



October 27, 2025

Mr. Gregory Rondeau, Chairman
355 East Central Street
Franklin, MA 02038

**Re: Adin Estates Definitive Subdivision
Peer Review**

Dear Mr. Rondeau:

BETA Group, Inc. is pleased to provide engineering peer review services for the proposed 6-lot Definitive Subdivision entitled "**Adin Estates**" located in Franklin, Massachusetts. This letter is provided to outline BETA's findings, comments, and recommendations.

BASIS OF REVIEW

The following documents were received by BETA and formed the basis of the review:

- Form C Application for Approval of a Definitive Plan, dated July 15, 2025, including the following attachments:
 - Certificate of Ownership with Deed
 - Form R-Subdivision Waiver Request
 - Certified Abutters List: and
 - Streetlight Manufacturer's sheet
- Plans (10 sheets) entitled: **Adin Estates, Definitive Subdivision, Plan of Land, Franklin Massachusetts**, dated July 15, 2025, revised October 10, 2025, prepared by Guerriere & Halnon, Inc. of Franklin, MA.
- **Stormwater Report for Adin Estates, Franklin, MA**, dated July 16, 2025, revised October 10, 2025, prepared by Guerriere & Halnon, Inc. of Franklin, MA.
- **Supplemental Environmental Letter**, dated October 14, 2025, prepared by Guerriere & Halnon, Inc.

Review by BETA included the above items along with the following, as applicable:

- Site Visit
- **Zoning Chapter 185 From the Code of the Town of Franklin**, current through July 2021
- **Zoning Map of the Town of Franklin, Massachusetts**, attested to October 7, 2020
- **Stormwater Management Chapter 153 From the Code of the Town of Franklin**, Adopted May 2, 2007
- **Subdivision Regulations Chapter 300 From the Code of the Town of Franklin**, current through March 8, 2021
- **Wetlands Protection Chapter 181 From the Code of the Town of Franklin**, dated August 20, 1997
- **Town of Franklin Best Development Practices Guidebook**, dated September 2016

Compiled Review Letter Key

BETA reviewed this project previously and provided review comments in letters to the Planning Board dated August 13, 2025 (original comments in standard text). Guerriere & Halnon, Inc. (G.H.) has provided responses (*responses in italics*) and this letter includes BETA's comments on the status of each (***latest status in bold italics***).

INTRODUCTION

The project site includes one parcel, No. 304-016, with a total area of 4.65± acres located along the westerly side of Union Street opposite Delta Drive. The parcel is zoned Single Family Residential III. Currently there is a vacant single-family dwelling at No. 543 Union Street. A portion of the site is forested but most of the parcel was previously used as a blueberry farm.

The proposed development is a 6-lot residential subdivision with one additional lot dedicated to stormwater control. Each lot will be a minimum of 20,000 square feet in accordance with the underlying zoning regulations. The proposed roadway will be a 570± foot long dead end. Roadway grades will vary from 1.00% to a maximum of 4.90% from elevation 328 at Union Street up to elevation 340.47 at the crest of the roadway at the cul-de-sac. All the proposed dwellings will be connected to the municipal sanitary sewer system and water supply system. A fire hydrant will be placed at the end of the 8" water main at the end of the cul-de-sac. Stormwater runoff will be collected by a series of catch basin in the proposed way. An infiltration basin is proposed on the first lot on the north side of the roadway. The outlet from the proposed basin will connect to the existing municipal collection system in Union Street. In addition to the basin, each of the lots has a proposed subsurface infiltration system in the front yard, which is proposed to treat and infiltrate the runoff from the impervious surfaces on the lot.

SUBDIVISION RULES AND REGULATIONS

I. PLAN SUBMISSION:

The Definitive Plan is 11 sheets, which include a cover sheet, lotting plan, existing conditions plan, erosion control plan, site layout, utility plan, grading plan, roadway plan & profile, and construction details. BETA has the following comments regarding the contents of the plans.

- I.1. In accordance with A.(1)(c), at the same scale as the definitive plan, a development plan of the premises plus adjoining land within 300 feet of the property line." The development plan should include the adjoining land to the limits as identified. As a minimum, BETA recommends that the structures, driveways, and topography (USGS 2022 LIDAR contours are acceptable) for the dwellings at 511, 513, 517 & 547 Union Street be shown.

