

MEMORANDUM

Date: 9/12/2024 Job No.: 23099.01
To: Diane Williamson, AICP, CFM - Town of Bristol Director of Community Development;
Edward Tanner – Town of Bristol Principal Planner
Cc:
From: Nicole Iannuzzi, PE – Vice President (BETA Group, Inc.)
Subject: Mount Hope High School Revised Master Plan (Planning Board Submission)

This memo provides a comprehensive review of Pare Corporation's (Pare) revised Master Plan Application based on comments from the Technical Review process. BETA reviewed the following documents:

- Major Land Development Checklist – Master Plan Phase
- Master Plan Submission Plan Set
- Master Plan Report

Pare provided a comment response log summarizing responses and revisions to BETA's comments from the TRC Meeting on 8/27/2024. The comment response log is attached to this memo. BETA reviewed Pare's responses and revisions, and any additional comments are made in red.

Please review the additional comments and let us know if you have any questions.

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RESPONSES TO BETA MASTER PLAN REVIEW COMMENTS DATED AUGUST 27, 2024

Attachments:

Attachment 1 – Traverse Landscape Architects response to synthetic turf concerns.

GENERAL COMMENTS

1. **COMMENT:** Please revise page numbers in location column of the checklist.

RESPONSE: Please see the revised checklist for revised page numbers.

2. **COMMENT:** How will this project be phased?

RESPONSE: Per the estimated schedule provided by the Bristol Warren Regional School District's (BWRSD) OPM, the project is anticipated to commence construction in the spring of 2025. The Owner plans to construct the new school building on the northwest portion of the site, while the existing building remains fully operational. Once the new building is constructed, the existing building and site features will be demolished. The remaining site improvements will then be constructed. The new building is anticipated to be completed for students by August 2027 and the remaining demolition and site improvements will be completed following the new buildings completion.

During the TRC Meeting, members expressed interest in the details of utility connections to maintain connections to the existing school during construction of the new school. Pare will work with the Owner and Utility Companies to provide more detail on utility connections for the Preliminary Plan Submission.

3. **COMMENT:** Can Stormwater runoff be detained and reused on site, for irrigation of the athletic fields or other practices?

RESPONSE: The Owner is reviewing the feasibility of an irrigation well per the request of the TRC on 08/28/2024. Additional information regarding the feasibility of an irrigation well will be provided to the Planning Department when available. An update on the feasibility of an irrigation well will be provided at the Planning Board meeting scheduled September 12, 2024.

APPLICATION FOR MASTER PLAN (COVER LETTER)

1. **COMMENT:** Pare states that the stamped existing conditions plan, preliminary photometric plans, building elevations, renderings plans and BCWA application were not included in the submission and will be provided prior to the Planning Board Meeting.

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RESPONSE: The stamped existing conditions, the photometrics plans, building elevations, rendering plans, and BCWA application have been sent to the Planning Department.

MAJOR LAND DEVELOPMENT CHECKLIST

1. **COMMENT:** Section B, Row 9 - Properties on Dartmouth Street, east of Murgo Lane do not have names, addresses and Plat/Lot information and are within 200' of the parcel.

RESPONSE: An updated certified survey of the site including information on Dartmouth Street and east of Murgo Lane has been provided. See survey sheet 1-4.

2. **COMMENT:** Section C, Row 2 - A certified survey was not provided as part of the submission package. Survey information missing in the existing fields and the east of the football field.

RESPONSE: An updated certified survey of the site, including information on the fields and surrounding areas has been provided. See survey sheet 1-4.

3. **COMMENT:** Section C, Row 3 & 7 – The master plan report mentions an existing sewer easement owned by the Town through the property, the plan set does not show the easement.

RESPONSE: The existing sewer easement has been added to the survey. Refer to survey sheets 2 and 4.

4. **COMMENT:** Section C, Row 9 – The base flood elevation data is not shown on the plan set.

RESPONSE: Base flood elevation on site varies from Elevation 60.3 to 41.8. The datum used for these elevations is North American Vertical Datum of 1988 (NAVD88). Refer to Master Plan Report attachment 3. An updated certified survey of the site, including floodplain limits have been provided. See survey sheet 1-4.

