



November 1, 2021

Planning Board
Town of Wenham
138 Main Street
Wenham, MA 01984

via email & us mail:

RE: Peer Review
Definitive Subdivision Plan
60 Arbor Street, Wenham, MA
Project No. 5532

Dear Members of the Board:

Thank you for this opportunity to work with the Board in this review of the Definitive Subdivision Plan on Arbor Street. It is our understanding that the Board has requested a full comprehensive review of this submittal for compliance with the Zoning By-law, Rules and Regulations Governing the Subdivision of Land, Stormwater By-laws and the Stormwater Regulations.

The submittal data reviewed includes the following:

1. Definitive Subdivision Application dated 8/17/2021
2. Definitive Subdivision Plan prepared by Decoulos & Company, LLC, dated 8/16/2021
3. Revised Stormwater Report prepared by Decoulos & Company, LLC, dated 10/30/2020
4. Environmental Assessment prepared by Decoulos & Company, LLC, dated 2/10/2021
5. Wenham Planning Board Disapproval of Definitive Subdivision Plan, filed with Wenham Town Clerk on 3/16/2021
6. Order on Summary Judgment vs. Wenham Planning Board by MA Trial Court Superior Court, Docket No. 1677CV01626

I. EXECUTIVE SUMMMARY OF FINDINGS:

There are many waivers which are needed from the Board and plan revisions in order for this plan to be approved as submitted. In our review, we have identified one critical waiver which is required for this project to be a viable without waivers. The Subdivision Regulations require a minimum lot line radius of 40' where a lot abuts the intersection. The proposed plan has a short portion of a 40' radius but also incorporates a 10' radius into the property line at the intersection. To determine how critical this waiver is, please find a sketch at the end of this letter showing in red a similar cul-de-sac utilizing the 40' radii, keeping the same intent in the orientation of the cul-de-sac abutting the northerly property line.

This orientation of the cul-de-sac forces the cul-de-sac to significantly shift into the proposed lot 6. Lot 6 is a lot off a cul-de-sac on a minor road requiring a minimum lot area of 80,000 s.f. The Lot 6 as proposed contains 80,063 s.f. and it does not appear that there is sufficient lot area between the two lots to allow a compliant roadway and meet the minimum lot areas.

We have gone through the Subdivision Rules and Regulations in detail to identify areas where the plans do not comply, to make recommendations for additional information or recommend a waiver. This list is extensive but is submitted in the event that the applicant is able to overcome the minimum radius issue, or the Board grants the waiver.

II. RESOLUTION OF DISAPPROVAL OF DEFINITIVE SUBDIVISION dated March 16, 2021

This section is taken directly from the Planning Board's decision. Several items have been fully resolved with the revisions. Others have either been partially resolved or have created new issues or non-compliance with other sections of the Subdivision Regulations. The most critical item not resolved is the 40' minimum radius for property lines at an intersection. Many of these items are discussed in greater detail further below under Compliance with Subdivision Rules and Regulations.

1. **§3.3.3.16.1- No monuments or benchmarks are shown on the grading plan. Four-foot elevation above high water mark not shown. No FEMA mapping information is shown on the Final Plan. Two-foot contour intervals and legends are not shown on the Final Plan.**

Partially Resolved. Monuments, benchmarks, legend and contours were added to the Existing Conditions Plan. The cover letter indicates that there was no groundwater or flood plain on the site. The flood plain should have been addressed in note form. The presence of an isolated freshwater wetlands indicates that the water table is within several feet of the surface and the 4' above the highest water in 100 years could have been extrapolated from the wetlands.