G.H. Response: Topography, building locations, and driveway locations have been added to the Pre and Post Development Sheets

BETA Response: The requested information has been added to the Watershed Plans included within the Stormwater Management Report. BETA defers to the Town if this information need to be added to the Definitive Planset, to which §300-8-A.(1).(c) pertains.

- I.2. In accordance with A.(1)(i), Zoning District Boundaries should be indicated on the Locus Plan, Sheet 1.

G.H. Response: Revised as Requested

BETA Response: Plan revised. Issue resolved.

- I.3. In accordance with A.(2)(a) and B(2), 3 ties into the Massachusetts Coordinate System should be identified.

G.H. Response: coordinates shown on Sheet 2

BETA Response: Plan revised. Issue resolved.

- I.4. In accordance with A.(2)(g), sight distances at the entrance should be identified in compliance with §300-10B(6).

G.H. Response: Sight Distance is depicted on Sheet 5 of 11 and the Exhibit Plan.

BETA Response: Plan revised. Issue resolved.

- I.5. In accordance with B.(2)(d)&(h), add the width of the right of way and the tangent length of all curves to Sheet 2.

G.H. Response: All data requested is depicted on Sheet 2, Lotting Plan.

BETA Response: The width of the right of way has been indicated. Identify the tangent length of all curves.

- I.6. In accordance with B.(2)(i) location, names, and width of the adjacent streets should be identified.

G.H. Response: Union Street is a Public Way, Variable Width with a pavement width of 26.5 +/- as shown on Sheet 2

BETA Response: The above information is required for all streets bounding, approaching, or within reasonable proximity of the subdivision. Therefore, provide the location, name, and present width of Delta Drive.

- I.7. In accordance with B(2)C Street Plan and profile contents, the following items should be added to Sheet 8:

- Bearings and distances on the exterior lines of the way (§300-8C.(1))
- Road centerline stationing (§300-8C.(5))
- Proposed streetlights (§300-8C.(8))

G.H. Response: the data has been added to Sheet 8, Plan and Profile

BETA Response: Plan revised. Issue resolved.

- I.8. In accordance with §300-8D., an Environmental analysis is required.

G.H. Response: Acknowledged

BETA Response: A letter has been provided containing the information required for the environmental analysis. BETA has reviewed the letter and finds the responses to each question generally satisfactory.

II. DESIGN AND CONSTRUCTION STANDARDS:

In accordance with Article IV, BETA has the following comments.

- II.1. The centerline offset with Delta Drive is less than 200' (§300-10,B.(5)(b)). BETA recommends that the offset with Delta Drive be identified. Ideally, the offset should be zero otherwise a waiver is required.

G.H. Response: Town Engineer Mike Maglio recommended the alignment remain unchanged at the 9/22/25 meeting.

BETA Response: Acknowledged. A waiver must be requested for this requirement.

- II.2. In accordance with §300-10,E.(3) *Approval of dead-end streets may be contingent upon provision of easements and necessary facilities to allow continuity of utility and drainage systems.* BETA will defer this issue to the DPW whether a utility easement should be provided from the end of the cul-de-sac to the westerly property line. BETA notes that there is an existing sewer easement along the westerly property line on the abutting parcels.
G.H. Response: Acknowledged.
BETA Response: No further comment.
- II.3. Revise the roadway cross section on Sheet 9 to indicate that the curbing will be vertical granite, consistent with Sheet 5 and the vertical granite curb detail. BETA notes that historically, the Board has required the use of vertical granite curbing throughout subdivisions where sidewalk is only provided on one side of the roadway.
G.H. Response: Revised to show vertical granite curbing.
BETA Response: The cross section has been revised. Issue resolved.
- II.4. In accordance with §300-11B.(2)(a) the minimum cover for drainage piping is 42". None of the piping from the catch basins meet this criterion; however, Class V piping is proposed, which has historically been acceptable to the Planning Board as part of a waiver request. BETA recommends for the waiver to be added to the request on the cover sheet and defers this issue to the Board.
G.H. Response: Acknowledged, a waiver will be added to the request on the cover sheet.
BETA Response: The waiver request does not appear to have been added to the cover sheet. Issue remains outstanding.
- II.5. In accordance with §300-11B.(3)(a) catch basins are required at all low points in the roadway. Catch basins are not provided at the low point at STA 0+94.19.
G.H. Response: Roadway Profile has been revised to allow for catch basins at all low points.
BETA Response: Additional catch basins provided. Issue resolved.
- II.6. BETA recommends that the catch basin sumps on the profile be corrected graphically to show the 48" sump.
G.H. Response: Revised, all catch basin sumps are now shown.
BETA Response: Profile revised. Issue resolved.
- II.7. In accordance with §300-12A.(2)(c) water mains shall be set on a 12" bed of sand. The detail on Sheet 9 shows a 4" bed and should be corrected. In addition, the designer should review the Franklin Department of Public Works Standard Document for Water Materials and resolve the detail to comply with each, including a note referencing the above.
G.H. Response: Acknowledged, the detail on sheet 9 will be correct to show a 12" bed of sand.
BETA Response: The detail on Sheet 9 shows a 6" bedding. Issue remains outstanding. In addition, the designer should review the Franklin Department of Public Works Standard Document for Water Materials and resolve the detail to comply with each, including a note referencing the above. Note: the water main has been removed from the design and each home will be serviced by a private well.
- II.8. In accordance with §300-12A.(2)(e) hydrant spacing shall not exceed 500'. Only 1 hydrant is proposed, and it is 560'± from the intersection with Union Street.
G.H. Response: The subdivision is now proposed for 5 lots with individual wells

