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November 17, 2020

Mr. Steve Norcini, P.E.
Radnor Township
301 Iven Avenue
Wayne, PA 19087

**RE: Preliminary Subdivision Plan
200 South Ithan Avenue
Radnor Township, Delaware County**

Our File # 19-283

Dear Mr. Norcini

On behalf of GPX Realty Partners, we are submitting revised preliminary plans for the subdivision of the property at 200 South Ithan Avenue. The plans have been updated to address the comments raised by the township consultants and the items raised by the Planning Commission at their last meeting. This letter contains our response to the comments raised by Gannett Fleming and Gilmore Associates.

The Gannett Fleming comments are addressed as follows.

Zoning

1. *§280-20.A - Under the R-2 requirements, every lot shall have a lot area of not less than 20,000 square feet and such lot shall be not less than 100 feet in width at the building line. There are proposed lots where the minimum lot width is not met (If not developed under DM)*

The intent of the subdivision is to develop these lots in accordance with the Density Modification provisions of the original Trianon Subdivision. All proposed lots conform to the density modification requirements.

2. *§280-91.A — Under the DM requirements, not less than 15% of the tract area shall be designated in the subdivision and land development plan as common open space. The area of open space must be shown on the plans for the proposed project.*
Open space was provided as part of the original Trianon subdivision of which these lots are a part.

3. *§280-92.A(2) - In R-1A and R-2 districts, the minimum tract size must be at least 15 acres in order to develop under Density Modification. The tract size must be shown on the plans. The lot area indicated on the Delaware County Property records is 5.87 acres. If the minimum tract area is not met, this lot cannot be developed under Density Modification.*

The property is being developed as part of the original Trianon development that was approved for density modification.

4. *The zoning table must be revised to indicate that this property is within the R-2 Zoning District.*

The township zoning map shows this property as part of the R2-DM district. As noted, this property is being developed as part of the original Trianon development that was approved for density modification.

5. *Porches must be included in the building coverage calculation in the zoning table*
Porches have now been included in the calculated building area

6. *§280-92.A(2)— There shall be no building within 60 feet of an existing street right-of-way line and 40 feet away from any adjacent property line. It appears the building for Lot #1 is within 60 feet of an existing right-of-way line*

The Lot 1 building envelope is located 60 feet off Ithan Avenue right of way and 35 feet off the new roadway curb line, which complies with the perimeter density modification requirement.

7. *§280-97.B — All yard setback requirements must be clearly dimensioned on the plans for the R-2 zoning district. The yard setback requirements must be measured from the right of way line.*

The property is being developed as part of the original Trianon development that was approved for density modification and front yard setbacks have been measured from the back of the curb per the DM setback requirements.

8. *§280-100 Any application for a condition use approval of a proposed density modification development as provided for in this article shall be submitted in accordance with this section.*

Conditional use approval will be sought if deemed necessary.

9. *§280-112.D - It appears that the dwelling proposed for Lot #1 is located in the existing slopes of 20% of greater. This is not a permitted use in the steep slope area. Only the uses listed in this section of the code are permitted.*

It appears that a portion of these slopes were man-made as a result of prior construction work in this area. Additional review is underway for these areas.

Subdivision and Land Development

1. *§255-20-B(1)(n) — Existing principal buildings (and their respective uses) and driveways on the adjacent peripheral strip. Sewer lines, storm drains, culverts,*

bridges, utility easements, quarries, railroads and other significant man-made features within 500 feet of and within the site (this includes properties across streets) must be shown on the plans. The applicant has requested a waiver from this requirement.

An aerial photograph of the site and surrounding areas is included as part of the plan set. Available utility information has been added to the plan to meet the requirements of this section and a waiver is no longer being requested.

2.

§255-27-C(1) — Sidewalks must be provided along minor collector streets (South Ithan Avenue). The applicant has requested a waiver from this requirement.

The applicant is offering to provide a fee in lieu of the sidewalks along Ithan Avenue as a contribution to the township in assisting to provide sidewalks in alternate locations along Ithan Avenue
3.

§255-27.C(1)— Sidewalks must be provided along the proposed cul-de-sac. The applicant has requested a waiver from this requirement.

