

December 11, 2017

Sheila Page, Town Planner
Town of Ashland
101 Main Street
Ashland, Massachusetts 01721

Re: 0 Tri Street - Peer Review

Dear Ms. Page and Members of the Board:

Professional Services Corporation, PC (PSC) has conducted a peer review of the submitted 0 Tri Street Preliminary Plan (Conventional Layout). This letter is provided to summarize our findings, comments and recommendations.

BASIS OF REVIEW – SITE PLAN REVIEW

This office has received the following materials which will serve as the basis for the review:

- A plan entitled “Preliminary Plan Conventional Layout Tri Street & Adams Street in Ashland, MA” prepared by Connorstone Engineering, Inc., of Northborough, Massachusetts dated June 3, 2017 containing 1 sheet, revised November 13, 2017.
- A plan entitled “Preliminary Plan Cluster Layout Tri Street & Adams Street in Ashland, MA” prepared by Connorstone Engineering, Inc., of Northborough, Massachusetts dated June 3, 2017 containing 1 sheet. (Referenced but not fully evaluated under this memorandum).
- Application including Project Narrative – “Tri Street/Adams Street Preliminary Subdivision Cluster Development Ashland, MA” prepared by Connorstone Engineering, Inc., dated August 14, 2017.
- Correspondence to Town of Ashland Planning Board and Planner dated November 13, 2017 regarding “Tri Street/Adams Street – Peer Review”, including preliminary stormwater management calculations and preliminary stormwater basin sizing analyses.

Review by PSC also includes evaluation of the following:

- **Ashland Code, Division 2, Part II, Chapter 282 Zoning** (Ashland Code, D. 2, P. II, Ch. 282) as amended through May 4, 2016
- **Ashland Code, Division 6, Chapter 344 Subdivision of Land, Section 7 Preliminary Plan** (Ashland Code, D. 2, Ch. 344, S. 7)



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- **TOWN OF ASHLAND – Zoning Map – May, 2015**
- **Flood Insurance Rate Map** Middlesex County, Massachusetts Panel 631 of 656, Map Number 25017631F, revised July 7, 2014.
- **310 CMR 10.00** – Wetlands Protection Act as amended.

SITE AND PROJECT OVERVIEW

The site is located south and west of the Adams Road terminus and northeast of the Charles Street/Tri Street intersection. It is bounded on the north and west by 3 residential parcels and on the south and east by Tri Street, Adams Road and by 6 (conventionally held and land court registered) residential parcels that front Tri Street. The site contains approximately 9.5 acres and is undeveloped.

The project site is located in Residential “A” district and is within the Pond Street Mixed Use Overlay district. The property on the northerly side of Tri Street and is adjacent to a Photovoltaic Installation Overlay district to the North. The properties bordering the site are residential in character.

The property is currently forested with mature deciduous and conifers with thickly vegetated low growth. The property slopes downward toward the northwest and contains bordering vegetated wetlands, FEMA defined 100-year flood plain associated with Beaver Dam Brook.

The project proposes subdivision of the 9.5 acres into six conventionally sized building lots varying between 30,416 sq-ft and 65,429 sq-ft. Adams Street is to be extended through the site to intersect with Tri Street, resulting in a 1,410 foot long, 24-foot wide roadway extending along the westerly and northerly portion of the project within a 50-foot layout. An system of retaining walls is proposed to complete the roadway design 875 LF

Utilities have been provided in a general manner, including a closed roadway drain system that discharges into two proposed stormwater basins, a water system that extends between Adams Street and Tri Street with two interior hydrants, and a sewer collection system that connects to an existing sewer main that was constructed in 2004 along the northerly property line.

PRELIMINARY CONVENTIONAL PLAN

1. All secondary abutters, within 350 feet of the subdivision boundary should be added to the plan. (§344-7 C (3)).

Response: An expanded Locus Map with a list of corresponding abutters has been added to the plan set (sheet 2 of 2).

PSC: The additional abutters have been provided as required. OK.



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2. The roadway curb return at the intersection with Tri Street is designed with a 10-foot radius that should be upgraded to the required 30 feet. The radius extends across the frontage of Land Court Lot 6A and should be redesigned. (Chap 282, Section 4.1.4; also §344-12 A (8)).

Response: The intersection with Tri Street has been edited slightly to accommodate a 30 foot curb radius within the project frontage.

PSC: The roadway geometry has been adjusted by introducing an interior reverse curve. Although not ideal geometry, the requisite radii have been provided within the property limits. OK.

3. The Conventional Plan indicates six (6) buildable lots. Due to an irregularly shaped boundary, Lot 1 has a calculated build factor of 41.84 and does not conform to the "Rule of 22". (Ashland Code, D. 2, §344-7 C (11)). Lot 1 should be reconfigured to conform.

