March 7th, 2019
5812

Town of Littleton
37 Shattuck Street, Room 303
Littleton, MA 01460

RE: Spectacle Pond Road (Map: R23 Parcels: 4+4A)
Definitive Subdivision
Littleton, MA

Dear Members of the Board:

We have received review comments from Green International Affiliates, Inc. regarding the above-mentioned project. We have addressed all plan modifications in the latest revision of plans and have summarized the changes below. The review comments are italicized with the responses from Ducharme & Dillis below them in bold.

**Form C Comments:**
Form C was reviewed, and we have no comments.

**Definitive Plan Comments:**

1. *Per §249-32.A.1.a.i, The applicant should revise the plans to include the development address on the Title Sheet.*

   **CDG Response –** The assessors map and parcels for the proposed development have been included on the Title Sheet.

2. *Per §249-32.A.1.f, The applicant shall submit a narrative for the project including a description of the proposed project, sequencing, construction phasing and prior approvals by the Board.*

   **CDG Response –** Please refer to the Project Narrative attached to this response letter.

3. *Per §249-32.B, The applicant shall submit plans at a scale of 1 inch equals 20 feet (currently 1 inch equals 40 feet) or request a waiver for this change in plan size. We take no exception with the current plans at 1”=40’ and respectfully defer to the Board for a final determination on this item.*

   **CDG Response –** A waiver request has been added for the scale of the submitted plans.
4. Per §249-32.C.1, The Applicant should revise the plans to show a north arrow on sheets C4.0, C5.0, and C6.0.

   CDG Response – A north arrow is now shown on the above-mentioned sheets.

5. Per §249-32.C.11, The applicant shall show the proposed alignment on all lotting and site plans. The applicant should revise the plans to include the proposed alignment and stationing on sheets C2.0, C5.0, and C6.0.

   CDG Response – The proposed alignment and stationing has been shown on the above-mentioned sheets.

6. Per §249-32.C.13, The Applicant shall show the location of all existing and proposed monuments. The monumentation along the right-of-way is shown; however, care be taken to locate the driveways away from the granite bounds. All ROW monumentation shall be granite bounds as specified in the Subdivision regulations, even if located within a driveway. The Town will not allow monuments to be installed in driveways. Additionally, permanent monuments and semi-permanent monuments should be shown on the plans as detailed in §249-89.A.1.

   CDG Response – All proposed monuments that fall on a driveway shall be installed with a bound box as requested by the DPW director.

7. Per §249-32.D, The plans should either be 1”=20’ with profiles at 1”=4’, or the plans should be at 1”=40’ with the profiles at 1”=8’. The Applicant has submitted plans at 1”=40’ and profiles at 1”=4’. The applicant shall revise the scale of the drawings or ask for a waiver to be granted for the scaling of the plans or profiles. We take no exception to the scale of the plans submitted and respectfully defer to the Board for a final determination on this item.

   CDG Response – A waiver request has been added to allow the scale of the submitted plans to be 1” = 40’ with profiles at a scale of 1” = 4’.

8. Per §249-32.D.2, The applicant should provide a profile of Spectacle Pond Road for 100 feet on each side of the proposed intersection, and the Applicant shall also provide Cross Sections every 50 feet which meet the criteria outlined in §249-32.D.2 or the Applicant should request a waiver from this requirement.

   CDG Response – A waiver has been requested for section §249-32.D.2. Please refer to the revised list of waivers attached to this response letter.

9. Per §249-32.D.6, The Applicant shall show the water line locations and sizes on the profile where the water line will cross the drainage.

   CDG Response – The proposed water main has been drawn to scale on the profile detail. The diagram shows adequate separation between the drain pipes and the water main. Any other intersections are between the drain pipes and the water service connections, which are more flexible in elevation and layout.

10. Per §249-32.D.7, The Applicant shall show the location of Gas and Cable Utilities and their appurtenances on the plans. If the homes are intended to be served by the public natural gas utility (National Grid), the Applicant should revise the plans to show the gas main or provide information as to the means of heating each structure.
CDG Response – Cable Utilities have now been included on the plans. Each unit will be served by individual propane tanks.