2. **§3.3.3.17.1 - Wherever possible, the utility plan should be included on a separate sheet for clarity. The utility plan is not shown on a separate sheet and should include items as listed under this section. The following is not provided on the Final Plan:**
 - o **§3.3.3.17.2 - Soil test pit data -not shown on the Plan**

Partially Resolved. The intent of the utility plan is clarity. The Utility Plan – sheet C5 does not provide clarity as layers should have been turned off or grayed. Soil test hole data for two test holes, not located in the area of the proposed infiltration system is shown on C1. C3 shows proposed test holes in the area of the infiltration area. It is noted that the test holes for the septic system is shown on C3 but did not include the test data for those holes.

3. **§3.3.3.20.1 - A typical roadway cross section is not shown on the Final Plan.**

Partially Resolved. The cross section is shown on the detail sheet C8 but it is not consistent with the grading shown on the Grading and Stormwater Management Plan, sheet C4. There is no typical cross section for the beginning of the roadway which scales 16' wide with a variable cross slope.

4. **§3.3.4.1 - The centerline of the proposed roadway has not been staked at 100-foot intervals with stakes indicating the cut and fill at each, as well as the lot frontages at the time of filing**

Not Resolved. The centerline shown is not the centerline of the proposed roadway so any stakes showing a cut or fill is meaningless. The engineer indicated that the stakes have been set – this office has not verified them. The locations of the stakes are not indicated on the plans.

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5. **§3.3.5.1.1 - Test pits for the storm water system were not provided and specifically not provided in the areas where the system is proposed.**

Not Resolved. Soil test hole data for two test holes, not located in the area of the proposed infiltration system is shown on C1. No actual test holes are shown in the area of the infiltration system – 3 proposed holes are shown. These test holes could have been performed between March and the re-submittal in August.

6. **§3.3.5.2.1 - Test pits have not been submitted and stamped by a Registered Professional Engineer.**

Not Resolved. Test pits were shown on C1 which was stamped by a Professional Engineer but the soil logs in the Stormwater Management Plan were not. The Soil Logs for Stormwater System includes OH 9 and OH 10 and were done by Gregory Bernard with no indication of his credentials (i.e. P.E. or MA Soil Evaluator). Neither this page nor the overall report was stamped by a P.E.

7. **§3.3.5.3.1 - Test pits are not shown at 200-foot intervals along the proposed centerline, at cut sections, or at areas of questionable subsurface material. Test pits must also be inspected before backfilling by the Health Agent. The layout of the subsurface test pit program is not shown on the Final Plan.**

Not Resolved. Proposed test pits are shown near the infiltration area. There are no test pits shown at 200' intervals along the centerline and the proposed centerline is not shown as the centerline of the pavement.

8. **§4.1.2.2.2.1 - Lot 7 appears to be a reserve strip not allowed without Board approval. No approval for this strip has been requested.**

This question was addressed only in the cover letter. The Board should determine if the response is sufficient.

9. **§4.1.3.5 - The property line radius at the street intersection is less than 40 feet.**

Not Resolved. The property line radius at the intersection is **not** 40'. The plan indicates a short tangent of a 40' radius to a 10' radius. The 10' radius on both sides of the roadway do not meet the Subdivision Standards. Without a waiver this project may not have sufficient lot area to comply with the regulations.

10. **§4.1.5.3 - The profile does not include any vertical curvature.**

Not Resolved. The profile sheet has a curve drawn in but there is no data relative to the length, PVI, PVI elevation, PVC, PVT, K value, high point or proposed elevations at 25' intervals. The profile does not relate to the proposed centerline of the proposed roadway and does not meet this requirement.

11. **§4.1.5.4 - The Final Plan (sheet C4- grading plan) does not indicate a cross-slope of 2% on the pavement.**

Not Resolved. The grading plan (sheet C4) does not indicate a cross slope and is not consistent with the typical cross section on sheet C8. There is insufficient information to determine the cross slope on the grading plan.

12. §4.1.5.6 - Where a grade is 4% or greater within 150' of an intersection, a level area of at least 75' in length with a maximum slope of 3% is required. The Final Plan (sheet C4 - grading plan) does not include this condition.

