

December 12, 2020

Mr. Alex Elvin, General Planner
Martha's Vineyard Commission
PO Box 1447
Oak Bluffs, MA 02557

Re: Questions raised by MVC Staff 12/2/20 (Amended DRI # 352)

Dear Mr. Elvin;

I received your additional staff questions dated December 2, 2020, regarding the MVRHS's Application for an amended DRI, as referenced above. I have coordinated our reply with the MVPS and project team. The following is a listing of your questions and our responses.

1. Please outline the high school's current practices in regard to grading, irrigation, grass planting and maintenance, aeration, and drainage for the grass fields at the high school.

Response: The existing Football Field (Field #1) is pitched from east to west, with grades ranging from 0.25% on the east side to 2.8% on the west side. The grade is not uniform in any area and creates a steeper slope as the field approaches the existing grandstand. Elevations range from 86.2 on the east side to 84.0 on the west. This field does not contain any subsurface drainage, and the field is currently irrigated.

The existing contours on the Soccer Field (Field #2), adjacent to the bus lot, suggest the field is pitched from east to west, but the spot grades throughout the body of the field show that the playing surface is effectively flat. Elevations range from 77.1 to 77.3 throughout the field, with no recognizable pitch to direct stormwater in any direction. This field does not contain any subsurface drainage, and the field is currently irrigated.

The soil testing results and recommendations provided on November 13, 2020 under separate cover were prepared by Duane Otto of Turf & Soil Diagnostics and are dated November 5, 2019. The results of the soil testing for Field #2 show a sandy loam with the percent organic matter content at 3.63%, which is within the specifications but is considered a bit low. Also, "the soil has a saturated hydraulic conductivity (infiltration) rate that is low, and the aeration porosity is low and capillary porosity is high.... These results suggest that the soils should have poor drainage and potential for low aeration and excessive water retention. With low infiltration rates, these fields should be crowned to ensure adequate surface drainage." The proposed plans provide for a crown at the center ridge line and a 1.5% slope to each sideline.

Mowing occurs on a regular basis from April through October and is performed by in-house staff.

MVRHS staff presently subcontract the fertilization, aeration, and soil amendments to Dennis Brolin of Sports Turf Specialties (STS). STS is recognized as one of the best turf



and athletic field maintenance companies in the country and continue to work locally on Martha's Vineyard for the MVRHS and several other clients. As per the project specifications, STS conducts annual soil testing to determine the condition and needs of the existing topsoil fields and calibrates their equipment to ensure compliance with the MVC's Island Wide Fertilization requirements.

- 2. Please respond to the position that it is not appropriate for a competition field to have a track when 1) seating is behind the track, 2) use of the field may impact use of the track, and 3) a bigger field may be more appropriate for the proposed uses.**

Response: Most Massachusetts High Schools have a 400m running track that surrounds a competition athletic field. Many, if not most, provide seating outside the track to view both 400m track events and field sports. Areas schools with a similar 400m track and field layout include Bourne High School, Sandwich High School, Monomoy High School, Cohasset High School, Plymouth South High School, New Bedford High School, Seekonk High School, Braintree High School, Randolph High School, Marshfield High School, Weymouth High School, Scituate High School, and many others.

The plan also accommodates a maximum field size of 360' in length and 225' in width. These dimensions meet the maximum recommended field sizes provided by the National Federation of State High School Associations (NFSH), and the Massachusetts Interscholastic Athletic Association (MIAA).

- 3. Will the current irrigation system, including a well and booster pump, be upgraded to adequately irrigate all the fields?**

Response: No, not at this time. Field #2 is presently irrigated and the water supply is sufficient for our use at this time. Irrigation requirements for future fields would be sized when those future improvements are scheduled.

- 4. Is it possible to provide a full-scale irrigation design at this stage? (To identify water source location, max pumping capacity, etc.)**

Response: We expect that MVC will place a condition on the DRI approval of the project requiring the submission of a final irrigation plan and details for Field #2 prior to any construction activity on site.

Field #2 is presently irrigated. The plans call for modification to that irrigation system due to a change in grade, but the limits and location of the irrigation system has not changed. The water source for field #2 is existing, the location remains the same and the flow and volume is sufficient for the size of the proposed field.