11. Per §249-32.D.8, The Applicant shall show electrical transformers, and fire alarm boxes on the plans. The quantity and the location of these utilities should also be shown on the plans. The Applicant shall coordinate with LELWD to confirm transformer locations and provide easements for these utilities. The LELWD has recently requested the conduits be installed at the back of sidewalk. Right-of-way and/or easements will need to be provided for the conduit, transformers and other appurtenances.

CDG Response – Electrical transformers, a junction cabinet, and secondary pedestals have been shown on the plan in coordination with the LELWD. The Fire Chief has indicated that fire alarm boxes are not required for this subdivision. An easement has been created for the proposed transformers and other appurtenances.

12. Per §249-32.E.1.a and b, The Applicant shall submit developmental impact statements. No development impact statement was provided with the Definitive Subdivision package.

CDG Response – Please refer to the Development Impact Statements attached to this response letter.

13. Per §249-32.F.1, The Applicant shall provide a Typical Cross Section at a scale of 1”=4’ and that shows all elements within the right-of-way. The typical sections also should include the right-of-way lines, and other features shown on Figure 2 of the appendix. Also, the typical section should show the sidewalk on both sides of the roadway, the cut slopes, not exceeding a slope of (1) foot vertical to (4) feet horizontal, and the underground utilities with their depths. The applicant shall also show the gravel borrow and the dense graded crushed stone extending 6” beyond the back of curb.

CDG Response – The Typical Cross Section detail has been updated to include all design elements and details mentioned above.

14. The typical section on Sheet C5.1 calls for cement concrete sidewalks; however, Sheet C3.0 calls for bituminous concrete sidewalks. The Applicant should revise Sheet C3.0 to show cement concrete sidewalks as required by the regulations and as previously requested by the DPW Director. Also, the Applicant shall revise the note in Section B number 5.3 on sheet C1.1 to use concrete sidewalks instead of bituminous concrete sidewalks.

CDG Response – The site plans and the notes have been updated to propose cement concrete sidewalk.

15. Per §249-32.F.6, The Applicant shall submit Construction Management Plans designed in accordance with §249-59.G. No traffic management plans were provided. Traffic management plans should include information such as the proposed truck route, construction signage in conformance with MUTCD (such as “Trucks Entering”) and details for the utility work on Spectacle Pond Road.

CDG Response – A Transportation Impact Report by Vanasse & Associates, Inc. Dated March 14th, 2019 has been submitted under separate cover. The Report identifies & proposes recommended traffic control measures. These measures have been incorporated into the
attached revised Site Plans. Please refer to the Traffic & Construction Management Plans attached to this response letter. A Construction & Traffic Management Plan has been prepared by Ducharme & Dillis and is attached to this response letter.

16. Per §249-32.F.7, The Applicant shall submit a detailed cost estimate for all construction within the proposed roadway and any public utility easements. The estimate shall be based on costs adjusted for municipal prevailing wage rates.

CDG Response – Please refer to the Engineer’s Estimate of Probable Construction Cost report attached to this response letter.

17. Per §249-43.A.2, dead-end streets shall not be allowed, except for lanes. The proposed dead-end street is a Minor Roadway. The Applicant should request a waiver from this requirement.

CDG Response – A waiver from this requirement has been added to the waiver request form.

18. Per §249-43.A.3 and stated in Exhibit 5-8D of the AASHTO Green Book, the turnaround at the end must have a radius of at least 30 feet to accommodate passenger cars. The Applicant should provide the Board with concurrence from the Fire Department on the roadway layout or provide turning movements showing the Fire Department’s apparatus can navigate the cul-de-sac.

CDG Response – Using turning templates provided by the Littleton Fire Department, two turning movement plans have been created showing that both trucks are able to maneuver through the proposed cul-de-sac.

