

EXPEDITED ENGINEERING, LLC

Civil Engineers & Erosion Control Specialists

118 Turnpike Road, Suite 300, Southborough, Massachusetts 01772

Telephone (508) 399-9993 james@expeditedengineers.com

February 12, 2025

Lara Davis
ZBA Principal Assistant
Zoning Board of Appeals
Town of Southborough
17 Common Street
Southborough, Massachusetts 01772

Re: 250 Turnpike Road, Southborough Comprehensive Permit Plan
Peer review from Howard Stein Hudson

Dear Ms. Davis:

Enclosed are revised Site Plans for this development now with a revision date of 31 January 2025. Also enclosed are copies of a Swept Path Plan and a revised Drainage Report for this project now with a revision date of 31 January 2025.

We revised these Site Plans pursuant to input from abutters and the comment letter from the peer reviewer Howard Stein Hudson dated 20 December 2024.

I'd like to take this opportunity to briefly explain how we responded to each of their comments. The form that this letter will take is that I will repeat the first line of each of HSH's comments in italics, if the comment can be summarized that briefly, and then respond in normal text.

Based on our review of the referenced documents, HSH offers the following preliminary comments:

Zoning Regulations – Chapter 174

174-6 – Applicability. The applicant has requested a waiver from this section . . .

No response necessary.

174-8(A) Schedule of Use Regulations. The applicant requests a waiver from this section . . .

No response necessary.

174-8(B) Schedule of Use Regulations. The applicant requests a waiver from this section . . .

No response necessary.

174-8.2(C) Prohibited Uses. The applicant requests a waiver from this section . . .

No response necessary.

174-8.2(D) – RA Residence A District – Development Standards

Lara Davis
250 Turnpike Road, Southborough
February 12, 2025
Page 2

- *Building unit #1 is located 2 feet from the proposed side property line where 25' is required.*

Acknowledged.

- *Units 30-32 are all approximately 24-26'± from the rear yard setback where 50' is required.*

Acknowledged.

- *Provide architectural plans to verify building height in accordance with maximum building height of 35 feet / 2 ½ stories (including basement heights per the definition of story) and maximum floor area ratio of 0.18 to which a waiver was requested.*

We will provide architectural plans.

174-8.9 – WFP Wetland and Floodplain District

- *The proposed development is not located within a FEMA Floodplain so this overlay district is not applicable.*

Agreed. No response is necessary.

174-9.1 - Common Driveways

- *Common driveways serving more than two or more detached single-family dwellings shall not be permitted in any district. Since the plan lists this access from Turnpike Road as a driveway serving 32 units, provide an alternative means of access or a waiver is needed from this section.*

We will request a waiver.

174-11 Signs

- *174-11(C)(2)d – a waiver was requested from the requirement that no sign may be illuminated between 10:00p.m. and 6:00 a.m. HSH defers to the board for approval of this waiver.*

No response necessary.

- *174-11(E)(1) – Special Permit – a waiver was requested from this section however it is unclear if this waiver is required . . .*

No response necessary.

174-12 – Parking and loading regulations

- *174-12(C)(2) – Dimensional Requirements for parking . . .*

No response necessary. The 11 proposed spaces away from units are all 9.5 feet wide and 18 feet deep. Each unit has driveway space at least that large in front of its garage and a garage space at least that large.

Lara Davis
250 Turnpike Road, Southborough
February 12, 2025
Page 3

- *174-12(E)(1) – Dwellings: two spaces for each dwelling unit containing one or two bedrooms . . . Confirm the number of spaces by showing spaces at the appropriate size throughout the development.*

We have added dimensions and labels to the Plans to confirm this.

- Confirm that the additional surface spots are located directly adjacent to the 3 bedroom units . . .

We extended the sidewalk from separate parking spaces to the 3 bedroom units #'s 18 and 19 south of the cul de sac circle.

- *. . . Provide a minimum of 23' from the back of curb to face of building along the side of the roadway where the sidewalk is provided . . .*

We made revisions to a few units' locations to satisfy this standard.

- *Provide building architectural plans to verify that the internal parking spaces within the garages are a minimum of 9 ½ feet wide and 18' long*

We will provide architectural plans to verify this.

