposal.* ***No response required.***

14. **TEC Comment:** *TEC agrees with the use of the 2024 traffic counts as baseline conditions given the higher value in comparison to 2022 counts obtained as part of the traffic study with original proposal during post pandemic conditions.* ***No response required.***

15. **TEC Comment:** *The TIA presents updated motor vehicle crash data for each of the study area intersections to investigate safety deficiencies related to the crashes between 2017 and 2023. Ten (10) crashes were reported at the intersection of Lowell Street and Griffin Brook*

Drive and no specific crash trends were identified and the intersection is not on MassDOT's Highway Safety Improvement Program (HSIP) list of top crashes for 2019 through 2021. ***No response required.***

16. **TEC Comment:** *Site trip generation calculations are performed for a 95,700 SF warehouse development and based on the Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition LUC 150 – Warehousing. The fitted curve rates were used for warehousing which provides higher trip generation in compared to average rate. TEC concurs with this methodology.* ***No response required.***

17. **TEC Comment:** *The Applicant should clarify and define the peak truck traffic characteristics associated with the Project's operations. This should include specifying the types of trucks and the expected time of day for these operations.*
FOBE Response: At this time, a tenant has not been identified for the project. However, based on available Institute of Transportation Engineers (ITE) data from the Trip Generation manual, 90% of the expected truck traffic generated by the project will occur between 5:00 AM and 6:00 PM. The remaining 10% would be spread out over the remaining eleven (11) hours of the day. The type of trucks is not known but are expected to be tractor trailer trucks. Additional data can be provided once a tenant has leased space.

18. **TEC Comment:** *The current development program trip generation was compared with the trip generation of the previously approved development program. The current development trip generation will result in a decrease over the previously approved development by 35 fewer vehicle trips during weekday morning and 21 fewer vehicle trips during weekday evening peak hour. TEC concurs that the Project-related traffic represents a minimal increase at the study area intersection and along Lowell Street.* ***No response required.***

19. **TEC Comment:** *The updated TIA provides capacity analyses with the new 'Build' condition with majority of the movements to operate under LOS D or better. The Project-related traffic results in a minor degradation in overall LOS, with a minimal increase in delay of 1.3 seconds.* ***No response required.***

20. **TEC Comment:** *TEC concurs that, overall, the Project is not expected to result in a noticeable impact to the traffic operations within the study area. MassDOT owns and controls the traffic signal at the intersection of Route 110 / Griffen Brook Drive. Any potentially desired improvements at this location fall under their jurisdiction.* ***No response required.***

21. **TEC Comment:** *The TIAS originally outlined 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 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, where feasible.*

e. *Providing bicycle racks throughout the site.*

The Applicant should commit to provide these TDM measures. In addition, TEC encourages the Applicant to consider the following additional measures:

a. *Locate a safe, efficient pick up/drop off location for rideshare services that is outside of any heavy truck traffic flow.*

b. *Consider installing electric vehicle (EV) charging stations.*

FOBE Response: The applicant is committed to the TDM measures identified above. Based on the site layout, parking for employees and visitors has been separated from both truck traffic and the truck loading and unloading area of the proposed facility. It is suggested that a guide sign be added at the southwestern entrance to the facility to direct visitors and employees to the appropriate parking area.

At this time, a tenant has not been identified for the project. As with past projects, the Applicant is willing to work with prospective tenants to address their EV needs and install the appropriate number of EV charging stations.

Traffic Engineering Site Plan Review

22. **TEC Comment:** *The Site Layout Plan issued September 3, 2024 (sheet C-5) indicates that 200 parking spaces are required for the existing building and 80 parking spaces are required for the proposed building (total of 281 spaces). TEC counted 202 parking spaces in the vicinity of the existing building, including 43 new spaces, and 79 parking spaces in the vicinity of the proposed building. Overall, the Zoning requirements appear to be met, with 280 required and 281 provided throughout the site.*
MCG Response: No Response necessary.

23. **TEC Comment:** *TEC recommends the Applicant coordinate with the Town of Methuen Fire Department to review site emergency access considerations for the existing and proposed buildings. The Applicant's engineer should provide a truck turning analysis using a City of Methuen fire apparatus to ensure that emergency vehicles are able to navigate acceptably around each structure.*
MCG Response: A "Fire Truck Swept Path Analysis" plan has been submitted with the application. See 'Figures' on the Technical Report in Support of Site Plan Approval dated September 3, 2024.

24. **TEC Comment:** *The Applicant should provide truck circulation plans for the largest tractor trailer expected at this facility.*
MCG Response: A "Truck Turn Analysis" plan has been submitted with the application. See 'Figures' on the Technical Report in Support of Site Plan Approval dated September 3, 2024.

25. **TEC Comment:** *The Applicant should confirm that the loading area is sufficient to queue heavy vehicles on-site, ensuring no additional trailer storage, parking, queuing, or waiting areas are required.*

FOBE Response: A Swept Path Analysis of the loading area has been submitted and it depicts sufficient area for trucks backing up and for a possible queuing. At this time, a tenant has not been identified for the project and therefore there is not enough data to confirm the need of an additional queuing and waiting area.

26. **TEC Comment:** *The Applicant should confirm that the Project is not last-mile delivery facility (i.e. Amazon, etc.).*

MCG Response: This project is not a last-mile delivery facility.

27. **TEC Comment:** *Marked stop line should be extended from double yellow line to the edge of curb.*
MCG Response: The plan has been updated to reflect that. See sheet C-5.

28. **TEC Comment:** *A note should be added stating: "All Signs and pavement markings to be installed within the Project site shall conform to the applicable specifications of the Manual on Uniform Traffic Control Devices (MUTCD).*
MCG Response: A "Traffic Note" has been added to sheet C-5, Site Layout Plan.

29. **TEC Comment:** *Maintain and design site vegetation and snowbanks to not impede the sight triangle areas for on- site intersections and the intersection of the site access with Griffin Brook Drive. TEC recommends requiring this maintenance as a condition of any approval.*
MCG Response: The site vegetation and snowbanks will not impede the sight triangle areas for on-site intersections. The applicant would agree to add this requirement as a condition of approval.

We trust this information adequately addresses the peer review comments by the The Engineering Corp about the proposed Griffin Brook Dr development project.

If you have any questions, please do not hesitate to contact our office at (978) 777-8586.

Sincerely,
THE MORIN-CAMERON GROUP, INC.

William A. Schkuta, P.E.
Director of Engineering

Attachments

cc: Griffin Brook Drive Owner, LLC