The plans have been revised to incorporate sidewalks along the cul-de-sac roadway and this waiver is no longer requested. The slope of the sidewalk will coincide with the slope of the roadway. Because the grade of the roadway is 10% along portions of the roadway, a waiver is required from §255-37.H to allow the grade to exceed 7%. This waiver request has been added to the plan.
4.

§255-27.C(2) — Additional right-of way and/or cartway widths may be required by the Board of Commissioners in order to lessen traffic congestion, to secure safety from fire, panic and other dangers, to facilitate the adequate provision for transportation and other public requirements and to promote the general welfare.

The required right-of-way along Ithan Avenue is being provided.
5.

§255.27.C(4) — When a subdivision abuts or contains an existing street of inadequate right-of-way width, the Board of Commissioners may require the reservation or dedication of rights-of-way to conform with the required standards. South Ithan Avenue is a Minor Collector. The right-of-way requirement is 60 feet and the cartway is 36 feet. Trianon Lane is a local road, and the right-of-way requirement is 60 feet and the cartway is 28 feet.

The required right-of-way along Ithan Avenue is being provided. No improvements are planned for Trianon Lane
6.

§255-27.D(2) - Cul-de-sacs shall have at the closed end a turnaround with a right-of-way having a minimum outside radius of not less than 60 feet and shall be paved to a radius of not less than 40 feet. The plans indicate a proposed right-of-way radius of 50 feet.

The right of way has been adjusted to the required 60-foot radius.

7. *§255-27.H(6)- Minimum curb radii at street intersections shall be 25 feet for local streets; 30 feet for collectors; 35 feet for arterials; and 10 feet for driveways. This must be shown on the plans.*

The required curb and right-of way returns have been provided and labeled on the plans

8. *§255-27-F(5) -The approach to an intersection shall follow a straight course for at least 100 feet for local streets and courts. Approaches for other street types shall be designed in accordance with accepted engineering standards. The applicant has requested a waiver for this requirement.*

The approach has been adjusted to a straight course of 100 ft of horizontal alignment, and a waiver is no longer being requested.

9. *§255-37(A) - Sidewalks and pedestrian paths shall be provided when required by the Board of Commissioners.*

The plans have been revised to incorporate sidewalks along the cul-de-sac roadway. The slope of the sidewalk will coincide with the slope of the roadway. Because the grade of the roadway is 10% along portions of the roadway, a waiver is required from §255-37.H to allow the grade to exceed 7%. This waiver request has been added to the plan.

10. *§255-40.C(2) — Access and circulation for fire-fighting and other emergency equipment, moving vans, fuel trucks, garbage collection, deliveries and snow removal shall be planned for efficient operation and convenience.*

Truck turning templates are shown on the plan demonstrating that this requirement

11. *§255-43.1.B(1) — For all residential subdivisions or land developments involving a total of four or more lots and/or dwelling units, a minimum of 1,440 square feet or suitable park and recreation land shall be provided per dwelling unit within such subdivision/land development, unless the developer agrees to a fee in lieu of \$3,307 per dwelling unit (existing or proposed).*

Applicant will agree to the fee in lieu of.

12. *§255-49 - Where appropriate, the developer shall install or cause to be installed, at the developer's expense, metal or fiberglass pole streetlights serviced by underground conduit in accordance with a plan to be prepared by the developer's engineer and approved by the Board of Commissioners.*

Placeholder lighting is shown on the plan to be designed before final submission.

13. *§255-51 - Sidewalks shall be constructed as required by §255-27C. These standards shall apply on new streets and on existing streets unless, in the option of the Board of Commissioners, they are unnecessary for public safety and convenience.*

Sidewalks are now shown along the cul-de-sac roadway

14. §255-54.B - *The central water system should be designed with adequate capacity and appropriately spaced fire hydrants for fire-fighting purposes pursuant to the specification of the National Fire Protection Association. Review and approval by the Township Engineer and the Township Fire Marshal] shall be required in order to ensure that adequate fire protection is provided. We note that the applicant is working with the Township Engineer and Township Fire Marshall and will incorporate their input as applicable.*

This condition is accepted, and applicant will provide information with final plans.

