29 April 2021

Antonio Iadarola, P.E.
Town Engineer
Town of New Fairfield Public Works Department
Engineering Division
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RE: Permit Application for New Fairfield High School Project – Response to January 31, 2021 Comments
New Fairfield High School
New Fairfield, CT
Langan Project No.: 140215301

Dear Mr. Iadarola:

Please find below responses to your comments in ***bold italics*** dated January 31, 2021 related to the Special Permit application for the proposed New Fairfield High School.

1. The title sheet shows drawing VB201 as the Lot Consolidation Plan but it should be noted as VB105.
Response: Cover sheet has been updated.

2a. The partial survey plans provided are not complete. Interconnection of drainage structures and drainage piping is missing, and details regarding existing conditions are lacking. Topography on the perimeter of the plans is missing and just seem to stop at many points. It appears that the limited survey was established by the design team and it's not clear if the Permanent Building Committee has endorsed or approved this partial and limited survey. Detail site conditions regarding stormwater discharges into Wetlands #2, #3 and #4 are also missing and incomplete.
Response: The limit of the survey closely reflects the RFP issued by the Town of New Fairfield Permanent Building Committee for the project. Additional survey has been performed and is reflected in the documents. Note that all drainage information is accurately shown to the extent possible, within the survey limits. Storm and utility information was based on field located structures. Where there was no field evidence, we relied upon available mapping and markouts prepared by others and referenced on the survey.

2c. The wetlands report speaks of a heavily eroded intermittent watercourse at the discharge of Wetlands #3 which is not shown on any of these survey plans. An extensive field visit with the ZEO verified and shows significant erosion of downstream swale and a breach of the perimeter berm of the large pond within Wetlands #3. The commission needs to determine if full survey plans should be provided for the entire site under consideration in this permit application, especially when a major majority of the wetlands, their discharge and their perimeters, are not shown on the plans provided.
Response: Additional survey work has been performed to include this additional area.

2d. Existing drainage systems and their discharge points should be clearly delineated and shown. The existing condition survey is super critical to the design of this project, and to evaluate the impact on existing site features, adjacent wetlands, and any existing site conditions that may need to be remediated, especially due to the fact that the new site development ties into these existing compromised systems.

Response: Additional survey work has been performed to include additional area.

3a. As discussed above, the pond located on the far western side of the existing field, is severely compromised and is in danger of having a perimeter berm breach. This could be a disaster for downstream property owners. The outlet pipe is totally compromised and the swale downstream is heavily eroded. It's not clear what existing drainage ties into this pond since the survey is not complete.

Response: Additional survey work has been performed to include this additional area, outside the original RFP limits, as requested by the Town. The plans have been revised based on discussions to include limited work in the area of the detention pond to improve functionality.

3b. There is excessive erosion near the two gravel access ways leading to the soccer fields, near the 52-inch great oak tree, that are not addressed for repairs. These accessways, are also not tied into the new proposed road on the new plans.

Response: The gravel access ways have been extended to the proposed driveway and mountable curbs are proposed to reduce the potential of water flowing off of pavement onto the access ways. See sheet C-320.

3c. In addition, the existing pipe on the far southwestern property line of the school is also compromised and has popped out of the ground in several areas. It is called to be reused as part of the new project. This pipe needs to be replaced.

Response: This pipe will be replaced to ensure positive drainage through the pipe. See sheet C-420.

3d. The pond and the outlet including the downstream swale needs a considerable amount of work to be made safe.

Response: The plans have been revised based on discussions to include limited work in the area of the detention pond to improve functionality.

4. The plans show total impervious areas but does not seem to include the impervious areas of the two consolidated lots. Due to limited survey conducted, the engineer used Google Aerial Imagery for areas outside the survey limits to determine total impervious areas. This is not an accurate way to make this determination and should be avoided. The engineer should provide detailed computations showing the existing impervious area's totals, including the two combined lots and the effective resulting impervious area, based on the areas that are subject to stormwater treatment. As indicated on the drawings, is 10% actually proposed to be the effective impervious area? See sheet C-300.