- 5. Will the new grass field be "rain-out" proof?**

*Response: **Yes, with the addition of one (1) synthetic turf field to handle to over 1800 hours of the high school sports field use, I can confirm the recommendations will***



provide for a successful natural grass field capable of moderate to heavy usage with proper maintenance.

All proposed improvements to Field #2 (natural grass) are shown on the plans and details provided to date and include improvements to grading, subsurface drainage, soil amendments, seed and irrigation. Improvements proposed for Field #2 mirror the recommendations provided by TURI in their case study of athletic fields for Springfield, Massachusetts. The Springfield study can be found in the peer review documents provided by Horsley Witten.

6. How much existing topsoil will be stripped? (Plans say the top 12” are modified.)

Response: The total volume of topsoil to be stripped, modified and reinstalled for Field #2 is approximately 3,150 cubic yards.

Topsoil testing completed by HAI showed an average depth of 8” of topsoil across Field #2. The 8” depth of topsoil will be stripped, and the subgrade will be shaped to mirror the proposed finished grades. A modified/blended topsoil, with additional sand and organic matter will be applied to the finished subgrade at a total depth of 12”.

7. Does the agriculture program at the high school teach organic grass maintenance? Could that program be involved in maintaining the high school fields?

Response: The High School's horticultural program does not presently teach turf management.

8. Does “no recycling for energy” mean that the products can’t be burned?

Response: Yes, that is what ‘Not Recycled for Energy’ is referring to.

9. Show whether the proposed shockpad is made from recycled materials.

Response: The selected shockpad is manufactured by Brock USA, and is cradle to cradle certified. Old Brock YSR shockpads are reclaimed at the end of life, shredded and put back through the manufacturing process to make new shock pads. Click [HERE](#) to watch a video of the recycling process.

10. Please provide a simple, clear plan for the proposed monitoring wells, including the location of the wells, process for annual inspection, who will be in charge of sampling and analysis, and what standards will be used to determine if there is a problem with the groundwater.

Response: We expect that MVC will place a condition on the DRI approval of the project requiring the installation of two (2) groundwater monitoring wells along with the initial background testing results of the existing groundwater prior to the start of any construction activity on site.



- a. *Please refer to the attached plans entitled Layout & Materials Plan, Sheet L-1, revised date of December 9, 2020 for the location of the proposed monitoring wells.*
- b. *Annual inspection will be conducted by a third-party environmental engineering or Licensed Site Professional (LSP) selected by the Martha's Vineyard Public Schools (MVPS).*
- c. *The MVPS will be responsible to engage the selected Environmental Engineer / LSP for coordination of sampling and analysis, with annual reports submitted to the MVC and Oak Bluffs Board of Health.*
- d. *The standard to be used should follow the Massachusetts DEP standards in place at the time for groundwater sampling and testing. At a minimum, the following tests should be conducted, as recommended by the Massachusetts DEP¹:*

Contaminants and testing frequencies

Standard Analysis	Testing Frequency
Arsenic Chloride Copper Fluoride Hardness Iron Lead Manganese pH Sodium	Monitor initially and then at a minimum once every ten years, or as otherwise required by the local Board of Health.
Coliform Bacteria	Monitor initially and then at a minimum once every year for bacteria and nitrate/nitrite, or as otherwise required by the local Board of Health.
Nitrate/Nitrite	Monitor initially and then at a minimum once every year for bacteria and nitrate/nitrite, or as otherwise required by the local Board of Health.
Radon	Monitor initially and then at a minimum once every ten years, or as otherwise required by the local Board of Health.
Gross Alpha Screen (bedrock wells only)	Monitor initially and then at a minimum once every ten years, or as otherwise required by the local Board of Health.
VOCs	Monitor initially and then at a minimum once every ten years, or as otherwise required by the local Board of Health.

¹ For reference to MA DEP Groundwater / Well Testing Recommendations, click [HERE](#)



11. What chemicals will be used in maintaining the natural fields (amounts and types)?

Response: A complete natural grass maintenance plan dated June 8, 2020 was provided to the MVC staff as part of the peer review process. The proposed plan follows the limits of the MVC's Island Wide Fertilization requirements.