BETA: Compensatory storage should be provided if any proposed work fills in the floodplain

5. **COMMENT:** Section C, Row 13 – Location column was not completed. The delineation of the wetland complex in the northeast portion is shown on the plan and discussed in the report, however the delineation of Silver Creek, the wetlands in the southwest portion, and buffer areas for the wetlands are not shown on the plans.

RESPONSE: An updated certified survey of the site, including information depicting wetland flags and buffers for Silver Creek and the southwest wetlands has been provided. See survey sheet 1-4.

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6. **COMMENT:** Section C, Rows 16-18 – A complete certified survey is required.
- RESPONSE:** An updated certified survey of the site has been provided. See survey sheet 1-4.
7. **COMMENT:** Section C, Rows 20 – Confirm all requirements are addressed in the Stormwater Report and supporting documents for the RIDEM permit submission.
- RESPONSE:** Following approval of the Master Plan, Pare will advance design and prepare a Stormwater Management Report. The Stormwater Management Report and supporting documents will be included with the Preliminary Plan Submission and the RIDEM Freshwater Wetlands Permit Application.
8. **COMMENT:** Section D, Row 1 - A complete certified survey is required, no areas are identified as unsuitable on the plans.
- RESPONSE:** An updated certified survey of the site has been provided. See survey sheet 1-4. The unsuitable land area for the property is 9.98 acres per the wetland resources areas delineated on survey sheets 1-4.
9. **COMMENT:** Section D, Row 5 – There are two proposed structures to the east of the proposed softball field that are not labeled with dimensions or area.
- RESPONSE:** The structures have a gross floor area of 300 square feet (SF) and 1,250 SF and are labeled on revised plan sheet C3.3.
10. **COMMENT:** Section D, Row 14 – Telecommunication connection is not complete. Stormwater/drainage systems have gaps in networks, see notes on the plan set.
- RESPONSE:** The drainage network has been updated as noted below. The telecommunication connection has been updated, please see sheets C3.1-C3.4.
11. **COMMENT:** Section D, Row 21 – No phasing is addressed on the plans or in the report.
- RESPONSE:** Refer to our response to General Comment 2. A summary of the phasing has been added to the Master Plan Report.
12. **COMMENT:** Section E, Row 8 – All wetlands and buffers need to be depicted on the plans.
- RESPONSE:** An updated certified survey of the site, including information depicting wetland flags and buffers for Silver Creek and the southwest wetlands has been provided. See survey sheet 1-4.

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13. **COMMENT:** Section E, Row 10 – BCWA application was not provided.

RESPONSE: BCWA application has been received and submitted to the town.

14. **COMMENT:** Section E, Row 13 – QPAs are not depicted on the plans.

RESPONSE: Specific locations for QPA's will be depicted on the Preliminary Plan submission with the advanced stormwater design.

15. **COMMENT:** Section E, Row 28 – Signage including location, size, design and illumination are not provided.

RESPONSE: Details for wayfinding signage and new high school signs have not yet been developed. Therefore, details are not included in this Master Plan permit application. Regulatory, parking, and warning signs for on-site circulation and pedestrian safety will conform to MUTCD standards and be depicted on the Preliminary Plan Submission.

MASTER PLAN SUBMISSION SET

SHEET C1.1 NOTES

1. **COMMENT:** General Notes # 2 – The State of Rhode Island Standard Specifications for Road and Bridge Construction was amended by TAC 0442 on August 14, 2024. Please revise.

RESPONSE: Updated. See Sheet C1.1.

2. **COMMENT:** Erosion and Sedimentation Control Notes – Rhode Island #13 – Confirm all dewatering operations are in accordance with State regulations.

RESPONSE: Updated. See sheet C1.1 Erosion and Sedimentation Control Notes – Rhode Island #14. Soil Erosion and Sediment Control Plan shall be provided at Preliminary Plan detailing dewatering operations and procedures.

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SHEET C3.1 CONCEPT PLAN

1. **COMMENT:** Parking lot to the south of the football field provides an accessible van parking space, the sidewalk adjacent to this lot does not provide an accessible route anywhere.

RESPONSE: The schematic walk layout depicted on the Master Plan Submission has been revised to depict an accessible path to the bleachers from the accessible parking spaces. Refer to Sheet C3.1. The final layout of walks and accessible routes will be provided at Preliminary Plan.

2. **COMMENT:** Telecommunications line shown from proposed building and terminating before connection.

RESPONSE: The telecommunication connection and routing has been updated. See sheet C3.1, C3.2, & C3.3.