Insufficient information to confirm. The Grading Plan (Sheet C-4) indicates that 75' from Arbor Street max drive is 3%. However, the centerline stationing begins at the centerline of Arbor Street – it should begin at the edge of the Arbor Street right of way so that it is a definable, reproduceable location. The 3% leveling area is measured along the new portion of the roadway being created and depending on the scaling, may exceed 3%. It is noted that the Utility plan shows different grades which clearly exceed the 3%. A true centerline profile is required to show compliance with this requirement.

13. §4.3.1 -The driveway location at 70 Arbor Street is not shown on the Final Plan and could not be determined as to whether it is within 65' of the centerline of the intersecting street.

Resolved. The access neck has been offset to show it centered 75' from both driveways at 60 and 70 Arbor Street so it meets or exceeds this requirement. This has shifted the pavement so that it is not centered on the right of way creating other non-compliance with other sections of the Subdivision Regulations.

14. §4.7.7.2 - Catch basins are not allowed within a driveway cut section as shown (CB #1) on the Final Plan.

Resolved

15. §5.1.5 - The extent of work shown must be in compliance with the standard cross sections shown in Schedules A, B, and C. A typical cross section has not been provided.

Not Resolved. The Typical Cross Section on sheet C8 shows a 20' crowned road. The proposed roadway scales 16' and the cul-de-sac is 20'. Both sections have a cross slope rather than crown of an undetermined slope.

16. §5.2.4.1 - A level area of at least two feet (2') in width shall be provided from the shoulders to the beginnings of the embankment slopes. It is unclear as to whether or not the Final Plan depict a two-foot wide level area. However, the embankment slope along the northern side of the cul de sac appears to be steeper than 4:1 and very closely graded to the abutter's property.

Partially Resolved. The level area is shown on the Typical Cross Section (sheet C8). However, the Grading Plan (sheet C4) does not reflect the level area in the vicinity of Catchbasin 2 between the 77 and 76 contours. This area scales as a 2:1 fill embankment. The level area is shown at the base of the cut slope with a 2:1 slope and is graded to the property line.

17. §5.4.1.1.1 - The sump depth of a standard catch basin is shown on the detail as 4'-6". However, the catch basin drainage structures all include depths less than 4'-6" on the Final Plan (sheet C4-grading plan).

Resolved. The sump on the Catchbasin Detail (Sheet C8) shows a 4' sump which is consistent with the proposed elevations listed for the catchbasins.

18. §5.4.1.2.a - Reinforced Concrete Pipe is the preferred storm drain pipe material under roadways. However, High Density Polyethylene pipe is proposed and no waiver has been requested.

Partially Resolved. The plans indicate the use of Reinforced Concrete Pipe (RCP) however CCP is indicated in the Drain Manhole detail (sheet C8).

19. §5.10.2 - Street trees have not been provided along the roadway at 40' intervals. A waiver has not been requested. The Final Plan was unclear and difficult to determine the locations of the proposed trees.

Partially Resolved. Street trees are shown at 40' intervals. It is unclear as to which trees are proposed, existing to remain or existing to be removed. Two of the species are inappropriate for the locations shown. Please see comments by William Murray, RLA.

III. COMPLIANCE WITH SUBDIVISION RULES AND REGULATIONS:

3.1.2.2.4. "Zoning classification and location of any zoning district boundaries that may lie within the locus of the plan, including the location of land lying in the Flood Plain or Wetlands District". The zoning district was noted on Sheet C-2. We recommend that a note that no portion of the land is within the Flood Plain or Wetlands District.

3.3.3.6. "Aerial photographs to the scale of the site plan shall be required". The aerial shown on the cover sheet is at 1"=400' where the site plan is 1"=30'. The Board should determine if this is acceptable.