12. Is the woven turf backing a new technology and has it been proven in practice? What is its durability?

Response: According to Mark Curran of Greenfields/Tencate, the woven turf product was first offered by Greenfields/Tencate in Holland in 2010, and in the USA in 2013. Since 2013, Greenfields Tencate has installed over 75 woven products in the USA, including fields for the New England Patriots, New England Revolution, US Soccer National Training & Development Center in Kansas City, UNC Chapel Hill, University of Wisconsin, Cushing Academy and Tower School in Marblehead, Massachusetts. Attached you will find a summary of Ironturf installation in the USA provided by Greenfields/Tencate.

As you might expect with a name like Ironturf, the woven product has proven to be more than ten (10) times as durable as traditional turf systems, maintaining playability with over 300,000 cycles on the Lisport testing machine. The studded roll test, or Lisport Test, provides an indication of how a synthetic turf system will age over time as a result of typical usage by players on the field. The Lisport test serves as a great indicator of the durability of turf blades in a specific turf design and is very useful in comparing different types of components and fiber durability. FIFA, the world governing body for soccer, deems 20,000 cycles on a Lisport, the equivalent of 8 years of use, to be a sufficient simulation of wear of artificial turf fibers.

Ironturf by Greenfields also comes with a ten (10) year warranty. The typical warranty in the synthetic turf industry is eight (8) years.

13. The Oak Bluffs Planning Board is concerned about the Edgartown-Vineyard Haven Road corridor in general. Provide more information about the effects on traffic.

*Response: This project proposes to provide track and field improvements for the current and future users of the high school and community based program that **presently use the high school campus**. As a result, the traffic impact to adjacent properties and the surrounding neighborhood will be minimal. Due to the fact that this project is design to meet the needs of current users, we originally requested a waiver to the requirement to submit a traffic impact analysis in our original DRI application cover letter dated January 24, 2020.*

14. Do PE classes include all sports and all years? (The more junior years would seem not to generate as much wear and tear.)

Response: The hours and dates for PE classes used in the Field Use Analysis include all grades at the High School. We would offer the 9th and 10th graders are very active



as well as similarly sized as upper classmen; consequently they do generate the same wear and tear on the natural grass fields as the older students.

15. In regard to field usage, are the natural grass assumptions premised on the field reconstruction/design, irrigation, drainage and maintenance recommendations generally outlined in the document submitted by the Natural Grass Advisory Group?

Response: Please refer to our response to Question #4, dated November 13, 2020 for information regarding the assumptions used in determining field use thresholds.

16. In regard to maintenance activities, Chris's latest answers don't appear to cover infill replenishment – both periodic and regular top dressing (X% every #yrs) – or twice-annual deep-tine grooming. Can we assume that those activities are covered by the 2-year plan and that those costs are included in the detail of ongoing maintenance costs?

Response: Yes, those activities are included in the two-year maintenance plan and those costs are included in the maintenance estimates provided to date.

17. Are the following activities contemplated?

- a. Spring/fall prep (Chris's answer says 2x in first year, but should it take place 2 times/year with a day each time?)
- b. De-compacting
- c. Watering

Response: Yes, and they are included in the maintenance plan provided to the MVC on June 8, 2020.

20. Clarify grass maintenance costs – replacement vs. sod only.

Response: The question is a bit difficult to understand, but I believe you are asking for the construction costs of a ten-year renovation as compared to a simple resodding of the existing field #2.

Just resodding is not a realistic option here. The real problems with the natural grass field include use, but are also tied to the fact that the existing soils are high in clay and silt and the fields have negative grade, or very non-uniform grades. Simply applying sod to the existing topsoil without modification is not something we would recommend. The cost would be less, but you would effectively be throwing money away because the fields would fail rather quickly. This analysis, the way I understand it, would in NO WAY be comparing apples to apples, but would rather be highlighting an option that we would not recommend given what we know about the soil composition and grading of the existing fields.

The ten-year field renovation costs would range between \$100,000 to \$150,000, depending on the desired scope. The cost for sod alone for Field #2 would be approximately \$0.60 – \$0.75/sf, over 75,600 sf = \$45,360.00 to \$56,700.00



21. Do grass fields typically need a full reconstruction after so many years?

Response: Yes, typically after 10-12 years you would be required to perform regrading of the field contours to reshape the field crown. This effort will help to maintain positive drainage and ensure the field has the recommended cross-pitch to match the soils drainage capacity. During that renovation we would typically include soil amendments like sand and organics, and reset the irrigation heads as necessary. Sod or seed would be required, and the field should be rested until the grass root zone has established.