- *It is noted that the parking provided is reliant on tandem parking for the residents (1 parking within the garage and 1 parking within the driveway). Confirm whether the applicant has considered adding additional visitor parking to avoid people parking on the street for gatherings and holidays.*

We added two visitor spaces to the block of them at station 3+00 and one to the block at the cul de sac circle for a total of 11 on site for these 32 units.

- *Verify that the garages and building entrances are accessible in accordance with the state regulations for accessible units.*

We will provide architectural plans to verify this.

- *Provide electric charging stations into this layout per new state regulations.*

We will comply with the regulations.

- *174-12(G)(1) – Egress*
 - *Any Driveway likely to carry more than 200 trips per average business day must comply with the following criteria within this section on Route 9 . . .*

We added a detail sheet to the Site Plan set, Sheet D6, and included information there to show that the required setbacks are being met.

Lara Davis
250 Turnpike Road, Southborough
February 12, 2025
Page 4

- *The proposed development is located within the Residence A zone which would be subject to the LZ-1 zoning within 174-12.1(E)(2), however the proposed development does not directly apply to the spirit and intent of the regulations . . .*

We added a light and moved lights to better illuminate the sidewalk.

- *174-12.1(F) Provide a total site lumen limit calculation per table 1.*

We will provide this table.

- *Provide the appropriate calculations per table 2: Lighting Limits for residential uses.*

We will provide this table.

- *Provide information in compliance with 174-12.1(G-R) to verify compliance with these regulations.*

We will provide this information.

Landscape plan comments have been provided under a separate cover by James Emmanuel, RLA LEED AP from James K. Emmanuel Associates.

No response necessary. A revised Landscaping Plan is included in the new plans.

174-13.1 – Concept Plans

- *174-13.1(A) – Applicability. Any use which is designated in 174-8 as being subject to this article required concept plan approval by town meeting prior to being acted upon for special permit approval. It is recommended that the applicant request a waiver from this section.*

We will request this waiver.

174-13.1 – Major Residential Development

- *174-13.2(1) – Applicability. Major residential development, that is, the creation of eight or more lots or construction of eight or more dwelling units within an eight-year period from or on a property or set of contiguous properties in common ownership. It is recommended that the applicant requests a waiver from this section.*

We will request this waiver.

174-13.3 Lower Impact Development

- *174-13.3(C) – Applicability. This bylaw shall be applicable to all new development . . .*

We will request a waiver from this regulation.

Wetland Protection Regulations

170-2 – Jurisdiction. The applicant has requested a waiver from this section . . .

Lara Davis
250 Turnpike Road, Southborough
February 12, 2025
Page 5

We will revise our waiver request to not be a blanket waiver from the entirety of the Bylaw.

Subdivision Regulations

244-4 – Plan Requiring approval. The applicant is requesting a waiver from this section since the Zoning Board of Appeals is the permit granting authority within all Chapter 40B applications. This waiver request is appropriate.

No response is necessary.

244-6 – Limit on dwelling on a lot. This proposal is to construct 32 townhouse units on a single parcel of land, and this would require planning board approval. The applicant is requesting a waiver from this section since the Zoning Board of Appeals is the permit granting authority within all Chapter 40B applications. This waiver request is appropriate.

No response is necessary.

244-8(B) – Standards of Adequacy. Provide the following information . . .

We propose pavement width and alignment in accordance with the regulations.

Per 4.1.3.1, all plans submitted shall conform to the requirements of the town subdivision rules and regulations 244-10

We added a road profile to the Site Plans and will clarify separation at utility crossings.

244-13(A)(4) – Dead-end streets. Dead-end streets shall not exceed the lesser of 1,000 feet or the length needed to accommodate 12 lots. Please revise the design or request a waiver.

We revised the location of the cul de sac circle to provide a better path for large vehicle movement through the site and this had the effect of shortening the roadway to 982 feet.

244-13(A)(7) – Provide grading for the revised entrance out to Route 9 and confirm that this requirement has been met.

We will request a waiver to continue using the existing entrance.

244-13(B)(2) – Confirm that at a minimum, the curb cuts for the proposed units are at least 10' in width with a 3' radius flare for the pavement entrances.

