



February 7, 2025

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

**Re: Panther Way “Senior Village”
Site Plan and Special Permit Review**

Dear Mr. Rondeau:

BETA Group, Inc. (BETA) has reviewed documents for the project entitled “**Panther Way Senior Village**” located at Panther Way 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 form the basis of the review:

- Application for Approval of a Site Plan, dated December 19, 2024, including the following attachments:
 - Form P
 - Certificate of Ownership
 - Quitclaim Deed
 - Certified Abutters List
- Plans (17 sheets) entitled: “**Site Plan, Panther Way**” Franklin, MA dated December 13, 2024, prepared by United Consultants, Inc. of Wrentham, MA.
- Plans (3 sheets) entitled: “**Pre-development Watershed Plan, Post-development Watershed Plan, and Stormwater Facilities Plan**”, dated December 13, 2024, prepared by United Consultants, Inc. of Wrentham, MA.
- Plan entitled: “**Site Plan of Lots, Senior Village Panther Way**” Franklin, MA dated December 13, 2024, prepared by United Consultants, Inc. of Wrentham, MA.
- Letter report from Tetra Tech addressed to Brad Chaffee, President Camford Property Group, **RE: Traffic Impact Assessment, Proposed Senior Village, Mixed Use Development, Panther Way, Franklin, Massachusetts, dated October 10, 2024.**
- Stormwater Report for Site Plan-Senior Village, dated December 13, 2024, prepared by United Consultants, Inc.

Review by BETA will include the above items along with the following:

- **Chapter 185: Zoning From the Code of the Town of Franklin**, adopted March 5, 1930
- **Chapter 300: Subdivision of Land From the Code of the Town of Franklin**, adopted September 29, 1986
- **Massachusetts Wetlands Protection Act 310 CMR 10.00** effective October 24, 2014
- **Massachusetts Stormwater Handbook** effective January 2, 2008 by MassDEP
- **Chapter 153: Stormwater Management From the Code of the Town of Franklin**, Adopted May 2, 2007

- **Wetlands Protection Chapter 181 From the Code of the Town of Franklin**, dated August 20, 1997
- **Town of Franklin Best Development Practices Guidebook**, dated February 2021

1.0 SITE AND PROJECT DESCRIPTION

The project site includes three parcels, Lots 270-28, 38 & 39 with a total area of 18.39 acres located at 100-102 Panther Way in the Town of Franklin (the "Site"). The Site is located within the Commercial II Zone and the Senior Village Overlay District along Panther Way. There is an existing commercial warehouse and office building located at 100 Panther Way on the parcel currently which will be separated from the Senior Village Housing. Once separated, the commercial site lot will have an area of 2.73 acres while the remaining 15.02 acres will be associated with the proposed senior village. Lots to the north and west of the Site are within the Residential VI district and are all occupied by multi-family residential dwellings in each of the lots. The lots to the south of the parcel are within the same district. These lots all front on West Central Street and are each occupied by a commercial use. Across Panther Way north of Edward Street, the area is zoned Rural Residential II, although the parcel at the intersection is vacant and the northerly parcel is owned by the Town of Franklin. Thus, there are no single-family residential abutters to the parcel. There are flagged wetlands at the rear of the site. The Site is heavily wooded except for the immediate area around the commercial building at 100 Panther Way and the stormwater feature adjacent to the Panther Way right of way which accepts stormwater runoff from the commercial site.

Topography at the Site varies significantly across the site. The low point on the parcel is located adjacent to the Panther Way right of way at elevation 254. The slope across the lot is primarily from north to south across the lot towards West Central Street. The high point of the parcel along the northerly property line sits at elevation 340, 86' above the grade at Panther Way. The Site is not located within an NHESP-mapped estimated habitat of rare or endangered species. As previously noted, there is a flagged wetlands area at the southwest corner of the parcel which flows south towards West Central Street. NRCS soil maps indicate the presence of Charlton-Hollis-Rock Complex and Hinckley Loamy Sand soils, with a Hydrologic Soil Group (HSG) rating of B & A respectfully (excellent infiltration potential). There are several areas of exposed ledge at the middle of the parcel along the southerly property line.

The project proposes to provide a 1000' long, 24' wide roadway from Panther Way 1,000'± to a cul de sac. The entrance on Panther Way will be located north of the existing stormwater feature which serves the commercial site at 100 Panther Way. This primary roadway along with 2 additional 24' wide ways which extend south from the primary entrance roadway, will provide access to a combined total of 29 single family and duplex units. The first roadway to the south will extend to the existing commercial site at 100 Panther Way and provide a second access point into the development area. The intersection of this way is located 630± feet from the entrance on Panther Way, thus the length of the dead end is limited to less than 400'. In addition to the 29 residential units, a multi-use building with a separate access point from the primary roadway will be provided at the front of the lot behind the stormwater feature. This structure will have a separate parking area and as noted will have 20 apartment units. There is no note on the plans relative to any other use. Vertical concrete curbing is proposed along all the access roadways. Based upon the vertical relief on the parcel, roadway grades will vary from 3-8% with most at the steeper grade of 8%. Although not noted, it appears that each of the single family and duplex units will have a two-car garage. A sidewalk will be provided along the southerly edge of the primary access roadway. There is no sidewalk on Panther Way, however, the development proposes a separate walkway from West Central Street north into the parcel. Overall, the walkway will be approximately 2,000'. No outdoor lighting is indicated on the plans either along the roadways or at the units.