3.3.3.7 Lot 7 is not fully dimensioned. There is no street name listed.

3.3.3.15 Profile

The profile is a requirement of all subdivisions as it provides the details required for the vertical alignment to allow the Board to verify compliance with the design standards as well as to provide sufficient information to allow the roadway to be constructed as designed and shows drainage structures. With a standard profile, the centerline of the pavement is the centerline of the Right of Way and typically on a cul-de-sac, the centerline follows the pavement. The standard method to measure the length of the roadway, a straight line measurement is taken perpendicular to the cul-de-sac from where the centerline intersects at the street line of Arbor Street. A typical profile plan provides sufficient information to allow this centerline to be mathematically calculated and set in the field.

The centerline shown on this plan is a line drawn from a random point at the centerline of Arbor Street to presumably the center of the cul-de-sac and then to a point that appears to coincide with the centerline of the proposed driveway. There are no mathematical ties to these lines, and they cannot be exactly replicated in the field (unless using the AutoCAD drawing). This line does not have a clear correlation to the proposed pavement and provides no useable vertical information to either evaluate or construct the roadway as shown on the plans.

It is strongly recommended that the Board require the applicant's engineer to follow conventional design practices to create a centerline profile which correlates to the centerline of the pavement, from Arbor Street around the cul-de-sac.

3.3.3.15.1 Plan and Profile:

Existing profiles of the exterior lines and center line drawn in fine black line, dot dash for left, dot dot dash for right side, and dash for center line, and proposed profile of the finished center line drawn in fine black solid line of proposed streets at a horizontal scale of one inch (1") equals forty-feet (40') and vertical scale of one inch (1") equals four feet (4'), or such other scale acceptable to the Board. At least two (2) benchmarks are to be shown on plan profile sheets and grade elevations at every fifty-foot (50') station except in vertical curves which shall be at every twenty-five foot (25') station.

The profile portion should show the profile view of drainage structures and other utilities as appropriate. A typical profile will show the plan view of the pavement with the centerline stationing and dimensions for the pavement including pavement radii at intersections. The profile provided provides none of this.

The profile shown on Sheet C6 provides insufficient information for the construction of the roadway both vertically and horizontally. The cross sections shown do not correlate to any stations shown on the plan and cannot be replicated by construction.

3.3.3.16.1 Contour Plan

Existing and proposed topography at two feet (2') contour intervals and by symbols the highest known high water mark of the last one hundred (100) years. There shall also be indicated by differentiating symbols the contour line four feet (4') above said high water mark. All benchmarks will be noted, as well as items required in Section 3.3.3.9.

No symbol for the 100 year high water or a line 4' higher were found on the plans, nor was a waiver requested.

3.3.3.17.1 The Utility Plan was to be a separate plan for clarity. It is recommended that the applicant's engineer turn off layers, or gray out layers, so that the utility connections are legible.

3.3.3.18.1 Drainage Calculations are required to be performed using the Rational Formula with a 50 year design storm for street drainage, 100 year for culverts. It is noted that the engineer did not model individual structures so that there is no information to regarding velocities in the pipe network.

The calculations utilized the SCS TR-55 method in HydroCAD. This methodology is the preferred method for the Mass DEP Stormwater Regulations but is not consistent with the Subdivision Regulations. It is recommended that a waiver be requested and granted to allow modern stormwater models to be utilized.

It is noted that the proposed house location is different on the submitted plans than the post development drainage plans, resulting in a greater amount of impervious surfaces than with the house adjacent to the roadway. Should the engineer resolve the other plan deficiencies and waiver issues, it is recommended that the drainage calculations be consistent with the plan submitted. It is noted that there is a small amount of runoff from the lower portion of the roadway, below Catchbasin 3 and 4 which will flow into Arbor Street. The engineer should evaluate whether this qualifies as de minimus flows and the water quality complies with the Town's MS4 permit and Stormwater Bylaw.

The Stormwater Management Report needs to be stamped by a Professional Engineer and soil test holes for the infiltration system need to be performed by a Soil Evaluator with data shown on the plans..