19. Per §249-43.C.2, All subdivisions with ten (10) or more lots located in an area where school busing is provided or is likely to be provided in the future must provide at least one paved bus waiting area for school children located at the entrances to the subdivision or in the area where the schools determine buses will stop to pick up children who live in the subdivision. We recommend the Applicant propose a cement concrete waiting area near the subdivision. This bus waiting area would have the benefit of serving this development as well as children on Spectacle Pond Road, Cricket Lane, Whitetail Way in addition to Council on Aging vans or similar transportation options for the residents.

CDG Response – It is anticipated that the sidewalk near the intersection to Spectacle Pond Road will be utilized as a waiting area for any buses.

20. Per §249-43.D.14, The Applicant shall confirm that the proposed roadway profile grade break at the Spectacle Pond Road intersection does not exceed 5% for the design speed of 20mph.

CDG Response – It has been confirmed that the grade break at the proposed intersection does not exceed 5%.

21. Per §249-43.E.1, The Applicant shall propose and show on the plans landscaping to be placed in the center island of the cul-de-sac. No details are shown on the Definitive Plans. A home owners association should be created to maintain the cul-de-sac.

CDG Response – Per our discussion with the DPW, the proposed cul-de-sac has been revised to not include a center island.
22. Per §249-43.E.2, The Applicant shall provide information on how this center island and the Open Space will be cared for. The permit application states the open space will be mowed. The Applicant should provide information regarding the responsible party for maintenance of the center island and the open space (i.e. Homeowners’ Association).

CDG Response – It is anticipated that a Homeowners’ Association will be created and will be responsible for the maintenance of Open Space 2. The center island in the cul-de-sac is no longer proposed and the large parcel is proposed to be maintained by the Town of Littleton.

23. The Applicant should confirm that the two trees proposed to be near the intersection with Spectacle Pond Road are at least 25’ from the curb line of the intersection and revise the location of the tree between lots 10 and 11. The tree is proposed on top of a drain line.

CDG Response – The tree locations near Spectacle Pond Road have been confirmed and the proposed tree between lots 10 and 11 has been removed from the site plans.

24. Per §249-43.E.7, The Applicant should provide a proposed species list. No more than 35% of a single species shall be proposed.

CDG Response – A proposed species list and planting schedule is now included on the Erosion Control Detail Plan.

25. Per §249-47.A, The Applicant shall provide utility easements, pipes, structures and infiltration basins shown near the intersection with Spectacle Pond Road on sheet C4.0. The easements should consider the need for access and maintenance of the basins. The Basins are deep and are surrounded by trees in some cases making them difficult to access and maintain. The DPW has requested a 15-foot clear path around the basins for maintenance purposes.

CDG Response – Utility easements have been shown for the grass swale as well as infiltration basin 1. Access roads to both basins have been provided. A meeting with the DPW director indicated that both basins are acceptable as designed with respect to maintenance requirements. An easement for the installation and maintenance of the electrical transformers has also been proposed.

26. The Applicant should provide a conduit detail that shows the electric, telephone, cable tv and a spare conduit at a minimum. The Applicant should coordinate with LELWD.

CDG Response – A detail from the LELD Construction Handbook regarding the installation of a primary conduit and a reserve conduit has been provided on Sheet C4.1.

27. The applicant should also provide the following construction details: catch basin frame and grate, manhole frame and cover, permanent pavement patch detail, a concrete sidewalk and granite curb setting details, thrust blocks, water main connections, gate valves, tree, plantings and cement concrete driveways.

CDG Response – Details have been added to the utility detail sheet and the Grading and Drainage Detail Sheet. For some of the above-mentioned details, additional specifications have been added to the previously submitted details. The proposed driveways are to be bituminous and a detail has been provided on Sheet C5.2.
28. Per §249-59.C, The Applicant shall submit written certification of approval of the design by all utilities which are to provide services within the subdivision.

**CDG Response** – The LELWD has agreed to provide a written certification of approval of the design. These will be submitted prior to construction.

29. Per §249-59.F, The Applicant shall provide an emergency access road. It appears as though the Applicant wants to request a waiver for this requirement. The applicant should add this to their list of requested waivers.

