



GRADY CONSULTING, L.L.C.

Civil Engineers ♦ Land Surveyors ♦ Landscape Architects

April 6, 2020

Pembroke Planning Board  
Town Hall  
Pembroke, MA 02359

RE: Definitive Subdivision Plan – Old Cart Path Lane Ext. (#70 Old Cart Path Lane)  
Applicant – Stephen Saia

Dear Board Members:

On behalf of the applicant, Grady Consulting, L.L.C. hereby submits two copies of the revised Definitive Subdivision Plan. The plans were revised in response to comments from Review Engineer, Peter G. Palmieri, P.E., in a letter to Matthew Heins, Planning Board Assistant, dated March 12, 2020.

Comments from the review letter are shown in *italic* font and the response to comments are shown in **bold** font. The response to comments are as follows:

#### *ZONING BY-LAWS*

##### *Section IV. Use and Dimensional Regulations*

##### *1. Residence District A*

*D.2. "Front Yards: In this district where the way is 40 feet or more in width, no building or structures shall be erected or placed within 40' of the way line except in those instances where a setback from the way line of 40' would not be in conformance with the adjacent dwellings, in which case a lesser setback maybe permitted but not a little less than 25'.*

*It appears that a portion of a rear deck may be located in the front yard setback. This should be addressed by the applicant/engineer.*

*The plans have been revised to specify "Remove Section of Existing Deck"; however, no dimensions are provided. We recommend that either the dimensions of the deck to be removed be specified or a setback dimension from the deck to the Right-of-Way be specified.*

**A setback dimension from the deck to the Right-of-Way has been added to the plan as requested.**

## *RULES AND REGULATIONS GOVERNING THE SUBDIVISION OF LAND*

### *III.B.3 CONTENTS*

- a. *The location of the benchmark and datum for the project should be specified on the cover sheet as required. A legend showing both existing and proposed features as well as a list of abbreviations should be presented on the plans.*

*The location of the benchmark and datum for the project has been added to the cover sheet as required and a legend is now presented on sheet 3 of the plans. Comment satisfactorily addressed.*

**No comment.**

- g. *The location of the existing septic systems located on abutting property should be presented on the plans. The location and size of the existing watermain on Old Cart Path Lane is shown on the plan and profile sheet (sheet 4). We recommend that the existing watermain also be shown on the Existing Conditions Plan (sheet 3) and the Grading Plan (sheet 5). The material of the watermain should also be provided. Based on Dig-safe pavement markings, it appears that gas may be present on Old Cart Path Lane adjacent to the property. If so it should be shown on the plans. The drainage system at the intersection of Old Cart Path Lane and Orchard Drive should also be presented on the plan.*

*The required additional information has been added to the plan. Comment satisfactorily addressed.*

**No comment.**

- i. *The Planning Board signature block presented on all of the plan sheets should be updated to reflect the current year.*

*Comment satisfactorily addressed.*

**No comment.**

- l. *A proposed 6 inch watermain is shown on the westerly side of the proposed roadway terminating at the cul-de-sac. We recommend that the pipe material be specified and that the design be reviewed and approved by the Department of Public Works.*

*The pipe material is now specified on the plan. Comment satisfactorily addressed. We recommended that documentation be provided to the Planning Board that the design is acceptable to the Department of Public Works.*

**The Definitive Subdivision Plan has been submitted to the Department of Public Works for review. A response to comments from the DPW has been provided as requested.**

- p. *We recommend that the roadway profile presented on sheet 4 of the plan be revised to show the proposed 18 inch RCP at STA 2+35± which carry flow from stormwater basin #1 to the outlet. We also recommend that the slope of the pipes and flow arrows be presented on the profile and plan view.*

*The roadway profile presented on sheet 4 of the plan has been revised to show the proposed 18 inch RCP at STA 2+35+ and the slope of the pipes and flow arrows have been added to the plans. Comment satisfactorily addressed.*

**No comment.**

- q. *Construction details have been presented on sheets 8-11 as required by the Rules and Regulations. We offer the following comments:*