22. Provide details about rainwater harvesting and environmental educational opportunities for the high school, as mentioned in responses to HW.

Response: We have added two ports to allow for stormwater sampling from the proposed synthetic turf field, and included rain gardens to naturally filter nitrogen from stormwater coming from the proposed paved surfaces. These improvements provide opportunity for the science classes to include annual review of the benefits of those systems in their curriculum at the High School.

23. Confirm whether the grass field will include underdrains and that the proposed leaching basins are sized to accommodate predicted flows. (Refer to HW review and responses.)

Response: Yes, the improvements to Field #2 (Natural Grass), include underdrains and leaching basins as shown on sheet L-13, revised September 16, 2020. The entire perimeter drain system, including the leaching basins, were sized to accommodate the predicted flows. Please refer to sheet L-13 dated September 16, 2020 for additional information.

24. Confirm that stormwater from the synthetic field will be tested for nitrogen species. (Refer to HW review and responses.)

Response: At the request of Horsely Witten and the MVC staff we have added two ports to allow for stormwater sampling from the proposed synthetic turf field. We expect that any DRI approval provided by the MVC would include a condition for annual testing of nitrogen from the synthetic turf field.

25. What is the total estimated cost of recycling the synthetic turf field, and does that include the costs of dismantling, testing, packing, and shipping all field components? Is that cost included in the donated funds? What specifically is the \$50,000 in escrow funds supposed to cover?

Response: The \$50,000 escrow funds are in place to ensure the funds are available at the end of life to remove, transport and recycle the synthetic turf carpet. The cost of removal, transport and recycling is not expected to exceed \$50,000.00.

26. Confirm that field disinfection during the pandemic is limited to spot cleaning.



Response: Field disinfecting will follow CDC guidelines and includes disinfection of high frequency touch surfaces and spot cleaning of the synthetic turf carpet. We do not anticipate fogging or wholesale spraying of disinfectants on the turf surface. For additional information regarding specific disinfecting guidelines please refer to our response to question # 3C, dated September 28, 2020.

27. Confirm that the estimated grass maintenance costs are for one field or all the fields, and how many acres that entails. (Refer to HW review and responses.)

Response: Estimated maintenance costs provided to date have bene for one field. For additional information please refer to the response to questions 3A and 3E, dated September 28, 2020.

28. If recycling is not an option at the end of the synthetic field's life, what alternatives will be pursued, and what would they cost?

Response: We expect that MVC will place a condition on the DRI approval of the project that the synthetic turf carpet be recycled at the end of life and that the MVC be provided with the appropriate chain of custody documenting the entire recycling process.

