



April 6, 2022

Ms. Sue Brown, Town Planner
Zoning Board of Appeals
Manchester-by-the-Sea Town Hall
10 Central Street
Manchester-by-the-Sea, MA 01944

Via: Email to Sue Brown, Town Planner (browns@manchester.ma.us);
smellish11@comcast.net; eglenn@mit.edu; gpucci@k-plaw.com; and
federspielg@manchester.ma.us

Reference: Supplemental Civil, Landscape/Site Design & Geotechnical Peer Review Letter
Chapter 40B Comprehensive Permit Application
0 School Street
Manchester-by-the-Sea, Massachusetts
B+T Project No. 3344.01

Dear Ms. Brown:

Beals and Thomas, Inc. (B+T) is pleased to assist the Town of Manchester-by-the Sea Zoning Board of Appeals (the Board) with the supplemental Civil, Landscape/Site Design & Geotechnical Peer Review of the Chapter 40B Comprehensive Permit Application Filing for the "Sanctuary at Manchester-by-the-Sea" at 0 School Street in Manchester-by-the-Sea, Massachusetts. We understand that SLV School Street, LLC (the Applicant), proposes to develop a Chapter 40B housing project consisting of 136 apartment units, 34 of which are designated to be affordable, with associated site improvements (the Project).

B+T issued a letter to the Board dated March 4, 2022, which presented the results of our site visit and our initial review of the original documentation submitted by the Applicant. B+T also has the opportunity to participate in the March 9, 2022 Board public hearing. As a result of our initial comments and discussion had at the public hearing, the Applicant has submitted the following additional supplemental documentation as listed herein.

We received the following documentation, which served as the basis of our supplemental review:

- *Site Development Plans for The Sanctuary, School Street, Manchester-by-the-Sea, MA*, dated July 16, 2021, revised through March 23, 2022, prepared by Allen & Major Associates, Inc. (21 sheets)

- *Drainage Report, Site Development, The Sanctuary at Manchester-by-the-Sea, Manchester-by-the-Sea, MA*, dated July 16, 2021, revised through March 23, 2022, prepared by Allen & Major Associates, Inc. (294 pages)
- Response to March 4, 2022 initial review comments, input directly into B+T March 4, 2002 letter, dated March 23, 2022 (12 pages)
- *Snow Removal Narrative, The Sanctuary – School Street, Manchester-by-the-Sea, MA*, dated March 24, 2022, prepared by Allen & Major Associates, Inc. (1 page)
- *Conceptual ADA Ramp Plan, Sheet CP-1*, dated July 16, 2021, issued for review March 7, 2022, prepared by Allen & Major Associates, Inc. (1 sheet)
- *Waiver Requests as of March 23, 2022*, prepared by Allen & Major Associates, Inc. (7 pages)
- *Sanctuary at Manchester-by-the-Sea – Project Sewer*, dated March 25, 2022, prepared by Strategic Land Ventures (2 pages)
- *Conceptual Land Plan (Overall)*, issued for review July 22, 2020, prepared by Allen & Major Associates, Inc. (1 sheet)
- Landscaping plans, dated May 27, 2020, revised through October 22, 2021, prepared by Bohler Engineering (3 sheets). The sheets provided include:
 - L-100 – Overall Landscape Plan
 - L-200 – Landscape Plan
 - L-300 – Landscape Notes & Details.

We have reviewed the documentation submitted by the Applicant with respect to the requirements of the Town of Manchester-by-the-Sea Zoning By-law (the By-law); the Massachusetts Department of Environmental Protection (MassDEP) Stormwater Regulations and Handbook (the Handbook); and, particularly with respect to our original comments dated March 4, 2022.

Review Format

To establish clarity for the Administrative Record, we have included the comments from our initial letter report dated March 4, 2021, followed by the Applicant's responses in *italicized* font, followed by our current comments in **bold** font to document the status of our original comment.

General Comments

1. B+T has reviewed the Waiver Request document as referenced herein. B+T does not necessarily take exception to the waivers being requested. They address existing non-conforming conditions, setback relief, parking relief, and other administrative issues not outside of typical engineering practice or outside of the Chapter 40B design process.