BETA Response: *In accordance with §300-12A.(1)(c), the Planning Board shall approve a subdivision with a private water supply only under the following determinations:*

- *That adequate water supplies are available for fire safety through reserved access to an existing or created fire pond, dry hydrants piped to a pond or other means to be determined following consultation with the Fire Department; and*
- *That water supplies for domestic use are likely to be able to meet Board of Health regulations for yield and quality.*

BETA recommends that the proposed design be reviewed by the Fire Department and the Board of Health regarding these determinations.

Furthermore, §300-12A.(1)(a) states that water supply shall be provided from a public water supply system, wherever feasible. The Applicant should demonstrate that a connection to the public water supply is infeasible.

- II.9. The sewer manhole in the cul de sac is 15'± deep. BETA recommends that the designer review the sewer design to reduce this depth.

G.H. Response: The sewer manhole depth has been set to allow for the sewerage of the slabs of the proposed houses, the manhole depth has not been revised.

BETA Response: Acknowledged. Issue resolved.

- II.10. In accordance with §300-12B.(2)(a) sewer piping shall be set on a 6" bed of ¾" screened gravel stone. The detail on Sheet 9 shows a 4" bed and should be corrected. As noted above, the designer should review the Franklin Department of Public Works requirements to ensure that the installation will satisfy the requirements.

G.H. Response: Acknowledged, the detail on sheet 9 will be corrected to show a 12" bed of sand.

BETA Response: The detail identifies the bedding as 6" above rock/ledge and 4" above undisturbed earth. Designer should review the Department of Public Works requirements to ensure that the installation will satisfy the requirements.

- II.11. Underground electric layout is shown but connections to the 2 proposed streetlights should also be shown.

G.H. Response: Site plan revised

BETA Response: Plan revised. Issue resolved.

- II.12. In accordance with §300-13C.(1) the slope of the grass strip outside the sidewalk should have a maximum slope of 3 horizontal to 1 vertical. The typical roadway cross section on Sheet 9 should be corrected to reflect this slope.

G.H. Response: Detail has been revised

BETA Response: Detail revised. Issue resolved.

- II.13. In accordance with §300-13E.(2)(a), 3 street trees are required on each lot. An additional street tree is required on Lot 2. In addition, BETA recommends that the tree locations be coordinated with the final stormwater design to ensure that they do not overlap.

G.H. Response: Trees have been adjusted

BETA Response: Trees revised. Issue resolved.

- II.14. There are stormwater features proposed on all residential lots. No easements associated with these improvements are shown, yet they are critical to the continued ability of the proposed infiltration basin to protect against flooding on or near the proposed intersection. In accordance with §300-14B.(2), for a water storage facility the Board may require a stormwater easement. BETA will defer this issue to the Board and Department of Public Works but strongly recommends that easements or deed restrictions be provided around each of these features.

G.H. Response: The stormwater design has been revised to exclude these features.

BETA Response: Plan revised. Drain easements appear to be appropriate. Issue resolved.