Response: The existing effective impervious calculations have been added to the drawings and include all three properties as one parcel. To determine the extents of impervious area outside the survey limits, Langan reviewed the following information: record mapping available from the Town; Town GIS; recent aerial imagery; site inspection. We did not assume any areas outside our project limits were treated.

5. It should be noted that CLCB-20 is a WQU, which is being used as a direct inlet structure for a huge paved surface area, should have one or two catch basins installed prior, and should not be a direct inlet. In no circumstance should a large drainage area as shown be serviced by one inlet structure. The use of a WQU as a direct inlet makes it even worse.

   Response: Plans have been updated with additional inlets within this area and the inlet on the WQU has been removed.

6. Design of all proposed Water Quality Units needs to be presented and noted on drawing for each proposed location.

   Response: Additional design information for the WQUs has been added to the plans.

7. Yard Drains Units, 208, 207, 205 shall have hoods in the structures.

   Response: Hoods have been called out for these structures and a detail added to the drawings.

8. OCS – 200 needs to have out control designed for it.

   Response: Design information has been added to the detail.

9. WQU should be used right after STRU – 93

   Response: STRU-93 has been clarified to be a WQU.

10. All proposed MH's should be self-cleaning unless specifically used as an alternative structure.

    Response: The manhole detail has been revised to show no sump.

11. Open Bioretention basin immediately adjacent to a school could be problematic and are an attractive feature for kids to get involved with. Maintenance of these basins are also very demanding and time consuming. If it is kept in the design, an operations manual and maintenance schedule should be developed and provided to the commission for approval. If used, the detail on sheet C-452 should be revised to show more details as related to the design. One-foot freeboard for berm shall be noted on drawings and details, and an emergency spillway elevation shall be shown.

    Response: The proposed basin has been removed from the plans and stomwater from this area has been redirected to a proposed below grade system.

12. A swale and drainage structures should be used on the center driveway eastern side from CCB-116A to the beginning of the parking area just north of CCB-111. This will deal with the anticipated runoff coming down towards this driveway.

    Response: Additional drainage structures as well as positive drainage away from the adjacent property has been added to the plans.

13. A table should be provided for each WQU used on site showing all design features and specific WQU data.

    Response: A table has been added to the WQU detail.

14. A table should also be provided for each OCS used on site with all design parameters and features shown.

    Response: A table has been added to the OCS detail.

15. There is a considerable amount of utility work proposed on this site. It is most related to the potable water system and the above ground pump station proposed in addition to fire suppression water tanks. There are also large grease tanks and sewage pump stations proposed. I have not provided any review of these systems.

Response: Noted.

16a. I have tried to evaluate the Peak Runoff analysis as provided for existing and proposed conditions. I have discussed my concerns with the engineer regarding the input parameters for the routing used. They will make modifications. Most importantly is the maximum water elevation on the Output Sheets for each proposed underground stormwater system. Most of the system collection piping is in a flooded/surcharged state for a 25-year storm, but it does not seem to breach any structure rim or grate elevation for the top. The most important confirmation needed is to make sure that all building drains that connect to the site drainage system will never be surcharged due to retention or detention operations and are always free flowing into a structure that allows exactly that. The same is true of several yard drains that are proposed in low areas immediately near the building.

Response: Based on our stormwater management analysis, the 25-year storm event shows that the connecting roof drains and yard drains can flow freely to the proposed underground stormwater management system.

16b. Soil test work should be scheduled asap to verify that these systems can actually be installed as designed, and meet the basic design parameters indicated in the Report. If soil results are not favorable, or as expected, the entire design will have to be changed.

Response: We have performed percolation tests and have confirmed that the systems will work as designed.

17. The Soil Erosion and Sediment Control Plans should be modified to more accurately show the limits of the project and the associated measures that will be used to protect the site from erosion and sediment movement. The new pipe installation from the well house to the new pump station is missing in the project limit with no measures shown. Anti- tracking pads should be extended to the gutter line and made the full width of the driveway opening. A construction sequencing plan and narrative should be provided with a goal to keep all disturbance to an absolute minimum.