Applicant's Response: An updated waiver request, dated March 23, 2022, has been provided.

Current B+T Response: We acknowledge the revised waiver list provided by the Applicant. B+T continues to not take specific exception to the waivers being requested; however, discussion on waivers as applicable is contained in our response to comments as noted herein.

2. In accordance with section 4.9.5.1 of the By-Law, the Project is within the Water Resource Overlay District, Zone 3. We note the following:
 - a. Section (k) - The waste water treatment facility will need to be designed in accordance with 314 CMR 5.00. Details of this infrastructure have not been submitted.

Applicant's Response: The wastewater treatment facility (WWTF) has been removed from the project scope.

B+T Response: The removal of the WWTF from the Project results in an additional waiver request. In lieu of the WWTF, the Applicant now proposes a sewer pumping station that will require a waiver for a subsurface tank within the Zone 3 Water Resource Overlay District. Specific details of the proposed pump station have not been provided and the pump station itself is denoted as "by others". It is unclear how impactful this will be relative to new waiver request. We request that the Applicant, to the satisfaction of the Board, clarify the design intent of the pump station (depth, size, etc.) so the Board can consider the waiver request accordingly.

- b. Section (o) – Excavation cannot occur within 4-ft of the groundwater elevation. As noted herein, the estimated seasonal high groundwater elevation has not been established for the Project.

Applicant's Response: A waiver for this bylaw has been added to the waiver requests, dated March 23, 2022.

B+T Response: B+T acknowledges the supplemental test pit information provided by the Applicant. Though a specific groundwater elevation has not been determined for the Project based on its varied topography, it appears that excavations relative to the installation of the subsurface infiltration system will not be within 4-ft of the groundwater elevation, and thus the waiver request may not be necessary. Specific test pit information relative to the Bioretention Areas proposed remains to be provided as a potential condition of approval. The installation of building foundations appears to be exempt from the By-Law. We recommend that the Applicant continue to pursue the waiver until the groundwater elevations at the proposed Bioretention Areas can be confirmed.

- c. Section (p) – The Project cannot be more than 15% impervious within this zoning overlay district. As proposed, the Project is 16.5% impervious and the Applicant is requesting a waiver from this requirement.

Applicant's Response: A waiver for this bylaw has been added to the waiver requests, dated March 23, 2022.

B+T Response: The impervious area of the Project has been reduced to 14.6% and the Project provides for recharge of stormwater runoff. Considering the reduction in the current impervious area it does not appear that a waiver to Section 4.9.5.1.p is required. However, if the addition of a sidewalk adjacent to the Project driveway is proposed, and the impervious areas increase to over 15%, the waiver would then be applicable.

We request that the Applicant document compliance with the noted section of the By-law as applicable. **[See above discussion]**

3. The water system design appears to need further clarification. An extension from the outer reaches of the existing municipal water system of approximately 3,700 linear feet will be required to serve the Project. Additionally, there is a 75-ft vertical grade change between the elevation of School Street and the finished floor elevation of the proposed building. It is unclear if these factors, which will affect the pressure differentials within the water system, both for domestic and fire flows, have been considered. We request that the Applicant document that adequate water pressure will be available to serve the Project as proposed.

Applicant's Response: The revised plan set includes a footprint for a site booster pump in the updated site plan. The booster pump would address any issues the project could have with water pressure; the design of the pump would be covered under the jurisdiction of the MassDEP Bureau of Water Resource Protection in coordination with Manchester-by-the-Sea Department of Public Works outside the Comprehensive Permit review process.

Due to schematic nature of the building and absence of required water/fire demands it is not possible to complete the design of the booster pump currently. The applicant is agreeable to a comprehensive permit condition which would require that adequate water pressures could be produced as a condition to receipt of a building permit.

B+T Response: We acknowledge the response provided by the Applicant and B+T does not take exception to this approach. However, we note that inclusion of the booster pump station as an accessory structure requires a waiver from Section 5.6 of the By-Law, relating to accessory structures within the front setback. B+T does not take exception to this waiver.