The Landscaping will consist of 325 trees. No additional amenities are proposed in the development. Proposed utilities include domestic water, electric & telecommunications, and sanitary sewer. 3 hydrants will be provided throughout the development area and the proposed apartment building will have a sprinkler system. Stormwater management is proposed via three subsurface infiltration basins and the existing basin at the front of the parcel. Catch basins and manholes will be used to collect the runoff from the roadway surface.

A total of 8 waivers have been requested from both the bylaws and subdivision rules and regulations as they relate to the roadway design, are listed on sheet 1 of 17 and summarized in Section 2.0 below.

2.0 WAIVERS

The Applicant has requested the following waivers from the submittal requirements:

- WA1. To allow Less than 42" of Cover over the RCP Drain Pipe.*
- WA2. To allow the use of HDPE pipe for drainage pond and the roof drain collection systems.*
- WA3. To not require the construction of a sidewalk along Panther Way.*
- WA4. To allow units 1, 16, 17, 21, 29, and the mixed use building to have a setback of less than 50 feet.*
- WA5. To allow the curbing to be vertical concrete.*
- WA6. To allow a dead end street to service 20 houses*
- WA7. To require only one sidewalk.*
- WA8. To allow the wetland percentage in the open space to exceed the wetland percentage of the lot (Lot 2).*

3.0 GENERAL REVIEW COMMENTS

- G1. Verify the scale on the plans. Sheets 10 and 11 list a scale of 1" = 60', but it appears a scale of 1" = 40' is intended.
- G2. Recommend removing temporary sediment basins from the layout plan for clarity.

4.0 SITE VISIT

BETA visited the Site on January 17, 2025. Observed conditions were generally consistent with the existing conditions plan except as noted below and throughout this report.

5.0 TOWN OF FRANKLIN ZONING REQUIREMENTS

The project is subject to the Town of Franklin zoning regulations outlined under Chapter 185. Review comments related to the zoning bylaw are provided in the following sections.

The project proposes a senior village use within the Commercial II Zone and the Senior Village Overlay District. Multifamily uses within 4 or more units are not typically permitted in the Commercial II zoning district, but a senior village planned unit development is permitted in the Senior Village Overlay District subject to granting of a Special Permit as outlined in §185-48.

SCHEDULE OF LOT, AREA, FRONTAGE, YARD AND HEIGHT REQUIREMENTS (§185 ATTACHMENT 9)

The project will comply with dimensional requirements for frontage, lot width, lot depth, front yard, side yard, rear yard, building height, building coverage, and maximum impervious coverage.

PARKING, LOADING AND DRIVEWAY REQUIREMENTS (§185-21)

Refer to Traffic Assessment section below.

EARTH REMOVAL (§185-23)

The project is anticipated to require significant earth disturbance and may require further permitting under this section.

SV1. Quantify approximate required earth removal volume. Earth removal in excess of 1,000 cubic yards requires a Special Permit from the Board of Appeals.

SIDEWALKS (§185-28) AND CURBING (§185-29)

The project is located within a Commercial II zoning district. An existing sidewalk is not present along the street frontage and no sidewalk is proposed. A sidewalk is present on the opposite side of Panther Way but no means of connecting to this sidewalk is proposed. A waiver has been requested from the requirement to provide a sidewalk along the street frontage.

A new sidewalk is proposed along the southern side of the proposed driveway and around the cul de sac. A trail is also proposed within the open space area which will connect to West Central Street.

Proposed curbing includes vertical concrete curb. The applicant has requested a waiver from the requirement to provide granite or reinforced concrete curbing.

SV2. As noted, the applicant has requested a waiver from the requirement to provide a sidewalk along Panther Way. There is a sidewalk on the opposite side of Panther Way. There is also a sidewalk on the same side of Panther Way from West Central Street up to the CVS parking lot entrance approximately 200'. BETA would like to note to the Board, that a sidewalk along Panther Way will provide public access to West Central Street and the adjacent commercial and retail outlets. Admittedly there will remain a gap between this site and the adjacent commercial site to the south. However, this site is currently owned by the applicant and shares access and stormwater features with the proposed Senior Village.

SV3. Provide clear callouts for the linework assumed to reflect sidewalks and grassed strips. Clarify if a sidewalk is proposed in front of Units 1 thru 12.

SV4. Provide construction detail for sidewalks.

