

March 28, 2022

Mr. Doug Finch, Town Manager  
Town of Canandaigua  
5440 Routes 5 & 20 West  
Canandaigua, New York 14424

**RE: SUNSET RIDGE ESTATES – 3535 STATE ROUTE 364**  
**Preliminary Subdivision/Site Plan Review**  
**TAX MAP NO. 98.19-1-20.100**  
**CPN No. 22-012**  
**MRB PROJECT NO.: 0300.12001.000 PHASE 279**

Dear Mr. Finch:

MRB has completed a review of the submitted Preliminary Subdivision & Site Plans regarding the above referenced project, dated February 1, 2022, and Engineer's Report dated February 1, 2022, both prepared by Marks Engineering, P.C. We offer the following comments for the Planning Board's consideration. A brief written response to each comment should be provided by the design engineer.

**SUBDIVISION PLAT COMMENTS**

1. The zoning table should include existing and proposed conditions.
2. A sidewalk easement is to be provided along the State Route 364 frontage.
3. The subdivision plat should show all existing and proposed monuments, pins, pipes, and/or markers. Monuments shall be placed in accordance with the requirements described in the Town of Canandaigua Site Design and Development Criteria Manual (SDDC). This includes monuments to delineate the right of way. Please review the criteria within the SDDC manual and update the plat accordingly.
4. The proposed right of ways should be labeled on the plat. The proposed easements should include the grantee in the label.

**SITE PLAN AND GENERAL COMMENTS**

5. The site plans received were improperly formatted during printing to PDF. Please ensure that the site plan set is set to the proper paper size when generating PDFs.
6. Please provide an update regarding coordination with US ACOE and the jurisdictional determination.
7. The plans indicate that there will be four sections, however the plan sheets are titled to indicate only two phases. Please resolve this discrepancy.

8. Please include the proposed right of way widths in the road labels.
9. The inclusion of grass areas in the cul-de-sac turnarounds will need to be reviewed and approved by the Town Code Enforcement Officer and/or fire department having jurisdiction. Fire apparatus turning movements will need to be provided to demonstrate the ability for fire apparatus to enter and navigate the shared private drives. Per comments received from the Town CEO, emergency vehicle turnarounds shall include "no parking, fire lane" signage.
10. Per Appendix D of the NYS Fire Code, the roadway would need to be 26' wide, exclusive of shoulders, for 20' to either side of a fire hydrant (40' in total). The plans should be revised where necessary. The design engineer should coordinate with the Town CEO to determine if any revisions are necessary.

#### **UTILITY PLAN**

11. Per the Town's Site Design & Development Criteria Manual, fire hydrant spacing should not exceed 500' in subdivisions. Please revise the spacing and add any hydrants as necessary to meet this requirement.
12. All proposed storm laterals should be shown on the plans (if any). All proposed downspout locations should be shown on the plans. Storm laterals may still be required for sump pump and foundation drain connections.
13. The watermain should be adjusted to maintain 10' horizontal separation from catch basins.
14. A second water line is shown near the NYS 364 entrance. It appears that this is in error.
15. On sheet C202, the proposed watermain is shown to dead end just before and in line with a driveway culvert. This may make future extensions difficult due to separation requirements.
16. Are all proposed water services the same size or are some of the longer services of a larger size?
17. Lot 13 appears to have two sanitary laterals.
18. For lots 25 through 27, the water services are shown closely paralleling or directly under driveway culverts. Greater horizontal separation should be provided.
19. Watermain disinfection/sampling taps and fittings should be included on the final plans.
20. The plans appear to show gutters for sections 3 and 4, however no catch basins are proposed for these sections and instead culverts are provided. If gutters are being provided then catch basins should also be provided. If not, please clearly identify the differences in roadway sections on the plans.

21. A catch basin should be provided on the interior gutter of the Road A circular cul-de-sac, and on the outer gutter near the private drive connection to intercept both swale and gutter flows, or provide as a field inlet.
22. The outlet pipe from structure DG-1 is labeled as 12" whereas end section DG is labeled as 36". Please resolve this discrepancy.
23. End section DD's invert label is cut off by another label.
24. The inverts for DF-9 and DF-8 are too high.
25. On sheet C202, on the northern side of the proposed dedicated road, two culverts are shown contributing to a single end section on the downslope side of each driveway. If two end sections are actually proposed (one for each culvert) this should be noted in the labels. If not, how would this connection be made?
26. End section Df should include riprap armor upslope of the end section as the end section is in a drainage channel into the SWMF and significant flows may occur over the end of pipe.