Stormwater

1. §245-13 - *Please provide a drainage plan that conforms with this section of the code.*

Detailed drainage and stormwater design will be made part of the final plan submission

2. §245-32.B§4) - *Please revise the plans to include a statement, signed by the landowner, acknowledging that the stormwater controls and BMPs are fixtures that can be altered or removed only after approval by the municipality.*

This condition is accepted and we will include the required statement as part of the final plans.

3. *Please revise the plans to provide specific dimensional data for each stormwater management system.*

This condition is accepted, and applicant will comply as part of the final plans. Current stormwater systems are placeholder systems showing the square footage required for loading ratio requirements is achievable. Detailed dimensions and specifications will be provided with final design.

4. *Please revise the plans to provide details for the ST-36 Stormtank Chamber that is proposed.*

This condition is accepted, and applicant will comply as part of the final plans.

5. *Please revise the stormwater report to include all applicable calculations to show how the stormwater requirements are met for sections including but not limited to §245-22 through §245-27.*

This condition is accepted, and applicant will comply as part of the final plans.

6. *Please provide drainage area maps of the pre-developed and post-developed conditions.*

This condition is accepted, and applicant will comply as part of final plan design.

7. *Please provide infiltration testing results including a depth to limiting zone.*

This condition is accepted, and applicant will comply as part of final plan design.

8. *Please provide stormwater piping profiles including all crossing utilities.*
This condition is accepted, and applicant will comply as part of final plan design.
9. *Final approval of the stormwater management plan will be required as part of the Grading Permit process. Any revisions to the size or location of the individual structures or other features will be addressed at this time.*
This condition is accepted, and applicant will comply.

Sanitary Sewer

1. *All existing and proposed sanitary sewer easements must be shown on the plans.*
All sewer easements are shown on the plans. No additional easements are required for sewer main extensions. Any additional easement required for laterals serving the individual lots will be identified and provided as part of the final plan submission.
2. *An easement must be provided for the sanitary sewer lateral for Lot 5 since it encroaches on the property line of Lot 6.*
The sanitary sewer lateral for Lot 5 is shown on lot 5 and only crosses a portion of lot 6 within the right of way of Trianon Lane. An easement through the public right of way of Lot 6 and should not be needed for this connection.
3. *Profiles of the sanitary sewer laterals must be provided.*
This condition is accepted, and applicant will provide these as part of the final plan.
4. *Depressed curbing (12 feet) is required where the sewer line leaves the street to provide easement access to the sanitary sewer lines.*
This condition is accepted, and applicant will provide as part of the final plans.

General

1. *The applicant must appear before the Shade Tree Commission and gain approval prior to this plan being presented to the Board or Commissioners.*
This condition is accepted and applicant will comply.

The Gilmore comments are addressed as follows:

Subdivision and Land Development Comments

1. *§255-27.C, §255-37, & 5255-51 — Provide sidewalks on both sides of the cul-de-sac. Installation of sidewalk along the site frontage for Ithan Avenue is also required unless, in the opinion of the Board of Commissioners, it is unnecessary for public safety and convenience. There are some worn paths in the area of Ithan Avenue indicating pedestrian usage. The applicant has requested a waiver from §255-27.C, §255-37.*

The applicant is offering to provide a fee in lieu of the sidewalks along Ithan Avenue as a contribution to the township in assisting to provide sidewalks in alternate

locations along Ithan Avenue. The plans have been revised to incorporate sidewalks along the cul-de-sac roadway and this waiver is no longer requested.

2. *§255—27.D.(2) — Cul-de-sacs shall have a turnaround with a minimum outside radius for the right-of-way of not less than 60 feet at the closed end. The proposed plan indicates a proposed right-of-way radius of 50 feet.*

Plans have been updated to show a 60-foot radius for the cul-de-sac right-of-way

3. *§255—27.F.(2) — Provide horizontal alignment data for the proposed street to ensure compliance. The minimum center-line radii for horizontal curves is to be 150 feet.*

The proposed roadway is designed with a horizontal curve of 290ft radius, and therefore complies with §255-27.F.(2). Additional data has been provided on plan for clarity.