SITE PLAN AND DESIGN REVIEW (§185-31)

The project has been submitted for Site Plan Review and is required to conform to the requirements of this section. The submission is generally in compliance with this section except as noted below:

SV5. Indicate if lighting is proposed and provide required photometric plan (§185-31.C.(3).(l)).

SV6. Provide required parking schedule (§185-31.C.(3).(o)).

SV7. Provide required sight line information (§185-31.C.(3).(t)).

LANDSCAPING AND SCREENING (§185-35)

Refer to Landscape and Grading section below.

SENIOR VILLAGE OVERLAY DISTRICT (§185-48)

The project proposes a Senior Village and an application of a Special Permit has been requested pursuant to this section of the bylaw. The project is located within the Commercial II Zoning District and

thus the Senior Village Overlay District applies. The project is required to comply with the standards outlined in this section. Review comments associated with this bylaw are outlined below and throughout the following sections of this report.

As stated in the Bylaw, the purpose of the district is to “encourage development of residential communities for persons 55 years of age and older, by allowing for a greater variety of uses and building types at a higher density than would normally be allowed..... It is intended that a senior village development provide a range of housing types and facilities that are responsive to the socio-cultural, health care, and recreational needs of senior residents.” In addition, it also notes that: “Development should be concentrated in the most suitable and least environmentally sensitive areas of the landscape. Preservation of natural open space is strongly promoted, as is provision and enhancement of additional open space for recreational use and enjoyment of residents.”.

In accordance with the bylaw, the site meets the General Standards 48.D.(1) General Standards.

- a) The proposed development is 49 units which is greater than required 10 units.
- b) The total land area of the development is 15.02 acres which is greater than the minimum 5 acres required.
- c) an accessory use, restaurant, is proposed in the front building.

(2) Density Determination

- a) The Base density of the parcel is 1.5 units per gross acre which correlates to 22 units. The maximum allowable density is 5x the Base Density = 110 units.
- b) In accordance with this section of the bylaw, “The allowable increased density, up to the calculated maximum number of housing units for the given senior village site, is at the discretion of the Board...”
- c) In accordance with this section of the bylaw, a minimum of 15% of the Total Number of units shall be set aside as affordable housing if open space is \geq 30%. Actual Open space is 32.2%.
- d) In accordance with 48.D.(2)(c)(ii)b. an additional 2.5 units can be added for each affordable unit added. The applicant is not proposing any additional affordable units.

Senior Village Application Requirements. (§185-48.E).

- SV1. In accordance with par (ii)d. *Vegetative cover conditions on the property according to general cover type including cultivated land, meadow, pasture, woodland, and wetland; trees with a diameter at breast height (DBH) in excess of 15 inches, the actual canopy line of existing trees and woodlands.* This information is required and has not been provided.
- SV2. In accordance with par (ii)g. *A viewshed analysis showing the location and extent of views into the property from public roads and from public lands;* This information is required and has not been provided.
- SV3. In accordance with par (ii) j. *Locations of all historically significant sites or structures on the property, including but not limited to cellar holes, stone walls, earthworks, and graves;* Confirm that these structures have all been identified.
- SV4. In accordance with par (iii) *Primary and secondary open space lands and potentially developable lands shall be identified and delineated.* This information has not been provided.
- SV5. In accordance with par (2) *Application, a brief written description of the proposed project detailing the items listed in the bylaws is required and has not been submitted.*

Senior Village Standards. (§185-48.F).

- SV6. In accordance with par. 1b. a minimum of 40% of the required open space shall be suitable for use for passive and/or recreational purposes. This area should be delineated on the plans.
- SV7. In accordance with par 1c. *The percentage of open space that is wetland resource areas as defined and regulated pursuant to the Massachusetts Wetlands Protection Act (MGL c. shall not normally exceed the percentage of the tract that is wetlands;* The values for total lot area and open space area shown on sheet 4 does not agree with the figures identified on sheet 1.
- SV8. In accordance with 1f. the plan should take into account any Town of Franklin or other public lands for preservation or improvements. A walkway which connects with West Central Street has been shown.
- SV9. In accordance with par 2 at the owner's option, all areas to be protected shall be conveyed to a separate entity subject to the approval of the Board. The plans should show associated monumentation. In addition, the owners are required at the time of application to provide a management plan for the open space which has not been provided.
- SV10. In accordance with 3. (b), (iv) Low Impact development practices shall be utilized to the greatest extent possible. Based on the existing steep grades on the parcel, these practices would be limited to the area of the 2 existing dwellings. There are no LID measures proposed for the control of stormwater runoff on site.
- SV11. In accordance with par (c) Parking standards. § (i) a maximum of 2 spaces per unit shall be permitted. The application should document if the garage spaces as proposed for the single family and duplex units will meet this requirement. The driveways for these units are all long enough to provide 2 guest spaces per unit. BETA will defer the requirement for guest spaces to the Board as noted in this section of the bylaw. (See comment below)
- SV12. Par. (c) § (i) also notes "*All off-street parking shall be sited to the side or rear of buildings and shall minimize visibility from public and private streets.*" As noted above, the applicant should confirm that the garage will provide the 2 spaces required per unit. BETA will defer the issue of use of the space between the roadway and the garage as guest spaces.
- SV13. In accordance with sub paragraph (vii) Solid waste storage, air conditioners, loading areas and the like shall be shielded from view by walls, dense vegetation, or fences. Each of these items should be identified on the plans including the method to be utilized to shield them from view.
- SV14. Verify that the proposed accessory restaurant use does not exceed 5% of the total gross building area for the entire senior village (§185-48.D.1(e)).
- SV15. Recommend providing pedestrian connections to the proposed trail; the proposed open Space is required to be suitable for use for passive and/or active recreational purposes and thus access to the trail from the senior village should be encouraged.
- SV16. BETA defers to the Town regarding the requirement that landscape shall be preserved in its natural state insofar as practicable (§185-48.F.3(b.i)). The project proposes substantial grading and the post-development landscape will differ significantly from the natural state.
- SV17. BETA defers to the Town regarding the requirement that streets, parking area, and building sites be designed and located in such a manner to preserve natural topography, significant landmarks and natural systems, and trees and to minimize cut and fill (§185-48.F.3(b.ii)). The project