3. **COMMENT:** Detention basin to the south of the building has no drainage connection.

RESPONSE: A drain pipe is depicted on the revised Master Plan Submission. See sheet C3.1.

4. **COMMENT:** Ramp shown at southern end of bleachers does not connect to an accessible route.

RESPONSE: The schematic walk layout depicted on the Master Plan Submission has been revised to depict an accessible route from the bleachers to the south and east parking lots. Refer to Sheet C3.1. The final layout of walks and accessible routes will be provided at Preliminary Plan.

5. **COMMENT:** Page 3 of the report mentions a wetland in the southwest portion of the site, the wetland boundary is not shown on the plans.

RESPONSE: An updated certified survey of the site, including information depicting wetland flags and buffers for Silver Creek and the southwest wetlands has been provided. See survey sheet 1-4.

6. **COMMENT:** Need to check set back requirements of bio retention areas to surface waters/within buffer

RESPONSE: Bioretention areas and sand filters on-site are filtering systems, which do not have required setbacks per the RISDISM. The BMPs will be designed in accordance with RIDEM stormwater standards and will minimize disturbance to wetlands, surface

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waters and vegetated buffers. Final locations of BMPs will be depicted on the Preliminary Plan Submission.

SHEET C3.2 CONCEPT PLAN

1. **COMMENT:** Has the existing bridge over Silver Creek been inspected? How will the sewer force main and the electric service be installed without impacting Silver Creek?

RESPONSE: The culverts along Silver Creek and proposed crossings will be reviewed with a structural engineer prior to Preliminary Plan. Improvements to provide support for vehicles will be designed during the subsequent design phase and depicted on the Preliminary Plan Submission. Grades may be modified to provide adequate cover for site utilities while minimizing impact to Silver Creek. Insulation for sewer and water services will be proposed where warranted due to the depth of the proposed piping. No in-water work is anticipated at these crossings.

2. **COMMENT:** Electrical service going to the building from Chestnut Street is shown through a bioretention basin.

RESPONSE: Bioretention area footprint has been updated to avoid the electrical line. See sheet C3.2.

3. **COMMENT:** The bioretention areas to the north of the parking lot and to the east of the tennis courts have no closed drainage discharging to them.

RESPONSE: These bioretention areas have been removed. See sheet C3.2.

4. **COMMENT:** Sewer pipe out of the building to the lift station is shown through a bioretention area.

RESPONSE: Sewer pipe has been routed around bioretention area. See sheet C3.2.

5. **COMMENT:** Revise the thickness of the concrete reinforced slab at the driveway crossing of Silver Creek. Has the existing culvert been inspected? Are there any structural deficiencies that would prevent the proposed geometry of the driveway?

RESPONSE: The culvert will be reviewed by a structural engineer, and the reinforced concrete slab will be designed for the Preliminary Plan submission. The Owner and Design Team are not currently aware of any structural deficiencies that would prevent geometry of the proposed driveway.

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6. **COMMENT:** Is there enough cover between the proposed reinforced slab and the culvert to install in the water and fire service as shown on the plans?

RESPONSE: The grades over the bridge will be raised to provide cover. Insulation will be provided to protect pipes from frost where located within the frost zone.

SHEET C3.3 CONCEPT PLAN

1. **COMMENT:** Proposed overflow spillways are shown outside of the LOD/CFS line, please revise.

RESPONSE: LOD has been updated to include the proposed overflows. See sheet C3.3.

2. **COMMENT:** The proposed storage shed structures to the east of the softball field are not labeled or dimensioned.

RESPONSE: Updated the storage sheds have labels and areas associated with them. See sheet C3.3.

SHEET C3.4 CONCEPT PLAN

1. **COMMENT:** Sand filter to the north of the football field shows flared end outlet structure but no connection to a drainage network.

RESPONSE: Connection from the drainage network to the sand filter has been added. See sheet C3.4.

2. **COMMENT:** Ramp down from bleachers is not connected to an accessible path.

RESPONSE: The schematic walk layout depicted on the Master Plan Submission has been revised to depict an accessible path to the bleachers from the accessible car parking space. Refer to Sheet C3.1. The final layout of walks and accessible routes will be provided at Preliminary Plan.

3. **COMMENT:** How will the stormwater water from the synthetic turf surface and track be handled?

