



July 25, 2022

Jon Altshul, Township Manager
Westtown Township
1039 Wilmington Pike
West Chester, PA 19382

**RE: Westtown School-Lane House
Preliminary/Final Plan Review
Westtown Township, Chester County**

Apex Job No. 21-014

Dear Mr. Altshul:

On behalf of our client, Westtown School, please accept the enclosed Preliminary/Final Land Development Application and supporting documentation for the proposed addition to the existing Lane House at the Westtown School with associated improvements for utilities, paving, and stormwater management at 975 Westtown Road, Westtown Township, Chester County. The enclosed Plans and supporting documentation have been modified to address the review letter prepared by Cedarville Engineering Group, LLC, dated July 14, 2022 as follows:

EROSION AND SEDIMENT CONTROL COMMENTS (WESTTOWN TOWNSHIP CODE, CHAPTER 80, EROSION, SEDIMENT CONTROL AND GRADING:

1. Section 80-5.B - A topographical survey of the site, at a suitable scale of no less than one inch equals 50 feet and contour interval of no more than two feet zero inches, prepared by a registered surveyor or registered engineer, including also a boundary line survey, the location and description of vegetative cover, soil types (available from Chester County Soil Conservation District) and any other pertinent existing natural or man-made features.

Section 80-5.D - A written description of soil erosion and sediment and control measures (with appropriate plans and specifications), in accordance with standards and specifications of the USDA Soil Conservation Service, Chester County Conservation District and township ordinances, including, without limitation, retention basins or other control measures necessary to limit the rate of stormwater runoff to comply with the requirements of § 80-6C hereof.

The following shall be addressed:

- The limits of shrubs to be removed shall be shown on the Plan. This includes, but is not limited to the following areas:

The shrubs to be removed have been updated on the plans on Sheet #4.

- The area to the west of the proposed western deck and steps, including all area shown within the limit of disturbance.

The limit of disturbance has been updated accordingly on the plans on Sheet #4.

- The area to the northeast of the existing building, where the swale (356 proposed contour) is proposed.

The limit of disturbance has been updated accordingly on the plans on Sheet #4.

- The limits of disturbance shall be increased to allow for construction vehicles to access and leave the site following the construction of the proposed retaining walls without crossing the septic area.

The limits of disturbance has been updated to allow space for construction vehicles to access the backyard on the west side of the existing building.

- All references to silt fence and compost filter socks, including applicable details, shall be revised to coincide with the erosion control facility to be proposed. The plan view and construction sequence reference compost filter sock while the maintenance requirements reference silt fence and details for both are present.

All reference to silt fence has been removed from the plans and replaced with compost filter sock.

- Calculations shall be provided to support the silt sock sizing proposed for the project, in accordance with the Pennsylvania Erosion and Sedimentation Pollution Control Manual. These calculations may be included in the Stormwater Report.

Calculations for the compost filter sock have been included in the stormwater report.

- A concrete washout detail shall be added to the Plan.

A concrete washout area has been added to the plans on Sheet #7.

- The Plan Legend on Sheet 6 shall be revised to show the Rock Construction Entrance shading consistent with what is shown on the Plan.

The plan legend on Sheet #6 has been updated to show consistency in the Rock Construction Entrance.

- The Limit of Disturbance Line shall be located to the outside of the proposed tree protection fencing.

The limit of disturbance has been updated to include proposed tree protection fencing.

- Sheet 6 shows proposed tree protection fencing around an existing lid; however no exiting tree is shown in this area. This shall be clarified.

The tree protection around the existing lid is used to limit construction vehicle access over the previously abandoned septic area.

STORMWATER MANAGEMENT COMMENTS (WESTTOWN TOWNSHIP CODE, CHAPTER 144, STORMWATER MANAGEMENT):

2. Section 144-305.J – For all regulated activities, permanent BMPs and conveyances shall be designed, implemented, operated, and maintained to meet the purpose and requirement of this chapter and to meet all requirements under Title 25 of the Pennsylvania Code, the Clear Stream Law, and the Stormwater Management Act.

The following shall be addressed:

- Cleanouts shall be provided at all pipe bends and junctions for the roof drain collection piping, to facilitate maintenance.

Cleanouts have been added to all bends for the roof drain collection piping in grass areas to facilitate maintenance.