proposes substantial regrading and the proposed driveway, parking areas, and building sites will not follow natural topography.

6.0 TRAFFIC IMPACT AND ASSESSMENT

The Applicant provided a basic traffic impact assessment including an analysis of vehicle trip generation and the potential impact on surrounding roadways. Comments regarding the traffic impact will be forthcoming from BETA in a separate memo.

SITE ACCESS AND CIRCULATION

Access to the Site is proposed via a new curb cut and driveway entrance connecting to Panther Way. The proposed driveway is over 1,000 feet in length and will cross the site from east to west, terminating in cul de sac. Three shorter driveway segments are proposed to branch off of the main driveway; one will connect to a new parking lot located in front of the new multi-use building, one will connect to an existing driveway on the lot to the south, and one will terminate in a dead end. Proposed housing units are located adjacent to the main driveway or the secondary driveways. All proposed driveways are 24-ft in width with a maximum grade of 8%. Stop line and stop signs are proposed at driveway intersections for traffic control.

- T1. Confirm that the proposed configuration has been reviewed by the Town Fire Department.
- T2. Review roadway cross section detail for consistency with plans. A 26-ft roadway width is shown on the cross section, while a 24-ft roadway width is proposed on the plans. Refer to comment T5.
- T3. Provide calculation for sight distance at driveway entrances. BETA observed limited visibility to the north of the proposed driveway entrance and this direction should be reviewed for adequacy of stopping sight distance. Sight distance must comply with the MassDOT Project Development and Design Guide (§185-21.C.7(c)).
- T4. Revise driveways serving more than one dwelling to be a maximum paved width of 22 feet (§185-48.F.3(d.i)).
- T5. Recommend providing pedestrian walkways between the mixed-use building entrance and the parking lot.
- T6. Recommend providing pedestrian walkways connecting the mixed-use building to the proposed sidewalk with consideration of other features. (§185-48.F.3(c.ii)).

PARKING AND LOADING

Required parking is defined by §185-21 of the Town Zoning Bylaw. The proposed development includes residential and nonresidential uses. According to the traffic impact assessment letter, the mixed-use building will include 5,000 Sq. Ft. of floor area for a fine dining restaurant.

Required parking is calculated as follows:

Use Designation	Criteria	# of Units / Building Area	Required Parking
Dwelling Units (Standalone)	2 Spaces per dwelling unit	29 Units	58 Spaces
Dwelling Units (Mixed Use Building)	2 Spaces per dwelling unit	20 Units	40 Spaces
Restaurant (Mixed Use)	1 Space per 400 Sq. Ft.	5,000 Sq. Ft.	13 spaces

Building)	of gross building area*		
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**Per senior village standards, §185-48.F.3(c.iii).*

The standalone dwelling units are assumed to each have an attached garage. In front of the mixed-use building, a parking lot with 56 parking spaces is proposed. Two (2) of these parking spaces are designed to be van accessible.

All maneuvering aisles are at least 24 feet wide; parking spaces are 9 feet wide and 19 feet long.

- T7. Confirm the proposed uses and associated square footage in the mixed-use building.
- T8. Verify if garages are proposed and indicate the capacity of each. To satisfy required parking criteria, each dwelling unit must have two associated parking spaces.
- T9. In accordance with 521 CMR 23.2.1, provide a total of three accessible parking spaces.
- T10. In accordance with 521 CMR 20, provide an accessible route from the accessible parking spaces to the building entrance.
- T11. Indicate the location of the mixed-use building entrance including pedestrian access from the parking lot. Accessible parking spaces should be located as near as possible to the building entrance they are meant to serve.
- T12. BETA defers to the Town whether the two eastern parking lots are considered separate parking facilities. Per §185-48.F.3(c.i), no parking facility may contain more than 50 parking spaces.
- T13. Contrary to the bylaws, (§185-48.F.3(c.i)), the parking lot design at the mixed use building is located at the front of the building and visible from the street. BETA will defer to the Board if this requirement is applicable to these parking spaces.
- T14. Identify snow storage areas for the parking area and driveway.

