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March 1, 2021

Town of Millbury
Planning Board
127 Elm Street
Millbury, MA 01527

Attn: Mr. Richard G. Gosselin, Jr., Chairman

Re: Site Plan Review
Millbury Fire Station
130 Elm Street

Dear Mr. Gosselin,

As you are aware, Vannary Tan and David Glenn, PE of Stantec Consulting Services, Inc. have reviewed the Planning Board Submission plan package, Drainage Analysis and the Site Plan Review Application package, all dated January 25, 2021. In response to the review items noted in their February 18, 2021 letter, we provide the following:

Section 12.4 – Site Plan Review, Subsection 12.44 – Contents and Scope of Application of the Town’s Zoning Bylaws:

Item a. We recommend existing natural features such as stone retaining walls, steps, trees, chain link fence.... etc be labeled as retained or removed on sheet C1.0.

GGD Response: Additional notation has been added to the revised drawing C1.0, Site Demolition & Preparation Plan to indicate site features to remain.

Item b. Request Elm Street, River Street and Waters Street right-of-way width and public or private be labeled to the site plan.

GGD Response: Additional notation has been added to drawing C1.1, Site Layout & Materials Plan to address right-of-way width and status of ownership.

Item c. Location of proposed on-site snow storage be shown on the site plan.

GGD Response: Additional notation has been added to drawing C1.1, Site Layout & Materials Plan to indicate suggested locations of snow storage. These locations have been coordinated with the landscape drawings to not adversely impact plantings.

Item d. Provide property line plan with distances and bearing.

GGD Response: The included existing conditions survey plan has been added to the drawing set. Metes and bounds are indicated on that plan.

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Item e. We note zoning information/proposed set back dimensions included on sheet C1.1 are not in agreement with table provided in the Planning Board Narrative.

GGD Response: *The zoning table on drawing C1.1, Site Layout & Materials Plan and within the Planning Board Narrative has been updated.*

Item f. Request capacity of the existing off-site water, sewer and drainage utilities be addressed by the consultant engineer.

GGD Response: *Capacities of the existing off-site water, sewer and drainage utilities have been addressed in the updated Planning Board Narrative.*

Item g. We recommend location, type and intensity of proposed site lighting be identified on the site plan.

GGD Response: *A photometric plan has been included in the updated project submission. Cut sheets for the proposed fixtures has been included in the resubmission.*

Item h. Provide locus plan at scale 1-inch equals 100-feet.

GGD Response: *The locus plan has been added to the cover sheet.*

Item i. The Site Plan identifies a total of thirty-one (31) parking spaces with two (2) handicap accessible space within the paved parking areas. We recommend additional documentation be provided to confirm the number of parking spaces proposed are consistent with the proposed building use to illustrate compliance. Request loading, storage and drop off/service areas be shown on the site plan.

GGD Response: *Section 33, Parking & Loading Requirements, of the Millbury Zoning Bylaw does not provide a minimum quantity of parking calculation for a fire station or municipal building. The quantity of 31 overall parking spaces was determine based on projected future staff quantity (1 space per fire fighter) as well as including 4 visitor parking spaces.*

In an attempt to utilize values contained within Section 33.2 of the Millbury Zoning Bylaw, an alternative method utilizing dwelling units and offices were applied to determine a minimum quantity of parking spaces required, resulting in a direct need for 25 spaces. That quantity was determined based on the following computation:

*6 dorms (dwelling units) @ 2 spaces per dwelling unit = 12 spaces
2,408 gross square feet of office space @ 1 space per 200 gross square feet = 13 spaces
Total = 25*

Comparing this application of the Zoning Bylaw quantity to the project team determination would allow for the 4 visitor parking spaces and capacity to increase staffing by 2 in the future.

Item j. Request Site Plan be stamped and signed by a registered professional engineer and/or registered architect.

GGD Response: *Professional stamps have been added to the resubmitted documents.*

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Section 12.4 – Site Plan Review, Subsection 12.45 – Design Standards of the Town’s Zoning Bylaws:

Item a. Surface Water Drainage: See “Stormwater Management” for comment requesting additional documentation regarding hydraulic capacity of existing drainage system located on Elm Street.

