

February 12, 2022

Leicester Planning Board  
Town of Leicester  
3 Washburn Square  
Leicester, Massachusetts 01524

Re: Skyview Estates  
Major Site Plan Review & Special Permit  
Second Submission Review

To the Board:

We are in receipt of the following in association with the above referenced project:

- Plans entitled “DEFINITIVE SUBDIVISION PLANS FOR SKYVIEW ESTATES, MAIN STREET, LEICESTER, MA 01611”, 25 sheets, dated 9-17-21 with revision date of 02-07-22, by Allen & Major Associates, Inc. of Woburn, Massachusetts.
- Package entitled “Drainage Report, Skyview Estates, Leicester, MA”, issued 7-16-21 with revision date of 12-14-2021 prepared by Allen & Major Associates, Inc. of Woburn, Massachusetts.
- “*Site Plan Review & Special Permit Application*”, dated as received 21 Dec 20.
- Letter addressed to Alaa M Abusalah, Town Planner dated December 14, 2021 providing a narrative of the revised project.
- Letter addressed to Alaa M Abusalah, Town Planner dated January 31, 2022 with revision date of 02-06-22 responding to comments on plans.

Plans submitted represent a substantial reconfiguration of this project. Information received in relation to previous submissions is not considered.

We have reviewed this submittal for responses to comments of this office provided in a letter to Leicester Planning Board dated January 28, 2022 only. Any plan revisions made not in response to our comments must be identified by the applicant.

In the comments, items identified as “**Resolved**” have received sufficient response. “**Comment Stands**” refers to an issue not satisfactorily resolved. “**Further Comment**” refers to an issue raised in relation to the response. “**No Further Comment**” refers to an issue requiring the attention of the Planning Board.

Plans identify the following waiver requests, from Leicester Subdivision Regulations.

Our comments on requested waivers follow:

1. Waive §V, A, 1, f to permit roadway centerline radius of curvature of 135 feet and 120 feet. Minimum radius of curvature is 200 feet.

*On a local development road, curve radii of 120 feet and 135 feet can be negotiated by vehicles, and will not impede public safety vehicles, but may be perceived as inconvenient for some drivers. We do not object to the requested waivers. See note below.*

*It is understood from the Applicant that Colonial Drive Extension will be deleted from the plans (see comment below). The radius of curvature of Skyview Drive from STA 11+29.41 to STA 11+50.18 is 120 feet. After Colonial Drive Extension has been eliminated, there will be more room to expand the radius of curvature in this area. Leicester Planning Board may wish to require the Engineer make reasonable efforts to minimize the relief requested, before considering a waiver.*

2. Waive §V, A, 3, a, to permit a road slope of “less than 12%”. Maximum permitted road slope is 10%.

*Skyview Drive has a maximum road slope of 11.65%. It is the opinion of this office that this road slope is within the limits of safe roadway design. If Leicester Planning Board grants this waiver, it is recommended that the waiver specify the proposed road slope of 11.65%.*

3. Waive §VI, B, 1, a, to permit HDPE drain pipe. Reinforced concrete pipe (RCP) drains are required.

*The use of HDPE pipe as drainage culvert has been permitted and even requested by Leicester Highway Department in the past. This product is long-lived and performs well, if correctly installed. We do not object to this requested waiver.*

*A waiver should specify double wall HDPE pipe, with smooth interior.*

4. Waive §VI, C, 4 to permit flow velocities in drains of 11.92 and 14.0 feet per second. Required storm flow velocity is between 2 and 10 feet per second.

*The primary concern with high-velocity flow is long-term erosive damage to drainage structures, however, on these plans the likelihood of damage to infrastructure is low. We do not object to this requested waiver.*

5. Waive §VI, L to permit street trees on one side of the roadway. Street trees are required on both sides of the road.

*We defer to Leicester Planning Board on this non-engineering related request. See Comment 13 below.*

6. Waive §VI, G, 1 to permit sidewalks on one side of the roadway. Sidewalks are required on both sides of the roadway.

*We defer to Leicester Planning Board on this non-engineering related request.*

Our comments on the plans are found below:

1. **No Further Comment.** This site presents exceptional challenges for earthwork: steep slopes exist, wet conditions frequently prevail, and the native soils will be difficult to work with particularly under saturated conditions. A phasing plan has been included in the site plan.
2. **Resolved.** Per Engineer, phasing proposed on plans is strictly in relation to site development work and does not propose occupancy in phases. Dwellings will be subject occupancy after all site work has been completed.
3. Pertaining to completeness, comments on required plan information follow:
  - a.) **Further Comment.** Porches or decks on each dwelling not shown. Engineer states that decks are not “fully envisioned” at this time. Applicant should request a plan waiver, if future decks are contemplated. (REF: Site Plan Review Regulations, Section II, F, 2)