- *A Typical Roadway Section for a Minor Street Layout is presented on sheet 8 of the plans as required. We recommend that a Typical Roadway Section for the Cul-de-Sac also be provided.*

*A Typical Roadway Section for the Cul-de-Sac has been added to sheet 8 of the plans. Comment satisfactorily addressed.*

**No comment.**

- *We recommend that a hydrant detail be added to the plan.*

*A hydrant detail has been added to sheet 11 of the plan. Comment satisfactorily addressed.*

**No comment.**

- *We recommend that the detail of the overflow outlet control structure presented on sheet 10 of the plans be revised to specify that the 24 inch cover be cast into the structure and not placed on top.*

*The detail of the overflow outlet control structure presented on sheet 10 of the plans has been revised to specify that the 24 inch cover shall be cast into the structure and not placed on top. Comment satisfactorily addressed.*

**No comment.**

- *A detail of the Rip-Rap Slope is presented on sheet 8 of the plans. We recommend that this detail be revised to show the placement of a guard rail at the uphill side of the slope between the sidewalk and the slope. The applicable dimensions as shown on the Typical Roadway Section should be shown as well. In addition, a detail of*



*the guard rail itself should also be provided.*

*The detail of the Rip-Rap Slope has been revised as recommended and is now shown on sheet 11 of the plans. Comment satisfactorily addressed.*

**No comment.**

s. *The following information should be specified on the plan sheets:*

- *Curve radius of all curbing and along the roadway.*

*The curve radius of all curbing has been added to the plan. Comment satisfactorily addressed.*

**No comment.**

- *The type and limits of the curbing should be clearly specified.*

*As recommended, the type and limits of the curbing have been specified. Comment satisfactorily addressed.*

**No comment.**

- *We recommend that the proposed cape cod berm be extended to the existing berm and curbing at the intersection at Orchard Drive.*

*The design engineer has stated that the proposed cape cod berm shall extend to the existing berm at the intersection of Orchard Drive; however, this is not clear based on the information currently shown on the design plan. We recommend that this be clearly shown on both sheets 4 and 5 of the plan.*

**The plans have been revised to more clearly show the proposed cape cod berm shall extend to the existing berm. The existing berm ends approximately 80' west of the intersection on the north side and approximately 70' west of the intersection on the south side. Areas of the berm have been disturbed due to the construction of a new house on the south side.**

- *The roadway centerline geometry should be provided on the plan and profile sheet*

*The plans has been revised to show the roadway centerline geometry on the plan and profile sheet. Comment satisfactorily addressed.*

**No comment.**

t. *The placement of the erosion control is presented on sheet 5 of the plans and a Construction Sequence is presented on sheet 9 of the plans. The location of the stockpile locations, equipment storage locations, and temporary sedimentation basin locations should also be shown. Calculations for the sizing of the temporary sedimentation basin should also be provided. Due to the proposed disturbance, an EPA NPDES Construction General Permit and associated Stormwater Pollution Prevention Plan (SWPPP) will be required prior to Construction.*

*The location of the stockpile areas, equipment storage areas and temporary sedimentation basins has been shown on the plan as requested. Calculations for sizing of these temporary sedimentation basins have also been provided. We recommend that the location of the temporary sedimentation basins be reviewed and revised since it is not clear how the runoff from the disturbed areas on the westerly side of the proposed roadway will be directed into temporary sedimentation basins.*

**The locations of the temporary sedimentation basins have been reviewed and revised to direct runoff from the westerly side of the proposed roadway as requested.**

- z. A Landscaping Sheet (sheet 7) is provided as required. This sheet does show the street trees along the roadway as necessary with additional plantings at the proposed cul-de-sac.*

*The design engineer has stated that a waiver is now being requested for the requirement of street trees.*

**No comment.**

- aa. A Lot Development sheet (sheet 6) showing the house size and placement, driveway location and grading has been provided. Calculations demonstrating compliance with the Lot Characterization Number has also been presented on this sheet. We recommend that the proposed grading shown on the Lot Development plan for Lot 3 and Lot 4 be revised to clearly show that the stormwater runoff from these lots will be directed away from abutting properties.*