**CDG Response** – A waiver for the emergency access road has been added to the waiver request form.

30. Per §249-73, All curbing shall be MassDOT Granite Curb Type VA-4. The Applicant has requested a waiver to use bituminous concrete curb; however, the Town DPW Director has requested granite curbing on all Town accepted roadways. The Applicant should also revise Note 6.2, Section B on sheet C1.1 to propose granite curbing instead of bituminous curb throughout the entire site. We respectfully defer to the board and the Town for a final determination of this item.

**CDG Response** – All proposed curbing has been revised to be vertical granite and the note on Sheet C1.1 has been revised to be consistent with the plans.

31. Per §249-85.B.1, Piping shall be Class III, Class IV, or Class V Reinforced Concrete Pipe (RCP). The Applicant is requesting a waiver for the RCP to be able to use HDPE. The DPW Director has indicated that he takes no exception to HDPE pipe as long as the subdivisions regulation and manufacturers depth of cover requirements are met. If HDPE pipe is approved, we recommend the Board condition the approval to require the Applicant to perform CCTV inspection of the lines 1 full year after the roadway binder course is installed. We recommend that the Applicant provide a report to the Town for review and any defects found in the proposed work shall be corrected prior to the placement of the top course.

**CDG Response** – The applicant has met with the DPW Director and has agreed to perform a CCTV inspection and to provide a report to the Town 1 full year after the roadway binder course is installed.

32. The Applicant should revise the plans or provide a detail that specifies manhole covers that have a 26-inch diameter opening to meet Town DPW standards.

**CDG Response** – A note has been added on Sheet C1.1 specifying that manhole covers have a 26-inch diameter opening and the detail on Sheet C4.1 has been labeled accordingly.

33. The Applicant should revise the Catch Basin and Manhole details to require all frames, covers and grates to be flush with the finished grade. The Applicant should clarify and revise the note on the Manhole and Catch Basin details related to concrete collars. The concrete collars should be installed below the top course, not on top of the binder course.

**CDG Response** – The Catch Basin and manhole details have been revised as requested.

34. The Applicant should revise the Drain Manhole Detail on Sheet C4.1 to provide brick inverts as shown on the MassDOT Standard Details.
CDG Response – Brick and mortar inverts have been added to the Drain Manhole Detail on Sheet C4.1.

35. The Applicant should revise the Deep Sump Catch Basin Detail on Sheet C4.1 to provide an Eliminator Hood, per Town Standards.

CDG Response – An eliminator hood has been added and labeled to the Deep Sump Catch Basin Detail on Sheet C4.1.

36. Per §249-85.D, streetlights are not required; however, the Board reserves the right to require streetlights. We recommend lighting at the intersection with Spectacle Pond Road and pedestrian level lighting for this senior residential development; however, we respectfully to the Board for a final determination on this item.

CDG Response – The attached site plans have been revised to propose a pole mounted LED Area Light to the existing utility pole at the entrance of the development. Please refer to plan sheet C4.0 (Utilities Plan).

37. Per §249-89.B, The Applicant should propose a street name sign at the intersection with Spectacle Pond Road. The Applicant should revise the plans accordingly. The applicant should also revise the plans to show a stop bar and 50’ of double yellow center line at the Spectacle Pond Road intersection.

CDG Response – The Site Plans have been revised to include a street sign with a street name of “Bluebird Way”, a stop bar with a stop sign, and 50’ of double center line at the Spectacle Pond Road intersection.

38. Per §249-90.B, The Applicant shall provide a safe travel way during construction and this should be shown in the traffic management plans. It appears as though the applicant wants to submit a waiver for this requirement, and it should be added to the Applicants list of requested waivers.

CDG Response – A Construction & Traffic Management Plan has been prepared & attached to this response letter.