4. *§255-27.F.(5) — The approaches to an intersection shall follow a straight course for at least 100 feet for local streets and courts. Approaches for other street types shall be designed in accordance with accepted engineering standards. The applicant has requested a waiver.*

The approach has been adjusted to a straight course of 100 ft of horizontal alignment, and a waiver is no longer being requested

5. *§255-27.G - Where the grade of any street at the approach to an intersection exceeds 7%, a leveling area of 4% grade or less shall be provided for a minimum distance of 100 feet for local streets.*

The proposed roadway has been adjusted to provide a 5% leveling area for the first 70 feet. This is based on ASSHTO standards for safe stopping distances for a 5% grade on wet surfaces. Our calculations are attached to this letter.

6. *§255-27.H(1) — The street shall be laid out to intersect as nearly as possible at right angles. Determine if the new street can be aligned to intersect South Ithan Avenue closer to a 90-degree angle. §255-27.H(1): "Streets shall be laid out to intersect as nearly as possible at right angles. No street shall intersect another at an angle of less than 70°."*

The roadway intersection alignment has been revised to provide an 80 degree intersection, and based on §255-27.H(1) we believe the new roadway complies with this ordinance.

7. *§255-27.I(4) — Ensure the driveways to each lot do not exceed 16% grade.*

This condition is accepted, and applicant will comply. Detailed grading for driveways will be included as part of final plans for this project.

- 8.

§255-27.D(3) — Grades across cul-de-sacs shall not exceed 3%. Label the proposed grades to ensure compliance with this requirement.

The cul-de-sac grades run at a max of 2.25%, additional labeling has been added to demonstrate compliance.

9. §255-27.H(3) — *In all districts, no fence, planting or other structure shall be maintained between a plane two feet above curb level and a plane seven feet above curb level so as to interfere with traffic visibility across the corner within that part of the required front, side or rear yard which is within the clear sight triangle. Provide 30-foot clear sight triangle on the landscaping plan per §255, Attachment 255a (page 1:1).*

Clear sight triangles have been shown on the revised plans.

10. §255-28 - *Provide the available and required sight distance at the proposed intersection.*

Sight distance information is included on the plans.

11. *On Sheet 7, the "No Outlet" sign on the northeast corner of the access intersection is mislabeled as a stop sign (R1-1); revise.*

The correct designation for this sign is now shown

12. *On Sheet 7, provide the cross slope of Ithan Avenue from the centerline on the driveway profile.*

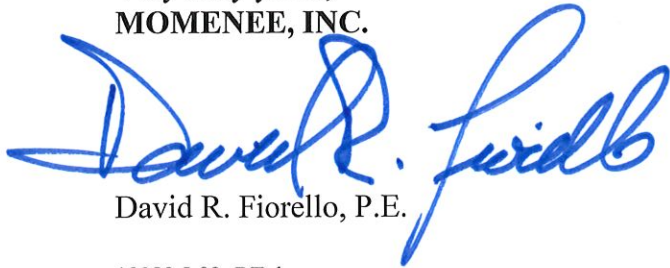
The cross slope is now shown on the cross-section detail.

13. *On Sheet 10, provide English units for the "No Outlet" (W14-2) sign detail.*

Imperial units are now shown.

I trust that with these revisions the plans can now be considered for preliminary approval. Should you have any questions or require any additional information, please let me know.

Very truly yours,
MOMENEE, INC.



David R. Fiorello, P.E.

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cc: Joe Conwell

Safe Stopping Distance Calculation:

Formula Used

$$d = \frac{V^2}{30 \left[\frac{a}{32.2} \pm G \right]}$$

d = stopping distance

G = road grade

V = design speed

a = design deceleration rate, taking from ASSHTO Green Book Chapter 2: Design Controls for Wet Conditions recommended rate of 11.2

Calculation

For 25 mph speed limit:

$$d = \frac{25^2}{30 \left[\frac{11.2}{32.2} - .05 \right]} = 69.95 \text{ ft}$$

For 15 mph speed limit:

$$d = \frac{15^2}{30 \left[\frac{11.2}{32.2} - .05 \right]} = 25.18 \text{ ft}$$

Approach used in 200 S Ithan design: 70 feet @ 5%.