RESPONSE: The stormwater from the synthetic turf field and track will be captured and treated outside the limits of the athletic field through a wet vegetated treatment system. Stormwater will be sent to the BMP to the south of the field to provide water quality and mitigate peak flows. Stormwater management for the field will be designed in accordance with RIDEM standards. Additional detailed information regarding stormwater treatment design will be provided at Preliminary Plan.

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MASTER PLAN REPORT

1. **COMMENT:** Page 2, Soils – What is the SHGT? There are numerous filtering systems proposed on the site, that require the bottom of the filter to be at or above the SHGT. Please provide referenced test pit data.

RESPONSE: The estimated seasonal high groundwater table (SHGT) is approximately 10”-38” below existing grade across the site due to the highly restrictive natural soils on site. The groundwater onsite is generally high due to poorly draining soils estimated at an infiltration rate of 0.27 in/hr. The BMPs will be lined as needed and will be depicted on the Preliminary Plan submission. Test pit data is included within the revised Master Plan Report.

2. **COMMENT:** Page 3, Wetlands/Flood Plain – Forested swamp and wet meadow located on the southwest portion described in this section is not shown on the plans.

RESPONSE: An updated certified survey of the site, including information depicting wetland flags and buffers for Silver Creek and the southwest wetlands has been provided. See survey sheet 1-4.

3. **COMMENT:** Page 3, Wetlands/Flood Plain – Verify bio retention areas should be located within the flood plain

RESPONSE: Stormwater BMPs may be located within floodplain. The design will result in no net loss of flood storage volume. Stormwater elements of the project are conceptual; locations will be updated for Preliminary Plan.

4. **COMMENT:** Page 3, Wetlands/Flood Plain – Compensatory storage shall be provided as needed.

RESPONSE: Grading within the floodplain will be provided to result in no overall loss of flood storage volume.

5. **COMMENT:** Page 3, Utilities – Town owned sewer easement described in this section is not shown on the plans.

RESPONSE: Easement has been added to the survey. See survey sheets 2 and 4.

BETA: The proposed work includes a request to modify the existing sewer easement due the location of the proposed bulidng. The existing 15" sewer will be less than 5 feet from the foundation at a similar elevation, it is recommended the Town requires protection of the sewer during construction. It should be noted that future maintenace requiring excavation would likely involve exposing the building foundation and disruption of the stone bedding. If a trench box is utilized the trench would likely disrupt the stone bedding for the foundation.

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6. **COMMENT:** Page 4, Proposed Development – What is the net increase of impervious area?

RESPONSE: The existing conditions have approximately 10.25 acres of impervious area, while the proposed conditions have approximately 12.20 acres of impervious area, leading to an increase of 1.95 acres of impervious cover. The proposed conditions impervious surface value reflects the schematic design and are subject to change. The updated impervious surface values will be provided at Preliminary Plan submission.

BETA: Regulations from the Town and RIDEM require attenuating the post development peak discharge rate to the pre-development levels for the 10-year and 100-year, 24-hour Type III design storm events. There should be no increase in stormwater due to the proposed project.

Page 6, Impacts to Silver Creek – Per the Town of Bristol’s Subdivision and Development Review Regulations the existing culverts shall be analyzed to verify development will not increase runoff to existing culverts.

RESPONSE: The site will be designed to match or reduce the peak flows going to the existing culverts. Design points on site were set up at culverts to analyze the hydrology at these locations. Calculations for peak flow will be provided at preliminary plan.

8. **COMMENT:** Page 6, Utilities – The telecommunication service is not shown connecting to Chestnut Street.

RESPONSE: The telecommunication connection has been updated. See sheet C3.1, C3.2, & C3.3.

9. **COMMENT:** Page 7, Stormwater – The project is the Silver Creek watershed, per the Town of Bristol’s Subdivision and Development Review Regulations it is required within the Silver Creek Watershed that any increase in storm runoff volume, up to and including the 10-year storm event shall be retained and recharged on site as close as feasible to its place of origin. RIDEM regulations state for Minimum Standard 5 – Overbank Flood Protection that downstream overbank flood protection must be provided by attenuating the post development peak discharge rate to the pre-development levels for the 10-year and 100-year, 24-hour Type III design storm events.