7.0 SIGNAGE AND LIGHTING

The project proposes traffic control signs including stop signs and accessible parking signs. Stop signs are proposed at driveway intersections and at the new driveway entrance.

The project plans do not indicate any proposed lighting.

The Illuminating Engineers Society of North America (IESNA) recommends the following illuminance for parking lots:

Level	Horizontal Illuminance (Min)	Vertical Illuminance (Min.)	Uniformity Ratio (Max/Min)
Basic Maintained Illuminance	0.2	0.1	20/1
Enhanced Security Illuminance	0.5	0.25	15/1

- SL1. Recommend providing lighting in the parking lots and along sidewalks to enhance pedestrian safety.

8.0 UTILITIES

Proposed utilities depicted on the plans include domestic water, fire service, and sanitary sewer. Proposed water and sewer will be provided via new mains located beneath the proposed driveway. Proposed water will connect to the existing main at Panther Way; proposed sewer will connect to an

existing sewer manhole located at the southeast corner of the Site which is connected to the existing main at Panther Way.

The proposed water main is 8" CLDI and services are identified as 2" diameter for domestic connections and 4" diameter for fire. Several fire hydrants are also proposed throughout the Site. The proposed sewer main is 8" SDR 35 PVC and several sewer manholes are proposed throughout the Site.

- U1. Provide detail for proposed water/sewer crossings.
- U2. Confirm that there is sufficient sewer capacity in the existing sewer connection to Panther Way for both the existing and proposed developments.
- U3. Confirm whether a utility easement is required or in place for the sanitary sewer connection, which will be used by both the senior village and the development to the south.
- U4. Clarify if electric, telecom, and/or gas services are proposed. Note that, per §185-48.F.3(d.v), all utilities must be underground.

9.0 LANDSCAPE TREATMENT & GRADING

The project proposes numerous tree and shrub plantings throughout the project area, including 201 Norway Spruce plantings, 31 American elm plantings, 31 sugar maple plantings, 31 white angel crab plantings, and 31 white birch plantings. New trees are generally proposed along driveways and parking areas.

Per §185-21.C.(5), the project is required to provide 1 tree per 10 parking spaces (applicable only to the parking lot). For 56 spaces, 6 trees are required. The planting plan includes significantly more trees than required to satisfy this requirement.

Per §185-48.F.3(c.ii), the project is required to provide 2 trees per 3 parking spaces. For 56 spaces, 38 trees are required. Approximately 34 trees are proposed in close proximity to the parking area.

The project includes outdoor parking for 10 or more cars and is required to provide screening in accordance with §185-35. Residential districts are located to the east and north of the building. Screening is proposed along the northern property line consisting of Norway Spruce in two staggered rows. No screening is proposed along the eastern side of the parking area.

The project includes substantial regrading throughout the project area. Grading is predominantly cut and post-development grades are greater than 16 feet below pre-development grades in some areas.

- LA1. Depict existing treeline and proposed limit of tree clearing on the planting plan.
- LA2. Street trees are required along Panther Way (§185-48.F.3(d.iv)). BETA will defer to the Board if additional tree plantings are required at the existing stormwater basin.
- LA3. Indicate proposed seed mix and loam depth for disturbed areas. Use of native seeding is encouraged especially in areas which are not required to be a fine lawn.
- LA4. In accordance with the bylaws (§185-48.F.3(c.ii)), 38 trees are required for the eastern parking lot. 36 are shown. BETA will defer to the Board relative to the placement as shown.
- LA5. Provide required street trees, spaced at intervals no greater than 20 feet along both sides of the street (§185-48.F.3(d.ii)).

- LA6. Indicate the proposed maximum cross slope and longitudinal slopes for the trail and the approximate limit of grading required for installation.
- LA7. Review grading behind Unit 1. The corner of the building is located at the bottom of a proposed swale which could cause stormwater runoff to pool at the building wall. Recommend extending swale around the building and providing spot grades to clarify design intent.
- LA8. Review grading behind the mixed-use building. The back wall appears to be a low point which could cause stormwater runoff to pool at the building wall. Recommend providing spot grades to clarify design intent.

10.0 STORMWATER MANAGEMENT

The proposed stormwater management design consists of three new subsurface infiltration systems including shared use of the existing surface infiltration basin with the existing commercial use to the south. Stormwater runoff will be conveyed to these systems via a new closed drainage system consisting of catch basins, manholes, roof drains, and water quality units. Ultimately, all runoff from the developed portion of the site will be collected and directed into the existing infiltration basin at the front of the site. Overflow from the subsurface systems will be conveyed via piped flow to the infiltration basin; overflow from the infiltration basin will be conveyed via an outlet control structure into the Panther Way MS4.