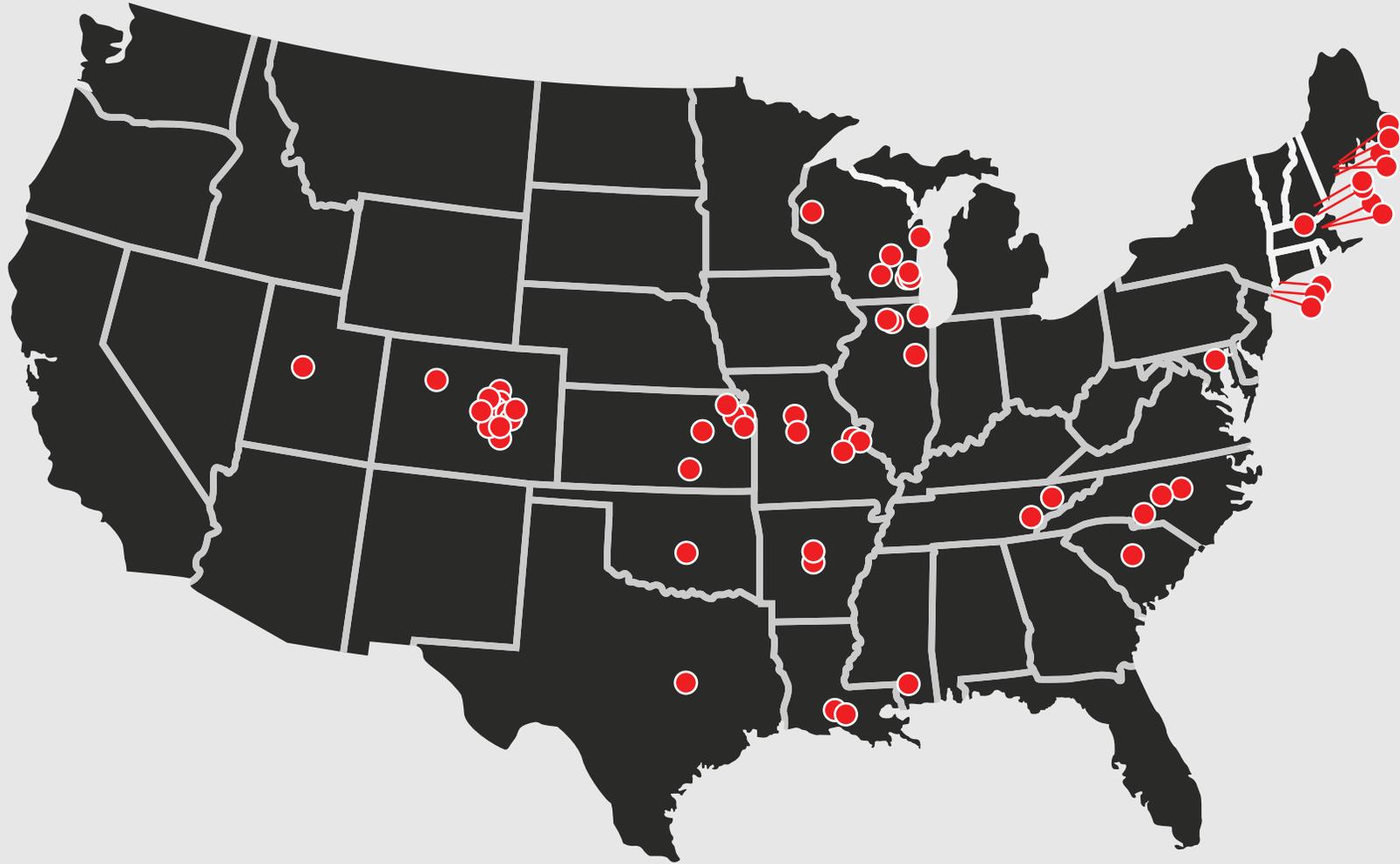
*As stated in our response to staff questions dated 11/13/20, question #15, we anticipate that **recycling will be an option at the end of life**. The current project specifications require a \$50,000 cash bond and a guarantee from the turf manufacturer that the product be recycled at the end of its useful life. Further, Joe Fields, President of Tencate America provided two (2) written letters to Adam Turner dated February 4, 2020 and October 15, 2020, each with a guarantee that the field would be recycled at end of life at either their existing recycling facility in the Netherlands, or their planned facility in the United States.*

Thank you for your time and consideration. Please let me know if you have any questions or require any additional information to complete your review.

Sincerely;
Huntress Associates, Inc.

Christian C. Huntress
President

Cc: Matthew D'Andrea – MVPS Superintendent
Richard Smith – MVPS Asst. Superintendent
Kimberly Kirk – Chair, MVRHS School Committee
Joseph Sullivan – Daedalus Projects, Inc.



ASPHALT GREEN

Location: New York City, NY

EMPOWER FIELD HOUSE

Teams: New England Patriots (NFL)
and New England Revolution (MLS)

Location: Foxborough, MA



CHARLOTTE MOTOR SPEEDWAY

NASCAR

Location: Concord, NC



ARKANSAS

Simmons Bank Stadium - UAPB
Pine Bluff, AR

Cabot High School Stadium
Cabot, AR

COLORADO

Apex Field House
Arvada, CO

CU Boulder - Kittredge Fields
Multi-field Project
Boulder, CO

Mountain Vista High School
Highlands Ranch, CO

Rangeview High School
Aurora, CO

Douglas County Fairgrounds
2 Soccer Fields/1 Football Field
Castle Rock, CO

Metzler Ranch Park
Multi-field Baseball Complex
Castle Rock, CO

Foothills Park
Littleton, CO

Steamboat Springs High School
Steamboat Springs, CO

World Compass Academy
Castle Rock, CO

Legend High School
Parker, CO

Severance High School
Severance, CO

Heritage High School
Littleton, CO

Fossil Ridge High School
Fort Collins, CO

Lakewood High School
Lakewood, CO

Chatfield High School
Littleton, CO

Euclid Middle School
Littleton, CO

COLORADO CONT.