3.3.3.20. Cross Sections The typical cross section on sheet C7 does not meet the Subdivision Standards. This roadway is a minor street (40' right of way) as it is a private dead-end street serving 3 or fewer lots. The regulations allow a 16' paved width and the site plan has 16' along the access neck and 20' around the cul-de-sac.

- the cross section shows a crown, the roadway is graded for superelevation around the cul-de-sac and an irregular crown along the access neck. The no cross sections are provided for these variations.
- The cross section provided did not include the requirements for guard rails (5.2.4.2) where the slope is greater than a 4 to 1 vertical downhill or a 2:1 uphill. The grading scales as a 2:1 downgradient on the portion of the cul-de-sac closest to the existing dwelling.

4.1.2.2.2.1 Prohibits reserve strips. Lot 7 could be construed as a reserve strip or a non-conforming lot created by the roadway right of way. It is recommended that this "lot" be called a parcel and a note be added that it is not a building lot. The Planning Board should decide if further notes are applicable to limit further lot creation from this right-of-way without Planning Board approval.

4.1.3.5. *Property lines at street intersections shall be rounded or cut back to a radius of not less than forty feet (40').* The property lines at the intersection with Arbor Street have a short section with a radius of 40' but the remainder of the property line is a 10' radius. A waiver would be required for the current configuration.

If this requirement is not waived, the cul-de-sac would shift further into the site, to the east, making the proposed cul-de-sac longer and using more land area within the roadway. The proposed lot, Lot 6 is currently 80,063 s.f.. If the cul-de-sac is shifted back, it is unlikely that there would be sufficient lot area to meet the 80,000 s.f. (lot on a minor street). Please see attached sketch at the end of this letter.

4.1.4.3 A sidewalk waiver has been requested (note this is a duplicate with 5.5 Sidewalks and both sections should be waived concurrently).

4.1.5.1 and 4.1.5.2 The centerline profile does not follow the centerline of the pavement. By scaling contours, it appears that this requirement is in compliance, but a centerline profile is required for verification and to direct the contractor.

4.1.5.3 The profile shows a vertical curve which does not relate to the proposed pavement. There is no curve data, no centerline elevations at 25' stations through the curve.

4.1.5.4 The typical cross section (sheet C8) is not consistent with the grading plan.

4.1.5.6.

4.1.7.1 *"The distance between curb line and property line at any intersection shall be the same as along the approach portions of the intersecting streets. Curb and street line radii shall be in accordance with 4.1.3.5."* The access portion of the roadway is skewed and does not align with the centerline of the right-of-way with the new roadway. The proposed pavement of the access neck scales 2' on the right to the right-of-way. The plan does not label the pavement radii so compliance to the radii cannot be assessed. A waiver from this section is required to construct the roadway as shown on the plan.

4.1.8.1 There is no indication as to a street name or if the new lot will have an Arbor Street address.

4.3.1 There is no indication of the geometry of the proposed driveway nor is there a detail indicating compliance with this section requiring a 10' width with a 20' width at the gutter line.

4.6.1. Lot Drainage. It is recommended that a positive overflow path from Catchbasin 2 be defined towards the front of the lot to prevent water from ponding near the foundation in the event of extreme weather events like this past July with heavy intense rainfall.

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4.7.5.4. A waiver is requested from the 8" water main to allow a single 1" water service. It was previously waived. It is recommended that a detail be provided on the Detail Sheet C8.

4.7.7.1. The drainage requires the use of the Rational Method. A waiver is recommended to allow the use of the SCS TR-55 used in the HydroCAD stormwater modelling.

4.7.7.3. Relates to self-cleansing velocities in pipes. It is noted that the design engineer considered flows to the infiltration area as a subcatchment rather than to individual structures so that there are no calculations of flow to individual catchbasins.