BETA observed that the existing infiltration system appears to be maintained in good condition.

GENERAL

- SW1. Revise watershed plans for clarity. The lines delineating subcatchments are indistinguishable from lines delineating edge of pavement, property lines, soil group boundaries, and other features.
- SW2. Indicate the size of the outlet pipe from the infiltration basin.
- SW3. Evaluate the need to provide fencing or similar barrier around the infiltration basin, as it is near to areas where pedestrians may frequent.
- SW4. Clarify the location of proposed water quality units, identified in the Stormwater Report narrative but not depicted on the plans. A detail for Contech CDS 1515-3-C has been provided, but no proposed locations are identified.

STORMWATER MANAGEMENT REGULATIONS (CHAPTER 153)

The project proposes to disturb land in excess of one acre within the Town of Franklin. It is therefore subject to the Stormwater Management Regulations. The project is also required to comply with the Town of Franklin Best Development Practices Guidebook (BDPG). Compliance with these regulations is outlined below and throughout the following sections.

Refer to Standard 4 section below for discussion of Town pollutant removal requirements. Refer to Standard 8 section below for discussion of Operation & Maintenance Plan.

- SW5. Provide clear and definite delineation of any area of vegetation or tree disturbance (§153-12.J).
- SW6. Indicate if the existing drainage easement associated with the infiltration basin must be modified for the newly proposed drain connections (§153-15.A(11) & §300-11.A(6)).

SUBDIVISION REGULATIONS - STORMWATER MANAGEMENT REGULATIONS (§300-11)

Additional requirements for stormwater management are outlined in §300-11 of the Town of Franklin Subdivision Regulations.

BEST DEVELOPMENT PRACTICES GUIDEBOOK

The project is required to comply with the requirements of the Town of Franklin 2021 Best Development Practices Guidebook (BDPG).

SW7. Indicate if proposed seed mix and plantings will reflect native vegetation, particularly near woodland areas (BDPG Page 7).

SW8. Confirm that landscaping plan has been designed in accordance with the planting bed and seeding guidelines outlined on Page 13.

MASSDEP STORMWATER STANDARDS

The project is subject to Town regulation §153-16 and therefore must comply with the Massachusetts Stormwater Standards as outlined by MassDEP. Compliance with these standards is outlined below:

LOW IMPACT DEVELOPMENT (LID) TECHNIQUES

Proposed LID measures include no disturbance to any wetland resource area.

BETA notes that, per §185-48.F.3(b.iv) of the Town of Franklin Zoning Regulations, the project is required to implement low-impact development practices to the greatest extent practicable.

NO UNTREATED STORMWATER (STANDARD NUMBER 1): *No new stormwater conveyances (e.g., outfalls) may discharge untreated stormwater directly to or cause erosion in wetlands or waters of the Commonwealth.* The project does not propose any new discharges to wetlands. Overflow from the stormwater management system will be conveyed either via an outlet control structure or over a new riprap spillway then overland towards Panther Way. – **complies with standard.**

A riprap apron is present at the existing headwall prior to discharge to the infiltration basin. However, no new riprap aprons or other sedimentation controls are proposed at the two new headwalls (HW 30 and HW 32).

SW9. Provide scour protection at proposed headwall Nos. 30 & 32.

SW10. Provide calculations for sizing of scour protection, including existing riprap apron to remain.

POST-DEVELOPMENT PEAK DISCHARGE RATES (STANDARD NUMBER 2): *Stormwater management systems must be designed so that post-development peak discharge rates do not exceed pre-development peak discharge rates.* The project proposes to mitigate increases to runoff rates via subsurface infiltration systems. Calculations indicate a decrease in peak discharge rate and peak runoff volume to all watersheds.

SW11. Review post-development peak discharge rate for watersheds 3S and 4S, representing the watershed for West Central Street and the western wetlands, respectively. Construction of the trail will require grading and tree clearing that will alter hydrology. The limit of disturbance should be depicted on the watershed plans and modeled in hydroCAD.

SW12. Depict the closed drainage system for the southeastern lot on the watershed plans or utility plans to confirm that the accuracy of subcatchment routing in this area.