- b.) **Resolved.** Per Engineer, sidewalks from street to dwellings are not proposed. (REF: Site Plan Review Regulations, Section II, F, 4)
  - c.) **Resolved.** Proposed landscaping shown on plan. (REF: Site Plan Review Regulations, Section II, F, 6). This office does not comment on the adequacy or appearance of landscaping.
  - d.) **Resolved.** Proposed water and sewer services and roof drywells are shown for each dwelling. (REF: Site Plan Review Regulations, Section II, F, 7)
  - e.) **Resolved.** Plans now identify the location where earth removal or filling will take place, and identifies the volume of material to be moved as 101,500 +/- cubic yards. (REF: Site Plan Review Regulations, Section II, F, 9)
  - f.) **Further Comment.** Plans propose coachlamps at the end of driveways, and provides the locations of them, however, details of the lamp post, luminaire and lighting intensity are not found. Leicester Planning Board may wish to determine if the submission provides adequate information. (REF: Site Plan Review Regulations, Section II, F, 5)
- 4. **Resolved.** Engineer indicates that a Special Permit must be secured under the Watershed Protection Overlay District (WPOD) bylaw for the project. Special Permit Granting Authority for this bylaw is Leicester Zoning Board of Appeals. The status of this application is unknown.
  - 5. **Resolved.** Engineer indicates that a Special Permit must be secured under §5.16, Earth Filling & Removal. The status of this application is unknown
  - 6. **Resolved.** The plan cover sheet identifies the project as “Definitive Site Plans”.
  - 7. **Resolved.** The submission package identifies that 49 duplex units are proposed. Engineer indicates that three frontage lots on Main Street, identified on plan, are to be part of the project, and will be subject to all conditions and limitations on the project.
  - 8. **Resolved.** The Colonial Drive extension previously proposed has been deleted from plans.

9. **Resolved.** “Trash Enclosures” are identified in three locations on Plan Sheets C-101, C-101A and C-101B. Engineer has identified that solid waste removal from these enclosures will be handled by a private hauler.
10. **No Further Comment.** Plans propose subdrains to be limited to areas where the cut excavation will exceed 2.5 feet depth. It remains the recommendation of this office that subdrains should be called out on both sides of **all roadways** onsite, to control groundwater in the road base. No information has been provided as to test pits which could document the presence, or lack of, groundwater. This site has a history of groundwater expressing from the surface in many areas; it may reasonably be expected that groundwater activity must be expected 2.5 feet below the ground surface, and should be controlled.
11. **Comment Stands.** The Applicant has indicated that test pits were conducted onsite, but has not provided logs of the test pit information. This office recommends conducting test pits onsite, to obtain information on groundwater tables, ledge profiles and soil quality.
12. **Resolved.** Engineer has provided tabular information on Catch Basins, Drain Manholes and Sewer Manholes.
13. **Resolved.** Plans now provide a Vegetation Plan, as well as landscaping around individual dwelling units. This office does not comment on landscaping.
14. **No Further Comment.** In lieu of street lights, the Applicant has proposed coachlamps at the ends of individual driveways. Plans depict the locations of such coachlamps, but provides no other information on the lights.amp posts, luminaire or the lighting intensity. Leicester Planning Board may wish to require the Applicant provide information on the lamp posts, luminaires and a photometric plan, which depicts the lighting intensity.
15. **Resolved.** Details for construction of the Emergency Access Road are provided on plan.
16. **Resolved.** Engineer has outlined the parking capacity onsite, for consideration of Leicester Planning Board.
17. **No Further Comment.** It is understood that porches or decks may be provided on the rear of each unit, but are not depicted on plan. There are four buildings on the west side of the site (Skyview Drive, STA 21+50 – STA 24+50 left) in which the rear of the home is at rear-yard setback. Absent zoning relief, these units cannot have a porch or deck.

18. **Resolved.** Engineer has indicated that a Notice of Intent must be filed with Leicester Conservation Commission. The status of that application is not known.
19. **No Further Comment.** In many areas side slopes of 2:1 are proposed. Plans call for erosion protection on such slopes. The Engineer asserts that slopes are stabilized against slope failure.

Pertaining to drainage design:

20. **Resolved.** Drains on the east side of the project collect to a detention structure and drain into an existing swale, which in turn flows to a catch basin on Colonial Drive. The Engineer has revised plans to show a decrease in peak flow rates which discharge to the existing drainage swale.
21. **Further Comment.** Drains from Detention Structures DS-1A and DS-1B both connect into existing catch basins in Main Street; in addition drains discharge into a catch basin on Colonial Drive. Per Massachusetts Stormwater Management Policy (Massachusetts Stormwater Handbook, Volume 2, Chapter 2, Page 4), as well as common practice, drains must connect to drain manholes and not to catch basins.