Response: The line from the well to the pump house is included in the project limits and silt fence has been added for the trenching. Additionally, a Construction Sequence is provided on sheet C-600. Anti-tracking pads at the driveway are shown the full-width and include the radii. The Construction Manager, O&G, is an active member of the project team and is coordinating logistics and phasing considering operations of the school and limiting disturbance to the extent possible. The project will also be subject to a CTDEEP General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities ("Construction Stormwater General Permit")

18. A proposed above ground 10,000-gallon oil tank is designed for this project.

Response: Noted.

Traffic Comments

1. There is some confusion that needs to cleared up by the School regarding the combined bell time for the HS and Middle School. This impacts the drop off areas considerably. It also impacts the peak traffic counts for the site. Please provide a narrative on how this will be done, the total number of buses that will be used, and how this will be managed with site logistics. Based on the traffic report, AM peaks trips in one hour are forecasted at 875. The afternoon peak hour is at 766 trips. Due to the combined bell times, there are some very significant numbers of trips in the one hour PM and AM time frames. Queuing of traffic on to Town roads during peak times should be avoided at all costs.

   Response: At this time, the Board of Education has not formally decided whether to combine the bell schedules or not. The Education Specification prepared by the Town requested that the site be designed to accommodate a combined bell schedule should the Town choose to implement the change which is reflected in our site plans and traffic report. The Town has confirmed that in the case of a combined bell there would be no change to the number of buses used. Any vehicular queues associated with combining the bell schedules will be confined to the school site.

2. Evaluate an offsite crosswalk installation that was requested by a few concerned parents.

   Response: Langan was forwarded correspondence from concerned parents requesting evaluation of a potential crosswalk to cross Gillotti Road at East Lake Road. A review of the area shows that Gillotti Road is a posted 25 MPH road with an average daily traffic of approximately 4500 vehicles per day and no pedestrian facilities currently exist along Gillotti Road. East Lake Road is stop-controlled at the intersection with Gillotti Road, where Gillotti Road is free-flowing. Crosswalks are typically intended to provide pedestrians a marked crossing where vehicles can expect pedestrians. Per Section 7C.02 of the Manual of Uniform Traffic Control Devices (MUTCD), "Crosswalk lines should not be used indiscriminately. An engineering study considering the factors described in Section 3B.18 should be performed before a marked crosswalk is installed at a location away from a traffic control signal or an approach controlled by a STOP or YIELD sign."

   Non-intersection and unsignalized school crossings are generally unexpected by the road user, thus sufficient visibility and sight distance parameters are critical to the safety of a crossing. Sight lines east of East Lake Road along Gillotti Road appear to be limited due to the vertical curvature of the road. A lack of adequate sight lines at the intersection of Gillotti Road and East Lake Road would create a potentially unsafe marked crossing location. Crosswalk markings alone are unlikely to benefit pedestrian safety. Ideally, crosswalks should be used with additional safety measures, such as traffic calming. Due to right-of-way limitations, traffic calming measures to encourage a reduction in vehicle speeds are restricted.

   There is also a lack of existing pedestrian infrastructure that would support the potential crosswalk. There are no sidewalks or pedestrian facilities leading to, or from the location of the potential crosswalk, which may confuse drivers who would not expect a crosswalk in a location without pedestrians.

   Additionally, the anticipated pedestrian traffic is low, as correspondence from parents indicate that approximately 8 students walk to school every day, with a potential for up to 12.

The Connecticut Department of Transportation published a document titled "Pedestrian Safety Countermeasure Guidance at Marked Uncontrolled Crosswalks", which outlines potential countermeasures for designers to use in consideration of a marked crosswalk at an uncontrolled location. It notes that overhead lighting is recommended for a high-visibility crosswalk; based on recent site visits, Gillotti Road does not have street lighting at this intersection. Another consideration was the installation of a rectangular rapid flashing beacon (RRFB), though this document also notes that a minimum of 10 pedestrians per hour is recommended for venerable pedestrians (i.e. children or elderly). Since it appears that this pedestrian volume may not be met on most school days, RRFBs would not be used often and therefore be unexpected to drivers.