The Project appears to require extensive earthwork and ledge removal based on site observations. For the benefit of the Board, we request that the Applicant provide a Construction Management Plan to document the intended on-site activities including rock removal (blasting) and processing (crushing), trucking routes, etc.

Applicant's Response: As this process is still going through peer review, it would be very premature to provide a CMP. Moreover, the Applicant has not had any dialogue with any general contractors about construction means and methods for this project. And the General Contractor will be primarily responsible for developing the CMP. The Applicant would expect the ZBA to provide a condition in the Comprehensive Permit requiring that the Applicant submit a draft CMP to the Building Department for review and approval prior to receipt of a building permit.

B+T Response: We acknowledge the response provided by the Applicant and B+T does not take exception to this approach.

4. A portion of the wastewater treatment facility is being proposed in the southern portion of the Site and will require a wetland crossing. However, this infrastructure is shown outside the limit of work currently proposed. We request that the Applicant clarify the design intent for this infrastructure and document if it is being designated for a future phase of construction.

Applicant's Response: The WWTF has been removed from the project scope

B+T Response: No further action required. B+T's original comment is no longer applicable as a result of the design revisions.

5. The grading as proposed will require retaining walls on the order of 25 vertical feet. Structural details or calculations associated with design of these walls have not been provided. As a potential condition of approval, we recommend that proper documentation and design review of the noted infrastructure be deferred to the Building Permit review process if the Project moves forward.

Applicant's Response: The applicant is agreeable to this recommended condition of approval.

B+T Response: No further action needed.

6. The number of parking spaces being provided is unclear. It appears the intent is to provide 236 total parking spaces (220 garage/16 surface). However, other submitted documentation reference other values, including the reference to 242 spaces within the parking summary chart on Sheet C-102.1. With 236 parking spaces proposed and 136 units (ratio of 1.73 parking spaces/unit) a waiver is being requested by the Applicant. Relative to the waiver being requested, we request that the Applicant clarify the number of parking spaces being proposed and the resulting ratio of parking spaces per unit for consideration by the Board.

Applicant's Response: There are 236 parking spaces proposed resulting in a parking ratio of 1.73 spaces/unit.

B+T Response: We acknowledge the clarifying response provided by the Applicant. B+T takes no exception to the parking waivers being requested (quantity reduction of 147 spaces vs. required, and 9'x18' proposed vs. 9'x20' required for parking spaces).

7. Though outside the scope of our review services, B+T made a cursory review of the traffic impact documentation provided. We note the following:
 - a. The initial traffic counts were based on a 157-unit proposal, which currently has been reduced to 136 units.
 - b. The initial findings recommended a 6-ft boulevard style median associated with the access drive intersection at School Street; however, a 4-ft median has been provided in the current submission.
 - c. It does not appear that accommodations for E-car parking and charging stations have been provided.
 - d. Despite the grade and geometry of the access driveway, correspondence from Chief Cleary indicates that the Fire Department is comfortable with the single means of access provided for emergency response.

We note these items for the benefit of the Board and defer to the ongoing independent traffic peer review process.

Applicant's Response: No response, the applicant defers to the third-party peer review of traffic impacts.

B+T Response: We reiterate the intent of our pervious comment and continue to defer to the independent traffic peer review process.

8. We acknowledge the snow storage plan provided by the Applicant. We note the following:
 - a. Snow is proposed to be stored on steep 2:1 slopes above the elevation of the roadway, approximately 75-ft away from the edge of the driveway, and over Underground Infiltration System-1. It is unclear how this will be achieved.
 - b. Snow is proposed to be stored within the drainage swale on the south side of the access driveway.
 - c. Snow storage locations appear to conflict with proposed landscaped areas.

We request that the Applicant reevaluate the snow storage plans and confirm the viability of the snow storage locations proposed.

Applicant's Response: An updated snow storage plan has been provided addressing these items.

Current B+T Response: This comment has been adequately addressed by the Applicant. No further action is required.

9. Trash collection protocols for the Project are not clear. It appears the trash room within the garage is located in the interior of the building, so it is unclear how that location will be accessed by a larger vehicle if required. Additionally, the plans include a detail for an external dumpster pad; however, a corresponding location for this pad is not provided on the plans. We request that the Applicant clarify the trash collection practices for the Project.