- SW13. Depict the extent of the area modelled as “gravel roads” in the pre-development hydroCAD model.
- SW14. The Hydrocad models utilize a rating of HSG B for the western portions of the site. BETA requests that the applicant clarify why the NRCS HSG A rating for this soil type was not used in this model.
- SW15. Revise hydroCAD model to exclude the duplicate Pond 2 (6P) for clarity.
- SW16. Confirm outlet devices for Pond 4. The hydroCAD model indicates 4 orifices are proposed, but only 3 are depicted in plan view.
- SW17. Indicate outlet device inverts from each subsurface infiltration system on the plans to confirm consistency with the hydroCAD model.
- SW18. Review performance of existing basin based upon NOAA Atlas-14 rates for the 100-year frequency rainfall to determine impact of increased rainfall rate on Panther Way

RECHARGE TO GROUNDWATER (STANDARD NUMBER 3): *Loss of annual recharge to groundwater should be minimized through the use of infiltration measures to maximum extent practicable.*

NRCS soil maps indicates the presence of Charlton-Hollis-Rock outcrop complex and Hinckley loamy sand with Hydrologic Soil Group Ratings (HSGR) of A (high infiltration) and B (moderate infiltration). Test pits conducted at the Site indicate a highly variable groundwater elevation from elevation 276' to 321.74'. Permeability testing was conducted at the Site in 2019 identifying subsurface soils as Sand and Gravel with a very high infiltration rate. A Rawls Rate of 8.27 in/hr, associated with Sand, has been utilized in design of the subsurface infiltration systems and the infiltration basin.

Groundwater recharge is proposed via three new subsurface infiltration systems and an infiltration basin. The project is expected to provide a recharge volume in excess of what is required.

Calculations have been provided indicating all BMPs will drawdown within 72 hours.

- SW19. Provide a soil test within the footprint of each subsurface infiltration system to confirm seasonal high groundwater elevation, soil texture and depth to bedrock.
- SW20. Indicate the soil conditions detected at each soil horizon in each test pit to confirm suitability of soil for infiltration.
- SW21. Indicate the location and depth of the permeability tests conducted at the Site and confirm that the results will remain valid following proposed grading.
- SW22. Review design of all subsurface infiltration systems to confirm that adequate separation to groundwater has been provided. The nearest test pits, TP3-0-N and TP4-0-N were completed only to elevations 263.92' and 277.61', respectively. Compared to the system bottom depths of 264.1 for Pond 4 and 265.7 for Pond 5, the test pit information is insufficient to demonstrate that the required separation to groundwater has been achieved.
- SW23. Confirm that the model for the existing infiltration basin is accurate. The existing conditions plan show a bottom elevation of 250', but an elevation of 249' has been utilized in the model.
- SW24. Although it does not impact the results, correct the storage volume for the subsurface infiltration systems in the HydroCAD model. The model shows system heights of 50 feet rather than 5 feet.

SW25. Provide required mounding analysis where infiltration BMPs have less than 4 feet of separation to estimated seasonal high groundwater.

TOTAL SUSPENDED SOLIDS (STANDARD NUMBER 4): For new development, stormwater management systems must be designed to remove 80% of the annual load of Total Suspended Solids (TSS).

The project is also subject to the Town of Franklin pollutant removal requirements for new development sites. The project will meet these requirements by retaining the volume of runoff greater than 1.0 inch multiplied by the total post-construction impervious surface area on the Site.

The project includes the following treatment trains:

Treatment Train	SCM 1	SCM 2	Infiltration SCM	TSS Removal %
A	Deep Sump Catch Basin	None	Infiltration Basin	80%
B	Deep Sump Catch Basin	Subsurface Infiltration System	Infiltration Basin	>80%
C	Deep Sump Catch Basin	Subsurface Infiltration System (2 In Series)	Infiltration Basin	>80%
D	None (Roofs Only)	Subsurface Infiltration System	Infiltration Basin	>80%

The project has been designed to provide at least 80% TSS removal for treated impervious areas. Only a small portion of the driveway entrance will not receive treatment, but this area is expected to be considered “De minimus”. The proposed infiltration SCMs have been sized to treat the required 1-inch water quality volume.

As the project is in an area with a rapid infiltration rate, the project is required to provide at least 44% TSS removal as pretreatment. Pretreatment is provided via deep-sump catch basins. The narrative identifies water quality units for providing additional pretreatment, but this does not appear to be reflected in the plans.

A Long Term Pollution Prevention Plan is included in the O&M Plan.

SW26. Provide TSS removal calculations for the flows into the existing basin.

SW27. It appears that the applicant is proposing to use the Proprietary Separators for pretreatment for the subsurface infiltration structures. BETA recommends that the drainage schedule indicate where these units will be utilized.

SW28. Provide typical TSS Removal sheet for both pretreatment and total treatment for the subsurface infiltration ponds. It should be noted that pretreatment cannot be used in the determination of Total TSS Removal.

SW29. TSS removal has not been provided for portions of the access driveway. Provide calculations to demonstrate that this area qualifies as “de minimus” or provide treatment.

SW30. Provide calculations for required/provided water quality volume.