39. The applicant should revise the location of the detectable warning panels at the two parking areas to be immediately before the pedestrian steps foot in the parking area. They should be placed at the bottom of the level landing and rotated to be facing the parking spaces. Also, detectable warning panels shall be placed where the sidewalk ends at Spectacle Pond Road, and anywhere where the pedestrian enters the pavement. The Applicant should revise the plans to carry the cement concrete sidewalk across with driveways without detectable warning panels and conform to MassDOT Standards. The applicant should also provide the MassDOT Standard detail E107.8.1 on the plans to show this situation. Cement concrete sidewalks across the driveway will reinforce that pedestrians have the right-of-way. Note 5.4 in section B on sheet C1.1 should be revised to reflect that the handicapped ramps at driveways will no longer be needed.

CDG Response – The above-mentioned comments regarding detectable warning panels and sidewalks have been revised on the site plans and in the notes section.

40. We recommend the Applicant coordinate with the DPW Director regarding the design of the two proposed parking areas. Snow removal and maintenance of these parking areas may be a burden.
on the Town’s plowing operations. Consideration should be given to providing maintenance of these parking areas and potentially the sidewalks thru a homeowner’s association.

CDG Response – After a meeting with the DPW director, it is anticipated that a homeowner’s association will be responsible for the maintenance of the parking areas. The parking area near the entrance has been removed and parking spaces have been proposed on the opposite side of Spectacle Pond Road, providing access to the walking trail in Whitetail Woods.

41. The Applicant should grade the parking areas to be no steeper than 1.5% to allow for construction tolerance. The parking areas are currently graded at 2.0%, which is the maximum allowed by MAAB and ADA regulations.

CDG Response – The parking areas have been regraded to be no steeper than 1.5%.

42. The Applicant shall revise the note in section E. Restoration Notes number 2 on sheet C1.1 to say that the trees will be “3-Inch Caliper” per the subdivision regulations.

CDG Response – The note has been revised to be 3-inch caliper.

43. The Applicant should show the proposed location of a shared mailbox on the plans. The Littleton Post Office has said that they are requiring a single shared mailbox for all new subdivisions and will not deliver to individual mailboxes. The shared mailbox shall be located outside the right-of-way.

CDG Response – A cluster mailbox has been shown on the site plans in coordination with the DPW director and the Post Master.

44. The Applicant should coordinate with the DPW Director the proposed right-of-way width. The Applicant is proposing sidewalk on both sides of the roadway while maintaining the ROW width for Minor Roads shown in the regulations right-of-way beyond the sidewalk.

CDG Response – The DPW director has indicated that the proposed right-of-way width is acceptable as shown on the plans.

45. The Applicant shall move the location of all fire hydrants to be inside the right-of-way.

CDG Response – Both fire hydrants have been relocated inside the right-of-way.

46. Per §249-32.E.2, Applicants are required to submit a traffic study to the Board, regardless of the development size and type. The type of traffic study shall be based on the expected peak hour vehicle trips based on a trip generation calculation as required by the Subdivision Regulations. The Applicant shall submit a traffic study in accordance with the subdivision regulations.

CDG Response – A Traffic Study by Vanasse & Associates, Inc. Dated Marth 14th, 2019 has been submitted under separate cover.

47. In addition to the Traffic Study, the Applicant should provide calculations showing the available intersection sight distance as required by the MassDOT Project Development Design Guide where the proposed roadway intersects with Spectacle Pond Road.
CDG Response – A sight distance diagram for the proposed intersection with Spectacle Pond Road has been shown on Sheet C5.2, as recommended in the Traffic Study done by Vanasse & Associates, Inc. Dated March 14th, 2019.

48. We recommend the Traffic Study consider the impact that additional vehicular traffic and construction truck traffic will have on Spectacle Pond Road. The Applicant indicated in the Preliminary Subdivision submission that the pavement on Spectacle Pond Road is in good condition; however, a visual inspection of the entire roadway indicates signs of pavement distress and the latest PCI rating for Spectacle Pond Road in the vicinity of the development is 45, which is considered poor. Additional vehicular and construction truck traffic may further degrade the pavement structure.

CDG Response – The Traffic Study by Vanasse & Associates, Inc. Dated March 14th, 2019 has been submitted under separate cover. The Traffic Study indicates that “the Town of Littleton plans to resurface Spectacle Pond Road within the next two years.”