Applicant's Response: A trash room will be provided interior to the building and wheeled out for collection as needed, likely twice per week. All trash and recycling will be handled privately.

Current B+T Response: This comment has been adequately addressed by the Applicant. No further action is required.

10. Section 6.4 of the By-law provide signage requirements. The Applicant is requesting a waiver for a larger sign than is permitted by the By-law. However, a location of the sign does not appear to have been incorporated into the plan set. We request that the Applicant clarify the design location for the signage proposed.

Applicant's Response: The location of the monument sign has been added to the Layout and Materials Plan.

B+T Response: We acknowledge the incorporation of the monument sign into the site plans, and do not take exception with the proposed larger sign (6'x6' proposed vs. 3'x3' allowed).

11. The electric/telephone/data design includes a portion of that infrastructure being above ground and pole mounted. It is now typical for this infrastructure be placed underground in a duct bank system. We request that the Applicant clarify the design intent and provide alternatives for the system to be installed completely below grade.

Applicant's Response: Final design of utility routing will be approved by utility provider. The applicant has no objection to underground duct banks but requests the flexibility to provide overhead, if allowed by utility provider.

B+T Response: We acknowledge the response provided by the Applicant and take no exception to deferring to the private utility provider requirements and the Building Permit Review process.

12. We acknowledge the photometric plan provided by the Applicant. We note de minimis light trespass onto School Street to the northeast over the property line. Considering the underlying commercial zoning, the limited light trespass over the property line is not as concerning as if it were within residential zoning. We defer to the Board on the adequacy of the noted condition.

Applicant's Response: The light trespass noted on School Street is located within the paved footprint of the project's driveway. It is the applicant's belief that driveway curb cut should illuminated for traffic safety and should be allowed.

B+T Response: We concur with the Applicant's assertion that the de minimis light trespass onto School Street likely improves safety at the intersection.

13. It does not appear that all details to depict Project components have been provided by the Applicant. The layout plans include wood guardrails, concrete curb, grass pavers, etc., that do not appear to be detailed. We request that the Applicant provide a comprehensive inventory of all components proposed for the Project.

Applicant's Response: Additional details have been provided on the updated site plan materials.

B+T Response: We acknowledge the incorporation of the concrete curb detail; however, details for the grass pavers and guardrail have not been provided. Accordingly, we reiterate the intent of our previous comment.

14. General Note 15 on Sheet C-001 references a community other than Manchester-by-the-Sea. We request that the Applicant clarify the note inconsistency and confirm that all the provided notes are specific to the Project as proposed.

Applicant's Response: General Note 15 has been revised.

Current B+T Response: This comment has been adequately addressed by the Applicant. No further action is required.

Stormwater Management Comments

1. Standards 3 and 4 of the MassDEP Regulations require the calculation of the recharge and water quality volumes required and provided for the Project. These regulations further require calculations relative to the drawdown of infiltrative Best Management Practices (BMPs) and Total Suspended Solids (TSS) removal rates. We acknowledge the calculation package provided by the Applicant; however, we note the following inconsistencies:
 - a. The areas used for P-9 and P-15 are inconsistent with the modeling.
 - b. The volumes and bottom areas used in the drawdown calculations for UIS-2, UIS-3, RG-1 and RG-2 are inconsistent with the modeling provided.
 - c. CB-5 is not included in any of the treatment trains and does not include pre-treatment prior to infiltration.

We request that the Applicant clarify the calculations and address the inconsistencies noted above.

Applicant's Response: A revised drainage report has been provided and clarifies these items.

B+T Response: Comment 1a has been addressed. Comment 1c is no longer applicable due to design modifications. Relative to Comment 1b, inconsistencies in the recharge and drawdown calculations appear to remain. The inconsistencies appear de minimis relative to the overall intended performance of the stormwater management system as proposed. Accordingly, we reiterate the intent of our previous comment for clarity of the Administrative Record.

2. Standard 6 of the MassDEP Regulations restricts stormwater discharges to critical areas including cold-water fisheries. Within the watershed is a network of certified vernal pools on-site and the watercourse bounding the Project is a cold-water fishery. We request that the Applicant document compliance with the noted regulation.