The curb cuts are 12 feet wide and we added the 3' radius flares as suggested.

244-15(A) – Easements. Expand the proposed 20' utility easement to 30' per this section or request a waiver.

We expanded the easement to 30 feet width.

244-16(B) – Drainage System.

- *The HydroCAD modeling is lacking significant level of detail and modeling to verify that the proposed drainage network will work as proposed . . .*

We have revised the Drainage Report and the drainage area plans to address these comments and will supply HydroCAD confirmation of individual pipe capacity.

244-17 – Water Supply and Fire Hydrants.

- *Several hydrant locations do not meet the required separation requirements to the proposed sewer infrastructure. Please adjust.*

We moved the hydrant near station 3+10 to the other side of the driveway and we moved the hydrant near unit 17.

- *The waterline is proposed with a “Y” layout and two dead end stubs. This will lead to frequent purging of the waterline. Please provide a water loop to prevent this.*

There are no available connection routes to eliminate the dead ends.

244-22 – Curbs and Berms. Curbing shall be straight or radial granite curbing with a seven-inch initial reveal from exposed face above gutter line. Revise details.

We will request a waiver to use sloped granite curbing as we believe it is the best choice for combining durability with suitability for residential construction.

244-27 – Special Construction Details. Retaining walls shall be constructed whenever the slope of land adjacent to the street would be too steep for the stability of soil [generally in excess of one (1) foot vertical to two (2) feet horizontal] or would require grading for more than thirty (30) feet back to meet the existing grade at a slope of one to two (1:2).

- *Significant retaining walls are proposed around the exterior of the development adjacent to the bordering vegetated wetlands. Where retaining walls are not proposed, 1:1 slopes are proposed directly adjacent to property lines or local no alteration zones adjacent to BVW. Section 244-20F – maximum slope shall not exceed two (2) horizontal and one (1) vertical in fill. It is advised that the slope be revised to 3:1 which is a mow-able and maintainable slope with exceptions for 2:1 in circumstances where the grade is unavoidable in compliance with the regulations. Anywhere the slope is equal or greater than 2:1 erosion control blankets or geotextiles shall be used to maintain vegetation.*

We made several revisions to building elevations and also moved some buildings to lessen slope grades behind units 6-11 and between units 21, 26 and 27. Any slopes steeper than 3:1 will have North American Green SC150BN geotextile fabric rated for use on slopes as steep as 1:1 applied to it to stabilize it. The detail for this is on Sheet D1.

Lara Davis
250 Turnpike Road, Southborough
February 12, 2025
Page 7

- A 1:1 slope is proposed directly off the side of the foundation and edge of driveway adjacent to unit 1. Please detail how this will be constructed and maintained within this close proximity to the property line.*

Pursuant to this comment, we revised the design to propose a retaining wall in this area.

- Several of the area drains behind units 11-3 are located within sections of 1:1 slopes. This could lead to undermining of the pipes within this area. It is suggested that these drain lines be adjusted out of this section of steep slopes and the slopes be revised.*

Pursuant to this comment, when we moved units 6-11, we took the opportunity to propose a stone lined drainage swale behind them to convey runoff northward. We added a detail of it to sheet D3.

- A 1:1 slope is proposed off the driveway from unit 2 which then drops 6 feet to the wetland. Provide guardrail and slope stabilization through this section.*

We added a guardrail as suggested.

- A retaining wall is proposed approximately 1 foot away from the existing property line which abuts the abutter noted as 5 Sarsen Stone Way. Please provide a guardrail for vehicular safety and detail how this wall will be constructed with allowance for erosion control and room to construct the wall. This guardrail should extend along the section of 1:1 slope and along the wall abutting unit 20.*

We added proposed guard rails off the side of the cul de sac circle and beyond the new parking space with a slope greater than 3:1 beside it.

- Unit 26 directs water 17.5' down a 1:1 slope directly at units 27 through 29. Please revise to remove the flooding concern for these units.*

We revised the design so that the downspouts at the front of unit 26 will be piped to the infiltration structure behind unit 29 while the downspouts at the back of unit 26 will be piped to the infiltration structure behind unit 24. We also moderated the grades of this slope.