*As recommend, the proposed grading at the rear for Lot 3 and Lot 4 has been revised to clearly show that the stormwater runoff from these lots will be directed away from abutting properties. Comment satisfactorily addressed.*

**No comment.**

#### **V.B DRAINAGE**

*The Stormwater Management System as designed, proposes to collect the stormwater runoff from the roadway and sidewalk as well as a portion of the overland flow and direct it to Stormceptor water quality units and two (2) stormwater infiltration basins located within drainage easements on the Lot 1 and Lot 3. A Stormwater Report for this subdivision indicates that the overall stormwater management system will attenuate the post development stormwater flows to a level not exceeding the existing conditions. We offer the following comments regarding the drainage design and analysis:*

- We disagree with the easterly limit of the tributary areas for both the pre- development and post-development condition. It is our opinion that the tributary areas extend further to the*



*east for both #37 Orchard Drive and #31 Orchard Drive.*

*The easterly limit of the tributary areas for both the pre-development and post-development condition has been revised to extend further towards Orchard Drive and the stormwater calculations have been revised and are acceptable. Comment satisfactorily addressed.*

**No comment.**

- *The Total Suspended Solids (TSS) Removal Calculation Worksheet lists; Deep Sump and Hooded Catch Basins, Stormceptor water quality units and an Infiltration Basin as the treatment train for this project. Since the 80% removal rate includes the pre-treatment, we recommend that the calculations be revised to remove the credit for the deep sump and hooded catch basin.*

*The Total Suspended Solids (TSS) Removal Calculation Worksheet has been revised as recommended. Comment satisfactorily addressed.*

**No comment.**

- *We recommend that the elevation of the berm at Infiltration Basin #2 be raised slightly in order to provide 1 foot freeboard above the 100 year storm event.*

*The elevation of the berm at Infiltration Basin #2 has been revised in to provide 1 foot freeboard above the 100 year storm event. Comment satisfactorily addressed.*

**No comment.**

- *In the Operation and Maintenance Plan it appears that the "Post Construction" section is incorrectly labelled as "During Construction". We recommend that this be reviewed and revised as necessary*

*The Operation and Maintenance Plan has been revised as recommended. Comment satisfactorily addressed.*

**No comment.**

- *Since Stormceptor Water Quality Units are proposed for this project, their use should be reviewed and approved by the Pembroke Department of Public Works.*

*The design engineer has stated that the use of the stormceptor units shall be reviewed by the Department of Public Works. We recommend that documentation be provided to the Planning Board that the use of these proprietary units is acceptable to the Department of Public Works.*

**The Definitive Subdivision Plan has been submitted to the Department of Public Works for review. A response to comments from the DPW has been provided as requested.**

- *We recommend that the proposed flared end section for 18 inch RCP at STA 2+35± LT be moved closer to the toe of the rip rap slope.*

*As recommended, the proposed flared end section for 18 inch RCP at STA 2+35± LT has been moved closer to the toe of the rip rap slope. Comment satisfactorily addressed.*

**No comment.**

*It is general practice to design sites to comply with Massachusetts DEP Stormwater Management Regulations. The following section describes the 10 Standards for compliance with Stormwater Management Regulations and the status of the submittal relative to each standard.*

*Standard 1 – Untreated Stormwater*

*Additional information required.*

*Additional satisfactory information has been provided. This Standard has been met.*

**No comment.**

*Standard 2 – Post Development Peak Discharge Rate*

*Additional information required.*

*Additional satisfactory information has been provided. This Standard has been met.*

**No comment.**

*Standard 3 – Recharge to Groundwater*

*This Standard has been satisfactorily addressed.*

*Standard 4 – 80% TSS Removal*

*Additional information required.*

*Additional satisfactory information has been provided. This Standard has been met.*

**No comment.**

*Standard 5 – Higher Potential Pollutant Loads*

*The project is not considered a source of higher pollutant loads, this standard is not applicable.*

*Standard 6 – Protection of Critical Areas*

*Based on information presented on MassGIS and the Town of Pembroke GIS web page, the project site is not in a Critical Area.*

*Standard 7 – Redevelopment Projects*