



**EDWARD B. WALSH & ASSOCIATES, INC.**  
*Complete Civil Engineering Design / Consultation Services*  
*Lionville Professional Center*  
*125 Dowlin Forge Road*  
*Exton, PA 19341*

July 23, 2019

Ms. Lisa Moore, Township Manager  
Kennett Township  
801 Burrows Run Road  
Chadds Ford, Pennsylvania 19317

Re: **Preliminary Subdivision and Land Development Plan  
Novak Property**

Dear Ms. Moore:

Attached are the following plans and documents which have been revised per the Township's Engineer review letter:

- Five (5) Sets of the Preliminary Subdivision and Land Development Plans for the Novak Property, dated October 12, 2018 and last revised on July 10, 2019. The applicant is Craig J. & Donna M. Novak, and the plans were prepared by Edward B. Walsh and Associates, Inc.
- Three (3) Copies of the Stormwater Management Calculations for the Novak Property project, dated March 15, 2019 and last revised on July 8, 2019. (Now split into separate PCSM and E&S Reports), as well as the WL Report.

The plans and calculations were revised per an Aecom review letter of April 5, 2019. The following is a response to each of the review comments. Headings and numbering match those of the review letter:

### **Subdivision and Land Development Ordinance**

1.
  - A. 206-403.D.(2) – **We have added the necessary notes regarding these resources and their sources to the Natural and Cultural Resources Sheet (Sheet 5).**
  - B. Resolved
2. 206-403.G.(2) – **Comment addressed with submission of completed Sewage Planning Module.**
3. To be provided at Final Plan submission.

4. 206.517.A.(4) – Referred to Environmental Advisory Council.

### **Zoning Ordinance**

1. 240-1802.C – Chapter 105 General Permit applications have been submitted to the PA Department of Environmental Protection and are currently under review. The required permits are for the two (2) stream crossings of the access drive. Permits being sought are two (2) GP-7's and one (1) GP-5. The township will be provided with copies of the permits once they are obtained and during Final Plan submission.
2. 240-1802.C.(2) – Wetland Delineation Report included in PCSM Report, pp.429-479.
3. To be provided at Final Plan submission.
4. To be provided at Final Plan submission.

### **Stormwater Management Ordinance**

1. 199.303.A – An NPDES application has been submitted and is currently under review. A letter of adequacy and the NPDES permit will be provided at Final Plan submission.

1A.

A. Resolved

- B. 199-311.A – The wet pond on Lot 7 has been removed due to the minimal space to create a wet pond between the Zone 1 Riparian Buffer and the septic area. Permanent Swale #3 has been proposed to convey the access drive improvement area to MRC #7.

**Wet Pond #8 has been revised to include 4:1 interior and exterior slopes, a 10-foot width top of berm, and a 15" diameter RCP outlet pipe. See Plan Sheets 9 and 19 (formerly 17) for the revisions.**

**We will seek waivers on these requirements for each rain garden or MRC owing to their small drainage areas, shallow ponding depths and conservative outflow rates. The waiver request is on Plan Sheet 1.**

- C. 199-311.A.(1).(e) – The BMP details on Sheet 19 have been updated to list the outlet structure. The trash rack detail specifies epoxy-coated galvanized steel.

**D.**

i. Resolved

ii. Resolved

iii.

- a) Rain Gardens #3 & 8 (previously #6) bottom elevations raised up to provide 24" separation from limiting zones.
- b) The bottom elevation of Rain Garden #3 has been raised up to 280.50. The only infiltration rate used was the one performed at the depth of the system bottom. A reduction factor of 2 was applied to get our design rate. See Soil Report in PCSM Report (pp. 354-386) for rates / calculations.
- c) Same as (a) and (b) above. Also, Rain Garden #6 is now named Rain Garden #8, and has a new bottom elevation 291.00.
- d) Located in PCSM Report, pp. 75-82
- e) 278.50 (now 280.50) is bottom of soil layer. (sheet 19)
- f) RG#8 loading ratio is now 4:1. See PCSM Report page 414.
- g) RG#8 invert elevations and top of riser elevations are now consistent between plans and calculations. See Plan Sheet 19 and PCSM Report p. 251.

**E.**

- i. The smaller orifices (0.625" and 0.5" dia.) are located at end of 6" perf. underdrain at connection to outlet structure. A note has been added to the MRC Detail specifying 3" cover over the elbow.

**F. Wet Pond #1 has been removed, so all comments referring to Wet Pond #1 are void.**

- i. Maintenance program added to Sheet 19. Landscape Plan (Sheet 22) has been updated to accommodate Wet Pond #8. An aerator is proposed to circulate the water within Wet Pond #8 (Sheet 14). The pond is designed to be 6' in depth to the permanent WSE, with a permanent volume > 50,000 gallons for sufficient fire protection.
- ii. Contained in updated Wet Pond Detail, and new Dewatering Mechanism detail w/ underdrain & valve specified on Sheet 19.
- iii. On updated detail, Plan Sheet 19.
- iv. Wet Pond #8 takes in both runoff from its own Drainage Area and also outflow from Rain Garden #8. These 2 Drainage Areas total 4.67 acres. Additionally, the permanent WSE is set to the seepage elevation discovered during testing.
- v. Perm. Water surface elevation now used as bottom. See PCSM Report p.311.

- vi.
  - a) **Detail now shows correct spillway width (Sheet 19)**
  - b) **Orifice dimensions / elevations corrected on updated detail and will always remain open.**
  - c) **Updated detail now shows pipe from outlet structure to riprap pad.**
  
- 2. **199-305.A – Rain Gardens use 5-year volumes while Wet Ponds and MRC’s use 2-year volumes. Requirements summarized on PCSM Report pp. 19-20.**
  
- 3. **199-306.A – Rain Garden underdrains will normally be closed. MRC underdrains will normally be open and flow reduced by orifice at outlet structure.**
  
- 4. **199-306.E – Soil Testing included in PCSM Report (354-386)**
  
- 5. **199-306.F.(3) – All Rain Gardens are designed to dewater in 48 hours. MRC’s are designed using DEP’s criteria of 72 hours to compensate for poor infiltration rates. See PCSM Report p.393 for dewatering times.**
  
- 6. **199-306-I – OCF linetype changed to “fence” as displayed in legend. Infiltration remediation notes added below the construction sequence, Plan Sheet 20.**
  
- 7. Resolved
  
- 8. **199-402-E – RG#8 now has a loading ratio of 4:1 (PCSM Report p.414)**
  
- 9. **199-402.F – Long-term maintenance chart added to Sheet 19.**

### **Sewage Planning Module**

**All comments should be satisfied with submittal of Planning Module. Primary and secondary septic locations located on sheets 8&9. We are in the process of addressing any comments in the review letter dated 7-18-19.**

### **General**

- 1. **We have provided 50,000 gallons of permanent water volume in our updated Wet Pond design to satisfy fire protection requirement.**
  
- 2. Resolved
  
- 3. Resolved
  
- 4. **The right-of-way has been altered so that it does not traverse the neighboring parcel.**

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Ms. Lisa Moore  
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We hope the plan has been revised to the satisfaction of Kennett Township. Please do not hesitate to contact me should you have any questions.

Very truly yours,

A handwritten signature in black ink that reads "Edward B. Walsh, P.E." The signature is written in a cursive style with a large initial "E" and "W".

Edward B. Walsh, PE

