



Planning & Development
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Memo

Date: January 9, 2019

To: Planning Board

From: Michael G. Livingston, Town Engineer/Planner

Re: Four Seasons Farm Subdivision – Tax Map 77, Lot 17-3
Design Review

Background:

An existing parcel (Lot 17-3, 12.54 acres) with an existing house is proposed to be subdivided which involves the construction of a 600 foot private street and four new dwelling units with associated driveways and utilities.

Materials Submitted for Four Seasons Farm Subdivision:

- Sheet 2: Grading and utility plan
- Sheet 3: Roadway Plan and Profile
- Sheet 4: Shared driveway Plan & Profile
- Sheet 5: Site Details – Erosion Control, Drainage
- Sheet 6: Site Details – Drainage, Road, Utilities

Stormwater Management Plan dated Dec. 4, 2018 by Lewis Chamberlain, PE of ATTAR Engineering, Inc.

- Plan of Stormwater: Existing Conditions
- Plan of Stormwater: Developed Conditions

Design Review – Road & Utilities:

Sheet 2 Comments:

- Side slopes of 3 to 1 are required, 2 to 1 are depicted
- Road is proposed as gravel. Due to proposed grade of 10%, pavement is recommended.
- Wetland impacts to be revised for 3 to 1 slopes and area not yet included (#4 at Route 9A and culvert aprons)
- Detention Pond #1 requires grading revisions and berm depiction
- Detention Pond #2 requires grading revisions and berm depiction
- Legend to be updated

Sheet 3 Comments:

- Side slopes of 3 to 1 are required, 2 to 1 slopes are mostly depicted
- Proposed pole and underground utilities to be added
- Wetland fill limits to be revised
- Stop/ Street sign to be labelled
- Road width and cul-de-sac radii to be labelled
- Curve radii to be labelled
- DMH symbol to be used vs. CB grate symbol
- Sight distances to be labelled
- 3% slope maintained for approximately 20 feet from Route 9A shoulder, one vehicle length only
- Limited cover over culvert at DMH #2, 1.3' +/-
- Cover of out-letting culvert DMH #2 and #3 reduced to approximately 0.5'. Road elevations to be raised?
- DMH rim elevations to be added

Design Review – Stormwater

Sheet 2 Comments:

- Clarify if structures are DMH's or CB's. Not in legend and appear as CB grates. Notes as CB's in HydroCAD report.
- Detention Ponds to be identified and details referenced
- Inverts of existing culverts at 9A needed
- Detention Pond #1 grading does not coincide with detail on Sheet 6:
 - Contour 144 should connect (spillway at 144.5)
 - A 6 foot separation (minimum) is required between contours 144 (2 foot wide berm?)
 - Berm needs to be depicted on plan view

Sheet 3 Comments:

- DMH rim elevations needed
- Clarify structures as DMH's
- Label culvert pipes with slopes and inverts as on Sheet 2
- Wetland fill limits to be revised

Sheet 4 Comments:

- Clarify structures as DMH's
- DMH rim elevations needed
- Label culvert pipes with slopes and inverts as on Sheet 2
- Detention Pond #2 to be labelled and references to Sheet 6
- Detention Pond #2 to be revised to address 2nd (emergency) outlet/overflow
- Will rip rap aprons be installed at brook crossings?
- 2 to 1 slopes depicted, is slope to be rip rap?
- Is the contour 150 to be connected at the level spreader?
- Vertical scale not correct
- Culvert from DMH #3 to Detention Pond #2 not drafted at correct elevations
- Cover over the culvert from DMH#3 is not sufficient
- DMH #3 symbol to be revised and rim elevations added
- Road widths to be added
- Is a guard rail proposed?
- Appears 2 to 1 slopes proposed at brook crossings

- Are rip rap slopes (2:1) proposed? Appears so per Sheet 2 but no shown on both sides on Sheet 4
- Detention Pond #2 grading/berm revisions needed
- Level spreader length and continuous berm and rip rap needed
- Unit numbers to be added
- Underground utility locations to be added

Sheet 5 Comments:

- Level spreader detail to add elevations and possibly move to Sheet 6
- If 2 to 1 slopes are allowed at wetland crossings, an erosion control blanket detail should be added.

Sheet 6 Comments:

- Pond berms require a top width to be specified, 2 foot minimum is typical
- Detention Pond #2 requires the top of berm elevation to be raised and an overflow spillway added. Or the pond could be enlarged to reduce the peak pond elevation.
- DMH detail needed
- Guard rail detail needed if proposed/required
- Typical road cross section does not match the proposed conditions
- A cul-de-sac cross section is needed

Other Review Comments:

Road Construction- the road is recommended to be paved due to the following:

- A gravel surface slope of 10% is not sustainable due to erosion impacts from stormwater and vehicle use
- Only one vehicle has space to stop at Route 9A therefore another will have to start on the steep gravel slope.
- Gravel road degradation will affect service by emergency vehicles
- §201-10.G allows the Planning Board to determine road standards for Condominium projects

Cul-de-sac – the cul-de-sac is recommended to be paved due to the following:

- The proposed cul-de-sac is an alternative design which requires approval by the Wells Fire Chief and Road Commissioner. A reduction in cul-de-sac diameter has only previously been approved if no island is proposed and if the cul-de-sac is paved.
- The gravel surface will degrade faster than pavement due to plowing and vehicle turning which affects service by emergency vehicles.