**Special Permit Senior Residential Development Bylaw Comments:**

49. Per § 173.148.A, maximum height of Principal and accessory structures is 32 feet. The Applicant should provide the height information for review.

CDG Response – The maximum height of any proposed structure is 22 feet.

50. Per § 173.149.D, outdoor facilities, such as walkways shall be designed for universal access. The applicant should confirm that they are taking necessary measures to comply with the bylaw.

CDG Response – Each unit will provide an easily accessible zero-step entrance. The sidewalks on the property have all been designed to be ADA compliant and provide access to the entire development.

**Aquifer and Water Resource District Special Permit Comments:**

51. Per § 173-62.D.5, an analysis by a qualified engineer experienced in groundwater evaluation and/or geohydrology shall be provided when applying for a special permit. The Applicant should submit the analysis with the required information.

CDG Response – Corey Godfrey, the environmental analyst from the Littleton Water Department has stated in a letter submitted under separated cover to the Littleton Planning Board, dated July 19th 2018 that the proposed development will not pose any significant threat to Littleton’s drinking water supply. Mr. Godfrey also states that the proposed development will not result in increased nutrient loading from the watershed.

52. Per § 173-63.E, monitoring wells shall be constructed onsite; a monitoring schedule will be determined by the Planning Board in consultation with the Littleton Water Department. We understand the Littleton Water Department has indicated that increased nutrient loading is not anticipated, however, it’s unknown if monitoring wells are still desired. The Applicant should confirm this with the Littleton Water Department.

CDG Response – The Littleton Water Department has informed the Applicant that the installation of monitoring wells is not required on the proposed site.

**Stormwater Report Comments:**
53. The Applicant should provide a cut section (drawn to scale) through the basin that shows all elements of the basin including, inlet pipe, sediment forebay, side slopes, bottom with elevation, emergency spillway, plantings, depth to seasonal high groundwater, etc.

CDG Response – A cross-section for each basin has been created and is shown on Sheet C5.2. All elements mentioned above have been included in the details.

54. The bottom of Infiltration Basin 1 is 9 feet lower than the adjacent roadway, has steep slopes, and the bottom is only 168 square feet wide. Aesthetically, this will look like a deep hole with a small bottom. The Applicant should consider raising the bottom of the basin and widening the remaining contours to provide something that appears more natural, or possibly better utilize the proposed low area next to Unit 1. Maybe the low area becomes an infiltration basin that provides the recharge volume required and larger storms overflow or bypass into Infiltration Basin 1.

CDG Response – The estimated seasonal high groundwater elevation adjacent to unit 1 limits the use of the low area to simply transporting water to Infiltration Basin 1. The catch basins near Spectacle Pond Road have been laid out to capture as much runoff as possible on the new street to prevent excessive untreated discharge from running off-site. Infiltration 1 was elevated one foot to have a revised base elevation of 238.

55. If the depth of the basins are not revised, we recommend chain link fence be installed around both basins due to safety concerns related to the depth of the water within the basins. The location of the fences should be shown on the plans and access for maintenance should also be considered.

CDG Response – A chain link fence has been shown around both Infiltration Basins. Access gates have been provided within the utility easement also shown in each Infiltration Basin.

56. The contours for Infiltration Basin 1 show available storage up to Elevation 245, however, according to the calculations, the 100-year storm event only fills the basin to Elevation 242. Similarly, Infiltration Basin 2 has storage capacity up to 246, but peak elevation is 243.38. Keeping the previous comment in mind regarding aesthetics, the Applicant should consider revising the basins to eliminate excess storage volume.

CDG Response – As stated in the Town of Littleton, Subdivision of Land Regulations, Chapter §249-51(H) Stormwater Management, “The pipe inlets discharging into the basin shall be at or above the 24-year storm event ponding elevation.” As such, the drain pipes for the infiltration basins have been optimized to be as elevated as possible while still meeting flow capacity and slope design requirements. The bottom of each basin was then designed around the inlet invert elevation. Once this was designed, the remainder of the basin had to return to existing grade or blend in with surrounding contours. The excess storage volume is a byproduct of the return to finished grade.