Stormwater and Erosion Control Regulations

154-3 – Applicability. The applicant has requested a waiver from the entirety of the Stormwater and Erosion Control Regulations. HSH does not believe that this is appropriate as it is the applicant's duty to work with the municipality to determine which of the sections within the bylaw can be complied with and which would pose a significant hardship on the applicant over and above the state regulations. It is requested that the applicant review the regulations and provide individual waivers from sections that would be required to be waived.

We will revise our waiver request.

Lara Davis
250 Turnpike Road, Southborough
February 12, 2025
Page 8

7.6(i)(viii) - . . . Please provide the soil logs for the remainder of the test pits performed onsite.

We are enclosing the remainder of the deep observation hole soil logs.

7.6(l)(1) – provide detailed cut and fill calculations.

We calculated the net material balance of the site under the proposed design as a need to import 36,000 cubic yards of material. That does not include gravel base beneath driveways and sidewalk, stone or sand for utility trenches, stone at infiltration structures and beneath basements, slabs and footings or sand in the septic system leaching area.

7.6(o) – Stormwater and Erosion Control Management Plan. Provide a stormwater and erosion control plan in accordance with 7.6(o)(3-4).

We have provided erosion and sediment control plans with the Site Plan set and a construction sequence and description of erosion control methods on Sheet D4.

8.1(g) – Post-Development Stormwater Management Criteria for New Developments. Revise stormwater calculations to comply with this section.

We have provided a revised Drainage Report with these new Site Plans.

Comprehensive Permit Regulations

4.1.2 – The applicant requests a waiver from a complete financial pro forma . . .

No response necessary.

4.1.3.8 – Provide electric and/or gas lines through the development.

We added electric service conduits to the Plans. We are not proposing to extend natural gas service to the site at this time.

4.1.3.13 – A waiver has been requested from the requirement to show the location and results of soil, percolation and water table tests . . .

We have provided the remaining soil logs.

4.1.5 - Provide building architectural plans per this requirement.

We will provide architectural plans per this requirement.

4.1.6 – Provide this traffic analysis, neighborhood plan, etc. . . .

We have separately provided a traffic report.

4.1.12 – Prepare and provide an “Environmental Analysis” in accordance with this section for review.

We will provide an environmental analysis in accordance with this section.

4.1.15 – Prepare a long term monitoring plan per this section.

Lara Davis
250 Turnpike Road, Southborough
February 12, 2025
Page 9

We submitted a Stormwater Report Checklist and will be working with the Conservation Commission and its chosen peer reviewer to refine it while also addressing other issues raised by the Commission. We will then resubmit it.

6.5 – Access – To assure reasonable standards of public safety, there shall be adequate means of access to a comprehensive permit development. Typically, this means at least two means of access to the property if eleven (11) or more dwelling units are proposed or otherwise recommended by the DPW, the fire chief and the police chief. Please provide information on the single entrance and exit provided for this 32-unit development and how this satisfies this requirement.

State fire code regulations have a much higher standard of when a second point of egress is required for a development. We are in discussion with other Town departments to confirm the adequacy of the proposed design.

- Provide a swept path analysis of the largest fire truck for the town through the proposed development to determine the vehicle's ability to access all units.*

We have enclosed a Swept Path Plan showing a WB-45 vehicle, the Southborough Fire Department's choice to represent its largest vehicle passing through the site.

Sewage Disposal Regulations

223-6(D)(1-10) – provide elevations and dimensions per this section. Certain items appear to be missing.

All required information will be provided on the Plans submitted to the Board of Health.

223-29(E) – Leaching Area Requirements – utilizing a design percolation rate of 20 minutes per inch the factor associated with this rate would be 0.50 sf/gal vs the 0.53 rate that was utilized within the design. Please revise the calculations.

We will request a waiver from this section. We are meeting the state, title 5 standards and this system will be on several feet of sand due to the sloping existing ground surface and the requirement for pressure dosed systems to be level.

223-29(E) – Leaching Area Requirements – the bottom area of the trench will not be considered without prior approval of the Board of Health. Please provide approval or revise the design calculations.