#### **GRADING PLAN**

27. Where slopes exceed 10%, the driveway slopes should be reduced to 10% or less if feasible.
28. The steep slope overlay is significantly obscuring proposed grading in these areas. Please resolve this clarity issue.
29. It appears that additional proposed contours would need to be shown to complete the grading over the natural drainage channels in lot 20. Please review and revise as necessary.
30. The invert and size of the eastern SWMF emergency spillway should be called out on the plans. The size of all riprap areas should be noted on the plans.
31. The SWMFs should be provided with forebays. Stabilized access to both SWMFs is required to be provided. Access drives shall extend to the forebays, outlet control structures, and emergency spillways. Turnarounds may need to be provided.
32. For both SWMFs, the aquatic bench should extend from 0' to 1-1.5' deep. Neither SWMF appears to meet this requirement.
33. Numerous swales suddenly terminate at "flat" contours. A smooth transition to sheet flow should be provided and may require use of practices such as level spreaders.
34. The dimensions and inverts of the proposed level spreaders should be shown on the plans. Calculations are to be provided demonstrating that these practices are adequately sized.
35. The steep slope protection area hatching should be added to the legend.

36. A steep slope area is hatched out on lot 27, however the area hatched out is not a steep slope due to a retaining wall being proposed. Please review and revised.
37. Please provide more detailed erosion and sediment control plan sheets.
38. A feasible construction staging area, stabilized construction entrance, concrete washout area, and soil stockpile location should be shown for each section.
39. A topsoil stockpile location is shown in a steep area of lot 19. The stockpile should be moved to a flatter area. Another stockpile near lot 24 is shown within a proposed drainage course and should also be relocated.
40. Due to excessive contributing drainage area, the temporary sediment traps are to be designed as temporary sediment basins, in accordance with the requirements of the NYS Standards and Specifications for Erosion and Sediment Control (NYS Blue Book). Detailed designs for these sediment controls are to be provided.
41. The silt fence provided is often obscured by proposed contours, making it difficult to see. Please improve the clarity of erosion and sediment controls. This may require dimming or fading the existing and proposed contours, or reducing the lineweight.
42. Silt fence should be provided along the downslope side of the lot 20 grading.
43. Detailed erosion and sediment control phasing and earthwork phasing will need to be provided as part of final for each section/phase.
44. All runoff from new impervious surfaces must be directed to a suitably sized stormwater management practice or green infrastructure practice. It appears that some areas may not be meeting this requirement.
45. If any infiltration practices are proposed, infiltration testing and soil exploration results are to be provided prior to SWPPP approval being granted. Soil exploration will also be required for any filtration practices. Infiltration testing will also be required upon completion of construction for any filtration/infiltration practices, but prior to the filing of the NOT.

**ROAD PROFILES, LANDSCAPING PLAN, LIGHTING PLAN, AND DETAILS**

46. The Town of Canandaigua “no phosphorus” notes are to be added to the landscaping plan. The landscaping plan is to be revised to specify a zero phosphorus fertilizer (see seeding note). A steep slope seed mix should also be provided and called out on this plan.
47. Note #5 on the landscaping plan is a duplicate of note #4.
48. The lighting plan should show true photometric contours.
49. Providing only two streetlights, both at 10k lumens, and both within close proximity to each other may result in excessive brightness and substantially

reduce visibility of objects or persons outside of the bright spot. Has a lighting professional been consulted regarding proper street lighting design for this location?

50. The following comments pertain to the profiles:

- a. The storm sewer structures and pipe should be shown on the profiles. Profiles should also be provided for storm sewer outside of the roadway alignments. Lastly, please label the storm pipe crossings currently shown as being storm sewers.
- b. Profiles should be provided for the proposed watermain outside of the right of way.

51. A detail should be provided of the proposed monument signs.

52. A private drive pavement cross section detail should be provided.

53. The silt fence detail should be replaced with the NYSDEC reinforced silt fence detail or super silt fence detail. The riprap outlet protection detail included should be replaced by one of the NYSDEC details, or revise the included detail to meet or exceed what is being provided on the NYSDEC details.

54. The SWMF profile details should be completely filled out. The inverts and elevations indicated do not appear to match the plans for the profile, spillway cross section, and outlet control structure details. Any notations not applicable or inaccurate to the proposed design should be revised or removed. Also, the emergency spillway details should show that the spillways are to be riprap lined.

55. The concrete washout area detail should be expanded to include notation regarding separation requirements from sensitive receptors. The detail should also indicate that the liner shall be replaced every time the washout is emptied.