- Calculations shall be provided for the design of the proposed level spreader, in accordance with the Pennsylvania Stormwater BMP Manual, BMP 6.8.1. An infiltration rate of 0.5 inches per hour may be assumed for design.

The level spreader calculations in the stormwater report are in accordance with the Pennsylvania Stormwater BMP Manual, BMP 6.8.1.

- Erosion control matting, designed to manage the velocity of flow exiting the level spreader shall be provided for the entire length of proposed slope, or the level spreader shall be relocated to discharge onto non-disturbed areas in accordance with BMP 6.8.1, Design Considerations, as set forth in the Pennsylvania Stormwater BMP Manual.

Erosion control matting has been added to the proposed level spreader.

- The plan view of the 10 LF Bubble Up Spreader Detail, Sheet 7, indicates that the easternmost pipe entering the infiltration bed is to connect to the distribution piping with a 90-degree elbow, however the Plan indicates that this pipe shall enter the bed at an angle. The Plan shall be revised accordingly.

The level spreader detail has been revised to properly depict proposed conditions.

- The 10 LF Bubble Up Spreader Detail shall be revised to specify:
 - The type of stone to be utilized.

The type of stone to be utilized can be seen within the spreader detail on Sheet #7.

- Permeable geotextile shall be specified between the stone in the spreader and the subgrade.

Permeable geotextile fabric has been specified on the spreader detail.

- The Plan Legend on Sheet 6 indicates that erosion control matting is to be installed. The proposed location of the matting and the type of matting shall be specified.

The proposed location of the matting can be seen on Sheet #6. The type of matting is shown on Sheet #7.

- The dimensions of the #57 stone proposed below the Small Park Grate Box shall be clarified. The detail references 2 feet, however it is not clear whether this refers to the length, width, or depth of the stone.

The detail has been revised to clarify the dimension of the stone.

- Due to the proximity of embankment slope proposed to the south of the infiltration bed, an impermeable liner shall be provided along the south, east, and west sides of the bed. This shall be clearly noted on the Detail.

An impermeable liner has been added to the south, east, and west side of the bed.

3. Section 144-305.A - The post-construction total runoff volume shall not exceed the predevelopment total runoff volume for all storms equal to or less than the two-year, twenty-four-hour duration precipitation (design storm). The water quality and runoff volume to be managed shall consist of any runoff volume generated by the proposed regulated activity over and above the predevelopment total runoff volume and shall be captured and permanently retained or infiltrated on the site. Permanent retention options may include, but are not limited to, reuse, evaporation, transpiration, and infiltration.

The following shall be addressed:

- The total area for the runoff calculations for 2-year increase for new improvements shall be verified and revised to include the full limits of disturbance. Currently, the narrative references a limit of disturbance of 11,000 sf, the net 2-year increase references 6,984 sf, and the Plan references approximately 11,000 sf.

The entire area that is proposed to be disturbed has been included in the storm calculations.

4. Section 144-306.K.(3) - For any infiltration practice that collects runoff from shared or multiple features and that is located within 50 feet of a building or feature with subgrade elements (e.g., basements, foundation walls, etc.), the bottom elevation shall be set below the elevation of the subgrade element.

The Plans shall clearly note the finished floor, walk out, and basement elevations associated with the existing building and proposed addition. If the existing building and/or addition is to include subgrade elements at an elevation, supporting dimensions and elevations shall be noted on the Plan to demonstrate compliance with the above referenced criteria.

The plans have been revised with spot elevations that are consistent with the architectural plans.

5. Section 144-306.M - During site construction, all infiltration practice components shall be protected from compaction due to heavy equipment operation or storage of fill or construction material. Infiltration areas shall also be protected from sedimentation. Areas that are accidentally compacted or graded shall be remediated to restore soil composition and porosity. Adequate documentation to this effect shall be submitted to the Municipal Engineer

for review. All areas designated for infiltration shall not receive runoff until the contributory drainage area has achieved final stabilization.

The following shall be addressed:

- Orange construction fencing shall be provided around the proposed stone recharge bed to prevent equipment compaction during construction.

Orange construction fencing has been added to the plans around the stone recharge bed on Sheet #6.

- The installation and removal of the reference fence shall be included in the Construction Sequence, where appropriate.

The installation and removal of the orange construction fencing has been included in the Construction Sequence.