4.7.8.1 Electricity – no transformer is shown, screening is required.

4.7.10. Fire Hydrant. A waiver is recommended if the Board grants the waiver from the requirement of an 8" water main as the 8" is needed to serve a hydrant.

4.8.1 Sheet C2 does not identify bounds to be set although there is an open square symbol which is commonly used to depict bounds to be set. A key is recommended. Two additional bounds to be set are required at the PC and PT of the 60' radius curve. The plan should also identify the specifications as required in Section 5.11.1.

4.9.1 A waiver is requested from the requirements of sidewalks.

5.1.2. It is recommended that a note be added to the detail sheet indicating that "All construction shall be in accordance with the MassDOT Standard Specifications for Highways and Bridges, 2020 edition."

5.2.1.5.4 Requires road oil on the pavement foundation. This is an outdated practice and is no longer in use due to environmental concerns. A waiver is recommended. This office does recommend a tackifier coat between the binder coat and finish coat of pavement, as it is similar to the glue in plywood and creates a better, long lasting pavement.

5.2.4.1 *"Where the difference in grade between the roadway shoulder and the existing ground is ten feet (10') or less, in either earth excavation or embankment, a four (4) horizontal to one (1) vertical or flatter slope shall be used; where the difference in grade exceeds ten feet (10'), two (2) horizontal to one (1) vertical is required."* While not labeled, it appears a 2:1 slope was used near Catchbasin 2 with less than a 10' fill slope rather than a 4:1 slope. The cut slope above the infiltration area appears to be 9' vertically and a 2.25 :1 slope. This office would recommend a 2:1 on the cut slope and the 4:1 on the fill slope. A waiver is required to maintain the slopes as proposed.

5.2.4.2 *"Guard rails shall be furnished whenever the slope is greater than four (4) to one (1) vertical downhill or two (2) to one (1) uphill."* No guard rail detail was provided or indicated on the plan. A waiver is required to construct the site as currently designed.

5.2.5.2 Erosion Control. The following comments relate to the Erosion and Sedimentation Plan, Sheet C3:

- The silt sox and fence are shown going across the entrance onto the site. Recommend it terminate on either side of the stabilized construction entrance.
- The Stabilized Construction Entrance should be large enough to accommodate construction trucks and equipment.
- It is recommended that there be additional notes added requiring the protection of the infiltration area from vehicular or storage both prior to installation and after to prevent over compaction. Additional notes should be added for its construction given the depth and proximity to the cut slope.
- The drainage system should be constructed from the downstream site up.
- It is recommended that consideration be given to the use of stump grindings or erosion control mats for temporary slope stabilization where slopes are greater than 3:1.
- It does not appear that this construction will disturb more than 1 acre, triggering the NPDES requirements for a Construction General Permit (CGP) for this site. However, it is recommended that provisions from the CGP be followed including the temporary stabilization of stockpiles if they are to remain more than 3 weeks, the covering of dumpsters, a designated concrete washout station, etc.

- It is strongly recommended that verbiage be added to the plan to address extreme weather conditions – rainfall in excess of 2", flood watches or hurricanes. The silt sacks typically cannot handle intense rainfall resulting in bypass flows or ponding. It is recommended that provisions be made for temporary settling basins, diversion swales, check dams etc. This office has seen the use of crushed stone, stump grinding berms or sandbags as temporary means to control runoff in these extreme conditions.
- Any additional items from the Stormwater Bylaw submittal requirements in the Wenham Planning Board Rules and Regulations Updated June 6, 2019, including the TSS removal rates.

5.4.1.1.1 The catchbasin sump depth is the 4' required by the DEP Stormwater Guidelines. The catchbasin frame and grate is not specified. It is noted that the Drain manhole detail refers to a CPP pipe, RCP is required and identified on the drainage plan. A Drainage Emitter detail is provided but is not specified or identified on the plans. The 12" drain lines from catchbasins 3 and 4 enter DMH #3 at sharp angles and at the same elevation. The manhole should be evaluated to determine if these pipes fit in the standard 4' diameter manhole with a minimum of 6" of sidewall between pipes to maintain the structural integrity of the manhole.