57. Standard 4 of the Massachusetts Stormwater Standards requires 44% TSS removal prior to discharge to the infiltration structure within areas of rapid infiltration rates (greater than 2.4 in/hr). For Infiltration Basin #2, the Applicant is utilizing a rate of 8.27 in/hr in the draw down calculations and the pond routing calculations but is not providing the required 44% TSS removal prior to discharge into the basin. The Applicant should provide reasoning why this Standard is not being met.

CDG Response – Both infiltration basins have the same pre-treatment system which consists of a deep sump catch basin routing into a sediment forebay. Because of the similarity of routing
to the two basins, one TSS calculation sheet was utilized for both basins (as the treatment train is the same) which shows that the 44% TSS removal requirement is met.

58. Per Massachusetts Stormwater Standard No. 4, infiltration requires a minimum of 44% TSS removal prior to discharge. The Applicant has indicated that deep sump catch basin with a sediment forebay are designed for pre-treatment. The drainage plan doesn’t delineate any sediment forebay for either basin and no details are provided. The Applicant should show the sediment forebay and ensure it provides the required storage indicated in the Stormwater Recharge Calculations provided.

CDG Response – The sediment forebay in each infiltration basin is now labeled on the plan. Given the similarity in pretreatment for both basins, one TSS removal sheet was used and shows that the 44% requirement is met in both cases.

59. Section 1.6 of the Stormwater Report mentions that deep sump hooded catch basins are “proposed to convey the runoff from the proposed paved areas and roofs to the “subsurface infiltration chambers.” There are no subsurface infiltration chambers shown on the plans. Additionally, the “Infiltration Basin” section discusses a single infiltration basin, but there are two shown on the plans. The Applicant should revise the language to match what is actually proposed.

CDG Response – The language in the drainage report has been revised as requested.

60. An infiltration rate of 8.27 in/hr is used to calculate the 72-hour drawdown based on NRCS soil type A and sand texture. But the NRCS map unit 262B, 262D within the site is described as “Quonset sandy loam”. The Applicant should revise infiltration rate calculation or provide reasoning for using sand instead of loamy sand.

CDG Response – On-site soil testing has indicated that the soil type is sand, not a sandy loam.

61. Per the Massachusetts Stormwater Handbook, Standard 8, projects that disturb one or more acres of land are required to obtain coverage under the NPDES Construction General Permit issued by the EPA and prepare a Stormwater Pollution Plan (SWPPP). The applicant indicates that this document will be submitted prior to construction. We recommend that the Planning Board include this requirement as a condition to any approval.

CDG Response – The Applicant will be submitting this document prior to construction.

62. In the Checklist for Stormwater Report, the Applicant has checked the box indicating the use of proprietary BMPs, however no proprietary BMPs are shown on the plans or discussed in the remainder of the report. The Applicant should revise the checklist.

CDG Response – The Stormwater Report Checklist has been revised.

63. In the Stormwater Operation and Maintenance Manual provided, the Applicant once again discusses a sediment forebay, however it is not clear if one or both of the basins actually have a sediment forebay.

CDG Response – The sediment forebays within both infiltration basins have been labeled on the site plans.

64. The Stormwater Operation and Maintenance Manual should include the required maintenance activities for the sediment forebay.
CDG Response – The required maintenance activities for the sediment forebay are included and will be performed simultaneously with the maintenance of the infiltration basin.

65. The Stormwater Operation and Maintenance Manual lists the responsible parties for Operations and Maintenance as “To Be Determined”. It is our assumption that the Town will be accepting the BMPs. Therefore, the Town staff responsible for the maintenance should review and agree to the requirements in the Operation and Maintenance Manual.

CDG Response – No response required.

66. The Applicant should indicate the end treatment (e.g. headwall or flared end section) for the inlet pipe into Infiltration Basin #2.