6. Section 144-309.D.(2).(c)- For areas that are impervious surfaces, predevelopment calculations shall assume at least 20% of the existing impervious surface area to be disturbed as "meadow" ground cover.

The provided calculations for volume and rate control shall be revised to assume at least 20% of the existing impervious surfaces is considered meadow ground cover as required by the above referenced section of the Ordinance. The current calculations show 1,818 sf of the 1,998 sf of impervious measured as impervious which is below the 20% (400 sf) threshold.

All existing impervious surfaces for the storm calculations assume at least 20% to be meadow.

7. Section 144-402 - The SWM site plan shall consist of a general description of the project including items described in § 144-304, calculations, maps, and plans. A note on the maps shall refer to the associated computations and erosion and sediment control plan by title and date. The cover sheet of the computations and erosion and sediment control plan shall refer to the associated maps by title and date. All SWM site plan materials shall be submitted to the municipality in a format that is clear, concise, legible, neat, and well organized; otherwise, the SWM site plan shall not be accepted for review and shall be returned to the applicant.

A note shall be added to the Plans and Report that reference one another by title and date.

A note has been added to the Plans and Report that reference one another by title and date.

8. Section 144-402.B.(3) - A statement, signed by the applicant, acknowledging that any revision to the approved SWM site plan shall be submitted to and approved by the municipality, and that a revised erosion and sediment control plan shall be submitted to, and approved by, the Conservation District or municipality (as applicable) for a determination of adequacy prior to construction of the revised features.

The above referenced statement shall be added to the Plan and signed by the applicant prior to final Plan approval.

This statement has been to the plans on Sheet #2.

9. Section 144-402.B.(4) - The following signature block signed and sealed by the qualified licensed professional responsible for the preparation of the SWM site plan:
"I (name), on this date (date of signature), hereby certify to the best of my knowledge that the SWM site plan meets all design standards and criteria of the Westtown Township Code, Chapter 144, Stormwater Management." [Note: include signature, name, discipline of professional license, and license stamp or seal here.]

The above referenced certification shall be added to the Plan and signed by the design professional prior to final Plan approval.

This statement has been to the plans on Sheet #2.

10. Section 144-402.C.(2) - The name of the project, tax parcel number(s), and the names, addresses and phone numbers of the owner of the property, the applicant, firm preparing the plan.

The phone number of the applicant/owner shall be added to the Plan.

The phone number of the applicant has been added to the plans on Sheet #2.

11. Section 144-402.C.(8).(f).[1] - The designated use as determined by PADEP (25 Pa. Code Chapter 93).

The designated use of the watershed shall be added to the Plan.

The designated use of the watershed has been added the General Notes on Sheet #5.

12. Section 144-402.C.(8).(m) - Any contaminated surface or subsurface areas of the site.

Section 144-402.C.(15) - The location of all existing and proposed utilities, sanitary sewers, on-lot wastewater facilities (including subsurface tanks and leach fields), and water supply lines within the site and within 50 feet beyond the proposed limits of earth disturbance.

The following shall be provided:

- General Note Number 5, as shown on Sheets 4 and 8, indicate that the site is served by on-site septic sewage disposal. The location of the disposal field, and associated tanks shall be clearly shown on the Plan.

The site is currently served by public sewer. The notes have been updated to accurately reflect existing conditions.

- The Demolition Plan shall clearly show the areas of demolition and removal associated with the two sanitary sewer lines, which exit the existing building, and which traverse the proposed building addition.

The existing public sewer to the house will be relocated as necessary. The existing abandoned septic field is not part of this project.

- Based upon the depth of the sanitary sewer line referenced and the elevations proposed associated with the proposed patio, insufficient cover will be provided over the existing

lines. The location of the proposed sanitary sewer line, along with the associated invert information, shall be shown to demonstrate that adequate cover can be maintained.

A note has been added to the plans that the contractor is to replace the sanitary sewer as necessary to maintain minimum cover and slope.

13. Section 144-402.C.(18).(c) - Easements, as per the requirements of Article VII

Section 144-402.C.(18).(c).[2] - Notes or other documentation, as needed, to grant the municipality the right of access to all BMPs and conveyances for the purposes of inspection and enforcement of the requirements of this chapter, and any applicable O&M plans and O&M agreements.

An easement shall be granted to the municipality granting them the right, but not the obligation, to inspect and repair the BMP. If a blanket easement is to be offered, it shall be clearly noted on the Plan to be recorded with the Stormwater Management Operations & Maintenance Agreement.