III. STORMWATER DESIGN STANDARDS:

The proposed stormwater management design relies on a series of subsurface infiltration structures at each residential lot. The primary system for the runoff from the roadway will be an infiltration basin at the front right corner of the subdivision behind the residence at 517 Union Street. In addition, a localized infiltration basin will be formed at the rear of lots 3&4 which will intercept the runoff from the abutting parcels at 43 & 45 Coutu Street. All the subsurface systems on the lots have been sized to capture and infiltrate all the runoff from a 100-year frequency rainfall. The infiltration basin will be connected into the existing municipal system in Union Street. Discharge from the proposed basin into the system in Union Street will occur during a 25-year storm and greater at a reduced rate from existing conditions.

BETA2: The stormwater management design has been revised such that the majority of stormwater runoff from impervious areas will be directed to the infiltration basin on Drainage Parcel A.

The soils on site are classified by the NRCS-WSS as a Merrimac fine sandy loam, defined as Hydrologic Soil Group A which is extremely conducive to infiltration. Six test pits were conducted on site, primarily around the proposed infiltration basin. Groundwater was encountered at 10' and the soil encountered was consistent with the NRCS classification.

The site is an active u-pick blueberry operation, which would explain the limited number of test pits conducted on site. It is important to note that no test pit data is available in the location of any of the proposed subsurface stormwater infiltration systems on each of the lots.

The concept of the stormwater plan as proposed is to intercept the runoff from the proposed impervious surfaces on the lots prior to reaching the roadway system. This will effectively reduce the sizing requirements for the proposed basin, which as designed will only treat the runoff from the proposed roadway and sidewalk surface area. The design of the proposed infiltration basin is predicated on the efficacy and continued maintenance of the systems on each of the lots. There are no easements or O&M Agreements proposed at this time to ensure that these systems will be installed and/or maintained or preserved by the lot owner. BETA has no issue with the common practice of subsurface systems for roof runoff. However, each of the proposed driveways are graded to drain towards the roadway. In BETA's opinion, the proposed basin and stormwater collection system in the roadway should be sized to accept and treat the runoff from the proposed driveways.

Since this stormwater concept requires several significant waivers from the subdivision rules and regulations, BETA will provide the Board at this time with general comments related to the stormwater design until the Board endorses the concept.

III. GENERAL COMMENTS

- G1. In accordance with §300-11A.(4), *Stormwater management components must be located on a separate lot.....* As noted above, stormwater components are proposed on all the lots.

G.H. Response: Stormwater design has been revised to exclude these features.

BETA Response: Plan revised. Issue resolved.

- G2.** There is an existing localized depression at the westerly edge of the parcel that accepts and infiltrates runoff from a portion of the existing parcel and the abutting residential lots to the west of the site. A small portion of this depression will remain, separated, on Lot Nos. 3, 4, & 5 and stormwater design depends upon the retained depressions. BETA defines these depressions as stormwater management components, and they are subject to §300-11A.(4) like the proposed subsurface systems on the lots. Based on the proposed grade changes associated with the lot development, BETA recommends that this runoff be directed towards the roadway system or set in a separate lot in accordance with the rules and regulations.

G.H. Response: Revised to direct this runoff towards the roadway system.

BETA Response: A catch basin has been added to this depression which conveys stormwater runoff to the primary drainage system. A drainage easement is provided that includes this catch basin. Issue is resolved.

- G3.** In accordance with §300-11.B.(2) “(c) At each outfall of a drain line, a Type B winged headwall of reinforced concrete shall be constructed” A flared end is proposed at the discharge from DMH2. BETA recommends that the applicant’s designer either request the waiver or modify the design to comply with the regulations.

G.H. Response: Acknowledged, a waiver will be added to the request on the cover sheet.

BETA Response: No waiver request is identified on the cover sheet. Issue remains outstanding.

- G4.** In accordance with the stormwater standards, test pit data is required at all infiltration structures. No test pit data has been developed for any of the proposed infiltration structures outside of the basin.

G.H. Response: Stormwater design has been revised to exclude these structures.

BETA Response: Plan revised. Issue resolved.

- G5.** BETA recommends that the designer review the delineation of the existing watershed area EX-3. Based on the contours, the rear westerly corner of the parcel should be delineated within this area.

G.H. Response: Revised

BETA Response: Model revised. Issue resolved.