- Verify that garbage grinders are not allowed within the rental development per note #6 or revise the system in accordance with 310 CMR:15.240(4) and request a waiver per this bylaw.*

Garbage grinders will not be allowed within these units. Trench bottom area is allowed per Title 5.

Per 223-32 and 15.211 Title 5 minimum setback distance requirements, the project is located within the outstanding resource water of the watershed associated with the reservoir which would be subject to

a 100' setback from the soil absorption system from wetlands which border or are tributary to a surface water supply. Revise the septic field location to be outside of this setback from the adjacent wetland systems shown approximately 50' away.

There is no tributary in the area in question on the USGS map of this area, the MassMapper State GIS system or the Town of Southborough GIS maps. An offset of 50 feet is in compliance with the applicable regulations. We have contacted staff of DEP asking them to opine on the correct interpretation of this regulation and are waiting to hear back from them.

- 15.211 Minimum Setback Distances - Provide a minimum of 20' between the soil absorption system and unit 15 due to basement separation requirements.*

We reversed the layout of unit 15 so that only the garage slab floor is within 20 feet of the soil absorption system.

223-54 – Capacity. A septic tank shall have an effective liquid capacity of not less than 150% of the design flow estimated.

- 223-58 – Tanks in Series. The capacity of the first compartment is at least equal to the requirements in 223-54 or at a minimum the criteria spelled out within 15.224 of the Title 5 regulations. Revise the tank size and/or provide calculations to support the minimum hydraulic detention times required.*

We will revise the tank sizing in the filing with the Board of Health.

Revise outlet tee below flow line per the requirements of 223-62.

We will revise the outlet tee.

223-70 – Confirm that the invert elevation of the outlet from the septic tanks is at least one foot above the SHWT elevation.

We will provide confirmation.

223-73 – Alternation. Dosing shall alternate when the total volume of waste to be disposed of exceeds 5,000 gallons per day. Alternating siphons and pumps shall discharge to separate disposal areas of equal size. Revise the design to accommodate this.

We will request a waiver from this section of the regulations as we believe the standard pressure dose system arrangement of alternating pumps but one receiving soil absorption system is better.

223-74 – Capacity. Confirm that the dosing tanks have the capacity to discharge a volume adequate to cover the dosed leaching area to a depth of at least one inch in not over 15 minutes.

Lara Davis
250 Turnpike Road, Southborough
February 12, 2025
Page 11

We will provide confirmation.

223-87 – Standby power. Provide location and callouts for backup generation, panels, fuel, etc. for when emergency power is needed.

We will address this requirement.

The 2" lateral inverts are noted as being at elevation 309.00. Please confirm this is a typographical error.

We will fix this error.

The finish grade is called out as 310.50. Please confirm this is a typographical error.

We will fix this error.

The 1/8" perforations are listed within the notes as 4' spacing but depicted within the diagram as spaced "5' typ" confirm spacing.

We will fix this inconsistency.

Confirm construction and stone standards have been complied with per 223-119 and 223-120.

We will do so.

223-123 – confirm the grade above and adjacent to the leaching trench slopes at a minimum of 2%.

We will confirm this and indicate it on the Plans.

Provide test pit #11 information as it is located within the proposed septic system.

It will be provided.

The force main pipe size is called out as two different dimensions between the plans and the septic profiles. Please confirm pipe size and material.

The inconsistency will be fixed.

310 CMR 15.00 Title 5 Regulations

15.212(2) - . . . Please provide a mounding analysis and revise the design of the system accordingly.

We will provide a mounding analysis.

15.220(k) - Provide the location of every water supply, public and private.

- The abutter at 258 Turnpike Road is noted via the well drillers report as having a domestic well on the property. Please locate and depict on the plan.*

The most recent as built plan of that property does not reflect the presence of a well. We visited the abutter's offices and they confirmed that they do not use a well but have a connection to Town water.

Lara Davis
250 Turnpike Road, Southborough
February 12, 2025
Page 12

15.221(7) - The top of all systems components, including septic tanks, distribution box, pump chambers, dosing chamber, and soil absorption systems shall be installed no more than 36" below finish grade. The proposed design shows the top of the system approximately 45" below finish grade. Please revise.