Applicant's Response: A revised drainage report has been provided and addresses Standard #6.

Current B+T Response: This comment has been adequately addressed by the Applicant. No further action is required.

3. Standard 8 of the MassDEP Regulations requires construction period erosion and sedimentation controls. A Stormwater Pollution Prevention Plan (SWPPP) will be required as part of the EPA NPDES program. The Applicant has not submitted a SWPPP but has indicated one will be provided prior to construction. As a potential condition of approval, we recommend that submission of a fully compliant SWPPP prior to construction be required.

Applicant's Response: The applicant is agreeable to this recommended condition of approval.

B+T Response: No further action required.

4. Standard 10 the MassDEP Regulations requires an illicit discharge statement be provided by the Applicant. We acknowledge the statement provided by the Applicant; however, it is not endorsed by the Applicant. We request that the Applicant provide an executed illicit discharge statement.

Applicant's Response: A revised drainage report has been provided and includes and executed illicit discharge statement.

Current B+T Response: This comment has been adequately addressed by the Applicant. No further action is required.

5. Test pit information, specifically in the areas of the proposed stormwater management system components, has not been provided. This information is critical to determine the in-situ soil characteristics in the location of each system considering the amount of visible ledge throughout the Site and to establish the seasonal high groundwater elevation. The Handbook requires a 2-ft vertical separation between the seasonal high groundwater elevation and the bottom of infiltrative Best Management Practices (BMPs). Those systems designed to attenuate the 10-year design storm and above also need to demonstrate a 4-ft vertical separation to groundwater or a mounding analysis is required. We request that the Applicant document and establish the seasonal high groundwater elevation for each of the infiltrative BMPs.

Applicant's Response: Test pit data has been provided under separate cover and submitted to the Town on February 28th. A final iteration of the design plans will provide test pits in the majority of the infiltrative BMPs. It is likely that some smaller areas of infiltrative BMPs will need to have stormwater test pits conditioned as there are areas of the site that are not accessible for excavating equipment at this time.

B+T Response: We acknowledge the test pit information provided by the Applicant. In the area of proposed stormwater infiltration system, groundwater was not detected in test pit excavation 10-ft deep. This infiltration system is proposed to be in an area of fill where the existing grade will be raised, creating a larger separation to groundwater. As the Applicant indicates, test pit information specific to Bioretention Area #2 remains to be provided. We recommend that the Applicant providing this information be made a potential condition of approval.

6. The modeling of the proposed stormwater management system components is inconsistent with their respective depictions on the plans. We note the following inconsistencies:
 - a. Subcatchment P3: The modeled groundwater type areas versus those shown on the watershed map
 - b. Pond RG-1: The pipe length and inverts of the outlet pipe
 - c. Pond SDP-1: The pipe length, slope, diameter and inverts of the outlet pipe
 - d. Pond UDS-1: The system inverts and configuration of the Outlet Control Structure (OCS) OCS-1
 - e. Pond UIS-1: The system inverts and configuration of OCS (DMH-1A)
 - f. Pond UIS-2: The pipe length, slopes and inverts of the outlet pipe and configuration of OCS-4
 - g. Pond UIS-3: The pipe length, slopes and inverts of the outlet pipe and configuration of OCS-5
 - h. The Pipe Listing table of nodes is inconsistent with the plans

We request that the Applicant clarify the design intent and address the noted inconsistencies for the referenced infrastructure.

Applicant's Response: A revised drainage report has been provided and address these comments.

B+T Response: Due to the redesign of the stormwater system, many of the previous comments are no longer applicable. Relative to the current design, we note the following:

- a. The inverts, pipe lengths, etc., associated with Bioretention Area #1 and DMH-23 are not consistent between the modeling and their respective depiction on the plans.
- b. The elevation associated with Bioretention Area #2 is not consistent between the modeling and the system's respective depiction on the plans.
- c. The inverts, pipe lengths, etc., associated with Underground Infiltration System-1 are not consistent between the modeling and the system's respective depiction on the plans.
- d. The Applicant assumes hydrologic soil group (HSG) D soils for the existing analysis. In the post analysis, relative to the proposed infiltrative best management practices (BMPs), the Applicant is assuming HSG A & C soils.
- e. A sizing analysis for the grate associated CB-5 has not been provided relative to its ability to accommodate the discharge from the adjacent swale during larger storm events.
- f. For the existing analysis, the 25-yr storm data has not been provided.
- g. With the peak flow rates table, the value noted for Study Point #1 in the 100-yr storm event is inconsistent with the modeling.