- G6.** The proposed outlet control structure from the infiltration basin is a 12” dia. PVC standpipe. BETA recommends that a multi-stage concrete structure be designed and utilized but will defer the decision to the Board and the DPW.

G.H. Response: Revised to include a concrete outlet control structure.

BETA Response: Outlet control structure revised. Include the 12” RCP outlet in the hydroCAD model to ensure that it will not restrict flows out of the basin.

- G7.** In accordance with Volume 2, Chapter 2 of the standards, a low-level outlet, accessible during flood events, that will drain the basin completely is required.

G.H. Response: A 6” low-level outlet has been shown as part of the outlet control structure.

BETA Response: Outlet provided. Indicate on the plans and detail whether this outlet will be closed during normal operation and the means of opening and closing the outlet.

- G8.** In the existing conditions analysis, BETA recommends that the designer use actual impervious surface areas in the analysis of EX-4 rather than a generic CN value for ½ acre lots.

G.H. Response: Without on-ground topography, we do not feel comfortable making the required assumptions for these lots. We have revised off-site lots that we feel we can adequately define from satellite imagery and aerial photos.

BETA Response: Based on a review of satellite imagery, the use of “1 acre lots, 20% imp” does not seem representative of this area. Freely available aerial imagery should be sufficient to accurately model offsite portions of subcatchments as a mixture of grass, woodland, pavement, and roof areas.

- G9.** A trench drain does not qualify as a deep sump catch basin and should be eliminated from the TSS Removal calculation sheet for the lot chamber systems. If the Board accepts this design concept, the Isolator row will fulfill the pretreatment requirements for the subsurface system.

G.H. Response: Trench drains have been removed from the design.

BETA Response: Issue dismissed.

- G10.** A small portion of the proposed roadway will flow untreated towards the MS4 system in Union Street. The calculations assume that this runoff will flow into the swale along the north side of the right of way however, there is no feature provided which will ensure that this runoff is directed into the swale. Adjust the calculations accordingly and demonstrate compliance with the standards.

G.H. Response: The design has been revised to include catch basins instead of a superelevated roadway with a curb cut.

BETA Response: Plan revised to include catch basins. Clarify intended treatment train for this area. The stormwater report narrative notes a “contech water quality unit” and a structure “WQU-1” is labeled on the drainage profile, but not the plans. Clearly label this structure in plan view and include the detail in the definitive plan set. Revise the narrative for Standard 4 to describe this system and include calculations confirming that it can provide the required pollutant removal rates and meet the required water quality flow rate. BETA defers to the Town as to whether Franklin DPW is willing to maintain the water quality structure.

- G11.** The velocity in the culvert from DMH1-DMH2 as shown in the calculations is only 2.02 feet/second at the peak of the 25-year storm. BETA recommends that the slope of this culvert be increased to bring the actual velocity up to the minimum 2.5 ft/sec.

G.H. Response: Revised

BETA Response: System revised. The velocities for all manhole to manhole connections are now 2.5 ft/sec or greater. Issue resolved.

ADDITIONAL COMMENTS

- G12.** **BETA2: The Stormwater Checklist indicated LID measures utilized includes “country drainage.” It appears no country drainage is being used for impervious surfaces. Revise the checklist.**

- G13. BETA2: Provide a plan showing the incremental areas contributing to each catch basin (§300-8.A.(1)(d)).**
- G14. Provide the horizontal centerline radius of the curve on the Lot Plan (310-10.B.(5)(a)).**
- G15. The Operation & Maintenance Plan indicates that it is the responsibility of the owner to perform maintenance of the stormwater management system once construction is completed. BETA assumes that once the subdivision is completed and homes occupied, the "owner" will not be a single entity. Confirm whether the subdivision will have a homeowners' association that will handle maintenance and cleaning of stormwater features or if the subdivision will be incorporated as a public right of way, in which case the Franklin DPW would be responsible for cleaning and maintaining the stormwater management system.**

SUMMARY

Based on our review of the Definitive Subdivision, the Applicant is required to provide additional documentation and design revisions to comply with the Subdivision Rules and Regulations. We look forward to meeting with the Board to present our findings and recommendations as outlined above. If you have any comments or need any further assistance regarding this matter, please do not hesitate to contact us.

Very truly yours,
BETA Group, Inc.



Steven Lee, PE, SE
Senior Project Engineer