An easement will be granted to Westtown Township for the purpose of maintenance of the Stormwater management facilities should the Westtown School fail to properly maintain the system. The applicant shall review the requirements of the easement with the Township Solicitor prior to Final Plan recording.

14. Section 144-402.G – Inspections, operation, and maintenance requirements. The following documents shall be prepared and submitted to the Township for review and approval as part of the SWM site plan, in accordance with the requirements of Article VII, for each BMP and included in the SWM site plan (including any to be located on any property other than the property being developed by the applicant);

- An O&M plan.

The maintenance requirements for the proposed stormwater management system have been included on Sheet #7. They will be incorporated into an O&M plan will be submitted to the Township prior to Final Plan recording.

- An O&M agreement.

An O&M Agreement will be submitted to the Township for approval prior to Final Plan recording.

- Any easement agreements that are needed to ensure access, inspection, maintenance, operation, repair and permanent protection of any permanent BMP(s) and conveyances associated with the regulated activity.

Any easements agreements will be submitted for approval to the Township solicitor prior to Final Plan recording.

- Any written deed, deed amendment or equivalent document (if needed) to be recorded against a subject property, as shown on the SWM site plan maps or plan sheets, or recorded plan sheets for the purpose of protecting and prohibiting disturbance to a BMP or conveyance; and

No written deed, deed amendment or equivalent document is required as part of this project. The O & M agreement shall be utilized for the purpose of protecting and prohibiting disturbance to the BMPs or conveyance facilities.

- Written approval, easement agreements, or other documentation for discharges to adjacent or down-gradient properties when required to comply with § 144-301G and Article VII of this chapter.

Stormwater from the site will discharge in an unconcentrated manner onto other properties owned by Westtown School maintaining existing drainage paths. Therefore we believe that no additional approvals or easements will be required.

Section 144-701.D - General Requirements for protection, operation and maintenance of stormwater BMPs and conveyances - For any BMP or man-made conveyance (including any to be located on any property other than the property being developed by the applicant) to be owned by a person other than the Township:

- An O&M agreement shall be submitted to the Township for review and approval; and

An O&M agreement will be submitted to the Township prior to Final Plan recording.

- The O&M plan shall be attached to, incorporated within, and recorded as a public record along with a fully executed O&M agreement, all of which shall be recorded as a restrictive covenant that runs with the land and shall be binding upon the landowner and any heirs, administrators, successors in interest or assigns of the landowner.

An O&M agreement will be submitted to the Township prior to Final Plan recording.

A Stormwater Management Operation & Maintenance Agreement shall be executed and recorded for the proposed stormwater BMPs, to include all BMPs shown on the PCSM Plan. The O&M Agreement shall be provided by Westtown Township upon approval of the Plan and shall be recorded concurrently with the Land Development Plan.

An O&M agreement will be submitted to the Township prior to Final Plan recording.

SUBDIVISION AND LAND DEVELOPMENT COMMENTS (WESTTOWN TOWNSHIP CODE, CHAPTER 149, SUBDIVISION OF LAND):

15. Section 149-403.A – Before the final plan is signed by the Board of Supervisors, the applicant shall submit an agreement, subject to the approval of the Board of Supervisors, provided for, but not limited to , the following where applicable: In accordance with the approved final plan, the applicant will layout and construct all street and other improvements, including , but not limited to, grading, paving , curbs, gutter, sidewalks, streetlights, fire hydrants, water mains, street singes, shade trees, storm and sanitary sewers, stormwater management structures, landscaping, traffic control devices, open space areas, and erosion and sediment control measures.

Section 144-403.C – The applicant shall sign a tri-party agreement with a financial institution and the Township guaranteeing and securing completion of the improvements listed in Subsection A, except as provide for in Subsection E, within one year of the date of the approved plan.

Financial security in an amount acceptable to the Township shall be provided prior to Plan recording. A Construction Cost Estimate shall be submitted for review and approval, with the required financial security incorporated into a Developer's Agreement to be executed prior to Plan recording. The Applicant's Engineer shall contact the Township Engineer regarding the improvements in which financial security is to be posted.

A cost estimate of the proposed improvements will be provided under separate cover.

16. Section 149-602.B.(11) – All existing buildings, structures and other significant structures including parking areas, recreational areas, open space, etc.