Quist Middle School
Thornton, CO

Goddard Middle School
Littleton, CO

Powell Middle School
Littleton, CO

Whitman Alternative High School
Littleton, CO

Aspen High School
Aspen, CO

Evergreen High School
Evergreen, CO

Conifer High School
Conifer, CO

Dakota Ridge High School
Littleton, CO

Arvada High School
Arvada, CO

CONNECTICUT

Convent of the Sacred Heart
Greenwich, CT

ILLINOIS

Bloom High School
Chicago Heights, IL

The Adventure Church
Bradley, IL

Rockford Indoor
Rockford, IL

Wedgebury Stadium
Rockford, IL

KANSAS

Louisburg High School
Louisburg, KS

Friends University
Wichita Kansas

US Soccer National Training and
Coaching Development Center
Teams: Sporting KC, USMNT, USWNT
Kansas City, KC

KANSAS CONT.

Purcell High School
Kansas City, KS

Children's Mercy Park
Kansas City, KS

Seaman Soccer Field
Topeka, KS

LOUISIANA

Geismar Soccer
St. Gabriel, LA

St. Julien Park
Broussard, LA

MAINE

St. Joseph's College
Standish, ME

Lewiston High School
Lewiston, ME

Waterhouse Field
Biddeford, ME

Deering High School
Portland, ME

MASSACHUSETTS

Empower Field House
Teams: New England Patriots
and New England Revolution
Foxborough, MA

Winchester Community Park
Winchester, MA

Cushing Academy
Ashburnham, MA

Tower School
Marblehead, MA

MISSISSIPPI

Pearl River Community College
Poplarville, MS

MISSOURI

Boonville Soccer Complex
Boonville, MO

Toyota Stadium
Team: Saint Louis FC
Fenton, MO

Spartan Stadium
Moberly, MO

St. Louis University
St. Louis, MO

Washington University
St. Louis, MO

NEW HAMPSHIRE

Phanzone Sports Center
Hampstead, NH

NEW JERSEY

Red Bull Arena
Team: New York Red Bulls (MLS)
Harrison, NJ

NEW YORK

Asphalt Green
New York, New York

NORTH CAROLINA

Hooker Fields
UNC Chapel Hill
Chapel Hill, NC

Charlotte Motor Speedway
Concord, NC

Kings Mountain High School
Kings Mountain, NC

OKLAHOMA

Pawhuska High School
Pawhuska, OK

SOUTH CAROLINA

Benedict College
Columbia, SC

TENNESSEE

Cleveland High School
Cleveland, TN

Clinton Indoor
Clinton, TN

TEXAS

Getteman Stadium
Baylor University
Waco, TX

UTAH

Zions Bank Stadium
Team: Real Monarchs
Herriman, UT

WISCONSIN

University of Wisconsin
Madison, WI

Whitefish Bay High School
Whitefish Bay, WI

Menomonee Falls High School
Menomonee Falls, WI

New Richmond High School
New Richmond, WI

Shorewood High School
Shorewood, WI

Midwest Orthopedic Sports Complex
Brookfield, WI

Plymouth High School
Plymouth, WI

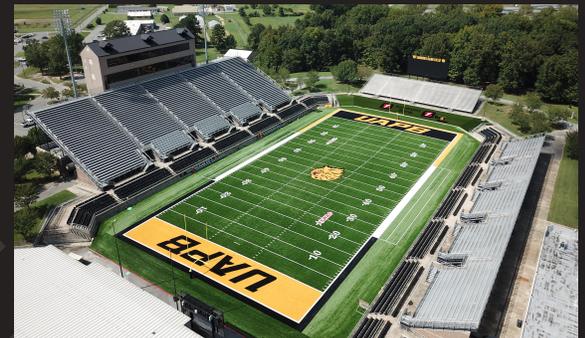
CANADA

COLLÈGE REINE-MARIE
Montréal (Québec)



GETTERMAN STADIUM - BAYLOR
Location: Waco, TX

DOBIE HOLDEN STADIUM
Location: Pearl River, MS



SIMMONS BANK STADIUM - UAPB
Location: Pine Bluff, AR