We request that the Applicant clarify the noted inconsistencies .

7. Stormwater management systems USD-1, UIS-2 and UIS-3 were designed with only 1-ft of cover within paved surfaces. The proposed pavement profile for the access driveway and auxiliary paved areas calls for a 1.25-ft section. We request that the Applicant clarify the design intent of the referenced infrastructure and revise the design accordingly.

Applicant's Response: A revised drainage report has been provided and address these comments.

B+T Response: No further action required. B+T's original comment is no longer applicable as a result of recent design revisions.

8. Pond RG-1 appears to overtop onto School Street in the 2-year storm event which potentially presents a hazard to motorists in the area. We request that the Applicant clarify the design intent of this infrastructure and revise the design accordingly.

Applicant's Response: A revised drainage report has been provided and addresses these comments.

B+T Response: No further action required. B+T's original comment is no longer applicable as a result of recent design revisions.

9. Ponds RG-2 and SDP-1 do not provide the necessary 1-ft of freeboard during the 100-year storm event as prescribed by the Handbook. We request that the Applicant clarify the design intent of this infrastructure and revise the design accordingly.

Applicant's Response: A revised drainage report has been provided and addresses these comments.

B+T Response: Bioretention Areas #1 and #2 do not appear to provide the necessary freeboard as part of the revised stormwater management design. We reiterate the intent of our previous comment.

10. Details for the composition or soil profile of the rain gardens, surface stormwater basins and drainage swale have not been provided. Additionally, specific details for each of the OCSs have not been provided. We request that the Applicant provide a comprehensive inventory of all details required to construct the stormwater management system as proposed.

Applicant's Response: A revised drainage report has been provided and addresses these comments.

Current B+T Response: This comment has been adequately addressed by the Applicant. No further action is required.

11. We acknowledge the Pipe sizing table provided. The diameter of all pipes is assumed to be 12-inch, which is inconsistent with the design plans. We request that the Applicant revise the calculations as applicable.

Applicant's Response: A revised drainage report has been provided and addresses these comments.

B+T Response: De minimis inconsistencies remain in the Pipe Sizing Table. We request that the Applicant confirm consistency between the table and plans for clarity of the Administrative Record.

Landscape Comments

1. The Applicant has included a Schematic Landscape Plan that includes a robust list of planting materials, incorporating a variety of trees, shrubs, groundcovers and perennials. The plant materials included in the list are commonly accepted species and sizes for the proposed Project. However, the plant list is not correlated with the planting plan to indicate which symbols on the site plan represent the plants in the list. We request that the Applicant update the Landscape Plan to indicate which symbols represent the plants listed and update the quantities of each plant listed.

Applicant's Response: A revised Schematic Landscape Plan will be provided under separate cover.

Current B+T Response: The Applicant has provided an updated Landscape Plan that addresses the information requested and as such, this comment has been adequately addressed by the Applicant. No further action is required.

Geotechnical Comments

B+T engaged Northeast Geotechnical, Inc. to complete a review of the geotechnical information provided by the Applicant. Northeast Geotechnical, Inc. findings dated February 17, 2022 were previously provided to the Board. The Applicant does not appear to have directly responded to the finding of that correspondence in the supplemental documentation listed herein.

Ms. Sue Brown, Town Planner
Manchester-by-the-Sea
April 6, 2022
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B+T will be available to attend the next Board public hearing on April 13, 2022, to present the results of our review and be available for discussion regarding the comments listed herein.

We thank you for the opportunity to assist the Town of Manchester-by-the-Sea with the review of this Project. Should you have any questions, please do not hesitate to contact our office.

Very truly yours,

BEALS AND THOMAS, INC.



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