56. In the silt sock detail, please include the compost filter sock maximum slope length table, maintenance notes, and Table 5.2 from the NYS Standards and Specifications for Erosion and Sediment Control (NYS Blue Book).

57. A steep slope stabilization detail and paved area catch basin inlet protection detail should be provided.

#### **ENGINEER'S REPORT**

58. On page 4 under water supply, the report indicates that 12" mains will be installed whereas the plan proposes 8". Please resolve this discrepancy. The report should also provide supporting information regarding the estimated 200 gpd per unit for domestic demand. How was 5 GPM per unit domestic demand for modeling determined to be an appropriate value? Does this include any peaking factors? How was the indicated fire demand determined? Will any residences include fire sprinklers?

59. Only 27 lots will be connected to public water, whereas the demands indicated on page 4 are based on all 31 being connected. Please resolve this discrepancy.
60. Supporting information should be provided to demonstrate the feasibility of utilizing private wells for the four lots proposed to have such.
61. For the water modeling, do the elevations indicated represent the elevation at the connection to the main or at the actual outlet elevation of those connections? Were multiple scenarios run of the fire modeling to verify that the worst-case scenario for the subdivision as a whole is having the draw at hydrant #4?
62. In the water modeling, why was ductile iron used at the pipe material when PVC is proposed?
63. The fire flow water modeling should show the node for lots 22 & 29 at 6 GPM, whereas 3 is used. Based on review of the water modeling, the worst case lots for fire flow would be 22 and 29 at 40 PSI, and domestic flow would be 22 and 29 at 54 PSI. Would upsizing any portions of the proposed watermain result in sufficient pressures being available to connect additional lots?
64. Portions of the tables in Appendix A are cut off. Please ensure that no information is cut off in future versions of the report.
65. The Engineer's Report should include sizing calculations for the proposed utility laterals/services based on the worst-case lot for each proposed size of service/lateral.
66. The following comments pertain to the storm sewer calculations:
  - a. Tc paths should be shown on the mapping. Tc calcs and runoff coefficient calcs should also be provided for review.
  - b. DC-4/5: the catchment boundaries do not appear to match the final grading shown. Lots 28 and 29 include rear yard swales that would intercept the majority of the catchment and appear to route that drainage down the side yard swale of lot 27, bypassing the culvert. The drainage mapping for the hydrology modeling also shows the Tc path bypassing the culvert.
  - c. DC-3 to DC-2: the contributing drainage area in the storm sewer calcs is 82 acres, and the runoff rate is 35.96 cfs. In the hydrology modeling, the area is 74.4 acres and the runoff rate is 37.60 cfs. The Tc times also do not match. The drainage areas and Tc should match. The higher runoff rate should be used.
  - d. DC-2 to DC-1: the calculations include contributing drainage area, however no such area is shown on the mapping. Please resolve this discrepancy.

- e. DB-4 to DB-3: please review the catchment mapping as lot 18 has a side yard swale shown cutting through the catchment boundary. The pipe inverts and slope in the calculations do not match the plans.
  - f. DB-3 to DB-2, and DB-2 to DB-1: the pipe inverts do not match what is shown on the plans.
  - g. DA-2 to DA-1: the upstream invert and pipe slope does not match the plans.
  - h. DD-1 to DD: please review the catchment boundaries as it appears some areas being included would be directed elsewhere by swales.
  - i. DF-11 and DE-7: these catchments should be including contributing drainage areas from the Hopewell section. Consider utilizing the hydrology modeling to help determine the correct flows.
  - j. DF-9 to DF-8: the inverts should be revised per the utility plan comment.
  - k. DF-3 to DF-2, DF-1 to DF, and DE-1 to DE: these culverts have significantly less capacity than the upstream culverts and wouldn't be able to handle storms as large as the upstream culverts. In addition, these culverts are also directing flows to the SWMF. As such, these three culverts are to be upsized to provide capacity meeting or exceeding the capacity of the highest capacity upstream culvert, and shall provide sufficient capacity to convey the 100-year design storm.
  - l. The storm sewer map shows two DE-1 catchments as well as a storm pipe connecting to one of the DE-1 catchments that isn't shown on the plans.
  - m. DE-3 to DE-2: based on the inverts and length, the slope should be 10.7 on the plans and in the modeling.
  - n. The DG labeled culverts are missing from the calculations.
  - o. We were unable to locate the piping and catchment associated with DH-1 to DH.
67. The following comments pertain to the riprap outlet protection calculations:
- a. The riprap outlet protection sizes for each end section designation should be included on the detail sheet with the outlet protection detail. Also, the two SWMF outlet pipe riprap pad sizes should be calculated individually based on the hydrology modeling results. The riprap sizes and thickness of the riprap layer should be based on the NYS Blue Book requirements.
  - b. For DE, the length of apron should be at least 10' based on the NYS Blue Book.
  - c. For DF, the apron length should be at least 6'.