Langan's engineering judgement, based on the above noted items, is that a crosswalk at this location is not recommended due to lack of existing pedestrian facilities, adequate sight lines, and number of students that currently walk to school.

3. I have questioned the proposed design of what is an apparent drop off area by the south side of the High School. This has not been modeled as a drop off area and it could be hard to manage the use of it, after construction.

   Response: This drop-off has been reviewed with the PBC as well as school administrators. It is intended to serve as a secondary drop-off, for use by athletic or other activity buses and for after-hours access to the lower level of the building. The use of this drop-off will be managed by the school administration and discussed in the Traffic Management Plan.

4. The link between the center driveway and the connector to the western driveway should be eliminated since it can be used a shortcut or bypass.

   Response: Based on discussions, the driveway connector will remain but a metal traffic gate will be placed at the intersection of the connector and central driveway to prohibit cut-through during peak times.

5. The use of reinforced turf parking areas just does not really make sense to me. Overflow for what? Will more seniors be allowed to drive into school? This overflow is again not really modeled and its use is not clear.

   Response: The overflow parking is intended exclusively for event-type scenarios (concerts, plays, large sporting events) and not used on regular basis. This has been reviewed with the PBC and school administration.

6. A very basic vehicular/pedestrian traffic operations plan must be prepared that clearly describes the management of internal site operations and the management of the driveway intersections. Unfortunately, the center driveway functions at a poor service level and will need manual traffic control to assist in its operations. A police officer, and not a crossing guard, should be in the plan to perform this function. Four Crossing Guards must be proposed for the management of the four crosswalks in the drop off area. Intergrading parking and drop off operations, with backing maneuvers directly in conflict with the crosswalks, additionally warrants this need. COVID operations has had an impact on traffic studies and often shown poor levels of service, but this may be the new norm in site operations. Modeling worst conditions and dealing with them, is the most conservative way to proceed.

   Response: A traffic operations plan has been prepared.

7. The signage and pavement markings on the east driveway where it goes from a two way operations into a one way needs to be well defined, and signage discouraging the use of the drop off area for non-school traffic and as a drive through, should be considered.

   Response: On-site directional signage at the east driveway will be added to the plans.

8. A parking island protecting the custodial parking at the end should be proposed. The intersection of the custodial parking area with the main driveway should be evaluated since an active loading dock does exist in that area.

   Response: No improvements are proposed in this area at this time.

9. Handicap parking for the existing Middle School should be evaluated based on the distance to the main entrance.

   Response: Spaces are located as close as possible to the door based on the site design.

10. I know we have discussed this but the access to the existing loading dock in front of the Middle School, and the fact that it must be done by crossing the drop off area and two main sidewalks, is less than ideal and could be dangerous.

    Response: Noted. At this time it is not possible to eliminate the use of the existing loading dock.

11. Fire equipment access over some of the proposed site improvements is again a challenge as I see it. I will let the Fire Marshall evaluate its proposal and the challenges with its use. There should be a section in the traffic operations plan just for this issue.

    Response: The fire department and Fire Marshal have reviewed the plans and provided separate comments which have been incorporated into the drawings.

12. Where will parking be for the soccer fields located by the big oak tree? These fields do get a considerable amount of use.

    Response: Parking for these uses is available within the proposed parking lots across the campus.

Should you have any further comments or questions, do not hesitate to contact our office.

Sincerely,
Langan CT, Inc.

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Senior Project Manager

Christopher P. Cardany, P.E., LEED AP
Principal/Vice President

cc: Evan White & Rich Sanzo – Town of New Fairfield; Scott Pellman – Colliers; Christine O'Hare – JCJ Architecture