We revised the surface grading to avoid excessive cover.

Provide sewer service callouts in conformance with 310 CMR:15.222

We will do so.

15.231 – Dosing Chambers and Pumps. Per the calculations with sheet 2, it is noted that the volume below the pump on is 3,234 gallons however note 5 calculates the total volume within the system which would need to be held per 15.231 is 3,251 gallons. The emergency gallons calculated is within 10 gallons of the requirement. Please increase the pump chamber to accommodate the additional gallons required.

We will revise the dose volume slightly to provide this volume.

Confirm venting criteria meets the items spelled out within 15.241

The plans now show the proposed location of several septic system vents.

Generic Plan Comments

Existing Conditions Plan Comments:

We will revise the existing conditions plan plotting to avoid inaccurate scale. Regarding the lot line between Lots A and B, it will be revised for this project.

Site Layout Plan comments:

- The proposed industrial development is noted as not being included within this development. However, the site plans, stormwater design, drainage calculations and narrative, all study this industrial development and multifamily development as dependent on one another for the stated outcome.*
 - The development of the 40B should be isolated from the development of the contractors' yard within the industrial parcel as they are two different permitting paths and it cannot be anticipated that they will be constructed at the same time.*

We showed the contractor's yard building on Lot A to show that it will not impede access. Also, the drainage system on Lot A discharges to the detention basin near Parkerville Road and located primarily on Lot B. We show it in gray on the revised Site Plans.

- Existing drainage pipe from the industrial parcel outlets to an existing drainage basin and drainage easement on the proposed parcel. Proposed building units #1 and #2 are depicted*

Lara Davis
250 Turnpike Road, Southborough
February 12, 2025
Page 13

on top of this drainage system. Please show how this drainage system connection can be maintained.

A new drain manhole is proposed to redirect the existing discharge around these units.

- *Per Massachusetts Building Code, a pedestrian safety fence on top of a retaining wall greater than 30" must be a minimum of 42" from the top of the wall for pedestrian fall protection. Please add a safety fence where required.*

We have added safety fences to the Plans.

Grading, Drainage and Erosion Plan Comments:

- *Several buildings appear to have basement elevations multiple feet within the groundwater table as evidenced by the adjacent wetland elevation. It is recommended to have a basement elevation at least 2 feet above the groundwater table based on good engineering practices.*

The reviewer is correct. Basement elevations should never have been listed for units 30-32 as these were always supposed to be units without basements. We reviewed other units and now also show units 15-19 as having slab floors and not basements.

- *Sections of the proposed driveway/sidewalk exceeds ADA running slope maximums of 5%. Please detail the proposed sidewalk in compliance with ADA accessibility standards.*

We reviewed the regulation in question, 521 CMR 22.3.1 and disagree with this interpretation. It has an exception for sites where the natural topography exceeds one in 20 or a 5% slope. The natural topography of most of this site is approximately 10%. For example from the center of the cul de sac circle to station 5+00 of the main driveway is a line running a distance of 259 feet and the natural or existing grade drop is approximately 24 feet for a grade of 9.2%. And, in fact we're proposing a road at a maximum slope of 6.8% to moderate the natural grade.

- *The infiltration drywells behind unit 24 and unit 10 show testing in the area but this testing has not been provided to determine SHWT, soil texturing, etc. Please provide soil testing evidence to support this determination.*

We are including all deep hole logs with this submission.

- *The infiltration drywell behind unit 21 does not show testing near the system yet denotes a SHWT elevation within the detail callout. Provide evidence to support this determination.*

We are providing the log of deep observation hole #24 in this area.

- *Provide roof drainage inverts into the infiltration drywells so that the HydroCAD calculations can verify that these systems do not backup the inverts.*

We have included this information on detail sheet D5.

- Provide top and bottom of retaining wall elevations.*

We have added this information to the Plans.

- The proposed limit of work is located outside of the proposed property line. Reduce the limit of work to be located within the property limits.*

The lots are in common ownership. We will add an easement on Lot A.