GGD Response: Responses have been included in the comments in the “Stormwater Management” portion of this letter.

Item b. Ground Water Recharge: See “Stormwater Management” for comment regarding ground water recharge.

GGD Response: Responses have been included in the comments in the “Stormwater Management” portion of this letter.

Item c. We recommend the applicant address proposed exterior signage or signage affixed to the building.

GGD Response: It has been decided by the Owner that there will be no free-standing site identification signage on the site. Lettering will be provided on the building only.

Item d. Parking: Proposed parking area located along the northwest property line is located within the rear setback requirement of 10 feet. We recommend consideration of a guard rail be provided adjacent to proposed parking area located along the northwest property line adjacent to the approximate 8-foot-high stone retaining wall. Proposed parking area location in front of the building is not in compliance with the recommended location of on the side or rear of the building.

GGD Response: The parking area along the north property line has been relocated in compliance with the 10’ rear yard setback, resulting in reducing the parking along the western property line to 5 spaces. One additional parking space was added to the west side of the Elm Street apron as shown on the revised drawing C1.1, Site Layout & Materials Plan. A guard rail has been added in the area of the 5 parking spaces at the northwest corner of the site in the area of the 8 foot high stone retaining wall.

Stormwater Management:

Item 1. Request the Stormwater Checklist be stamped and signed by a registered professional engineer.

GGD Response: The Stormwater Checklist has been stamped and signed by a professional engineer in the resubmitted documents.

Item 2. Estimated seasonal high groundwater elevation in area of the infiltration chamber system was not provided by LDC. We recommend additional test pits be performed within the footprint of the infiltration subsurface chamber system to verify estimated seasonal high groundwater elevation and soil texture.

GGD Response: While no groundwater was observed at the time the test pits were dug, we have requested confirmation from the geotechnical engineer that no redoximorphic features were observed. We will provide a memorandum upon confirmation.

Item 3.

Stantec recommend additional site-specific details including cross section of the three proposed subsurface infiltration systems. Request cross section identifying items such as existing and proposed grades, refusal and/or seasonal high groundwater be provided on the site plan.

GGD Response: Detail 10/C0.4, Subsurface Detention Bed (SDB) Detail indicates the typical installation of the three subsurface detention systems. Detail 6/C0.6, Subsurface Infiltration Bed System Detail indicates the typical installation of the proposed subsurface infiltration bed northwest of the building. The schedules on drawing C2.1, Site Utility Plan, include system component elevations, minimum proposed grade and estimated bedrock elevations.

Item 4.

Provide calculations regarding the average annual load of Total Phosphorus and estimated pollution removal as per the Town's General Bylaw Municipal Code Chapter 13.15 Post-Construction Stormwater Management of New Developments and Redevelopments

GGD Response: The estimated Total Phosphorus removal calculation will be provided upon it's completion.

Item 5.

We recommend an Erosion & Sediment Control Plan Control identifying measures as noted on Sheet CO.1 be prepared by GGD.

GGD Response: The resubmission includes a dedicated drawing, C1.0A Site Erosion & Sediment Control Plan, to illustrate measures identified in the Erosion & Sediment Control Narrative on drawing C0.1.

Item 6.

We request hydraulic calculations of the closed drainage system including catch basins and pipe network s be provided in a separate analysis.

GGD Response: The Drainage Analysis has been updated to include a hydraulic analysis of the closed drainage system.

Item 7.

Description and drawings of all components of the proposed drainage system:

- a. We recommend perforated interceptor dimensions be provided on the site plan.
- b. Provide a detail of deep sump catch basin as noted in Stormwater Management Report (Sub-catchment N1B).
- c. Weir cutout is missing on the orifice plate detail for OCS#2 and #3.

GGD Response: Where applicable, the components have been updated and included in the resubmission with the following responses:

- a. The length information has been added to drawing C2.1, Site Utility Plan. Detail 3/C0.6 specifies that the trench shall be 5'-0" wide. The depth of the trench varies and is indicated by invert elevations on drawing C2.1, Site Utility Plan.
- b. The deep sump catch basin noted in Sub-catchment N1B is shown as Detail 5/C0.4.

- c. *The weir cutouts have been corrected on Detail 8/C0.5, Outlet Control Structure Detail.*

Item 8.