**SWPPP & DRAINAGE COMMENTS**

68. On page 7, the SWPPP references the use of dry swales, however no such features appear to be proposed on the plans. The SWPPP narrative should be updated to more accurately describe the green infrastructure and stormwater management practices proposed. Also, the length of the diversion pipe referenced is incorrect as multiple pipe runs are required to divert flows from the southwest. Also, based on review of the plans, the diversion pipe would pick up a significant amount of proposed development area (both the Canandaigua and Hopewell sections), and as such, the grading would need to be modified to prevent the diversion pipe from picking up runoff from the disturbed areas (as much as feasible), or the diversion pipe would need to be routed through the SWMF or a new SWMF provided at DC-3.
69. As the project will disturb significantly more than 5 acres, the project will be required to obtain a 5-acre waiver from the Town of Canandaigua, or the plans will need to demonstrate in detail how the project will be phased to maintain the site at less than 5 acres of open, disturbed area.
70. The Town of Canandaigua stormwater maintenance agreement will be required to be completed and submitted to the Town Attorney for review and approval.
71. The Town of Canandaigua "no phosphorus" related notes should be added to the SWPPP narrative.
72. The following comments pertain to the hydrology modeling and drainage area maps:
- a. As the modeling includes drainage from the Hopewell section, drainage mapping for the Hopewell section should be included in the SWPPP. Drainage mapping for offsite contributing drainage areas shall also be included. Please also ensure that the provided drainage maps are properly scaled as the mapping received does not appear to scale properly. Lastly, numerous areas that would be contributing to the site do not appear to be included. The drainage catchments should not prematurely terminate at the limits of disturbance or parcel boundary if areas beyond that would contribute flows to the modeled area.
  - b. In our comments above we noted that the offsite contributing areas subcatchment in the proposed conditions would include significant amounts of proposed disturbances and development from both the Canandaigua and Hopewell sections. The modeling will need to be revised to match the revisions necessary to resolve that comment.
  - c. The routing should be set to dynamic storage. Dt should be set to 0.05 hours or less (preferably less). Time span may be adjusted to start later, and should be adjusted to end later (preferably 24 hours after peak outflow rates).



- d. How was the determination of "fair condition" made for the existing conditions model composite CNs? Based on review of site photographs from the wetland delineation, the site appears to contain dense vegetative cover and/or other forest litter/debris providing substantial coverage of the soil surface, and as such, "good condition" would be the most appropriate way to model existing conditions runoff.
- e. Direct entry of Tc times will not be permitted unless Tc calculations are provided to support said direct entries.
- f. In accordance with the NYS SWMDM, existing agricultural uses should be modeled as meadow or better.
- g. The site contains numerous areas with dual-class HSG soils. Dual class soils are typically modeled as HSG D unless drained. Currently, the model appears to assume that all soils are drained. The design engineer should review and revise if necessary. Also, soil reports should be provided for the Hopewell section and contributing offsite drainage areas.
- h. At the start of the Tc path for proposed subcatchment 1, it does not follow the expected path based on proposed grading. The shallow concentrated flow length also appears to be incorrect, and the reported slopes for the full Tc path are significantly greater than what is shown on the plans. Also, consider splitting this subcatchment into multiple smaller subcatchments.
- i. Proposed subcatchment 2 should be split into two or more smaller subcatchments divided by the roadway peak. The Tc paths for these smaller subcatchments should begin outside of the roadside swales and should terminate at the point of entry into the swales. The swales should be modeled as reach nodes with the new subcatchments, and the Hopewell section discharges, as the contributing flows to these swales.
- j. For the lower pond node, the outlet pipe length, slope, and end of pipe invert doesn't match the plans. The pond node also appears to include outlets not shown in the details. The emergency spillway should be set such that at least 1' of freeboard is provided. The currently indicated 100-year peak elevation is 703.59' whereas 704' is the top of embankment.
- k. For the upper pond node, the outlet pipe length, size, slope, and inverts do not match the plans. The emergency spillway should be set such that at least 1' of freeboard is provided. It appears that the top of embankment elevation on the west side is only 744', whereas the emergency spillway is set at 743.5'. Also, the stage storage is set to extend to 745' whereas 744' appears to be the max.
- l. Dry swales, bioretention areas, and rain gardens are designed to allow slow filtration of the runoff through the soil media. HydroCAD does not account for this when modeling storage volumes such as gravel or sand,