HIGHER POTENTIAL POLLUTANT LOADS (STANDARD NUMBER 5): *Stormwater discharges from Land Uses with Higher Potential Pollutant Loads (LUHPPLs) require the use of specific stormwater management BMPs.*

The project includes a Senior Village which is not typically considered a LUHPPL. The traffic assessment indicates a peak trip generation of 638 trips per day which is below the 1,000 trips per day threshold to qualify as a LUHPPL – **standard not applicable.**

CRITICAL AREAS (STANDARD NUMBER 6): *Stormwater discharges to critical areas must utilize certain stormwater management BMPs approved for critical areas.*

The project is not located in a critical area – **standard not applicable.**

REDEVELOPMENT (STANDARD NUMBER 7): *Redevelopment of previously developed sites must meet the Stormwater Management Standards to the maximum extent practicable.*

The project does not qualify as a redevelopment – **standard not applicable.**

EROSION AND SEDIMENT CONTROLS (STANDARD NUMBER 8): *Erosion and sediment controls must be implemented to prevent impacts during construction or land disturbance activities.*

As the project proposes to disturb greater than one acre of land, a Notice of Intent will be required to be filed with EPA including development of a Stormwater Pollution Prevention Plan (SWPPP). A SWPPP was not provided with the submission; however, the narrative indicates that the project will be covered by a NPDES General Permit. Erosion control measures are depicted on the plans including compost socks, stabilized construction entrance, temporary sediment basins.

SW31. Provide callout identifying entry sedimentation control mat on the Erosion Control Plan.

SW32. Provide detail for proposed silt sacks and identify locations on the plans.

SW33. Provide criteria for permanent or temporary restoration of disturbed areas including how soon after disturbance measures will be implemented.

SW34. Provide seed mix for temporary/permanent stabilization.

SW35. Provide typical location(s) of soil/material stockpile area on plans with erosion and sedimentation control measures to limit transport of materials. Areas should be located outside of buffer zones to the extent practicable.

SW36. Provide means of stabilizing existing and proposed steep slopes, including construction period steep-slopes created by excavation activities.

SW37. Identify provisions for protecting infiltration capacity of stormwater ponds during construction.

SW38. Provide means of preventing construction-period sediment from entering the Town's MS4. The infiltration basin is an existing, active SCM and any sediment that reaches this system could be carried to the MS4 via the outlet control structure.

SW39. Provide additional information on project phasing, including at one point each temporary sediment basin will be removed to complete work within their footprint. If removed too early in the construction sequence, existing SCMs could be impacted.

OPERATIONS/MAINTENANCE PLAN (STANDARD NUMBER 9): *A Long-Term Operation and Maintenance Plan shall be developed and implemented to ensure that stormwater management systems function as designed.* A Stormwater Operation and Maintenance Manual was provided with the Stormwater Management Report.

- SW40. Revise O&M Plan to indicate the names, addresses, and phone numbers of the person(s) responsible for operation and maintenance (§153-18.B(1)) and identify the person(s) responsible for financing maintenance and emergency repairs (§153-18.B(2)).
- SW41. Provide list of easements with the purpose and location of each (§153-18.B(4)).
- SW42. Provide signature(s) of the owner(s) (§153-18.B(5)).
- SW43. Confirm which party(ies) are responsible for maintenance of the infiltration basin.
- SW44. Revise O&M Map to include snow storage areas.
- SW45. Indicate specific tasks for inspecting and maintaining the infiltration basin and subsurface infiltration systems. Tasks should be considered with Volume 2 of the MA Stormwater Handbook and manufacturer requirements.
- SW46. Depict approximate location of proposed inspection ports for subsurface systems in plan view.
- ILLICIT DISCHARGES (STANDARD NUMBER 10):** *All illicit discharges to the stormwater management system are prohibited. An unsigned Illicit Discharge Compliance Statement was provided with the submission.*
- SW47. Provide owner's signature on Illicit Discharge Compliance Statement.

11.0 SUMMARY

Based on our review of the Project documents and plans, the Applicant is required to provide additional information to the Town to demonstrate compliance with Town Regulations, MassDEP Stormwater Management Standards, and generally accepted engineering practices.

BETA has specifically noted the following key review comments:

- The project includes substantial earth disturbance and may require further permitting under §185-23.
- The project is required to provide additional information to comply with the Senior Village Standards.
- Sight distance to the north of the proposed driveway is limited and must be reviewed by the Applicant.
- An insufficient number of accessible parking spaces has been provided and the parking lot has not been designed with the required accessible route.
- No information on proposed lighting has been provided.
- No information has been provided for electric, telecommunications, or gas services.
- The proposed landscaping plan does not meet the requirements of the Senior Village District standards and limited information has been provided for proposed seed mix for disturbed areas.
- The proposed means of treating stormwater runoff is inconsistent between the stormwater report and the plans; the locations of proposed water quality units must be clearly identified on the plans.
- Completed test pits are not within the footprint of proposed infiltration systems and the water table elevation is inconsistent between completed test pits throughout the Site. Additionally, the locations of infiltration testing have not been provided on the plans.

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- Additional information is required for the Erosion Control Plan and the Operation & Maintenance Plan.

If we can be of any further assistance regarding this matter, please contact us at our office.

Very truly yours,
BETA Group, Inc.



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Senior Project Engineer



Gary D. James, P.E.
Senior Project Manager