In the Drainage Analysis Narrative, the USDA indicates that the project site is composed of both Hydraulic Soil Groups 'B' and 'D'. In the HydroCAD analysis, summary subcatchments for both existing and proposed conditions list only areas with HSG D.

GGD Response: The drainage analysis has been updated to include a section with site figures. Included is the United States Department of Agriculture Natural Resources Conservation Service's soil map and soil description. As discussed in the Drainage Analysis narrative, the USDA NRCS soil map indicates the site consists of Chatfield-Hollis-Rock outcrop complex, 0 to 15 percent slopes with the exception of approximately 60 square feet of Merrimac fine sandy loam, 3 to 8 percent slopes (HSG 'B') at the northeast corner of the site.

The Chatfield-Hollis-Rock outcrop complex soil unit consists of three major components; Chatfield, Extremely Stony (HSG 'B'), Hollis, Extremely Stony (HSG 'D') and Rock Outcrop (HSG 'D'). Based on the USDA soil descriptions, the site consists of compact silt and sand with some gravel to silt with some sand.

Item 9.

Existing catchment volume for DP4 in the narrative (0.152 af) does not match with HydroCAD summary (0.191 af) for the 100-year rainfall.

GGD Response: The existing conditions summary table has been corrected to indicate 0.191 af of volume during the 100-year rainfall at Design Point (DP) 4.

Item 10. Proposed peak flow for DP2 in the narrative is listed as 0.03 cfs for the 25-year rainfall, but the HydroCAD summary is listed as 0.25 cfs.

GGD Response: The proposed conditions summary table has been corrected and updated based on minor drawing modifications.

MassDEP Stormwater Standards:

Item 1.

No new stormwater conveyances (e.g., outfalls) may discharge untreated stormwater directly to or cause erosion in wetlands or waters of the Commonwealth.

As identified in the drainage analysis approximately 1.71 acres of the site runoff will be collected and discharged to the municipal drainage system located in Elm Street. We recommend additional documentation regarding the hydraulic capacity of existing catch basin no.1 and drainage system located on Elm Street be provided by GGD and recommend status of review by the Town Department of Public Works (DPW).

GGD Response: A closed pipe analysis for the 25 year storm event has been included in the revised documents. The calculation indicates the existing 12" concrete pipe is capable of conveying 2.5 cubic feet per second. It is estimate that the flow from the site and contributing area to XCB#1 results in a peak flow of 2.2 cubic feet per second.

Item 2.

Stormwater management systems shall be designed so that post-development peak discharge rates do not exceed pre-development peak discharge rates.

The post-development peak flow rates do not exceed pre-development peak flow rates; therefore, this standard is met.

GGD Response: No response required.

Item 3.

Loss of annual recharge to groundwater should be eliminated or minimized using infiltration measures including environmentally sensitive site design, low impact development techniques, stormwater best management practices, and good operation and maintenance. At a minimum annual recharge from the post-development site shall approximate the annual recharge from pre-development conditions based on soil type. **We recommend GGE provide groundwater recharge calculations to confirm the annual recharge from the post-development approximated pre-development conditions.**

GGD Response: Calculations have been provided to illustrate required recharge based on the increased impervious cover on the site from the previous development to the proposed development.

Item 4.

Stormwater management systems shall be designed to remove 80% of the average annual post-construction load of Total Suspended Solids (TSS). This Standard is met when:

- a) Suitable practices for source control and pollution prevention are identified in a long-term pollution prevention plan, and thereafter are implemented and maintained.
- b) Structural stormwater best management practices are sized to capture the required water quality volume determined in accordance with the Massachusetts Stormwater Handbook; and
- c) Pretreatment is provided in accordance with the Massachusetts Stormwater Handbook

We note that TSS removal worksheets are provided and meet the 80% TSS requirement. The water quality volume provided meets the requirements for water quality. In Stantec's opinion the standard is met.

GGD Response: No response required.

Item 5.