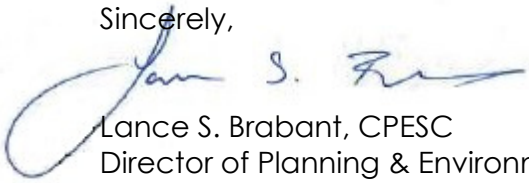
and would require multiple pond nodes to model soil void storage. As such, subsurface storage is to be excluded from the hydrology model. For more information, please review the HydroCAD website's support section topic on rain garden modeling.

- m. Filtration practices must limit the exfiltration to the design hydraulic conductivity (0.5 ft/day (0.25 in/hr) for bioretention, dry swales, and rain gardens).
73. The provided NYSDEC GI Worksheets currently indicate that dry swales are proposed for the Canandaigua section, however no such practices are shown on the plans.
74. Orifice sizing calculations and extended detention requirements for the WQv extended detention for each of the proposed SWMFs should be provided. Stage storage data and more detailed reporting from HydroCAD should be provided in addition to any required calculations with sufficient narratives and annotations to easily demonstrate how these requirements are met..
75. As the proposed project is within the Canandaigua Lake Watershed, the project would need to comply with the enhanced phosphorus removal requirements. Please review chapter 10 of the NYS Stormwater Management Design Manual (SWMDM) and revise the WQv and RRv calculations to meet the requirements of the NYS SWMDM (runoff volume of the 1-year, 24-hour design storm as determined through hydrology modeling).
76. The following comments pertain to the CPv calculations:
- a. The CPv requirement calculations should be split into two sets of calculations, one for each SWMF, or provide sufficient data from the hydrology model to demonstrate the required and provided CPv(s). This may require altering the current model or creating an alternate hydrology model to accurately determine this.
  - b. The reported CN appears to be based on the whole modeled area, whereas only the parcel area is being used for the drainage area. Each CPv calculation will need to be based on the contributing drainage area to demonstrate that the SWMF has been appropriately designed to meet the CPv requirements. Sufficient supporting information should be provided to demonstrate how the CN is determined for each set of CPv requirements.
  - c. For both pond CPv low-flow orifice sizing calculations, the calculations result in orifice sizes of less than 3", which would then be rounded up to the nearest inch. This would result in orifices sized at 3" whereas the final size was rounded up to 4". Using orifices larger than the rounded-up calculated orifice size (or minimum orifice size to prevent clogging) would likely result in an extended detention time that is shorter than required.

- d. For the upper pond CPv orifice calculations, the starting elevation should be the permanent water elevation (currently 701').
77. Please include the appropriate maintenance inspection checklists from Appendix G of the NYS SWMDM, or from the NYSDEC SMP Maintenance Guidance document (last revised in 2017). Please also separate SMP long term maintenance information into a section separate from erosion and sediment control maintenance information.
78. Please add the following NYS Blue Book pages to the SWPPP:
- a. Construction road stabilization
  - b. Concrete truck washout
  - c. Dust control
  - d. Protecting vegetation during construction
  - e. Site pollution prevention
  - f. Stabilized construction access
  - g. Winter stabilization
  - h. Flow spreader
  - i. Grassed waterway
  - j. Anchored stabilization matting
  - k. Landgrading
  - l. Soil restoration
  - m. Vegetating waterways
  - n. Buffer filter strip
  - o. Compost filter sock
  - p. Sediment basin
  - q. Sediment trap
79. The NYS Blue Book pages already included in the SWPPP should be replaced with the most up to date versions (November 2016).
80. The following comments pertain to the draft NOI:
- a. The federal tax ID is to be provided as the owner/operator is a business.
  - b. In question 1, the indicated coordinates should follow the example format.
  - c. In question 6, the HSG percentages may need to be revised per earlier comments in this letter.
  - d. In question 9, please include the regulation number of the stream (898-196).
  - e. Please verify the accuracy of the answer for question 16.
  - f. Supporting information and calculations will need to be provided for all practices identified in Table 1.

If you have any questions, comments or concerns regarding any of the above comments please call me at our office.

Sincerely,

A handwritten signature in blue ink, appearing to read "Lance S. Brabant", with a large, stylized initial "L" and a long horizontal flourish.

Lance S. Brabant, CPESC  
Director of Planning & Environmental Services