RESPONSE: The proposed development shall be design in accordance with the RIDEM stormwater regulation requirements. The site’s stormwater management will meet the RISDISM 11 minimum standard requirements to the maximum extent practicable. Per Minimum Standard 5 for overbank flood protection the site will be designed to match or improve the predevelopment peak flows for the 1, 10, and 100 year 24-hour Type III design storm event. The stormwater management design will retain and recharge the 10-year storm to the maximum extent practicable per the Bristol Subdivision and Developmental Regulations for the Silver Creek watershed. The Design team is aware of the flood concerns within this watershed and will provide as much infiltration as possible, while respecting the existing site constraints such as the poorly drained soils on-site and high groundwater per the estimated

BETA: Please see comment 9. Regulations from the Town and RIDEM require attenuating the post development peak discharge rate to the pre-development levels for the 10-year and 100-year, 24-hour Type III design storm events. There should be no increase in stormwater due to the proposed project.

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seasonal high ground water table profile per the test pit log information provided within the Master Plan Report.

TRC MEETING COMMENTS FROM 08/28/2024

COMMENT: The Technical Review Committee members raised concerns about parking during special events.

RESPONSE: The Technical Review Committee members requested a parking breakdown for special event parking spaces. Parking rates were compared to the ITE ParkGen Web App and parking spaces were calculated from the Town of Bristol's Zoning Ordinance based on similar uses. For standard events, such as football games and theater events there is adequate parking. Please refer to the table below depicting estimated parking requirements for several events. After reviewing the proposed off-street parking spaces, on-street parking, adequate parking should be available to meet the need for the special events listed. The estimated bleacher seat quantities for football, baseball and softball are subject to change as athletic field design progresses. Further analysis on special event parking will be provided at the Planning Board meeting scheduled September 12, 2024 to illustrate to the Planning Board how parking demand will be managed during special events.

Special Event Parking Table					
Special Event Use	Seats	Parking Rate	Unit	Total Parking Spaces	Source
Theater	402	0.33	per seat	133	Bristol Zoning Ordinance 28-252 (theater and auditorium)
Football Bleachers*	1446	0.2	per seat	290	Bristol Zoning Ordinance 28-252 (outdoor recreation facility)
Baseball Bleachers*	150	0.2	per seat	30	Bristol Zoning Ordinance 28-252 (outdoor recreation facility)
Softball Bleachers*	150	0.2	per seat	30	Bristol Zoning Ordinance 28-252 (outdoor recreation facility)
Gym (basketball)	456	0.2	per person	92	Bristol Zoning Ordinance 28-252 (outdoor recreation facility)
Gym (graduation)	960	0.33	per seat	317	Bristol Zoning Ordinance 28-252 (theater and auditorium)
*Actual capacity of bleachers is to be determined as athletic field design progresses					

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COMMENT: The Technical Review Committee members raised concerns about health and safety regarding the synthetic turf field.

RESPONSE: [Please see the synthetic turf health and safety information attachment provided by the Landscape Architect.](#)

AJM/ACB/dp

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**Bristol Warren Regional School District
MT. HOPE HIGH SCHOOL**

Attachment 1

**Traverse Landscape Architects response to
synthetic turf concerns**

Synthetic Turf Questions from Wednesday August 28th Technical Review Committee

A question was posed about the cleanliness of synthetic turf with regards to infections.

To date several studies have been conducted relative to potential bacterium such as Staphylococcus aureus capable of causing infections or diseases spread by contact with synthetic turf. Relative to infilled synthetic turf surfaces installed in outdoor environments the survival rate of bacteria is very low. This is due to the higher temperatures and the presence of Ultra Violet light. There are several products made to be applied topically to synthetic turf as a “disinfectant or anti-microbial” these have been shown to have little add benefit in outdoor environments because the bacteria can not survive long enough in the high temperatures and UV exposure. See Penn State Study “Survival of Staphylococcus Aureus on Synthetic Turf” for more information.

<https://extension.psu.edu/survival-of-staphylococcus-aureus-on-synthetic-turf>

A question was posed relative to safety, both impact and lower extremity injury.

When choosing an athletic surface, we often hear the question - is turf better than grass for both safety and performance? The truth is that it is complicated and both systems have their pros and cons.

Traverse has a presentation, which at this stage in design should be presented to the Owner/Stakeholders which includes a deeper dive into the design of a synthetic turf system. This is important in both understanding the data and research as it relates to injuries and safety.