The Engineer has declined to revise the plan to connect drains into drain manholes. This office will not accept connecting a drain into the existing catch basin on Colonial Drive.

Drains in Main Street are under the control of Massachusetts Department of Transportation; Applicant must file an application for a Permit to Access State Highway with Massachusetts Department of Transportation (MA DOT). MA DOT does not permit drains to enter catch basins.

In a letter to Leicester Planning Board dated May 6, 2021, commenting on Skyview Estates Preliminary Subdivision Plans, this office noted that for certain drainage systems, MA DOT prohibits connections of any new drains. The Applicant was advised to make contact with MA DOT.

22. **Comment Stands.** Detention systems are proposed in three locations on plan, which utilize “Retain-It” underground chambers. Engineer must provide buoyancy calculations, documenting that the chambers are stable against flotation under high groundwater conditions, while empty.
23. **Resolved.** Swales along the sides of Skyline Drive have been designed with rip-rap erosion protection.

24. **Resolved.** Engineer has provided documentation that Catch Basins CB-03 and CB-09 on Skyline Drive, have sufficient “grate capacity” to admit design flows.
25. **Resolved.** Plans now show dry wells at each dwelling unit, with drains from downspouts to the drywells, and notes requiring roof gutters to collect runoff and drain to the downspouts.
26. **Resolved.** See note 25 above.
27. **No Further Comment.** Per Massachusetts DEP Stormwater Management Policy, field test pit evaluations of soils must be conducted at all dry well locations to determine soil suitability and compliance with groundwater separation requirements. Engineer proposes to conduct test pits at a later date; the potential that compliance with the required separation from groundwater will require significant redesign is high, given the high groundwater tables which prevail on this site. Such redesign may create significant changes in the overall grading of the site is also very high. This office urges that test pit explorations be conducted.
28. **Resolved.** Engineer has documented that discharge of water over the emergency spillway is permitted under the Massachusetts Stormwater Management Policy.
29. **Resolved.** Sheet C-503 has been amended to provide a detail for Outlet Control Structure OCS-04.
30. **Resolved.** Detail for Outlet Control Structure OCS-05 added to Sheet C-503.
31. **Resolved.** On Detail 1, plan sheet C-504, the length of each gabion structure (250 feet and 80 feet) has been clarified.
32. **Resolved.** The detail for the HDPE distribution lines in Gabion 2 has been revised to require drilling two rows of 2” diameter orifices at one foot on center, to agree with the hydrologic model.
33. **Resolved.** Engineer has documented that the drywell design meets the volumetric standard for recharge under the Massachusetts Stormwater Management Policy.
34. **No Further Comment.** A drain manhole and 15-inch drain from Detention Structure DS-1A are proposed on a parcel of land which will be divided from Skyview Estates, to become private property. An easement must be provided for this drainage to be located on private property. This

office recommends Leicester Planning Board condition a requirement that this easement be secured.

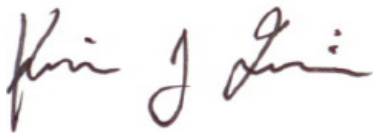
35. **Resolved.** A note on plan requires that the existing utility pole at the intersection of Skyview Drive and Main Street must be relocated.
36. **Further Comment.** Engineer indicates that Contech proprietary stormwater treatment units will be used for removal of sediment from stormwater. Plans have been revised to show Contech treatment units in two locations, however, the drains outlet in three other locations. Unless the Engineer can show that Retain-It retention structures remove 80% of total suspended solids, the plans do not meet the requirement for removal of Total Suspended Solids.  
  
Under Massachusetts Stormwater Management Policy, projects may not discharge untreated stormwater from new sources.
37. **Resolved.** Plan Sheet C-102B has been revised to identifies the outlet from OCS-02 as 24-inch diameter culvert, in agreement with the HydroCAD model.
38. **Comment Stands.** Detention Structure DS-1B is designed beneath the Emergency Access Road. The Retain-It structure must be specified to sustain HS-20 wheel loading. A note on the Plans must require that the detention structure must be designed to the traffic loading standard.
39. **Resolved.** Engineer has revised plans to reduce the level of soil fill over Detention Structure DS-1A.
40. **Resolved.** See comment 39 above.
41. **Resolved.** Plans now include an energy dissipator, to break up the velocity and disperse the flow into Basin #1.



Leicester Planning Board  
Skyview Estates  
Site Plan Review & Special Permit Applications  
February 12, 2022  
Page 9 of 9

Please contact this office should you have questions.

Sincerely,  
QUINN ENGINEERING, INC.

A handwritten signature in dark ink, appearing to read "Kevin J. Quinn". The signature is written in a cursive, flowing style.

Kevin J. Quinn, P.E.  
President