For land uses with higher potential pollutant loads, source control and pollution prevention shall be implemented in accordance with the Massachusetts Stormwater Handbook to eliminate or reduce the discharge of stormwater runoff from such land uses to the maximum extent practicable. If through source control and/or pollution prevention all land uses with higher potential pollutant loads cannot be completely protected from exposure to rain, snow, snow melt, and stormwater runoff, the proponent shall use the specific structural stormwater BMPs determined by the Department to be suitable for such uses as provided in the Massachusetts Stormwater Handbook. Stormwater discharges from land uses with higher potential pollutant loads shall also comply with the requirements of the Massachusetts Clean Water Act, M.G.L. c. 0 21, §§26-53 and the regulations promulgated thereunder at 314 CMR 3.00, 314 CMR 4.00 and 314 CMR 5.00. **The project is not associated with a land use with higher potential pollutant load; therefore, this standard is not applicable.**

GGD Response: No response required.

Item 6.

Stormwater discharges within the Zone II or Interim Wellhead Protection Area of a public water supply, and stormwater discharges near or to any other critical area, require the use of the specific source control and pollution prevention measures and the specific structural

stormwater best management practices determined by the Department to be suitable for managing discharges to such areas, as provided in the Massachusetts Stormwater Handbook. A discharge is near a critical area if there is a strong likelihood of a significant impact occurring to said area, considering site-specific factors. Stormwater discharges to Outstanding Resource Waters and Special Resource Waters shall be removed and set back from the receiving water or wetland and receive the highest and best practical method of treatment. A "stormwater discharge" as defined in 314 CMR 3.04(2)(a) 1 or (b) to an Outstanding Resource Water or Special Resource Water shall comply with 314 CMR 3.00 and 314 CMR 4.00. Stormwater discharges to a Zone I or Zone A are prohibited unless essential to the operation of a public water supply.

The project is not within a critical area; therefore, this standard is not applicable.

GGD Response: No response required.

Item 7.

A redevelopment project is required to meet the following Stormwater Management Standards only to the maximum extent practicable: Standard 2, Standard 3, and the pretreatment and structural best management practice requirements of Standards 4, 5, and 6. Existing stormwater discharges shall comply with Standard 1 only to the maximum extent practicable. A redevelopment project shall also comply with all other requirements of the Stormwater Management Standards and improve existing conditions.

This project is a redevelopment and is required to meet the above Stormwater Management Standards.

GGD Response: No response required.

Item 8.

A plan to control construction-related impacts including erosion, sedimentation and other pollutant sources during construction and land disturbance activities (construction period erosion, sedimentation, and pollution prevention plan) shall be developed and implemented.

An erosion and sedimentation control plan has been included as part of the stormwater management plan, as shown on the site plans. In Stantec's opinion, the project will require coverage under the NPDES Construction General Permit and require the preparation of a Stormwater Pollution Prevention Plan (SWPPP). We recommend the SWPPP be provided to the Board prior to construction.

GGD Response: The project will be publicly bid. The selected General Contractor, whom will have control over the site, is responsible to engage an independent professional engineer or certified professional in erosion and sediment control to prepare and submit the US EPA Notice of Intent for stormwater discharges associated with construction activity under the US EPA National Discharge Elimination Systems (NPDES) Construction General Permit at least 20 days prior to site disturbance. As part of that submission, a Stormwater Pollution Prevention Plan (SWPPP) will be prepared and submitted to the Planning Board and any other interested Town entities.

Item 9.

A long-term operation and maintenance plan shall be developed and implemented to ensure that stormwater management systems function as designed.

An operation and maintenance plan has been included as a separate report. In Stantec's opinion the standard is met.

GGD Response: No response required.

Item 10. All illicit discharges to the stormwater management system are prohibited.

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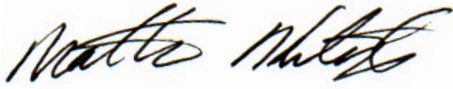
As stated by GGD, no illicit discharges are proposed to the stormwater management system. We recommend a signed illicit discharge statement be provided by the applicant.

GGD Response: A signed illicit discharge statement has been provided in the updated submission.

If you should have any comments or questions regarding the above, please contact our office at your earliest convenience.

Very truly yours,

GARCIA • GALUSKA • DESOUSA
Consulting Engineers Inc.



Nathan C. Ketchel, EIT

NCK:jfm

Enc.

Cc: Laurie Connors, Town of Millbury
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