5.4.1.1.2 There is less than 3' of cover over the pipes from Catchbasins 2, 3, and 4. No pipe bedding detail is provided.

5.5. Sidewalks – waiver requested. (note this is a duplicate with 4.1.4.3 Sidewalks and both sections should be waived concurrently).

5.8.1. No guard rail detail is provided. (see 5.2.4.2).

5.9.2. A note should be added to the plans requiring 4" loam. It is recommended that consideration be given to spreading a 2" layer of glacial till and yolk raking it into the sandy soils prior to spreading loam in any areas which will not be irrigated. The glacial till may slow down the infiltration rate, helping to establish the vegetation cover.

5.10. The following comments are from William Murray, RLA regarding the Tree and Landscaping Plan:

- The plan is not clear as to which plantings are existing, proposed or to be removed/transplanted.
- There is no loam and seeding specification including soil testing.
- There are no specifications for proposed plantings – size, b&b, pot, nursery grown etc.
- If Elm is specified, it should be specified as a disease resistant variety.
- American Beech is not an appropriate street tree, particularly near the infiltration area because it gets very large and has a shallow spreading root system.
- The Western Rd Cedar has an incorrect name – it is Thuja plicata. It is not appropriate for this location as it grows to 100'+ and prefers moist to wet soils.
- It is recommended that the invasive Norway Maple be identified as to be removed.
- There are no planting details indicating the soils, staking etc.
- There is no screening along the northerly abutter where the roadway results in grading up to the property line. Any trees at or just over the property line should be evaluated to determine if the cuts will remove a significant amount of the root system jeopardizing the survival of the tree.
- White pines typically have low branches when they are young. It is recommended that it not be utilized at the intersection as it may impede sight distances.
- There are no plantings specified for the cul-de-sac island. Trees and shrubs are recommended.

5.11.1 The specifications for the granite monuments should be added to Sheet C2. See comment 4.8.1.

5.12.1. It is unclear as to whether this proposed roadway will have a street name. At a minimum, it is recommended that a private street sign and a stop sign be provided.

IV. OTHER PLAN COMMENTS:

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1. The Fire Truck Site Access Sheet C9, does not identify which piece of apparatus was utilized for this plan preparation. It is recommended that the largest apparatus which typically responds to a call be used in the analysis as well as a common delivery truck.

This turning analysis shows the outline of a vehicle outside of the turning paths on the southerly side of the intersection which is not typical. This analysis, which does not label any of the linework, also seems to indicate that the vehicle will overhang the edge of pavement when making the turns at the intersection. This could be a hazard in the winter with snowbanks and the Board may want to consider requiring this portion of the roadway to be 20' wide, consistent with the cul-de-sac. It is recommended that the Fire Department provide their comments on the acceptability of this condition.

2. There are discrepancies between different sheets within the same submittal data. The grading is shown differently on the Utility Plan C5 than the Grading and Stormwater Management Plan C4. The proposed house in the Stormwater Management Report differs from the house in the plan set. All plans and details should be cross checked for consistency within the submittal documents.

In summary, while many of the above mentioned plan deficiencies can be resolved with plan revisions there are still significant non-compliant issues. The most critical one is the minimum lot line radius, which will require a waiver in order for this subdivision to be viable (see sketch). Other issues can be resolved with careful plan revisions/checking and others with waivers that are more housekeeping from the regulations not being updated to current standards, particularly with drainage.

Thank you for this opportunity to work with the Board. Please contact the undersigned should there be any question or clarification needed.

Very truly yours,
Places Associates, Inc.

By:



Susan E. Carter, P.E., LEED AP
President, Director of Engineering

Encl. Overlay of Roadway with 40' Radius

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