- The erosion and sediment control plan depicts what looks like haybales as the primary source of erosion control. It is preferred that the straw wattle with silt fence backing be the primary source of erosion control on the site.*

The symbol looks like a straw bale but the detail on sheet D1 shows it is a combination of a straw wattle and silt fence.

- The erosion control notes state that the entirety of the project including the site entrance and utility work will surpass 5 acres. A phased construction management plan will need to be developed per the Construction General Permit as part of a Stormwater Pollution Plan (SWPPP) filing under MEPA requirements.*

The entire area within the limit of work is 3.5 acres.

Detail Plan Comments:

- It is recommended to expand the site exit construction mat detail to a minimum of 24' in width to accommodate two-way traffic in and out of the site.*

This change was made.

- Provide test pit information for the drywell infiltration chambers located behind units 10, 24, and 21. Provide a mounding analysis for these systems where less than 4' separation to SHWT and/or ledge is noted from the most restrictive test pit within or near the system.*

We will do so.

- Per the stormwater manual, table IB.1, one soil sample for every 5,000 ft of basin area is recommended with a minimum of three samples are required for each infiltration basin.*

We have three deep holes in the area of the primary infiltration system. We have other tests in or adjacent to the footprint of other proposed infiltration structures.

- The most restrictive test pit (TP 23) for the Retain-it infiltration chambers shows 40" down from an elevation of 320 yielding a SHWT elevation of 316.67'. Provide a mounding analysis for this system.*

We will do so.

- Provide overflow outlets for each of the infiltration drywell chambers in case of clogging or other soil restrictions so the system does not only have to rely on infiltration as the primary outlet.*

We will do so.

- Area drain A is shown as taking a large section of water from the rear of the townhouses 12-17, however the contours depict that the water will be directed mostly at the rear of the units. Revise the grading to reflect the design intent and provide calculations to support this drainage runoff.*

We eliminated the area drains and replaced them with a stone lined swale.

Drainage Comments:

- Subcatchment 7, 8 and 9 are analyzing watershed patterns which are external to the project analysis. Each of these watershed areas will have an intricate system of pipes, manholes, and basins which would need to be quantified to verify if any of the water does in fact make its way into the proposed development drainage network.*

We assume in both pre and postdevelopment calculations that the abutting development's drainage system will adequately convey captured runoff. We've never been asked to prepare an as built survey of abutting developments as part of drainage calculations before.

- The LiDar imagery located within the pre- and post- watershed maps does not corroborate the detail of pond storage and outlet detail that is modeled within the existing HydroCAD pond nodes 7P and 8P. Provide additional detail on where this information was obtained.*

We revised the modeling of the existing detention pond on the back of #'s 5 and 7 Sarsen Stone Drive using the lidar topography.

- The pre-development and post-development watershed maps are difficult to read and hard to understand where the information is coming from. The reaches/analysis points identified within the HydroCAD should be labeled within the Pre- and Post- development watershed maps for clarity.*

We created a separate Offsite Drainage Area Plan to avoid using the Town GIS background on the Pre and Postdevelopment Drainage Area Plans.

- Please provide pre- and post- analysis points for the abutters to the south and east comparing the existing runoff to the proposed runoff from the new untreated grass areas, roof and reduction of woodland per 154-9(A)(6).*

We added comparison of pre and postdevelopment flows to the abutting property owned by Pendergast & Wittcoff and the property owned by Palmer.

Lara Davis
250 Turnpike Road, Southborough
February 12, 2025
Page 16

- *Revise the soil and cover information for the existing site wetlands to reflect soil group D and water surface.*

We already describe the indicated water surface areas in both existing detention basins as just that in the drainage calculations. We hesitate to change the description of underlying soils because an area is flagged as wetland. We've never done this previously.

- *Provide a soil listing printout for both the pre- and post- development HydroCAD.*

We added a soil listing printout to the 2 year storm printout for both pre and postdevelopment conditions.

- The area listing depicts a large portion of Subcatchment 7S as HSG D whereas the Wed Soil Survey soils depict this soil as group B.

We made this change as requested.

- *Another approximately half-acre of area is depicted as HSG group D within the pre and post development HydroCAD. Please provide determination for utilizing this group instead of group B or group C as shown within the NRCS Map for the site.*

We corrected that in the revised Drainage Report.