Section 149-702.B.(11) – All existing buildings, structures and other significant structures including parking areas, recreational areas, open space, etc.

Section 149-602.C.(3) - The location of on-site sewage and water facilities.

Section 149-702.B.(21).(c) - The location of on-site sewage and water facilities.

The following shall be addressed:

- The location of the septic system, including the absorption area, shall be clearly shown on the Plan

The location of the abandoned septic field is shown on the plan. The site is currently served by public sewer.

- The submitted Subdivision and Land Development Information Sheet and County of Chester Subdivision/Land Development Information Form have Public Sewer and Community/Well/On Site Water checked, however, General Note #1 on Sheet 3 of 8 refers to Public Water and On-Site Septic. The applicant shall correct the inconsistency.

The plans have been revised to accurately reflect the existing conditions of the site being served by well water and public sewer.

17. Section 149-602.C.(1).(f).[2] – The width (in feet) of the cartway, existing right-of-way and of the ultimate right-of-way, and (in degrees, minutes and quarters of a minute) of the delta angle of all curved lines, including curved lot lines.

Section 149-702.B.(18).(a) - Location and width of all streets and rights-of-way, with a statement of any conditions governing their use.

Section 149-903.C.(1) - Where a subdivision or land development is proposed adjacent to an existing public street, the applicant shall dedicate sufficient right-of-way to result in the future right-of-way width provided for in § 170-1511 of the Zoning Chapter. If the applicant only controls land on one side of an existing street, then the applicant shall only be responsible to dedicate land to result in a width from the street cartway center line to the future right-of-way line equal to 50% of the future street right-of-way width. Therefore, for example, if a collector street has a sixty-foot-wide future right-of-way, an applicant on one side would be responsible to ensure that a thirty-foot-wide right-of-way is provided on the applicant's side of the center line.

The width of the cartway and right-of-way of E. School Lane shall be labeled on the Plan.

The width of E. School Lane cartway is labeled on the plan. The road is a private drive owned and operated by the school and does not have a Right-of-Way.

18. If the preliminary plan and all supporting data comply in all respects with the requirements for final plans (see Article VII), the Township may, in the case of small subdivisions involving no new streets or limited development of land, proceed to final action at the first consideration of the plan if a written request for final approval is made by the applicant and agreed to by the Board of Supervisors. Section 149-700.A – Within 60 days after approval of the preliminary plan, a final plan and all necessary supplementary data shall be officially submitted to the Township. However, an extension of time may be granted at the option of the Board of Supervisors upon written request of the applicant.

The referenced Ordinance section requires that a Preliminary Plan be submitted and reviewed prior to review of a Final Plan. CEG offers no objection to consideration of a waiver from this section of the Ordinance; however, this relief must be formally requested by the Applicant in writing prior to consideration.

The applicant is requesting a waiver from this section included with this submission.

19. Section 149-702.A.(3) – Signature blocks shall be provided on the right-hand side, if possible, following the format established by the Township.

Certification block shall be provided on the Plan to be recorded (Sheet 2) for the following:

- Township Planning Commission
- Township Board of Supervisors
- Township Engineer
- Chester County Recorder of Deeds

Certification blacks have been added to the plans on Sheet #2.

20. Section 149-916.A – All materials entering into the construction of sidewalks and the method of construction and installation shall be in accordance with PennDOT Specifications Publication 408, except that the compacted thickness of the aggregate bed shall be four inches. Sidewalks across driveways and driveway aprons shall be constructed with six inches of concrete reinforced with six by six w1.4 by w1.4 welded wire fabric placed two inches from the finished surface. Sidewalks shall have a minimum width of four feet and be located four feet behind the curbline unless approved otherwise.

Section 149-916.C - Details and specifications for the construction of bike paths and other paths shall be submitted with preliminary plans for review and approval by the Township Planning Commission and Township Engineer.

The following shall be provided:

- A detail with construction specifications for the proposed 4' wide access to the sidewalk shall be added to the Plan.

A detail for the sidewalk has been added to the plans on Sheet #7.

- The Plan Legend, Sheet 5, shall be revised to reference the proposed walk.

The legend on Sheet #5 has been updated to include the proposed sidewalk.

21. Section 149-924.A – Neither portions of tree masses nor specimen trees shall be cleared unless absolutely necessary. Applicants shall make all reasonable efforts to harmonious their plan in order to preserve these existing trees.