CDG Response – A flared end section is now shown in Infiltration Basin #2 and a detail is shown on Sheet C5.1.

67. The utility plan, pre and post development drainage plan doesn’t show a north arrow. The Applicant should provide the north arrow on the relevant plans.

CDG Response – A north arrow is now shown on the above-mentioned plans.

**Stormwater Management and Erosion Control Bylaw Comments:**

68. Per § 38-16.C.5 of the Littleton Stormwater Management and Erosion Control Bylaws, the plans should show a delineation and number of square feet of the land area to be disturbed. The Applicant should revise the plans to indicate this amount.

CDG Response – A limit of work line has been shown on Sheet C5.0 (Grading and Drainage). Sheet C3.0 now includes the square footage of land area to be disturbed.

69. Per § 38-16.C.7, the Applicant should show the location of material stockpiling on the plan.

CDG Response – During construction, material will be stockpiled in the open space adjacent to units 13 & 14. Any excess material will be trucked off-site and the area where material was stockpiled will be restored as specified on sheet C1.1.

70. Per § 38-17.C.5, estimated seasonal high groundwater elevation should be mentioned in the areas to be used for stormwater infiltration. The Applicant should include the information on the plan.

CDG Response – The ESHGW elevations have been added in both infiltration basins as well as “Low point 1”.

**Requested Waivers:**

71. §249-43.C.1 Streets and Paths. A request is being made to allow bituminous concrete in lieu of the vertical granite curbing.

Green’s Comment: Based on input from the DPW Director, granite curbing is preferred for all curbing within the subdivision due to its durability. We respectfully defer to the board for a determination on this item.
CDG Response – Acknowledged.

72. §249-51.G Stormwater Management. A waiver is being requested for the use of HDPE in lieu of RCP or ductile iron drainage pipe.

Green’s Comment: The DPW Director has indicated that he takes no exception to HDPE pipe as long as the subdivisions regulation and manufacturers depth of cover requirements are met. If HDPE pipe is approved, we recommend the Board condition the approval to require the Applicant to perform CCTV inspection of the lines 1 full year after the roadway binder course is installed. We recommend that the Applicant provide a report to the Town for review and any defects found in the proposed work shall be corrected prior to the placement of the top course. We respectfully defer to the Board on a final determination of this item.

CDG Response – Acknowledged.

73. Per §249-73 Curbs. A request is being made to allow bituminous concrete in lieu of vertical granite curbing.

Greens Comment: Based on input from the DPW Director, granite curbing is preferred for all curbing within the subdivision due to its durability. We respectfully defer to the board for a determination on this item

CDG Response – The request for this waiver has been withdrawn.

74. Per §249-85.B.1 Utilities. A waiver is being requested for the use of HDPE pipe in lieu of RCP or ductile iron drainage pipe.

Greens Comment: The DPW Director has indicated that he takes no exception to HDPE pipe as long as the subdivisions regulation and manufacturers depth of cover requirements are met. If HDPE pipe is approved, we recommend the Board condition the approval to require the Applicant to perform CCTV inspection of the lines 1 full year after the roadway binder course is installed. We recommend that the Applicant provide a report to the Town for review and any defects found in the proposed work shall be corrected prior to the placement of the top course. We respectfully defer to the board for a determination on this item.

CDG Response – Acknowledged.

Please refer to comments above. There were references to waiver requests in the Application; however, those waivers were not requested on the waiver list or plans. Additionally, Green’s comments recommend additional waivers be requested by the Applicant.

11. Per §249-32.D.2, The applicant should provide a profile of Spectacle Pond Road for 100 feet on each side of the proposed intersection, and the Applicant shall also provide Cross Sections every 50 feet which meet the criteria outlined in §249-32.D.2 or the Applicant should request a waiver from this requirement.

CDG Response – A waiver has been requested for section §249-32.D.2.
Regards,

DUCHARME & DILLIS
Civil Design Group, Inc.

Ryan W. Proctor
Civil Engineer

Gregory S. Roy, P.E.
Principal