Massachusetts Stormwater Standards and Stormwater Checklist:

- *A Notice of Intent (NOI) Application was not included within the provided material.*
- *It is noted that the project is minimizing disturbance to existing trees and shrubs, however the project appears to be cutting the majority of the upland located within the project site including that which exits within the town no disturbance buffer. Please explain how the resource areas will be protected from erosion and sedimentation control and the interests of the Wetlands Protection Act be protected by this project in close proximity to the resource areas.*

As noted above, we and the project wetlands scientist are working to address comments from the Conservation Commission's outside reviewer, Lucas Environmental, LLC and will provide a revised Stormwater Report Checklist when that process is closer to completion.

- *Standard #1*
 - *Revise the calculations within the Stormwater Checklist in accordance with Volume 3, Chapter 1, Page 2 of the Massachusetts Stormwater Handbook.*
 - *Provide updated Rip-Rap calculations for each outlet for the revised drainage design.*

We will do so.

– *Standard #2*

- *Standard 2 includes the proposed design for the industrial parcel to the north. As stated above, the 40B rental development should have a drainage design and Site Plan design which stands on its own separate from this development in the event that one or the other is not permitted or constructed at the same time. Revise the calculations provided per the above comments.*

We will do so.

– *Standard #3*

- *In general, the site appears that each system which is being utilized for infiltration is being captured into a Contech CDS Filtration Unit prior to discharging into the system.*

No response necessary.

- *Provide the required calculations per the Massachusetts Stormwater Handbook to quantify that the site meets the 44% TSS requirement prior to entering an infiltration practice and provide additional calculations to support the additional drywell systems being utilized for recharge within the site. Provide additional drawdown calculations for the other three drywell systems within the site.*

The smaller infiltration structures are fed only by roof runoff which is considered clean. We will add the additional drawdown calculations requested.

– *Standard #4*

- *Provide calculations weighted over the site and various treatment trains per the above comments relative to 90% TSS and 60% TP.*
- *Provide BMP specific water quality calculations to verify that each system is treating the required amount that is being directed to that system.*
- *The CDS flow-based sheets are noted to be attached to the document but cannot be located, only the sheets relating to operation and maintenance. Supply information from the supplier that details the removal efficiency for the given flow rates through the pipes for each unit.*
- *The box should be checked within the stormwater checklist to show soils with rapid infiltration rates are being utilized.*

We will provide information and revise the form as requested.

– *Standard #5*

- *The Post drainage maps show that drainage from the proposed contractors yard development within the industrial land to the north flows into the property and into the site's wetlands. It is listed within standard #5 that the proposed residential development is not a land use with higher potential pollutant loads but verify that the proposed industrial development to the north which contributes to the drainage of this site is also not a land use with a higher potential pollutant load.*

We will do so.

- *It is noted that the Stormwater Pollution Prevention Plan (SWPPP) was included within the stormwater report. Please provide a draft copy for review.*

We will do so.

- *Standard #6*
 - *Appropriate BMP's have been used within the proposed design to satisfy this criterion.*

No response necessary.

- *Standard #7*
 - *This project is not a redevelopment as stated within the submittal documents.*

No response necessary.

- *Standard #8*
 - *The proposed grading and drainage plans depict retaining walls and grading approximately 1' from the side lot lines. The proposed erosion control is proposed at a width of approximately 1.5' with additional space needed to install these measures. Please detail how these measures can be installed in concert with the proposed site features and grading.*

We will review this design.

- *Standard #9*
 - *Provide all six items listed within the Massachusetts Stormwater handbook Volume 1, Chapter 1, page 23 within the operation and maintenance plan.*

We will do so.

- *Standard #10*
 - *An illicit discharge statement has been provided.*

No response necessary.

Lara Davis
250 Turnpike Road, Southborough
February 12, 2025
Page 19

If there are any questions, please don't hesitate to contact me. Thank you.

Sincerely,

EXPEDITED ENGINEERING, LLC

A handwritten signature in blue ink, appearing to read "James Tetreault".

James Tetreault, PE, CPESC

Cc: Howard Stein Hudson
FD 250 Turnpike, LLC