Response: Lot 1 has been reconfigured to provide a build factor of 19.5.

PSC: Lot 1 is conformant, however the creation of Parcel 'B' results in a reserve strip between existing L.C. Lot 6A and the roadway layout. Reserve strips are not permissible per Ashland Code, D. 2, §344-12 A (4).

4. USGS mapping includes Beaver Dam Brook, a perennial stream between Charles Street and Parcel A. The watercourse and associated riverfront buffers should be added to the drawings.

Response: The current USGS mapping shown the stream as intermittent (not perennial), and StreamStats confirms a watershed of less than ½ square mile. This stream does not become perennial until after Butterfield Drive approximately 1,500 feet to the north of the locus site.

PSC: The 1987 USGS map, referenced on the MassGIS OLIVER website shows Beaver Dam Brook as perennial. The USGS website references the newer 2015 USGS Holliston quadrangle, which identifies Beaver Dam Brook as intermittent. Unless the StreamSTATS data demonstrates that the watershed is greater than ½ square mile and the predicted flowrate is greater than 0.01 cfs. (310 CMR 10.58(2).1.c.ii.), the presumption would remain that the stream is intermittent. The StreamSTATS backup data referenced in the response should be provided.

5. The area of riverfront disturbance created by construction of the roadway and retaining wall system should be quantified as no greater than either 5,000 square feet or 10% of total available riverfront in the property (whichever is greater). (310 CMR 10.58(4).(d).1).

Response: Not applicable – There are no Riverfront Areas within the site.

PSC: Provided the StreamSTATS output satisfies 310 CMR 10.58(2).1.c.ii., OK.

6. The Stormwater Basin on Lots 1 and 2 is to be excavated approximately 5 feet into the existing grades. The interior wetland on the proposed lots lies upgradient of the basin on Lot 2. Although



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soils tests have not been provided, there is concern that the basin may dewater this interior resource area.

Response: The interior wetlands are located on sloping topography with groundwater following that gradient flowing from east to west. Placing a basin or excavation downgradient of the wetlands would not interrupt groundwater flow to the wetlands.

PSC: If the basin were constructed below groundwater in this location, it would likely dewater the wetland by allowing groundwater beneath the wetland to daylight into the excavation, The larger footprint and excavation volume required by the calculations elevates this significant concern.

7. The stormwater management basin sizes have not been supported with calculations. The Basin opposite Lot 6 does not appear generally feasible. Preliminary calculations should be provided.

Response: Preliminary drainage calculations have been prepared to verify the approximate sizing of the basins. The basin on Lot 1 & 2 has been expanded slightly to provide additional storage, and the basin on Lot 6 has been shifted to the opposite side of the street for constructability concerns.

PSC: The calculations, although preliminary, appear generally appropriate. OK.

8. The area of wetland impact between Lot 3, 4 and Parcel A should be quantified. The entire area of wetland disturbance should remain below 5,000 square feet. Additional impacts are likely between Parcel A and Lot 1 due to construction of the retaining wall foundation that should also be quantified.

Response: The wetland disturbance area has been quantified on the plans with a total disturbance of 2,606 square feet. A two foot offset from the outside face of wall was maintained in the calculations.

PSC: OK.

9. The roadway as designed will require approximately 1,085 LF of retaining wall construction to support the layout, which represents a significant development cost to the developer and future maintenance burden to the Town. Effort should be made to limit the extent and height of the wall system. At the definitive stage, guardrail will be required and fall protection barrier will be needed as well.

Response: Approximately 300 linear feet of wall has been removed from the plans. The remaining walls are necessary to limit the wetland impacts. As noted in the review, guardrail details would be provided if advanced to the definitive stage.

PSC: OK.



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10. The project is to be constructed on an undeveloped property. Although not typically provided on a preliminary plan, numerous large trees will be impacted. The drawings should identify specimen and large-caliper trees suitable for preservation and protection during construction 344-8.B.(11).(k).

Response: The location of large trees is not a requirement of the Preliminary Plan. If advanced to the definitive state, these items could be provided as required under the regulations.

PSC: Although it is agreed that tree locations are not required during the preliminary stage, the roadway and basin design should reflect a sensitivity to preserving significant specimens.

11. **(New Comment): The footprint of Basin on Lot 1 & 2 results in a design occupies most of the Lot 1 frontage. As shown, it will be very difficult to access the buildable portion of Lot 1 with a driveway.**

Please feel free to contact this office with any questions

Very Truly Yours,
Professional Services Corporation, PC

A handwritten signature in blue ink, appearing to read 'D. Sanderson', is positioned above the name of the signatory.

David W. Sanderson, PE
Senior Vice President