Section 149-924.D.(12) - Compensatory Planting

Section 149-924.D.(12)(a) – In the event that preservation of existing tress within the tree protection zone is impossible, and/or relocation of improvement impractical, then compensatory plating shall be required for each viable tree protection zone and specimen tree anywhere else on the site.

Section 149-924.D.(12)(b)[2] – For viable specimen: on inch of new tree diameter for every on inch of existing tree diameter cut or removed. Where is has been determined by the Zoning Officer that a specimen tree sha been or is proposed to be cut or removed, the person responsible shall be fined no more than \$1,000.

A tabulation shall be provided on Sheet 8 demonstrating compliance with the above referenced criteria, based upon the specimen trees to be removed.

A tree tabulation has been added to the plans on Sheet #8.

ZONING COMMENTS (WESTTOWN TOWNSHIP CODE, CHAPTER 170, ZONING):

22. Section 170-401.C – Applicability. Provisions of all other codes, ordinances, and regulations shall be applicable insofar as they are consistent with the provisions of this chapter and Westtown Township's need to minimize the hazards and damage resulting from flooding. It shall be unlawful for any person, partnership, business or corporation to undertake, or cause to be undertaken, any construction or development anywhere subject to floodplain regulations unless a permit has been obtained from the floodplain administrator.

Confirmation shall be received from the Township Floodplain Administrator that the subject area is not subject to any floodplain regulations specific to the site.

The applicant will coordinate with the Township Floodplain Administrator to ensure the site is not subject to any floodplain regulations.

23. Section 170- 501.B.(3) – Uses by Special Exception. The following uses shall be permitted when authorized by the Zoning Hearing Board as a special exception, in accordance with the terms of this article and the standards and criteria contain in Section 170-2108 of this chapter. The design standards for uses permitted by special exception, as contain in Section 170-503 o this article, shall apply to all uses permitted by special exception in the A/C District. – Religious use or primary or secondary school, which shall comply with Section 170-702.E of this chapter.

The Plan to be recorded shall clearly reference the Zoning Decision and Order, per the hearing held on March 31, 2022, which sets forth the Special Exception for the use proposed for the entirety of the land owned by the applicant.

The Zoning Decision and Order has been added to the plans on Sheet #2.

24. Section 170-1514.B.(1) – Outdoor lighting shall be required for safety and personal security for uses that operate during hours of darkness where there is public assembly and traverse, including but not limited to the following uses: all residential developments, commercial, industrial, public-recreational and institutional.

If lighting is proposed, a Lighting Plan shall be provided to demonstrate compliance with the applicable provisions of the above Ordinance section.

No lighting is proposed as part of this project.

25. Section 170-1700.A.(1).(c) – An existing building is altered so as to increase the amount of parking space required, as determined by this article.

Section 170-1700.C - Increased parking demand. When any building or structure undergoes a change of use or any increase in the number of dwelling units, employees, gross floor area, seating capacity, or other unit of measurement specified hereinafter as a means for determining required off-street parking or loading facilities, and when such a change or increase would, through application of the provisions of these standards, result in a requirement for greater total off-street parking or loading spaces, such off-street parking or loading facilities shall be increased to equal or exceed the off-street parking or loading requirements resulting from application of the provisions of these standards to the entire building or structure, as modified in use or capacity.

Section 1704.B - Location. Handicapped parking spaces shall be located where they would result in the shortest reasonable accessible distance to a handicapped-accessible building entrance. Curb cuts shall be provided as needed to provide an accessible route from the handicapped spaces to an accessible entrance.

It shall be clarified on the Plan that this project shall not result in an increase of employees or other users of the school.

It is noted on the plan that this project will not result in an increase of employees or other users of the school, please refer to Sheet #2.

GENERAL COMMENTS

26. The purpose of the red line dimensions shown on Sheet 5 shall be clarified and removed, as necessary.

The red line dimensions have been removed from Sheet #5.

Should you have any questions or require any additional information, please call, or email me at 610-234-2406 or mbowker@apexdeg.com.

Sincerely,
Apex Design & Engineering Group

A handwritten signature in black ink, reading "Michael J. Bowker". The signature is written in a cursive style with a prominent initial "M" and a long, sweeping underline.

Michael J. Bowker, P.E.
Principal Engineer

MJB
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